

Appendix B

2018 Wetland
Assessment and
Delineation Report
&
2019 USACE Approved
Jurisdictional
Determination





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Date:

28 November 2018

To:

Tony Martinez, U.S. Army Corps of Engineers

From:

Tierney Walsh, Matrix Environmental Services

Subject:

Wetland Assessment and Delineation Report – Rev. 1, Proposed True North

Commons Enhanced Use Lease Area, United States Air Force Academy, Colorado

Springs, Colorado

Mr. Martinez,

On behalf of the United States Air Force Academy (USAFA), the Air Force Civil Engineering Center (AFCEC), and Blue and Silver Development Group, LLC (Blue and Silver), Matrix Environmental Services, LLC (MES) is pleased to submit this report summarizing the assessment and delineation of wetlands within the 57-acre boundary of the proposed True North Commons Enhanced Use Lease Area (the Site), which is currently undeveloped open space at the USAFA in Colorado Springs, Colorado, located in El Paso County.

The scope of work for the wetland assessment and delineation included the entire 57-acres of the proposed Enhanced Use Lease (EUL) area; however, the proposed commercial development at the Site is limited to the southern portion of the EUL area, comprising 38 acres to the north and south of North Gate Boulevard and east of the USAFA North Gate security checkpoint. The wetland assessment and delineation area also included land within 20 feet to the north and south of North Gate Boulevard beginning at the eastern boundary of the EUL area and extending to the eastern edge of the USAFA property along North Gate Boulevard.

Similar plant communities were identified throughout the EUL area; however, due to the expanse of the Site and the distance between similar communities, the observed plant communities were divided into 25 distinct communities with one data sample point collected in each community.

The assessment and delineation field work were conducted from September 26, 2018 through October 19, 2018, while the assessment and delineation field work along North Gate Boulevard to the east of the EUL boundary was completed on November 20, 2018. Climatic and hydrologic conditions at the Site were typical for the time of year; however, the wet season in Colorado Springs is between April and September, peaking in July and August. Therefore, saturation to the surface was not required to satisfy hydrologic requirements because the field assessment was completed 6-13 weeks after the peak of the wet season.

Community 1 is approximately 0.089-acres and is the northernmost community delineated at the Site. The vegetation is dominated by two species of cattails including broadleaf (*Typha latifolia*) and hybrid (*Typha X glauca*) with minor amounts of narrowleaf cattail (*Typha angustifolia*), Rocky Mountain willowherb (*Epilobium saximontanum*), Cutleaf Water Horehound (*Lycopus americanus*), Canada thistle (*Cirsium arvense*), Fuller's Teasel (*Dipsacus fullonum*), and Great Mullein (*Verbascum thapsus*). This community encompasses the foot slope and toe slope of an adjacent upland and appears undisturbed. The community contained visible surface water, a high water table, and saturation to the surface. Additionally, a hydrogen sulfide odor was detectable within 12 inches of the soil surface. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 2 is approximately 0.288-acres located immediately south of Community 1. The vegetation is dominated by Baltic Rush (Juncus balticus) and Leafy Tussock Sedge (Carex aquatilis) but also includes Fuller's Teasel (Dipsacus fullonum), Rocky Mountain willowherb (Epilobium saximontanum), Broadleaf cattail (Typha latifolia), Tall Goldenrod (Solidago altissima), and Canada thistle (Cirsium arvense) with minor amounts of Butter and Eggs Toadflax (Linaria vulgaris), Yucca (Yucca angustissima), and Great Mullein (Verbascum thapsus) primarily found on the edges of the community. The community includes the middle and lower portions of westfacing and south-facing slopes as well as a valley and the lower portion of an adjacent northfacing slope. The community had visible surface water in approximately 20% of the area as well as a high water table and near-surface saturation. A hydrogen sulfide odor was also detectable within 12 inches of the surface soil. A gleyed layer is present at 12 inches and underlies dark soils extending to 12 inches with values of 2.5 or less and chroma of 1 or less, which satisfy the criteria of a thick dark surface. Additionally, prominent redox concentrations are present at sufficient quantities (15-20%) from 0-4 inches and 6-12 inches, which satisfies the criteria for redox dark surface. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 3 includes approximately 0.382-acres, encompasses the middle and lower portions of west and south-facing hillslopes, and is very similar to Community 2. The vegetation is dominated by Baltic Rush (*Juncus balticus*) but also includes Broadleaf cattail (*Typha latifolia*), hybrid cattail (*Typha X glauca*), Rocky Mountain willowherb (*Epilobium saximontanum*), Late Goldenrod (*Solidago gigantea*), and minor amounts of Fuller's Teasel (*Dipsacus fullonum*). The community had visible surface water in approximately 30% of the area as well as a high water table, near-surface saturation, iron deposits on the ground surface, oxidized rhizospheres along living roots, and a hydrogen sulfide odor within 12 inches of the surface soil. The top two inches of soil met the criteria of sandy mucky mineral, while matrix depletions from 4-6 inches and prominent redox concentrations from 2-6 inches satisfied the criteria for stripped matrix and sandy redox, respectively. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 4 is approximately 0.326-acres and includes a portion of an elevated meadow south of Community 3. The vegetation is dominated by Baltic Rush (*Juncus balticus*) and Leafy Tussock Sedge (*Carex aquatilis*). Saturation was observed at 34 inches below the ground surface; however, the water table was not encountered despite the soil pit being extended to 44 inches. This community is believed to be seasonally inundated, and due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology is naturally problematic for this community. Nevertheless, oxidized rhizospheres along living roots satisfied the identification of wetland hydrology, while the area's soil met the criteria for redox dark surface with 5% prominent redox concentrations from 3.5-14 inches. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 1b is approximately 0.568-acres and includes the west-facing hillslope to the east, and upslope, of Community 4. Community 1b has species dominance like Community 1 and Community 3 being dominated by two species of cattails including broadleaf (*Typha latifolia*) and hybrid (*Typha X glauca*) as well as Baltic Rush (*Juncus balticus*) and Leafy Tussock Sedge (*Carex aquatilis*). Surface water was visible across 30% of the area, and the water table was 4 inches below the ground surface with saturation at 2 inches below the surface. A sandy gleyed matrix was present within six inches of the soil surface in portions of the site, and prominent redox concentrations were also observed. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 5 includes the hillslope and terrace between Communities 3, 4, and 1b. Community 5 is dominated by grasses including Smooth Brome (Bromus inermis) and Blue Grama (Bouteloua gracilis) as well as a shrub, Western Snowberry (Symphoricarpos occidentalis). The area also includes Canada Thistle (Cirsium arvense), Prairie Sagewort (Artemisia frigida), Butter and Eggs Toadflax (Linaria vulgaris), Baltic Rush (Juncus balticus), and Big Bluestem (Andropogon gerardii); minor amounts of Yucca (Yucca angustissima), Yellow Rabbitbrush (Chrysothamnus viscidiflorus), and Great Mullein (Verbascum thapsus); and one Peachleaf Willow tree (Salix amygdaloides). No hydric soil indicators were observed in the area; however, the soil pit could not be extended beyond 20 inches due to a hard layer at depth. Saturation and a water table were not observed in the area: the sandy soil was dry to a depth of 20 inches. Due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology is naturally problematic for this community; however, the lack of hydric soil indicators and hydrophytic vegetation indicates that wet season hydrology in Community 5 does not inundate or saturate soils for a sufficient frequency or duration to promote a prevalence of vegetation adapted to saturated soil conditions. In my professional opinion, this community does not meet the criteria of a wetland based on the lack of dominance of hydrophytic vegetation, a negative prevalence index, lack of hydric soils, and a lack of hydrology.

Community 6 includes the summit and shoulder of a ridge adjacent and west of a small creek (Community 8). Community 6 is dominated by Ponderosa Pine trees (*Pinus ponderosa*) as well as shrubs and herbs including Narrowleaf Willow (*Salix exigua*), Western Snowberry

(Symphoricarpos occidentalis), Smooth Brome (Bromus inermis), Blue Grama (Bouteloua gracilis), and Nodding Wild Rye (Elymus canadensis). The area also includes Butter and Eggs Toadflax (Linaria vulgaris) and minor amounts of Gambel Oak (Quercus gambelii), Prairie Sagewort (Artemisia frigida), Great Mullein (Verbascum thapsus), and Prickly Pear cactus (Opuntia spp). No hydric soil indicators were observed. Saturation and a water table were not observed in the area: the sandy soil was dry to a depth of 25 inches. Due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology could be naturally problematic for this community; however, the lack of hydric soil indicators and hydrophytic vegetation indicates that wet season hydrology in Community 6 does not inundate or saturate soils for a sufficient frequency or duration to promote a prevalence of vegetation adapted to saturated soil conditions. In my professional opinion, this community does not meet the criteria of a wetland based on the lack of dominance of hydrophytic vegetation, a negative prevalence index, lack of hydric soils, and a lack of hydrology.

Community 7 includes the toe slope meadow adjacent and west of a ridge (Community 7) and small creek (Community 8). Community 7 is dominated by Baltic Rush (Juncus balticus) as well as shrubs and herbs including Western Snowberry (Symphoricarpos occidentalis), Narrowleaf Willow (Salix exigua), and Butter and Eggs Toadflax (Linaria vulgaris). The area also includes Gambel Oak shrubs (Quercus gambelii), Fuller's Teasel (Dipsacus fullonum), two species of goldenrod (Solidago altissima and Solidago wrightii), and Canada thistle (Cirsium arvense). No hydric soil indicators were observed. Saturation and the water table were encountered at a depth of 23 inches. While a dry season water table of 24 inches is acceptable for a clay or loam soil, it is not acceptable for sands; therefore, no hydrology indicators were satisfied. Due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology could be naturally problematic for this community; however, the lack of hydric soil indicators and a negative prevalence index indicates that wet season hydrology in Community 7 does not inundate or saturate soils for a sufficient frequency or duration to promote a prevalence of vegetation adapted to saturated soil conditions. In my professional opinion, this community does not meet the criteria of a wetland based on a negative prevalence index, lack of hydric soils, and a lack of hydrology.

Community 8 is approximately 0.464-acres includes a small stream valley fed by upland drainage. Community 8 is dominated by Peachleaf Willow trees (Salix amygdaloides) as well as shrubs and herbs including Narrowleaf Willow (Salix exigua), Bristly Black Gooseberry (Ribes lacustre), Tall Goldenrod (Solidago altissima), Common Duckweed (Lemna minor), and Rocky Mountain willowherb (Epilobium saximontanum). A stripped matrix was observed from 3-12 inches in portions of the stream valley, while a hydrogen sulfide odor was detected in other locations. Surface water was visible in portions of the stream valley, while saturation and a water table were observed at 8 inches. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 8B is a subset of Community 8 and includes the natural sand levee within the middle segment of the stream valley. Community 8B has similar vegetation as Community 8 but contains

more goldenrod then the upper and lower segments of the stream valley. Community 8B is dominated by Peachleaf Willow trees (Salix amygdaloides) as well as shrubs and herbs including Narrowleaf Willow (Salix exigua), Whitestem Gooseberry (Ribes inerme), Golden Currant (Ribes aureum), Tall Goldenrod (Solidago altissima), and Rocky Mountain Goldenrod (Solidago multiradiata). No hydric soil indicators were observed within the natural sand levee of the stream valley. Saturation was observed at 16 inches while a water table was observed at a depth of 20 inches. Due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology could be naturally problematic for this community; however, the lack of hydric soil indicators suggests that wet season hydrology within the sand levee of Community 8B does not inundate or saturate soils for a sufficient frequency or duration to promote a prevalence of vegetation adapted to saturated soil conditions. In my professional opinion, this community does not meet the criteria of a wetland based on the lack of hydric soils. Nevertheless, due to the narrowness of the stream valley and the unlikelihood of the area being disturbed during the proposed EUL development, these potential "non-wetland" riparian areas were included in the wetland boundary.

Community 9 is approximately 0.008-acres and includes a depression in the stream valley at the toe of an adjacent ridge and elevated meadow forming Community 6 and 7, respectively. Community 9 is dominated by shrubs and herbs including Bristly Black Gooseberry (*Ribes lacustre*), Western Snowberry (*Symphoricarpos occidentalis*), Rocky Mountain willowherb (*Epilobium saximontanum*), and American Wild Mint (*Mentha arvensis*). The community had visible surface water in approximately 30% of the area as well as a water table at 8 inches. Additionally, saturation was present at six inches, and a hydrogen sulfide odor was detected within 12 inches of the surface soil. Finally, the top six inches of soil met the criteria of sandy mucky mineral. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 10 includes the edges of the stream valley, situated at the base of the adjacent hill. Community 10 is dominated by Ponderosa Pine trees (*Pinus ponderosa*) as well as shrubs and herbs including Western Snowberry (*Symphoricarpos occidentalis*), Choke Cherry (*Prunus virginiana*), Smooth Brome (*Bromus inermis*), and Canada Thistle (*Cirsium arvense*). No hydric soil indicators were observed. Saturation and a water table were not encountered in the soil pit, which was extended to a depth of 24 inches. Due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology could be naturally problematic for this community; however, the lack of hydric soil indicators and hydrophytic vegetation indicates that wet season hydrology in Community 10 does not inundate or saturate soils for a sufficient frequency or duration to promote a prevalence of vegetation adapted to saturated soil conditions. In my professional opinion, this community does not meet the criteria of a wetland based on the lack of dominance of hydrophytic vegetation, a negative prevalence index, lack of hydric soils, and a lack of hydrology.

Community 11 is approximately 0.0091-acres and includes the toe slope of an upland ridge, which drains into the northern edge of Community 7 and subsequently into Community 9. Community

11 is dominated by Ponderosa Pine trees (*Pinus ponderosa*) as well as shrubs and herbs including Narrowleaf Willow (*Salix exigua*), Western Snowberry (*Symphoricarpos occidentalis*), Tall Goldenrod (*Solidago altissima*), and Rocky Mountain willowherb (*Epilobium saximontanum*). Mucky modified sandy soil was observed from 0-2.5 inches and depletions satisfying the criteria of a stripped matrix were observed from 2.5-6.5 inches. Saturation was present at 10 inches, while the water table was encountered at 12 inches. Due to the site visit being conducted 6-10 weeks after the peak of the wet season and the presence of hydric soil indicators, it is expected that the water table rises to saturate the surface during the wet season for a sufficient frequency and duration to promote a prevalence of vegetation adapted to saturated soil conditions. Additionally, while the soils in Community 11 were sand, a dry season water table of 12 inches is an acceptable secondary hydrology indicator for sands. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 12 is approximately 0.013-acres and includes a depression within the toe slope of an adjacent hill that terminates at North Gate Boulevard. The vegetation is dominated by two species of cattails including narrowleaf (*Typha angustifolia*) and hybrid (*Typha X glauca*) with minor amounts of Rocky Mountain willowherb (*Epilobium saximontanum*), Baltic Rush (*Juncus balticus*), and Colorado Rush (*Juncus confusus*). 2% prominent redox concentrations along pore linings from 2-6 inches satisfied the criteria for Sandy Redox. Saturation was observed at 4 inches, and the water table was encountered at 10.5 inches. Saturation at 4 inches and oxidized rhizospheres along living roots from 2-6 inches satisfied the identification of wetland hydrology. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 13 includes the toe slope of an adjacent hill that terminates at North Gate Boulevard, north and east of Community 12. Community 13 is dominated by a Peachleaf Willow tree (Salix amygdaloides) as well as shrubs and herbs including Narrowleaf Willow (Salix exigua), Russian Olive (Elaeagnus angustifolia), Baltic Rush (Juncus balticus), and Colorado Rush (Juncus confusus). No hydric soil indicators were observed in the area; however, the soil pit could not be extended beyond 12 inches due to a hard layer at depth. Saturation and a water table were not observed in the area: the sandy soil was dry to a depth of 12 inches. Oxidized rhizospheres were observed on living roots from 2-3 inches; however, the observed soil did not meet any hydric soil indicator (the thickness of the redox concentrations was less than the four inches required for Sandy Redox). It is not advisable to use the C3 hydrology indicator (oxidized rhizospheres along living roots) in the absence of a hydric soil indicator because it can lead to false positives as oxidized pore linings can persist for years following removal of anoxic conditions. Therefore, while wetland hydrology is indicated as present because a primary hydrology indicator was observed; the hydrology indicator observed in Community 13 is not a strong indicator of wetland hydrology. Due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology is naturally problematic for this community; however, the lack of hydric soil indicates that wet season hydrology in Community 13 does not inundate or saturate soils for a sufficient frequency or duration to promote a prevalence of vegetation adapted to saturated soil conditions. In my professional opinion, this community does not meet the criteria of a wetland based on a lack of hydric soils and a lack of strong hydrology indicators; however, a follow up visit during the wet season (May-August) would give a more accurate determination.

Community 14 includes a portion of a drainage swale fed by drainage ditches along North Gate Boulevard. Community 14 is dominated by Peachleaf Willow trees (Salix amygdaloides) as well as shrubs and herbs including Narrowleaf Willow (Salix exigua) and broadleaf cattail (Typha latifolia). Despite a predominance of hydrophytic vegetation, no hydric soil or wetland hydrology indicators were observed within the area. Neither saturation nor a water table were encountered to a depth of 30 inches. Due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology could be naturally problematic for this community; however, the lack of hydric soil indicators suggests that wet season hydrology within Community 14 does not inundate or saturate soils for a sufficient frequency or duration to promote saturated soil conditions. In my professional opinion, this community does not meet the criteria of a wetland based on the lack of hydric soils and lack of hydrology.

Community 15 is approximately 0.14-acres and includes the southern portion of a drainage swale sourced with water from drainage ditches along North Gate Boulevard. Community 15 is dominated by shrubs and herbs including Golden Currant (*Ribes aureum*), Watercress (*Nasturtium officinale*), and Late Goldenrod (*Solidago gigantea*) but also includes Rocky Mountain willowherb (*Epilobium saximontanum*), Common Duckweed (*Lemna minor*), Wand Panic Grass (*Panicum virgatum*), and Canadian Thistle (*Cirsium arvense*). The community had visible surface water in approximately 80% of the area as well as a high water table (2 inches depth) and surface saturation. A hydrogen sulfide odor was also detectable within 12 inches of the surface soil. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 16 is approximately 0.29-acres and includes the central portion of a drainage swale sourced with water from drainage ditches along North Gate Boulevard. Community 16 is dominated by Peachleaf Willow trees (Salix amygdaloides) as well as shrubs and herbs including Narrowleaf Willow (Salix exigua), Russian Olive (Elaeagnus angustifolia), hybrid cattail (Typha X glauca), and Common Duckweed (Lemna minor) but also includes Watercress (Nasturtium officinale), broadleaf cattail (Typha latifolia), and Late Goldenrod (Solidago gigantea). The community had visible surface water in approximately 60% of the area as well as a high water table (2 inches depth) and surface saturation. A hydrogen sulfide odor was also detectable within 12 inches of the surface soil. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 17 is approximately 0.021-acres and includes the northern portion of a drainage swale sourced with water from drainage ditches along North Gate Boulevard, north of Community 14. Community 17 is dominated by Peachleaf Willow trees (*Salix amygdaloides*) as well as shrubs and herbs including Narrowleaf Willow (*Salix exigua*), Peachleaf Willow shrubs

(Salix amygdaloides), Bristly Black Gooseberry (Ribes lacustre), hybrid cattail (Typha X glauca), and broadleaf cattail (Typha latifolia). 3% prominent redox concentrations along pore linings from 2-9 inches satisfied the criteria for Redox Dark Surface. The water table and saturation were encountered at a depth of 15 inches; however, oxidized rhizospheres along living roots from 2-9 inches satisfied the identification of wetland hydrology. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 18 is approximately 0.009-acres and includes a drainage swale immediately south of North Gate Boulevard, upgradient of Community 17. Community 18 is dominated by shrubs and herbs including Narrowleaf Willow (Salix exigua), Whitestem Gooseberry (Ribes inerme), hybrid cattail (Typha X glauca), and Rocky Mountain willowherb (Epilobium saximontanum). A gleyed matrix within six inches of the soil surface satisfied the criteria for Sandy Gleyed Matrix. Saturation was encountered at a depth of 5 inches and surface water was visible in approximately 15% of the area. Oxidized rhizospheres along living roots from 2-9 inches also satisfied the identification of wetland hydrology. The water table was not encountered at a depth of 9 inches; however, the soil pit could not be extended further due to the presence of boulders lining the drainage swale. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 19 is approximately 0.102-acres and includes portions of toe slopes that transition into drainage ditches north and south of North Gate Boulevard. Community 19 is dominated by herbs including Wand Panic Grass (*Panicum virgatum*) and Baltic Rush (*Juncus balticus*). Saturation was observed at 9 inches, and the water table was encountered at 11 inches. A dry season water table of 11 inches is an acceptable secondary hydrology indicator; however, a hydrogen sulfide odor was detectable within 12 inches of the surface, which satisfies criteria for hydric soils and wetland hydrology. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 20 includes a toe slope of an upland hill that transitions into a drainage ditch immediately north of North Gate Boulevard, west of Community 19. Community 20 is dominated by rushes including Baltic Rush (*Juncus balticus*) and Swordleaf Rush (*Juncus ensifolius*). Saturation was observed at 22 inches, while the water table was encountered at 23 inches. Oxidized rhizospheres along living roots from 2-4 inches and 6-14 inches satisfied the identification of wetland hydrology; however, no hydric soil indicators were observed in this area. In my professional opinion, this community does not meet the criteria of a wetland based on the lack of hydric soils.

Community 21 is approximately 0.043-acres and includes a toe slope of an upland hill that transitions into a drainage ditch immediately north of North Gate Boulevard, west of Community 20. Community 21 has similar vegetation as Community 19 and 20, dominated by rushes and grass including Baltic Rush (*Juncus balticus*), Swordleaf Rush (*Juncus ensifolius*), and Wand Panic

Grass (*Panicum virgatum*). The community also includes Three-Square (*Schoenoplectus pungens*) and Bluejoint (*Calamagrostis canadensis*), which are not dominant but prevalent. Within the soil pit, saturation was observed at 10 inches, and the water table was encountered at 12 inches. Due to the site visit being conducted 6-10 weeks after the peak of the wet season and the presence of hydric soil indicators, it is expected that the water table rises to saturate the surface during the wet season for a sufficient frequency and duration to promote a prevalence of vegetation adapted to saturated soil conditions. Additionally, surface water was visible in approximately 15% of the area. Prominent redox concentrations from 0-4 inches satisfy the criteria of Redox Dark Surface and further satisfied the identification of wetland hydrology. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 22 is upland of Community 1 and Community 2, the northernmost most wetland communities observed within the Site; however, this area is typical of a majority of the upland area at the Site. Community 22 is dominated by Ponderosa Pine trees (*Pinus ponderosa*) as well as herbs including Blue Grama (*Bouteloua gracilis*), Smooth Brome (*Bromus inermis*), and Butter and Eggs Toadflax (*Linaria vulgaris*). No hydric soil indicators were observed in the area; however, the soil pit could not be extended beyond 14 inches due to a hard layer at depth. Saturation and a water table were not observed in the area: the sandy soil was dry to a depth of 14 inches. Due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology could be naturally problematic for this community; however, the lack of hydric soil indicators and hydrophytic vegetation indicates that wet season hydrology in Community 22 does not inundate or saturate soils for a sufficient frequency or duration to promote a prevalence of vegetation adapted to saturated soil conditions. In my professional opinion, this community does not meet the criteria of a wetland based on the lack of dominance of hydrophytic vegetation, a negative prevalence index, lack of hydric soils, and a lack of hydrology.

Community 23 includes the western portion of a drainage ditch immediately south of North Gate Boulevard. Community 23 is dominated by Narrowleaf cattail (*Typha angustifolia*) and Broadleaf cattail (*Typha latifolia*). No hydric soil indicators were observed in the area; however, the soil pit could not be extended beyond 14 inches due to a layer of asphalt at depth. The asphalt encountered at 14 inches is believed to be associated with historic paving of North Gate Boulevard. Saturation and a water table were not observed in the area: the sandy soil was dry to a depth of 14 inches. Due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology is naturally problematic for this community; however, the lack of hydric soil and wetland hydrology indicates that wet season hydrology in Community 23 does not inundate or saturate soils for a sufficient frequency or duration to promote a prevalence of vegetation adapted to saturated soil conditions. In my professional opinion, this community does not meet the criteria of a wetland based on a lack of hydric soils and a lack of hydrology.

Community 24 is 0.255 acres and includes the eastern portion of a drainage ditch immediately south of North Gate Boulevard as well as portions of the drainage ditch to the north of North Gate Boulevard, located both east and west of Interstate I-25. Community 24 is dominated by Narrowleaf cattail (*Typha angustifolia*) and Broadleaf cattail (*Typha latifolia*) as well as Common

Duckweed (*Lemna minor*). Prominent redox concentrations from 4-12 inches satisfy the hydric soil criteria of Sandy Redox and further satisfied the identification of wetland hydrology. However, the soil pit could not be extended beyond 12 inches due to a layer of asphalt at depth. The asphalt encountered at 12 inches is believed to be associated with historic paving of North Gate Boulevard. Saturation and a water table were not observed in the area: the sandy soil was dry to a depth of 14 inches. Due to the site visit being conducted 6-10 weeks after the peak of the wet season, hydrology is naturally problematic for this community; however, the prominent redox concentrations from 4-12 inches indicates that wet season hydrology in Community 24 does inundate or saturate soils for a sufficient frequency or duration to promote a prevalence of vegetation adapted to saturated soil conditions. In my professional opinion, this community meets the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators.

Community 25 includes a portion of a drainage ditch immediately south of North Gate Boulevard, located immediately west of the northbound interstate lanes of I-25. Community 25 is dominated by Narrowleaf Willow (Salix exigua), Wand Panic Grass (Panicum virgatum), and Canada Thistle (Cirsium arvense). No hydric soil indicators were observed in the area; however, the soil pit could not be extended beyond 14 inches due to a layer of metal sheeting at depth. The metal sheeting encountered at 14 inches is believed to be associated with historic construction of I-25 and/or North Gate Boulevard. Saturation and a water table were not observed in the area: the sandy soil was moist from 12-14 inches below the ground surface, but saturation was not observed. Due to the assessment of Community 25 being conducted 9-13 weeks after the peak of the wet season, hydrology is naturally problematic for this community; however, the lack of hydric soil and wetland hydrology indicates that wet season hydrology in Community 25 does not inundate or saturate soils for a sufficient frequency or duration to promote a prevalence of vegetation adapted to saturated soil conditions. In my professional opinion, this community does not meet the criteria of a wetland based on a lack of hydric soils and a lack of hydrology.

According to the National Resources Conservation Service's Web Soil Survey, most soils within the Site are classified as Kettle-Rock outcrop complex, except soils within Communities 12, 13, and 15 with are classified at Tomah-Crowfoot complex; soils within Communities 18 through 21, 23, and 24 which are classified at Pring coarse sandy loam; and soils within Community 25 which are classified as Blendon sandy loam. None of the areas within the Site, the EUL boundaries, were classified at wetlands according to the National Wetlands Inventory map; however, a wetland delineation was conducted by the Air Force Academy in 2002. Wetland boundaries determined during the 2002 delineation effort did not receive a jurisdictional determination from the United States Army Corps of Engineers; however, the location and extent of the 2002 wetland boundaries within the Site are included on the attached figure in addition to the wetland boundaries as determined by the most recent field visit to the Site in September, October, and November of 2018.

Flags were placed along the boundaries of the areas identified as wetlands within the Site, including Communities 1, 2, 3, 4, 1b, 8, 9, 11, 12, 15, 16, 17, 18, 19, 21, and 24, and are indicated on the attached figure. However, while Communities 1, 2, 3, 4, 1b, 8, 9, 11, 12, 15, 16, 17, 18, 19,

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21, and 24 satisfied the criteria to be considered wetlands, none of the identified wetland areas within the proposed 38-acre EUL development area at the Site are believed to meet the criteria to be considered Waters of the United States.

The professional opinions made in this report regarding the location and extent of areas that do or do not satisfy the criteria of a wetland or a water of the United States were determined pursuant to the Army Corps of Engineer's Regional Supplement and appropriate guidance and pursuant to confirmation by appropriate regulatory staff including but not limited to the Army Corps of Engineers.

Please contact Ms. Tierney Walsh at 314-591-0862 or Tierney_Walsh@matrixdesigngroup.com should you have any questions or comments.

Sincerely,

Matrix Environmental Services, LLC

B. Tierney Walsh

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Environmental Scientist

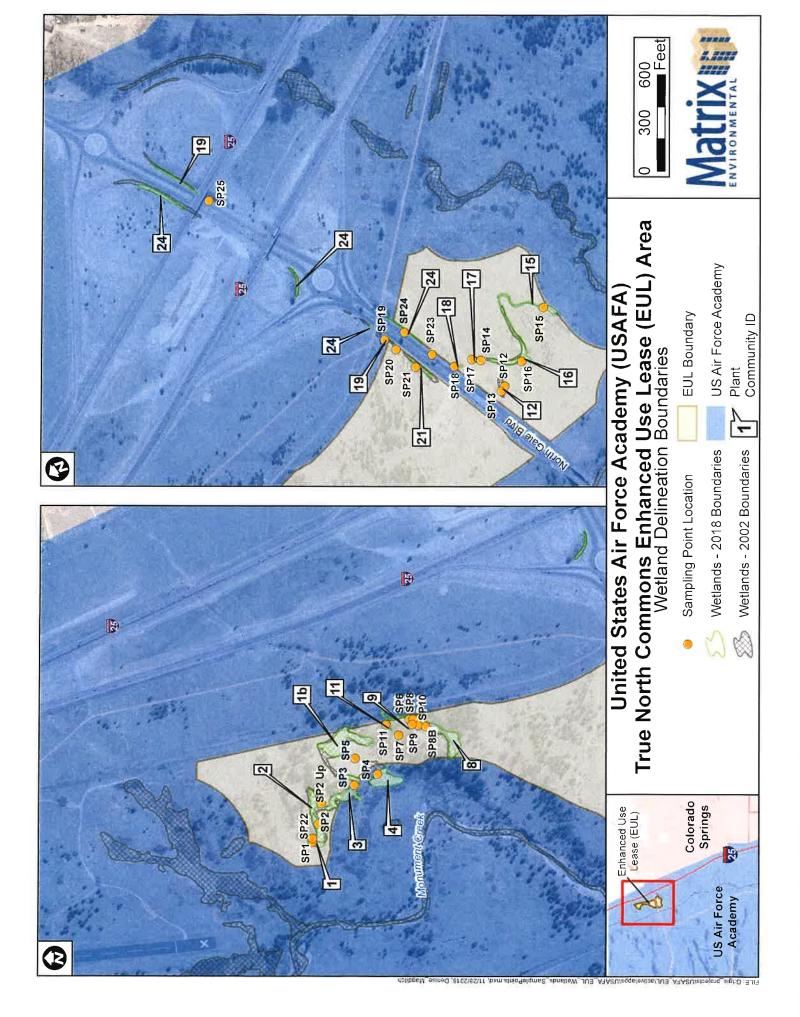
Enclosures:

Site Figures

Photolog

Field Data Forms

cc: Mr. Eric Smith, Vice President, Blue and Silver Development Partners, LLC



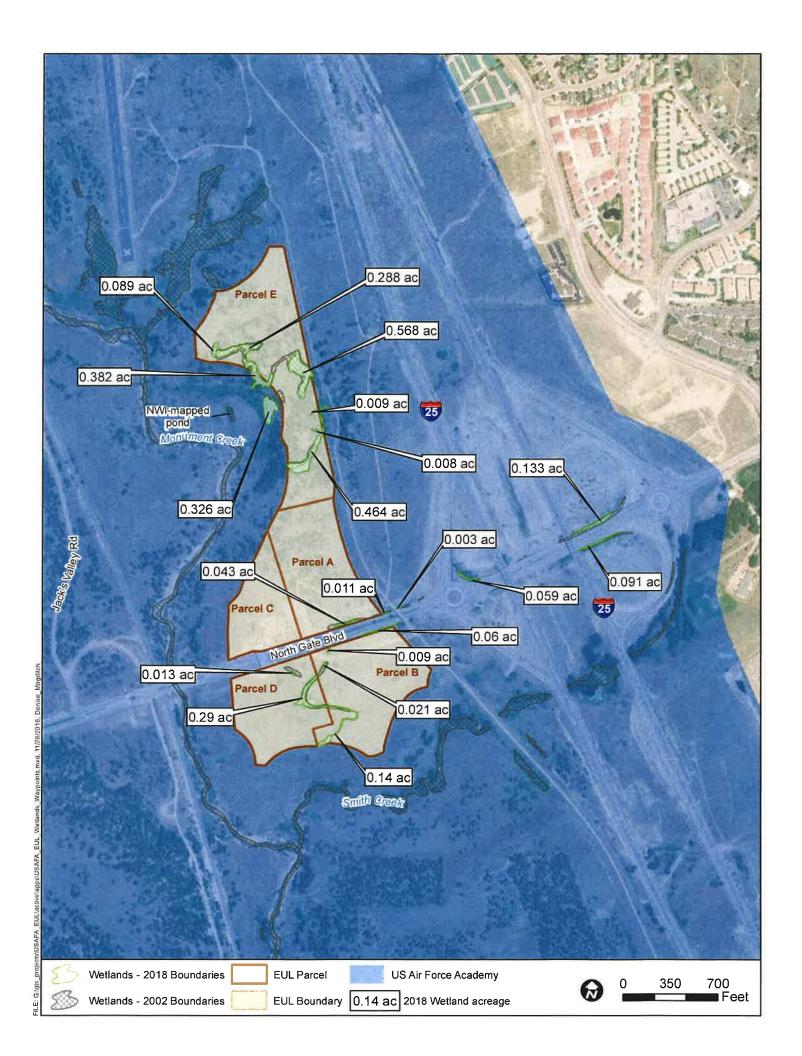


Photo Log



Photo 1 –Community 1 encompasses the foot slope and toe slope of an adjacent upland and appears undisturbed.



Photo 2 – Soil pit for Community 1



Photo 3 – Soil core from Community 2 exhibited hydrogen sulfide odor and satisfied criteria of thick dark surface



Photo 4 – Community 2 is directly south of Community 1 and wraps around a hillslope in the northern portion of the EUL area.



Photo 5 – Community 3 includes the middle and lower portions of west and south-facing hillslopes, south of Community 2.



Photo 7 – Soil core from Community 4 had 5% prominent redox concentrations from 3.5-14 inches



Photo 6 – Community 3 had visible surface water in approximately 30% of the area and a hydrogen sulfide odor.



Photo 8 – Soil core from Community 4 had 5% prominent redox concentrations from 3.5-14 inches



Photo 9 – Community 5 (upland) in foreground with Community 1b (wetland) in background



Photo 10 – Sandy gleyed soils and a high water table were observed within Community 1b



Photo 11 – Community 5 (upland) in foreground with Community 1b (wetland) in background



Photo 12 – Soils observed within Community 5 did not satisfy wetland hydrology or hydric soil indicator criteria



Photo 13 – Community 6 includes the summit and shoulder of a ridge adjacent and west of a small creek (Community 8).



Photo 14 – Soils observed within Community 6 did not satisfy wetland hydrology or hydric soil indicator criteria



Photo 15 – Community 7 includes the toe slope meadow adjacent and west of an upland ridge (Community 7).



Photo 16 – Within Community 7, no wetland hydrology or hydric soil indicators were observed.



Photo 17 – Community 8 includes a small stream valley fed by upland drainage.



Photo 18 – A stripped matrix was observed from 3-12 inches in the northern portion of Community 8.



Photo 19 — Community 8B is a subset of Community 8 and includes the natural sand levee within the middle segment of the stream valley.



Photo 20 – No hydric soil indicators were observed within Community 8B, the natural sand levee of the Site's stream valley.



Photo 21 – Community 9 includes a depression in the stream valley at the toe of an adjacent ridge and elevated meadow.



Photo 23 – Community 10 includes the edges of the stream valley, situated at the base of the adjacent hill.



Photo 22 – A hydrogen sulfide odor and sandy mucky mineral soils were observed within Community 9.



Photo 24 – No hydric soil indicators were observed, and saturation and a water table were not encountered within 24 inches.



Photo 25 – Community 11 includes the toe slope of an upland ridge, which drains into the northern edge of Community 7.



Photo 26 – Mucky modified sandy and a stripped matrix were observed in soils within Community 11.



Photo 27 – Community 12 includes a depression within the toe slope of a hill beginning at North Gate Boulevard.



Photo 28 – 2% prominent redox concentrations along pore linings from 2-6 inches satisfied the criteria for Sandy Redox.

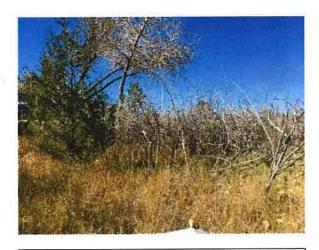


Photo 29 - Community 13 includes the toe slope of the hill south of North Gate Boulevard, north and east of Community 12.



Photo 30 – No hydric soil indicators were observed Community 13; however, the soil pit could not be extended beyond 12 inches.



Photo 31 – No hydric soil or wetland hydrology indicators were observed within Community 14.



Photo 32 – A gleyed layer was observed from 17-19 inches within Community 14 but did not satisfy any criteria of hydric soils.



Photo 33 – Community 15 includes the southern portion of a drainage swale south of North Gate Boulevard.



Photo 34 – Community 15 had visible surface water in approximately 80% of the area as well as a hydrogen sulfide odor.



Photo 35 – Community 16, the central portion of a drainage swale south of North Gate Blvd, had a hydrogen sulfide odor.



Photo 36 – Community 17, within the swale north of Community 14, had 3% prominent redox concentrations from 2-9 inches.



Photo 37 – Community 18, a drainage swale upgradient of Community 17, had a gleyed matrix within six inches of the soil surface.



Photo 38 – A hydrogen sulfide odor was detectable within 12 inches of the surface within Community 19.



Photo 39 – Community 19 includes a toe slope of an upland hill that transitions into a drainage ditch north of North Gate Blvd.



Photo 40 – Prominent redox concentrations from 0-4 inches were observed in soils within Community 21.

Project/Site: US Air Force Academy's True North Commons	EUL Area	Citv/Cou	inty: Colorado	Springs, El Paso County Sampling Date: 9/28/18
Applicant/Owner: US Air Force Academy		Ť	•	State: CO Sampling Point: #1
		Section	Township Ra	nge: Section 1, Township 12 South, Range 67 West
				convex, none): concave Slope (%): 0-20%
			•	
	Lat:	01.020		Long: W 104 50.542 Datum: WGS 84
Soil Map Unit Name: Kettle-Rock outcrop complex				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for the	•			
Are Vegetation, Soil, or Hydrology	significantly	disturbe	d? Are "	'Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology	naturally pro	blematic	c? (If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	samp	ling point l	ocations, transects, important features, etc.
	No			
Hydric Soil Present? Yes X			s the Sampled vithin a Wetlar	
Wetland Hydrology Present? Yes X	No		viuiiii a vveuai	id: Tes
Remarks: Field work conducted in late September and early VEGETATION – Use scientific names of plan		ne wet s	season is Apr	il-September, peaking in July and August.
Table 1 and	Absolute	Domin	ant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	0.0000000000000000000000000000000000000		s? Status	Number of Dominant Species
1. Quercus gambelii	<u> 5%</u>	Υ	UPL	That Are OBL, FACW, or FAC:2 (A)
2				Total Number of Dominant
3		3 		Species Across All Strata: 3 (B)
4.				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:	5%	= Total	Cover	That Are OBL, FACW, or FAC: 66.66% (A/B)
1				Prevalence Index worksheet:
2		-		Total % Cover of: Multiply by:
3				OBL species87 x 1 =87
4				FACW species3 x 2 =6
5				FAC species 6 x 3 = 18
		= Total	Cover	FACU species1 x 4 =4
Herb Stratum (Plot size: *)				UPL species 5 x 5 = 25
1. Typha X glauca	40%	Y	OBL	Column Totals:(A)(B)
2. Typha latifolia	40%	Y	OBL	Prevalence Index = B/A =1.3725
3. Typha angustifolia	5%	N N	OBL	Hydrophytic Vegetation Indicators:
4. Cirsium arvense	5%	N	FAC	1 - Rapid Test for Hydrophytic Vegetation
Epilobium saximontanum Lycopus americanus	- 2%	N	FACW	+ 2 - Dominance Test is >50%
Dipsacus fullonum	1%	N	OBL FAC	± 3 - Prevalence Index is ≤3.0¹
8. Verbascum thapsus	1%	N	FACU	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
g Carex praegracilis	1%	N	FACW	5 - Wetland Non-Vascular Plants ¹
	170	12	1701	Problematic Hydrophytic Vegetation ¹ (Explain)
10		9		Indicators of hydric soil and wetland hydrology must
11	97%	_ T-4-14	0	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	- 70	= Total	Cover	
1				Hydrophytic
2	- 25			Vegetation
		= Total	Cover	Present? Yes X No
% Bare Ground in Herb Stratum 15%				
Remarks: * Sampled entire plant community				
· · · · · · · · · · · · · · · · · · ·				
A grass species, approximating 5% total cover, wa	as unidentif	ıable du	ue to its lack of	of reproductive structures during the site visit.

US Army Corps of Engineers

Sampling		#
Sampling	Point.	π

the same and	scription: (Descri	oc to the ut	epth needed to docu	ment the maid	cator or comm	ii tile absence	or maloators.)
Depth	Matrix			x Features	ype ¹ Loc ²	Texture	Remarks
(inches)	Color (moist) 10 YR 3/2	<u>%</u> 100	Color (moist)	<u> </u>	ype ¹ Loc ²	Loamy Sand	organic rich mineral soil
0-1			_				organic nen mineral son
1-10	10 YR 2/2	100				Loamy Sand	·
10-20	10YR 4/4	100		×:		Loamy Sand	·
20-24	10 YR 6/8	100	<u> </u>			Loamy Sand	-
		- 379	2 3	-0			
-	-					-	
-	¥: ¥		* *	4 (! 			
¹Type: C=C	Concentration D=F	enletion R	M=Reduced Matrix, C	S=Covered or	Coated Sand G	Grains ² Lo	cation: PL=Pore Lining, M=Matrix.
			all LRRs, unless othe				ors for Problematic Hydric Soils ³ :
Histoso			Sandy Redox (2 cr	m Muck (A10)
	Epipedon (A2)		Stripped Matrix	•			d Parent Material (TF2)
Black H	Histic (A3)		Loamy Mucky	Mineral (F1) (e	xcept MLRA 1) Ver	y Shallow Dark Surface (TF12)
	gen Sulfide (A4)		Loamy Gleyed			Oth	er (Explain in Remarks)
	ed Below Dark Sur		Depleted Matri			4.	
	Dark Surface (A12)		Redox Dark Su				ors of hydrophytic vegetation and
	Mucky Mineral (S1		Depleted Dark Redox Depres				and hydrology must be present, ss disturbed or problematic.
	Gleyed Matrix (S4) Layer (if present		Redux Depres	SIUIIS (FO)		unie	ss disturbed or problematic.
	Layer (II present	J+0:					
Type:	nches):					Hydric Soi	I Present? Yes X No
	nicries)					Tiyane oor	111c3ciit: 1c3 10
Remarks:							
Hydroger	n sulfide odor						
TITLICATION	OGY						
		re.					
Wetland H	ydrology Indicato		red: check all that ann	lv)		Seco	indary Indicators (2 or more required)
Wetland Hy	ydrology Indicato dicators (minimum e		red; check all that app		BQ) (except		indary Indicators (2 or more required)
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Wetland Hy Primary Ind + Surface + High W + Satural - Water - Sedime - Drift De - Algal M - Iron De - Surface - Inunda - Sparse Field Obse Surface Water Table Saturation (includes ca	ydrology Indicator dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aerely Vegetated Concervations: ater Present? le Present? present?	ial Imagery eave Surface Yes X Yes X Yes X	Water-Sta	ained Leaves (I 1, 2, 4A, and t (B11) Invertebrates (B Sulfide Odor (Rhizospheres of Reduced Iron Reduction in r Stressed Plaiplain in Remarkanches): At Surface At Surface	4B) (C1) along Living Roon (C4) n Tilled Soils (Conts (D1) (LRR Arks)	\\ [0]	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)
Wetland Hy Primary Ind + Surface + High W + Satural - Water - Sedime - Drift De - Algal M - Iron De - Surface - Inunda - Sparse Field Obse Surface Water Table Saturation (includes ca	ydrology Indicator dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aerely Vegetated Concervations: ater Present? le Present? present?	ial Imagery eave Surface Yes X Yes X Yes X	Water-Sta	ained Leaves (I 1, 2, 4A, and t (B11) Invertebrates (B Sulfide Odor (Rhizospheres of Reduced Iron Reduction in r Stressed Plaiplain in Remarkanches): At Surface At Surface	4B) (C1) along Living Roon (C4) n Tilled Soils (Conts (D1) (LRR Arks)	\\ [0]	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)
Wetland Hy Primary Ind + Surface + High W + Satural - Water - Sedime - Drift De - Algal M - Iron De - Surface - Inunda - Sparse Field Obse Surface Water Table Saturation (includes carbe Re	ydrology Indicator dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aerely Vegetated Concervations: ater Present? le Present? present?	ial Imagery eave Surface Yes X Yes X Yes X	Water-Sta	ained Leaves (I 1, 2, 4A, and t (B11) Invertebrates (B Sulfide Odor (Rhizospheres of Reduced Iron Reduction in r Stressed Plaiplain in Remarkanches): At Surface At Surface	4B) (C1) along Living Roon (C4) n Tilled Soils (Conts (D1) (LRR Arks)	\\ [0]	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)

Project/Site: US Air Force Academy's True North Common	s EUL Area	City/C	ounty: Colorado	Springs, El Paso County Sampling Date: 9/28/18
Applicant/Owner: US Air Force Academy		City/C	ounty.	State: CO Sampling Point: #2
		04:-	- Townskie De	nge: Section 1, Township 12 South, Range 67 West
				convex, none): Convex Slope (%): 15-35%
Subregion (LRR): E	Lat: _N 3	9 01.0		Long: W 104 50.518 Datum: WGS 84
Soil Map Unit Name: Kettle-Rock outcrop complex				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for the	his time of ye	ar? Ye	es <u>X</u> No _	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly	disturt	oed? Are "	Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology	naturally pro	blema	tic? (If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	sam	pling point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes _X	No			
	No		Is the Sampled within a Wetlan	V
	No		within a wetian	id? res No
Remarks: Field work conducted in late September and early VEGETATION – Use scientific names of pla		ne we	t season is Apr	il-September, peaking in July and August.
VEGETATION - Ose scientific fiames of pla	Absolute	Dom	inant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	A Market and Artist Control for the		cies? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		02		Total Number of Dominant
3.	-3	-		Species Across All Strata: 2 (B)
Sapling/Shrub Stratum (Plot size:)		_ = Tot	al Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:100% (A/B)
1				Prevalence Index worksheet:
2	-,			Total % Cover of: Multiply by:
3,				OBL species68 x 1 =68
4				FAC species 40 x 2 = 210 x 2 = 120
5				TAC species X3 =
20 W 3280 S	V	= Tot	al Cover	1 Aco species x4
Herb Stratum (Plot size: *)	900/	~	EACIM	220
1. Juncus balticus 2. Carex aquatilis	80% 50%	Y Y	OBL	
3. Dipsacus fullonum	30%	N	FAC	Prevalence Index = B/A =2.03
4 Epilobium saximontanum	25%	<u></u>	FACW	Hydrophytic Vegetation Indicators:
5. Typha latifolia	15%	N	OBL	1 - Rapid Test for Hydrophytic Vegetation + 2 - Dominance Test is >50%
6. Solidago altissima	10%	N	FACU	+ 3 - Prevalence Index is ≤3.0¹
7 Cirsium arvense	10%	N	FAC	4 - Morphological Adaptations ¹ (Provide supporting
8. Lycopus americanus	3%	N	OBL	data in Remarks or on a separate sheet)
9. Linaria vulgaris	2%	N	UPL	5 - Wetland Non-Vascular Plants ¹
10. Yucca angustissima	2%	N	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
11. Verbascum thapsus	2%	N	FACU	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	229%	= Tota	al Cover	be present, unless disturbed or problematic.
1		-		Hydrophytic
2		2 1		Vegetation Present? Yes X No
% Bare Ground in Herb Stratum 5%	-	= Tota	al Cover	100 100
Remarks:				
* Sampled entire plant community				

Sampling	.	#2
Sampling	Point:	#12

SOIL

	Matrix Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
(inches) 0-4	10YR 2/1	85	7.5YR 5/8	15	C	PL	Sandy clay	
	10YR 2/1	80	10Y 5/	20	D	M	Sandy clay	-
	2.5Y 2.5/1	80	2.5Y 6/8	20	c	PL	Loamy Sand	-
		-0.54		-				:
12-18 <u> </u>	10Y 5/	95	7.5YR 5/8	<u>5</u> - ——	<u> </u>	PL	Sandy clay	
Histosol (A Histosol (A Histic Epip Black Histi Hydrogen Depleted E Thick Dark Sandy Mu Sandy Gle Restrictive La	idicators: (Appli A1) pedon (A2)	cable to a	M=Reduced Matrix, C: II LRRs, unless othe	rwise not S5) (S6) Mineral (F Matrix (F3) x (F3) Irface (F6 Surface (ted.) (except) () () () () ()		Indicat 2 c Re Ve Ot 3Indicat wett unle	cocation: PL=Pore Lining, M=Matrix. cors for Problematic Hydric Soils³: cm Muck (A10) cd Parent Material (TF2) cry Shallow Dark Surface (TF12) cher (Explain in Remarks) ctors of hydrophytic vegetation and land hydrology must be present, cess disturbed or problematic. il Present? Yes X No
	nes):fide odor. Sand gr	ains >70%	o coated.				Hydric So	TOSNOS
Remarks: Hydrogen sulfi YDROLOG	fide odor. Sand gr		o coated,				nyaric so	
Remarks: Hydrogen sulfi YDROLOG Wetland Hydr	fide odor. Sand gr SY rology Indicators	:		ly)				
Remarks: Hydrogen sulfi YDROLOG Wetland Hydr Primary Indica	fide odor. Sand gr SY rology Indicators ators (minimum of	:	ed; check all that app		ves (B9) (e	xcept	Seco	ondary Indicators (2 or more required)
Remarks: Hydrogen sulfi YDROLOG Wetland Hydr Primary Indica + Surface W	fide odor. Sand gr SY rology Indicators ators (minimum of Vater (A1)	:	ed; check all that app Water-Sta			xcept	Seco	
Remarks: Hydrogen sulfi YDROLOG Wetland Hydr Primary Indica + Surface W + High Wate	Fide odor. Sand gr FY FOLOGY Indicators Ators (minimum of Vater (A1) er Table (A2)	:	ed; check all that app Water-Sta	ined Leav 1, 2, 4A,	and 4B)	xcept	Seco	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 ,
Primary Indicar Surface Wetland Hydr Surface Wetland Wetland Hydr Here Surface Wetland Water	Fide odor. Sand grown of the same of the s	:	ed: check all that app Water-Sta MLRA	nined Leav 1, 2, 4A, (B11)	and 4B)	xcept	Second Second	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOG Wetland Hydr Primary Indica + Surface W + High Wate + Saturation Water Mai	Fide odor. Sand grown of the same of the s	:	red: check all that app Water-Sta MLRA Salt Crust	nined Leavente, 1, 2, 4A, (B11) vertebrate	and 4B) es (B13)	xcept	Seco	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
YDROLOG Wetland Hydr Primary Indica + Surface W + High Wate + Saturation Water Mai Sediment Drift Depo	Fide odor. Sand grading of the store (minimum of Vater (A1) er Table (A2) in (A3) urks (B1) Deposits (B2) osits (B3)	:	red; check all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized	nined Leaven 1, 2, 4A, (B11) Evertebrate Sulfide Control Rhizospherical	es (B13) dor (C1) eres along	Living Roo	Second — — — — — — — — — — — — — — — — — — —	ondary 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)
YDROLOG Wetland Hydr Primary Indica Hydrogen Sulfi Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat	rology Indicators ators (minimum of Vater (A1) er Table (A2) in (A3) urks (B1). Deposits (B2) posits (B3) or Crust (B4)	:	red: check all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized I	nined Leavent 1, 2, 4A, 1 (B11) Evertebrate Sulfide Carlosphe of Reduc	es (B13) dor (C1) eres along ed Iron (C	Living Roo	Secondary Second	ondary 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)
YDROLOG Wetland Hydr Primary Indica Hydrogen Sulfi Surface W Hydrogen Surface W Hydrogen High Water Saturation Water Mai Sediment Drift Depo	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5)	:	red: check all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Ire	ained Leavent, 2, 4A, 1, 2, 4A, 2A, 2A, 2A, 2A, 2A, 2A, 2A, 2A, 2A, 2	es (B13) Odor (C1) eres along ed Iron (C-	Living Roo \$) d Soils (Ce	Second Se	ondary 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)
Permarks: Hydrogen sulfi YDROLOG Wetland Hydr Primary Indica: Hydrogen Sulfiand Surface Water High Water Saturation Water Man Sediment Drift Depo Algal Mat Iron Depos Surface S	rology Indicators ators (minimum of Vater (A1) er Table (A2) er (A3) er (B1) er (B2) osits (B3) or Crust (B4) esits (B5) soil Cracks (B6)	: one requi	red; check all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro Stunted o	ained Leaven 1, 2, 4A, 1 (B11) evertebrate Sulfide Control Reduction Reduction Stressed	es (B13) Odor (C1) eres along ed Iron (Cition in Tille	Living Roo \$) d Soils (Ce	ots (C3) 6)	ondary 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)
Primary Indica: Hydrogen sulfi YDROLOG Wetland Hydr Primary Indica: Hydrogen Sulface Wetland Hydr Surface Wetland Water High Water Sediment Drift Depo Algal Mater Iron Depositions Surface Sillinundation	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5)	: one requir	red: check all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro Stunted o B7) Other (Ex	ained Leaven 1, 2, 4A, 1 (B11) evertebrate Sulfide Control Reduction Reduction Stressed	es (B13) Odor (C1) eres along ed Iron (Cition in Tille	Living Roo \$) d Soils (Ce	ots (C3) 6)	ondary 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)
Primary Indica Hydrogen Sulfi YDROLOG Vetland Hydr Primary Indica Hydrogen Surface Water Man Sediment Drift Depo Algal Mat Iron Depo: Surface Sediment Surface Sediment Surface Sediment Sparsely \	Fide odor. Sand grading of the color of the	one requir	red; check all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro Stunted o B7) Other (Ex	ined Lear 1, 2, 4A, (B11) evertebrate Sulfide C Rhizosphe of Reduct on Reduct r Stressed plain in R	es (B13) Door (C1) eres along ed Iron (C- tion in Tille d Plants (D- emarks)	Living Roo \$) d Soils (Ce	ots (C3) 6)	ondary 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 (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Indicated Sediment Deposition Deposition Sparsely Nated Teleposition Sparsely	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) Goil Cracks (B6) n Visible on Aerial Vegetated Concar ations: r Present?	: one requir Imagery (ve Surface Yes X	Water-Sta	ined Lear 1, 2, 4A, (B11) vertebrate Sulfide C Rhizosphe of Reduct on Reduct r Stressed plain in R	es (B13) Door (C1) eres along ed Iron (C- tion in Tille d Plants (D- emarks)	Living Roo \$) d Soils (Ce	ots (C3) 6)	ondary 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 (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Indica: Hydrogen sulfi YDROLOG Wetland Hydr Primary Indica: Hydrogen sulfi Surface Water High Water High Water Saturation Water Man Sediment Drift Depo Algal Mat Iron Depo: Surface Si Inundation Sparsely Water Field Observation	rology Indicators ators (minimum of Vater (A1) er Table (A2) er (A3) e	Imagery (ve Surface Yes X Yes X	Water-Sta Water-Sta WLRA Salt Crust Aquatic In Hydrogen Oxidized In Presence Recent Iro Stunted o Other (Ex Ex Ex Ex Ex Ex Ex Ex	ined Lear 1, 2, 4A, (B11) Ivertebrate Sulfide C Rhizosphe of Reduct on Reduct r Stressed plain in R	es (B13) Door (C1) eres along ed Iron (C- tion in Tille d Plants (D- emarks) 1 inch 5 inches	Living Roots 4) d Soils (Centre of the control of	ots (C3) 6)	ondary 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 (CS Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Primary Indica: Thigh Water Saturation Water Man Sediment Drift Depo Algal Mat Iron Depo: Surface Si Inundation Sparsely \ Field Observa Surface Water Water Table P Saturation Pre (includes capil	Fide odor. Sand grading of the saturations: Torongy Indicators ators (minimum of Vater (A1) For Table (A2) For (A3) For Crust (B4) For Crust (B4) For Crust (B4) For Crust (B5) For Crust (B6) For Visible on Aerial For Vegetated Concar For Present? For Server (Present) For Crust (B4) For Crust (B6) For C	Imagery (ve Surface Yes X Yes X Yes X	red; check all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized In Presence Recent Ird Stunted o Other (Ex	ined Leaver 1, 2, 4A, 1 (B11) Invertebrate Sulfide Con Reduction R	es (B13) Door (C1) eres along ed Iron (C- tion in Tille d Plants (D emarks) 1 inch 5 inches inches	Living Roots d Soils (Color A) (LRR A)	ots (C3) 6)	ondary 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)
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Primary Indicated High Water Manus Sediment Drift Deponsurface Surface Surface Surface Surface Surface Water Table Posaturation Precincludes capil Describe Recomposite Surface Surfac	Fide odor. Sand grading of the saturations: Torongy Indicators ators (minimum of Vater (A1) For Table (A2) For (A3) For Crust (B4) For Crust (B4) For Crust (B4) For Crust (B5) For Crust (B6) For Visible on Aerial For Vegetated Concar For Present? For Server (Present) For Crust (B4) For Crust (B6) For C	Imagery (ve Surface Yes X Yes X Yes X	red; check all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized In Presence Recent Ird Stunted o Other (Ex	ined Leaver 1, 2, 4A, 1 (B11) Invertebrate Sulfide Con Reduction R	es (B13) Door (C1) eres along ed Iron (C- tion in Tille d Plants (D emarks) 1 inch 5 inches inches	Living Roots d Soils (Color of the color of	ots (C3) 6)	ondary 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)
Primary Indica: Hydrogen sulfi YDROLOG Wetland Hydr Primary Indica: Hydrogen sulfi Surface W Hydrogen Sulface Water Mai Iron Deposition Sparsely Water Table Posaturation Preincludes capill Describe Reco	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) foil Cracks (B6) n Visible on Aerial Vegetated Concar ations: r Present? Present? Present? Plary fringe) orded Data (streat	Imagery (ve Surface Yes X Yes X Yes X The surface of the surface	red; check all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized In Presence Recent Ird Stunted o Other (Ex	ined Leaver 1, 2, 4A, (B11) Invertebrate Sulfide Con Reduction Reductor Stressed plain in Reductor Str	es (B13) Door (C1) eres along ed Iron (C- tion in Tille d Plants (Demarks) 1 inch 5 inches inches	Living Roots d Soils (Color of the color of	ots (C3) 6)	ondary 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 (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: US Air Force Academy's True North Common	s EUL Area	City/Co	ounty: Colo	rado Springs, El Paso County Sampling Date: 10/17/18
Applicant/Owner: US Air Force Academy				State: CO Sampling Point: #2 Upland
Investigator(s): T. Walsh & A. Davis		Sectio		, Range: Section 1, Township 12 South, Range 67 West
				ave, convex, none): convex Slope (%): 5-30%
				Long: W 104 50.491 Datum: WGS 84
Soil Map Unit Name: Kettle-Rock outcrop complex	Lat			NWI classification: NA
	h!n 4!£	0. \/-	. X	
Are climatic / hydrologic conditions on the site typical for t				
Are Vegetation, Soil, or Hydrology				Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology				(If needed, explain any answers in Remarks.)
		sam	pling poi	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	7.		Is the Sam	nied Area
Hydric Soil Present? Yes Wetland Hydrology Present? Yes			within a W	
Wetland Hydrology Present? Yes	NO			
Field work conducted in late September and early	October. Th	ne wet	t season is	April-September, peaking in July and August.
VEGETATION – Use scientific names of pla	nts.			
Tree Stratum (Plot size: *)	Absolute		inant Indica	Water and the second se
1. Quercus gambelii	10%	Y	ies? Statu UPL	- Number of Dominant Species
2 Crataegus erythropoda	5%	Y	FACI	
3.				Total Number of Dominant Species Across All Strata: 7 (B)
4				Species Across All Strata: (B)
	15%	= Tota	al Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:28.57%_ (A/B)
Sapling/Shrub Stratum (Plot size: *)	4=0/	.,	=	Prevalence Index worksheet:
1. Symphoricarpos occidentalis	15%	Y	FAC	Total % Cover of: Multiply by:
Robinia neomexicana Ribes lacustre	10%	Y	UPL	OBL species0 x 1 =0
4. Cercocarpus montanus	<u>10%</u> 5%	Y N	FAC UPL	FACW species 25 x 2 = 50
			OFL.	FAC species50 x 3 =150
5	40%	- Total	al Cavaa	FACU species 10 x 4 = 40
Herb Stratum (Plot size: *)	-1070	108	al Cover	UPL species150 x 5 =750
1. Solidago missouriensis	90%	Υ	UPL	Column Totals: 235 (A) 990 (B)
2. Linaria vulgaris	30%	Υ	UPL	Prevalence Index = B/A =4.21
3. Juncus balticus	25%	N	FACV	Hydrophytic Vegetation Indicators:
4. Cirsium arvense	15%	N	FAC	1 - Rapid Test for Hydrophytic Vegetation
5. Dipsacus fullonum	10%	N	FAC	2 - Dominance Test is >50%
6. Andropogon gerardii	5%	N	FACL	3 - Prevalence Index is ≤3.0 ¹
7. Yucca glauca	_ 5%	<u>N</u>	UPL	4 - Morphological Adaptations ¹ (Provide supporting
8	_:-	(d)		data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10		-		Problematic Hydrophytic Vegetation¹ (Explain)
11	4000/			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	180%	= Tota	l Cover	,
1				Underwhydia
2				Hydrophytic Vegetation
		= Tota	I Cover	Present? Yes No _X
% Bare Ground in Herb Stratum 2%	-			
Remarks:				11-
* Sampled entire plant community				

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.	ı
A-8	18:
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.	i -
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (At Stripped Matrix (S6)	= 0;=
India Indi	-181
Histosol (A1)	ocation: PL=Pore Lining, M=Matrix.
Histic Epipedon (A2) Black Histic (A3) Black Black Surface (F6) Black Surface (F6) Black Surface (F6) Black Surface (F6) Black Surface (F7) Black Surface (F6) Black Histic Surface (F6) Black Surface (F6) Black Surface (F6) Black Histic Surface (F6) Black	tors for Problematic Hydric Soils ³ :
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1)	cm Muck (A10)
- Hydrogen Sulfide (A4) - Loamy Gleyed Matrix (F2) - Depleted Below Dark Surface (A11) - Depleted Matrix (F3) - Thick Dark Surface (A12) - Redox Dark Surface (F6) - Inundation Visible on Aerial Imagery (B7) - Surface (A12) - Redox Dark Surface (F7) - Sandy Mucky Mineral (S1) - Depleted Dark Surface (F7) - With Matrix (S4) - Redox Depressions (F8) - URL (F3) - Sandy Gleyed Matrix (S4) - Redox Depressions (F8) - URL (F3) - Sandy Gleyed Matrix (S4) - Redox Depressions (F8) - URL (F7) - With Matrix (F2) - With Matrix (F2) - Sandy Mucky Mineral (S1) - Redox Dark Surface (F7) - With Matrix (F2) - Sandy Mucky Mineral (S4) - Redox Dark Surface (F7) - With Matrix (F2) - Sandy Mucky Mineral (S4) - Redox Dark Surface (F7) - With Matrix (F2) - Sandy Gleyed Matrix (F3) - Redox Dark Surface (F6) - Inundation Visible on Aerial Imagery (B7) - Other (Explain in Remarks) - Saturation Present? Yes No X Depth (inches): Wetland Hydrones (Matrix (F3) - Medical Matrix (F3) - Redox Dark Surface (F6) - Surface Matrix (F3) - Redox Dark Surface (F6) - Surface Matrix (F2) - Present (F6) - Surface (F7) - With Matrix (F2) - Presence of Reduced Iron (C4) - Recent Iron Reduction in Tilled Soils (C6) - Surface Soil Cracks (B6) - Surface (B8) - Surface Water Present? Yes No X Depth (inches): Wetland Hydrones (Matrix (F2) - Wetland Hydrones (Matrix (F2) - Wetland Hydrones (F3) - Wetland Hydrones (F	ed Parent Material (TF2) ery Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Redox Depressions (F8) URRESTRICTIVE Layer (if present): Type: Depth (inches): Remarks: No hydric soil indicators observed. Sand grains not 70% coated. No redox concentrations, depletions, on hydric soil indicators observed. Sand grains not 70% coated. No redox concentrations, depletions, on hydric soil indicators observed. Sand grains not 70% coated. No redox concentrations, depletions, on hydric soil indicators observed. Sand grains not 70% coated. No redox concentrations, depletions, on hydric soil indicators observed. Sand grains not 70% coated. No redox concentrations, depletions, on hydric soil indicators observed. Sand grains not 70% coated. No redox concentrations, depletions, on hydric soil indicators observed. Sand grains not 70% coated. No redox concentrations, depletions, on hydric soil indicators observed. Salt crains (F8) Wateraland Hydrocestal Hydrocestal Hydrocestal Hydrocestal Hydrocestal Redox (F8) Sand Grain Hydrocestal Redox (F8) Sand Grain Hydrocestal Redox (F8) Sand Redox Cartas (F8) Wateraland Hydrocestal Redox (F7) Wateraland Hydrocestal Redox (F8) Wateraland Redox (F8) Sand Grain Hydrocestal Redox (F8) Sand Grain Hydrocestal Redox (F8) Wateraland Hydrocestal Redox (F8)	ther (Explain in Remarks)
Thick Dark Surface (A12)	,
Sandy Gleyed Matrix (S4) Redox Depressions (F8) URRestrictive Layer (if present): Depth (inches): Beth (inches):	ators of hydrophytic vegetation and
Restrictive Layer (if present): Type:	tland hydrology must be present,
Type:	ess disturbed or problematic.
Depth (inches):	
Permarks: No hydric soil indicators observed. Sand grains not 70% coated. No redox concentrations, depletions, of the 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) Indicators (minimum of one required; check all that apply) Saturation (A3) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Sield Observations: Surface Water Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Wetland Hydro	v
VEROLOGY Vetland 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) Diff Deposits (B3) Surface Soil Crust (B4) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Vetland Hydrology Indicators: Water Apply Water Apply MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Dyidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Surface Water Present? Ves No X Depth (inches): Saturation Present? Ves No X Depth (inches): Wetland Hydrology Wet	oil Present? Yes No _X
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Water Present? Ves No X Depth (inches): Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Chydrogen 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) Wetland Hydrostaturation Present? Wetland Hydrostaturation Present? Wetland Hydrostaturation Present? Yes No X Depth (inches): Wetland Hydrostaturation Present? Wetland Hydrostaturation Present? Wetland Hydrostaturation Present?	
MLRA 1, 2, 4A, and 4B) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Water Table Present? Yes No X Depth (inches): MARA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Fyresence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Total Crust (B11) Aquatic Invertebrates (B13) Total Crust (B12) Aquatic Invertebrates (B13) Total Crust (B11) Aquatic Invertebrates (B13) Total Crust (B11) Aquatic Invertebrates (B13) Total Crust (B11) Aquatic Invertebrates (B13) Fyresence of Reduced Iron (C4) Total Crust (B11) Total Crust (B12) Total Crust (B13) Total Crust (B13) Total Crust (B12) Total Crust (B12) Total Crust (B13) Total Crust (B12) Total Crust (B13) Total Crust (B12) Total Cru	condary Indicators (2 or more required)
Saturation (A3)	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
- Water Marks (B1)	Drainage Patterns (B10)
- Sediment Deposits (B2)	Dry-Season Water Table (C2)
- 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) Field Observations: Surface Water Present? Ves No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Wetland Hydro	Saturation Visible on Aerial Imagery (C
- Algal Mat or Crust (B4) - Presence of Reduced Iron (C4) - Iron Deposits (B5) - Recent Iron Reduction in Tilled Soils (C6) - Surface Soil Cracks (B6) - Stunted or Stressed Plants (D1) (LRR A) - Inundation Visible on Aerial Imagery (B7) - Other (Explain in Remarks) - Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Wetland Hydrosaturation Present? Yes No X Depth (inches): Wetland Hydrosaturation Present? Yes No X Depth (inches): Wetland Hydrosaturation Present?	
Iron Deposits (B5)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No _X Depth (inches): Nater Table Present? Yes No _X Depth (inches): Saturation Present? Yes No _X Depth (inches): Wetland Hydro	FAC-Neutral Test (D5)
Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present?	Delegal Ant Marrials (DO) (LDD A)
Field Observations: Surface Water Present? Yes No _X Depth (inches):	Raised Ant Mounds (D6) (LRR A)
Surface Water Present? Yes No _X Depth (inches): Depth (inches): Water Table Present? Yes No _X Depth (inches): Wetland Hydromatical Hyd	Frost-Heave Hummocks (D7)
Vater Table Present? Yes No _X Depth (inches): Wetland Hydro Saturation Present? Yes No _X Depth (inches): Wetland Hydro	
Saturation Present? Yes No X Depth (inches): Wetland Hydro	
includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available	Frost-Heave Hummocks (D7)
Remarks: Water table and saturation absent at 24 inches below ground surface.	

Project/Site: US Air Force Academy's True North Commons	s EUL Area	City/C	ounty: Colorado	Springs, El Paso County Sampling Date: 10/15/18
Applicant/Owner: US Air Force Academy				State: CO Sampling Point: #3
Investigator(s): T. Walsh & A. Davis		Sectio		nge: Sections 1, Township 12 South, Range 67 West
				convex, none): _concave to convex
Subregion (LRR): E			•	Long: W 104 50,4667 Datum: WGS 84
Soil Map Unit Name: Kettle-Rock outcrop complex				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for the	is time of ve	ar? Y		· · · · · · · · · · · · · · · · · · ·
Are Vegetation, Soil, or Hydrology				"Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology				eeded, explain any answers in Remarks.)
				ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X				
Hydric Soil Present? Yes X	No		Is the Sampled	
Wetland Hydrology Present? Yes X	No		within a Wetlar	idr Tes No
Remarks: Field work conducted in late September and early	October. Th	ne we	t season is Apr	ril-September, peaking in July and August.
VEGETATION – Use scientific names of plan	nts.			
	Absolute		inant Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:) 1	% Cover	Spec	cies? Status	Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant
3		_		Species Across All Strata: 1 (B)
Spalling/Chruib Stratium (Diet sine)		= Tot	al Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:100% (A/B)
Sapling/Shrub Stratum (Plot size:) 1.				Prevalence Index worksheet:
2.				Total % Cover of:Multiply by:
3.				OBL species40 x 1 =40
4				FACW species110
5				FAC species5 x 3 =15
ana-a		= Tot	al Cover	FACU species x 4 = UPL species x 5 =
Herb Stratum (Plot size:) 1 Juncus balticus	ΩΩ%	~	FACW	Column Totals: 155 (A) 275 (B)
2. Typha latifolia	20%	N N	OBL	
3. Typha X glauca	20%	N	OBL	Prevalence Index = B/A =1.77
4. Epilobium saximontanum	10%	N	FACW	Hydrophytic Vegetation Indicators:
5. Solidago gigantea	10%	N	FACW	1 - Rapid Test for Hydrophytic Vegetation + 2 - Dominance Test is >50%
6. Dipsacus fullonum	5%	N	FAC	± 3 - Prevalence Index is ≤3.0¹
7.				4 - Morphological Adaptations ¹ (Provide supporting
8		e		data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10,,		-		Problematic Hydrophytic Vegetation ¹ (Explain)
11				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	155%	= Tota	al Cover	be present, unless disturbed of problematic.
1	-:	S		Hydrophytic
2		-	/	Vegetation
% Bare Ground in Herb Stratum 10%	-	= Tota	al Cover	
Remarks: * Sampled entire plant community				
Sampled Charle plant community				

ampling	Point:	#3
amonnu	PUIII.	

Profile Desc	cription: (Describ	e to the de	pth needed to docu	nent the	indicator	or confirn	the absence	of indicators.)	
Depth	Matrix		Redo	x Featur					
_(inches)	Color (moist)	_ %	Color (moist)	%	Type ¹	_Loc ²	<u>Texture</u>	Remarks	
0-2	10 YR 2/1	100		,		-	Loamy Sand	mucky modified sand	
2-4	10 YR 2/2	95	7.5YR 5/8	5	- <u>C</u>	PL	Loamy Sand	·	
4-6	10YR 4/1	85	10YR 5/8	5	<u> </u>	PL	Loarny Sand		
			10Y 6/	10	_ <u>D</u>	<u>M</u>			
6-10	N 6/	70	10YR 4/6	30	_ <u>C</u>	PL	Loamy Sand		
					======================================		42	·	
				= 1:::					
¹Type: C=C	oncentration, D=De	epletion, RM	/=Reduced Matrix, C	S=Covere	ed or Coate	ed Sand G	rains. ² Loc	cation: PL=Pore Lining, M=Matrix.	
			II LRRs, unless othe					ors for Problematic Hydric Soils ³ :	
- Histosol	l (A1)		+ Sandy Redox (S5)				n Muck (A10)	
	pipedon (A2)		Stripped Matrix					Parent Material (TF2)	
_	istic (A3)		Loamy Mucky I			t MLRA 1)		y Shallow Dark Surface (TF12)	
	en Sulfide (A4)	(011)	Loamy Gleyed		2)		Oth	er (Explain in Remarks)	
	d Below Dark Surfa ark Surface (A12)	ice (ATT)	Depleted Matrix Redox Dark Su		:1		3Indicate	ore of hydrophytic vegetation and	
	Mucky Mineral (S1)		Depleted Dark		-		³ Indicators of hydrophytic vegetation and wetland hydrology must be present,		
	Gleyed Matrix (S4)		- Redox Depress					s disturbed or problematic.	
	Layer (if present):						Ī .		
Type:									
Depth (in	ches):						Hydric Soil	Present? Yes X No No	
Remarks:									
LIVEROLO	.0.4								
HYDROLO									
1	drology Indicator		L SERVICEURS - II II - I				0	- d I - I - I	
		one requir	ed; check all that app	-				ndary Indicators (2 or more required)	
+ Surface	` '		Water-Sta			xcept	v	Vater-Stained Leaves (B9) (MLRA 1, 2,	
+ High Water Table (A2) MLRA 1, 2, 4A, and 4B)				4A, and 4B)					
 -	+ Saturation (A3) Salt Crust (B11)				Drainage Patterns (B10)				
ı —	Water Marks (B1) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1)					_	Ory-Season Water Table (C2)		
	nt Deposits (B2)					Lining Do		Saturation Visible on Aerial Imagery (C9)	
I —	Drift Deposits (B3) + Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2)								
	Algal Mat or Crust (B4)							FAC-Neutral Test (D5)	
ı —					d Plants (D			Raised Ant Mounds (D6) (LRR A)	
	Soil Cracks (B6) ion Visible on Aeria	l Imagaay ((LIXIX A	_	Frost-Heave Hummocks (D7)	
I —	y Vegetated Conca		<i>,</i> —	piaiii iii i	Ciliains)		<u> </u>	Tost-Heave Huminocks (D7)	
Field Obser		- Ouriacc	(50)						
		voc X	No Depth (in	choc). <	1 inch				
	ter Present?	Yes X	No Depth (in	ches)	inches				
Water Table						-	land Underland	Present 2 Von X No	
Saturation Present? Yes X No Depth (inches): 4 inches Wetland Hydrology Present? Yes X No L No									
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks									

Project/Site: US Air Force Academy's True North Commons B	EUL Area	City/C	ounty:	Colorado S	Springs, El Paso County Sampling Date: 10/4/18		
Applicant/Owner: US Air Force Academy	State: CO Sampling Point: #4						
• •					nge: Sections 1, Township 12 South, Range 67 West		
Landform (hillslope, terrace, etc.): meadow							
Subregion (LRR): E					Long: W 104 50.453 Datum: WGS 84		
Soil Map Unit Name: Kettle-Rock outcrop complex	_ Lat	-					
					NWI classification: NA		
Are climatic / hydrologic conditions on the site typical for this	-						
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? YesX No							
Are Vegetation, Soil, or Hydrology X naturally problematic? (If needed, explain any answers in Remarks.)							
SUMMARY OF FINDINGS – Attach site map		sam	pling	point lo	ocations, transects, important features, etc.		
Hydrophytic Vegetation Present? Yes X No			la tha	Compled	Area		
Hydric Soil Present? Yes X No. X		Is the Sampled Area within a Wetland? Yes X No					
Wetland Hydrology Present? Yes X No	0						
Remarks: Field work conducted in late September and early October. The wet season is April-September, peaking in July and August. Hydrology is naturally problematic as the site visit was conducted after the wet season and the sampling area is believed to a seasonal wetland. Oxidized rhizospheres on living roots from 3.5 - 14 inches used as primary hydrology indicator.							
VEGETATION – Use scientific names of plant	ts.				,		
	Absolute			ndicator	Dominance Test worksheet:		
Tree Stratum (Plot size:) 1	% Cover				Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)		
2					Total Number of Dominant		
3					Species Across All Strata: 2 (B)		
4		= Tot	tal Cove		Percent of Dominant Species		
Sapling/Shrub Stratum (Plot size:)			-	That Are OBL, FACW, or FAC: 100% (A/B) Prevalence Index worksheet:			
1.	-	-			Total % Cover of: Multiply by:		
2	/ 				OBL species 40 x 1 = 40		
3.,					FACW species 108 x 2 = 216		
4.		-			FAC species 12 x 3 = 36		
5.,		:- -			FACU species x 4 =		
Herb Stratum (Plot size: *)		= Tot	tal Cove	er	UPL species x 5 =		
1. Juncus balticus	95%	Υ		FACW	Column Totals:(A)(B)		
2. Carex aquatilis	40%	Y	(OBL	Prevalence Index = B/A = 1.825		
3. Mentha arvensis	10%	N		FACW	Hydrophytic Vegetation Indicators:		
4. Dipsacus fullonum	10%	N		FAC	1 - Rapid Test for Hydrophytic Vegetation		
5. Epilobium saximontanum	3%	N	1	FACW	+ 2 - Dominance Test is >50%		
6. Cirsium arvense	2%	N		FAC	+ 3 - Prevalence Index is ≤3.0¹		
7		-			4 - Morphological Adaptations ¹ (Provide supporting		
8					data in Remarks or on a separate sheet)		
9					5 - Wetland Non-Vascular Plants ¹		
10		-			Problematic Hydrophytic Vegetation ¹ (Explain)		
11	4000/	-			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
Woody Vine Stratum (Plot size:)	160%	= Tota	al Cove	r			
1					Hydrophytic		
2.					Vegetation		
		= Tota	al Cove	r	Present? Yes X No		
% Bare Ground in Herb Stratum 5%							
* Sampled entire plant community							
,							
1							

amplina	Point-	#4

SOIL

2-3.5	YR 4/8 YR 3/6 3	15 30	Type¹ C C	PL	Sandy loam Sandy clay loam	Remarks
14-21 10YR 2/1 85 7.5 14-34 10YR 2/1 60 10Y R34-44 N 3/ 80 7.5 15-24-44 N 3/ 80 7.5 15-25-25-25-25-25-25-25-25-25-25-25-25-25	YR 4/8 YR 3/6 3	15 30			Sandy clay loam	
N 3 4-44 N 3/ 80 7.5 Type: C=Concentration, D=Depletion, RM=Red ydric Soil Indicators: (Applicable to all LRR Histosol (A1)	YR 3/6 3	30	С			
Surface Water (A1) High Water Table (A2) Surface Water Marks (B1) Surface Water Deposits (B2) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Surface Water Present?	3/			M	Sandy clay loam	
Type: C=Concentration, D=Depletion, RM=Red ydric Soil Indicators: (Applicable to all LRR Histosol (A1)			С	М	Sandy clay loam	
Type: C=Concentration, D=Depletion, RM=Red ydric Soil Indicators: (Applicable to all LRR: Histosol (A1)	Y 6/8	10	D	М		
ydric Soil Indicators: (Applicable to all LRR 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) Estrictive Layer (if present): Type: Depth (inches): Emarks: POROLOGY Wetland Hydrology Indicators: Frimary Indicators (minimum of one required; chemarks: Frimary Indicators (Minimum of one required; chemarks: 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) Field Observations: Furface Water Present? Final Maturation		20	С	M	sandy clay	
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) estrictive Layer (if present): Type: Depth (inches): emarks: //DROLOGY //etland Hydrology Indicators: rimary Indicators (minimum of one required; chemarks: // Water Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Difft 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) ield Observations: urface Water Present? // Yes No paturation Present? Yes No				d Sand Gr		eation: PL=Pore Lining, M=Matrix. rs for Problematic Hydric Soils³:
Type:	Sandy Redox (S5) Stripped Matrix (S Loamy Mucky Min Loamy Gleyed Ma Depleted Matrix (F Redox Dark Surfa Depleted Dark Sur Redox Depression	i) 66) neral (F1) atrix (F2) F3) ace (F6) urface (F7	(except	MLRA 1)	2 cm Red Very Other ³ Indicato wetlar	n Muck (A10) Parent Material (TF2) Shallow Dark Surface (TF12) er (Explain in Remarks) rs of hydrophytic vegetation and hydrology must be present, s disturbed or problematic.
PROLOGY Petland Hydrology Indicators: Firmary Indicators (minimum of one required; character of the content o					Hudria Sail	Present? Yes X No
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required; che 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) ield Observations: urface Water Present? Ves No _ aturation Present? Yes No _ acturation Present? Yes X No _ includes capillary fringe)	Ħ				nyuric 3011	Present? Yes _ ^ No
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) Field Observations: Surface Water Present? Ves No No Saturation Present? Yes No Saturation Present? Yes No Saturation Present? Yes No	eck all that apply)				Secon	ndary Indicators (2 or more required)
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) ield Observations: surface Water Present? Ves No vater Table Present? Yes No caturation Present? Yes X No	Water-Staine		s (B9) (e	xcept		/ater-Stained Leaves (B9) (MLRA 1, 2
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) ield Observations: surface Water Present? Vater Table Present? Yes No saturation Present? Yes No calculdes capillary fringe)	MLRA 1,			хоорс		4A, and 4B)
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) ield Observations: urface Water Present? Vater Table Present? Yes No _ aturation Present? Yes No _ ncludes capillary fringe)	Salt Crust (B	311)			D	rainage Patterns (B10)
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) ield Observations: urface Water Present? Yes No vater Table Present? Yes No aturation Present? Yes X No ncludes capillary fringe)	Aquatic Inver					ry-Season Water Table (C2)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) ield Observations: urface Water Present? Vater Table Present? Vater Table Present? Yes No _ aturation Present? Yes X No _ ncludes capillary fringe)	Hydrogen Su			5		aturation Visible on Aerial Imagery (C
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) ield Observations: urface Water Present? Yes No /ater Table Present? Yes No aturation Present? Yes X No ncludes capillary fringe)	+ Oxidized Rhi	-	-	_		eomorphic Position (D2)
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) ield Observations: urface Water Present? Yes No //ater Table Present? Yes No aturation Present? Yes X No ncludes capillary fringe)	Presence of Recent Iron F					hallow Aquitard (D3) AC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) ield Observations: urface Water Present? Yes No _ daturation Present? Yes X No _ ncludes capillary fringe)	Stunted or St					aised Ant Mounds (D6) (LRR A)
Sparsely Vegetated Concave Surface (B8) ield Observations: urface Water Present?	Other (Expla			., (=: 71)		rost-Heave Hummocks (D7)
Velocities Velocities						(
urface Water Present? Yes No _ /ater Table Present? Yes No _ aturation Present? Yes No _ ncludes capillary fringe)				1		
aturation Present? Yes X No _ ncludes capillary fringe)	X Depth (inche	es):		_		
ncludes capillary fringe)	X Depth (inche	es):		_		
	Depth (inche	es): <u>34 ir</u>	nches	_ Wetla	and Hydrology	y Present? Yes X No
Describe Recorded Data (stream gauge, monitor		otos, pre	vious ins	pections),	if available:	
	ring well, aerial pho					
temarks: Saturation observed at 34 inches below the grou	ring well, aerial ph					·

Project/Site: US Air Force Academy's True North Commons E	UL Area	City/Coun	ty: Colorado	Springs, El Paso County Sampling Date: 10/15/18
Applicant/Owner: US Air Force Academy				State: CO Sampling Point: #5
		Section.		nge: Section 1, Township 12 South, Range 67 West
				convex, none): convex Slope (%): 10-359
				Long: W 104 50.432 Datum: WGS 84
Soil Map Unit Name: Kettle-Rock outcrop complex				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this	time of us	2 Vaa		
	-			
Are Vegetation, Soil, or Hydrology si				'Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or HydrologyXna, SUMMARY OF FINDINGS — Attach site map s				eded, explain any answers in Remarks.) ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No				
Hydric Soil Present? Yes No		Is	the Sampled	
Wetland Hydrology Present? Yes No	<u> </u>	wi	thin a Wetlar	nd? YesNoX
Remarks: Field work conducted in late September and early October. The we the site visit was conducted after the wet season; however, the lack insufficient in frequency and/or duration to support a prevalence of VEGETATION – Use scientific names of plant	vegetation a	opril-Septer ce of hydro dapted to s	mber, peaking i ophytic vegetati saturated soil co	n July and August. Hydrology could be naturally problematic as on and the lack of hydric soil indicate wet season hydrology is onditions.
VEGETATION - 03e scientific flames of plant		Domina	nt Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:) 1	% Cover	Species	? Status	Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2,				Total Number of Dominant
3				Species Across All Strata: 3 (B)
4				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: *)		= Total C	Cover	That Are OBL, FACW, or FAC: 33.33% (A/B)
Symphoricarpos occidentalis	20%	Υ	FAC	Prevalence Index worksheet:
2. Salix amygdaloides	3%	N	FACW	Total % Cover of: Multiply by:
3		3 1.	**	OBL species x 1 =
4		-	-	FACW species x 2 = 36
5				FAC species x 3 = 150
	23%	= Total C	Cover	FACU species 15 x 4 = 60
Herb Stratum (Plot size: *)	0004		UDI	of E species x 3
1. Bromus inermis	80%	<u>Y</u>		Column Totals: 243 (A) 1046 (B)
2. Bouteloua gracilis	30%	Y	UPL	Prevalence Index = B/A =4.30
3. Cirsium arvense A Artemisia frigida	15%	N	- FAC UPL	Hydrophytic Vegetation Indicators:
	15%	N	UPL	1 - Rapid Test for Hydrophytic Vegetation
5. Linaria vulgaris 6. Juncus balticus	15%	N	FACW	2 - Dominance Test is >50%
7. Andropogon gerardii	10%	N	FACU	3 - Prevalence Index is ≤3.0¹
8 Yucca angustissima	5%	N	UPL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
g Chrysothamnus viscidiflorus	5%	N	UPL	5 - Wetland Non-Vascular Plants ¹
10. Verbascum thapsus	5%	N	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
11				¹ Indicators of hydric soil and wetland hydrology must
P0 	220%	= Total C	over	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)				
1.		-		Hydrophytic
2				Vegetation Present? Yes No _X
% Bare Ground in Herb Stratum 20%		= Total C	over	1351
Remarks:				
* Sampled entire plant community				

Sampling	Point:	#

Depth inches) Color (Matrix moist)	%	Color (moist)	%	Type ¹	Loc ²	Textur	e Remarks
)-2 10YR 3/		100					loamy sa	ind
-20 10YR 5/	3	100					sand	
						·		
Type: C=Concentratio						ted Sand G	rains. Indi	² Location: PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils ³ :
Histosol (A1)	`	. <u> </u>	Sandy Red		ŕ			2 cm Muck (A10)
Histic Epipedon (A2	2)	<u>.</u>	Stripped M					Red Parent Material (TF2)
Black Histic (A3)	,	_			i (F1) (exce _l	ot MLRA 1)	<u> </u>	Very Shallow Dark Surface (TF12)
_ Hydrogen Sulfide (/		33	Loamy Gle	ed Matrix	(F2)		_	Other (Explain in Remarks)
Depleted Below Da		(A11)	 Depleted IV 					
_ Thick Dark Surface		=	Redox Dar	,	•			icators of hydrophytic vegetation and
_ Sandy Mucky Mine			Depleted D					vetland hydrology must be present,
_ Sandy Gleyed Matrestrictive Layer (if pr			- Redox Dep	ressions (i	-0)		1	ınless disturbed or problematic.
Type:								
								X
Depth (inches):	s observed	. Sand gra	ins not 70% co	pated. No r	edox conce	ntrations, de		or greyed matrix observed to depth.
Depth (inches): Remarks: No hydric soil indicator		. Sand gra	ins not 70% co	oated. No r	edox conce	ntrations, de		
Depth (inches): Remarks: No hydric soil indicator /DROLOGY Vetland Hydrology In	dicators:				edox conce	ntrations, de	epletions, o	
Depth (inches): Remarks: No hydric soil indicator /DROLOGY Vetland Hydrology Incrimary Indicators (min	dicators:		check all that	apply)			epletions, c	or greyed matrix observed to depth.
Depth (inches): Remarks: No hydric soil indicator /DROLOGY Vetland Hydrology In	dicators:		check all that	apply) -Stained L	eaves (B9) (A, and 4B)		epletions, c	or greyed matrix observed to depth.
Depth (inches): Remarks: No hydric soil indicator /DROLOGY Vetland Hydrology In rimary Indicators (min _ Surface Water (A1) _ High Water Table (dicators:		check all that Water ML	apply) -Stained L RA 1, 2, 4	eaves (B9) (epletions, o	econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)
Depth (inches): Remarks: No hydric soil indicator /DROLOGY Vetland Hydrology In rimary Indicators (min Surface Water (A1) High Water Table (Saturation (A3)	dicators:		check all that Water ML Salt C	apply) -Stained L RA 1, 2, 4 rust (B11)	eaves (B9) (epletions, o	or greyed matrix observed to depth. Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1,
Depth (inches): Remarks: No hydric soil indicator /DROLOGY Vetland Hydrology In rimary Indicators (min _ Surface Water (A1) _ High Water Table (dicators: imum of one A2)		check all that Water ML Salt C Aquat	apply) -Stained Li RA 1, 2, 4 rust (B11) c Inverteb	eaves (B9) (A, and 4B)		epletions, o	r greyed matrix observed to depth. Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Depth (inches): Remarks: No hydric soil indicator /DROLOGY Vetland Hydrology In rimary Indicators (min Surface Water (A1) High Water Table (Saturation (A3) Water Marks (B1)	dicators: imum of one A2)		check all that Water ML - Salt C - Aquat - Hydro	apply) -Stained L RA 1, 2, 4 rust (B11) c Inverteb gen Sulfide	eaves (B9) (A, and 4B) rates (B13) e Odor (C1)	except	epletions, o	econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Depth (inches): Remarks: No hydric soil indicator /DROLOGY Vetland Hydrology In rimary Indicators (min Surface Water (A1) High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits	dicators: imum of one A2) (B2)		check all that Water ML - Salt C - Aquat - Hydro - Oxidiz	apply) -Stained Lorent Lorent (B11) c Invertebrogen Sulfidered Rhizos	eaves (B9) (A, and 4B) rates (B13) e Odor (C1)	except	epletions, o	becondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
Depth (inches): Remarks: No hydric soil indicator /DROLOGY /etland Hydrology In rimary Indicators (min Surface Water (A1) High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust	dicators: imum of one A2) (B2)		check all that Water ML Salt C Aquat _ Hydro _ Oxidiz _ Prese	apply) -Stained Li RA 1, 2, 4 rust (B11) c Inverteb gen Sulfide ed Rhizos nce of Red	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alon	except g Living Ro	epletions, o	econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C- Geomorphic Position (D2)
Depth (inches):	dicators: imum of one A2) (B2) (B4) s (B6)	e required;	check all that Water ML Salt C Aquat Hydro Oxidiz Prese Recer Stunte	apply) -Stained Li RA 1, 2, 4 rust (B11) c Inverteb gen Sulfide ed Rhizos nce of Red t Iron Red	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alone luced Iron (C) uction in Till sed Plants (except g Living Ro	epletions, o	r greyed matrix observed to depth. Gecondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C) Geomorphic Position (D2) Shallow Aquitard (D3)
Depth (inches):	dicators: imum of one (A2) (B2) (B4) s (B6) on Aerial Im	e required;	check all that Water ML Salt C Aquat Hydro Oxidiz Prese Recer Stunte	apply) -Stained Li RA 1, 2, 4 rust (B11) c Inverteb gen Sulfide ed Rhizos nce of Red t Iron Red	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alone luced Iron (C) uction in Till sed Plants (except g Living Ro	epletions, o	r greyed matrix observed to depth. Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Depth (inches):	dicators: imum of one (A2) (B2) (B4) s (B6) on Aerial Im	e required;	check all that Water ML Salt C Aquat Hydro Oxidiz Prese Recer Stunte	apply) -Stained Li RA 1, 2, 4 rust (B11) c Inverteb gen Sulfide ed Rhizos nce of Red t Iron Red	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres alone luced Iron (C) uction in Till sed Plants (except g Living Ro	epletions, o	or greyed matrix observed to depth.
Depth (inches):	dicators: imum of one (B2) (B2) (B4) s (B6) on Aerial Im	e required; nagery (B7) Surface (B8	check all that Water ML Salt C Aquat _ Hydro _ Oxidiz _ Prese _ Recer _ Stunte _ Other	apply) -Stained L. RA 1, 2, 4 rust (B11) c Inverteb gen Sulfide ed Rhizos nce of Red t Iron Red ed or Stres (Explain in	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres along luced Iron (Cuction in Till sed Plants (In Remarks)	g Living Roc (24) ed Soils (Cl D1) (LRR A	epletions, o	or greyed matrix observed to depth.
Depth (inches):	dicators: imum of one (B2) (B2) (B4) on Aerial Im d Concave i	e required; nagery (B7) Surface (B8	check all that Water ML Salt C Aquat Oxidiz Prese Recer Stunte Other 3)	apply) -Stained Li RA 1, 2, 4 rust (B11) c Inverteb gen Sulfide ed Rhizos nce of Red at Iron Red ed or Stres (Explain in	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres along luced Iron (Cuction in Till sed Plants (In Remarks)	g Living Roc C4) ed Soils (C6	epletions, o	or greyed matrix observed to depth.
Depth (inches):	dicators: imum of one (B2) (B2) (B4) s (B6) on Aerial Im d Concave s	e required; nagery (B7) Surface (B8	check all that Water ML Salt C Aquat Oxidiz Prese Recer Stunte Other 3) Dept X Dept	apply) -Stained Lorente Lorent	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres along luced Iron (Cuction in Till sed Plants (In Remarks)	g Living Roc C4) ed Soils (C D1) (LRR A	epletions, o	becondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Depth (inches):	dicators: imum of one A2) (B2) (B4) s (B6) on Aerial Im d Concave s Yes Yes	e required: nagery (B7) Surface (B8 s No	Check all that	apply) -Stained Li RA 1, 2, 4 rust (B11) c Invertebringen Sulfide ed Rhizos noce of Red ti Iron Red ed or Stress (Explain in	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres along luced Iron (Cuction in Till sed Plants (In Remarks)	g Living Roc C4) ed Soils (C D1) (LRR A	epletions, of Signature Si	becondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Canada and Canada and Cana
Depth (inches):	dicators: imum of one A2) (B2) (B4) s (B6) on Aerial Im d Concave s Yes Yes	e required: nagery (B7) Surface (B8 s No	Check all that	apply) -Stained Li RA 1, 2, 4 rust (B11) c Invertebringen Sulfide ed Rhizos noce of Red ti Iron Red ed or Stress (Explain in	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres along luced Iron (Cuction in Till sed Plants (In Remarks)	g Living Roc C4) ed Soils (C D1) (LRR A	epletions, of Signature Si	or greyed matrix observed to depth. Decondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Caccella Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Depth (inches):	dicators: imum of one (B2) (B4) S (B6) On Aerial Im d Concave S Yes Yes a (stream g	e required: nagery (B7) Surface (B8 s No s No gauge, mon	check all that Water ML Salt C Aquat Oxidiz Prese Recer Stunte Other 3) Do X Dept Dept Do X Dept	apply) -Stained Li RA 1, 2, 4 rust (B11) c Invertebi gen Sulfide ed Rhizosi nice of Red at Iron Red at Iron Red at or Stres (Explain in	eaves (B9) (A, and 4B) rates (B13) e Odor (C1) pheres along luced Iron (C uction in Till sed Plants (n Remarks)	g Living Roc C4) ed Soils (C D1) (LRR A	epletions, of S	econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Saturation Visible on Aerial Imagery (Company of the company of the compan

Project/Site: US Air Force Academy's True North Commons	EUL Area	City/Co	ounty: Colora	ido Springs, El Paso County Sampling Date: 10/3/18
Applicant/Owner: US Air Force Academy				State: CO Sampling Point: #6
Investigator(s): T. Walsh & A. Davis		Sectio	n, Township,	Range: Section 1, Township 12 South, Range 67 West
				ve, convex, none): convex Slope (%): 0-35%
				Long: W 104 50.381 Datum: WGS 84
Soil Map Unit Name: Kettle-Rock outcrop complex	Lat			NWI classification: NA
Are climatic / hydrologic conditions on the site typical for th	is time of ve	ar? Ye		
Are Vegetation, Soil, or Hydrology	•			are "Normal Circumstances" present? Yes X
Are Vegetation, Soil, or Hydrology				f needed, explain any answers in Remarks.)
				nt locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes I	No <u>X</u>			
Hydric Soil Present? Yes !	No _X		Is the Samp	
Wetland Hydrology Present? Yes !	No _X		within a We	tland? YesNo _X
the site visit was conducted after the wet season; however, the la indicate wet season hydrology is insufficient in frequency and/or of the site visit was conducted after the wet season; however, the la	ck of dominan duration to sup	ice of hi	vdrophytic vegi	ing in July and August. Hydrology could be naturally problematic as etation, a negative prevalence index, and the lack of hydric soil egetation adapted to saturated soil conditions.
VEGETATION – Use scientific names of plan				
Tree Stratum (Plot size:)	Absolute % Cover		inant Indicat ies? Status	4.7
1. Pinus ponderosa	40%	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)
2. Quercus gambelii	5%	N	UPL	
3.				Total Number of Dominant Species Across All Strata: 6 (B)
4				
Access on Original VII Series on Maria	45%	= Tota	al Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:50% (A/B)
Sapling/Shrub Stratum (Plot size: *)	450/		E 4 014	Prevalence Index worksheet:
Salix exigua	15%	Y	FACW	Total % Cover of: Multiply by:
2. Symphoricarpos occidentalis	10%	Υ	FAC	OBL species0 x 1 =0
3) <u>ë</u>	0	FACW species
4	-:	-	-	FAC species 40 x 3 = 120
5	25%			FACU species45 x 4 =180
Herb Stratum (Plot size: *)	25 /6	= I ota	al Cover	UPL species115 x 5 =575
1. Bromus inermis	40%	Υ	UPL	Column Totals: <u>215</u> (A) <u>905</u> (B)
2. Bouteloua gracilis	40%	Υ	UPL	Prevalence Index = B/A =4.21
3. Elymus canadensis	30%	Υ	FAC	Hydrophytic Vegetation Indicators:
4. Linaria vulgaris	20%	N	UPL	1 - Rapid Test for Hydrophytic Vegetation
5. Verbascum thapsus	5%	N	FACU	2 - Dominance Test is >50%
6. Artemisia frigida	5%	N	UPL	3 - Prevalence Index is ≤3.0 ¹
7. Opuntia spp	5%	N	UPL	4 - Morphological Adaptations ¹ (Provide supporting
8		8 1		data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10		-		Problematic Hydrophytic Vegetation ¹ (Explain)
11	-:) 		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vina Stratum (Diet eine)	145%	= Tota	al Cover	be present, unless distarbed of problematic.
Woody Vine Stratum (Plot size:) 1,				
2		02	-	Hydrophytic Vegetation
		= Tota	al Cover	Present? Yes No _X
% Bare Ground in Herb Stratum 15%		iota		
Remarks:				
* Sampled entire plant community				

Sampling	Point:	#6

(inches) Colo 0-15 10YR 15-25 10YR	r (moist)		Color (moist)	%	Type	e Loc	² Text	III	Remai	rks
e ver e	2/2	100	COIOI (IIIOISI)				sand		TCHIA	1110
		100		= =		=-	loamy			
	=======================================									
Type: C=Concentrate	tion D=Denk	etion RM=Re	duced Matrix	CS=Cov	ered or Co	pated San	d Grains	² Location:	PL=Pore Linin	a. M=Matrix.
ydric Soil Indicato										lydric Soils ³ :
Histosol (A1)		<u> </u>	Sandy Redo	ox (S5)			_	_ 2 cm Muck	(A10)	
Histic Epipedon (A2)	_	Stripped Ma					_	: Material (TF2	
Black Histic (A3)			Loamy Muc	-		ept MLR/	_		w Dark Surfac	
Hydrogen Sulfide		<u>.</u>	Loamy Gley		(F2)		_	_ Other (Exp	ain in Remark	s)
Depleted Below I		(A11) <u>-</u>	Depleted Ma				1.			
Thick Dark Surfa		ž	Redox Dark				٦١	-	drophytic veg	
Sandy Mucky Min		<u> </u>	Depleted Da					•	rology must be	•
Sandy Gleyed M			Redox Depi	ressions (i	-8)		4	uniess distui	bed or probler	nauc.
Restrictive Layer (if										
Type:							16.44	is Call Deces	-42 V	No X
Depth (inches); Remarks:			=				пуш	ic Suil Fresei	nt? Yes	
YDROLOGY Vetland Hydrology	Indicators:									
Primary Indicators (m	inimum of on	e required; cl	neck all that a	apply)				Secondary In	dicators (2 or	more required)
Surface Water (A	\1)		Water-	Stained L	eaves (B9) (except		Water-S	tained Leaves	(B9) (MLRA 1,
High Water Table	e (A2)		ML	RA 1, 2, 4	A, and 4E	3)			nd 4B)	
Saturation (A3)			- Salt Cr	rust (B11)				Drainage	Patterns (B1	0)
Water Marks (B1)		Aquati	c Inverteb	rates (B13	3)		Dry-Sea	son Water Tat	ole (C2)
Sediment Depos	its (B2)		<u>-</u> Hydrog	gen Sulfid	e Odor (C	1)		Saturatio	on Visible on A	verial Imagery (C
_ Drift Deposits (B	3)		Oxidiz	ed Rhizos	pheres ald	ng Living	Roots (C3)	Geomor	ohic Position (D2)
Algal Mat or Crus	st (B4)		Preser	nce of Red	luced Iron	(C4)		Shallow	Aquitard (D3)	
_ Iron Deposits (B	5)		- Recen	t Iron Red	uction in T	illed Soils	(C6)	FAC-Ne	utral Test (D5))
Surface Soil Crac	cks (B6)		Stunte	d or Stres	sed Plants	(D1) (LR	RA)	- Raised A	Ant Mounds (D	6) (LRR A)
Inundation Visible	e on Aerial Im	nagery (B7)	Other	(Explain ir	Remarks)		Frost-He	ave Hummocl	ks (D7)
Sparsely Vegeta	ed Concave	Surface (B8)								
ield Observations:										
Surface Water Prese		s No								
Vater Table Present	? Ye	s No	_X Depth	(inches):						
		s No							ent? Yes	NoX
Saturation Present? includes capillary frir Describe Recorded D		gauge, monito					• •			
Saturation Present? includes capillary frir		gauge, monito		·			,			
Saturation Present? includes capillary frir		gauge, monito								

Project/Site: US Air Force Academy's True North Commons B	EUL Area	City/Co	ounty: Colora	do Springs, El Paso County Sampling Date: 10/3/18
Applicant/Owner: US Air Force Academy				State: CO Sampling Point: #7
		Sectio	n, Township,	Range: Section 1, Township 12 South, Range 67 West
				ve, convex, none): concave to flat Slope (%): 0-10%
				Long: W 104 50.402 Datum: WGS 84
Soil Map Unit Name: Kettle-Rock outcrop complex	₹)			NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this	time of ve	ar? Ye		
Are Vegetation, Soil, or Hydrology si	_			re "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology X				•
SUMMARY OF FINDINGS – Attach site map s	showing	sam	pling poir	t locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	x			
Hydric Soil Present? Yes No			Is the Samp	
Wetland Hydrology Present? Yes No			within a we	tland? Yes No X
		er, peak prevalend table and or clay/lo	ing in July and Ar ce index and the d saturation obse pam but is not ap	igust. Hydrology could be naturally problematic as the site visit was conducted ack of hydric soil indicate wet season hydrology is insufficient in frequency and/ rived at 23 inches below the surface; however, soils dominated by sands with propriate for sands; therefore, no hydrology indicators were satisfied.
VEGETATION – Use scientific names of plant				
Tree Stratum (Plot size:) 1		Spec	inant Indicat ies? Status	
2.				Total Number of Dominant
3,,			4-	Species Across All Strata: 4 (B)
4			al Cover	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		, - 10te	ai Covei	That Are OBE, I AOVV, OF I AO
1 Symphoricarpos occidentalis	35%	Υ	FAC	Prevalence Index worksheet: Total % Cover of: Multiply by:
2. Salix exigua	20%	Υ	FACW	
3. Quercus gambelii	5%	<u>N</u>	UPL	FACW species 100 x 2 = 200
4		-		FAC species 80 x 3 = 240
5		e 		FACU species 15 x 4 = 60
Herb Stratum (Plot size: *)	60%	= Tota	al Cover	UPL species 75 x 5 = 375
1 Juncus balticus	80%	Υ	FACW	Column Totals:(A)(B)
2 Linaria vulgaris	60%	Υ	UPL	Prevalence Index = B/A =3.24
3. Dipsacus fullonum	40%	N	FAC	Hydrophytic Vegetation Indicators:
4. Solidago altissima	15%	N	FACU	1 - Rapid Test for Hydrophytic Vegetation
5. Solidago wrightii	10%	N	UPL	+ 2 - Dominance Test is >50%
6. Cirsium arvense	5%	N	FAC	3 - Prevalence Index is ≤3.0 ¹
7.	·			4 - Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10		·		Problematic Hydrophytic Vegetation¹ (Explain)
11.	04004		- 105	 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	210%	= Fota	l Cover	
1				Hydrophytic
2				Vegetation
0/ Para Carried in Us to Ottober 5%		= Tota	l Cover	Present? Yes No _X
% Bare Ground in Herb Stratum 5%				
* Sampled entire plant community				
, , , , ,				

ampling F	Point: #7
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							the absence of indicators.)	
Depth	Matrix	0/		x Features		Loç²	Tautura	
(inches) 0 - 4.5	7.5YR 2.5/1	100	Color (moist)	%	Type ¹	LOC	Texture Remarks loamy sand	_
	-		91	7/				_
4.5 - 10	7.5 YR 3/1	100	7.575.570	V.=			sand	
10 - 14	7.5YR 2.5/2	95	7.5YR 5/8	5	C	<u>M</u>	loamy sand	
14 - 18	10YR 7/2	50	10YR 6/8	50	<u>C</u>	<u>M</u>	loamy sand	
18 - 24	10Y 5/	100					sand	
	-						8 <u></u>	
			· ·				F=(1)	
			I=Reduced Matrix, CS			d Sand Gr	rains. ² Location: PL=Pore Lining, M=Matrix.	
-		cable to al	I LRRs, unless othe		ed.)		Indicators for Problematic Hydric Soils ³ :	
- Histoso			Sandy Redox (2 cm Muck (A10)	
	pipedon (A2)		Stripped Matrix		\ (oveen	MI DA 4)	Red Parent Material (TF2)Very Shallow Dark Surface (TF12)	
_	listic (A3)		Loamy Mucky I			WILKA 1)	Other (Explain in Remarks)	
	en Sulfide (A4)	co (Δ11)	 Loamy Gleyed Depleted Matrix 		,		Other (Explain in Nemarks)	
	ed Below Dark Surfac Park Surface (A12)	~∈ (∧ I I)	 Depleted Matrix Redox Dark Su 	, ,			³ Indicators of hydrophytic vegetation and	
	Mucky Mineral (S1)		Depleted Dark		7)		wetland hydrology must be present,	
_	Gleyed Matrix (S4)		- Redox Depress		• /		unless disturbed or problematic.	
	Layer (if present):			- ()				
Type:								
Depth (ir	nches):						Hydric Soil Present? Yes No	<u> </u>
HYDROLO	OGY							
Wetland Hy	ydrology Indicators	:						
Primary Ind	icators (minimum of	one require	ed; check all that app	ly)				
Surface	e Water (A1)						Secondary Indicators (2 or more required	1)
High W			Water-Sta	ined Leave	es (B9) (e	xcept	Secondary Indicators (2 or more required - Water-Stained Leaves (B9) (MLRA	
	later Table (A2)			nined Leave		xcept		
Saturat	/ater Table (A2) tion (A3)			1, 2, 4A, a		xcept	Water-Stained Leaves (B9) (MLRA	
	• •		MLRA	1, 2, 4A, a t (B11)	nd 4B)	xcept	Water-Stained Leaves (B9) (MLRA 4A, and 4B)	
Water I	tion (A3)		MLRA - Salt Crust - Aquatic In	1, 2, 4A, a t (B11)	nd 4B) s (B13)	xcept	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10)	, 2,
Water I	tion (A3) Marks (B1)		MLRA - Salt Crust - Aquatic In - Hydrogen	1, 2, 4A, a (B11) vertebrates Sulfide Od	nd 4B) s (B13) lor (C1)		Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)	, 2,
Water I Sedime Drift De	tion (A3) Marks (B1) ent Deposits (B2)		MLRA - Salt Crust - Aquatic In - Hydrogen - Oxidized I	1, 2, 4A, a (B11) vertebrates Sulfide Od	nd 4B) s (B13) lor (C1) res along	Living Roc	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery	, 2,
- Water I - Sedime - Drift De - Algal M	tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		MLRA - Salt Crust - Aquatic In - Hydrogen - Oxidized I - Presence	1, 2, 4A, a t (B11) evertebrates Sulfide Od Rhizospher	nd 4B) s (B13) lor (C1) res along d Iron (C-	Living Roc 1)	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3)	, 2,
Water I Sedime Drift De Algal M Iron De	tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4)		MLRA - Salt Crust - Aquatic In - Hydrogen - Oxidized I - Presence	1, 2, 4A, a (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction	nd 4B) s (B13) for (C1) res along d Iron (Co	Living Roc \$) d Soils (C6	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	, 2,
- Water I - Sedime - Drift De - Algal M - Iron De - Surface	tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5)	Imagery (I	MLRA - Salt Crust - Aquatic In - Hydrogen - Oxidized I - Presence - Recent Iro - Stunted o	1, 2, 4A, a (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction r Stressed	s (B13) lor (C1) res along d Iron (Control on in Tille	Living Roc \$) d Soils (C6	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	, 2,
- Water I - Sedime - Drift De - Algal M - Iron De - Surface - Inundar	ention (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) e Soil Cracks (B6)		MLRA	1, 2, 4A, a (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction r Stressed	s (B13) lor (C1) res along d Iron (Control on in Tille	Living Roc \$) d Soils (C6	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	, 2,
- Water I - Sedime - Drift De - Algal M - Iron De - Surface - Inundar	tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerial ely Vegetated Concavervations:	e Surface	MLRA - Salt Crust - Aquatic In - Hydrogen - Oxidized I - Presence - Recent Iro - Stunted o 37) - Other (Ex	1, 2, 4A, a (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction r Stressed plain in Rei	s (B13) lor (C1) res along d Iron (Control on in Tille	Living Roc \$) d Soils (C6	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	, 2,
- Water I - Sedime - Drift De - Algal M - Iron De - Surface - Inunda - Sparse Field Obse	tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerial ely Vegetated Concavervations: ater Present?	ve Surface	MLRA	1, 2, 4A, a (B11) avertebrates Sulfide Od Rhizospher of Reduced on Reduction r Stressed plain in Rea	nd 4B) s (B13) for (C1) res along d Iron (C- on in Tille Plants (D marks)	Living Roc \$) d Soils (C6	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	, 2,
- Water I - Sedime - Drift De - Algal M - Iron De - Surface - Inunda - Sparse Field Obse	tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerial ely Vegetated Concavervations: ater Present?	ve Surface	MLRA - Salt Crust - Aquatic In - Hydrogen - Oxidized I - Presence - Recent Iro - Stunted o 37) - Other (Ex	1, 2, 4A, a (B11) avertebrates Sulfide Od Rhizospher of Reduced on Reduction r Stressed plain in Rea	nd 4B) s (B13) for (C1) res along d Iron (C- on in Tille Plants (D marks)	Living Roc \$) d Soils (C6 1) (LRR A	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	(C9)
- Water I - Sedime - Drift De - Algal M - Iron De - Surface - Inunda - Sparse Field Obse Surface Water Table Saturation I	tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerial ely Vegetated Concavervations: eter Present? Present?	ye Surface Yes	MLRA	1, 2, 4A, a (B11) avertebrates Sulfide Od Rhizospher of Reduceton Reduction Stressed plain in Relations.	nd 4B) s (B13) lor (C1) res along d Iron (C- on in Tille Plants (D marks)	Living Roc \$) d Soils (C6 1) (LRR A	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)	(C9)
- Water I - Sedime - Drift De - Algal M - Iron De - Surface - Inunda - Sparse Field Obse Surface Water Table Saturation I (includes ca	tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerial ely Vegetated Concavervations: ater Present? e Present? Present? apillary fringe)	ye Surface Yes YesX YesX	MLRA	1, 2, 4A, a (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction Stressed plain in Relationship in the service of	s (B13) lor (C1) res along d Iron (C- on in Tille Plants (D marks) inches inches	Living Roc i) d Soils (C6 1) (LRR A	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	(C9)
- Water I - Sedime - Drift De - Algal M - Iron De - Surface - Inunda - Sparse Field Obse Surface Water Table Saturation I	tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerial ely Vegetated Concavervations: ater Present? e Present? Present? apillary fringe)	ye Surface Yes YesX YesX	MLRA	1, 2, 4A, a (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction Stressed plain in Relationship in the service of	s (B13) lor (C1) res along d Iron (C- on in Tille Plants (D marks) inches inches	Living Roc i) d Soils (C6 1) (LRR A	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	(C9)
- Water I - Sedime - Drift De - Algal M - Iron De - Surface - Inunda - Sparse Field Obse Surface Wa Water Table Saturation I (includes ca Describe Re Remarks: Water tal	tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerial ely Vegetated Concavervations: ater Present? e Present? Present? apillary fringe) ecorded Data (strear	YesYesX YesX m gauge, n	MLRA	1, 2, 4A, a (B11) avertebrates Sulfide Od Rhizospher of Reduced on Reduction retressed plain in Remarks: 23 anches): 23 anches): 23 anches): 25 anches): 26 anches): 27 anches): 28 anches): 29 anches): 29 anches): 20 anches	s (B13) lor (C1) res along d Iron (C- on in Tille Plants (D marks) inches inches	Living Roc 4) d Soils (C6 1) (LRR A Wetlander pections),	Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No if available:	(C9)

Project/Site: US Air Force Academy's True North Commons E	UL Area	Citv/Co	ounty: Colorado	Springs, El Paso County	Sampling Date	10/6/18
Applicant/Owner: US Air Force Academy		,	-	State: CO		
		Section		ange: Section 1, Township		
				, convex, none): concave		
Subregion (LRR): E				Long: W 104 50.381		
Soil Map Unit Name: Kettle-Rock outcrop complex				NWI classific		turn.
Are climatic / hydrologic conditions on the site typical for this	time of us	a=2 Va				
	-					Υ
Are Vegetation, Soil, or Hydrology si				"Normal Circumstances" p		^ No
Are Vegetation, Soil, or HydrologyX no SUMMARY OF FINDINGS - Attach site map s				eeded, explain any answe	,	eatures, etc.
Hydrophytic Vegetation Present? Yes _X No						
Hydric Soil Present? Yes X No			Is the Sample			
Wetland Hydrology Present? Yes X No			within a Wetla	ind? Yes_X	No	
Remarks: Field work conducted in late September and early Ornatural sand levee in the center of the stream valley stream valley and unlikelihood of development in the VEGETATION – Use scientific names of plant	was not o	bserv	ed to have hy	dric soil indicators: how	ever, the narro	owness of the
	Absolute	Domi	nant Indicator	Dominance Test work	sheet:	
Tree Stratum (Plot size:)			ies? Status	Number of Dominant S		
1. Salix amygdaloides	20%	Υ	FACW	That Are OBL, FACW,	or FAC:5	5 (A)
2. Pinus ponderosa	4%	<u>N</u>	FACU	Total Number of Domin	ant	
3				Species Across All Stra		6 (B)
4	040/			Percent of Dominant Sr	pecies	
Sapling/Shrub Stratum (Plot size:)	24%	= Tota	al Cover	That Are OBL, FACW,		3% (A/B)
1. Salix exigua	60%	Υ	FACW	Prevalence Index wor	ksheet:	
2. Ribes lacustre	30%	Y	FAC	Total % Cover of:		ply by:
3. Ribes inerme	20%	N	FAC	OBL species20	^ ' -	20
4. Symphoricarpos occidentalis	3%	N	FAC	FACW species95	x 2 =	190
5. Prunus virginiana	2%	N	FACU	FACUL species 34	^	189
•	115%	= Tota	al Cover	1 ACO species	^+	0
Herb Stratum (Plot size: *) 1 Solidago altissima	200/	· ·	FACIL	UPL species 0 Column Totals: 212	x 5 =	
- 18	20% 10%	Y	FACU OBL	Column Totals		
Lemna minor Epilobium saximontanum	10%	Y	FACW	Prevalence Index		2
Juncus alpinoarticulatus	5%	N	OBL	Hydrophytic Vegetation		
5. Mentha arvensis	5%	N	FACW	1 - Rapid Test for H		etation
6. Lycopus americanus	5%	N	OBL	+ 2 - Dominance Test		
7. Solidago multiradiata	5%	N	FACU	4 - Morphological A		wide europetine
8. Cirsium arvense	5%	N	FAC		s or on a separat	
9. Solidago simplex	3%	N	FACU	5 - Wetland Non-Va	ascular Plants ¹	
10				Problematic Hydro	phytic Vegetation	n¹ (Explain)
11				¹ Indicators of hydric soi		
	68%	= Total	l Cover	be present, unless distu	irbed or problem	atic.
Woody Vine Stratum (Plot size:) 1 Parthenocissus quinquefolia	E0/	v	EAC			
19-	5%	<u>Y</u>	FAC	Hydrophytic		
2	5%		I Cause	Vegetation Present? Yes	s_ <u>X</u> No_	
% Bare Ground in Herb Stratum 15%		= rotal	Cover		————— XI	
Remarks:				-		
* Sampled entire plant community						

Sampling	Point:	#8
Janipiniq	F Ontic.	

-	-	
C	$\boldsymbol{\Gamma}$	
•	.,	

nches)	Matrix Color (moist)	%	Color (moist)	ox Feature %	Type ¹	Loc2	Texture	Remarks
- 3	10YR 2/1	100		-			sandy loam	with OM
12	10YR 3/3	60	10YR 7/1	40	D	М	sand	
-18	10YR 3/2	100	\\ !				sand	
		-0-						
-	4	· · · · · · · · · · · · · · · · · · ·	(O3					
	-	7//	(4 <u>5</u>			-		
		707		-				
								/ <u></u>
			/=Reduced Matrix, C			ed Sand G		cation: PL=Pore Lining, M=Matrix.
dric Soil	Indicators: (Applie	cable to al	I LRRs, unless other		ed.)			ors for Problematic Hydric Soils ³ :
Histosol	• •		Sandy Redox					m Muck (A10)
	pipedon (A2)		+ Stripped Matri		4) /	4 841 12 4 4		1 Parent Material (TF2)
	istic (A3)		 Loamy Mucky Loamy Gleyed 			t MLRA 1)		y Shallow Dark Surface (TF12) er (Explain in Remarks)
	en Sulfide (A4) d Below Dark Surfa	ce (A11)	- Depleted Matr		-)		011	er (Explain in Nemarks)
	ark Surface (A12)	JC (7111)	Redox Dark S				3Indicate	ors of hydrophytic vegetation and
	/lucky Mineral (S1)		Depleted Dark					and hydrology must be present,
•	Gleyed Matrix (S4)		- Redox Depres	sions (F8)				ss disturbed or problematic.
	Layer (if present):							
Type:								
Danale /:-	-h).						Hydria Sail	Procent2 Vec X No
emarks: lydric soil and levee ne area b	indicators were obs e in the middle of the eing disturbed durin	stream va	alley did not exhibit h	ydric soil ir	ndicators.	Due to the	l lower portions on a narrowness o	Present? Yes X No of the EUL area; however, a natural f the stream valley and the unlikelihood has were included in the wetland
emarks: lydric soil and levee ne area b oundary.	indicators were obset in the middle of the eing disturbed durin	stream va	alley did not exhibit h	ydric soil ir	ndicators.	Due to the	l lower portions on a narrowness o	of the EUL area; however, a natural f the stream valley and the unlikelihood
emarks: lydric soil and levee ne area broundary. DROLO	indicators were obset in the middle of the eing disturbed durin	stream vag the prop	alley did not exhibit h	ydric soil ir	ndicators.	Due to the	l lower portions on a narrowness o	of the EUL area; however, a natural f the stream valley and the unlikelihood
emarks: lydric soil and levee ne area broundary. DROLO stland Hy	indicators were obset in the middle of the eing disturbed durin	e stream vag the prop	alley did not exhibit h	nydric soil ir ent, these p	ndicators.	Due to the	I lower portions e narrowness o nd" riparian are	of the EUL area; however, a natural f the stream valley and the unlikelihood
emarks: lydric soil and levee ne area broundary. DROLO tland Hy mary India	indicators were observed in the middle of the eing disturbed durin	e stream vag the prop	alley did not exhibit h osed EUL developm	nydric soil in ent, these p	ndicators. potential "	Due to the	I lower portions a narrowness on nd" riparian are	of the EUL area; however, a natural f the stream valley and the unlikelihood has were included in the wetland
emarks: lydric soil and levee ne area broundary. DROLO tland Hy mary Indic	indicators were obset in the middle of the eing disturbed durin GY drology Indicators cators (minimum of	e stream vag the prop	alley did not exhibit hosed EUL development of the control of the	nydric soil in ent, these p	ndicators. potential "	Due to the	I lower portions a narrowness on nd" riparian are	of the EUL area; however, a natural f the stream valley and the unlikelihood has were included in the wetland
emarks: lydric soil and levee ne area broundary. DROLO tland Hy mary Indic	indicators were obset in the middle of the eing disturbed during of the drology indicators cators (minimum of Water (A1) ater Table (A2)	e stream vag the prop	alley did not exhibit hosed EUL development of the control of the	ply) ained Leav	ndicators. potential "	Due to the	I lower portions e narrowness o nd" riparian are	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland i
emarks: lydric soil and levee he area boundary. DROLO tland Hy mary Indio Surface High Wa Saturati	indicators were obset in the middle of the eing disturbed during of the drology indicators cators (minimum of Water (A1) ater Table (A2)	e stream vag the prop	ed; check all that appoint of the control of the co	oly) ained Leav A 1, 2, 4A, at (B11) nvertebrate	res (B9) (cand 4B)	Due to the	Seco	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland i
emarks: lydric soil and levee ne area be oundary. DROLO tland Hy mary Indie Surface High Wa Saturati Water M Sedime	indicators were obset in the middle of the eing disturbed during the desired during drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2)	e stream vag the prop	ed: check all that appropersions of the control of	oly) ained Leav A 1, 2, 4A, 3 st (B11) nvertebrate n Sulfide O	res (B9) (cand 4B) es (B13) dor (C1)	Due to the non-wetlar	Seco	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland i
emarks: lydric soil and levee ne area be oundary. DROLO tland Hy mary Indie Surface High Wa Saturati Water M Sedime	indicators were obset in the middle of the eing disturbed during of the eing disturbed eing disturbed eing eing eing eing eing eing eing eing	e stream vag the prop	ed: check all that appears of the control of the co	oly) ained Leav A 1, 2, 4A, at (B11) nvertebrate n Sulfide O Rhizosphe	res (B9) (cand 4B) es (B13) dor (C1) eres along	Due to the non-wetland property of the non-wetland propert	Seco + C + C - Se ots (C3) - G	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland madary Indicators (2 or more required) Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) Decomorphic Position (D2)
emarks: lydric soil and levee ne area be oundary. DROLO tland Hy mary Indie Surface High Wa Saturati Water M Sedime Drift De	indicators were obset in the middle of the eing disturbed during the desired during drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2)	e stream vag the prop	ed: check all that appears alley did not exhibit hosed EUL development. ed: check all that appears with the content of the co	oly) ained Leav A 1, 2, 4A, st (B11) nvertebrate n Sulfide O Rhizosphe	res (B9) (cand 4B) es (B13) dor (C1) eres alonged Iron (C	Due to the non-wetland process of the non-wetlan	Seco + C + C + C - Sa ots (C3) - G	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland and and included in the wetland and included included in the wetland included included in the wetland included in the wetland included in the wetlan
emarks: lydric soil and levee ne area broundary. DROLO Itland Hy mary Indie Surface High Wa Saturati Water M Sedime Drift De Algal Ma	indicators were obset in the middle of the eing disturbed during of the eing disturbed in the eing distu	e stream vag the prop	ed: check all that app Water-St MLRA Salt Crus Aquatic I Hydrogel Oxidized Recent Ir	poly) ained Leav A 1, 2, 4A, at (B11) nvertebrate n Sulfide O Rhizosphe e of Reduce	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Cion in Tille	Due to the non-wetland except Living Ro 4) and Soils (C	Seco	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland the wetland that included in the wetland in the wetland that included in the wetland that included in the wetland in the wetland that included in the wetland in the wetland that included in the wetland in the wetlan
emarks: ydric soil and levee he area b oundary. DROLO tland Hy mary India Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep Surface	indicators were obset in the middle of the eing disturbed during desired during desired during desired during desired	e stream veg the prop	ed: check all that appears to be a second se	bly) ained Leav A 1, 2, 4A, 3 st (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct for Stressed	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Cion in Tille) I Plants (I	Due to the non-wetland except Living Ro 4) and Soils (C	Seco	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland and included included in the wetland and included includ
emarks: ydric soil and levee the area broundary. PROLO tland Hy mary India Surface High Wa Saturati Water M Sedime Drift Del Algal Ma Iron Del Surface Inundati	indicators were obset in the middle of the eing disturbed during disturbed during drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial	e stream veg the prop	ed: check all that appears to be a sed; check all that appears to	poly) ained Leav A 1, 2, 4A, at (B11) nvertebrate n Sulfide O Rhizosphe e of Reduce	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Cion in Tille) I Plants (I	Due to the non-wetland except Living Ro 4) and Soils (C	Seco	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland the wetland that included in the wetland in the wetland that included in the wetland that included in the wetland in the wetland that included in the wetland in the wetland that included in the wetland in the wetlan
emarks: lydric soil and levee ne area be oundary. DROLO tland Hy mary Indie Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep Surface Inundati Sparsel	indicators were obset in the middle of the eing disturbed during disturbed during drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) ion Visible on Aerial by Vegetated Concav	e stream veg the prop	ed: check all that appears to be a sed; check all that appears to	bly) ained Leav A 1, 2, 4A, 3 st (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct for Stressed	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Cion in Tille) I Plants (I	Due to the non-wetland except Living Ro 4) and Soils (C	Seco	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland and included included in the wetland and included includ
emarks: lydric soil and levee he area be oundary. DROLO Itland Hy mary Indie Surface High Wa Saturati Water M Sedime Drift Del Algal Ma Iron Del Surface Inundati Sparsel	indicators were obset in the middle of the eing disturbed during disturbed during drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at or Crust (B4) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial by Vegetated Concaverations:	e stream vig the prop	ed: check all that appears alley did not exhibit hosed EUL development and the content of the co	bly) ained Leave A 1, 2, 4A, at (B11) nivertebrate in Sulfide O Rhizosphe e of Reduce fron Reduct for Stressed	res (B9) (cand 4B) es (B13) dor (C1) eres alonged Iron (Cion in Tille I Plants (Eemarks)	Due to the non-wetland except Living Ro 4) and Soils (C	Seco	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland as were included in the wetland and included included included included included in the wetland and included
emarks: lydric soil and levee ne area be oundary. DROLO tland Hy mary Indie Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep Surface Inundati Sparsel	indicators were obset in the middle of the eing disturbed during of the eing disturbed in the eing disturbed in the eing disturbed eing the eing the eing disturbed eing the	e stream vergethe properties one required the properties one required the surface of the stream vergethe properties one required the surface of the stream vergethe properties one required the surface of the stream vergethe properties on the stream vergethe properties of the stream vergethe properties of the stream vergether of t	ed; check all that appears alley did not exhibit hosed EUL development and the content of the co	poly) ained Leav A 1, 2, 4A, st (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct or Stressed xplain in Re	res (B9) (cand 4B) es (B13) dor (C1) eres alonged Iron (Cion in Tille I Plants (Eemarks)	Due to the non-wetland except Living Ro 4) and Soils (C	Seco	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland as were included in the wetland and included included included included included in the wetland and included
and levee the area be toundary. DROLO etland Hy mary India Surface High Water M Sedime Drift De Algal Ma Iron Dep Surface Inundati Sparsel eld Obser face Wat ater Table turation P	indicators were obset in the middle of the eing disturbed during disturbed during drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at or Crust (B4) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial by Vegetated Concaverations: ter Present?	e stream vergethe properties imagery (Interpretate Surface Yes X Yes X	ed: check all that appears alley did not exhibit hosed EUL development and the content of the co	bly) ained Leav A1, 2, 4A, 3t (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct or Stressed xplain in Re	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Cion in Tille I Plants (Diemarks) I inch nches	Due to the non-wetland except Living Ro 4) ed Soils (C 01) (LRR 4	Seco	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland i
emarks: lydric soil and levee ne area be coundary. DROLO etland Hy mary India Surface High Wa Saturati Water M Sedime Drift Del Algal Ma Iron Del Surface Inundati Sparsel etd Obser face Water Table turation P cludes ca	indicators were obset in the middle of the eing disturbed during disturbed during decing	Imagery (Ive Surface Yes X Yes X	ed: check all that appropriate the content of the c	poly) ained Leave A 1, 2, 4A, at (B11) nivertebrate in Sulfide Of Reduction Reduction Stressed explain in References): 2 inches): 8 inches	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Cion in Tille I Plants (Demarks) I inch nches nches	Due to the non-wetland except Living Ro 4) ed Soils (C 2) (LRR 4) Wet	Seco - V + C - Sa ots (C3) - G - Sh 6) - F A) - F	of the EUL area; however, a natural fithe stream valley and the unlikelihood has were included in the wetland sharp indicators (2 or more required). Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) neomorphic Position (D2) nallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
emarks: lydric soil and levee he area be oundary. DROLO tland Hy mary India Surface High Wa Saturati Water M Sedime Drift Del Algal Ma Iron Del Surface Inundati Sparsel Id Obser face Wat turation P cludes ca	indicators were obset in the middle of the eing disturbed during disturbed during decing	Imagery (Ive Surface Yes X Yes X	ed: check all that appears to be a check all that appears to b	poly) ained Leave A 1, 2, 4A, at (B11) nivertebrate in Sulfide Of Reduction Reduction Stressed explain in References): 2 inches): 8 inches	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Cion in Tille I Plants (Demarks) I inch nches nches	Due to the non-wetland except Living Ro 4) ed Soils (C 2) (LRR 4) Wet	Seco - V + C - Sa ots (C3) - G - Sh 6) - F A) - F	of the EUL area; however, a natural f the stream valley and the unlikelihood has were included in the wetland manual index included in the wetland in the wetla

Project/Site: US Air Force Academy's True North Commons	EUL Area	Citv/Cour	ntv: Colorado	Springs, El Paso Co	ounty Sa	mplina Da	_{ate:} 10/6/18	3
		-	-	State: CO				
Investigator(s): T. Walsh & A. Davis								
Landform (hillslope, terrace, etc.): stream valley edge - san	d levee	Local rel	ief (concave)	convey none): COI	vex to con	cave	Slope (%)	3-10%
Subregion (LRR): E	Lat:	3 01.100						
Soil Map Unit Name: Kettle-Rock outcrop complex				NWI c				
Are climatic / hydrologic conditions on the site typical for thi	s time of ye	ar? Yes	X No	(If no, expla	in in Rema	rks.)		
Are Vegetation, Soil, or Hydrology				Normal Circumsta	nces" prese	ent? Yes	s_ <u>X</u> N	lo
Are Vegetation, Soil, or HydrologyX	naturally pro	blematic'	? (If ne	eded, explain any	answers in	Remarks	s.)	
SUMMARY OF FINDINGS – Attach site map	showing	sampl	ing point le	ocations, trans	sects, in	portar	nt feature	s, etc.
Hydrophytic Vegetation Present? YesX N			410					
Hydric Soil Present? Yes N			the Sampled ithin a Wetlar		s	No	X	
Wetland Hydrology Present? Yes X	lo		Itiliii a vvetiai		'			
Remarks: Field work conducted in late September and early October. The w stream valley was not observed to have hydric soil indicators; how in these areas being included in the wetland boundary. A follow up hydrology indicators may be present at that time; however, the lac	visit during t k of hydric so	April-Septe rowness of he wet sea il indicator	mber, peaking in the stream valle ason (May-Augu s suggests that	n July and August. They and unlikelihood of st) would give a more the sampled area is n	e natural sa f developme accurate de ot a wetland	nd levee ir nt in the st eterminatio	n the center of ream valley r in and additio	f the esulted nal
223 V260 U 18 •	Absolute		int Indicator	Dominance Tes	t workshe	et:		
Tree Stratum (Plot size:) 1 Salix amygdaloides	% Cover 30%	Species	Status FACW	Number of Domi			2	
1.5			_ TACVV	That Are OBL, F	ACW, or FA	4C:	3	(A)
2			*	Total Number of			5	
3,		6 -		Species Across /	All Strata:	-	5	(B)
4,	30%	= Total (Cover	Percent of Domin	nant Specie	es AC:	60%	(A/B)
Sapling/Shrub Stratum (Plot size:)		-		Prevalence Inde		- 22		(100)
1. Salix exigua	40%	Y	FACW	Total % Cov			ultiply by:	
2. Ribes inerme	30%	Y	FAC	OBL species		_ x1=		
3. Ribes aureum	15%	N	FAC	FACW species	0.5	_ ^ '	470	_
4		·	-	FAC species	50			_
5	0.504			FACU species		x 4 =	0.40	_
Herb Stratum (Plot size:)	85%	= Total	Cover	UPL species	0	x 5 =	0	_
1. Solidago altissima	40%	Υ	FACU	Column Totals:	210	_ (A)	575	(B)
2. Solidago multiradiata	20%	Y	FACU				2 7/1	_ , ,
3. Epilobium saximontanum	15%	N	FACW	Prevalence Hydrophytic Ve				=
4 Juncus alpinoarticulatus	15%	N	OBL	1 - Rapid Te	_			
5. Cirsium arvense	5%	N	FAC	+ 2 - Dominano	_		egetation	
6				+ 3 - Prevalen				
7				4 - Morpholo			Provide sur	porting
8		0 <u>1</u>		data in R	emarks or	on a sepa	arate sheet)	
9				5 - Wetland	Non-Vascu	lar Plants	s ¹	
10,				Problematic	Hydrophyt	ic Vegeta	ıtion¹ (Expla	ıin)
11				¹ Indicators of hyd				must
	0501	= Total C	Cover	be present, unles	s aisturbe	or prob	iematic.	
Woody Vine Stratum (Plot size:)								
1		S 		Hydrophytic				
2		s		Vegetation Present?	Yes	X N	lo	
% Bare Ground in Herb Stratum 15%	-	_= Total C	Cover					
Remarks:				Mt				
* Sampled entire plant community								

Sampling	Point:	#8B	
Samonno	POIL		

Profile Desc	ription: (Describe	to the de	oth needed to docum	nent the	indicator	or confirm	the absenc	e of indicators.)	
Depth	Matrix			x Feature		2			
(inches)	Color (moist)	100	Color (moist)	%	Type'	_Loc ²	<u>Texture</u>	Remarks Remarks	
0 - 2	10YR 3/1	100	y2	9			loamy sand		
2 - 6	10YR 5/2	100			-		sand		
6 - 8	10YR 3/2	70	10YR 5/8	5	_ <u>C</u>	PL ———	loamy sand	-	
o 			10YR 6/3	25	<u>D</u>	_M	9		
8 - 10	10YR 5/2	100	¥ }	-	ia		sand		
10 - 24	10YR 2/1	100					sand	with OM	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10)									
	pipedon (A2)		Sandy Redox (\$Stripped Matrix	-				ed Parent Material (TF2)	
Black Hi			Loamy Mucky N		F1) (excep	t MLRA 1)		ery Shallow Dark Surface (TF12)	
	n Sulfide (A4)		Loamy Gleyed I		2)		<u>-</u> Ot	her (Explain in Remarks)	
	Below Dark Surfac	e (A11)	Depleted Matrix				3, ,,		
	ark Surface (A12)		Redox Dark Sur					tors of hydrophytic vegetation and land hydrology must be present,	
	lucky Mineral (S1) lleyed Matrix (S4)		Depleted Dark S Redox Depress					ess disturbed or problematic.	
	_ayer (if present):		Rodox Boproco	10110 (1 0	,		1	see distance of presidentation	
Type:									
	ches):		====				Hydric So	il Present? Yes NoX	
Remarks: Hydric soil indicators were not observed in this area and additional portions of the natural sand levee within the stream valley; however, hydric soil indicators such as stripped matrix and hydrogen sulfide odor were observed in the upper and lower segments of the stream valley. Due to the narrowness of the stream valley and the unlikelihood of the area being disturbed during the proposed EUL development, these potential "non-wetland" riparian areas were included in the wetland boundary of Community/Sampling Area #8. HYDROLOGY									
Wetland Hy	drology Indicators:								
Primary India	cators (minimum of o	ne require	ed; check all that appl	y)			Sec	ondary Indicators (2 or more required)	
Surface	Water (A1)		Water-Sta	ined Lea	ves (B9) (e	except		Water-Stained Leaves (B9) (MLRA 1, 2,	
High Wa	iter Table (A2)		MLRA	1, 2, 4A,	and 4B)		4A, and 4B)		
Saturation			Salt Crust				Drainage Patterns (B10)		
	arks (B1)		Aquatic In		, ,			Dry-Season Water Table (C2)	
	nt Deposits (B2)		Hydrogen			Listan Day		Saturation Visible on Aerial Imagery (C9)	
_	oosits (B3)		<u>+</u> Oxidized F			_		Geomorphic Position (D2) Shallow Aquitard (D3)	
	et or Crust (B4) posits (B5)		- Recent Iro		•	•		FAC-Neutral Test (D5)	
· — ·	Soil Cracks (B6)		Stunted or			`		Raised Ant Mounds (D6) (LRR A)	
	on Visible on Aerial	lmagery (E				, ,		Frost-Heave Hummocks (D7)	
- Sparsely	Vegetated Concav	e Surface	(B8)						
Field Obser	vations:								
Surface Wat			No X Depth (in			_			
Water Table	Present?	'es _X	No Depth (in	ches): 2	0 inches	—03			
Saturation P	oillary fringe)		No Depth (in					gy Present? Yes X No	
Describe Re	corded Data (Stream	ı yauye, II	iomioning well, aelial [יווטנטא, ג	PIEAIONS III	ppeolions),	ıı avallabit.		
appropriate fo	or clay/loam but is not appr use the oxidized rhizosphe	opriate for sa res along livin	nds. Oxidized rhizospheres o	bserved fro tor in the a	om 6-8 inches; bsence of a hy	however, the dric soil indica	observed soil did ator because it ca	E. Dry season water table of 24 inches is not meet any hydric soil indicator. It is not n lead to false positives as oxidized pore ad as present.	

Project/Site: US Air Force Academy's True North Commons	EUL Area	City/Co	ounty: Colorado	Springs, El Paso County Sampling Date: 10/4/18
Applicant/Owner: US Air Force Academy			1 2	State: CO Sampling Point: #9
Investigator(s): T. Walsh & A. Davis		Section	n, Township, R	ange: Section 1, Township 12 South, Range 67 West
Landform (hillslope, terrace, etc.): stream valley depression				
				Long: W 104 50.388' Datum: WGS 84
Soil Map Unit Name: Kettle-Rock outcrop complex				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for the	is time of ye	ar? Ye		
Are Vegetation, Soil, or Hydrology				"Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology				needed, explain any answers in Remarks.)
				locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X	No			
Hydric Soil Present? Yes X		100	Is the Sample within a Wetla	
Wetland Hydrology Present? Yes X	No		within a vveu	and? TesNO
Remarks: Field work conducted in late September and early		ne wet	season is Ap	oril-September, peaking in July and August.
VEGETATION – Use scientific names of plan				
Tree Stratum (Plot size:)	Absolute % Cover		inant Indicator ies? Status	
1				Number of Dominant Species That Are OBL, FACW, or FAC:5 (A)
2.				Total Number of Dominant
3.	-:	- -		Species Across All Strata: 5 (B)
4		-		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	0	= Tota	al Cover	That Are OBL, FACW, or FAC:100% (A/B)
1. Ribes lacustre	10%	Υ	FAC	Prevalence Index worksheet:
2. Symphoricarpos occidentalis	5%	Υ	FAC	Total % Cover of: Multiply by: ORI species 30 v.1 = 30
3		· <u></u>		OBE species x 1 =
4				FACW species 20 $x 2 = 40$ FAC species 20 $x 3 = 60$
5		-		FACU species x 4 = 20
Herb Stratum (Plot size: *)	15%	= Tota	al Cover	UPL species 0 x 5 = 0
1. Nasturtium officinale	30%	Υ	OBL	Column Totals: 75 (A) 150 (B)
2 Epilobium saximontanum	10%	Υ	FACW	
3. Mentha arvensis	10%	Υ	FACW	Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
4. Cirsium arvense	5%	N	FAC	1 - Rapid Test for Hydrophytic Vegetation
5. Solidago canadensis	5%	N	FACU	+ 2 - Dominance Test is >50%
6				± 3 - Prevalence Index is ≤3.0 ¹
7				4 - Morphological Adaptations ¹ (Provide supporting
8	-:			data in Remarks or on a separate sheet)
9		-		5 - Wetland Non-Vascular Plants ¹
10		i -		Problematic Hydrophytic Vegetation ¹ (Explain)
11	000/	-		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: *)	60%	= Tota	l Cover	,
1				Livednonbustic
2				Hydrophytic Vegetation
		= Tota	l Cover	Present? Yes X No
% Bare Ground in Herb Stratum 40%				
Remarks:		41- :		alicelte due to leele comment of the comment
* Sampled entire plant community. Grass also pre	sent within	this ar	ea but unide	ntinable due to lack of reproductive structures.

Sampling	D-1-4	#9
Sampling	Point.	.,,

SOIL

Profile Desc	cription: (Describe	to the de	oth needed to docur	nent the	indicator	or confirm	the absence	of indicators.)	
Depth	Matrix		- 	x Feature					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	_Loc ²	Texture	Remarks 70% a sate d	
0-6	10YR 2/1	100	-	0.	s:———		loamy sand	sand >70% coated	
6 - 12	10YR 3/1	70	10YR 5/8		<u>C</u>	<u>M</u>	loamy sand		
		-03	10YR 6/2	10	_ <u>D</u>	M			
12 - 16	10YR 3/6	100		02		·	sand		
16 - 20	10YR 5/2	100	J 	52			sand		
			\ 	85		====	-		
·	<u> </u>		Ç -			A le l e	-	· · · · · · · · · · · · · · · · · · ·	
¹Type: C=C	oncentration, D=De	pletion RM	=Reduced Matrix, CS	S=Covere	ed or Coate	ed Sand Gr	rains. ² Lo	ocation: PL=Pore Lining, M=Matrix.	
The Property of the Contract o	All I will be a beautiful and a second of the second of th	A COLUMN TO THE PARTY OF THE PA	LRRs, unless other					ors for Problematic Hydric Soils³:	
Histosol	(A1)		Sandy Redox (S5)			<u>-</u> 2 c	m Muck (A10)	
- Histic E	pipedon (A2)		Stripped Matrix					d Parent Material (TF2)	
_	istic (A3)		Loamy Mucky N			t MLRA 1)		ry Shallow Dark Surface (TF12)	
	en Sulfide (A4)		Loamy Gleyed		2)		Oth	ner (Explain in Remarks)	
	d Below Dark Surfa	ce (A11)	Depleted Matrix				31	ore of hydrophytic vocatation and	
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Su Depleted Dark					ors of hydrophytic vegetation and and and and and and hydrology must be present,	
	Gleyed Matrix (S4)		Redox Depress					ss disturbed or problematic.	
	Layer (if present):		Redox Depress	10113 (1 0)			unio	ob distance of problematic.	
Type:									
1	ches):						Hydric Soi	I Present? Yes X No	
Remarks:								-	
1	sulfide odor from 0-	6 inches.							
HYDROLO	GY								
Wetland Hy	drology Indicators	:							
Primary Indi	cators (minimum of	one require	ed; check all that appl	y)			Seco	endary Indicators (2 or more required)	
+ Surface	Water (A1)		Water-Sta	ined Lea	ves (B9) (e	except	\	Water-Stained Leaves (B9) (MLRA 1, 2,	
+ High W	ater Table (A2)				and 4B)			4A, and 4B)	
+ Saturati	on (A3)		Salt Crust	(B11)			Drainage Patterns (B10)		
Water N	farks (B1)		= Aquatic In	vertebrat	es (B13)		<u>-</u> I	Dry-Season Water Table (C2)	
Sedime	nt Deposits (B2)		+ Hydrogen	Sulfide C	Odor (C1)		;	Saturation Visible on Aerial Imagery (C9)	
Drift De	posits (B3)		Oxidized F	Rhizosph	eres along	Living Roo	ots (C3) (Geomorphic Position (D2)	
Algal M	at or Crust (B4)		Presence	of Reduc	ed Iron (C	4)	<u>-</u> ;	Shallow Aquitard (D3)	
Iron De	posits (B5)		- Recent Iro	n Reduc	tion in Tille	d Soils (C6	•	FAC-Neutral Test (D5)	
Surface	Soil Cracks (B6)		Stunted or	Stresse	d Plants (E	1) (LRR A) <u>-</u>	Raised Ant Mounds (D6) (LRR A)	
Inundat	ion Visible on Aerial	Imagery (E	37) <u>-</u> Other (Exp	plain in R	emarks)		<u>-</u>	Frost-Heave Hummocks (D7)	
Sparsel	y Vegetated Concav	ve Surface	(B8)						
Field Obser					4				
Surface Wat	ter Present?	Yes X	No Depth (in	ches): <u></u>	1 inch				
Water Table	Present?	Yes _X	No Depth (in	ches): <u>8</u>	inches				
Saturation F		Yes X	No Depth (in	ches): <u>6</u>	inches	Wetl	and Hydroloલ્	gy Present? Yes X No No	
(includes ca	pillary fringe)	m dalide m	nonitoring well, aerial	nhotos n	revious in	nections)	if available:		
Describe Re	oorded Data (Stied)	ıı gauge, II	iorntoring well, aerial	μποιοδ, β	novious ili	, (CI IOIIO),	avaliable.		
Remarks:									
INCINAINS.									
1									

Project/Site: US Air Force Academy's True North Common	s EUL Area	City/Co	ounty: Colorado	Springs, El Paso County Sampling Date: 10/6/18
Applicant/Owner: US Air Force Academy				State: CO Sampling Point: #10
• •		Section		nge: Section 1, Township 12 South, Range 67 West
				convex, none): concave Slope (%): 0-15%
				Long: W 104 50.389 Datum: WGS 84
Soil Map Unit Name: Kettle-Rock outcrop complex	Lal.			
				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for t	•			
Are Vegetation, Soil, or Hydrology				"Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology				eeded, explain any answers in Remarks.)
		sam	pling point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes			Is the Sampled	I ∆rea
Hydric Soil Present? Yes Wetland Hydrology Present? Yes			within a Wetla	V
Remarks:				
Field work conducted in late September and early	October. Th	ne wet	season is Apr	ril-September, peaking in July and August.
VEGETATION – Use scientific names of pla	nts.			
*	Absolute		nant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: *)	<u>% Cover</u> 100%	Spec	ies? Status FACU	Number of Dominant Species
Pinus ponderosa Quercus gambelii	20%	<u></u>	UPL	That Are OBL, FACW, or FAC: 2 (A)
	2076	14		Total Number of Dominant
3		-		Species Across All Strata: 5 (B)
4.9	120%	- Tota	al Cover	Percent of Dominant Species That Are ORL FACW or FAC: 40% (A/R)
Sapling/Shrub Stratum (Plot size:)		_ 10ta	ai Covei	That Ale OBE, I AOVV, OI I AO(A/B)
1. Symphoricarpos occidentalis	55%	Υ	FAC	Prevalence Index worksheet:
2. Prunus virginiana	25%	Y	FACU	
3. Crataegus erythropoda	10%	N	FACU	OBL species x 1 = FACW species x 2 = 4
4. Salix exigua	2%	N	FACW	FAC species 80 x 3 = 240
5				FACU species 135 x 4 = 540
Herb Stratum (Plot size: *)	92%	= Tota	al Cover	UPL species 50 x 5 = 250
1 Bromus inermis	30%	Υ	UPL	Column Totals: 267 (A) 1,034 (B)
2. Cirsium arvense	25%	Y	FAC	Prevalence Index = B/A = 3.87
3				Hydrophytic Vegetation Indicators:
4.				1 - Rapid Test for Hydrophytic Vegetation
5				- 2 - Dominance Test is >50%
6				3 - Prevalence Index is ≤3.0 ¹
7.,				4 - Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9	_	-		5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
11.,		a		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woods Vine Stratum (Districe)	55%	= Tota	l Cover	be present, unless disturbed of problematic.
Woody Vine Stratum (Plot size:)				
1				Hydrophytic Vegetation
2		= Tota	I Cover	Present? Yes No _X
% Bare Ground in Herb Stratum 45%		- TOLA	I OOVEI	
Remarks:				
* Sampled entire plant community				
				a

(inches) Cole	Matrix or (moist)	%	Color (moist)	ox Feature %	Type ¹	Loc2	Texture	Remarks
0 - 1 10YR		100		-			silt loam	dry
1-4 10YR	5/4	100		=\ {}	## 	-	silty clay loam	dry
4 - 5 10YR	5/3	95	10YR 6/8	5	C	М	silty clay loam	dry
5 - 12 10YR	5/2	90	10YR 5/1	10	D	M	silty clay	dry
12 - 22 10YR	3 5/2	80	10YR 5/8	20	C	M	silty clay	dry
22 - 24 10YR		100	·× 	-3.5			clay	dry
			00	1,2			-	
		*5	- 2					ks
¹ Type: C=Concentra	ation, D=Dep	letion, RN	M=Reduced Matrix, C	S=Covere	d or Coate	ed Sand G	rains. ² Lo	ocation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicate	ors: (Applic	able to a	II LRRs, unless othe	rwise not	ed.)		Indicat	ors for Problematic Hydric Soils ³ :
- Histosol (A1)			Sandy Redox (m Muck (A10)
Histic Epipedon			Stripped Matrix				_	d Parent Material (TF2)
- Black Histic (A3)			Loamy Mucky			t MLRA 1)		ry Shallow Dark Surface (TF12)
- Hydrogen Sulfid		. (8.4.4)	Loamy Gleyed		?)		Oti	ner (Explain in Remarks)
Depleted BelowThick Dark Surfa		e (A11)	 Depleted Matri Redox Dark St 				3Indicat	ors of hydrophytic vegetation and
Sandy Mucky M			Depleted Dark	. ,				and hydrology must be present,
Sandy Mucky M			Redox Depres	-	',			ss disturbed or problematic
Restrictive Layer (in				()				
Type:								
. , , , ,								il Present? Yes NoX
Denth (inches):							HVdric So	
Depth (inches): _ Remarks: Hydric soil indicate	ors not obser	ved. Red	ox concentrations from	m 5-12 inc	hes are fa	int using F		lement Table A1 (ERDC/EL TR-10-3),
Remarks: Hydric soil indicato			ox concentrations from	m 5-12 inc	hes are fa	int using F		
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology	Indicators	5)			hes are fa	int using F	Regional Supp	lement Table A1 (ERDC/EL TR-10-3),
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r	Indicators	5)	ed; check all that app	ly)			Regional Supp	endary Indicators (2 or more required)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water ()	r Indicators: minimum of c	5)	ed; check all that app Water-Sta	ly) ained Leav	es (B9) (€		Regional Supp	endary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (a High Water Tab	Indicators: minimum of o A1) le (A2)	5)	ed; check all that app Water-Sta MLRA	ly) ained Leav 1, 2, 4A,	es (B9) (€		Regional Supp	endary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (r High Water Tab Saturation (A3)	r Indicators: minimum of o A1) le (A2)	5)	ed; check all that app Water-Sta MLRA Salt Crus	ly) ained Leav .1, 2, 4A, s t (B11)	es (B9) (e and 4B)		Regional Supp	endary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (argument) Saturation (A3) Water Marks (B	r Indicators: minimum of c A1) le (A2) 1)	5)	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir	ly) ained Leav 1, 2, 4A, 3 t (B11) avertebrate	res (B9) (e and 4B) es (B13)		Second Supp	ement Table A1 (ERDC/EL TR-10-3), ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (a High Water Tab Saturation (A3) Water Marks (B Sediment Depos	r Indicators: minimum of c A1) le (A2) 1) sits (B2)	5)	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen	ly) ained Leav 1, 2, 4A, a t (B11) avertebrate Sulfide O	es (B9) (eand 4B) es (B13) dor (C1)	except	Second Supp	ement Table A1 (ERDC/EL TR-10-3). endary 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)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (a High Water Tab Saturation (A3) Water Marks (B Sediment Deposits (E	r Indicators: minimum of c A1) le (A2) 1) sits (B2)	5)	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized	ly) ained Leav 1, 2, 4A, t t (B11) nvertebrate i Sulfide O Rhizosphe	res (B9) (eand 4B) es (B13) dor (C1) eres along	except	Second Supp Second Supp - '	endary 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)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Deposits (E Algal Mat or Cru	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4)	5)	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized _ Presence	ained Leav 1, 2, 4A, at (B11) avertebrate Sulfide O Rhizosphe of Reduce	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C-	except Living Root	Second Supp Second	lement Table A1 (ERDC/EL TR-10-3). Condary 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)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (r High Water Tab Saturation (A3) Water Marks (B Sediment Deposits (B Algal Mat or Cru Iron Deposits (B	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4)	5)	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ire	ained Leav 1, 2, 4A, at (B11) nvertebrate Sulfide O Rhizosphe of Reduct	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille	Except Living Road	Sector	lement Table A1 (ERDC/EL TR-10-3). Condary 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)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r - Surface Water (a High Water Tab - Saturation (A3) - Water Marks (B Sediment Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4) acks (B6)	one requir	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized Presence _ Recent Iro _ Stunted o	ly) ained Leav 1, 2, 4A, 3 t (B11) avertebrate Sulfide O Rhizosphe of Reduct on Reduct	res (B9) (eand 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille	Except Living Road	Sector	lement Table A1 (ERDC/EL TR-10-3). condary 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)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r - Surface Water (a.) - High Water Tab - Saturation (A3) - Water Marks (B.) - Sediment Deposits (B.) - Drift Deposits (B.) - Iron Deposits (B.) - Surface Soil Cra - Inundation Visib	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4) 85) acks (B6) ole on Aerial	one requir	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized Presence _ Recent Ir _ Stunted of B7) Other (Ex	ly) ained Leav 1, 2, 4A, 3 t (B11) avertebrate Sulfide O Rhizosphe of Reduct on Reduct	res (B9) (eand 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille	Except Living Road	Sector	lement Table A1 (ERDC/EL TR-10-3). Condary 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)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r - Surface Water (a High Water Tab - Saturation (A3) - Water Marks (B Sediment Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4) 85) acks (B6) ble on Aerial ated Concav	one requir	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized Presence _ Recent Ir _ Stunted of B7) Other (Ex	ly) ained Leav 1, 2, 4A, 3 t (B11) avertebrate Sulfide O Rhizosphe of Reduct on Reduct	res (B9) (eand 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille	Except Living Road	Sector	lement Table A1 (ERDC/EL TR-10-3). condary 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)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r - Surface Water (a) - Saturation (A3) - Water Marks (B) - Sediment Deposits (B) - Drift Deposits (B) - Algal Mat or Crulinon Deposits (B) - Surface Soil Cralinundation Visib - Sparsely Vegeta Field Observations	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4) 85) acks (B6) ele on Aerial ated Concav	one requir Imagery (e Surface	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized Presence _ Recent Ir _ Stunted of B7) Other (Ex	ly) ained Leav 1, 2, 4A, 3 t (B11) nvertebrate a Sulfide O Rhizosphe of Reduce on Reduct or Stressed	res (B9) (eand 4B) es (B13) dor (C1) eres along ed Iron (Cition in Tille I Plants (Demarks)	Living Root 4) d Soils (Co	Sector	lement Table A1 (ERDC/EL TR-10-3). condary 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)
Remarks: Hydric soil indicate HYDROLOGY Wetland Hydrology Primary Indicators (r - Surface Water (a) - High Water Tab - Saturation (A3) - Water Marks (B) - Sediment Deposits (B) - Drift Deposits (B) - Algal Mat or Cru - Iron Deposits (B) - Surface Soil Cra - Inundation Visib - Sparsely Vegeta	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4) 35) acks (B6) ble on Aerial ated Concav ated Concav ated:	one requir	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Oxidized Presence Recent Ir Stunted of B7) (B8) No X Depth (in	ained Leaver 1, 2, 4A, 3 trick (B11) invertebrate of Sulfide Or Reduction Reduction Reduction Stressed in Stressed in Ches):	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (Demarks)	Living Road 4) d Soils (Color) (LRR A	Sector	lement Table A1 (ERDC/EL TR-10-3). condary 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)
Remarks: Hydric soil indicate Hydric soil indicate Hydric soil indicate Hydrology Wetland Hydrology Primary Indicators (r Surface Water (a) High Water Tab Saturation (A3) Water Marks (B) Sediment Deposits (B) Algal Mat or Cru Iron Deposits (B) Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observations Surface Water Preserv Saturation Present?	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4) 85) acks (B6) ale on Aerial ated Concav : ent?	Imagery (e Surface	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized Presence _ Recent Ir _ Stunted of B7) Other (Ex	ained Leave 1, 2, 4A, at (B11) Invertebrate Invertebrate Invertebrate Invertebrate Invertebrate Invertebrate Invertebrate Inches): Invertebrate Inches): Invertebrate	res (B9) (eand 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (C- emarks) t encounter	Living Roo 4) d Soils (Co 1) (LRR A	Second Supp Second S	lement Table A1 (ERDC/EL TR-10-3). condary 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)
Remarks: Hydric soil indicate Hydric soil indicate Hydrology Wetland Hydrology Primary Indicators (r Surface Water (a) High Water Tab Saturation (A3) Water Marks (B) Sediment Deposits (B) High Water Table Surface Soil Crate Iron Deposits (B) Surface Soil Crate Inundation Visib Sparsely Vegeta Field Observations Surface Water Preserv Water Table Preserv Saturation Present? (includes capillary fri	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4) sits (B6) le on Aerial ated Concav i: ent? 'Y inge)	Imagery (e Surface es es es	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of B7) Other (Ex	ained Leav. 1, 2, 4A, 3 t (B11) nvertebrate Sulfide O Rhizosphe of Reduct on Reduct r Stressed cplain in Re	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (Cion in Tille I Plants (Demarks) t encounter t encounter	Living Root 4) d Soils (Ci 1) (LRR A	Second Supposes Second Supposes (C3)	lement Table A1 (ERDC/EL TR-10-3). condary 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)
Remarks: Hydric soil indicate Hydric soil indicate Hydrology Wetland Hydrology Primary Indicators (r - Surface Water (a.) Saturation (A3) Water Marks (B.) Sediment Deposits (B.) High Water Table Surface Soil Cra. Iron Deposits (B.) Surface Soil Cra. Inundation Visib Sparsely Vegeta Field Observations Surface Water Preserv Water Table Preserv Saturation Present? (includes capillary fri	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4) sits (B6) le on Aerial ated Concav i: ent? 'Y inge)	Imagery (e Surface es es es	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen Oxidized Presence Recent Ir _ Stunted of B7) Other (Ex (B8) NoX Depth (ir _ NoX Depth (ir _ NoX Depth (ir	ained Leav. 1, 2, 4A, 3 t (B11) nvertebrate Sulfide O Rhizosphe of Reduct on Reduct r Stressed cplain in Re	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (Cion in Tille I Plants (Demarks) t encounter t encounter	Living Root 4) d Soils (Ci 1) (LRR A	Second Supposes Second Supposes (C3)	lement Table A1 (ERDC/EL TR-10-3). condary 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)
Remarks: Hydric soil indicate Hydric soil indicate Hydrology Wetland Hydrology Primary Indicators (r - Surface Water (a.) High Water Tab - Saturation (A3) Water Marks (B.) Sediment Deposits (B.) Horn Deposits (B.) Iron Deposits (B.) Surface Soil Cra. Inundation Visib Sparsely Vegeta Field Observations Surface Water Preserv Water Table Preserv Saturation Present? (includes capillary fridescribe Recorded Individual Control of the Control o	r Indicators: minimum of c A1) le (A2) 1) sits (B2) 33) ust (B4) 35) acks (B6) ble on Aerial ated Concav : ent? 17 inge) Data (stream	Imagery (e Surface /es /es	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of B7) Other (External of External of Externa	ained Leaver 1, 2, 4A, at (B11) Invertebrate Sulfide ORhizospher of Reduction Reduction Reduction Stressed Eplain in Referenches): nothes in the sulfide in	res (B9) (eand 4B) es (B13) dor (C1) eres along ed Iron (Crion in Tille I Plants (Demarks) et encounter t encounter t encounter	Living Root 4) d Soils (County) (LRR And ed ed wet) spections),	Second Supposes Second Supposes (C3)	lement Table A1 (ERDC/EL TR-10-3). condary 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)

Project/Site: US Air Force Academy's True North Commons E	UL Area	City/Co	ounty:	Colorado S	Springs, El Paso County	Sampling	Date: 10/6/18	
Applicant/Owner: US Air Force Academy					State: CO			
					nge: Section 1, Township			t
Landform (hillslope, terrace, etc.): toe slope of upland ridge								
Subregion (LRR): E								
Soil Map Unit Name: Kettle-Rock outcrop complex					NWI classific			
Are climatic / hydrologic conditions on the site typical for this	time of ve	ar? Ye	es X		 (If no, explain in F			
Are Vegetation, Soil, or Hydrology si					Normal Circumstances"		res X N	0
Are Vegetation, Soil, or Hydrology Xna					eded, explain any answe			
SUMMARY OF FINDINGS – Attach site map s				·	•		•	s, etc.
Hydrophytic Vegetation Present? Yes X No								
Hydric Soil Present? Yes X No				Sampled	Area nd?	No		
Wetland Hydrology Present? Yes X No	·—		WILTIII	n a vveuan	id? Yes	NO		
Remarks: Field work conducted in early October. The wet seas indicators would be expected during the wet season; addition to the presence of hydric soil indicators and	however hydrophy	, satu	ration	at 10 inc	hes and a dry season	water tabl	le of 12 inche	es in
VEGETATION – Use scientific names of plant				***************************************	r.		_	
Tree Stratum (Plot size: *	Absolute % Cover			Indicator	Dominance Test work			
1 Pinus ponderosa	15%	Y	-	FACU	Number of Dominant S That Are OBL, FACW,		3	(A)
2.				-		-		()
3.		-			Total Number of Domir Species Across All Stra		5	(B)
4	:	99			·			(-)
Cooling/Oberts Charles (Plateins *	15%	= Tot	al Cov	er	Percent of Dominant S That Are OBL, FACW,		60%	(A/B)
Sapling/Shrub Stratum (Plot size: *) 1. Salix exigua	60%	Υ		FACW	Prevalence Index wor	ksheet:		
2 Symphoricarpos occidentalis	40%	Y	_	FAC	Total % Cover of:		Multiply by:	_
3 Pinus ponderosa	5%	N		FACU	OBL species0	x 1		_
4 Quercus gambelii	2%	N		UPL	FACW species80	^^		− 02
5.		V-	=/.=		FAC species50	^ 3	222	_
	107%	= Tot	al Cov	er	FACU species 55	^¬		-
Herb Stratum (Plot size: *)	0004			E4.01.1	Of L species	x 5		- (D)
1. Solidago altissima		_	_	FACU	Coldinii Totals.	(//)		_ (B)
2. Epilobium saximontanum 3. Cirsium arvense	10%	<u>Y</u> N		FACW FAC	Prevalence Index			_
4. Verbascum thapsus	5%	N		FACU	Hydrophytic Vegetation			
			-	1700	1 - Rapid Test for I	, , ,	: Vegetation	
5		-			+ 2 - Dominance Tes			
6 7		/	-		+ 3 - Prevalence Ind		1.0	
8				-	4 - Morphological / data in Remark	Adaptations s or on a se	," (Provide sup eparate sheet)	porting
9		-			5 - Wetland Non-V		-	
10				•	Problematic Hydro			in)
11		-			¹ Indicators of hydric so			nust
	050/	= Tota	al Cove	er	be present, unless dist	urbed or pro	oblematic.	
Woody Vine Stratum (Plot size:)								
1		-			Hydrophytic			
2.,					Vegetation Present? Ye	s_X	No	
% Bare Ground in Herb Stratum 30%		= Tota	al Cove	er		- II-		
Remarks:								
* Sampled entire plant community. Grasses also pre	esent in sa	ample	area	but unide	entifiable due to lack o	f reproduc	tive structure	es.

SOIL								Sampling Point:		
Profile Desc	ription: (Describe	to the de	pth needed to docu	ment the	indicator	or confirm	n the absence	of indicators.)		
Depth	Matrix			ox Feature						
(inches)	Color (moist)	%_	Color (moist)	%	Type ¹	_Loc ² _	Texture	Remarks		
0 - 2.5	10YR 2/1	100					loamy sand	mucky		
2.5 - 6.5	10YR 4/1	85	N 7/	15	D	M	sand	moist		
6.5 - 7.5	10YR 5/2	50	5YR 4/6	50	С	М	sand	moist		
7.5 - 10	10YR 4/2	100					sand	moist		
10 -15	10YR 6/3	100					sand	wet		
15 - 23	10Y 7/	80	10 YR 5/8	20	С	M	sand	wet		
				-	- 2-					
	÷ 6		-							
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.										
Hydric Soil I	ndicators: (Applic	able to a	II LRRs, unless othe	rwise no	ted.)		Indicato	ors for Problematic Hydric Soils ³ :		
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10)								n Muck (A10)		
Histic Ep	ipedon (A2)		± Stripped Matrix	(S6)			Red Parent Material (TF2)			
Black His	stic (A3)		Loamy Mucky	Mineral (F	1) (excep	t MLRA 1)	Very Shallow Dark Surface (TF12)			
Hydroge	n Sulfide (A4)		Loamy Gleyed	Matrix (F.	2)		Other (Explain in Remarks)			
Depleted	Below Dark Surfac	e (A11)	Depleted Matri	x (F3)						
- Thick Da	rk Surface (A12)		- Redox Dark St	ırface (F6)		³ Indicators of hydrophytic vegetation and			
	lucky Mineral (S1)		Depleted Dark	Surface (F7)		wetla	wetland hydrology must be present,		
	leyed Matrix (S4)		Redox Depres					ss disturbed or problematic.		
	ayer (if present):							·		
Type:										
Depth (inc	ches):						Hydric Soil	Present? Yes X No		
Remarks:							81			
Hydric soil	indicators observed	l included	mucky modified sand	dy soil fror	n 0-2.5 ind	hes and a	stripped matrix	k from 2.5-6.5 inches.		
HYDROLO	GY									

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that ap	oly) Secondary Indicators (2 or more required)
Surface Water (A1) Water-S	ained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2) MLR	A 1, 2, 4A, and 4B) 4A, and 4B)
+ Saturation (A3) - Salt Cru	
Water Marks (B1) Aquatic	nvertebrates (B13) + Dry-Season Water Table (C2)
-	n Sulfide Odor (C1) = Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Oxidized	Rhizospheres along Living Roots (C3) Geomorphic Position (D2)
Algal Mat or Crust (B4) Presence	e of Reduced Iron (C4) Shallow Aquitard (D3)
Iron Deposits (B5) Recent	ron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)
Surface Soil Cracks (B6) Stunted	or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (B7) Other (E	xplain in Remarks) Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface (B8)	
Field Observations:	8 0 R
Surface Water Present? Yes No X Depth	
Water Table Present? Yes X No Depth	
Saturation Present? Yes X No Depth ((includes capillary fringe)	nches): 10 inches Wetland Hydrology Present? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aeria	photos, previous inspections), if available:
sloping concave relief of the sample area in addition to saturises to saturate the the surface during some portion of a ty	season months (July and August). Based on the toe of slope position and shallow ation at 10 inches and a water table at 12 inches, it is expected that the water table ical growing season. A follow up visit during the wet season (May-August) would give a
The site visit was conducted 6-10 weeks after the peak wet sloping concave relief of the sample area in addition to saturises to saturate the the surface during some portion of a ty	ation at 10 inches and a water table at 12 inches, it is expected that the water table

Project/Site: US Air Force Academy's True North Commons E	UL Area	City/Cour	ity: Colorado	Springs, El Paso County	Sampling [Date: 10/5/18	3
Applicant/Owner: US Air Force Academy				State: CO	Sampling F	oint: #12	
Investigator(s); _T. Walsh & A. Davis		Section,	Township, Ra	nge: Section 12, Townshi	ip 12 South, I	Range 67 We	est
				convex, none): concave			
Subregion (LRR): E							
Soil Map Unit Name: Tomah-Crowfoot complex				NWI classific			
Are climatic / hydrologic conditions on the site typical for this							
Are Vegetation, Soil, or Hydrology si	_	-		'Normal Circumstances" p		s X N	n
Are Vegetation, Soil, or Hydrology X na				eeded, explain any answe			
SUMMARY OF FINDINGS – Attach site map s			•			•	s, etc.
Hydrophytic Vegetation Present? Yes X No)						
Hydric Soil Present? Yes X No			the Sampled				
Wetland Hydrology Present? Yes X No)	WI	thin a Wetlar	10? Yes_^_	No		
Remarks: Field work conducted in early October. Wet season is Aprilduring the wet season; however, saturation at 4 inches and concentrations from 2-6 inches and hydrophytic vegetation VEGETATION – Use scientific names of plant	a dry seas indicate the	on water	table of 10.5	inches in addition to the	ogy indicator presence of	s would be e prominent re	xpected dox
Table 1 and		Domina	nt Indicator	Dominance Test work	sheet:		
Tree Stratum (Plot size:)			? Status	Number of Dominant S			
1				That Are OBL, FACW,		2	(A)
2				Total Number of Domin	iant		
3.				Species Across All Stra	ıta:	2	(B)
4			Cover	Percent of Dominant Sp That Are OBL, FACW,		100%	(A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index wor	ksheet:		
1				Total % Cover of:		/lultiply by:	_
3			-0.5	OBL species13	^ _ ^ ! -	130	=:
4.		*		FACW species10	x 2 =	20	-
5.	-		***		x 3 =		_
		= Total C	Cover	FACU species0	x 4 =		_
Herb Stratum (Plot size:)					x 5 =		=
1. Typha angustifolia	$\overline{}$	Y		Column Totals:145	(A)	165	_ (B)
2. Typha X glauca	45%	Y	OBL	Prevalence Index	= B/A =	1.14	_
3. Epilobium saximontanum	5%	N	FACW	Hydrophytic Vegetation	on Indicator	s:	
4. Juncus balticus	5%	N	FACW	1 - Rapid Test for H	-lydrophytic \	Vegetation	
5. Juncus confusus	5%	<u>N</u>	FAC	+ 2 - Dominance Test	t is >50%		
6		-	-,	+ 3 - Prevalence Inde			
7			-:	4 - Morphological A data in Remarks			
8			->	5 - Wetland Non-V	•	•	
9			->	Problematic Hydro			in)
10				¹Indicators of hydric soi		` '	•
11	145%	= Total C		be present, unless distu			iido(
Woody Vine Stratum (Plot size:)		- Total C	Ovei				
1,				Hydrophytic			
2				Vegetation	Y .		
		= Total C	over	Present? Ye	s_XI	No	
% Bare Ground in Herb Stratum 5%							
* Sampled entire plant community.							
Sampled Simile plant Community,							

OIL								Sampling Point: #12
Profile Des	scription: (Describ	e to the de	pth needed to docu	ment the	indicator	or confir	m the absence	of indicators.)
Depth	Matrix							
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	<u>Loc²</u>	<u>Texture</u>	Remarks
0 - 2	10YR 2/1	100					silty clay loam	moist
2 - 6	10YR 6/1	88	10YR 5/8	2	С	PL	sand	moist - wet
	- (4		10YR 8/1	10	D	М		**************************************
6 - 16	10YR 6/2	95	5YR 5/8	5	С	М	sand	wet
16 -18	7.5YR 5/8	60	N 6/	40	D	М	sand	wet
18 - 36	7.5YR 5/8	100		-,,			sand	wet
Hydric Soi - Histoso - Histic I - Black I - Hydrog - Deplet - Thick I	il Indicators: (Appl	icable to al	### All Properties of the control of	erwise no (S5) ((S6) Mineral (I Matrix (F x (F3) urface (F6	oted.) F1) (excep F2)		Indicate	cation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils³: m Muck (A10) d Parent Material (TF2) ry Shallow Dark Surface (TF12) her (Explain in Remarks) ors of hydrophytic vegetation and and hydrology must be present,
	Gleyed Matrix (S4)		Redox Depres	sions (F8)		unles	ss disturbed or problematic.
Type: Depth (i	inches):						Hydric Soi	I Present? Yes X No
Remarks Hydric s		d included p	prominent redox cond	centration	s from 2-6	inches.		
IYDROL								
	ydrology Indicator		Paragraph and a second				***************************************	
Orimoni Inc	diantara (minimum a	t ana roquir	ad: chack all that ann	distrib.			Saco	(heriuser arom ro. (2) or more required)

Wetland Hydrology Indicators:				
Primary Indicators (minimum of one required; c	heck all that apply)	Secondary Indicators (2 or more required)		
Surface Water (A1)	- Surface Water (A1) - Water-Stained Leaves (B9) (except			
High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)		
+ Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)		
Water Marks (B1)	Aquatic Invertebrates (B13)	+ Dry-Season Water Table (C2)		
Sediment Deposits (B2)	 Hydrogen Sulfide Odor (C1) 	Saturation Visible on Aerial Imagery (C9)		
Drift Deposits (B3)	Oxidized Rhizospheres along Living Roots (C3)) Geomorphic Position (D2)		
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)		
Iron Deposits (B5)	- Recent Iron Reduction in Tilled Soils (C6)	FAC-Neutral Test (D5)		
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Frost-Heave Hummocks (D7)		
Sparsely Vegetated Concave Surface (B8)				
Field Observations:				
	X Depth (inches): not encountered			
	Depth (inches): 10.5 inches			
(includes capillary fringe)		ydrology Present? Yes X No		
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous inspections), if avail	able:		
Remarks:				
	er the peak wet season months (July and August). Bas			
	tion at 4 inches and a water table at 10.5 inches, it is a cal growing season. A follow up visit during the wet se			
	dized rhizospheres along living roots and hydrophytic v			

Project/Site: US Air Force Academy's True North Commons	EUL Area	City/Count	y: Colorado	Springs, El Paso County Sampling Date: 10/5/18				
Applicant/Owner: US Air Force Academy				State: CO Sampling Point: #13				
Investigator(s): T. Walsh & A. Davis Section, Township, Range: Section 12, Township 12 South, Range 67 West								
				convex, none): Convex Slope (%): 5-15%				
				Long: W 104 50.430 Datum: WGS 84				
Soil Map Unit Name: Tomah-Crowfoot complex				NWI classification: NA				
Are climatic / hydrologic conditions on the site typical for this								
Are Vegetation, Soil, or Hydrology s				Normal Circumstances" present? Yes X No				
Are Vegetation, Soil, or Hydrology s				eded, explain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map	-							
Hydrophytic Vegetation Present? Yes X N	0							
Hydric Soil Present? Yes N	o_X		he Sampled					
	o	Witi	hin a Wetlar	nd? Yes NoX				
Remarks: The site visit was conducted 6-10 weeks after the peak wet season months (July and August) thickness of the redox concentrations was less than the four inches required for Sandy Redox can lead to false positives as oxidized pore linings can persist for years following removal of a encountered at 12 inches may serve as a restrictive layer. A follow up visit during the wet sea hydric soil indicators suggests that the sampled area is not a wetland. VEGETATION — Use scientific names of plan	ison (May-August)	heres were obse le to use the oxic Based on the loc would give a mo	erved on living roots dized rhizospheres a lation, relief, and sal are accurate determi	from 2-3 inches; however, the observed soil did not meet any hydric soil indicator (the along living roots (C3) hydrology indicator in the absence of a hydric soil indicator because it hoty matrix, the sample area would likely shed water readily, although the compacted sand ination and additional hydrology indicators may be present at that time; however, the lack of				
	Absolute	Dominan	t Indicator	Dominance Test worksheet:				
Tree Stratum (Plot size: *)	% Cover	Species?	Status	Number of Dominant Species				
1. Salix amygdaloides	5%	<u>Y</u>	FACW	That Are OBL, FACW, or FAC:5 (A)				
2			·	Total Number of Dominant				
3,	// 			Species Across All Strata:5 (B)				
4	5%		×	Percent of Dominant Species				
Sapling/Shrub Stratum (Plot size: *)	370	= Total Co	over	That Are OBL, FACW, or FAC:(A/B)				
1. Salix exigua	35%	Υ	FACW	Prevalence Index worksheet:				
2. Elaeagnus angustifolia	30%	Υ	FAC	Total % Cover of: Multiply by: OBL species 0 v.1 = 0				
3. Ribes inerme	15%	N	FAC	ODL species x 1				
4. Juniperus monosperma	10%	N	UPL	FACW species 80 x 2 = 180 FAC species 80 x 3 = 240				
5		-	·	FACU species x 4 =0				
Herb Stratum (Plot size:	90%	= Total Co	over	UPL species 10 x 5 = 50				
1. Juncus balticus	50%	Υ	FACW	Column Totals: 180 (A) 470 (B)				
2. Juncus confusus	35%	Y	FAC	Prevalence Index = B/A = 2.61				
3.		 		Hydrophytic Vegetation Indicators:				
4.				1 - Rapid Test for Hydrophytic Vegetation				
5				+ 2 - Dominance Test is >50%				
6				+ 3 - Prevalence Index is ≤3.0 ¹				
7				4 - Morphological Adaptations ¹ (Provide supporting				
8				data in Remarks or on a separate sheet)				
9				5 - Wetland Non-Vascular Plants ¹				
10,		-		Problematic Hydrophytic Vegetation¹ (Explain)				
11	0.50/	-		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Woody Vine Stratum (Plot size:)	85%	= Total Co	ver					
1				Hydrophytia				
2.				Hydrophytic Vegetation				
		= Total Co	ver	Present? Yes X No				
% Bare Ground in Herb Stratum 5%								
Remarks: * Sampled entire plant community.								
затріво віше ріаті соттопіў.								

Depth	Matrix		oth needed to docur	x Feature				,
(inches)	Color (moist)	%	Color (moist)	<u> %</u>	_Type ¹ _	Loc²	<u>Texture</u>	Remarks
0 - 2	10YR 2/1	100					loamy sand	dry
2 - 3	10YR 8/2	80	10YR 6/8	20	С	PL	sand	dry
3 - 12	10YR 5/4	100		-			sand	dry
1Time: C=C	Consentration DeD	topletion PM	=Reduced Matrix, CS	S=Covers	ed or Coats		rains ² Lo	cation: PL=Pore Lining, M=Matrix.
W.1.			LRRs, unless other			d Sand G		ors for Problematic Hydric Soils ³ :
- Histoso			Sandy Redox (•		- 2 cr	m Muck (A10)
	pipedon (A2)		Stripped Matrix					d Parent Material (TF2)
	listic (A3)		Loamy Mucky N	/lineral (F	1) (excep	t MLRA 1)		y Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed		2)		Oth	er (Explain in Remarks)
	ed Below Dark Surf	ace (A11)	Depleted Matrix				3	and all hands are to the control of
	Park Surface (A12)	`	Redox Dark Su	,	,			ors of hydrophytic vegetation and
	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark					and hydrology must be present, ss disturbed or problematic
	Layer (if present)		Redox Depress	10113 (1 0)			unic	as disturbed of problematio.
	ompacted Sand (Ha							
, , , , , , , , , , , , , , , , , , ,	nches): 12 inches						Hydric Soil	I Present? Yes No X
Remarks							1 ,	
IYDROLO	OGY ydrology Indicator	rs:						
Primary Ind	<u>icators (minimum c</u>	of one require	d; check all that appl	y)			Seco	ndary Indicators (2 or more required)
Surface	e Water (A1)		Water-Sta			xcept	<u>-</u> \	Water-Stained Leaves (B9) (MLRA 1, 2,
— -	ater Table (A2)				and 4B)			4A, and 4B)
	ion (A3)		Salt Crust					Drainage Patterns (B10)
-	Marks (B1)		Aquatic In					ry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
	ent Deposits (B2)		Hydrogen					
	eposits (B3)		+* Oxidized F					Geomorphic Position (D2)
	lat or Crust (B4)		Presence Recent Iro		,	•		hallow Aquitard (D3) FAC-Neutral Test (D5)
	posits (B5) e Soil Cracks (B6)		Stunted or			•	· —	Raised Ant Mounds (D6) (LRR A)
	tion Visible on Aeri	al Imagen/F				T) (LINK P	-	Frost-Heave Hummocks (D7)
	ly Vegetated Conc			- millill	-marke)		_ '	(DI)
 Snarse 	<u>, , , , , , , , , , , , , , , , , , , </u>		(20)					
	rvations:			ahaa). no	t encounter	ed		
Field Obse		Yes	No X Depth (in	cnes).				
Field Obse Surface Wa	ter Present?		No X Depth (in					
Field Obse Surface Wa Water Table Saturation F	iter Present? e Present? Present?	Yes	No X Depth (in No X Depth (in No X Depth (in	ches): _nc	t encounter	ed	land Hydrolog	gy Present? Yes <u>X*</u> No
Field Obse Surface Wa Water Table Saturation I (includes ca	iter Present? e Present? Present? apillary fringe)	Yes Yes	No X Depth (in	ches): <u>no</u> ches): <u>no</u>	ot encounter ot encounter	ed Wet		gy Present? Yes <u>X*</u> No

Project/Site: US Air Force Academy's True North Commons B	EUL Area	City/Cour	nty: Colorado	Springs, El Paso County	Sampling Date: 10/6/18
Applicant/Owner: US Air Force Academy		-	-	State: CO	
Investigator(s): T. Walsh & A. Davis					o 12 South, Range 67 West
					Slope (%): 0-25%
Subregion (LRR): E					
Soil Map Unit Name: Kettle-Rock outcrop complex				NWI classific	
Are climatic / hydrologic conditions on the site typical for this	time of yea	ar? Yes			
Are Vegetation, Soil, or Hydrology si					resent? Yes X No
Are Vegetation, Soil, or HydrologyX _ n				eded, explain any answer	
SUMMARY OF FINDINGS – Attach site map					
Hydrophytic Vegetation Present? Yes X	D				
Hydric Soil Present? Yes No	xx		the Sampled		v
Wetland Hydrology Present? Yes No	X	WI	ithin a Wetlan	nd? Yes	NoX
Remarks: Field work conducted in early October. The wet seas season would give a more accurate determination; he sampled area is not a wetland.	son is Apri lowever, t	il-Septer he lack o	mber, peakin of hydric soil	g in July and August. A and wetland hydrolog	site visit during the wet y indicate that the
VEGETATION – Use scientific names of plant	ts.				
Toron Otto Koron (Olataina) *	Absolute		nt Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size: *) 1. Salix amygdaloides	% Cover 50%	Y	? Status FACW	Number of Dominant Sp	
2		-	=====	That Are OBL, FACW, o) FAC: (A)
3.				Total Number of Domina Species Across All Strat	2
4.		-		Species Across All Strai	.a. (D)
See leader to the see of the see	50%	= Total (Cover	Percent of Dominant Sp That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size:) 1 Salix exigua	40%	Υ	FACW	Prevalence Index work	(sheet:
2 Elaeagnus angustifolia	10%	N	FAC	Total % Cover of:	Multiply by:
3. Ribes inerme	10%	N	FAC	OBL species10	x 1 =10
4. Robinia neomexicana	2%	N	UPL	FACW species92	x 2 =184
5.	-			FAC species 20	x 3 =60
:	62%	= Total (Cover		x = 0
Herb Stratum (Plot size: *)				UPL species 2	^5
1. Typha latifolia		Y		Column Totals: 124	(A) <u>264</u> (B)
Epilobium saximontanum	2%	<u>N</u>	FACW	Prevalence Index	
3		-		Hydrophytic Vegetatio	
4		-		l '	lydrophytic Vegetation
5			-:	2 - Dominance Test	
6				+ 3 - Prevalence Inde	
7					daptations ¹ (Provide supporting or on a separate sheet)
9				5 - Wetland Non-Va	· · · · · · · · · · · · · · · · · · ·
10					ohytic Vegetation¹ (Explain)
11.		-		¹ Indicators of hydric soil	and wetland hydrology must
	400/	= Total C	over	be present, unless distu	rbed or problematic.
Woody Vine Stratum (Plot size:)					
1,,			-33	Hydrophytic	
2			-3	Vegetation Present? Yes	s_X No
% Bare Ground in Herb Stratum 40%	9	= Total C	over	100	
Remarks:		_			
* Sampled entire plant community. Grasses also pre	esent in sa	ample ar	ea but unide	entifiable due to lack of	reproductive structures.

							n the absence	•
Depth (inches)	Matrix Color (moist)	%	Color (moist)	ox Features %	Type ¹	Loc²	Texture	Remarks
(inches) 0 - 4	10YR 2/1	100	Color (moist)		_ iype		silty clay loam	Remarks
4 - 5	10YR 2/1	99	10YR 6/6	1		PL	silty clay loam	
5 - 17	10YR 2/1	100					sandy loam	*
17 - 19	10Y 7/	50	10YR 6/6	50	<u>C</u>		sand	Sec
		- 50	10YR 6/8	40	C	<u>M</u>	sand	moist
19 - 24	10YR 7/3	- 50	·	·			Sanu	HIOIST
	-	-8.	10Y 7/	_ 10	<u>D</u>	<u>M</u>		
24 - 30	10Y 7/	100	(sand	moist
1							2	Con Di Don Calo Manda
			M=Reduced Matrix, C III LRRs, unless othe			d Sand G		cation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils ³ :
Histosol		000.0 (0 0	Sandy Redox (,			m Muck (A10)
	pipedon (A2)		Stripped Matrix					Parent Material (TF2)
	istic (A3)		Loamy Mucky) (except	MLRA 1)		y Shallow Dark Surface (TF12)
	en Sulfide (A4)		- Loamy Gleyed			,		er (Explain in Remarks)
	d Below Dark Surfa	ce (A11)	Depleted Matri		,		_	(<u> ,</u> ,
-	ark Surface (A12)	,	- Redox Dark Su				³ Indicate	ors of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark		7)			and hydrology must be present,
	Gleyed Matrix (S4)		Redox Depres	sions (F8)			unles	ss disturbed or problematic.
Restrictive	Layer (if present):							
Type:								Y
Depth (in	iches):						Hydric Soil	Present? Yes No _X
HYDROLO Wetland Hy	NCV							
Wetland Hydrology Indicators:								
	drology Indicators		red; check all that app	ıly)			Seco	ndary Indicators (2 or more required)
Primary Indi	drology Indicators		red; check all that app Water-Sta		es (B9) (e	xcept		ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2,
Primary Indi - Surface	drology Indicators		Water-Sta			xcept		
Primary Indi Surface	rdrology Indicators cators (minimum of Water (A1) ater Table (A2)		Water-Sta	ained Leav 1, 2, 4A, a		xcept	V	Vater-Stained Leaves (B9) (MLRA 1, 2,
Primary Indi - Surface - High Ware - Saturati	rdrology Indicators cators (minimum of Water (A1) ater Table (A2)		Water-Sta	ained Leave . 1, 2, 4A, a t (B11)	ind 4B)	xcept	v c	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Primary Indi - Surface - High Water Mater	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3)		Water-Sta MLRA - Salt Crus - Aquatic Ir	ained Leave . 1, 2, 4A, a t (B11)	nd 4B) s (B13)	xcept	<u>-</u> V <u>-</u> c	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10)
Primary Indi - Surface - High Wa - Saturati - Water M - Sedime	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1)		Water-Sta MLRA - Salt Crus - Aquatic Ir - Hydrogen	ained Leave 1, 2, 4A, a t (B11) nvertebrate s Sulfide Oc	s (B13)		- V - C - C	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
Primary Indi - Surface - High Wa - Saturati - Water Mater Ma	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2)		Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized	ained Leave 1, 2, 4A, a t (B11) nvertebrate s Sulfide Oc	s (B13) dor (C1) res along	Living Ro	V [[5] ots (C3) C	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Primary Indi - Surface - High Wa - Saturati - Water M - Sedime - Drift De - Algal M	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3)		Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized	ained Leave 1, 2, 4A, a t (B11) avertebrate I Sulfide Od Rhizosphe of Reduce	s (B13) dor (C1) res along d Iron (C4	Living Roo	V	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Primary Indi - Surface - High Wa - Saturati - Water Mater	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Water-Sta MLRA _ Salt Crus _ Aquatic Ir _ Hydrogen _ Oxidized _ Presence	ained Leave 1, 2, 4A, a t (B11) overtebrate Sulfide Oc Rhizosphe of Reduce	s (B13) dor (C1) res along d Iron (C4 on in Tille	Living Roo \$) d Soils (Ce	V C C C S obs (C3) S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Primary Indi - Surface - High Wa - Saturati - Water M - Sedime - Drift De - Algal M - Iron De - Surface	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	one requii	Water-Star MLRA Salt Crus Aquatic Ir _ Hydrogen Oxidized Presence Recent Ir _ Stunted o	ained Leave 1, 2, 4A, a t (B11) nvertebrate Sulfide Oo Rhizosphe of Reduce on Reduction stressed	s (B13) dor (C1) res along d Iron (C4) on in Tille Plants (D	Living Roo \$) d Soils (Ce	- V - C - S ots (C3) - C - S 6) - F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Primary Indi - Surface - High Water Mater	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	one requir	Water-Star MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized _ Presence _ Recent Ir _ Stunted of (B7) _ Other (Ex	ained Leave 1, 2, 4A, a t (B11) nvertebrate Sulfide Oo Rhizosphe of Reduce on Reduction stressed	s (B13) dor (C1) res along d Iron (C4) on in Tille Plants (D	Living Roo \$) d Soils (Ce	- V - C - S ots (C3) - C - S 6) - F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
Primary Indi - Surface - High Water Mater	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aerial by Vegetated Concavervations:	one requir Imagery (ve Surface	Water-Star MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized _ Presence _ Recent Ir _ Stunted of _ Other (Ex	ained Leave 1, 2, 4A, a t (B11) evertebrate Sulfide Oc Rhizosphe of Reduce on Reduction or Stressed eplain in Re	s (B13) dor (C1) res along d Iron (C4) on in Tille Plants (D marks)	Living Roo 4) d Soils (Co 1) (LRR A	- V - C - S ots (C3) - C - S 6) - F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
Primary Indi - Surface - High Wa - Saturati - Water M - Sedime - Drift De - Algal M - Iron De - Surface - Inundat - Sparsel	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial by Vegetated Concavervations: ter Present?	Imagery (ve Surface	Water-Star MLRA Salt Crus Aquatic Ir _ Hydrogen Oxidized Presence Recent Ir Stunted of (B7) Other (Ex	ained Leave 1, 2, 4A, a t (B11) evertebrate Sulfide Oc Rhizosphe of Reduce on Reduction or Stressed splain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (Co 1) (LRR A	- V - C - S ots (C3) - C - S 6) - F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
Primary Indi - Surface - High Wa - Saturati - Water M - Sedime - Drift De - Algal M - Iron De - Surface - Inundat - Sparsel Field Obser	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aerial by Vegetated Concavirvations: ter Present?	Imagery (ve Surface Yes Yes	Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized _ Presence _ Recent Ir _ Stunted of (B7) _ Other (Exist) (B8) No X Depth (ir No X Depth (ir	ained Leave 1, 2, 4A, a t (B11) evertebrate Sulfide Oc Rhizosphe of Reduce on Reduction Stressed splain in Re enches): nothes): nothes):	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks) encounter	Living Roots 4) d Soils (Control of the control of	- V - C - C - S - S - S - S - S - S - S - S - S - S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
Primary Indi - Surface - High Wa - Saturati - Water M - Sedime - Drift De - Algal M - Iron De - Surface - Inundat - Sparsel Field Obser Surface Water Table Saturation F	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aerial by Vegetated Concavervations: ter Present? Present?	Imagery (ve Surface Yes Yes	Water-Star MLRA Salt Crus Aquatic Ir _ Hydrogen Oxidized Presence Recent Ir Stunted of (B7) Other (Ex	ained Leave 1, 2, 4A, a t (B11) evertebrate Sulfide Oc Rhizosphe of Reduce on Reduction Stressed splain in Re enches): nothes): nothes):	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks) encounter	Living Roots 4) d Soils (Control of the control of	- V - C - C - S - S - S - S - S - S - S - S - S - S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
Primary Indi - Surface - High Wa - Saturati - Water Marcon - Drift De - Algal Marcon - Iron De - Surface - Inundat - Sparsel Field Obser Surface Water Table Saturation Figincludes ca	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aerial by Vegetated Concavery rvations: ter Present? Present? Present? pillary fringe)	Imagery (ve Surface Yes Yes Yes	Water-Sta MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized _ Presence _ Recent Ir _ Stunted of (B7) _ Other (Exist) (B8) No X Depth (ir No X Depth (ir	ained Leave 1, 2, 4A, a t (B11) nivertebrate I Sulfide Oc Rhizosphe of Reduce on Reduction Stressed eplain in Re Inches): not Inches): not Inches): not	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks) encounter encountere	Living Root) d Soils (Control of the control of the	- V - C - C - C - S ots (C3) - C - S 6) - F - F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
Primary Indi - Surface - High Wa - Saturati - Water Market - Drift De - Algal Market - Iron De - Surface - Inundat - Sparsel Field Obser Surface Wat Water Table Saturation F (includes ca	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aerial by Vegetated Concavery rvations: ter Present? Present? Present? pillary fringe)	Imagery (ve Surface Yes Yes Yes	Water-Star MLRA Salt Crus Aquatic Ir _ Hydrogen _ Oxidized _ Presence _ Recent Ir _ Stunted of (B7) _ Other (Exist) (B8) No X Depth (ir _ No X Depth (ir	ained Leave 1, 2, 4A, a t (B11) nivertebrate I Sulfide Oc Rhizosphe of Reduce on Reduction Stressed eplain in Re Inches): not Inches): not Inches): not	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks) encounter encountere	Living Root) d Soils (Control of the control of the	- V - C - C - C - S ots (C3) - C - S 6) - F - F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
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Primary India Surface High Wa Saturati Water Mac Sedime Drift De Algal Mac Iron De Surface Inundat Sparsel Field Obser Surface Water Table Saturation Fincludes can Describe Res	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aerial by Vegetated Concavervations: ter Present? e Present? e Present? pillary fringe) ecorded Data (stream	Imagery (//e Surface Yes Yes The gauge, resident of the second of the s	Water-Star MLRA Salt Crus Aquatic Ir _ Hydrogen Oxidized Presence Recent Ir Stunted of (B7) Other (External Presence) (B8) No X Depth (ir _ No X Depth	ained Leave 1, 2, 4A, a t (B11) evertebrate Sulfide Oc Rhizosphe of Reduce on Reduction Stressed splain in Re enches):	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks) encounter encounter encounter evious ins	Living Root 4) d Soils (Centre And Angusta Augusta Au	V [_ [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)
Primary Indi - Surface - High Wa - Saturati - Water Magnet	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aerial by Vegetated Concavervations: ter Present? e Present? e Present? pillary fringe) ecorded Data (stream	Imagery (//e Surface Yes Yes The gauge, recounted	Water-Star MLRA Salt Crus Aquatic Ir _ Hydrogen Oxidized Presence Recent Ir Stunted of (B7) Other (External Presence) (B8) No X Depth (ir _ No X Depth	ained Leave 1, 2, 4A, a t (B11) evertebrate Sulfide Oc Rhizosphe of Reduce on Reduction Stressed splain in Re enches): e	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks) encounter encounter encounter evious ins	Living Root 4) d Soils (Control 1) (LRR And ed wether wet	V [_ [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Gaturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Ghallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: US Air Force Academy's True North Commons	EUL Area	City/Co	unty: Colorado	Springs, El Paso County Sampling Date: 10/6/18					
Applicant/Owner: US Air Force Academy		•		State: CO Sampling Point: #15					
				nge: Section 12, Township 12 South, Range 67 West					
Landform (hillslope, terrace, etc.): artificial drainage swale									
				Long: W 104 50.372 Datum: WGS 84					
Soil Map Unit Name: Tomah-Crowfoot complex				NWI classification: NA					
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)									
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? YesX No									
Are Vegetation, Soil, or Hydrology				eded, explain any answers in Remarks.)					
SUMMARY OF FINDINGS – Attach site map									
Hydrophytic Vegetation Present? Yes X N	No.	T							
Hydric Soil Present? Yes X			ls the Sampled						
Wetland Hydrology Present? Yes X			within a Wetlar	nd? Yes X No No					
Remarks: Field work conducted in early October. A predomina (hydrogen sulfide odor and mucky modified sand) a a wetland. VEGETATION – Use scientific names of plan	as well as s	drophy tandin	rtic vegetation, g water and a	the observation of hydric soil indicators high water table indicate the sampled area is					
	Absolute	Domi	nant Indicator	Dominance Test worksheet:					
<u>Tree Stratum</u> (Plot size:) 1			ies? Status	Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)					
2				Total Number of Dominant					
3				Species Across All Strata:3 (B)					
4				Percent of Dominant Species					
O 1 10 10 10 10 10 10 10 10 10 10 10 10 1	3	_ = Tota	al Cover	That Are OBL, FACW, or FAC:(A/B)					
Sapling/Shrub Stratum (Plot size: *) 1 Ribes aureum	5%	Υ	FAC	Prevalence Index worksheet:					
2		-		Total % Cover of: Multiply by:					
3.		95		OBL species115 x 1 =115					
4				FACW species x 2 = 260					
5				FAC species37 x 3 =111					
	5%	= Tota	al Cover	FACU species					
Herb Stratum (Plot size: *)			i i	UPL species 10 x 5 = 50 (A) 536 (B)					
1. Nasturtium officinale		Y		Column Totals:(A)(B)					
2. Solidago gigantea	70%	Υ <u>Υ</u>	FACW	Prevalence Index = B/A =1.84					
Epilobium saximontanum	25% 25%	N	OBL FACW	Hydrophytic Vegetation Indicators:					
4. Lemna minor 5. Panicum virgatum	20%	N	FACW	1 - Rapid Test for Hydrophytic Vegetation					
6. Cirsium arvense	20%	N	FAC	+ 2 - Dominance Test is >50%					
7. Mentha arvensis	15%	N	FACW	+ 3 - Prevalence Index is ≤3.0¹					
8. Rumex crispus	10%	N	FAC	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)					
g Linaria vulgaris	10%	N	UPL	5 - Wetland Non-Vascular Plants ¹					
10. Asclepias speciosa	2%	N	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)					
11				¹ Indicators of hydric soil and wetland hydrology must					
	287%	= Total	l Cover	be present, unless disturbed or problematic.					
Woody Vine Stratum (Plot size:)	-								
1,				Hydrophytic					
2	-	-	-5	Vegetation Present? Yes X No No					
% Bare Ground in Herb Stratum 10%	-	= Total	l Cover	100					
Remarks:									
* Sampled entire plant community. Additional grass structures.	ses also pre	esent i	n sample area	but unidentifiable due to lack of reproductive					

(inches)	Matrix	%	Color (moist)	x Feature %	-	_Loc²	Texture	Remarks
<u>incnes)</u>)-5	Color (moist) 10YR 2/1	- % - 100	Color (moist)		_ iype	LOC	loamy sand	sand >70% coated with OM
					. ——			
5-18	10YR 2/1	100					loamy sand	coarser sand with high OM
	Concentration, D=De	cable to all l	RRs, unless othe	rwise not		——— d Sand G	Indicato	cation: PL=Pore Lining, M=Matrix, ors for Problematic Hydric Soils ³ :
_ Histoso			Sandy Redox (m Muck (A10)
	pipedon (A2)		Stripped Matrix	. ,				d Parent Material (TF2)
+ Hydrog	listic (A3) en Sulfide (A4)		 Loamy Mucky I Loamy Gleyed 	Matrix (F2		MLRA 1)		y Shallow Dark Surface (TF12) er (Explain in Remarks)
	ed Below Dark Surfa	ce (A11)	 Depleted Matrix 				3	
	ark Surface (A12)		Redox Dark Su					ors of hydrophytic vegetation and
Salidy	Mucky Mineral (S1) Gleyed Matrix (S4)	3	Depleted DarkRedox Depress		-7)			and hydrology must be present, ss disturbed or problematic.
	Layer (if present):		Redux Depless	ilons (1 0)			urites	as disturbed of problematic.
	Layer (ii present).							
	nches):		 -				Hydric Soil	I Present? Yes X No
/DROLO	OGY							
Vetland Hy	drology Indicators	s:						
Primary Ind	icators (minimum of	one required	abook all that appl					
Surface		One required	, check all that appl	y)				ndary Indicators (2 or more required)
+ Surface Water (A1) Water-Stained Leaves (B9) (except						xcept		Vater-Stained Leaves (B9) (MLRA 1,
 ├_ High W	ater Table (A2)	one required	Water-Sta	ined Leav 1, 2, 4A,		xcept	V	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
High W Saturat	ater Table (A2) tion (A3)	one required	Water-Sta MLRA - Salt Crust	ined Leav 1, 2, 4A , ((B11)	and 4B)	xcept	v c	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10)
High W Saturat Water I	later Table (A2) iion (A3) Marks (B1)	one required	Water-Sta MLRA Salt Crust Aquatic In	ined Leav 1, 2, 4A, ((B11) vertebrate	and 4B) es (B13)	xcept	V [Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
High W Saturat Water I Sedime	dater Table (A2) cion (A3) Marks (B1) ent Deposits (B2)	one required	Water-Sta MLRA - Salt Crust - Aquatic In + Hydrogen	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O	es (B13) dor (C1)		- V - C - C	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
High W Saturat Water I Sedime	Vater Table (A2) viion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	one required	Water-Sta MLRA _ Salt Crust _ Aquatic In _ Hydrogen _ Oxidized F	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe	es (B13) dor (C1) eres along	Living Roo	V [[S ots (C3) C	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)
High W Saturat Water I Sedime Drift De	Vater Table (A2) viion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	one required	Water-Sta MLRA _ Salt Crust _ Aquatic In _ Hydrogen _ Oxidized F _ Presence	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduce	es (B13) dor (C1) eres along ed Iron (C4	Living Roo	V	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3)
High W Saturat Water I Sedime Drift De Algal M	Vater Table (A2) Ition (A3) Marks (B1) Itent Deposits (B2) Iteposits (B3) Itent or Crust (B4) Iteposits (B5)	one required	Water-Sta MLRA _ Salt Crust _ Aquatic In _ Oxidized I _ Presence _ Recent Iro	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduce	es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled	Living Roo b) d Soils (C6	V C C C S obts (C3) C S	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
High W High W Saturat Water I Sedime Drift De Algal M Iron De Surface	Vater Table (A2) Varion (A3) Marks (B1) Varion Deposits (B2) Varion (B3) Varion (B4) Varion (B4) Varion (B5) Varion (B5) Varion (B6) Varion (B6) Varion (B6)		Water-Sta	ined Leaven 1, 2, 4A, 4 (B11) vertebrate Sulfide ORhizosphe of Reduce The Reduct Stressed	es (B13) dor (C1) eres along ed Iron (C4) ion in Tilled I Plants (D	Living Roo b) d Soils (C6	V C C C S ots (C3) S S S) F	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inundat Sparse	later Table (A2) ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria ly Vegetated Conca	l imagery (B7	Water-Sta MLRA _ Salt Crust _ Aquatic In _ Hydrogen _ Oxidized F _ Presence _ Recent Iro _ Stunted on _ Other (Ex	ined Leaven 1, 2, 4A, 4 (B11) vertebrate Sulfide ORhizosphe of Reduce The Reduct Stressed	es (B13) dor (C1) eres along ed Iron (C4) ion in Tilled I Plants (D	Living Roo b) d Soils (C6	V C C C S ots (C3) S S S) F	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Heligh Well Heligh Water I Sedime Drift De Heligh Meligh Hon De H	later Table (A2) licion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria ly Vegetated Conca	I Imagery (B7 ve Surface (E	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized If Presence Recent Irc Stunted of Other (Ext	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduce on Reduct Stressed blain in Re	es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled I Plants (D ermarks)	Living Roo b) d Soils (C6	V C C C S ots (C3) S S S) F	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
High W High Water I Sedime Drift De High Water I High Wat	later Table (A2) ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria ly Vegetated Conca rvations: hter Present?	I imagery (B7 ve Surface (E Yes <u>X</u>	Water-Sta	ined Leaven 1, 2, 4A, 16 (B11) vertebrate ORhizospher of Reduce on Reduce Oblain in Reductor Stressed Oblain in Re	es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled I Plants (D ermarks)	Living Roo b) d Soils (C6	V C C C S ots (C3) S S S) F	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
High W High W Saturat Water I Sedime Drift De High W High Water I Surface High Water I Surface Surface Water Table Saturation I	later Table (A2) lion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria ly Vegetated Conca rvations: hter Present? e Present?	I Imagery (B7 ve Surface (E Yes <u>X</u> N Yes <u>X</u> N	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized If Presence Recent Irc Stunted of Other (Ext	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduce on Reduce Stressed blain in Re ches):	es (B13) dor (C1) eres along ed Iron (C4 dion in Tilled I Plants (D ermarks) I inch	Living Roo d Soils (Ce 1) (LRR A	V E C S ots (C3) S S S) F	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Baturation Visible on Aerial Imagery (C) Geomorphic Position (D2) Bhallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
+ High W + Saturat - Water I - Sedime - Drift De - Algal M - Iron De - Surface - Inundat - Sparse Field Obse Surface Water Table Saturation I	later Table (A2) lion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria ly Vegetated Conca rvations: eter Present? e Present?	I Imagery (B7 ve Surface (E Yes X N Yes X N	Water-Sta	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduce on Reduce Stressed blain in Re ches): 2 i ches): at	es (B13) dor (C1) eres along ed Iron (C4 dion in Tilled I Plants (D ermarks) I inch nches surface	Living Roots Soils (Cells) LRR A	- V - C - C - C - S - S - S - S - S - F - F	Nater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)

Project/Site: US Air Force Academy's True North Common	ns EUL Area	City/Co	ounty: C	olorado :	Springs, El Paso County Sampling Date: 10/15/18
Applicant/Owner: US Air Force Academy					State: CO Sampling Point: #16
Investigator(s): _T. Walsh & A. Davis		Section	n, Towns	ship, Rai	nge: Section 12, Township 12 South, Range 67 West
					convex, none): concave Slope (%): 0-10%
Subregion (LRR): E					Long: W 104 50.413 Datum: WGS 84
Soil Map Unit Name: Kettle-Rock outcrop complex					NWI classification: NA
Are climatic / hydrologic conditions on the site typical for	this time of ve	ar2 Ve	as X		
Are Vegetation, Soil, or Hydrology					'Normal Circumstances" present? Yes X No No
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS – Attach site ma					eeded, explain any answers in Remarks.) ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes _ X					
Hydric Soil Present? Yes X			Is the S	ampled	
Wetland Hydrology Present? Yes X			within a	a Wetlar	nd? Yes X No
Remarks: Field work conducted in early October. A predomi (hydrogen sulfide odor), standing water, and a hig	jh water tabl	drophy e indic	ytic vego cate the	etation sample	and the observation of hydric soil indicators ed area is a wetland.
	Absolute	Domi	inant Inc	dicator	Dominance Test worksheet:
Tree Stratum (Plot size: *)	% Cover				Number of Dominant Species
1 Salix amygdaloides	<u> 5%</u>	Y	 -	ACW	That Are OBL, FACW, or FAC:5 (A)
2. Pinus ponderosa	1%	N	FF.	ACU	Total Number of Dominant
3.		-			Species Across All Strata:5 (B)
4	6%	ē 			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	0 76	_ = Tota	al Cover		That Are OBL, FACW, or FAC:(A/B)
1. Salix exigua	40%	Υ	FA	ACW	Prevalence Index worksheet:
2. Elaeagnus angustifolia	15%	Υ	FA	AC	Total % Cover of: Multiply by:
3. Ribes aureum	5%	N	F/	AC	OBL species
4. Symphoricarpos occidentalis	5%	N	F.	4C	1 Acti species X Z
5. Juniperus monosperma	1%	N	UF	PL	x =
and a series of	66%	_ = Tota	al Cover		1 AOO species
Herb Stratum (Plot size: *)	85%	v	01	וח	of Lapedies xu =
1. Typha X glauca	40%	Y		BL	Column rotals(r)
Lemna minor Nasturtium officinale	35%	N		ACW	Prevalence Index = B/A =1.59
4. Typha latifolia	— 35 % —	N		BL	Hydrophytic Vegetation Indicators:
5. Solidago gigantea	10%	N		ACW	1 - Rapid Test for Hydrophytic Vegetation
6. Epilobium saximontanum	2%	N		ACW	+ 2 - Dominance Test is >50%
7. Cirsium arvense	2%	N		AC	+ 3 - Prevalence Index is ≤3.0¹
8		-		====	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9					5 - Wetland Non-Vascular Plants ¹
10		-			Problematic Hydrophytic Vegetation ¹ (Explain)
11.				=====	¹ Indicators of hydric soil and wetland hydrology must
	189%	= Tota	al Cover		be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)					
1		-			Hydrophytic
2,	_:	2.			Vegetation Present? Yes X No
% Bare Ground in Herb Stratum 40%	2	_= Tota	al Cover		103
Remarks:					
* Sampled entire plant community.					
					

Profile Desc	ription: (Describe	to the dep	oth needed to docur	nent the i	indicator	or confirm	the absence	of indicators.)		
Depth	Matrix		Redo	x Feature						
(inches)	Color (moist)	%	Color (moist)	%	_Type ¹	Loc ²	<u>Texture</u>	Remarks		
0-4	10YR 2/1	100	-				ОМ	mucky peat		
4-8	10YR 2/2	100					loamy sand	high OM		
8-12	10YR 4/1	100					sand			
-	-	*:		· S · · · · · · · ·	-			A. 		
	(}		-					io t		
	i 	-2	s 	27 	-			80=		
	S	+:								
	-	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			7					
¹ Type: C=C	oncentration, D=De	pletion, RM	=Reduced Matrix, CS	S=Covere	d or Coate	d Sand Gr		cation: PL=Pore Lining, M=Matrix.		
Hydric Soil	Indicators: (Appli	cable to all	LRRs, unless other	wise not	ed.)		Indicate	ors for Problematic Hydric Soils ³ :		
Histosol	* *		Sandy Redox (\$	S5)				m Muck (A10)		
	oipedon (A2)		Stripped Matrix					d Parent Material (TF2)		
- Black Hi	` '		Loamy Mucky N	-		MLRA 1)		ry Shallow Dark Surface (TF12)		
	en Sulfide (A4)	/8.4.45	Loamy Gleyed	•	2)		Oth	er (Explain in Remarks)		
Depicted	d Below Dark Surfa ark Surface (A12)	ce (ATT)	Depleted Matrix Redox Dark Su				3Indicat	ors of hydrophytic vegetation and		
_	Mucky Mineral (S1)		E Redox Dark Su	` '				and hydrology must be present,		
	Gleyed Matrix (S4)		Redox Depress	•	•,			ss disturbed or problematic.		
	Layer (if present):			<u>`</u>						
Type:										
Depth (in	ches):						Hydric Soi	Present? Yes X No		
Remarks:										
		ed included	hydrogen sulfide odd	or from 0-6	6 inches.					
UVDBOLO	CV									
HYDROLO		-163								
-	drology Indicators									
A		one require	ed; check all that appl	*,07				ndary Indicators (2 or more required)		
	Water (A1)		Water-Sta			cept				
	ater Table (A2)			1, 2, 4A, a	and 4B)			4A, and 4B)		
+ Saturation			Salt Crust		(D.(A)			Orainage Patterns (B10)		
_ 	larks (B1)		Aquatic In				-	Ory-Season Water Table (C2)		
	nt Deposits (B2)		+ Hydrogen			Livina Dan		Saturation Visible on Aerial Imagery (C9)		
· —	posits (B3)		_ Oxidized F					Geomorphic Position (D2) Shallow Aquitard (D3)		
	at or Crust (B4)		Recent Iro				-	FAC-Neutral Test (D5)		
	oosits (B5) Soil Cracks (B6)		Stunted or					Raised Ant Mounds (D6) (LRR A)		
	on Visible on Aerial	Imagery (F				i) (LIXIX A)		Frost-Heave Hummocks (D7)		
_	y Vegetated Conca			Jiaiii iii i ke	inano,			rost ricave riaminosits (57)		
Field Obser		o Gunado	(20)			T				
Surface Wat		Yes X	No Depth (in	ches):: <1	inch					
Water Table	Propert?	Voc X	No Depth (in	ohos): 2 i	nches					
	rieseilt!	Vac X	No Depth (in	oboo\ at	surface	- Note	and Hudralas	gy Present? Yes X No		
Saturation P (includes car	resent? pillary fringe)	res	No Depth (in	ches). <u>«··</u>	001100	- well	and Hydrolog	gy Present? Tes NO		
Describe Re	corded Data (stream	m gauge, m	onitoring well, aerial ı	ohotos, pr	evious ins	pections),	if available:			
Remarks:										
								below the ground surface) was observed		
_	•		visit was conducted	approxii	mately 6-1	0 weeks	after the peal	wet season months (July and August).		
nyarogen	sulfide odor also de	elecieu.								

Project/Site: US Air Force Academy's True North Commons	EUL Area	City/Co	unty: Colorado :	Springs, El Paso County Sampling Date: 10/15/18
Applicant/Owner: US Air Force Academy		City/Cot	-	State: CO Sampling Point: #17
		Section		nge: Section 12, Township 12 South, Range 67 West
Landform (hillslope, terrace, etc.): artificial drainage swale				
				Long: W 104 50.373 Datum: WGS 84
	_ Lat: No.	01.11		
Soil Map Unit Name: Kettle-Rock outcrop complex				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this	-			
Are Vegetation, Soil, or Hydrologys				
Are Vegetation, Soll, or HydrologyX n	aturally pro	blemati	c? (If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	samp	oling point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X N	0			
	0		s the Sampled	Area d? Yes_XNo
	o		within a vvetial	id? res No
Remarks: Field work conducted in early October, which is approximately 6-10 and the observation of hydric soil indicators (redox dark surface) in indicator observed in the sampled area; however, assessment duri	dicate the sa ng the wet se	mpled ar	rea is a wetland. C	Oxidized rhizospheres along living roots was the only hydrology
	Absolute	Domir	nant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)			es? Status	Number of Dominant Species
1, Salix amygdaloides	20%	Y	FACW_	That Are OBL, FACW, or FAC:6 (A)
2,		-		Total Number of Dominant
3.		-		Species Across All Strata: 6 (B)
4	20%	= Total	l Cover	Percent of Dominant Species That Are ORL FACW or FAC: 100% (A/R)
Sapling/Shrub Stratum (Plot size: *)	-	· Tota	Oover	That Are OBL, FACW, or FAC: (A/B) Prevalence Index worksheet:
1. Salix exigua	40%	<u>Y</u>	FACW	Total % Cover of: Multiply by:
2. Salix amygdaloides	20%	Y	FACW	OBL species x 1 = 50
3. Ribes lacustre	20%	Υ	FAC	FACW species90 x 2 =180
4,		-		FAC species 21 x 3 = 63
5	80%	-		FACU species 0 x 4 = 0
Herb Stratum (Plot size: *)	0076	_ = Tota	l Cover	UPL species0 x 5 =0
1. Typha X glauca	30%	Υ	OBL	Column Totals: 161 (A) 293 (B)
2. Typha latifolia	20%	Υ	OBL	Prevalence Index = B/A =1.82
3. Epilobium saximontanum	10%	N	FACW	Hydrophytic Vegetation Indicators:
4. Asclepias speciosa	1%	N	FAC	1 - Rapid Test for Hydrophytic Vegetation
5		5		+ 2 - Dominance Test is >50%
6		-		+ 3 - Prevalence Index is ≤3.0¹
7				4 - Morphological Adaptations ¹ (Provide supporting
8,		/		data in Remarks or on a separate sheet)
9,		29		5 - Wetland Non-Vascular Plants ¹
10	-			Problematic Hydrophytic Vegetation ¹ (Explain) Indicators of hydric soil and wetland hydrology must
11	61%			be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	0170	= Total	Cover	
1				Hydrophytic
2				Vegetation
		= Total	Cover	Present? Yes X No No
% Bare Ground in Herb Stratum 45%				
Remarks: * Sampled entire plant community.				

SOIL								Sampling Point: #17
Profile Desc	cription: (Describe	to the dep	th needed to docur	nent the	indicator	or confirm	n the absence	of indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	_Loc ²	<u>Texture</u>	Remarks
0-2	10YR 5/1	100		·::			clay loam	
2-9	10YR 3/1	97	10YR 5/8	3	_ <u>C</u>	PL	silty clay loam	
9-11	10YR 3/1	70	10YR 4/4	30	С	<u>M</u>	loamy sand	100
11-17	10YR 6/1	90	N 7/	10	D	М	loamy sand	moist-wet
					-		*	
				V.5-				
			=Reduced Matrix, CS			ed Sand Gr		cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applic	cable to all	LRRs, unless other	rwise no	ted.)		Indicate	ors for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (S5)			2 cr	m Muck (A10)
Histic E	pipedon (A2)		Stripped Matrix	(S6)				d Parent Material (TF2)
Black H	istic (A3)		Loamy Mucky N	Aineral (F	F1) (excep	t MLRA 1)		y Shallow Dark Surface (TF12)
<u>-</u> Hydroge	en Sulfide (A4)		Loamy Gleyed	Matrix (F	2)		Oth	er (Explain in Remarks)
Deplete	d Below Dark Surfac	ce (A11)	Depleted Matrix	(F3)				
Thick Da	ark Surface (A12)		+ Redox Dark Su	rface (F6	5)		³ Indicate	ors of hydrophytic vegetation and
Sandy N	/lucky Mineral (S1)		Depleted Dark	Surface ((F7)		wetla	and hydrology must be present,
Sandy C	Gleyed Matrix (S4)		Redox Depress	ions (F8)		unles	ss disturbed or problematic.
Restrictive	Layer (if present):							
Type:								
Depth (in	ches):						Hydric Soi	I Present? Yes <u>X</u> No
Remarks								
UVDDOLO	OCV.							
HYDROLO	drology Indicators							
_			d; check all that appl	y)			Seco	ndary Indicators (2 or more required)
- Surface			Water-Sta		ves (B9) (e	xcept		Vater-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A2)				and 4B)	жоорг	<u> </u>	4A, and 4B)
Saturati	, ,		Salt Crust		ana 46,		_	Drainage Patterns (B10)
			Aquatic In		os (B13)			Dry-Season Water Table (C2)
	farks (B1)							Saturation Visible on Aerial Imagery (C9)
	nt Deposits (B2)		Hydrogen			Living Dec		
	posits (B3)						—	Geomorphic Position (D2)
	at or Crust (B4)		Presence			-		Shallow Aquitard (D3)
	posits (B5)		- Recent Iro			•		FAC-Neutral Test (D5)
	Soil Cracks (B6)		Stunted or			11) (LRR A		Raised Ant Mounds (D6) (LRR A)
	on Visible on Aerial			olain in R	(emarks)		<u>-</u>	Frost-Heave Hummocks (D7)
	y Vegetated Concav	e Surface (B8)					
Field Obser			V			. Ilian		
Surface Wat	er Present?	res	No X Depth (in	ches): _	ot encounter	ed		
Water Table	Present?	res _X	No Depth (in	ches): <u>1</u> :	5 inches	_		
Saturation P	resent?	Yes X	No Depth (in	ches): <u>1</u>	5 inches	Wetl	and Hydrolog	y Present? Yes X No
	pillary fringe) corded Data (strean	n gauge, mo	onitoring well, aerial	photos, p	revious ins	spections),	if available:	
Remarks:								
			•	•				just). Additional hydrology
	•						, hydric soil ind	dicators and the presence
of oxidize	u mizospheres along	g living root	s indicates the samp	iea area	is a wetlan	u.		

Project/Site: US Air Force Academy's True North Commons I	EUL Area (City/Coun	nty: Colorado	Springs, El Paso County Sampling Date: 10/15/18
Applicant/Owner: US Air Force Academy		Ť		State: CO Sampling Point: #18
		Section.		nge: Section 12, Township 12 South, Range 67 West
Landform (hillslope, terrace, etc.): Artificial drainage swale				convex, none): convex to concave Slope (%): 0-10%
				Long: W 104 50.3667 Datum: WGS 84
Soil Map Unit Name: Pring coarse sandy loam				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this	time of vea	ar? Yes		(If no, explain in Remarks,)
Are Vegetation, Soil, or Hydrology s				Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology n				eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map				
Hydrophytic Vegetation Present? Yes X N	o			
	0		the Sampled	Area nd? Yes_XNo
	0	VVI	LIIII a VVCLIAI	id! TesNO
Remarks: Field work conducted in early October, which is approximately 6-10 vegetation, the observation of hydric soil indicators (sandy gleyed rhizospheres along living roots) indicate the sampled area is a wet VEGETATION — Use scientific names of plan:	matrix), and that and Large be	ne observa	ation of hydrolog	gy indicators (surface water, saturation, and oxidized
TEGETATION OGG GGIGHAMO HAMIGG OF Plan	Absolute	Domina	nt Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:) 1	% Cover	Species	? Status	Number of Dominant Species That Are OBL, FACW, or FAC:4(A)
2.				Total Number of Dominant
3	s . 			Species Across All Strata: 4 (B)
4.				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: *)	1 = 10	= Total C	Cover	That Are OBL, FACW, or FAC:100% (A/B)
1. Salix exigua	40%	Υ	FACW	Prevalence Index worksheet:
2. Ribes inerme	20%	Υ	FAC	Total % Cover of: Multiply by: OBL species 70 v.1 = 70
3.				OBE species X 1 =
4				FACW species 60 x 2 = 120 FAC species 25 x 3 = 75
5				FACU species x 4 =0
Herb Stratum (Plot size: *)	60%	= Total C	Cover	UPL species 0 x 5 = 0
1. Typha X glauca	60%	Υ	OBL	Column Totals: 155 (A) 265 (B)
2. Epilobium saximontanum	20%	Y	FACW	
3. Lemna minor	5%	N	OBL	Prevalence Index = B/A =1.71 Hydrophytic Vegetation Indicators:
4. Nasturtium officinale	5%	N	OBL	1 - Rapid Test for Hydrophytic Vegetation
5. Cirsium arvense	3%	N	FAC	+ 2 - Dominance Test is >50%
6. Rumex crispus	2%	N	FAC	+ 3 - Prevalence Index is ≤3.0 ¹
7			-	4 - Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10.	())	,	- /	Problematic Hydrophytic Vegetation¹ (Explain)
11,	0504	-		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	95%	= Total C	over	Do produit, amond distance of problemation
1				Hydrophytic
2			-/	Hydrophytic Vegetation
		= Total C	over	Present? Yes X No No
% Bare Ground in Herb Stratum 30%				
Remarks:				
* Sampled entire plant community.				

Depth	Matrix		Redo	x Feature	es			
nches)	Color (moist)	%	Color (moist)	%	Type ¹	_Loc ²	Texture	Remarks
-4	10YR 2/2	100		- :	-0.	E:	loamy sand	
-5	10YR 3/1	90	10YR 6/8	2	С	PL	sand	
====	-		10YR 7/1	10	D	М		
i-9	10Y 6/	99	10YR 6/8	1	С	PL	sand	moist-wet
			//=Reduced Matrix, C			ed Sand G		cation: PL=Pore Lining, M=Matrix.
		cable to a	II LRRs, unless other		tea.)			ors for Problematic Hydric Soils ³ :
_ Histosol	` '		Sandy Redox (m Muck (A10)
	pipedon (A2)		Stripped Matrix Nucley		-1) (eveen	+ MI DA 4		d Parent Material (TF2) y Shallow Dark Surface (TF12)
_	istic (A3) en Sulfide (A4)		Loamy MuckyLoamy Gleyed			OLIVILKA I,		er (Explain in Remarks)
	d Below Dark Surfa	ice (A11)	Depleted Matri		-,		3	- (
	ark Surface (A12)		- Redox Dark Su		i)		³ Indicate	ors of hydrophytic vegetation and
_	lucky Mineral (S1)		Depleted Dark	Surface (F7)		wetla	and hydrology must be present,
-	Gleyed Matrix (S4)		Redox Depres	sions (F8)		unle	ss disturbed or problematic.
	Layer (if present):							
	ulders placed for dr	ainage pipe	es					V
Depth (inches): 9 inches Hydric Soil Present? Yes X No								
Remarks The soil	s: pit could not be ex		ond 9 inches where l gleyed matrix beginn				e area is part o	of an artificial drainage area. Hydric soil
Remarks The soil indicato	s: pit could not be ex rs observed include	ed a sandy					e area is part o	· · · · · · · · · · · · · · · · · · ·
Remarks The soil indicato	pit could not be ex rs observed include GY drology Indicators	ed a sandy		ing within			e area is part c surface (S4).	
Remarks The soil indicator /DROLO /etland Hyrimary Indicator	pit could not be ex rs observed include GY drology Indicators	ed a sandy	gleyed matrix beginn	ing within	6 inches	of the soil s	e area is part c surface (S4).	of an artificial drainage area. Hydric soi
Remarks The soil indicator DROLO retland Hydrimary Indicator Surface	pit could not be ex rs observed include GY drology Indicators cators (minimum of	ed a sandy	gleyed matrix beginn ed; check all that app Water-Sta	ing within	6 inches o	of the soil s	e area is part c surface (S4).	of an artificial drainage area. Hydric soi
Remarks The soil indicator DROLO retland Hyrimary Indicator Surface High Wa	pit could not be ex rs observed include GY drology Indicators cators (minimum of Water (A1) ater Table (A2)	ed a sandy	gleyed matrix beginn ed; check all that app Water-Sta	oly) ained Lea	6 inches o	of the soil s	e area is part of surface (S4). Seco	of an artificial drainage area. Hydric soi ndary Indicators (2 or more required) Nater-Stained Leaves (B9) (MLRA 1, 2
Remarks The soil indicator 'DROLO 'etland Hyrrimary Indicator Surface High Wa	pit could not be ex rs observed include GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)	ed a sandy	gleyed matrix beginn ed; check all that app Water-Sta	oly) ained Lea 1, 2, 4A, t (B11)	6 inches (ves (B9) (and 4B)	of the soil s	e area is part of surface (S4). Seco	of an artificial drainage area. Hydric soi andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks The soil indicator /DROLO /etland Hyr rimary Indic Surface High Water Mater	pit could not be ex rs observed include GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)	ed a sandy	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir	oly) ained Lea 1, 2, 4A, t (B11) avertebrat	ves (B9) (c and 4B) es (B13)	except	e area is part of surface (S4). Seco	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks The soil indicator /DROLO /etland Hyr rimary Indic Surface High Wa Saturatio Water M Sedimen	pit could not be ex rs observed include GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1)	ed a sandy	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir	oly) ained Lea 1, 2, 4A, t (B11) avertebrat	ves (B9) (c and 4B) es (B13)	except	e area is part of surface (S4). Seco - \(\) - \(\) - \(\) ots (C3) \(\) \(\)	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage (B9) (MLRA 1, 24A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C) Geomorphic Position (D2)
Remarks The soil indicator /DROLO /etland Hy rimary Indic Surface High Water W Sedimer Drift Dep	pit could not be ex rs observed include GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2)	ed a sandy	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized	oly) ained Lea 1, 2, 4A, t (B11) nvertebrat s Sulfide (Rhizosph	ves (B9) (c and 4B) es (B13)	except	e area is part of surface (S4). Seco - \(\) - \(\) - \(\) ots (C3) \(\) \(\)	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
Remarks The soil indicator /DROLO /etland Hy rimary Indic Surface High Wa Saturation Water W Sedimer Drift Dep Algal Ma	pit could not be extended included and pit could not be extended included and pit could be action of the pit could be action of t	ed a sandy	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence	oly) ained Lea 1, 2, 4A, t (B11) nvertebrat Sulfide (Rhizosph	ves (B9) (cand 4B) es (B13) Odor (C1) eres along ted Iron (C	except	e area is part of surface (S4). Secondary	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage (B9) (MLRA 1, 24A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C) Geomorphic Position (D2)
Remarks The soil indicator /DROLO /etland Hy rimary Indic Surface High Wa Saturati Water W Sedimer Drift Der Algal Ma	pit could not be ex rs observed include GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	ed a sandy	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted o	ained Lea 1, 2, 4A, t (B11) avertebrat Sulfide (Rhizosph of Reduct on Reduct or Stresse	ves (B9) (cand 4B) es (B13) Odor (C1) eres along ded Iron (C) tion in Tilled	except J Living Ro	e area is part of surface (S4). Secondary - V - Secondary - Second	Indary 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 (C) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Remarks The soil indicator /DROLO /etland Hyr rimary Indic Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati	pit could not be ex rs observed included and process of the country of the countr	ed a sandy s: one requir	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of	ained Lea 1, 2, 4A, t (B11) avertebrat Sulfide (Rhizosph of Reduct on Reduct or Stresse	ves (B9) (cand 4B) es (B13) Odor (C1) eres along ded Iron (C) tion in Tilled	except Living Ro (4) ed Soils (C	e area is part of surface (S4). Secondary - V - Secondary - Second	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks The soil indicator /DROLO /etland Hyr rimary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely	pit could not be ex rs observed include rs observed include rectators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria	ed a sandy s: one requir	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of	ained Lea 1, 2, 4A, t (B11) avertebrat Sulfide (Rhizosph of Reduct on Reduct or Stresse	ves (B9) (cand 4B) es (B13) Odor (C1) eres along ded Iron (C) tion in Tilled	except Living Ro (4) ed Soils (C	e area is part of surface (S4). Secondary - V - Secondary - Second	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage (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 (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Remarks The soil indicator /DROLO /etland Hy- rimary India _ Surface _ High Water M _ Sedimer _ Drift Dep _ Algal Mater _ Iron Dep _ Surface _ Inundati _ Sparsely ield Observire	pit could not be extra observed included and observed and observed included and observed	s: one requir I Imagery (ve Surface	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted co	ained Lea 1, 2, 4A, t (B11) nvertebrate Sulfide (Rhizosph of Reduct on Reduct on Reduct or Stresse splain in R	ves (B9) (cand 4B) es (B13) Odor (C1) eres along ed Iron (C) tion in Tille d Plants (E)	except Living Ro (4) ed Soils (C	e area is part of surface (S4). Secondary - V - Secondary - Second	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage (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 (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Remarks The soil indicator /DROLO /etland Hyr rimary Indic Surface High Water M Sedimer Drift Dep Algal Mater Iron Dep Surface Inundati Sparsely ield Obser	pit could not be extended included and pit could not be extended included and pit could not be extended included and pit could not be provided included and pit could not be posited (B2) posited (B3) and pit could not be posited (B4) posited (B5) soil Cracks (B6) ion Visible on Aeria by Vegetated Concaptations:	s: I Imagery (ve Surface	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of B7) Other (Ex	ained Lea 1, 2, 4A, t (B11) nvertebrat Sulfide (Rhizosph of Reduct on Reduct on Reduct on Stresse con Stresse	ves (B9) (cand 4B) es (B13) Odor (C1) eres along ted Iron (C) tion in Tilled d Plants (I) temarks)	except Living Ro (4) ed Soils (C	e area is part of surface (S4). Secondary - V - Secondary - Second	Indary 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 (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Remarks The soil indicator /DROLO /etland Hyr rimary Indic Surface High Water M Sedimer Drift Dep Algal Mater Iron Dep Surface Inundati Sparsely ield Observariace Uniface Water Water M Surface Uniface Water M Surface Mater M M M M M M M M M M M M M M M M M M M	pit could not be extended included and pit could not be extended included and pit could not be extended included and pit could not be provided included and pit could not be posited (B2) posited (B3) and pit could not be posited (B4) posited (B5) soil Cracks (B6) ion Visible on Aeria by Vegetated Concaptations:	s: I Imagery (ve Surface	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of B7) Other (Ex	ained Lea 1, 2, 4A, t (B11) nvertebrat Sulfide (Rhizosph of Reduct on Reduct on Reduct on Stresse con Stresse	ves (B9) (cand 4B) es (B13) Odor (C1) eres along ted Iron (C) tion in Tilled d Plants (I) temarks)	except Living Ro (4) ed Soils (C	e area is part of surface (S4). Seco - \(\) ots (C3) \(- \) 6) \(- \) - \(\) 6) \(- \) - \(\)	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage (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 (C) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks The soil indicator /DROLO /etland Hyr rimary Indic Surface High Water Mater Mater Mater Iron Dep Surface Inundati Sparsely ield Obser urface Water Table aturation P ncludes cal	pit could not be ex rs observed included and possible (A2) on (A3) atter Table (A2) on (A3) atter Table (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Concaptations: The Present? Present? Present? Present? Present? Present? Present?	I Imagery (ve Surface Yes X Yes X	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of B7) Other (Ex	ained Lea 1, 2, 4A, t (B11) nvertebrat i Sulfide (Rhizosph of Reduct on Reduct or Stresse cplain in R	ves (B9) (cand 4B) es (B13) es (B13) eres along ed Iron (Ction in Tille d Plants (Itemarks) 1 inch et encounter inches	except Living Ro (4) ed Soils (C D1) (LRR A	e area is part of surface (S4). Secondary and Sec	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage (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 (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Remarks The soil indicator /DROLO /etland Hydrimary Indicator Surface High Water Mare Mare Mare Mare Mare Mare Mare Ma	pit could not be ex rs observed included and possible (A2) on (A3) atter Table (A2) on (A3) atter Table (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Concaptations: The Present? Present? Present? Present? Present? Present? Present?	I Imagery (ve Surface Yes X Yes X	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of B7) Other (Ex	ained Lea 1, 2, 4A, t (B11) nvertebrat i Sulfide (Rhizosph of Reduct on Reduct or Stresse cplain in R	ves (B9) (cand 4B) es (B13) es (B13) eres along ed Iron (Ction in Tille d Plants (Itemarks) 1 inch et encounter inches	except Living Ro (4) ed Soils (C D1) (LRR A	e area is part of surface (S4). Secondary and Sec	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage (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 (C) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks The soil indicator /DROLO /etland Hyr rimary Indic Surface High Water Mater Mater Mater Iron Dep Surface Inundati Sparsely ield Obser urface Water Table aturation P ncludes cal	pit could not be ex rs observed included and possible (A2) on (A3) atter Table (A2) on (A3) atter Table (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Concaptations: The Present? Present? Present? Present? Present? Present? Present?	I Imagery (ve Surface Yes X Yes X	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of B7) Other (Ex	ained Lea 1, 2, 4A, t (B11) nvertebrat i Sulfide (Rhizosph of Reduct on Reduct or Stresse cplain in R	ves (B9) (cand 4B) es (B13) es (B13) eres along ed Iron (Ction in Tille d Plants (Itemarks) 1 inch et encounter inches	except Living Ro (4) ed Soils (C D1) (LRR A	e area is part of surface (S4). Secondary and Sec	of an artificial drainage area. Hydric soin an artificial drainage area. Hydric soin and artificial drainage area. Hydric soin and artificial drainage (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 (C3 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: US Air Force Academy's True North Commons	s EUL Area	City/C	ounty	Colorado	Springs, El Paso County Sampling Date: 10/15/18				
Applicant/Owner: US Air Force Academy					State: CO Sampling Point: #19				
					nge: Section 12, Township 12 South, Range 67 West				
					convex, none): convex to concave Slope (%): 0-10%				
					Long: W 104 50.285 Datum: WGS 84				
	Lat	-							
Soil Map Unit Name: Pring coarse sandy loam NWI classification: NA									
Are climatic / hydrologic conditions on the site typical for the	-		_	No _	(If no, explain in Remarks.)				
Are Vegetation X, Soil, or Hydrology	significantly	distur	bed?	Are "	'Normal Circumstances" present? Yes X No				
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks,)									
SUMMARY OF FINDINGS - Attach site map	showing	sam	plin	g point l	ocations, transects, important features, etc.				
Hydrophytic Vegetation Present? YesX	No								
Hydric Soil Present? YesX	No			e Sampled					
Wetland Hydrology Present? Yes X	No		with	in a Wetlar	nd? Yes X No				
Remarks: Field work conducted in early October, which is approximately 6-hydrophytic vegetation, the detection of a hydrogen sulfide odor to at 11 inches indicate the sampled area is a wetland. Recent mow	oetween 0-6 in	ches, a	and the	observation	of saturation at 9 inches and a dry season water table				
VEGETATION – Use scientific names of plan	nts.								
2002 2M3 1/2	Absolute	Don	ninant	Indicator	Dominance Test worksheet:				
Tree Stratum (Plot size:) 1	% Cover	Spe	cies?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)				
2. 3.					Total Number of Dominant				
		-	-3		Species Across All Strata:2 (B)				
4		= To	tal Co	ver	Percent of Dominant Species That Are OBL, FACW, or FAC:100% (A/B)				
1					Prevalence Index worksheet:				
2		-			Total % Cover of: Multiply by:				
3					OBL species5 x 1 =5				
4					FACW species97				
5.):			FAC species x 3 =				
		= To	tal Co	ver	FACU species0 x 4 =0				
Herb Stratum (Plot size: *)		-			UPL species x 5 = 0				
1. Panicum virgatum	50%	-		FACW	Column Totals:(A)(B)				
2. Juncus balticus	30%	Y		FACW	Prevalence Index = B/A =1.95				
3. Calamagrostis canadensis	10%	N		FACW	Hydrophytic Vegetation Indicators:				
4. Juncus ensifolus	5%	N		FACW	1 - Rapid Test for Hydrophytic Vegetation				
5. Typha latifolia	5%	N		OBL	+ 2 - Dominance Test is >50%				
6. Salix exigua	_ 2%	N		FACW_	+ 3 - Prevalence Index is ≤3.0¹				
7					4 - Morphological Adaptations (Provide supporting				
8		<u> </u>	-		data in Remarks or on a separate sheet)				
9					5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain)				
10,		-			Indicators of hydric soil and wetland hydrology must				
11.	102%				be present, unless disturbed or problematic.				
Woody Vine Stratum (Plot size:)	102 /6	= lota	al Cov	er					
1,					Hydrophytic				
2					Vegetation				
		= Tota	al Cov	er	Present? Yes X No No				
% Bare Ground in Herb Stratum 2%		-							
Remarks:			اد د ما الد	معدد ماماست. معدد ماماست	ble due to leak of named due the street and a				
* Sampled entire plant community. Additional grass recent mowing.	s species p	esen	it DUT	unidentifia	able due to lack of reproductive structures and				

Depth	Matrix			dox Feature				
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks
0-2.5	10YR 3/2	100			-33		sandy loam	
2.5-4.5	10YR 5/2	70	10YR 6/8	30	С	M	sand	
4.5-10	10YR 2/1	100					loamy sand	w OM
10-14	10YR 5/2	99	·				sand	coarse
=====	:=======		(= 19:	-	=======================================		
	=====				-		-	
	-			_,				
			10-		-0.		-	
	:		*/:-					-
			/I=Reduced Matrix,			ted Sand G		cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Appl	icable to al	II LRRs, unless oth	nerwise no	ted.)		Indicate	ors for Problematic Hydric Soils ³ :
Histoso	l (A1)		Sandy Redox					m Muck (A10)
	- Histic Epipedon (A2) : Stripped Matrix (S6)							d Parent Material (TF2)
	listic (A3)		Loamy Muck			ot MLRA 1)		y Shallow Dark Surface (TF12)
	en Sulfide (A4)	(0.4.4)	Loamy Gleye		2)		Oth	er (Explain in Remarks)
	d Below Dark Surfa	ace (A11)	Depleted Ma _ Redox Dark S		3		3Indicate	ors of hydrophytic vegetation and
_	ark Surface (A12) Mucky Mineral (S1)		Depleted Dai		-			and hydrology must be present,
	Gleyed Matrix (S4)		Redox Depre					ss disturbed or problematic.
	Layer (if present):							
Depth (in							Hydric Soi	I Present? Yes X No
Remark								
HYDROLO	OGY							
Wetland Hy	drology Indicator	s:						
Primary Indi	icators (minimum o	f one require	ed; check all that ap	(ylac			Seco	indary Indicators (2 or more required)
- Surface	Water (A1)		Water-S	Stained Lea	ves (B9) (except	\	Water-Stained Leaves (B9) (MLRA 1, 2,
- High W	ater Table (A2)		MLR	A 1, 2, 4A,	and 4B)			4A, and 4B)
+ Saturati	ion (A3)		Salt Cru	ıst (B11)				Drainage Patterns (B10)
Water N	Marks (B1)		Aquatic	Invertebrat	es (B13)			Dry-Season Water Table (C2)
Sedime	ent Deposits (B2)		<u>+</u> Hydroge	en Sulfide C	Odor (C1)			Saturation Visible on Aerial Imagery (C9)
Drift De	posits (B3)		 Oxidize 	d Rhizosph	eres alon	g Living Ro	ots (C3)	Geomorphic Position (D2)
Algai M	at or Crust (B4)		Present	ce of Reduc	ed Iron (C	C4)	Ξ .	Shallow Aquitard (D3)
Iron De	posits (B5)					ed Soils (C		FAC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted	or Stresse	d Plants (D1) (LRR A	A) <u>-</u> F	Raised Ant Mounds (D6) (LRR A)
Inundat	tion Visible on Aeria	al Imagery (I	B7) <u>-</u> Other (E	Explain in R	temarks)		_ - _ F	Frost-Heave Hummocks (D7)
Sparsel	ly Vegetated Conca	ve Surface	(B8)					
Field Obse	rvations:		V					
Surface Wa	ter Present?		No X Depth					
Water Table	Present?		No Depth					
Saturation F	Present?	Yes X	No Depth	(inches): 9	inches	Wet	land Hydrolog	gy Present? YesX No
(includes ca	pillary fringe)	m dalide n	nonitoring well, aeri	al photos in	revious ir	enections)	if available	
Describe No	scolded Data (Silea	iiii gauge, ii	nomioning wen, aen	ai priotos, p	nevious ii	ispections)	, ii avallabic.	
Demarks:								
Remarks:	ampled area a toe	e slope ass	sociated with road	side draina	ige swale	north of N	North Gate Blv	d. Hydrology indicators observed in th
* The sa sample a	area included a hy	drogen sulf	fide odor, the pres	ence of sa	ituration i	near the su	urface (9 inche	es depth), and a dry-season water tab
* The sa sample a (11 inche	area included a hy es depth). The site	drogen sulf e visit was o	fide odor, the pres	ence of sa eks after th	ituration i ie peak w	near the su ret season	urface (9 inche months (July a	d. Hydrology indicators observed in thes depth), and a dry-season water tabeand August); therefore, it is reasonable

Project/Site: US Air Force Academy's True North Commons	EUL Area	City/Cou	nty: Colorado	Springs, El Paso County Sampling Date: 10/15/18
Applicant/Owner: US Air Force Academy				State: CO Sampling Point: #20
Investigator(s): T. Walsh & A. Davis		Section,	Township, Ra	inge: Section 12, Township 12 South, Range 67 West
				convex, none): convex to concave Slope (%): 0-10%
				Long: W 104 50.304 Datum: WGS 84
Soil Map Unit Name: Pring coarse sandy loam				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for the	is time of yea	ar? Yes	_X No _	(If no, explain in Remarks.)
Are Vegetation X , Soil, or Hydrology	significantly	disturbed	d? Are "	'Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology	naturally pro	blematic	:? (If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	sampl	ling point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? YesX				
Hydric Soil Present? Yes I			the Sampled vithin a Wetlar	
Wetland Hydrology Present? Yes X	No	w	nunn a vveuai	id? TesNO
but lacked hydric soil indicators. Oxidized rhizospheres on living roots were follow-up visit during the wat season may result in the observation of addition wetland. Recent mowing in a portion of the sampled area prevented identification.	observed from 2- nal hydrology ind ation of some gra	4 inches ar licators, but	nd 6-14 inches, but	gust). The sampled area exhibited a predominance of hydrophytic vegetation not at the depth and thickness necessary to meet hydric soil indicators. A observations and the lack of hydric soil indicators, the sampled area is not a
VEGETATION – Use scientific names of pla		Damina	ant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	Absolute % Cover		ant Indicator s? Status	Number of Dominant Species
1		·		That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3		. 		Species Across All Strata: 2 (B)
4				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		= Total	Cover	That Are OBL, FACW, or FAC:100% (A/B)
1				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3				OBL species 0 x 1 = 0 FACW species 115 x 2 = 230
4				1 AOVV species X Z =
5		·		TAO species X3 =
0 × 10 × 120 × 10		= Total	Cover	raco species x4
Herb Stratum (Plot size: *) 1 Juncus balticus	70%	Υ	FACW	UPL species x 5 = Column Totals: (A) 230 (B)
Juncus ensifolius	30%	Y	FACW	
3. Panicum virgatum	10%	N	FACW	Prevalence Index = B/A = 2.0
Calamagrostis canadensis	5%	N	FACW	Hydrophytic Vegetation Indicators:
5		-		1 - Rapid Test for Hydrophytic Vegetation + 2 - Dominance Test is >50%
6.				+ 3 - Prevalence Index is ≤3.0¹
7				4 - Morphological Adaptations ¹ (Provide supporting
8.				data in Remarks or on a separate sheet)
9.				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
11				¹ Indicators of hydric soil and wetland hydrology must
AND THE REST OF THE PARTY OF TH	115%	= Total C	Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)				
1				Hydrophytic
2.		- T-4-1 C	Cover	Vegetation Present? Yes X No
% Bare Ground in Herb Stratum 0%	9	= Total C	Jover	
Remarks:				1
* Sampled entire plant community. Additional grass	s species pr	resent b	out unidentifia	able due to lack of reproductive structures and
recent mowing.				

SOIL								Sampling Point: #20	
Profile Des	cription: (Describ	e to the de	pth needed to docu	ment the	indicator	or confirm	n the absence of	indicators.)	
Depth	Matrix			ox Feature					
(inches)	Color (moist)	%	Color (moist)	%	_Type1	Loc ²	Texture	Remarks	
0-2	10YR 2/2	100	***		-1		sandy loam		
2-4	10YR 2/2	90	7.5YR 5/8	10	С	PL	sandy loam		
4-6	10YR 2/2	100					sandy loam		
6-14	10YR 2/2	95	7.5YR 5/8	5	С	PL	loamy sand		
14-16	10YR 6/2	100					sand		
16-18	10Y 4/	80	10Y 7/	20	D	М	sand		
,	16						=======================================		
17		- DI	/I=Reduced Matrix, C	- Covere	d or Coat		- 2l coot	tion: PL=Pore Lining, M=Matrix.	
			I LRRs, unless other			eu Sanu G		for Problematic Hydric Soils ³ :	
-		100010 10 0			,			•	
- Histoso	· ·		Sandy Redox				2 cm Muck (A10) Red Parent Material (TF2)		
	pipedon (A2)		- Loamy Mucky	` '	-1\ /avaan	4 MAI DA 4)	Red Parent Material (TF2) Very Shallow Dark Surface (TF12)		
	listic (A3)					I WILKA I			
	en Sulfide (A4) ed Below Dark Surfa	nce (A11)	 Loamy Gleyed Depleted Matri 	•	۷)		Other (Explain in Remarks)		
	ark Surface (A12)	ace (ATT)	- Redox Dark S	• •	1		³ Indicators of hydrophytic vegetation and		
	Mucky Mineral (S1)		Depleted Dark	•	•		wetland hydrology must be present, unless disturbed or problematic.		
	Gleyed Matrix (S4)		Redox Depres						
	Layer (if present):		Nedox Depres	310113 (1 0)			diness	distance of problematic.	
Type:									
Depth (in	nches):						Hydric Soil P	resent? Yes X No No	
Remark							- 10		
No hydi	ric soil indicators ob	served in t	he sampled area.						
HYDROLC	OGY								

Wetland Hydrology Indicators:							
Primary Indicators (minimum of one required; cl	Secondary Indicators (2 or more required)						
Surface Water (A1)	Surface Water (A1) Water-Stained Leaves (B9) (except						
High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)					
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)					
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)					
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	- Saturation Visible on Aerial Imagery (C9) - Geomorphic Position (D2)					
Drift Deposits (B3)	 Oxidized Rhizospheres along Living Roots (C3) 	B) - Geomorphic Position (D2) - Shallow Aquitard (D3)					
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	*					
Iron Deposits (B5)	- Recent Iron Reduction in Tilled Soils (C6)	FAC-Neutral Test (D5)					
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)					
Inundation Visible on Aerial Imagery (B7)		Frost-Heave Hummocks (D7)					
Sparsely Vegetated Concave Surface (B8)							
Field Observations:	V						
	X Depth (inches):						
	Depth (inches): 23 inches						
(includes capillary fringe)		lydrology Present? Yes X No					
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previous inspections), if avai	ilable:					
Remarks:	to division and all desirons assets and Alastic	Cata Blad Hadrology indicators observed in the					
	ted with roadside drainage swale north of North (is along living roots from 2-4 inches and 6-14 inches						

the peak wet season months (July and August); therefore, it is possible that additional hydrology indicators may be present during the wet season. However, since the matrix below 6 inches is sand, the sample area's dry season water table should be closer to 12 inches to meet the C2

secondary hydrology indicator.

Project/Site: US Air Force Academy's True North Common	ns EUL Area	City/C	ounty:	Colorado	Springs, El Paso County Sampling Date: 10/17/18	
Applicant/Owner: US Air Force Academy			State: CO Sampling Point: #21			
Investigator(s): T. Walsh & A. Davis Section, Township, Range: Section 12, Township 12 South, Range 67 West						
					convex, none): convex to concave Slope (%): 0-10%	
Subregion (LRR): E					Long: W 104 50.338 Datum: WGS 84	
Soil Map Unit Name: Pring coarse sandy loam	Lai					
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)						
Are Vegetation X, Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No					
Hydric Soil Present? Yes X	No		Is the Sampled			
Wetland Hydrology Present? Yes X	No		with	in a Wetlar	nd? Yes X No	
Remarks: Field work conducted in early October, which is approximately 6-10 weeks after the peak wet season months (July and August), The sampled area exhibited a predominance of hydrophytic vegetation, hydric soil indicators (redox dark surface), and various hydrology indicators including surface water in a portion of the sampled area, saturation at 10 inches, a water table of 12 inches, and oxidized rhizospheres on living roots from 0-4 inches, Recent mowing in a portion of the sampled area prevented identification of some grasses.						
VEGETATION – Use scientific names of plants.						
2 2	Absolute			Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover				Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)	
3.					Total Number of Dominant Species Across All Strata: 3 (B)	
4						
Sapling/Shrub Stratum (Plot size:)		= Total Cover		ver	Percent of Dominant Species That Are OBL, FACW, or FAC:100% (A/B)	
1					Prevalence Index worksheet:	
2.					Total % Cover of: Multiply by:	
3.			-	-	OBL species x 1 =	
4					FACW species x 2 = 290	
5.					FAC species x 3 =0	
108-5		= Tot	tal Cov	ver	FACU species 5 x 4 = 20	
Herb Stratum (Plot size:)		3			UPL species 0 x 5 = 0	
1. Juncus balticus		Y		FACW	Column Totals:(A)(B)	
2. Juncus ensifolius	30%	Y		FACW	Prevalence Index = B/A =1.94	
3. Panicum virgatum	30%	<u>Y</u>		FACW	Hydrophytic Vegetation Indicators:	
4. Schoenoplectus pungens	20%	N		OBL	1 - Rapid Test for Hydrophytic Vegetation	
5. Calamagrostis canadensis	<u>15%</u> 5%	N	_	FACU	+ 2 - Dominance Test is >50%	
6. Cirsium vulgare	=======================================	_	_	FACU	+ 3 - Prevalence Index is ≤3.0 ¹	
7		-			4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8		-	_		5 - Wetland Non-Vascular Plants ¹	
9		· ·			Problematic Hydrophytic Vegetation¹ (Explain)	
10		-	_		¹Indicators of hydric soil and wetland hydrology must	
11	170%	-			be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size:)	17070	= 1 Ota	al Cov	er		
1,					Hydrophytic	
2		-			Vegetation	
		= Tota	al Cov	er	Present? Yes X No No	
% Bare Ground in Herb Stratum 0%						
Remarks: * Sampled entire plant community. Additional grass species present but unidentifiable due to lack of reproductive structures and						
recent mowing.						

OIL								Sampling Point: #21
Profile De	scription: (Describe	to the de	pth needed to docu	ment the	indicator	or confir	m the absence	of indicators.)
Depth	Matrix		Rede	ox Feature				
(inches)	Color (moist)	%	Color (moist)	_ %	Type ¹	_Loc ²	<u>Texture</u>	Remarks
0-2	10YR 2/2	60	7.5YR 6/8	40	С	PL	sandy loam	
2-4	10YR 2/2	95	7.5YR 6/8	5	С	PL	sandy loam	
4-14	10YR 2/2	100	200	Tribles			loamy sand	moist -wet
14-17	10YR 6/1	75	10YR 6/8	25	С	М	sand	wet
17-23	10YR 5/3	100	12				sand	wet
	=======================================		10 1	->				
	Concentration, D=De					ed Sand G		cation: PL=Pore Lining, M=Matrix.
Hydric So	il Indicators: (Appli	cable to a	II LRRs, unless othe	rwise no	ted.)		Indicate	ors for Problematic Hydric Soils ³ :
Histos	` '		Sandy Redox					m Muck (A10)
Histic	Epipedon (A2)		Stripped Matrix	` '				d Parent Material (TF2)
Black	Histic (A3)		Loamy Mucky	Mineral (F	⁻ 1) (excep	t MLRA 1) <u>-</u> Ver	y Shallow Dark Surface (TF12)
_ ′	gen Sulfide (A4)		Loamy Gleyed	Matrix (F	2)		Oth	er (Explain in Remarks)
_ Deplet	ted Below Dark Surfa	ce (A11)	Depleted Matri	x (F3)				
Thick I	Dark Surface (A12)		+ Redox Dark St	urface (F6	5)		³ Indicate	ors of hydrophytic vegetation and
_ Sandy	Mucky Mineral (S1)		Depleted Dark	Surface (F7)		wetla	and hydrology must be present,
Sandy	Gleyed Matrix (S4)		Redox Depres	sions (F8))		unles	ss disturbed or problematic.
estrictive	e Layer (if present):							
Type: _								v
Depth (inches):						Hydric Soil	l Present? Yes X No
Rema								
,			•	d redox d	ark surfac	e (4 inch tł	hickness with 5	% or more prominent or distinct redox
conce	ntrations in the pore li	inings from	n 0-4 inches).					
YDROL	OGY							
Wetland H	lydrology Indicators							

Wetland Hydrology Indicators:		
	eck all that apply)	Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; ch + 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)	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	Shallow Aquitard (D3) FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	- Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Field Observations:		
Surface Water Present? Yes X No _ Water Table Present? Yes X No _		nd Hydrology Present? Yes X No 2000
the sample area included surface water in the dry season, and oxidized rhizospheres	portions of the sampled area, saturation at	North Gate Blvd. Hydrology indicators observed in 10 inches and a water table at 12 inches during e visit was conducted 6-10 weeks after the peak

wet season months (July and August); therefore, it is likely that the water table rises to saturate the surface during the wet season.

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

Project/Site: US Air Force Academy's True North Commons	EUL Area	City/C	ounty:	Colorado S	Springs, El Paso County	Samplinç	Date: 10/17/	18
Applicant/Owner: US Air Force Academy				8	State: CO	Sampling	Point: #22	
		Sectio	n, Tov	wnship, Rar	nge: Section 1, Township	12 South,	Range 67 Wes	st
Landform (hillslope, terrace, etc.): hillslope								
Subregion (LRR): E								
Soil Map Unit Name: Kettle-Rock outcrop complex					NWI classific			
Are climatic / hydrologic conditions on the site typical for th								
					Normal Circumstances"		vos X N	lo.
Are Vegetation, Soil, or Hydrology								10
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS – Attach site map					eded, explain any answe			etc.
Hydrophytic Vegetation Present? Yes N	No X							
Hydric Soil Present? Yes N				e Sampled			V	
Wetland Hydrology Present? Yes N	No _X		withi	in a Wetlan	id? Yes	No.		
Remarks: Field work conducted in late September and early October. The w weeks after the peak of the wet season, hydrology could be natur indicates that wet season hydrology in this community does not in adapted to saturated soil conditions.	ally problemat nundate or sati	ic for th	nis com	munity; how	ever, the lack of hydric soil is	ndicators an	d hydrophytic ve	egetation
VEGETATION – Use scientific names of plan								
Tree Stratum (Plot size: *)	Absolute % Cover			Indicator Status	Dominance Test work			
1 Pinus ponderosa	20%	_		FACU	Number of Dominant S That Are OBL, FACW,	pecies or FAC:	0	(A)
2,					T-t-! Nous-bas of Dessi	17 -		
3					Total Number of Domir Species Across All Stra		4	(B)
4					·	,		,
No. 10. No. 10. Sec.	20%	= Tot	tal Co	ver	Percent of Dominant S That Are OBL, FACW,		0%	(A/B)
Sapling/Shrub Stratum (Plot size:)					Prevalence Index wor	ksheet:		
1	7	-	_		Total % Cover of:		Multiply by:	
2			-		OBL species0	x 1	1 =0	_
3					FACW species0	x 2	2 = 0	
4		•			FAC species0	^	3 =0	_
5		= Tot	tal Co				1 = 100	_
Herb Stratum (Plot size:)	2	100	ai oo	VCI			5 =640	=
1. Bouteloua gracilis	50%	Y		UPL	Column Totals: 153	(A)	740	(B)
2 Bromus inermis	35%	Y		UPL	Prevalence Index	c = B/A =	4.83	
3. Linaria vulgaris	30%	Υ	_	UPL	Hydrophytic Vegetati		***	
4. Yucca glauca	_ 10%	N		UPL	1 - Rapid Test for	Hydrophyti	ic Vegetation	
5. Verbascum thapsus	- 5%	N		FACU	2 - Dominance Tes	t is >50%		
6. Artemisia frigida	3%	N		UPL	3 - Prevalence Ind			
7		-			4 - Morphological	Adaptation	s¹ (Provide su	pporting
8					data in Remark)
9					5 - Wetland Non-V Problematic Hydro		_	oin)
10		:-			Indicators of hydric so			•
11	133%				be present, unless dist			must
Woody Vine Stratum (Plot size:)	100 /0	= Tota	ai Cov	er				
1					Hydrophytic			
2					Vegetation		v	
		= Tota	al Cov	er	Present? Ye	es	No_X	
% Bare Ground in Herb Stratum 30%								
Remarks: * Sampled entire plant community. Additional gras	ege proces	at in a	ampl	ed area h	it lack of reproductive	a etructur	es made tha	m
unidentifiable during the site visit.	aca hicsel	11 11 3	ampl	cu area Di	at lack of reproductive	, on uotult	co made lilei	.,

Sampling Point: #22

SOIL

Profile Desc	cription: (Describe	to the dept	h needed to docum	nent the i	ndicator	or confirm	the absence	ce of indicators.)
Depth	Matrix		Redox	k Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	10YR 3/2	100					loamy sand	1
6-14	10YR 6/4	100					sand	dry
Telephone	-	-0.0					-	
·	-						(9))
·							3	* 3
	-						-	
		-0:		-				
¹ Type: C=C	oncentration, D=Der	oletion, RM=	Reduced Matrix, CS	=Covered	or Coate	d Sand Gr	ains. ² L	Location: PL=Pore Lining, M=Matrix.
			LRRs, unless other					ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (S	S5)			<u>-</u> 2	cm Muck (A10)
- Histic E	pipedon (A2)		 Stripped Matrix 				R	ed Parent Material (TF2)
	istic (A3)	5	 Loamy Mucky M 	lineral (F1) (except	MLRA 1)		ery Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed I)		<u> </u>	ther (Explain in Remarks)
	d Below Dark Surfac	ce (A11)	Depleted Matrix				3, ,,	
	ark Surface (A12)		Redox Dark Sur Depleted Dark S		7 \			ators of hydrophytic vegetation and
	Mucky Mineral (S1) Gleyed Matrix (S4)	-	Redox Depress	`	<i>')</i>			tland hydrology must be present, ess disturbed or problematic.
	Layer (if present):	(4	redux Depress	0113 (1 0)			1	ess distarbed or problematic.
Type:								
	ches):						Hydric Sc	oil Present? Yes No _X
Remarks:								
	oil indicators observ	ed. No redo	x concentrations, de	epletions,	or greyed	matrix obs	served to de	pth.
LIVEROLO								
HYDROLO								
,	drology Indicators						723	D 01 (02 (03) (02) (03 (03)
		one required	: check all that apply					condary Indicators (2 or more required)
Surface	, ,		Water-Stai			xcept		Water-Stained Leaves (B9) (MLRA 1, 2,
_ •	ater Table (A2)			I, 2, 4A, a	nd 4B)		_	4A, and 4B)
- Saturati			Salt Crust		(D40)			Drainage Patterns (B10)
Water M	` '		Aquatic Inv		. ,		_	Dry-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen			Lister Dee		Saturation Visible on Aerial Imagery (C9)
ı —	posits (B3) at or Crust (B4)		Oxidized R		_	_		Geomorphic Position (D2)
-	posits (B5)		Recent Iron		,	•		Shallow Aquitard (D3) FAC-Neutral Test (D5)
	Soil Cracks (B6)		Stunted or					Raised Ant Mounds (D6) (LRR A)
	on Visible on Aerial	Imagen/ (B7				1) (LIXIX A)		Frost-Heave Hummocks (D7)
	y Vegetated Concav				marro,		_	Trost fleave flammooks (57)
Field Obser		o Guildes (E	,					
Surface Wat		/es N	No X Depth (inc	hes):				
Water Table			No X Depth (inc					
Saturation P			No X Depth (inc				and Hydrole	ogy Present? Yes No _X
(includes car			VO Deptil (inc	es)		_ ******	and Hydroic	ogy Present: Tes No
		n gauge, mo	nitoring well, aerial p	hotos, pre	evious ins	pections), i	if available:	
Remarks:								
Water table	e and saturation abs	ent at 14 inc	hes below ground si	ırface. Un	able to ex	tend soil b	oring below	14 inches.

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

Project/Site: US Air Force Academy's True North Commons B	EUL Area	City/County	Colorado	Springs, El Paso County Sampling Date: 10/18/18
			7	State: CO Sampling Point: #23
11.				nge: Section 12, Township 12 South, Range 67 West
				convex, none): concave Slope (%): 0-10%
				Long: W 104 50.337 Datum: WGS 84
Soil Map Unit Name: Pring coarse sandy loam				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation X, Soil , or Hydrology si	-			Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology n				eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map				
Hydrophytic Vegetation Present? Yes X No				6
Hydric Soil Present? Yes No	X		e Sampled in a Wetlan	Area nd? Yes NoX
Wetland Hydrology Present? Yes No	<u> </u>	With	III a vvetiai	16510
Field work conducted in early October, which is approximately 6-10 weeks after the p and asphalt, likely from historic paving of North Gate Blvd, was encountered at 14 inc indicators may be present at that time; however, the lack of hydric soil land wetland h		months (July and visit during the rs suggests that	d August), Recer wet season (May the sampled are	it mowing in a portion of the sampled area prevented identification of some grasses -August) would give a more accurate determination and additional hydrology a is not a wetland.
VEGETATION – Use scientific names of plant				
<u>Tree Stratum</u> (Plot size:) 1		Dominant Species?	Status_	Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
2				Total Number of Dominant
3 4				Species Across All Strata: 2 (B)
Sapling/Shrub Stratum (Plot size:)		= Total Co	ver	Percent of Dominant Species That Are OBL, FACW, or FAC:100% (A/B)
1				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3.				OBL species x 1 = 80
4.				FACW species x 2 = 0
5				FACI species 20 x 3 = 60 FACI species 20 x 4 = 80
=	-	= Total Co	ver	17100 species x +
Herb Stratum (Plot size:)	400/	V	ODI	01 E species x 0 =
Typha angustifolia Typha latifolia	40%	Y	OBL	Column Totals (A) (B)
3. Cirsium arvense	20%	N	FAC	Prevalence Index = B/A =1.83
4. Verbascum thapsus	10%	N	FACU	Hydrophytic Vegetation Indicators:
5. Anaphalis margaritacea	10%	<u>N</u>	FACU	1 - Rapid Test for Hydrophytic Vegetation + 2 - Dominance Test is >50%
6		*		± 3 - Prevalence Index is ≤3.0¹
7				
8				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9.				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
11.				¹ Indicators of hydric soil and wetland hydrology must
	4000/	= Total Cov	er	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)				
1				Hydrophytic
2.:				Vegetation Present? YesX No
% Bare Ground in Herb Stratum 0%		= Total Cov	er	
Remarks: * Sampled entire plant community. Additional grass:	enaciae er	ecent hut	unidentific	able due to lack of reproductive etrustures and
recent mowing.	obeoies hi	Coon Dul	amacilinia	into due to lack of reproductive structures and

inches) Color (moist)	%	Color (moist)	ox Feature %	_Type ¹	Loc ²	Texture	Remarks
)-4 10YR 3/2	100		= -		-	loamy sand	()
1-12 10YR 3/2	99	10YR 5/8	1	С	PL	loamy sand	V
12-14 10YR 4/3	100				() 	sand	dry
Type: C=Concentration, D=E					ed Sand G		cation: PL=Pore Lining, M=Matrix.
Histosol (A1)		Sandy Redox (·		2 cn	n Muck (A10)
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Sur	ace (A11)	 Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matrix 	(S6) Mineral (F Matrix (F2		t MLRA 1)	Ver	Parent Material (TF2) y Shallow Dark Surface (TF12) er (Explain in Remarks)
Thick Dark Surface (A12)		= Redox Dark Su					ors of hydrophytic vegetation and
 Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4) 		Depleted Dark Redox Depress	•	-7)			nd hydrology must be present, is disturbed or problematic.
Restrictive Layer (if present		Redox Deples	sions (i o)			unica	is disturbed of problematic.
Type:							
Depth (inches):						Hydric Soil	Present? Yes No _X
Remarks:	bserved in t	he sampled area. Asr	ohalt enco	untered at	14 inches	1	e associated with historic paving of
Remarks: No hydric soil indicators o North Gate Blvd.	bserved in ti	he sampled area. Asr	ohalt enco	untered at	14 inches	1	
Remarks: No hydric soil indicators of North Gate Blvd. YDROLOGY Vetland Hydrology Indicato	rs:			untered at	14 inches	, believed to be	e associated with historic paving of
Remarks: No hydric soil indicators of North Gate Blvd. YDROLOGY Vetland Hydrology Indicators (minimum of the primary Ind	rs:	ed; check all that app	ly)			, believed to be	e associated with historic paving of
Remarks: No hydric soil indicators of North Gate Blvd. YDROLOGY Vetland Hydrology Indicators (minimum of Surface Water (A1)	rs:	ed; check all that app Water-Sta	ly) ained Leav	es (B9) (€		, believed to be	e associated with historic paving of eassociated with historic paving of east of the east
Remarks: No hydric soil indicators of North Gate Blvd. YDROLOGY Vetland Hydrology Indicators (minimum of Surface Water (A1) High Water Table (A2)	rs:	ed; check all that app Water-Sta MLRA	ly) ained Leav 1, 2, 4A, a	es (B9) (€		, believed to be	e associated with historic paving of eassociated with historic paving of east of the east
Remarks: No hydric soil indicators of North Gate Blvd. YDROLOGY Vetland Hydrology Indicators (minimum of the North Cartes)	rs:	ed; check all that app Water-Sta	ly) ained Leav .1, 2, 4A, a	es (B9) (є and 4B)		Secon	e associated with historic paving of mdary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: No hydric soil indicators of North Gate Blvd. YDROLOGY Vetland Hydrology Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	rs:	ed; check all that app Water-Sta MLRA Salt Crust Aquatic Ir	ly) ained Leav .1, 2, 4A, a	es (B9) (e and 4B) es (B13)		Secondary V	e associated with historic paving of eassociated with historic paving of east of the east
Remarks: No hydric soil indicators of North Gate Blvd. YDROLOGY Vetland Hydrology Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	rs:	ed; check all that app Water-Sta MLRA Salt Crusi Aquatic Ir _ Hydrogen	ly) ained Leav 1, 2, 4A, a t (B11) nvertebrate	es (B9) (e and 4B) es (B13) dor (C1)	except	Secolulus Secolu	e associated with historic paving of malary 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 (C) Geomorphic Position (D2)
Remarks: No hydric soil indicators of North Gate Blvd. YDROLOGY Vetland Hydrology Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	rs:	ed; check all that app Water-Sta MLRA Salt Crusi Aquatic Ir _ Hydrogen - Oxidized _ Presence	ly) ained Leav 1, 2, 4A, at (B11) avertebrate Sulfide O Rhizosphe of Reduce	es (B9) (eand 4B) es (B13) dor (C1) eres along ed Iron (C	except Living Roo	Secondary V	e associated with historic paving of madary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Geomorphic Position (D2) Shallow Aquitard (D3)
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WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: US Air Force Academy's True North Commons	EUL Area	City/Co	ounty: Colorado	Springs, El Paso County	Sampling D	ate: 10/18/1	8
		-		State: CO			
				ange: Section 12, Township			st
Landform (hillslope, terrace, etc.): artificial drainage ditch							
Subregion (LRR): E							
Soil Map Unit Name: Pring coarse sandy loam				NWI classific			
Are climatic / hydrologic conditions on the site typical for th							
						. Y M	
Are Vegetation X, Soil , or Hydrology				"Normal Circumstances" p			o
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS - Attach site map				eeded, explain any answellocations, transects			s, etc.
Hydrophytic Vegetation Present? Yes X	No.						
Hydric Soil Present? Yes X			Is the Sample				
Wetland Hydrology Present? Yes X			within a Wetla	nd? Yes _ ^_	No		
Remarks: The site visit was conducted 6-10 weeks after the peak wet season months (July ar season may result in the observation of hydrology indicators. The asphalt layer at depression of the sampled area.	nd August). The sa 12 inches could se	ampled an arve as an	ea is associated with n impermeable layer po	oadside drainage swale south of North tentially retaining drainage water in the	Gate Blvd. A follo highly vegetated	w-up visit during t and gently sloping	he wet
VEGETATION – Use scientific names of plan	ıts.						
Tree Stratum (Plot size:) 1		Spec	inant Indicator ies? Status	Dominance Test works Number of Dominant Sp That Are OBL, FACW, of	pecies	2	(A)
2.				Total Number of Domina	-		()
3		-		Species Across All Stra		2	(B)
4				Percent of Dominant Sp	ecies		
Sapling/Shrub Stratum (Plot size:)	-	= Tota	al Cover	That Are OBL, FACW, o		100%	(A/B)
1				Prevalence Index worl	sheet:		
2.		-		Total % Cover of:		fultiply by:	=
3.				OBL species 80	x 1 =		_
4.					x 2 =		
5				FACUL species 20	x 3 =		-
HIS IN DAMES IN		= Tota	al Cover	TACO species	^+-		-
Herb Stratum (Plot size: *)	400/	· V	OBL	UPL species 0 Column Totals: 120	x 5 =		– (D)
1. Typha angustifolia 2. Typha latifolia	40%	Y	OBL				_ (B)
3. Cirsium arvense	20%	, N	FAC	Prevalence Index		1.83	 :
4. Verbascum thapsus	10%	N	FACU	Hydrophytic Vegetatio			
5. Anaphalis margaritacea	10%	N	FACU	1 - Rapid Test for H		/egetation	
6				+ 2 - Dominance Test			
7		-		+ 3 - Prevalence Inde		(Descride eur	
8				4 - Morphological A data in Remarks	or on a sep	arate sheet)	porting
9		-		5 - Wetland Non-Va			
10				Problematic Hydrog	hytic Vegeta	ation¹ (Explai	in)
11		3.5.		¹ Indicators of hydric soil			nust
W-	120%	= Tota	l Cover	be present, unless distu	rbed or prob	lematic.	
Woody Vine Stratum (Plot size:)							
1.,				Hydrophytic			
2		-		Vegetation Present? Yes	s_XN	10	
% Bare Ground in Herb Stratum 0%		= Tota	l Cover		30 <u>3</u> 5		
Remarks:							
* Sampled entire plant community. Additional grass recent mowing.	species p	resent	but unidentifi	able due to lack of repr	oductive str	uctures and	d

Depth							n the absen	
(inches)	Matrix Color (moist)	%	Color (moist)	ox Feature %	es _Tγpe¹	Loc ²	Texture	Remarks
0-4	10YR 3/1	100	COIOI (IIIOISL)		Туре	<u> Loc</u>	silty loan	
<u> </u>	10YR 3/1	90	10YR 5/8	- 		PL	loamy san	<u> </u>
4-12	101K 3/1	90	10113/0	_ 10		F L	loanly sai	= -
								* 8
			•		5) =			
-	-	_2			-		-	
	·	====		-			-	
	*		-	-			-	
		_8		-		-		_
			/I=Reduced Matrix, C			ed Sand G		Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Appli	icable to a	II LRRs, unless othe		ted.)			ators for Problematic Hydric Soils ³ :
Histosol			Sandy Redox					2 cm Muck (A10)
	pipedon (A2)		Stripped Matrix		·4\	4 841 10 4 41		Red Parent Material (TF2) /ery Shallow Dark Surface (TF12)
	istic (A3)		 Loamy Mucky Loamy Gleyed 			OT WILKA 1,		Other (Explain in Remarks)
	en Sulfide (A4) d Below Dark Surfa	rce (Δ11)	Depleted Matri		۷)		_ `	other (Explain in Itemarks)
	ark Surface (A12)	100 (7.11)	- Redox Dark S)		³ Indic	ators of hydrophytic vegetation and
_	Mucky Mineral (S1)		Depleted Dark	`	,			etland hydrology must be present,
	Gleyed Matrix (S4)		Redox Depres	sions (F8)	•		ur	less disturbed or problematic.
	Layer (if present):							
Type: As	sphalt							
Depth (in	ches): 12 inches						Hydric S	ioil Present? Yes X No
Remark	s:							
								m 4-12 inches. The soil pit was not
l .	-		asphalt was encounte	ered at 12	inches. T	he asphalt	at depth is t	pelieved to be associated with historic
paving o	of North Gate Blvd.							
Wetland Hy	drology Indicators	s:	1965 a 186					
Wetland Hy	drology Indicators	s:	ed; check all that app					econdary Indicators (2 or more required)
Wetland Hy Primary India - Surface	rdrology Indicators cators (minimum of Water (A1)	s:	Water-St	ained Lea		except		Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary India - Surface	drology Indicators	s:	Water-St	ained Lea		except		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary India Surface High Wa Saturati	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3)	s:	Water-Str MLRA Salt Crus	ained Lea 1, 2, 4A, t (B11)	and 4B)	except		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hy Primary India - Surface - High Wa - Saturati - Water M	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1)	s:	Water-St MLRA Salt Crus Aquatic I	ained Lea 1, 2, 4A, t (B11) nvertebrat	and 4B) es (B13)	except		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hy Primary India - Surface - High Wa - Saturati - Water M - Sedime	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2)	s:	Water-St MLRA Salt Crus Aquatic II _ Hydroger	ained Lea 1, 2, 4A, it (B11) invertebrat in Sulfide C	and 4B) es (B13) odor (C1)			Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hy Primary Indio Surface High Wa Saturati Water M Sedimei	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3)	s:	Water-Str MLRA Salt Crus Aquatic Ir _ Hydroger + Oxidized	ained Lea 1, 2, 4A, it (B11) invertebrat in Sulfide C Rhizosphe	and 4B) es (B13) odor (C1) eres along	g Living Ro		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)
Wetland Hy Primary Indie Surface High Wa Saturati Water N Sedime Drift De	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4)	s:	Water-Str MLRA Salt Crus Aquatic Ir _ Hydroger + Oxidized Presence	ained Lea 1, 2, 4A, it (B11) invertebrat in Sulfide C Rhizospho e of Reduc	es (B13) odor (C1) eres along ed Iron (C	g Living Ro (4)		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)
Wetland Hy Primary India - Surface - High Wa - Saturati - Water M - Sedimea - Drift De - Algal Ma - Iron De	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	s:	Water-Str MLRA Salt Crus Aquatic II _ Hydroger + Oxidized Presence Recent Ir	ained Lea 1, 2, 4A, t (B11) nvertebrat Sulfide C Rhizosphe of Reductor ron Reductor	es (B13) Odor (C1) eres along ed Iron (C	g Living Ro C4) ed Soils (C		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)
Wetland Hy Primary India - Surface - High Wa - Saturati - Water M - Sedimea - Drift De - Algal Ma - Iron Dep - Surface	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6)	s: Fone requir	Water-St. MLRA Salt Crus Aquatic II _ Hydroger + Oxidized Presence Recent Ir Stunted o	ained Lea 1, 2, 4A, It (B11) Invertebrat In Sulfide C Rhizospho In Reduction Reduction Reduction	and 4B) es (B13) odor (C1) eres along ed Iron (C tion in Till d Plants (I	g Living Ro (4)		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)
Wetland Hy Primary India - Surface - High Wa - Saturati - Water M - Sedimes - Drift Des - Algal Ma - Iron Des - Surface - Inundati	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) se Soil Cracks (B6) ion Visible on Aeria	s: Fone requir	Water-Str MLRA Salt Crus Aquatic Ir _ Hydroger + Oxidized Presence Recent Ir Stunted of B7) Other (Ex	ained Lea 1, 2, 4A, It (B11) Invertebrat In Sulfide C Rhizospho In Reduction Reduction Reduction	and 4B) es (B13) odor (C1) eres along ed Iron (C tion in Till d Plants (I	g Living Ro C4) ed Soils (C		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)
Wetland Hy Primary India - Surface - High Wa - Saturati - Water M - Sedime - Drift De - Algal Ma - Iron De; - Surface - Inundati - Sparse!	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria	s: Fone requir	Water-Str MLRA Salt Crus Aquatic Ir _ Hydroger + Oxidized Presence Recent Ir Stunted of B7) Other (Ex	ained Lea 1, 2, 4A, It (B11) Invertebrat In Sulfide C Rhizospho In Reduction Reduction Reduction	and 4B) es (B13) odor (C1) eres along ed Iron (C tion in Till d Plants (I	g Living Ro C4) ed Soils (C		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)
Primary India - Surface - High Wa - Saturati - Water M - Sedime - Drift De - Algal Ma - Iron Dep - Surface - Inundati - Sparsel Field Obser	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) iposits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria ly Vegetated Conca	s: f one requir al Imagery (ave Surface	Water-Str MLRA Salt Crus Aquatic Ir _ Hydroger + Oxidized Presence Recent Ir _ Stunted of B7) Other (Ex	ained Lear A 1, 2, 4A, It (B11) Invertebrat In Sulfide C Rhizosphe In Reduct In Reduct In Stresse Replain in R	es (B13) dor (C1) eres along ed Iron (C tion in Till d Plants (I emarks)	g Living Ro C4) ed Soils (C D1) (LRR A		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)
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WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US Air Force Academy's True North Commons	s EUL Area	City/Co	ounty: Colorado	Springs, El Paso County Sampling Date: 11/20/18
Applicant/Owner: US Air Force Academy		,		State: CO Sampling Point: #25
		Section	n, Township, Ra	nge: Section 12, Township 12 South, Range 67 West
Landform (hillslope, terrace, etc.): artificial drainage ditch		Local	relief (concave,	convex, none): concave Slope (%): 0-3%
				Long: W 104 50.001 Datum: WGS 84
Soil Map Unit Name: Blendon sandy loam				NWI classification: NA
Are climatic / hydrologic conditions on the site typical for the	nis time of ve	ar? Ye		
Are Vegetation, Soil, or Hydrology				"Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology	-			eeded, explain any answers in Remarks.)
				ocations, transects, important features, etc.
Hydrophytic Vegetation Present? YesX				
Hydric Soil Present? Yes			Is the Sampled within a Wetlar	V
Wetland Hydrology Present? Yes	No		Within a Wetta	10310
Field work conducted in mid November, which is approximately 12-16 weeks after interstate 1-25, was encountered at 14 inches. A follow up visit during the wet sear the lack of hydric soil and wetland hydrology indicators suggests that the sampled	area is not a wetlar	on months vould give nd	s (July and August), A n e a more accurate deter	metal sheet, likely from historic paving of North Gate Blvd and/or construction of rmination and additional hydrology indicators may be present at that time; however,
VEGETATION – Use scientific names of pla				
Tree Stratum (Plot size:) 1	- was the same	Spec	inant Indicator ies? Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
2				Total Number of Dominant
3				Species Across All Strata: 3 (B)
4		-		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	-	_= Tota	al Cover	That Are OBL, FACW, or FAC:100% (A/B)
1. Salix exigua	95%	Υ	FACW	Prevalence Index worksheet:
2				Total % Cover of: Multiply by:
3				OBL species 0 x 1 = 0 FACW species 105 x 2 = 210
4				1 AOV species
5				FAC species x 3 = 30 FACU species x 4 = 0
International Colors	95%	= Tota	al Cover	UPL species x 5 =0
Herb Stratum (Plot size: *) 1 Cirsium arvense	10%	Υ	FAC	Column Totals: 115 (A) 240 (B)
2 Panicum virgatum	10%	Ÿ	FACW	
3.				Prevalence Index = B/A = 2.09
4				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
5.				+ 2 - Dominance Test is >50%
6.				± 3 - Prevalence Index is ≤3.0¹
7				4 - Morphological Adaptations¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9.				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
11				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Maria Maria Charles (DLA)	20%	= Tota	l Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)				
1				Hydrophytic Vegetation
2			l Cover	Present? Yes X No
% Bare Ground in Herb Stratum 5%	-	· IOIA		
Remarks:				
* Sampled entire plant community. Additional gras	s species p	resent	t but unidentifia	able due to lack of reproductive structures.

SOIL

		e to the dep	th needed to documer		or contirn	n the absenc	e or indicators.)
Depth (inches)	Color (moist)	%	Redox F	eatures % Type ¹	Loc²	Texture	Remarks
)-10	10YR 4/1	100			LUC	loamy sand	
10-11	10YR 3/6	100				loamy sand	
	-						
1-14	10YR 2/1	_ 100				sand	with significant asphalt, moist
			=Reduced Matrix, CS=C LRRs, unless otherwis		ed Sand G		ocation: PL=Pore Lining, M=Matrix. tors for Problematic Hydric Soils ³ :
Histosol Histic El Black Hi Hydroge Deplete Sandy N Sandy C Restrictive Type: Depth (in Remark No hydr	(A1) pipedon (A2) istic (A3) en Sulfide (A4) d Below Dark Surfa ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Layer (if present): Metal sheeting ches): 14 inc	hes	Sandy Redox (S5) _ Stripped Matrix (S6 _ Loamy Mucky Mine _ Loamy Gleyed Mat _ Depleted Matrix (F _ Redox Dark Surfac _ Depleted Dark Sur _ Redox Depression	eral (F1) (except trix (F2) 3) se (F6) face (F7) s (F8)		2 c Re Ve Ot ³ Indica wet unle	cm Muck (A10) ed Parent Material (TF2) ery Shallow Dark Surface (TF12) ther (Explain in Remarks) tors of hydrophytic vegetation and land hydrology must be present, ess disturbed or problematic. bil Present? Yes NoX ved to be associated with historic
YDROLO Vetland Hy	GY drology Indicators	s:					
rimary Indi	cators (minimum of	one require	d; check all that apply)			Sec	ondary Indicators (2 or more required)
Surface	Water (A1)		Water-Staine	d Leaves (B9) (e	xcept		Water-Stained Leaves (B9) (MLRA 1, 2
High Wa	ater Table (A2)		MLRA 1, 2	2, 4A, and 4B)			4A, and 4B)
_ Saturati	on (A3)		Salt Crust (B1	l1)			Drainage Patterns (B10)
_ Water N	larks (B1)		Aquatic Inver	tebrates (B13)		₹	Dry-Season Water Table (C2)
_ Sedime	nt Deposits (B2)		<u>-</u> Hydrogen Sul	fide Odor (C1)		•	Saturation Visible on Aerial Imagery (C
_ Drift De	posits (B3)		 Oxidized Rhiz 	ospheres along	Living Ro	ots (C3)	Geomorphic Position (D2)
Algal Ma	at or Crust (B4)		Presence of F	Reduced Iron (C	4)	ă	Shallow Aquitard (D3)
- Iron Der	posits (B5)		Recent Iron F	Reduction in Tille	d Soils (C	6) <u>-</u>	FAC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted or St	ressed Plants (D	1) (LRR A	i) <u> </u>	Raised Ant Mounds (D6) (LRR A)

_____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Frost-Heave Hummocks (D7)
_____ Sparsely Vegetated Concave Surface (B8)

Field Observations:

Surface Water Present? Yes _____ No _X ___ Depth (inches): _____ not encountered

Water Table Present? Yes _____ No _X ___ Depth (inches): _____ not encountered

Saturation Present? Yes _____ No _X ____ Depth (inches): ______ not encountered

(includes capillary fringe)

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

Remarks:

*No hydrology indicators observed. The site visit was conducted 12-16 weeks after the peak wet season months (July and August); therefore, hydrology could be naturally problematic but the lack of hydric soil indicators suggests that wet season hydrology is insufficient in frequency and/or duration to create saturated soil conditions. The sampled area is associated with a roadside drainage ditch south of North Gate Blvd.

APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): April 3, 2019

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Albuquerque District, U.S. Air Force Academy, True North Commons, SPA-2019-00045-SCO

	211 200 000 000
С.	PROJECT LOCATION AND BACKGROUND INFORMATION: State: Colorado County/parish/borough: El Paso County City: Colorado Springs Center coordinates of site (lat/long in degree decimal format): Lat. 39.023111°, Long104.840323° Universal Transverse Mercator: 13 513822.22 4319353.33 Name of nearest waterbody: Monument Creek Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: John Martin Resevoir Name of watershed or Hydrologic Unit Code (HUC): Upper Arkansas. Colorado., 11020003 ☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request. ☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc) are associated with this action and are recorded on a different JD form:
D.	REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY): ☐ Office (Desk) Determination. Date: February 28, 2019 ☐ Field Determination. Date(s): January 17, 2019 and February 13, 2019
SEO	CTION II: SUMMARY OF FINDINGS RHA SECTION 10 DETERMINATION OF JURISDICTION.
	re Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the lew area. [Required] Waters subject to the ebb and flow of the tide. Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:
B.	CWA SECTION 404 DETERMINATION OF JURISDICTION.
The	ere Are no "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required
	1. Waters of the U.S. a. Indicate presence of waters of U.S. in review area (check all that apply): TNWs, including territorial seas Wetlands adjacent to TNWs Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs Non-RPWs that flow directly or indirectly into TNWs Wetlands directly abutting RPWs that flow directly or indirectly into TNWs Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs Impoundments of jurisdictional waters Isolated (interstate or intrastate) waters, including isolated wetlands
	 b. Identify (estimate) size of waters of the U.S. in the review area: Non-wetland waters: linear feet, wide, and/or acres. Wetlands: acres.
	c. Limits (boundaries) of jurisdiction based on: Not Applicable. Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):3

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: Parcels A, B, & D includes a combined total of 0.59-acres of Isolated Wetlands with no surface connection to any Waters of the U.S (WOUS). Parcel E includes a combined total of 1.66-acres of Isolated Wetland communities with 1 Wetland and gully with a 0.481-acres wetland along with an ephemeral sheetflow beginning at the wetland site located upgradient of a 900 linear ft, natural drainage/gully that connects to Monument Creek (RPW).

SECTION III: CWA ANALYSIS

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

Supporting documentation is presented in Section III.F.

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 0.1 square miles
Drainage area: 0.1 square miles
Average annual rainfall: 13-14 inches
Average annual snowfall: 37.7 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

Tributary flows through 3 tributaries before entering TNW.

Project waters are 30 (or more) river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are Project waters are 1 (or less) aerial (straight) miles from TNW.

Project waters cross or serve as state boundaries. Explain: N/A

Identify flow route to TNW⁵: Unnamed Tributary ("site" adjacent to Monument Creek) flows into Monument Creek, into Fountain Creek, into Arkansas River, and finally into John Martin Reservoir(TNW) totaling driving distance of 167-miles with an additional 10-miles for stream-miles.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: 1, 2, 3, 4 (b) General Tributary Characteristics (check all that apply): Tributary is: Natural Artificial (man-made). Explain: Manipulated (man-altered). Explain: **Tributary** properties with respect to top of bank (estimate): Average width: 1 feet Average depth: 0.083 to 0.167 feet Average side slopes: 4:1 (or greater). Primary tributary substrate composition (check all that apply): Silts Concrete Cobbles ☐ Gravel Muck Muck Bedrock ☑ Vegetation. Type/% cover: **60-70** Other. Explain: Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable gully with diverse vegetation. Presence of run/riffle/pool complexes. Explain: N/A Tributary geometry: Relatively straight Tributary gradient (approximate average slope): 30 % (c) Flow: Tributary provides for: **Ephemeral flow** Estimate average number of flow events in review area/year: 2-5 Describe flow regime: mixture of stormwater flows and seepage run-off. Other information on duration and volume: Undetermined Surface flow is: Overland sheetflow. Characteristics: Predominant seepage flows down a 30% slope drainage with a 1-2 inches depth, 1 foot width full-year flows with 1-2 stormwater high flow events estimated at 1-2 cubic feet per second. Subsurface flow: Unknown. Explain findings: No data available. Dye (or other) test performed: Tributary has (check all that apply): Bed and banks OHWM⁶ (check all indicators that apply): clear, natural line impressed on the bank the presence of litter and debris destruction of terrestrial vegetation changes in the character of soil the presence of wrack line ☐ shelving sediment sorting vegetation matted down, bent, or absent leaf litter disturbed or washed away scour multiple observed or predicted flow events sediment deposition water staining abrupt change in plant community other (list): ☐ Discontinuous OHWM.⁷ Explain: If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply): High Tide Line indicated by: ☐ Mean High Water Mark indicated by: oil or scum line along shore objects survey to available datum; fine shell or debris deposits (foreshore) physical markings; physical markings/characteristics vegetation lines/changes in vegetation types. tidal gauges other (list): (iii) Chemical Characteristics: Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: Clear trickling surface flows with good water quality, sheet flows through run-off events Identify specific pollutants, if known: If any polluants exist they get filtered with wetland.

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

Tibid.

	(iv)		logical Characteristics. Cl Riparian corridor. Character Wetland fringe. Characteris Habitat for: Federally Listed specie Fish/spawn areas. Exp Other environmentally Aquatic/wildlife divers	ristics (type, average width tics: dominated by shrub s. Explain findings: lain findings: sensitive species. Explain	n): os and herbs. n findings:					
2.	Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW									
	(i)		Wetland quality. Expl drainage supported	es : dominated by shrubs a ain: Good quality water s I by seepage dominated b d and Rocky Mountain v	seepage sustaining a diverse eme by Peachleaf Willow trees, Shrub villowherb.					
		(b)	General Flow Relationship Flow is: Ephemeral flow .		n-off and seep flows.					
			Surface flow is: Overland Characteristics: The F 3-6 days per year.		ed to be normally dry for most o	f the year, flowing for less than				
			Subsurface flow: Unknow Dye (or other) test		ata available.					
		(c)	Wetland Adjacency Determ ☐ Directly abutting ☐ Discrete wetland hy ☐ Ecological connect ☐ Separated by berm	ydrologic connection. Expion. Expion.	olain:					
		(d)	Proximity (Relationship) to Project wetlands are 30 (or Project waters are 30 (or Flow is from: Wetland to Estimate approximate local	r more) river miles from T more) aerial (straight) mile navigable waters.						
(ii) Chemical Characteristics: Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general water characteristics; etc.). Explain: Water is clear, with good water quality flowing from wetlands to sheetflow Monument Creek. Identify specific pollutants, if known: sedimention										
	(iii)		logical Characteristics. W Riparian buffer. Characteristy Vegetation type/percent cov Habitat for: Federally Listed specie Fish/spawn areas. Expl Other environmentally Aquatic/wildlife divers	stics (type, average width) fer. Explain: 60-70% covers. Explain findings: ain findings: esensitive species. Explain	: 5-20 feet erage	ans				
3.	Characteristics of all wetlands adjacent to the tributary (if any) All wetland(s) being considered in the cumulative analysis: 15-20 Approximately 2.721 acres in total are being considered in the cumulative analysis.									
		For	each wetland, specify the fo	ollowing:						
			Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)				

N .481 N 2.24

Summarize overall biological, chemical and physical functions being performed: The biological functions dominated by shrub and herbaceous wetland begins as a seep that flows downhill into a sheetflow forming an ephemral flow. Aquatic organisms are maintained within the wetland area only and are absent in the ephemeral sheetflow. The chemical functions are attributed to the wetland functions as the filtering mehanism providing clear ephemeral sheetflow towards Monument Creek (RPW). The physical functions are attributed to the wetland existence sustained by groundwater seeps and stormwater run-off creating ephemral sheetflows.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: N/A
- 2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: Flows begin in a low-gradient sloped wetland seep. Flows exit the wetland and sheetflows creating an ephemral flow within a 1,000 linear foot drainage(gully) into Monument Creek. It appears if a high rain event occurs; it would likely create an estimated volume amount of less than 5 cfs. of flow within the 1,000 linear foot drainage. During most years storm events in this area occur 2-5 times per year. The flows for a peak duration are estimated 1-4 hours based on intensity and duration of the storm event. We assume the flows from this drainage in relation to the TNW (167 miles away) would not have a significant physical, biological, and chemical nexus to the TNW due to the distance from the drainage to the TNW considering the low volumes, dilution ratios, evaporation rate, and the number of irrigation intake/outlet structures occurring along the path to the TNW (John Martin Reservoir). We conclude, that it would be speculative to demonstrate, flows from this drainage would have capacity of physical, biological, and chemical characteristics that would affect the integrity of the TNW, because of the presence of the multitude of variables of water uses and the distance from the site. It has been observed this site has no adjacent chemical industrial processes that contributes to the immediate area and in combination with the observed good quality of water, it would be speculative to say that any chemical affects could affect the integrity of the TNW. Based on elevation difference of habitat characteristics, it would also be speculative to say that present aquatic organisms would have the ability to reach the TNW because of present multitude variables of water uses and the distance from the site.
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: N/A
- D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):
 - 1. TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:

		☐ TNWs: linear feet, wide, Or acres. ☐ Wetlands adjacent to TNWs: acres.
	2.	RPWs that flow directly or indirectly into TNWs. ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:
		Provide estimates for jurisdictional waters in the review area (check all that apply): Tributary waters: linear feet wide. Other non-wetland waters: acres. Identify type(s) of waters:
	3.	Non-RPWs ⁸ that flow directly or indirectly into TNWs. ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.
		Provide estimates for jurisdictional waters within the review area (check all that apply): Tributary waters: linear feet, wide. Other non-wetland waters: acres. Identify type(s) of waters:
	4.	Wetlands directly abutting an RPW that flow directly or indirectly into TNWs. Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands. Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
		☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
		Provide acreage estimates for jurisdictional wetlands in the review area: acres.
	5.	Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs. Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.
		Provide acreage estimates for jurisdictional wetlands in the review area: acres.
	6.	Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs. Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.
		Provide estimates for jurisdictional wetlands in the review area: acres.
	7.	Impoundments of jurisdictional waters. ⁹ As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional. Demonstrate that impoundment was created from "waters of the U.S.," or Demonstrate that water meets the criteria for one of the categories presented above (1-6), or Demonstrate that water is isolated with a nexus to commerce (see E below).
E.		DLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, GRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY

⁸See Footnote # 3.

SUCH WATERS (CHECK ALL THAT APPLY):10

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

	 □ which are or could be used by interstate or foreign travelers for recreational or other purposes. □ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce. □ which are or could be used for industrial purposes by industries in interstate commerce. □ Interstate isolated waters. Explain: □ Other factors. Explain: 							
	Identify water body and summarize rationale supporting determination:							
	Provide estimates for jurisdictional waters in the review area (check all that apply): Tributary waters: linear feet, wide. Other non-wetland waters: acres. Identify type(s) of waters: Wetlands: acres.							
F.	NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY): ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements. ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce. ☐ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR). ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: Based on site visit and desktop evaluation it has been concluded, that it would be speculative to say, flows from this drainage/gully would have the capacity to physically, biologically or chemically have the characteristics that would affect the integrity of the TNW because of the established multitude of varibles of water uses and the distance through gully and 3 RPWs from the site therefore, it behoves our office not to assert jurisdiction on the basis the site does not meet the "Significant Nexus" standard. ☐ Other: (explain, if not covered above): Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply): ☐ Non-wetland waters (i.e., rivers, streams): ☐ linear feet, wide. ☐ Lakes/ponds: ☐ acres. ☐ Other non-wetland waters: ☐ acres. List type of aquatic resource: 1.653-acres drumlin slope wetland seeps/0.587-acres runoff, seeps and precipitation							
	 Wetlands: 2.24 acres. Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply): Non-wetland waters (i.e., rivers, streams): 1,000 linear feet, 20- 40 feet wide. Lakes/ponds: acres. Other non-wetland waters: acres. List type of aquatic resource: seeps, snow and precipitation Wetlands: 0.481. acres. 							
SE	CTION IV: DATA SOURCES.							
Α.	SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Data sheets prepared/submitted by or on behalf of the applicant/consultant. Office concurs with data sheets/delineation report. Office does not concur with data sheets/delineation report. Data sheets prepared by the Corps: Corps navigable waters' study: U.S. Geological Survey Hydrologic Atlas: 110200030105 USGS NHD data. USGS 8 and 12 digit HUC maps. U.S. Geological Survey map(s). Cite scale & quad name: USDA Natural Resources Conservation Service Soil Survey. Citation: National wetlands inventory map(s). Cite name: State/Local wetland inventory map(s): No designation wetlands in the area being evaluated. FEMA/FIRM maps: FIRM map (08041CO287G) does not have designated Floodplains in the this area. 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929) Photographs: Aerial (Name & Date): March 21, 2019							
	or Other (Name & Date):							

Previous determination(s). File no. and date of response letter
Applicable/supporting case law:
Applicable/supporting scientific literature:
Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

The field investigation included identification of potentially jurisdictional WOUS, verifying the consultant's wetland delineation report results on an undeveloped upland 57-acre boundary open space area located within the United States Air Force Academy's (USAFA) installation in Colorado Springs, Colorado.

For the purposes of illustrating investigative findings, the property is divided into 5 distinct parcels A-E referenced in the attached Maps 1, & 2) for the purposes of this evaluation. A summary of the findings and conclusion for each parcel are provided along with field photos and data collected from USGS (Appendix A) estimating water basin size and estimated annual flows for the site.

The parcels findings are summarized as follows:

Parcel A-An undeveloped open space combined with an established egress point for the new Santa Fe Trail located to the north and northeast of the parcel. It also includes a 1/2 -acre asphalt parking lot and access road for the Trailhead. All wetlands were verified to be isolated wetlands sustained by roadway and land stormwater run-off and seeps. All present 0.054-acres of wetlands have been identified to meet the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators asserting the wetlands to be isolated wetlands along the north side of Northgate Boulevard shoulder. It has been confirmed there are no other wetlands or water ways that connect to any WOUS.

Parcel B – An undeveloped open space consists of an established man-made drainage ditch that captures Northgate Boulevard's stormwater run-off and distributes it into parcel B. Located to the north of this parcel is the Santa Fe Trailhead access maintenance dirt road. All 0.23-acres of wetlands have been identified to meet the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators asserting the wetlands are isolated wetlands along the south side of Northgate Boulevard shoulder and within parcel B. It has been confirmed there is no connection to any WOUS.

Parcel C – An undeveloped open space entirely uplands with no wetlands present. No Wetlands present on this parcel and there is no connection to any WOUS.

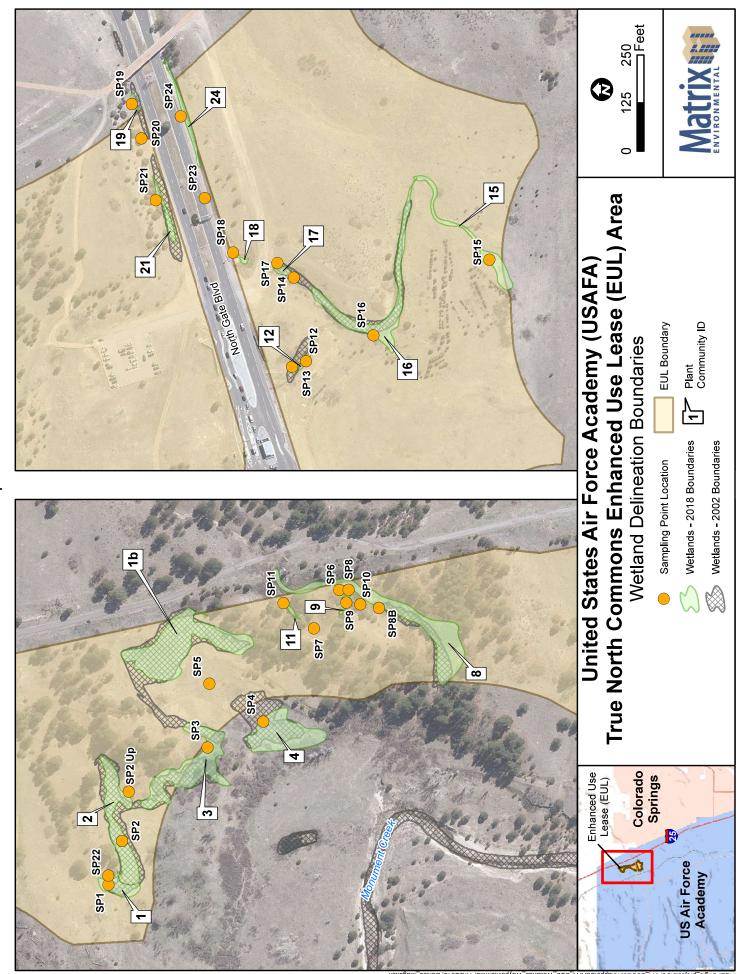
Parcel D – An undeveloped open space consists of an established man-made drainage ditch connected to Northgate Blvd. drainage that captures all storm-water run-off and distributes into parcels D. All wetlands were verified to be isolated wetlands sustained by roadway and storm-water run-off. All 0.303-acres of wetlands have been identified to meet the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators asserting the wetlands are isolated wetlands along the south side of Northgate Boulevard shoulder and within parcel D. It has been confirmed there is no connection to other wetlands that connect to any WOUS.

Parcel E – An undeveloped open space contains approximately 1.653-acres of isolated drumlin slope wetlands sporadically located throughout the parcel. The isolated wetlands in the area are sustained by seeps with no water leaving each of the wetlands. All wetlands were identified to meet the criteria to be identified as a wetland based on the predominance of hydrophytic vegetation and the observation of hydric soil and wetland hydrology indicators asserting the wetlands are isolated drumlin slope wetlands. In addition, the parcel contains one (1) 1,000 linear foot natural gully (unnamed tributary) oriented from east to west draining into Monument Creek (RPW). The gully crosses at the center of the parcel where a 0.481-acres PEM wetland begins at the start of the gully entrance, continuing 400 feet downstream of the gully being sustained by groundwater seep sheet flows and storm-water run-off. The wetland areas within the gully ends at 400 linear feet downstream, thus separating up gradient wetlands from the remaining 600 linear feet of gully directed into Monument Creek. It was observed that the gully has no physical characteristics or features that indicate that an ordinary high water mark exists and there is no defined bed and bank features.

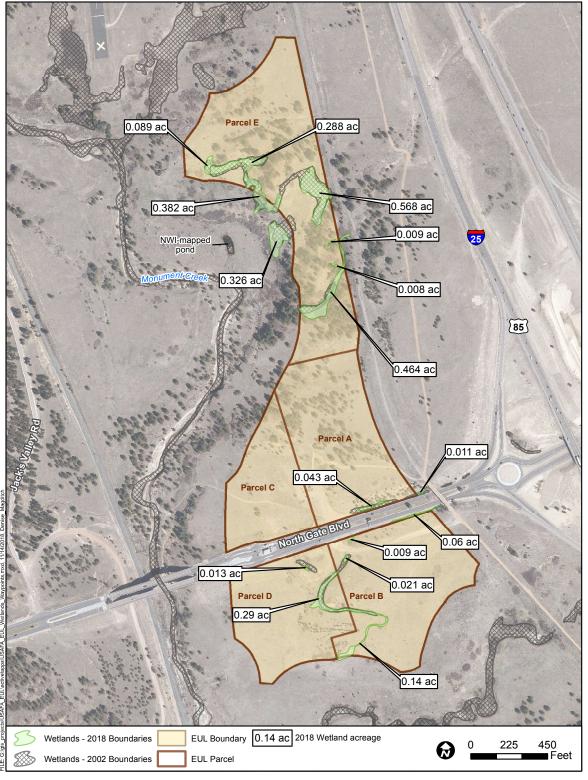
In conclusion, a total of 2.721-acres of isolated wetlands were identified within the 57-acre property. The distribution of the total 2.721-acres of wetlands identified throughout the property are as follows:

- 0.481-acres of isolated PEM wetlands are located 500-linear feet up-gradient of Monument Creek, a RPW. The 900 linear foot gully has an ephemeral sheet flow that drains into Monument Creek, a WOUS with no additional connection to other wetlands.
- 0.587-acres of wetlands are located within Parcels A through D, and verified to be isolated wetlands sustained primarily by roadside drainage, seep and precipitation with no connection to other wetlands or any WOUS.
- 1.653-acres of wetlands are located within Parcel E, and were verified to be isolated drumlin slope wetlands located sporatically along the upland slopes sustained primarily by slope seeps and preciption that do not have any connection to other wetlands or any WOUS.

The cummultive analysis considered the size of basin area, physical, biological, chemical, ecological, geological features, ephemeral estimated volume, USGS basin data, and the proximity of the site to the TNW (Any volume flows through the site are assumed not to have the capacity to reach the TNW through the 3 RPWs and their contributing tributaries along the 167-miles path. Too many variables (evaporation, dilution, multitude of water uses, and water exchanges, etc.) exist that could capture any volumes of flows from the site. In conclusion, the site does not meet the Significant Nexus standard and it is highly unlikey that the TNW would be affected by flows from the site and it is speculative to state or demonstrate that flows from the site during seasonal flood events could have the capacity of physical, biological or chemical characteristics to reach and affect the integrity of the TNW, 167-miles away.



Map 2Parcel Boundary Showing total of 2.721-acres of Isolated Wetlands.



Parcel A - 0.054-acres of Isolated wetlands along Northgate Blvd. North Shoulder w/no WOUS connection.

Parcel B - 0.230-acres of Isolated wetlands developed with man-made drainage, w/no WOUS connection.

Parcel C - No Wetlands found.

Parcel D - 0.303-acres of Isolated wetlands with no WOUS connection.

Parcel E - 1.653-acres of Isolated drumlin slope wetland seeps with no water leaving wetland. 900 linear ft. Gully has 0.481-acres of isolated wetlands seeping sheet flows separated with a 600-linear ft. drainage way connecting to Monument Creek (RPW).