STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION
Region 3, Environment

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SH 92 Stengel's Hill Reconstruction

CDOT Federal Aid Project Number STA 092A-024; SA 17772

SH 92 MP 13.80 to 15.50 (Delta County)

Wetland Delineation Report

Wetland #1 on BLM property looking north from SH 92 at STA 416+00.

March 21, 2013

Prepared for submittal to:

U.S. Army Corps of Engineers, Sacramento District
Colorado West Regulatory Branch
400 Rood Avenue, Rm. 224
Grand Junction, CO 81501-2563

INTRODUCTION

The following Wetland Delineation Report is provided as support to complete the Categorical Exclusion for CDOT project STA 092A-024 (17772), known as SH 92 Stengel's Hill Reconstruction. The project is located on SH 92 between mileposts 13.80-15.50 in Delta County west of Rogers Mesa and south of Redlands Mesa (see attachments for maps, photos, project plan sheets showing surveyed wetland locations, and completed wetland data forms).

PURPOSE

The project involves reconstruction and minor widening of SH 92 from milepost (MP) 13.80 to MP 15.50 in Delta County, an area referred to as Stengel's Hill. The project also includes construction of a new grade separated railroad crossing where SH 92 intersects the grade of the Union Pacific Railroad (UPRR), which will involve a slight shift in the alignment of the highway to the north.

METHODS

The wetland delineation was performed by Paula Durkin, a certified Professional Wetland Scientist (PWS #1225, issued on 8/16/1999) with the CDOT Region 3 Grand Junction office (Environmental Unit). Wetlands were delineated and mapped on 9/19/11 and 9/20/11.

All wetlands were delineated in accordance with the Corps of Engineers 1987 Wetland Delineation Manual (Environmental Laboratory 1987) and the 2008 Arid West Manual. A routine determination was completed due to obvious wetland boundaries. With the exception of certain wetlands, for each wetland polygon, two paired data points are typically recorded on Wetland Determination Data Forms to document the wetland/upland boundary. Due to the atypical boundaries of Wetland #1, five paired data points were recorded. These are attached as an addendum to this report.

Each flagged wetland boundary was surveyed as one polygonal unit using a Trimble ProXH receiver for sub-foot post-processing accuracy and instant determination of wetland size and coordinate locations. The wetland data was then imported into the project's topo files in MicroStation Vers. 8, which were then incorporated into the design plans. Future final analyses will take into consideration avoidance and minimization measures and to calculate potential wetland impacts. These analyses have not yet been determined, however unavoidable impacts are expected and CDOT will coordinate with the U.S. Army Corps of Engineers and submit a Preconstruction Notification for a Nationwide Permit 14 for Linear Transportation Projects.

WETLANDS AND WATERS OF THE U.S. DESCRIPTION (RESULTS)

The wetland delineation was limited only to potential wetland areas north of SH 92 between MP 13.8 and MP 15.50 and an area 42.3 acres in size. Within this area, 2.31 acres were delineated as five separate wetland polygons.

The largest wetland (Wetland #1) is on BLM land and straddles a portion of CDOT's Right-of-Way (ROW) and private property. The remaining wetlands are on private property and a portion of CDOT ROW. The wetlands as depicted on the attached topo map and aerial photos (Figures 1 - 3) are shown as an approximation for orientation purposes. The actual surveyed wetlands including data points and photo points are shown on detailed project plan sheets on Figures 4-6. Photos of each wetland are provided in Figures 7-17. Table 1 summarizes the generalized wetland characteristics and site details of each.

The dominant wetland class for each wetland is Palustrine Emergent (PEM). Two of the wetlands (#1 and #2), including the largest one on BLM land are likely the only jurisdictional wetlands as they directly abut two separate jurisdictional waters of the US, an unnamed creek and Big Gulch. Both are tributaries to the North Fork of the Gunnison River, which is located approximately one mile to the south. From the outermost limits of each wetland at the upland interface, there is an unbroken surface connection to a small creek approximately one to two feet wide that historically flowed intermittently, and now have perennial flows due to irrigation runoff. Most creeks in the area are excavated for additional water storage and used as stockponds, many of which can be seen on the 7.5' topographic map dating back to 1955.

Wetlands 3-5 are likely not jurisdictional as they are located on vegetated swales associated with irrigation runoff from an unlined ditch that may be traced to Stingley Gulch but otherwise have no direct connection to any relatively permanent waters of the US.

Wetland #1. Wetland #1 (data forms 1-1 to 1-5) is located for the most part on BLM land north of SH 92 between MP 14.6 and 14.7, approximately 0.1 mile east of the UPRR at-grade crossing and west of Hidden Springs Road. The wetland continues up the drainage, but the delineated portion for project purposes is 1.04 acres. The main channel is a small single-threaded channel originating from the steeper hills and mesas to the north, northwest and sloping gently through the project area. It consists of a large, marshy wetland complex that in September had still retained its marsh-like characteristics aside from drier margins that are evidently wetter in early summer as indicated by the salt-crusted soils that are slightly alkaline, non-porous, and slowly permeable. The dominant vegetation reflects the alkaline and aridic characteristics of the soils and the region. Common plant species include *Distichlis spicata* – FAC, *Chenopodium chenopodioides* – FACW, and *Glaux maritimum* – FACW, which are common particularly around the drier margins of the wetland. Toward the wetter central drainage of the wetland, inland saltgrass thrives along with mosaic complexes of *Typha latifolia*-OBL and *Muhlenbergia asperifolia*-FACW. Future functional analyses will be completed closer to the permitting stage for the project and will likely result in a high grade, close to, if not equivalent to the reference standard for this wetland type, and at the very least, highly functioning and retaining most of its natural functions.

Wetland #2. Wetland #2 (data form 2-1) is located at the bottom of Big Gulch at MP 15.0. It is regularly grazed and trampled by horses, which is reflected in its monotypic vegetation community dominated by an invasive and introduced grass, *Phalaris arundinacea* – FACW. Characteristic of this species is that it forms extensive single-species stands in wetlands.

Table 1
Wetland Characteristics and Site Details

Wetland ID and Size	Location	Watershed LRR	Dominant Hydrophytic Vegetation	Hydric Soil Indicators	Wetland Hydrology Indicators
#1 (1.04 AC)	Adjacent to an unnamed intermittent creek on BLM lands for the most part 38.47521, -107.49287 T. 14S., R. 93W.,NE ¼ NE ¼ Sect 31	North Fork Gunnison Watershed (HUC: 14020004) D- Interior Deserts	PEM *Distichlis spicata* FAC *Chenopodium chenopodioides*-FACW *Glaux maritimum*-FACW *Typha latifolia*-OBL *Muhlenbergia asperifolia*-FACW	Chipeta Series/Badlands Chipeta silty clay formed on slope alluvium Redox Dark Surface (F6)	Primary: Surface Water (A1) Saturation (A3) Salt Crust (B11) Secondary: Drainage Patterns (B10) Saturation Visible on Aerial Imagery (C9)
#2 (0.34 AC)	Adjacent to Big Gulch 38.47571, -107.49099 T. 14S., R. 93W.,NE ¼ NE ¼ Sect 31	North Fork Gunnison Watershed (HUC: 14020004) D- Interior Deserts	PEM *Phalaris arundinacea*-FACW	Utaline Series Silty clay loams derived from basalt formed on mesas high terraces, and fan remnants Hydrogen Sulfice (A4)	Primary: Surface Water (A1 Saturation (A3) Secondary: Drainage Patterns (B10) Saturation Visible on Aerial Imagery (C9)
#3 (0.26 AC)	Vegetated swale around a stockpond, irrigation related 38.47592, -107.49023 T. 14S., R. 93W.,NW ¼ NW ¼ Sect 32	North Fork Gunnison Watershed (HUC: 14020004) D- Interior Deserts	PEM *Distichlis spicata* FAC *Polypogon monspeliensis*-FACW	Utaline Series Silty clay loams derived from basalt formed on mesas high terraces, and fan remnants Redox Dark Surface (F6)	Primary: Surface Water (A1 Saturation (A3) Secondary: Drainage Patterns (B10) Saturation Visible on Aerial Imagery (C9)
#4 (0.66 AC)	Vegetated swale related to irrigation runoff from Stingley Gulch 38.47595, -107.49016 T. 14S., R. 93W.,NW ¼ NW ¼ Sect 32	North Fork Gunnison Watershed (HUC: 14020004) D- Interior Deserts	PEM *Distichlis spicata* FAC *Muhlenbergia asperifolia*-FACW	Utaline Series Silty clay loams derived from basalt formed on mesas high terraces, and fan remnants Redox Dark Surface (F6)	Primary: Surface Water (A1 Saturation (A3) Secondary: Drainage Patterns (B10) Saturation Visible on Aerial Imagery (C9)
#5 (0.01 AC)	Irrigation ditch 38.48022, -107.48549 T. 14S., R. 93W.,SW ¼ SW ¼ Sect 29	North Fork Gunnison Watershed (HUC: 14020004) D- Interior Deserts	PEM *Typha latifolia* *Distichlis spicata* FAC	Utaline Series Silty clay loams derived from basalt formed on mesas high terraces, and fan remnants Redox Dark Surface (F6)	Primary: Surface Water (A1 Saturation (A3) Secondary: Drainage Patterns (B10) Saturation Visible on Aerial Imagery (C9)
Total: 2.31 AC					

The soils along Big Gulch are saturated to the surface, black in color (2.5/N), non-porous and slowly permeable. They have a strong sulfidic odor.

Wetlands #3-5. Wetland #3 (data form 3-1), Wetland #4 (data form 4-1) and Wetland #5 (data form 5-1) are associated with irrigation runoff and have no direct connection to any naturally occurring stream or creek. They can best be described as vegetated swales. They aren't high value wetlands but are functional and the hydrology is not likely to change in the near future. *Distichlis* persists throughout each wetland. Wetland #3 also includes *Polypogon monspeliensis* – FACW, while Wetland #5 is largely dominated by *Typha*, while, Wetland #4 is a larger complex (0.66 acres) and retains a certain amount of value for wildlife species in the area.

CONCLUSION

All wetlands in the project area were delineated in accordance with the 1987 Corps Wetland Delineation Manual and the 2008 Arid West Supplement. Boundaries were flagged in the field and surveyed by GPS with sub-foot accuracy. As depicted on the project's design sheets the wetland boundaries are an accurate depiction of this valuable resource. No other wetlands or Waters of the U.S. were identified within or adjacent to the project area.

Future work will include a formal functional assessment of the wetlands using CDOT's FACWet methodology and an analysis of impacts for future 404 permitting needs under the Clean Water Act. Additional work will also include preparation of a Wetland Finding for Federal Highways (FHWA). For permitting purposes and to streamline permitting, CDOT will likely mitigate for all temporal and permanent impacts to wetlands regardless of jurisdiction and will seek authorization for work based on a preliminary JD versus an approved JD. Mitigation for all impacts will also support FHWA and CDOT's policy of *No Net Loss of Wetlands*. This will likely be completed at WetBank Gunnison upon the Corps approval.

REFERENCES

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Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*, Technical Report Y-87-1. U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS.

Kollmorgan Corporation. 1994 (revised). *Munsell Soil Color Charts*. Macbeth Division of Kollmorgan Instruments Corporation. New Windsor, NY.

Lichvar, R.W. 2012. The National Wetland Plant List. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. http://acwc.sdp.sirsi.net/client/search/asset:asset?t:ac=$N/1012381

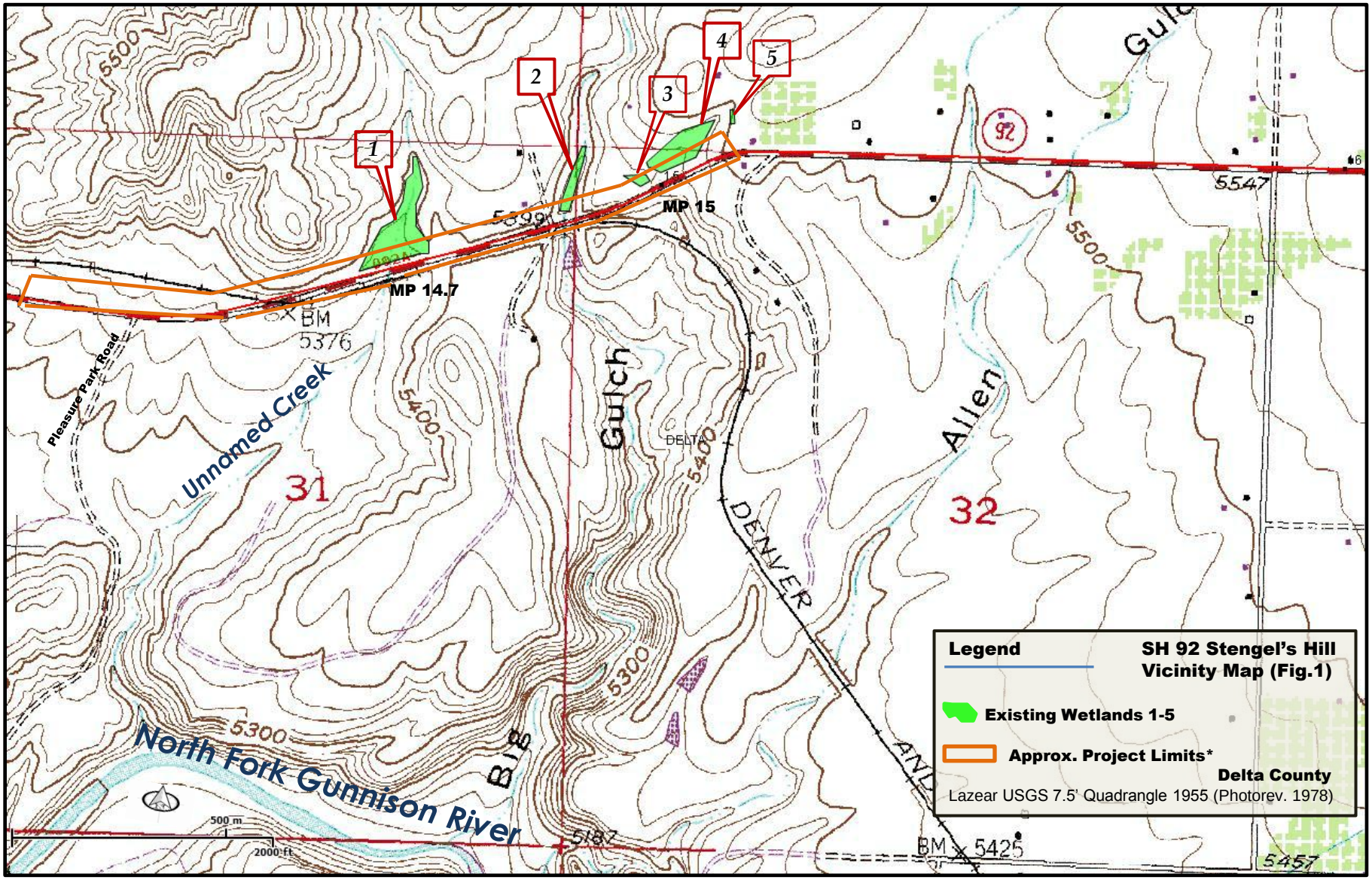
U.S. Army Corps of Engineers. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. Ed. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

USDA, NRCS. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

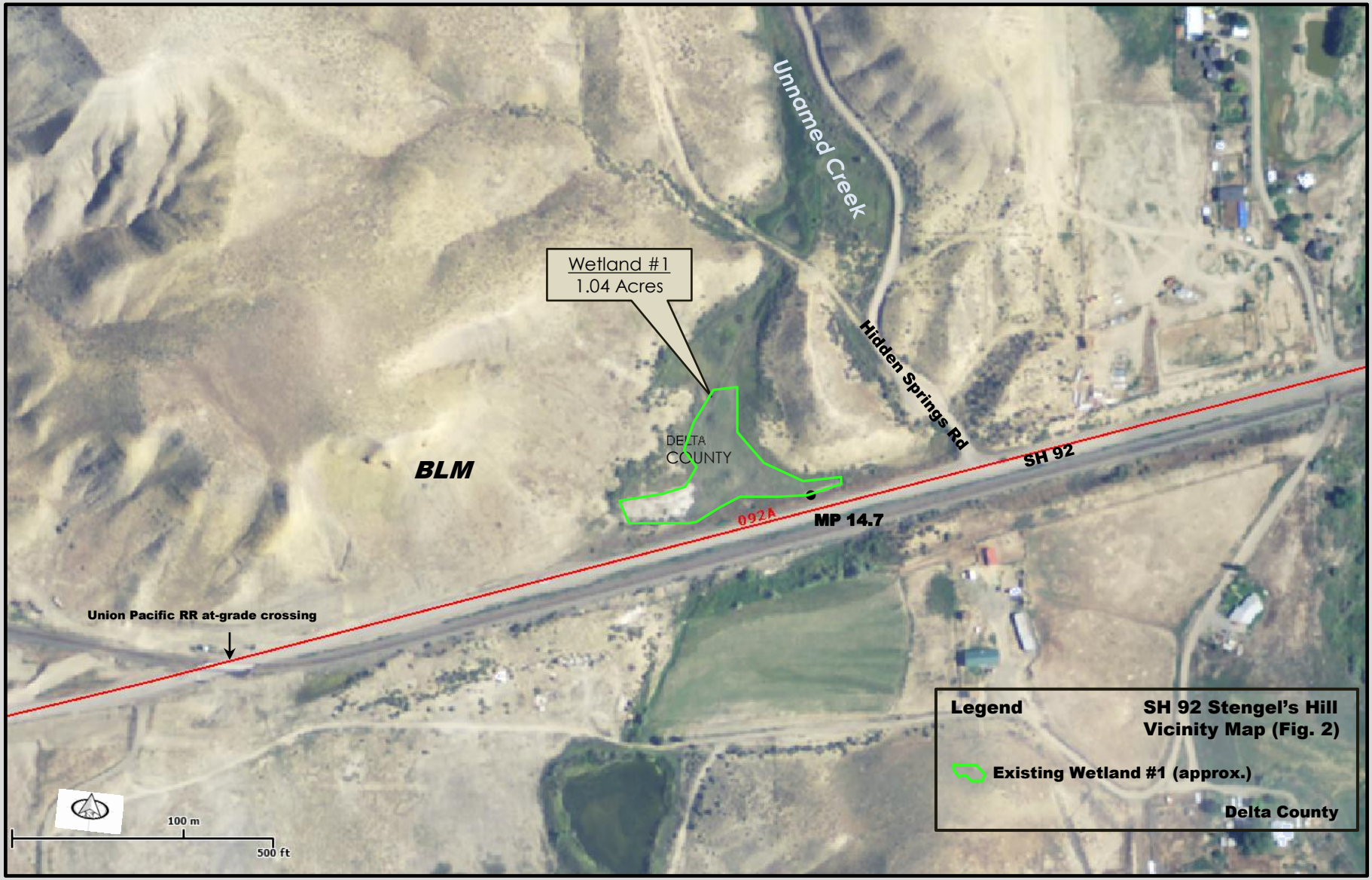
USGS. 1955 (Photorevised 1978). Lazear Quadrangle. 7.5 Minute Series (Topographic). USGS Denver, CO.

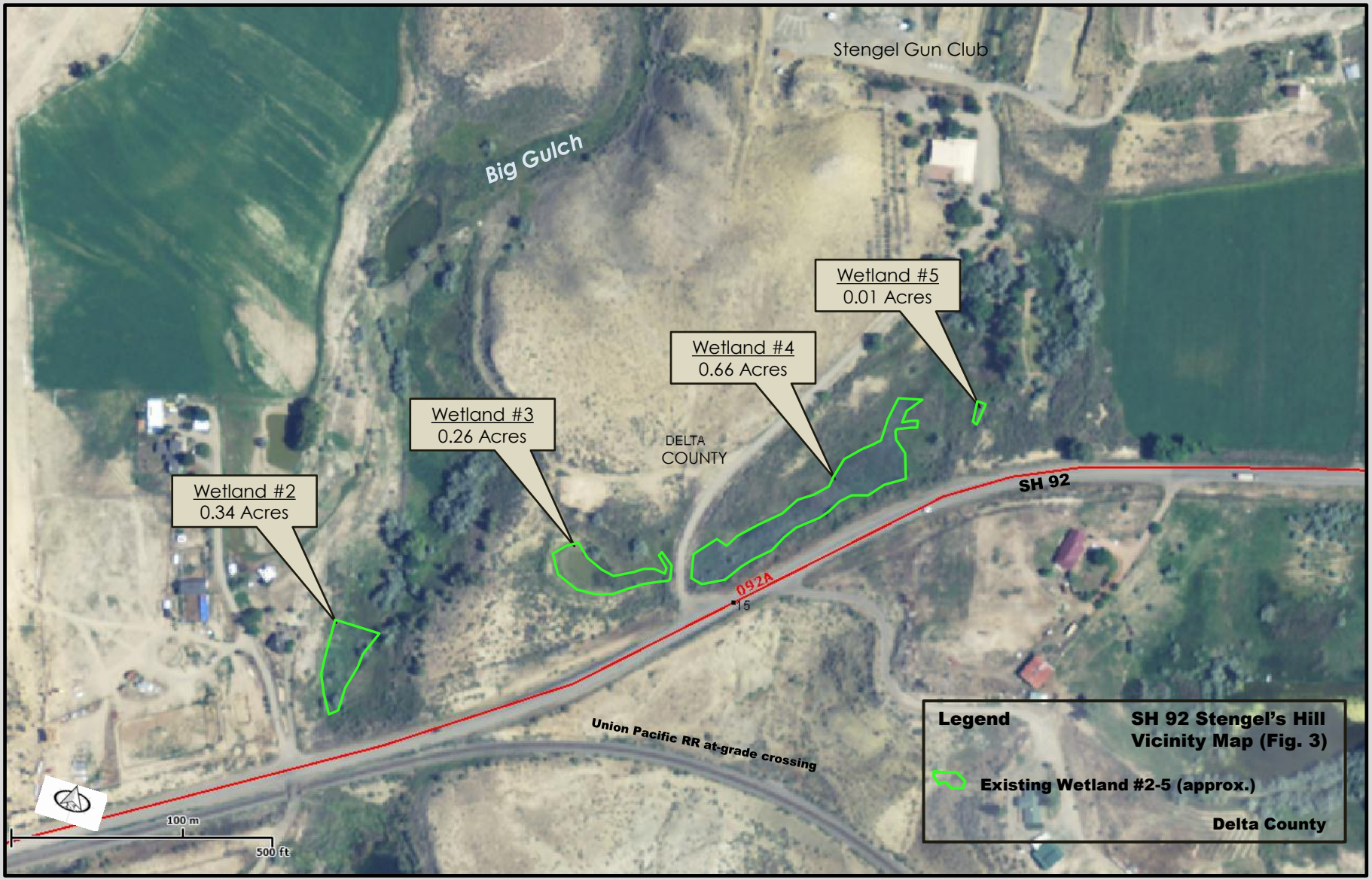
_____. 1974. Hydrologic Unit Code Map for Colorado. Denver Federal Center, Denver, CO.

SH92 Stengel's Hill Reconstruction (MP 13.80-15.50)



Project limits: Edge of oil on south side of highway to no more than 100 ft. north of the highway (varies).


Unnamed Creek
Wetland #1
1.04 Acres
Hidden Springs Rd
SH 92
DELTA
COUNTY
BLM
092A
MP 14.7
Union Pacific RR at-grade crossing
100 m
500 ft
Legend
SH 92 Stengel's Hill
Vicinity Map (Fig. 2)
Existing Wetland #1 (approx.)
Delta County


Stengel Gun Club
Big Gulch
Wetland #5
0.01 Acres
Wetland #4
0.66 Acres
Wetland #3
0.26 Acres
Wetland #2
0.34 Acres
DELTA
COUNTY
SH 92
092A
15
Union Pacific RR at-grade crossing
100 m
500 ft
Legend
SH 92 Stengel's Hill
Vicinity Map (Fig. 3)
Existing Wetland #2-5 (approx.)
Delta County

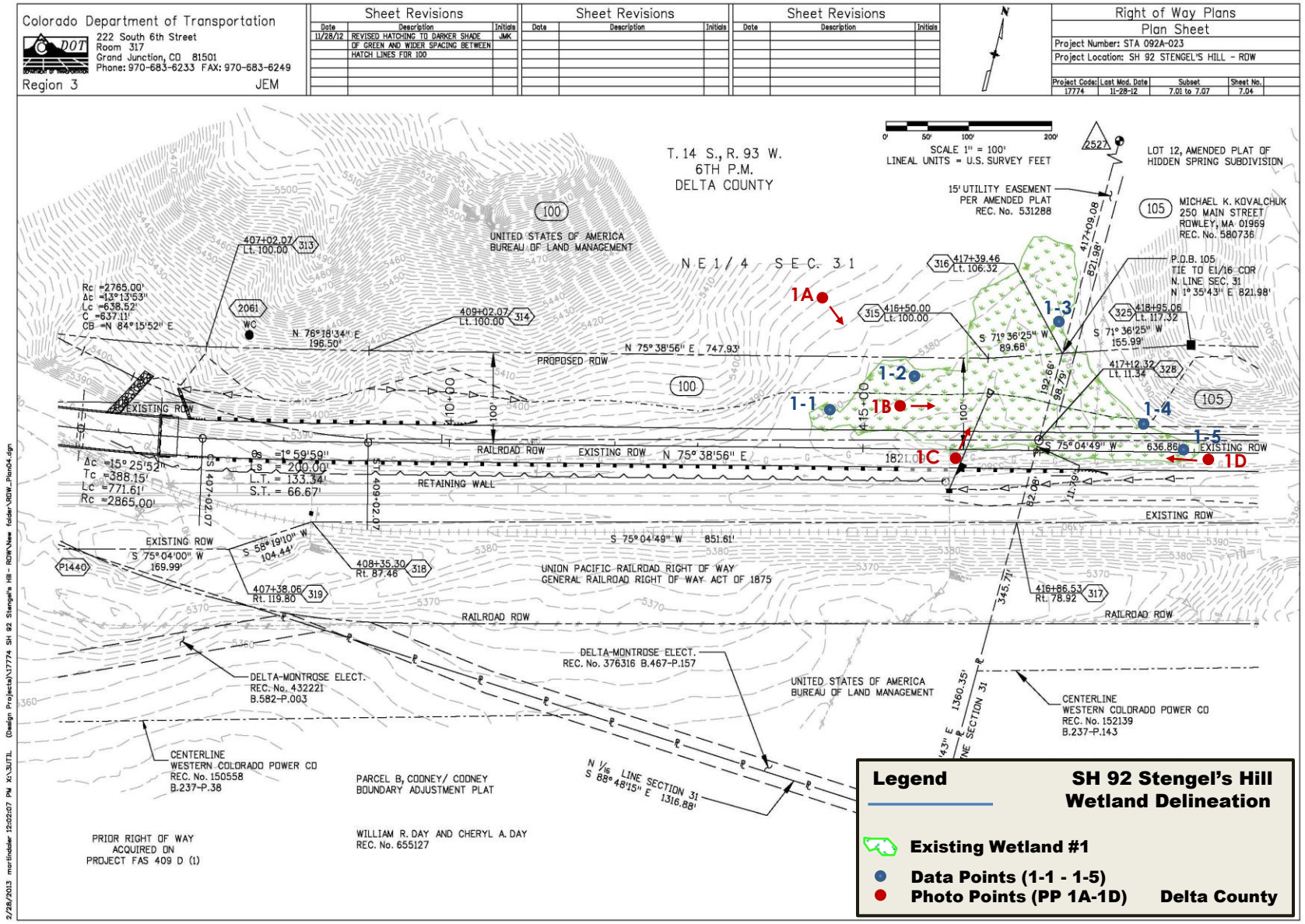
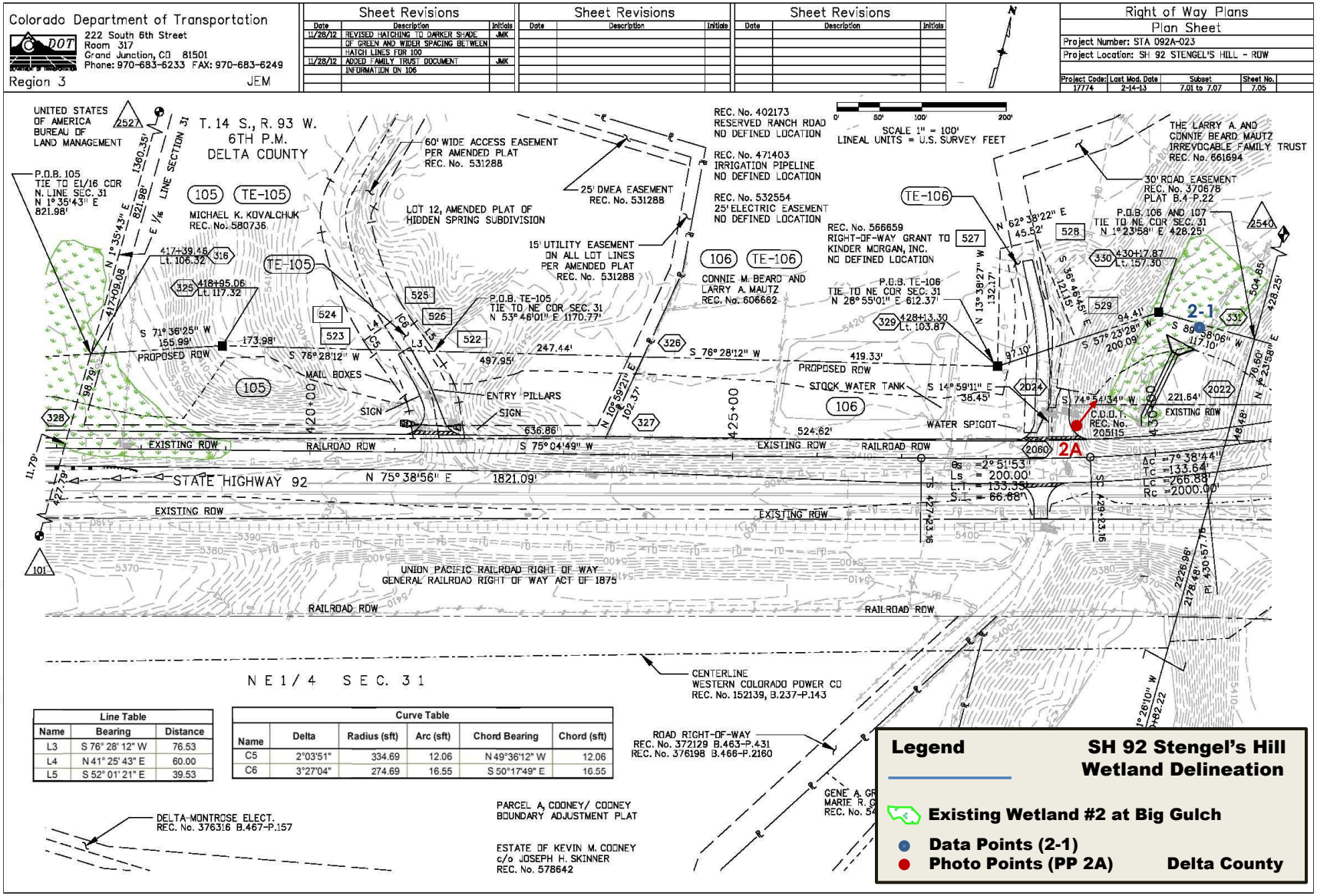

Colorado Department of Transportation
222 South 6th Street
Room 317
Grand Junction, CO 81501
Phone: 970-683-6233 FAX: 970-683-6249
Region 3 JEM
Sheet Revisions
Date Description Initials
11/28/12 REVISED HATCHING TO DARKER SHADE OF GREEN AND WIDER SPACING BETWEEN HATCH LINES FOR 100 JMK
Right of Way Plans
Plan Sheet
Project Number: STA 092A-023
Project Location: SH 92 STENGEL'S HILL - ROW
Project Code: 17774
Last Mod. Date: 11-28-12
Subset: 7.01 to 7.07
Sheet No.: 7.04
T. 14 S., R. 93 W.
6TH P.M.
DELTA COUNTY
SCALE 1" = 100'
LINEAL UNITS = U.S. SURVEY FEET
N E 1/4 SEC. 31
UNITED STATES OF AMERICA
BUREAU OF LAND MANAGEMENT
LOT 12, AMENDED PLAT OF HIDDEN SPRING SUBDIVISION
MICHAEL K. KOVALCHUK
250 MAIN STREET
ROWLEY, MA 01969
REC. No. 580736
15' UTILITY EASEMENT PER AMENDED PLAT REC. No. 531288
P.O.B. 105
TIE TO E1/16 COR
N. LINE SEC. 31
N 1° 35'43" E 821.98'
PROPOSED ROW
EXISTING ROW
RAILROAD ROW
RETAINING WALL
UNION PACIFIC RAILROAD RIGHT OF WAY
GENERAL RAILROAD RIGHT OF WAY ACT OF 1875
DELTA-MONTROSE ELECT.
REC. No. 432221
B.582-P.003
DELTA-MONTROSE ELECT.
REC. No. 376316 B.467-P.157
CENTERLINE
WESTERN COLORADO POWER CO
REC. No. 150558
B.237-P.38
CENTERLINE
WESTERN COLORADO POWER CO
REC. No. 152139
B.237-P.143
PARCEL B, CODNEY/ CODNEY
BOUNDARY ADJUSTMENT PLAT
WILLIAM R. DAY AND CHERYL A. DAY
REC. No. 655127
PRIOR RIGHT OF WAY
ACQUIRED ON
PROJECT FAS 409 D (1)
1A
1B
1C
1D
1-1
1-2
1-3
1-4
1-5
Legend
SH 92 Stengel's Hill
Wetland Delineation
Existing Wetland #1
Data Points (1-1 - 1-5)
Photo Points (PP 1A-1D)
Delta County

Fig. 4


Colorado Department of Transportation
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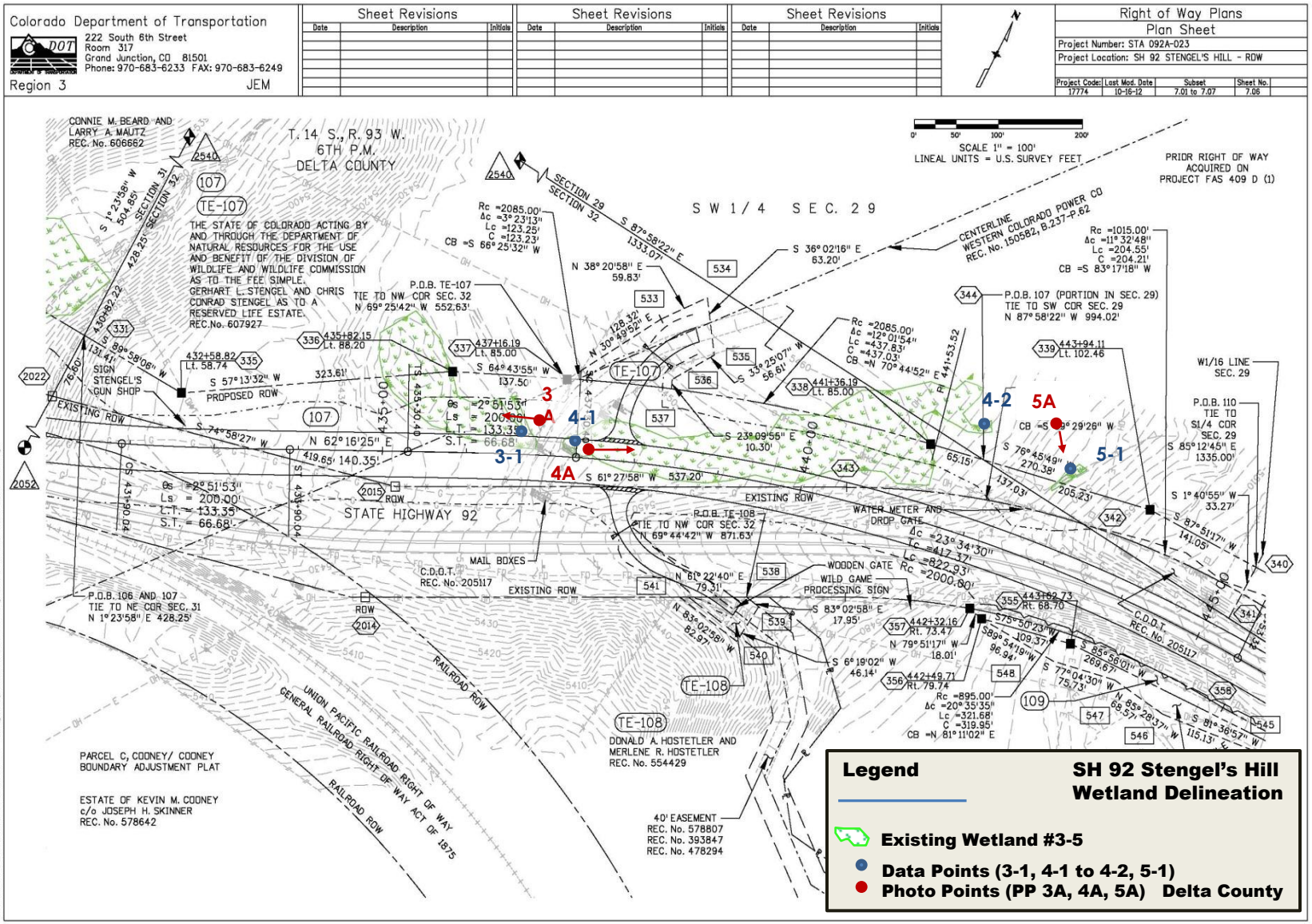
Region 3
JEM
Sheet Revisions
Date | Description | Initials
11/28/12 | REVISED HATCHING TO DARKER SHADE OF GREEN AND WIDER SPACING BETWEEN HATCH LINES FOR 100 | JMK
11/28/12 | ADDED FAMILY TRUST DOCUMENT INFORMATION ON 106 | JMK
Right of Way Plans
Plan Sheet
Project Number: STA 092A-023
Project Location: SH 92 STENGEL'S HILL - ROW
Project Code: 17774 | Last Mod. Date: 2-14-13 | Subset: 7.01 to 7.07 | Sheet No.: 7.05
T. 14 S., R. 93 W.
6TH P.M.
DELTA COUNTY
UNITED STATES OF AMERICA BUREAU OF LAND MANAGEMENT
P.O.B. 105
TIE TO EL/16 COR
N. LINE SEC. 31
N 1°35'43" E
821.98'
60' WIDE ACCESS EASEMENT PER AMENDED PLAT REC. No. 531288
25' DMEA EASEMENT REC. No. 531288
LOT 12, AMENDED PLAT OF HIDDEN SPRING SUBDIVISION
15' UTILITY EASEMENT ON ALL LOT LINES PER AMENDED PLAT REC. No. 531288
MICHAEL K. KOVALCHUK REC. No. 580736
CONNIE M. BEARD AND LARRY A. MAUTZ REC. No. 606662
REC. No. 402173 RESERVED RANCH ROAD NO DEFINED LOCATION
REC. No. 471403 IRRIGATION PIPELINE NO DEFINED LOCATION
REC. No. 532554 25' ELECTRIC EASEMENT NO DEFINED LOCATION
REC. No. 566659 RIGHT-OF-WAY GRANT TO KINDER MORGAN, INC. NO DEFINED LOCATION
SCALE 1" = 100'
LINEAL UNITS = U.S. SURVEY FEET
THE LARRY A. AND CONNIE BEARD MAUTZ IRREVOCABLE FAMILY TRUST REC. No. 661694
30' ROAD EASEMENT REC. No. 370678 PLAT B.4-P.22
P.O.B. 106 AND 107
TIE TO NE COR SEC. 31
N 1°23'58" E 428.25'
P.O.B. TE-105
TIE TO NE COR SEC. 31
N 53°46'01" E 1170.77'
P.O.B. TE-106
TIE TO NE COR SEC. 31
N 28°55'01" E 612.37'
STATE HIGHWAY 92
N 75°38'56" E 1821.09'
EXISTING ROW
RAILROAD ROW
PROPOSED ROW
MAIL BOXES
ENTRY PILLARS
SIGN
STOCK WATER TANK
WATER SPIGOT
C.D.O.T. REC. No. 205115
UNION PACIFIC RAILROAD RIGHT OF WAY GENERAL RAILROAD RIGHT OF WAY ACT OF 1875
CENTERLINE WESTERN COLORADO POWER CO REC. No. 152139, B.237-P.143
ROAD RIGHT-OF-WAY REC. No. 372129 B.463-P.431 REC. No. 376198 B.466-P.2160
DELTA-MONTROSE ELECT. REC. No. 376316 B.467-P.157
PARCEL A, COONEY/ COONEY BOUNDARY ADJUSTMENT PLAT
ESTATE OF KEVIN M. COONEY c/o JOSEPH H. SKINNER REC. No. 578642
N E 1/4 S E C. 31
2-1
2A
Line Table
Name | Bearing | Distance
L3 | S 76° 28' 12" W | 76.53
L4 | N 41° 25' 43" E | 60.00
L5 | S 52° 01' 21" E | 39.53
Curve Table
Name | Delta | Radius (sft) | Arc (sft) | Chord Bearing | Chord (sft)
C5 | 2°03'51" | 334.69 | 12.06 | N 49°36'12" W | 12.06
C6 | 3°27'04" | 274.69 | 16.55 | S 50°17'49" E | 16.55
Δc = 2° 51'53"
Ls = 200.00'
Lt = 133.35'
St = 66.68'
Ac = 7° 38'44"
Tc = 133.64'
Lc = 266.88'
Rc = 2000.00'
Legend
SH 92 Stengel's Hill Wetland Delineation
Existing Wetland #2 at Big Gulch
Data Points (2-1)
Photo Points (PP 2A)
Delta County

Fig. 5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Region 3
JEM
Sheet Revisions
Right of Way Plans
Plan Sheet
Project Number: STA 092A-023
Project Location: SH 92 STENGEL'S HILL - RDW
T. 14 S., R. 93 W.
6TH P.M.
DELTA COUNTY
SW 1/4 SEC. 29
SCALE 1" = 100'
LINEAL UNITS = U.S. SURVEY FEET
STATE HIGHWAY 92
EXISTING ROW
PROPOSED ROW
TE-107
TE-108
THE STATE OF COLORADO ACTING BY AND THROUGH THE DEPARTMENT OF NATURAL RESOURCES FOR THE USE AND BENEFIT OF THE DIVISION OF WILDLIFE AND WILDLIFE COMMISSION AS TO THE FEE SIMPLE. GERHART L. STENGEL AND CHRIS CONRAD STENGEL AS TO A RESERVED LIFE ESTATE. REC.No. 607927
CONNIE M. BEARD AND LARRY A. MAUTZ REC. No. 606662
DONALD A. HOSTETLER AND MERLENE R. HOSTETLER REC. No. 554429
PARCEL C, COONEY/ COONEY BOUNDARY ADJUSTMENT PLAT
ESTATE OF KEVIN M. COONEY c/o JOSEPH H. SKINNER REC. No. 578642
SIGN STENGEL'S GUN SHOP
MAIL BOXES
WATER METER AND DROP GATE
WOODEN GATE WILD GAME PROCESSING SIGN
C.D.O.T. REC. No. 205117
40' EASEMENT REC. No. 578807 REC. No. 393847 REC. No. 478294
UNION PACIFIC RAILROAD RIGHT OF WAY GENERAL RAILROAD RIGHT OF WAY ACT OF 1875
RAILROAD ROW
CENTERLINE WESTERN COLORADO POWER CO REC. No. 150582, B.237-P.62
PRIOR RIGHT OF WAY ACQUIRED ON PROJECT FAS 409 D (1)
P.O.B. TE-107 TIE TO NW COR SEC. 32 N 69°25'42" W 552.63'
P.O.B. 107 (PORTION IN SEC. 29) TIE TO SW COR SEC. 29 N 87°58'22" W 994.02'
P.O.B. TE-108 TIE TO NW COR SEC. 32 N 69°44'42" W 871.63'
P.O.B. 106 AND 107 TIE TO NE COR SEC. 31 N 1°23'58" E 428.25'
P.O.B. 110 TIE TO S1/4 COR SEC. 29 S 85°12'45" E 1335.00'
W1/16 LINE SEC. 29
3
3A
3-1
4-1
4A
4-2
5A
5-1
Legend
SH 92 Stengel's Hill
Wetland Delineation
Existing Wetland #3-5
Data Points (3-1, 4-1 to 4-2, 5-1)
Photo Points (PP 3A, 4A, 5A) Delta County

Fig. 6

Wetland Photos (Figures 7-17)

Photopoint 1A for Wetland #1 on BLM Property and CDOT's new proposed ROW.

See Figure 4 for location.

Fig. 7

Photopoint 1B for Wetland #1 on BLM Property.

See Figure 4 for location.

Fig. 7

Photopoint 1C for Wetland #1 on BLM Property.

See Figure 4 for location.

Fig. 8

Photopoint 1D for Wetland #1 on BLM Property.

See Figure 4 for location.

Fig. 9

Pit 1-1

Pit 1-2

Pit 1-3

Pit 1-4

Pit 1-5

Fig. 10

Wetland #1 Soil Pits

See Figure 4 for data point locations.

Photopoint 2A for Wetland #2 at Big Gulch on private property and on CDOT's new proposed ROW.

See Figure 5 for location.

Fig. 11

Wetland #2 Soil Pit

See Figure 5 for data point location.

Fig. 12 Pit 2-1

Northern Leopard Frog (*Rana pipiens*) hiding in the reedgrass.

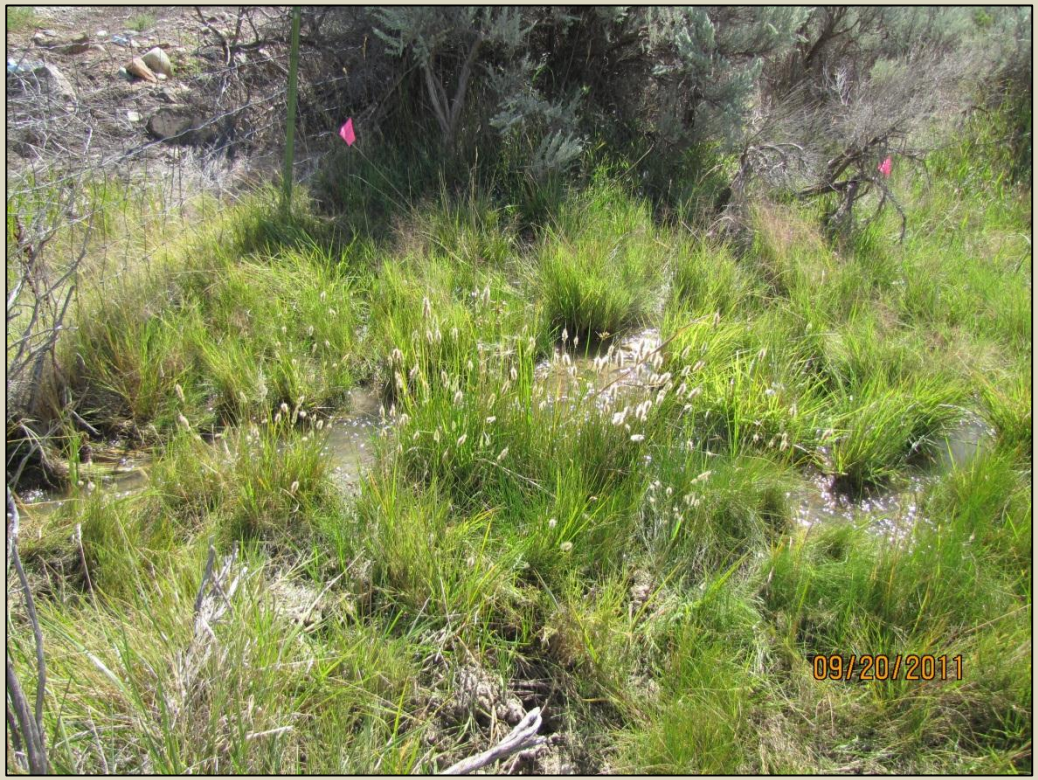
Photopoint 3A for Wetland #3 on private property and on part of CDOT's new proposed ROW.

See Figure 6 for location.

Fig. 13

Wetland #3 and Soil Pit

See Figure 5 for data point location.



Pit 3-1

Fig. 14

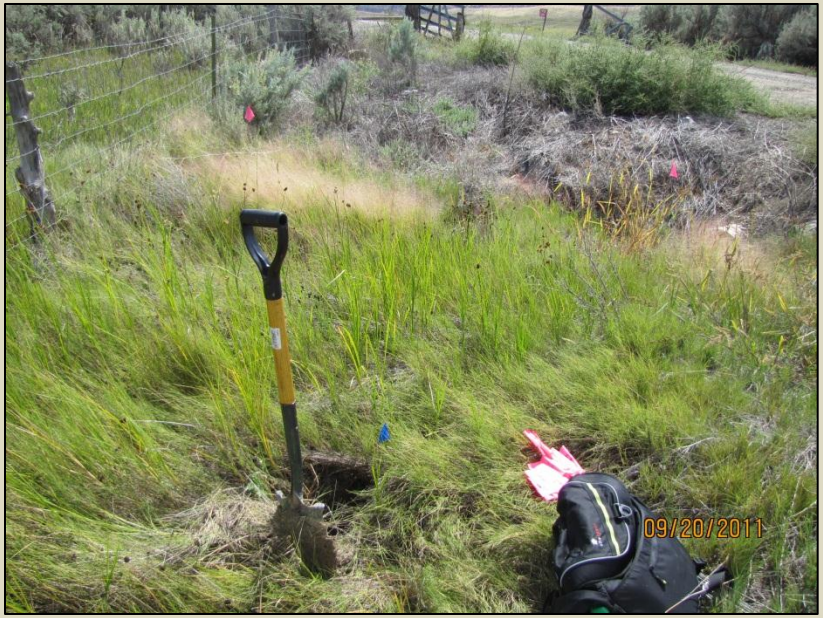
Photopoint 4A for Wetland #4 on private property and on part of CDOT's new proposed ROW.

See Figure 6 for location.

Fig. 15

Wetland #4 and Soil Pit

See Figure 6 for data point locations.



Wetland 4-1

Pit 4-1

Fig. 16

View looking east from 4-2.

Photopoint 5A for Wetland #5 on private property and on part of CDOT's new proposed ROW.

See Figure 6 for location. Area is not within project limits.

Pit 5-1

Fig. 17

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/19/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: W1-1

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.47521 | Long: 107.49287 | Datum: NAD83

Soil Map Unit Name: 23 - Chipeta silty clay, 3 to 30 percent slopes | NWI classification: PEM

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area**
Wetland Hydrology Present?	Yes (●)	No ( )	**within a Wetland?** Yes (●) No ( )

Remarks: SW edge of a large wetland complex, marshy; adj to an unnamed intermittent creek about 1 mile north of the North Fork Gunnison River.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	70	Yes	FAC
2. *Chenopodium chenopodioides*	30	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10 % % Cover of Biotic Crust %

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	30	x 2 =	60
FAC species	70	x 3 =	210
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	100 (A)		270 (B)

Prevalence Index = B/A = 2.70

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Closer to the main primary channel are Typha latifolia (OBL) and Muhlenbergia asperifolia (FACW).

SOIL

Sampling Point: W1-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5Y 6/2	70					silty clay loam	
	2.5Y 4/1	30						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (If present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Chipeta Series/Badlands

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	0-2
Water Table Present?	Yes ◉	No ○	Depth (inches):	0-8
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0-12

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Saturation varies throughout the complex.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/19/2011
Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: W1-2
Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W
Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 1
Subregion (LRR): D - Interior Deserts | Lat: 38.47528 | Long: 107.49251 | Datum: NAD83
Soil Map Unit Name: 23 - Chipeta silty clay, 3 to 30 percent slopes | NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)
Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )
Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: West edge of a large wetland complex, marshy; adj to an unnamed intermittent creek about 1 mile north of the North Fork Gunnison River.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	70	Yes	FAC
2. *Glaux maritimum*	30	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % % Cover of Biotic Crust %

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	30	x 2 =	60
FAC species	70	x 3 =	210
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	100 (A)		270 (B)

Prevalence Index = B/A = 2.70

Hydrophytic Vegetation Indicators:
- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: W1-2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5Y 6/2	50	7.5YR 4/4	20	C	RC	silty clay loam	
	2.5Y 4/1	50						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Chipeta Series/Badlands

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	0
Water Table Present?	Yes ◉	No ○	Depth (inches):	12
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	1

Wetland Hydrology Present? Yes ◉ No ○

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

aerial photos, topo maps

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/19/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: W1-3

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.47538 | Long: 107.49256 | Datum: NAD83

Soil Map Unit Name: 23 - Chipeta silty clay, 3 to 30 percent slopes | NWI classification: PEM

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: NE edge of a large wetland complex, marshy; adj to an unnamed intermittent creek about 1 mile north of the North Fork Gunnison River.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	70	Yes	FAC
2. *Muhlenbergia asperifolia*	30	Yes	FACW
3. *Cirsium arvense*	1	No	FACU
4. *Chenopodium chenopodioides*	1	No	FACW
5.			
6.			
7.			
8.			
Total Cover:	102%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	31	x 2 =	62
FAC species	70	x 3 =	210
FACU species	1	x 4 =	4
UPL species		x 5 =	0
Column Totals:	102 (A)		276 (B)

Prevalence Index = B/A = 2.71

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: W1-3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5Y 6/2	20					silty clay loam	
	2.5Y 4/1	80						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Chipeta Series/Badlands

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	8
Water Table Present?	Yes ◉	No ○	Depth (inches):	12
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	6

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/19/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: W1-4

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.47530 | Long: 107.49239 | Datum: NAD83

Soil Map Unit Name: 23 - Chipeta silty clay, 3 to 30 percent slopes | NWI classification: PEM

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: E edge of a large wetland complex, marshy; adj to an unnamed intermittent creek about 1 mile north of the North Fork Gunnison River.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	60	Yes	FAC
2. *Chenopodium chenopodioides*	40	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	40	x 2 =	80
FAC species	60	x 3 =	180
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	100 (A)		260 (B)

Prevalence Index = B/A = 2.60

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: W1-4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5Y 6/2	50					silty clay loam	
	2.5Y 4/1	50						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Chipeta Series/Badlands

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): 0

Water Table Present? Yes ◉ No ○ Depth (inches): 16

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 2

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/19/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: W1-5

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.47529 | Long: 107.49232 | Datum: NAD83

Soil Map Unit Name: 23 - Chipeta silty clay, 3 to 30 percent slopes | NWI classification: PEM

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: E edge of a large wetland complex, marshy; adj to an unnamed intermittent creek about 1 mile north of the North Fork Gunnison River.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	100	x 3 =	300
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	100 (A)		300 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: W1-5

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5Y 6/2	70	2.5Y 6/6	5	C	RC	silty clay loam	
	2.5Y 4/1	30						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Chipeta Series/Badlands

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	0
Water Table Present?	Yes ◉	No ○	Depth (inches):	8
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	1

Wetland Hydrology Present? Yes ◉ No ○

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

aerial photos, topo maps

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/20/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: W2-1

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.47571 | Long: 107.49099 | Datum: NAD83

Soil Map Unit Name: 80 - Utaline-Torriorthents complex | NWI classification: PEM

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Wetland at bottom of Big Gulch; 1.3 miles north of N. Fork Gunnison River.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Phalaris arundinacea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species		x 1 =	0	
FACW species	100	x 2 =	200	
FAC species		x 3 =	0	
FACU species		x 4 =	0	
UPL species		x 5 =	0	
Column Totals:	100	(A)	200	(B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: W2-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-2	7.5YR 5/4	100					silty clay loam	
2-10	2.5 4/N	100	7.5YR 5/6	2	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☒ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Utaline Series

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	0
Water Table Present?	Yes ◉	No ○	Depth (inches):	8
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	1

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/20/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: W3-1

Investigator(s): Paula Durkin | Section, Township, Range: NW 1/4 NW 1/4 Sect. 32, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.47592 | Long: 107.49023 | Datum: NAD83

Soil Map Unit Name: 80 - Utaline-Torriorthents complex | NWI classification: PEM

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Marshy area east of stockpond. Irrigation runoff from ditches likely from Stingley Gulch to the northeast and draining to Big Gulch.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	100	Yes	FACW
2. *Polypogon monspeliensis*	20	Yes	FACW
3. *Festuca arundinacea*	1	No	FACW
4. *Rumex crispus*	1	No	FAC
5. *Juncus torreyi*	1	No	FACW
6. *Hordeum jubatum*	1	No	FAC
7. *Cirsium arvense*	1	No	FACU
8.			
Total Cover:	125%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	122	x 2 =	244
FAC species	2	x 3 =	6
FACU species	1	x 4 =	4
UPL species		x 5 =	0
Column Totals:	125 (A)		254 (B)

Prevalence Index = B/A = 2.03

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Muhlenbergia asperifolia (FACW) more common around the stockpond.

SOIL

Sampling Point: W3-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-8	2.5YR 6/2	100	2.5 YR 4/1	10	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Utaline Series

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	0
Water Table Present?	Yes ◉	No ○	Depth (inches):	8
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	1

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/20/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: W4-1

Investigator(s): Paula Durkin | Section, Township, Range: NW 1/4 NW 1/4 Sect. 32, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.47595 | Long: 107.49016 | Datum: NAD83

Soil Map Unit Name: 80 - Utaline-Torriorthents complex | NWI classification: PEM

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Marshy area east of Gun Club driveway at bottom of hill. Irrigation runoff from ditches likely from Stingley Gulch to the northeast and draining to Big Gulch.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	70	Yes	FACW
2. *Muhlenbergia asperifolia*	30	Yes	FACW
3. *Schoenoplectus americanus*	5	No	OBL
4. *Juncus torreyi*	5	No	FACW
5. *Beckmannia syzigachne*	5	No	OBL
6. *Echinochloa crus-galli*	1	No	FACW
7. *Xanthium strumarium*	1	No	FAC
8.			
Total Cover:	117%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	106	x 2 =	212
FAC species	1	x 3 =	3
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	117 (A)		225 (B)

Prevalence Index = B/A = 1.92

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: W4-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-16	7.5YR 5/4	90					silty clay loam	
	7.5YR 5/1	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Utaline Series

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	0
Water Table Present?	Yes ◉	No ○	Depth (inches):	16
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	12

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/20/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: W4-2

Investigator(s): Paula Durkin | Section, Township, Range: SW 1/4 SW 1/4 Sect. 29, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.48019 | Long: 107.48564 | Datum: NAD83

Soil Map Unit Name: 80 - Utaline-Torriorthents complex | NWI classification: PEM

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area**
Wetland Hydrology Present?	Yes (●)	No ( )	**within a Wetland?** Yes (●) No ( )

Remarks: Marshy area east of Gun Club driveway near top of hill to the east. Irrigation runoff from ditches likely from Stingley Gulch to the northeast and draining to Big Gulch.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	60	Yes	FACW
2. *Muhlenbergia asperifolia*	40	Yes	FACW
3. *Asclepias speciosa*	2	No	FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:	102%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	100	x 2 =	200
FAC species	2	x 3 =	6
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	102 (A)		206 (B)

Prevalence Index = B/A = 2.02

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: W4-2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-16	7.5YR 5/4	90					silty clay loam	
	7.5YR 5/1	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (If present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Utaline Series

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	0
Water Table Present?	Yes ◉	No ○	Depth (inches):	16
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	12

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/20/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: W5-1

Investigator(s): Paula Durkin | Section, Township, Range: SW 1/4 SW 1/4 Sect. 29, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.48022 | Long: 107.48549 | Datum: NAD83

Soil Map Unit Name: 80 - Utaline-Torriorthents complex | NWI classification: PEM

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Irrigation runoff from ditches likely from Stingley Gulch to the northeast and draining to Big Gulch.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	20	Yes	FACW
2. *Typha latifolia*	80	Yes	OBL
3. *Cirsium arvense*	2	No	FAC
4. *Muhlenbergia asperifolia*	1	No	FACW
5.			
6.			
7.			
8.			
Total Cover:	103%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	21	x 2 =	42
FAC species	2	x 3 =	6
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	103 (A)		128 (B)

Prevalence Index = B/A = 1.24

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: W5-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	7.5YR 5/4	80					silty clay loam	
	7.5YR 5/1	20						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Utaline Series

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	0
Water Table Present?	Yes ◉	No ○	Depth (inches):	16
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	12

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/19/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: UP1 1-1

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): | Slope (%):

Subregion (LRR): D - Interior Deserts | Lat: 38.47522 | Long: 107.49288 | Datum: NAD83

Soil Map Unit Name: 23 - Chipeta silty clay, 3 to 30 percent slopes | NWI classification:

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: adjacent to wetland #1,1-1, on the SW corner of polygon

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Sarcobatus vermiculatus*	30	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Kochia scoparia*	30	Yes	UPL
2. *Chorispora tenella*	5	No	UPL
3. *Convolvulus arvensis*	1	No	UPL
4. *Salsola kali*	1	No	UPL
5.			
6.			
7.			
8.			
Total Cover:	37 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 70 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species		x 1 =	0	
FACW species		x 2 =	0	
FAC species	30	x 3 =	90	
FACU species		x 4 =	0	
UPL species	37	x 5 =	185	
Column Totals:	67	(A)	275	(B)

Prevalence Index = B/A = 4.10

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: UP1 1-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (If present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

aerial photos, topo maps

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/19/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: UP1 1-2

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): | Slope (%):

Subregion (LRR): D - Interior Deserts | Lat: | Long: | Datum: NAD83

Soil Map Unit Name: 23 - Chipeta silty clay, 3 to 30 percent slopes | NWI classification:

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

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

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

Remarks: upland area adjacent to wetland #1, 1-2

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Sarcobatus vermiculatus*	30	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Kochia scoparia*	30	Yes	UPL
2. *Halogeton glomeratus*	5	No	UPL
3. *Convolvulus arvensis*	1	No	UPL
4. *Salsola kali*	1	No	UPL
5.			
6.			
7.			
8.			
Total Cover:	37 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 20 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species		x 1 =	0	
FACW species		x 2 =	0	
FAC species	30	x 3 =	90	
FACU species		x 4 =	0	
UPL species	37	x 5 =	185	
Column Totals:	67	(A)	275	(B)

Prevalence Index = B/A = 4.10

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: UP1 1-2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

aerial photos, topo maps

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/19/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: UP1 1-3

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): | Slope (%):

Subregion (LRR): D - Interior Deserts | Lat: | Long: | Datum: NAD83

Soil Map Unit Name: 23 - Chipeta silty clay, 3 to 30 percent slopes | NWI classification:

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

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

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

Remarks: upland area adjacent to wetland #1, 1-3

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Sarcobatus vermiculatus*	30	Yes	FAC
2. *Chrysothamnus nauseosus*	30	Yes	UPL
3.			
4.			
5.			
Total Cover:	60 %		
Herb Stratum			
1. *Kochia scoparia*	30	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	30 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	30	x 3 =	90
FACU species		x 4 =	0
UPL species	60	x 5 =	300
Column Totals:	90 (A)		390 (B)

Prevalence Index = B/A = 4.33

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: UP1 1-3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

aerial photos, topo maps

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/19/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: UP1 1-4

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): | Slope (%):

Subregion (LRR): D - Interior Deserts | Lat: | Long: | Datum: NAD83

Soil Map Unit Name: 23 - Chipeta silty clay, 3 to 30 percent slopes | NWI classification:

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

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

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

Remarks: upland area adjacent to wetland #1, 1-4

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Sarcobatus vermiculatus*	30	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Kochia scoparia*	30	Yes	UPL
2. *Halogeton glomeratus*	10	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	40 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species		x 1 =	0	
FACW species		x 2 =	0	
FAC species	30	x 3 =	90	
FACU species		x 4 =	0	
UPL species	40	x 5 =	200	
Column Totals:	70	(A)	290	(B)

Prevalence Index = B/A = 4.14

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: UP1 1-4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

aerial photos, topo maps

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/19/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: UP1 1-5

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): | Slope (%):

Subregion (LRR): D - Interior Deserts | Lat: 38.47528 | Long: 107.49232 | Datum: NAD83

Soil Map Unit Name: 23 - Chipeta silty clay, 3 to 30 percent slopes | NWI classification:

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

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

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

Remarks: adjacent to wetland #1, 1-5, on the SE corner of polygon

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Sarcobatus vermiculatus*	30	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Halogeton glomeratus*	5	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	5 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 70 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	30	x 3 =	90
FACU species		x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	35 (A)		115 (B)

Prevalence Index = B/A = 3.29

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: UP1 1-4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

aerial photos, topo maps

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/20/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: Up2 2-1

Investigator(s): Paula Durkin | Section, Township, Range: NE 1/4 NE 1/4 Sect. 31, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.47571 | Long: 107.49098 | Datum: NAD83

Soil Map Unit Name: 80 - Utaline-Torriorthents complex | NWI classification:

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

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

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

Remarks: upland area directly adj to wetland#2, 2-1 at the bottom of Big Gulch.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Artemisia filifolia*	20	Yes	UPL
2. *Sarcobatus vermiculatus*	20	Yes	FAC
3. *Chrysothamnus nauseosus*	20	Yes	UPL
4.			
5.			
Total Cover:	60 %		
Herb Stratum			
1. *Thinopyrum intermedium*	60	Yes	UPL
2. *Machaeranthera tanacetifolia*	10	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	70 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species		x 1 =	0	
FACW species		x 2 =	0	
FAC species	20	x 3 =	60	
FACU species		x 4 =	0	
UPL species	110	x 5 =	550	
Column Totals:	130	(A)	610	(B)

Prevalence Index = B/A = 4.69

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: Up2 2-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Utaline Series

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

aerial photos, topo maps

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/20/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: Up3 3-1

Investigator(s): Paula Durkin | Section, Township, Range: NW 1/4 NW 1/4 Sect. 32, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.47593 | Long: 107.49023 | Datum: NAD83

Soil Map Unit Name: 80 - Utaline-Torriorthents complex | NWI classification:

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: upland area directly adj to wetland #3, 3-1 by the stock pond

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Artemisia filifolia*	30	Yes	UPL
2. *Sarcobatus vermiculatus*	5	No	FAC
3. *Chrysothamnus nauseosus*	5	No	UPL
4. *Artemisia tridentata*	5	No	UPL
5.			
Total Cover:	45 %		
Herb Stratum			
1. *Bromus inermis*	10	Yes	FACU
2. *Salsola kali*	10	Yes	UPL
3. *Grindelia squarrosa*	10	Yes	FACU
4. *Machaeranthera tanacetifolia*	2	No	UPL
5.			
6.			
7.			
8.			
Total Cover:	32 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species		x 1 =	0	
FACW species		x 2 =	0	
FAC species	5	x 3 =	15	
FACU species	20	x 4 =	80	
UPL species	52	x 5 =	260	
Column Totals:	77	(A)	355	(B)

Prevalence Index = B/A = 4.61

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: Up3 3-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Utaline Series

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

aerial photos, topo maps

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/20/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: Up4 4-1

Investigator(s): Paula Durkin | Section, Township, Range: NW 1/4 NW 1/4 Sect. 32, T. 14S, R. 93W

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): | Slope (%): 1

Subregion (LRR): D - Interior Deserts | Lat: 38.47595 | Long: 107.49017 | Datum: NAD83

Soil Map Unit Name: 80 - Utaline-Torriorthents complex | NWI classification:

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

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

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

Remarks: upland area directly adj to wetland #4 4-1 in vegetated swale

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Elaeagnus angustifolia*	10	Yes	FAC
2.			
3.			
4.			
Total Cover:	10 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus inermis*	50	Yes	FACU
2. *Oenothera villosa*	20	Yes	FAC
3. *Machaeranthera tanacetifolia*	2	No	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	72 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	30	x 3 =	90
FACU species	50	x 4 =	200
UPL species	2	x 5 =	10
Column Totals:	82 (A)		300 (B)

Prevalence Index = B/A = 3.66

Hydrophytic Vegetation Indicators:

- ✕ Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: Up4 4-

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Utaline Series

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

aerial photos, topo maps

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/20/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: Up4 4-2

Investigator(s): Paula Durkin | Section, Township, Range: SW 1/4 SW 1/4 Sect. 29, T. 14S, R. 93W

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

Subregion (LRR): D - Interior Deserts | Lat: 38.48022 | Long: 107.48549 | Datum: NAD83

Soil Map Unit Name: 80 - Utaline-Torriorthents complex | NWI classification:

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

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

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

Remarks: upland area directly adj to wetland 4 in vegetated swale

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Thinopyrum intermedium*	50	Yes	UPL
2. *Machaeranthera tanacetifolia*	10	No	UPL
3. *Cirsium arvense*	5	No	FAC*
4.			
5.			
6.			
7.			
8.			
Total Cover:	65 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species		x 1 =	0	
FACW species		x 2 =	0	
FAC species	5	x 3 =	15	
FACU species		x 4 =	0	
UPL species	60	x 5 =	300	
Column Totals:	65	(A)	315	(B)

Prevalence Index = B/A = 4.85

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: Up4 4-2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Utaline Series

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SH 92 Stengel's Hill | City/County: Delta | Sampling Date: 9/20/2011

Applicant/Owner: CDOT, Region 3 Environmental | State: CO | Sampling Point: Up5 5-1

Investigator(s): Paula Durkin | Section, Township, Range: SW 1/4 SW 1/4 Sect. 29, T. 14S, R. 93W

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

Subregion (LRR): D - Interior Deserts | Lat: 38.48022 | Long: 107.48549 | Datum: NAD83

Soil Map Unit Name: 80 - Utaline-Torriorthents complex | NWI classification:

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

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

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

Remarks: upland area directly adj to wetland #5, 5-1 in next to irrigation ditch

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Elaeagnus angustifolia*	10	Yes	FAC
2.			
3.			
4.			
Total Cover:	10 %		
Sapling/Shrub Stratum			
1. *Tamarix parviflora*	2	Yes	FAC
2. *Artemisia filifolia*	2	Yes	UPL
3. *Ribes aureum*	2	Yes	FAC
4.			
5.			
Total Cover:	6 %		
Herb Stratum			
1. *Thinopyrum intermedium*	50	Yes	UPL
2. *Machaeranthera tanacetifolia*	10	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	60 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	14	x 3 =	42
FACU species		x 4 =	0
UPL species	62	x 5 =	310
Column Totals:	76 (A)		352 (B)

Prevalence Index = B/A = 4.63

Hydrophytic Vegetation Indicators:

- ✕ Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: Up5 5-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (If present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Utaline Series

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

aerial photos, topo maps

Remarks: