WETLAND DELINEATION REPORT

New Highway 24 / Meridian Road Intersection
Box Culvert Extension

K-S & Company, Inc.
18220 Red Clover Lane, Monument, Colorado 80132
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August 6, 2004

Mr. John Popovich
Falcon Highlands Metropolitan District
24 North Tejon Street
Colorado Springs, Colorado 80903

SUBJECT: Wetlands Delineation at the Falcon Highlands Development Site Located in Section 12, Township 13 South Range 65 West, El Paso County, Colorado K-S Project No. KS-0058-01

Dear Mr. Popovich:

K-S & Company, Inc. (K-S) is pleased to present this report describing the delineation and mapping of wetlands at the above-referenced site. The wetlands described in this report are located on the south side of the Falcon Highlands Development boundary and Highway 24. A new extension of Meridian Road, including an intersection of Highway 24, will be constructed as part of the Falcon Highlands development project and will require the extension of the existing box culvert under Highway 24. The box culvert extension will impact existing wetlands on the north side of Highway 24. Therefore, those wetlands needed to be delineated in order to evaluate the impacts to the wetlands.

SCOPE OF WORK

The scope of work included the following tasks.

Task 1. Wetlands Identification and Delineation - This task involved identification and delineation of the wetlands onsite in accordance with Corps of Engineers guidelines. K-S personnel performed this task on July 16, 2004.

Task 2. Wetland Mapping – This task was accomplished using a Trimble Global Position System (GPS) on July 16, 2004. The wetland map included in Figure 2 was constructed by URS using K-S GPS data.

Task 3. Report Preparation and Submittal - the following brief letter report documents the field methodologies and findings of this investigation.

FIELD METHODS

Wetland Identification and Delineation

The identification of wetlands was accomplished by K-S personnel walking the entire site, initially looking for potential wetlands based on the vegetation present. When hydrophytic vegetation was observed, test pits were then excavated to evaluate the hydrology and the soils. The presence of wetland hydrology was satisfied when indications of saturated conditions were observed in the upper 12 inches of soil. The evaluation of the soils involved looking for indicators of hydric soil conditions such as mottling, soil

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color/chroma, and the presence of sulfidic odor.

Once the presence of a wetland was confirmed, the boundaries were marked using pin flags labeled "wetland delineation". As recommended in the 1987 *Corps of Engineers Wetland Delineation Manual*, a data form was completed to document the presence or absence of the specified wetland criteria (soils, hydrology and vegetation). Data forms were completed for test pits excavated in suspect areas to document the findings at that location. The completed data forms are included in Appendix B.

Wetland Mapping

Upon completion of the wetlands delineation, a GPS was used to map the wetlands. A GPS data point was collected at each of the pin flag locations and at other breaks in the wetland boundaries as warranted. These survey data were then tied to the subject site using corners of the property. The results of this mapping are included on Figure 2, Appendix A.

DISCUSSION OF RESULTS

Soils

The soils at the site are described in the *Soil Survey of El Paso County Area, Colorado* prepared by the Soil Conservation Service (SCS), now known as the Natural Resource Conservation Service. The SCS report identified one soil map unit, the Blakeland Complex, which occurs onsite.

Blakeland complex – "This complex is on uplands, mostly in the Falcon area. This complex is about 60 percent Blakeland loamy sand, about 30 percent Fluvaquentic Haplaquolls, and 10 percent other soils. The Blakeland soil is in the more sloping areas. It is deep and somewhat excessively drained. It formed in sandy alluvium and eolian material derived from arkosic sedimentary rock. Typically the surface layer is dark grayish brown loamy sand about 11 inches thick. The substratum, to a depth of 27 inches, is brown loamy sand; it grades to pale brown sand that extends to a depth of sixty inches or more. Permeability of the Blakeland soil is rapid. The available water capacity is moderate to low. The Fluvaquentic Haplaquolls are in swale areas. They are deep, poorly drained soils. They formed in alluvium derived from arkosic sedimentary rock."

The soils sampled onsite included: clayey sands; sandy clays and clayey loams. The hydric soils onsite consisted of light bluish gray clayey sand and dark gray sandy clay. The hydric soil indicators observed at the site were low-chroma colors and reducing conditions (i.e., mottling of the soils).

Hydrology

The primary sources of water for the wetlands onsite appeared to be surface runoff from upland areas.

Vegetation

The dominant vegetation in the wetland areas identified on the subject site consisted of *Typha sp.* (cattail), and *Scirpus sp.*(Bulrush). These plants are listed in the National *List of Plant Species that Occur in Wetlands: 1988 for Colorado* as "Obligate Wetland" (occurring in wetlands more than 99% of the time).

Wetland Areas

One wetland area was identified onsite based on the presence of hydrophytic vegetation, soils displaying hydric conditions, and indications of soils saturated in the upper 12 inches. This wetland area, as indicated on Figure 2, was calculated to be 0.22 acre in size.

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K-S appreciates the opportunity to provide professional consulting services to Falcon Highlands Metropolitan District. Should you have any questions concerning this report, please contact us at (719) 460-5952.

Respectfully Submitted,
K-S & Company, Inc.

Ronald J. Turner, R.G.
Principal/Hydrogeologist

cc: Diana Humphreys - USACE

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APPENDIX A

FIGURES

KS & Company, Inc.

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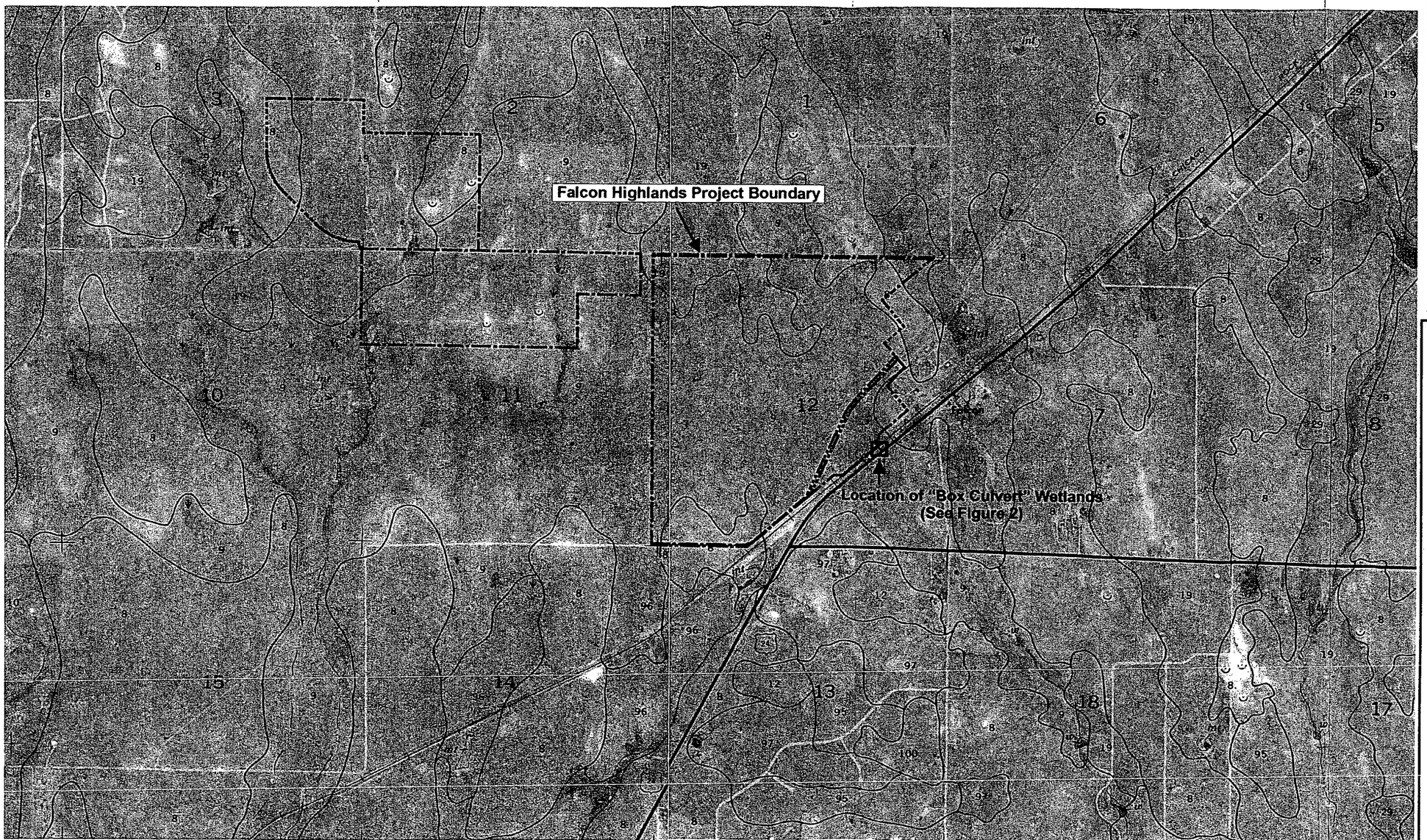
FIGURE 1. SOILS MAP

KS-0058-01 August 2004



Approximate Scale: 1" = 2000'

N

Source: U.S. Dept. of Agric., Soil Conservation Service, 1981

LEGEND

8: *Blakeland loamy sand* - "...deep, somewhat excessively drained soil formed in alluvial and eolian material derived from arkosic sedimentary rock on the uplands. Permeability...is rapid. Available water capacity is low to moderate."

9: *Blakeland complex* - "...deep, somewhat excessively drained ...formed in alluvial and eolian material derived from arkosic sedimentary rock. Permeability ...is low...available water capacity is moderate to low. The Fluvaquentic Haplaquolls...are deep, poorly drained soils...in swale areas."

19: *Columbine gravelly sandy loam* - "...deep, well drained to excessively drained soil formed in coarse texture material on alluvial terraces and fans and on flood plains. Permeability...is very rapid. Available water capacity is low to moderate."

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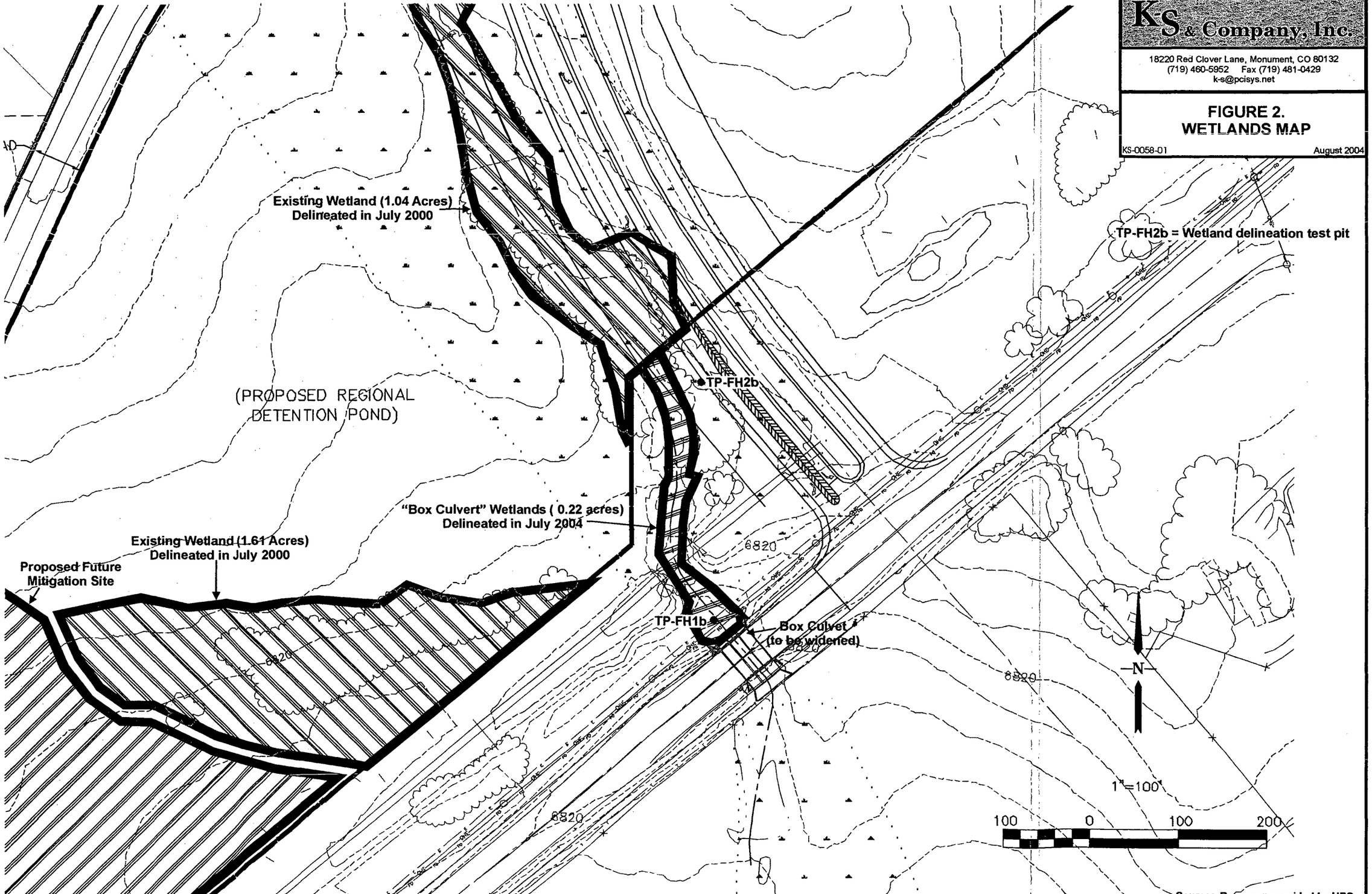
FIGURE 2.
WETLANDS MAP

KS-0058-01 August 2004



Source: Base map provided by URS.

APPENDIX B

DATA FORMS

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Falcon Highlands	Date: 7-16-04
Applicant/Owner: Falcon Highlands Metropolitan District	County: El Paso
Investigator: Ronald J. Turner, R.G.	State: Colorado

Do Normal Circumstances exist on the site?	(Yes)	No	Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)	Transect ID:
Is the area a potential Problem Area?	Yes	(No)	Plot ID: TP- FH1b
(if needed, explain on reverse.)			

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Scirpus sp.		OBL	9		
2 Typha sp.		OBL	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 100 %

Remarks:

HYDROLOGY

___Recorded Data (Describe in Remarks):
___Stream, Lake, or Tide Gauge
___Aerial Photographs
___Other
__X__No Recorded Data Available

Field Observations:

Depth of Surface Water: ___—___ (in.)

Depth to Free Water in Pit: 14 (in.)

Depth to Saturated Soil: 11 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
___Inundated
__X__Saturated in Upper 12 inches
___Water Marks
___Drift Lines
___Sediment Deposits
___Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___Oxidized Root Channels in Upper 12 inches
___Water-Stained Leaves
___Local Soil Survey Data
___FAC-Neutral Test
___Other (Explain in Remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Falcon Highlands	Date: 7-16-04
Applicant/Owner: Falcon Highlands Metropolitan District	County: El Paso
Investigator: Ronald J. Turner, R.G.	State: Colorado

Do Normal Circumstances exist on the site?	(Yes)	No	Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)	Transect ID:
Is the area a potential Problem Area?	Yes	(No)	Plot ID: TP- FH2b
(if needed, explain on reverse.)			

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Juncus balticus		OBL	9		
2 Salix exigua		OBL	10		
3 Carex nebrascensis		OBL	11		
4 Symphoricarpos sp.		Fac U	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 75 %

Remarks:

HYDROLOGY

___Recorded Data (Describe in Remarks):
- ____Stream, Lake, or Tide Gauge
- ____Aerial Photographs
- ____Other

__X__No Recorded Data Available

Field Observations:

Depth of Surface Water: ____—____ (in.)

Depth to Free Water in Pit: ____>18____ (in.)

Depth to Saturated Soil: ____>18____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks:

APPENDIX C

PHOTOGRAPHS

Photo 1. View of the subject wetlands looking south from an old railroad track towards the box culvert.

Photo 2. View of the subject wetlands looking north from the old railroad track. Wetlands around and beyond trees were delineated in July 2000.

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March 26, 2005

RECEIVED
MAR 29 2005

Diana L. Humphreys
US Army Corps of Engineers
720 Main Street, Suite 300
Pueblo, CO 81003

Subject: Falcon Highlands Metropolitan District, Falcon, Colorado - 404 Permit Application Action No. 2000 00359

Diana:

Attached is the Final Mitigation Plan above-referenced development site. The permit for this site became effective on January 31, 2005. The mitigation is currently planned for the Spring of 2005 depending on your final approval of this plan, contractor availability and weather. If it is not possible to construct the mitigation this Spring, then it will be constructed next Fall.

If you have any questions or need additional information or copies of the material, please call us at (719) 460-5952.

Respectfully Submitted,
K-S & Company, Inc.

Ronald J. Turner, R.G.
Project Manager

cc: John Popovich, Falcon Highlands Metropolitan District

attachments

FALCON HIGHLANDS
WETLAND DEVELOPMENT
GRADING SPECIFICATIONS

PART 1 - GENERAL

1.01 SUMMARY

The extent of wetland grading work is shown on the contract documents and includes: earthwork; topsoil stripping, stockpiling and spreading; riprap, soil preparation; and other work necessary for new wetland construction of approximately 3.15 acres. The contours indicated on the Drawings have been generated from aerial surveys and are only at two-foot intervals. Therefore, it is the responsibility of the bidders to verify existing grades prior to submitting bids.

1.02 RELATED WORK

A. Related Documents: Construction Drawings, General and Special Conditions of the Contract apply to work of this section.

1.03 QUALITY ASSURANCE

A. Contractor Qualifications: install work using skilled persons, experienced and proficient in the trades required, in a neat, orderly and responsible manner with recognized standards of workmanship.

B. Existing Conditions: Contractor shall observe all areas to be worked and verify rough grades, subsoils, drainage, compaction, adjacent development and site access. Start of the work constitutes acceptance of these conditions.

C. Observation: the Contractor shall seek review and observation of the subgrade grading from the Owner's Representative prior to topsoiling. Prior to final grading of the site, the Contractor shall contact the Owner's Representative to be on site during final grading.

D. Project Coordination: wetland areas for this project will be fed by underground drains from an off site water source. Contractor shall coordinate the final location and construction of these underdrains on the project site with the adjacent project.

1.04 SITE CONDITIONS

Utilities: Call Utility Notification Center of Colorado, 1 - 800 - 922 - 1987. Call 2 business days in advance before digging, grading or excavation, for the marking of underground utilities. Location and protection of existing utilities is the responsibility of the Contractor.

PART 2 - PRODUCTS

2.01 EARTHWORK

All excavation and embankment material is located on the site.

2.02 TOPSOIL

On-site soil, stripped from areas disturbed by construction activities and stockpiled on site.

PART 3 – EXECUTION

3.01 EARTHWORK

A. General: the work includes all excavation and embankment to meet the lines and grades indicated on the Drawings. Disposal of excess material encountered when establishing the required subgrade elevations indicated is the responsibility of the Contractor.

B. Ground Surface Preparation: remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow or scarified surface to 6"deep or where the surfaces are steeper than 1 vertical to 5 horizontal, the bank shall be stepped or benched in a manner acceptable to Owner.

C. Landscape Areas: finish areas to receive topsoil and soil preparation to within not more than 0.10' above or below required finished grade.

3.02 FINISH GRADING (upland areas)

Bring to minimum depth required to meet lines, grades and elevations shown on plans, after light rolling and natural settlement. Grade areas to smooth, even surface with a loose, uniformly fine texture. Limit fine grading to areas to be planted or seeded.

3.03 FINISH GRADING (wetland areas)

Bring to minimum depth required to meet lines, grades and elevations shown on plans, after light rolling and natural settlement. Finish grading in wetland areas should be rough, meeting the median elevations indicated on the Drawings and providing a diversity of planting / seeding areas and water depths.

3.04 RIPRAP

After completion of work, protect all areas from debris, erosion and compaction. Repair all damaged areas before planting or seeding. Construction and excavation limits shall be established on the site using barricade fencing to avoid over excavation or discharges into the adjacent wetland waterways.

3.05 PROTECTION

After completion of work, protect all areas from debris, erosion and compaction. Repair all damaged areas. Construction and excavation limits shall be established on the site using barricade fencing to avoid over excavation or discharges into the adjacent wetland waterways.

3.06 CLEANUP

Keep pavements and roads clean and work areas in an orderly condition.

FALCON HIGHLANDS
WETLAND DEVELOPMENT
SEEDING AND PLANTING SPECIFICATIONS

PART 1 - GENERAL

1.01 SUMMARY

The extent of wetland work is shown on the contract documents and includes: soil preparation; seeding; planting and other work necessary for new wetland construction of approximately 3.15 acres.

1.02 RELATED WORK

A. Related Documents: Construction Drawings, General and Special Conditions of the Contract apply to work of this section.

1.03 QUALITY ASSURANCE

A. Contractor Qualifications: install work using skilled persons, experienced and proficient in the trades required, in a neat, orderly and responsible manner with recognized standards of workmanship.

B. Existing Conditions: Contractor shall observe all areas to be worked and verify drainage, compaction, adjacent development and site access. Start of the work constitutes acceptance of these conditions.

C. Project Coordination: wetland areas for this project will be fed by underground drains from an off site water source.

D. Substitutions: any plant material or seeding substitutions shall be reviewed and approved by the Owner's Representative.

1.04 SUBMITTALS

A. Samples: submit to Owner not less than 14 calendar days prior to scheduled delivery of these materials.

1. Samples:
   a. Seed: one ounce
   b. Seed Mulch: one sample of each specified mulch type

B. Product Certification:

1. Seed: dealer's statement of analysis stating for each seed type -- name and address of seller, lot number, state of origin, test date, seed type (genus, species, common name) and variety, purity and germination percentage, crop seed percentage, inert matter percentage, weed seed percentage, noxious weeds by name and number per pound.
2. Seed Testing: submit test results from the following seed tests performed on lots of the actual seed to be ordered for the project. Submit test results 14 days prior to seeding.
   a. Germination – seed performance under favorable conditions.
   b. Purity – percentage of pure seed, other crop seed, weed seed and inert material present in the seed lot.
   c. Noxious Weed Examination – all samples given a purity analysis will receive an examination for Colorado noxious weed seeds.
   d. Hay Mulching: weed free certification

C. Delivery Tickets: Submit delivery tickets to Owner on a daily basis upon delivery of these materials:

1. Seed Mulch

2. Seed Tags: submit all seed tags/bags.

D. Equipment List: submit a detailed list of equipment to be used for soil preparation, native grass seeding and hay spreading operations. Include brand and model number of all equipment to be used for soil preparation and seeding activities.

1.05 PRODUCT DELIVERY, HANDLING AND STORAGE

Deliver, handle and store materials in manner to prevent damage or deterioration.

1.06 SITE CONDITIONS

Environmental Requirements: No soil work shall occur when soil is in a frozen or wet condition causing it to clump and become nonfriable.

PART 2 - PRODUCTS

2.01 SEEDING

A. General: delivered in original containers, unopened, bearing dealer's warranty analysis. Maximum crop and weed content shall be 0.10% each. Noxious weeds (Colorado lists A, B and C) are not permitted. Seed mix shall be supplied on basis of pure live seed (P.L.S.) in pounds. Formula for determining quantity of P.L.S. shall be:

Bulk Pounds of Seed Required =
PLS pounds specified / (% Purity* x % Germination*)

- Percents expressed as decimal, e.g. 10%=.10

SEE DRAWINGS FOR SEED MIXES

2.02 SEED MULCH

A. Hay Mulch: mulch shall consist of clean, Certified Weed Free bluestem hay (little bluestem or big bluestem only certified under the Colorado Department of Agriculture Weed Free Forage Certificate Program and inspected as regulated by the Weed Free Forage Act, Title 35, Article 27.5, CRS. Each certified weed free mulch bale shall be identified by one of the following:

1. One of the ties binding the bale shall consist of blue and orange twine, or
2. One of the ties binding the bale shall consist of specially produced galvanized shiny wire, or
3. The bale shall have a regional Forage Certification Program tag indicating the Regional Forage Certification Program Number.

No noxious weeds or seed heads are permitted. Mulch in an advanced state of decomposition will not be accepted.

B. Tackifier: tackifier shall be guara-based, free flowing, non-corrosive powder. The material shall not contain any mineral filler, recycled cellulose fiber, clays or other substances which may inhibit germination or plant growth.

2.03 PLANTINGS

A. Wetland Nursery Plantings

1. Plant Quality: Provide plants grown in a recognized nursery, except as otherwise indicated, in accordance with proper horticultural practice. Provide healthy, well-

branched vigorous stock with a growth habit normal to the species and variety and free of diseases, insects and injuries. All plants shall conform to standards for measurements, grading, branching, quality, ball and burlapping as stated in the AAN-ASNS and CNA. Contractor must provide plant materials of the specified size, genus, species, and variety indicated on the Drawings.

2. Identification: Label each flat with securely attached waterproof tag bearing legible designation of botanical and common name in accordance with AJCHN-SPN. Plant materials must be shipped accompanied by certificates of inspection as required by governing authorities. All plant materials must comply with regulations applicable to landscape plant materials.

3. Substitutions: Provide plants as specified on plans. No substitutions will be permitted without approval of Owner. No substitutions shall be made unless specified plant materials are unavailable. Contractor must notify Owner if materials are unavailable, and list proposed substitutions. Owner must approve all substitutions.

4. Inspection: Owner will inspect all plant materials and may reject plant materials they deem to be of insufficient quality. The Owner's Representative may re-inspect the plants at any time during the planting process, and may reject plant materials at any time. Plants with dry, broken, or crumbling roots shall not be accepted for planting.

2.04 WILLOW STAKES

Willow Stakes: willow stakes shall be live willow stakes will be cut from existing willows. The cuts shall be at a 45-degree angle. Willow stakes will be approximately 2 to 3 feet long and between ¼ and 1 inch in diameter. Willow stakes shall be of wood that is 2-5 years old with smooth bark. Willow cuttings shall have 3-5 bud scars above finish grade. Trim all side branches and terminal buds.

2.05 SILT FENCING

Silt fencing shall be a prefabricated silt fence assembly with 1/2" nominal wood posts and 3' width black fabric. Provide Mirafi Envirofence or approved equivalent.

2.06 BARRICADE FENCING

Orange safety mesh with minimum 3' height. Provide metal t-bar stakes.

PART 3 - EXECUTION

3.01 SEED BED PREPARATION

Disk, rake, or harrow all seedbed areas, breaking up soil to a depth of 2 to 4 inches. Remove stones, sticks, roots, and debris over 2" size (upland seeding) and 4" in size (wetland seeding). In areas inaccessible to a tractor, soils must be dragged with a 4-wheeler or raked to break up the soil. Contractor shall seek the review of seedbed preparation from the Owner prior to seeding and planting. Insofar as it is determined practical and feasible by the Owner, the seedbed surface at the time of seed application should not be excessively wet, snow-covered, or frozen, and should be reasonably free of large clumps, clods, and impervious crusts of dirt. There should be no appreciable areas of loose soils that can be compacted feasibly. The surface to a depth of approximately 4 inches should not be so tightly compacted that seed cannot begin growth. The Contractor shall treat such areas, as required by the Owner, to attain as nearly as practical the condition described. Seeding and mulching must take place within 14 days of tilling activities. Contractor shall not disturb any existing wetlands or other waters of the U.S. If wetland areas are

saturated, making access by mechanical equipment impractical, Contractor shall provide hand labor finish grading as directed by Owner.

3.02 FINISH GRADING (upland areas)

Bring to minimum depth required to meet lines, grades and elevations shown on plans, after light rolling and natural settlement. Grade areas to smooth, even surface with a loose, uniformly fine texture. Limit fine grading to areas to be promptly planted or seeded.

3.03 FINISH GRADING (wetland areas)

Bring to minimum depth required to meet lines, grades and elevations shown on plans, after light rolling and natural settlement. Finish grading in wetland areas should be rough, meeting the median elevations indicated on the Drawings and providing a diversity of planting / seeding areas and water depths.

3.04 SEEDING

A. General: seeding shall be of the species and at the rates indicated on the Drawings. Seeding or hydromulching shall not occur during windy weather or when ground is frozen or otherwise untillable.

B. Drill Seeding: apply with mechanical power drawn native grass drill seeder. Drill will be specially made for the seeding of grasses. Seeder shall have three (3) boxes: one for smooth, large seed ("wheatgrass" box); one for small smooth seeds ("legume" box); and one for hairy, fluffy seed. The latter box shall include special mechanisms for keeping the fluffy seed from bridging the drop tube opening. The drill will have double disc furrow openers, 8 inch furrow spacing and will deliver the seed into the space between the disks of the furrow opener. Seed will be planted at ½ inch depth. Furrow openers will have functioning depth bands. Drills dropping seed onto the ground behind furrow openers will not be accepted. Drill shall be Truax or approved equivalent. Species indicated with * shall be placed in the "wheatgrass" (smooth, large) seed box; the entrance to every second and third drop tube out of this box shall be covered. This procedure keeps aggressive cool season species confined and allows less aggressive species the chance to establish away from immediate competition in two of three rows.

C. Broadcast Seeding: some portions of the site may be seeded by broadcast seeding. Any areas to be broadcast seeded must be approved by Owner prior to seeding. Broadcast seeding may be used for areas that were not covered sufficiently by drill seeding and the reseeding of small areas after initial seeding operations. Area to be broadcast shall be roughened by raking with metal-tined rakes or harrowed immediately prior to seeding. Seed shall be evenly spread by hand or mechanical broadcaster at twice the rate shown in the seed mix table. Immediately following broadcast the seeded surface will be deeply raked or harrowed to provide cover for seed.

Where they are adjacent to one another, the upland and wetland seed mixes shall have a 2-foot horizontal overlap.

3.05 PLANTING

A. General: planting operations will be conducted under favorable weather conditions. The Contractor will notify the District 24 hours before beginning plantings. Planting shall be done in accordance with good horticultural practices. Plants shall be placed with their vertical stems extending straight up. Plants with a partially dry root system shall be soaked for a period of 3 hours prior to planting. Plastic, metal, or peat containers shall be removed. The first watering shall be done immediately after all plants are placed. Any

plants damaged by the Contractor's operations shall be replaced at no expense to the District.

B. Wetland Planting - Nursery Plugs
All areas to receive wetland plants shall be staked and observed by the Owner prior to placement. Place nursery plants in areas indicated on the Drawings.

3.06 WILLOW STAKING

A. General: cuttings shall be taken and installed while dormant in early spring. Harvested, dormant cuttings shall be stored in cool, humid and dark conditions. Prior to planting, the cuttings shall be soaked by submerging at least 2/3 of their length in containers of water, free from any harmful oil, chemical, sprays, or other materials. Cuttings shall be soaked for a minimum of five (5) days. The cuttings shall be kept in the shade at all times.

B. Willow Staking: willow stakes shall be planted in the locations indicated on the Drawings with the thicker end, the end that would normally be closer to the base of the shrub, planted first. An auger, rebar or other similar sized implement shall be driven into the ground to create a planting hole. The willow stakes shall be planted with 2-5 bud scars above the finish grade.

3.07 SILT FENCING

Silt fencing shall be installed as indicated on the Drawings. All fencing shall be maintained until the completion of the project. Contractor shall remove all silt fencing at the completion of the project if directed by Owner.

3.08 BARRICADE FENCING

Barricade fencing shall be installed as indicated on the Drawings. All fencing shall be maintained until the completion of the project. Contractor shall remove all barricade fencing at the completion of the project if directed by Owner.

3.09 CLEANUP

Keep pavements and roads clean and work areas in an orderly condition.

GENERAL

1. CALL UTILITY NOTIFICATION CENTER OF COLORADO, 1-800-922-1987 OR (303)534-6700. CALL 2 BUSINESS DAYS IN ADVANCE BEFORE DIGGING, GRADING OR EXCAVATION, FOR THE MARKING OF UNDERGROUND UTILITIES.

2. SURVEY AND TOPOGRAPHY INFORMATION WAS TAKEN FROM DRAWINGS PREPARED BY URS (719) 533-7890.

3. CONTOURS INDICATED ON GRADING PLAN ARE CONCEPTUAL. CONTRACTOR SHALL SURVEY AND STAKE EXISTING AND PROPOSED ELEVATIONS OF ALL PROPOSED IMPROVEMENTS FOR REVIEW BY THE OWNER PRIOR TO EARTHWORK OPERATIONS. ADJUSTEMENTS TO ELEVATIONS SHOWN ON THE PLANS WILL BE REQUIRED.

4. SOURCE OF WATER FOR PROPOSED WETLANDS SHALL BE UNDERDRAINS FROM ADJACENT DEVELOPMENT. LOCATION OF UNDERDRAIN PIPES ARE CONCEPTUAL. UNDERDRAINS ARE NOT INCLUDED IN THE CONTRACT.

5. DO NOT DISTURB EXISTING WETLANDS OR EXISTING TREES AND SHRUBS.

6. SEE SPECIFICATIONS - SECTION D2960 "WETLAND DEVELOPMENT" FOR SOIL PREPARATION, SEEDING , PLANTING AND OTHER WORK.

7. ALL EXCAVATED MATERIAL SHALL BE REMOVED FROM THE AREAS AND DISPOSED OF IN A LOCATION APPROVED BY THE OWNER. IN NO INSTANCE WILL EXCAVATED MATERIAL BE STOCKPILED IN OR NEAR WATERS OR WETLANDS OF THE U.S. ANY TEMPORARY OR PERMANENT IMPACTS TO EXISTING WETLANDS WILL REQUIRE WRITTEN PERMISSION FROM THE U.S. ARMY CORPS OF ENGINEERS.

8. CONTRACTOR SHALL PROVIDE EROSION CONTROL AS REQUIRED TO PREVENT SILTATION OF EXISTING DRAINAGES AND WETLAND RESTORATION AREAS.

9. CONTRACTOR SHALL PROVIDE VEHICLE TRACKING PADS TO PREVENT MUD AND DIRT TRACKING ON ADJACENT ROADS. ADJACENT ROADS SHALL BE CLEANED OF ALL MUD, DIRT AND DEBRIS AT THE OWNERS REQUEST.

10. TEMPORARY SILT FENCING SHALL BE ESTABLISHED AS INDICATED ON THE DRAWINGS AND MAINTAINED UNTIL ALL EXCAVATION AND GRADING ARE COMPLETED.

11. CONSTRUCTION AND EXCAVATION LIMITS SHALL BE ESTABLISHED ON THE SITE USING BARRICADE FENCING TO AVOID DISTURBANCE OF THE ADJACENT WETLAND OR UPLAND AREAS.

12. ALL TOPSOIL FROM AREAS TO BE DISTURBED SHALL BE STRIPPED, STOCKPILED AND RESPREAD IN NEW WETLAND AREAS, AS DIRECTED BY OWNER IN FIELD. SEE SPECIFICATIONS.

13. THE CONTRACTOR SHALL SEEK REVIEW AND APPROVAL OF THE GRADING FROM THE OWNERS REPRESENTATIVE PRIOR TO TOPSOIL PLACEMENT, TO DETERMINE IF THE REQUIRED HYDROLOGY HAS BEEN ESTABLISHED.

14. SURVEY AND LAYOUT WORK (HORIZONTAL AND VERTICAL) ARE THE RESPONSIBILITY OF THE CONTRACTOR.

15. TOTAL AREA OF PROPOSED WETLANDS IS APPROXIMATELY 3.15 ACRES.

16. WILLOW STAKES ARE TO BE COLLECTED IN THE FIELD WHILE DORMANT (APPROX. NOV. TO MID MARCH). IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THE QUANTITIES OF STAKES AND STORE THEM IN AN APPROPRIATE MANNER UNTIL PLANTING. WILLOW SOURCES ARE NOT AVAILABLE ON THE SITE.

17. NEW WETLAND AREAS: THESE AREAS ARE INDICATED ON THE PLANS. AREAS REQUIRE TOPSOIL STRIPPING, STOCKPILING AND RESPREADING, GRADING AS SHOWN ON THE PLANS AND SECTIONS, PLANTING AND SEEDING. ALL WETLAND AREAS SHALL RECEIVE WETLAND SEEDING AS SPECIFIED.

18. UPLAND SEEDING: ALL UPLAND AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SEEDED WITH THE UPLAND SEED MIX AS SPECIFIED. LIMIT OF SEEDING INDICATED ON THE PLANS IS THE MINIMUM AREA TO BE SEEDED. ALL SEED BAG TAGS MUST BE SUBMITTED TO THE OWNER AT LEAST FIVE BUSINESS DAYS PRIOR TO SEEDING. NO SUBSTITUTIONS SHALL BE ACCEPTED WITHOUT APPROVAL OF A WETLAND ECOLOGIST.

19. WETLAND SEEDING: THE SEED MIX SHALL BE BRDADCAST SEEDED IN ALL WETLAND AREAS. DOUBLE THE STATED RATE FOR BROADCAST SEEDING. ALL SEED BAG TAGS SHALL BE SUBMITTED TO THE OWNER AT LEAST FIVE BUSINESS DAYS PRIOR TO SEEDING. NO SUBSTITUTIONS SHALL BE ACCEPTED WITHOUT APPROVAL OF THE OWNER.

20. CERTIFIED WEED-FREE STRAW MULCH SHALL BE APPLIED AS SPECIFIED TO ALL UPLAND SEEDING AND WETLAND SEEDING(WHERE CONDITIONS PERMIT) AREAS (SEE SPECIFICATIONS).

21. WETLAND PLANTING-AREAS SHOWN ON THE PLANS AS 'WETLAND PLANTING' SHALL BE PLANTED WITH NURSERY GROWN MATERIAL, SEE PLANT LIST (WETLAND PLANTING). PLANTS SHALL BE MIXED EQUALLY IN WETLAND PLANTING AREAS. WETLAND ECOLOGIST MUST APPROVE ALL PLANT MATERIAL PRIOR TO PLANTING.

22. TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING FENCES, WALKS, SIGNS, UTILITIES AND VEGETATION. DAMAGE TO EXISTING FEATURES CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

SEEDING

SEED MIXES AND RATES SHALL BE:

WETLAND SEED MIX

SCIENTIFIC NAME	COMMON NAME	% OF MIX	PLS Lbs/ac
Glyceria striata	Fowl mannagrass	65	4.D
Agrostis scabra	Ticklegrass	4	0.5
Panicum virgatum	Switchgrass	15	2.D
Poa palustris	Fowl bluegrass	5	1.D
Pucinellia distans	Alkoligrass	8	1.0
Beckmannia schizachne	Sloughgrass	3	1.0
	TOTAL	100	9.5*

PLS=Pure Live Seed
*Double this rate far broadcast seeding.

UPLAND SEED MIX

SCIENTIFIC NAME	COMMON NAME	% OF MIX	PLS Lbs/ac
Boutelouo gracilis	Blue Gramo	8.0	2.0
Boutelaua curtipendulo	Sideoats Grama	20.0	5.D
Oryzopsis hymenoides	Indian Ricegrass	20.D	5.D
Poa canbyi	Canby Bluegrass	4.0	1.0
Pascopyrum smithii	Western Wheatgrass	27.0	7.D
Schizachyrium scoporium	Little Bluestem	2D.0	5.0
Sparobolus cryptandrus	Sand Dropseed	1.0	25
	TOTAL	100.D	25.25*

PLS=Pure Live Seed
*Double this rate far broadcast seeding.

WETLAND PLANTING

SCIENTIFIC NAME	COMMON NAME	No. of Plants	Container Size	Planting Water Depth
Carex lanuginasa	Waaly Sedge	300	1D ci	D-3" above
Carex nebrascensis	Nebrasko Sedge	300	1D ci	D-3" above
Juncus balticus	Baltic Rush	300	10 ci	D-3" above
Juncus torreyi	Torrey Rush	300	1D ci	D-3" above
Spartina pectinata	Prairie Cordgrass	300	1D ci	O-3" above
Scirpus pungens	Threesquore Bulrush	300	1D ci	D-3" above
Scirpus tabernoemantani	Softstem Bulrush	300	10 ci	D-3" above

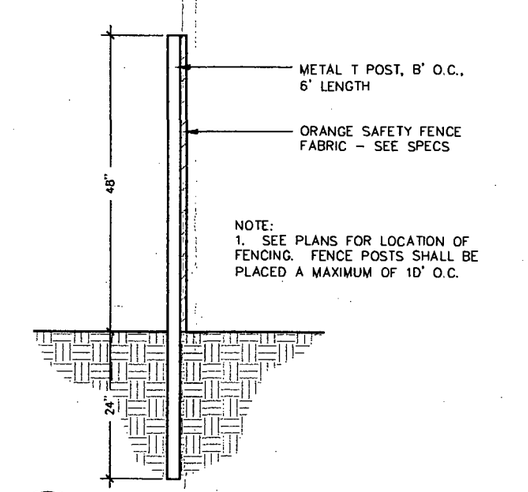
To be planted in wetland areas.
*See "Wetland Mitigation" specificotions.

PLANTING

SCIENTIFIC NAME	COMMON NAME	REMARKS	SIZE
Populus deltoides monilifera (sargentii)	Plains Cottonwood	Container Material	1-1/2" Cal.
Salix exigua	Sondbor Willow	As Per Specs	Stakes

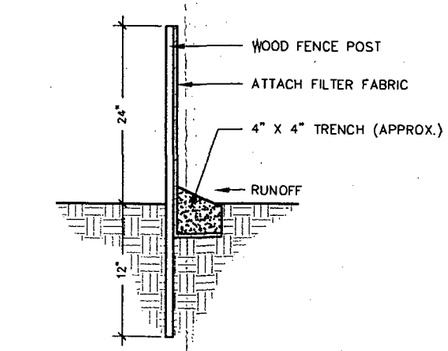
SCHEDULE OF APPROXIMATE QUANTITIES

ITEM	APPROXIMATE QTY.
BARRICADE FENCE	2ODD LINEAR FEET
SILT FENCE	1465 LINEAR FEET
WETLAND SEEDING	137,250 SQUARE FEET
UPLAND SEEDING	193,D21 SQUARE FEET
WILLOW STAKING	384 EACH
WETLAND PLANTING (10 CI CONTAINER)	21DO EACH
COTTONWOOD PLANTING (1-2" CALIPER)	31 EACH



NOTE:
1. SEE PLANS FOR LOCATION OF FENCING. FENCE POSTS SHALL BE PLACED A MAXIMUM OF 1D' O.C.

1 BARRICADE FENCE
NOT TO SCALE



2 SILT FENCE
NOT TO SCALE

Falcon Highlands
Wetland Mitigation

ISSUES 3-22-D5
1DD%

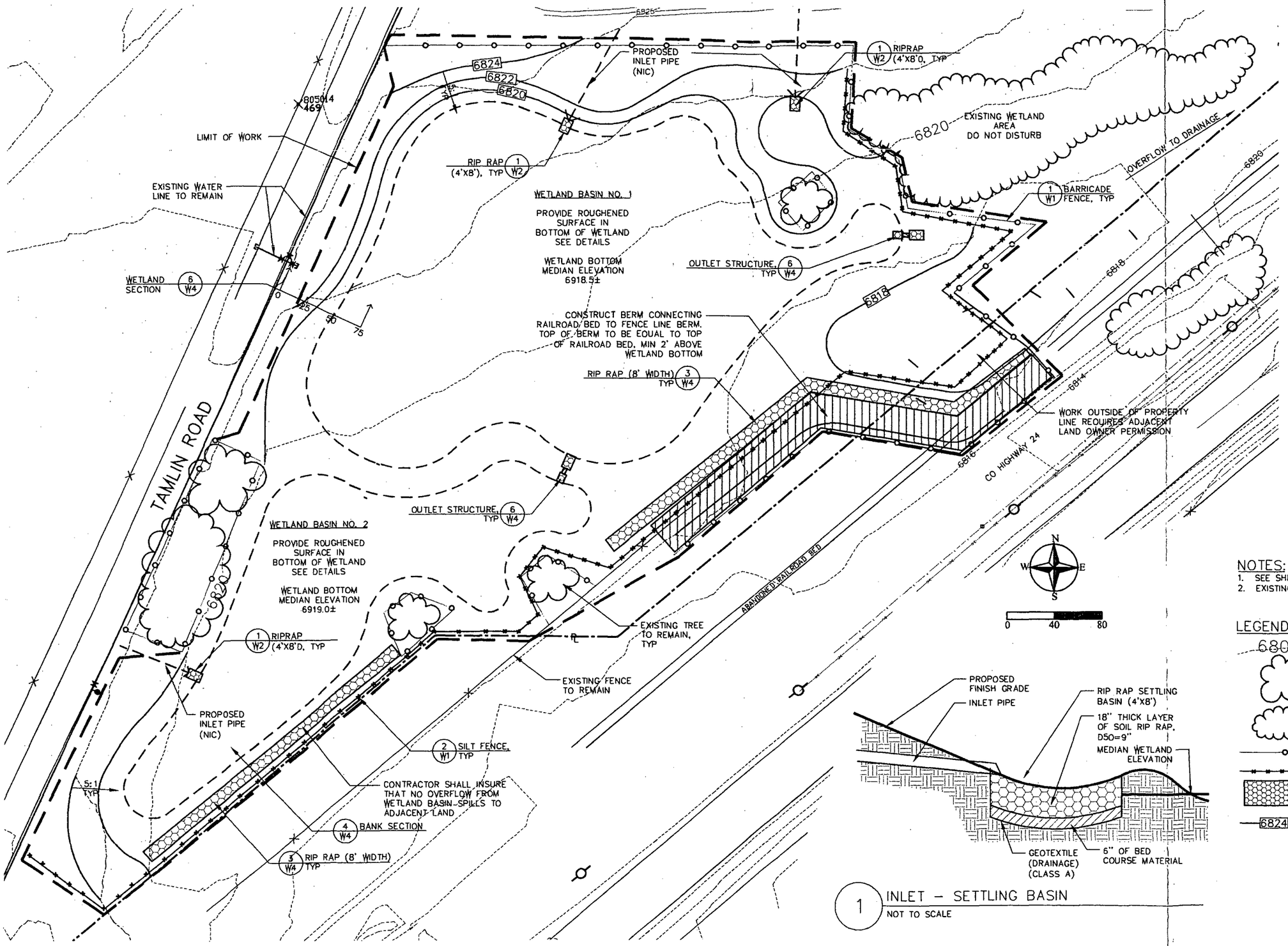
APPROVALS

REVISIONS

DESIGN PM
DRAWN MS
CHECKED

SHEET TITLE
NOTES

SHEET NO.
W-1



1 INLET – SETTLING BASIN
NOT TO SCALE

NOTES:
1. SEE SHEET W-1 FOR NOTES.
2. EXISTING CONTOUR INTERVAL = 2'.

LEGEND
- 6800 EXISTING CONTOUR
- EXISTING TREE
- EXISTING WETLAND
- BARRICADE FENCE
- SILT FENCE
- RIP RAP
- 6824 PROPOSED CONTOUR

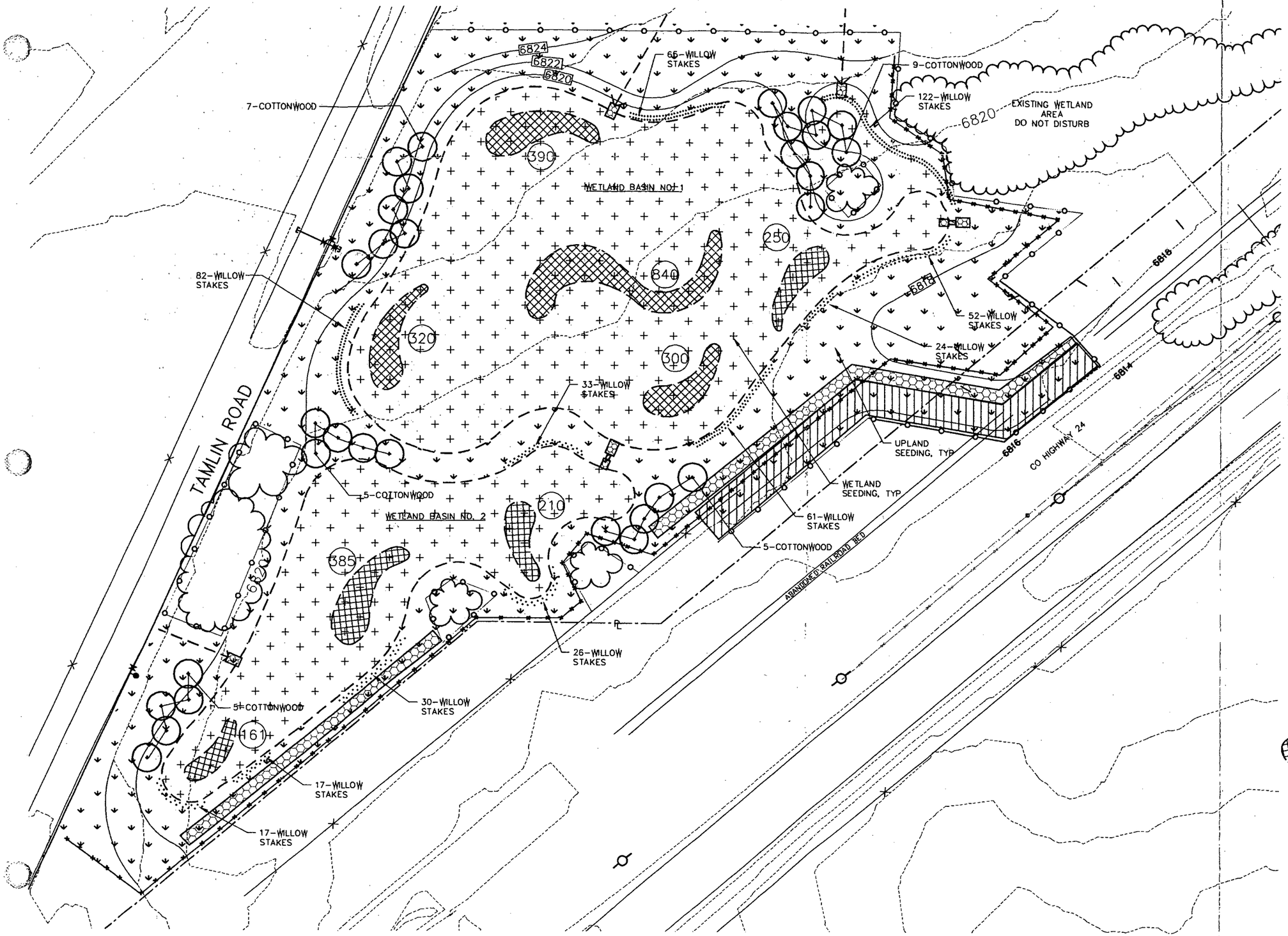
ISSUES 3-22-05
100%
APPROVALS

REVISIONS

DESIGN PM
DRAWN MS
CHECKED

SHEET TITLE
GRADING PLAN
SHEET NO.
W-2

Falcon Highlands
Wetland Mitigation



NOTES:
1. SEE SHEET W-1 FOR NOTES.

LEGEND

- 6800 — EXISTING CONTOUR
- EXISTING TREE
- EXISTING WETLAND
- BARRICADE FENCE
- SILT FENCE
- RIP RAP
- 6824 — PROPOSED CONTOUR
- UPLAND SEEDING
- WETLAND SEEDING
- WILLOW STAKING
- 305 — WETLAND PLANTING (WITH QUANTITY)

Falcon Highlands
Wetland Mitigation

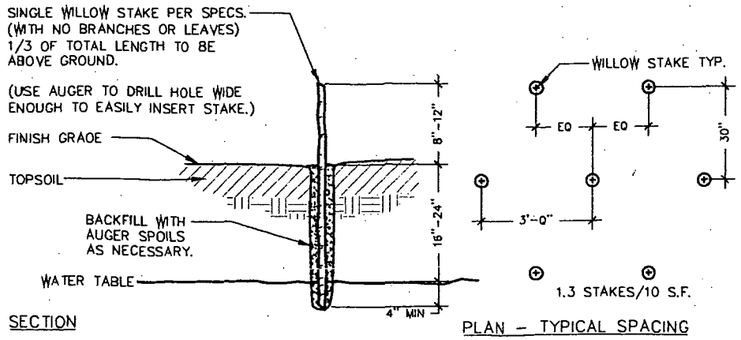
ISSUES	3-22-05
	100%
APPROVALS	

REVISIONS	
DESIGN	PM
DRAWN	MS
CHECKED	

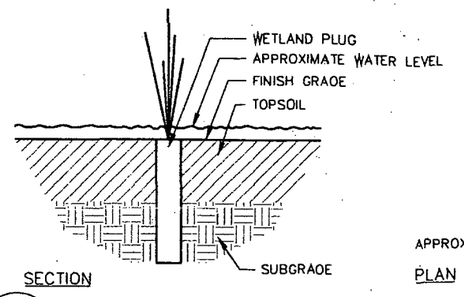
SHEET TITLE
PLANTING PLAN
SHEET NO.
W-3

N W E S

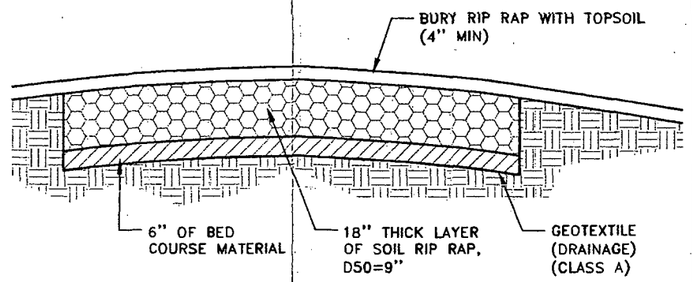
0 40 80



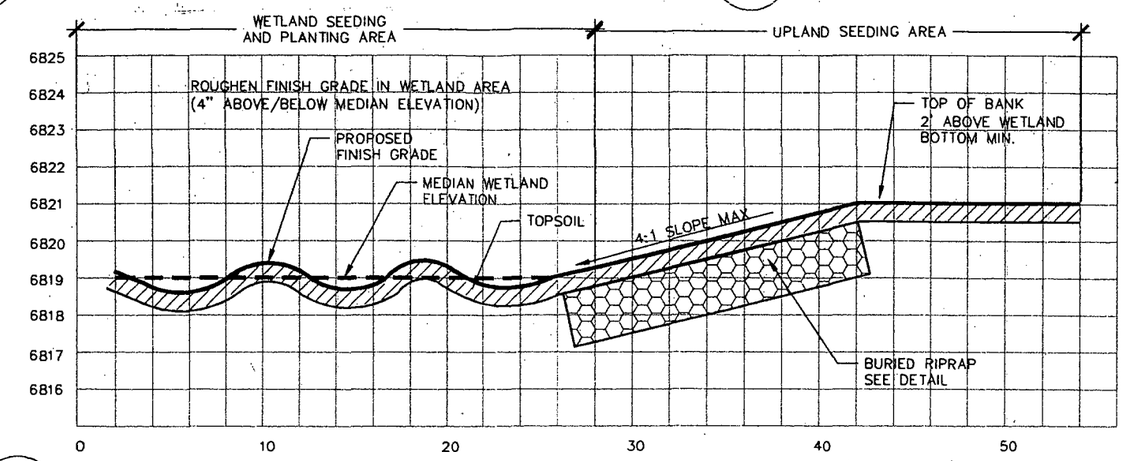
1 WILLOW STAKE
NOT TO SCALE



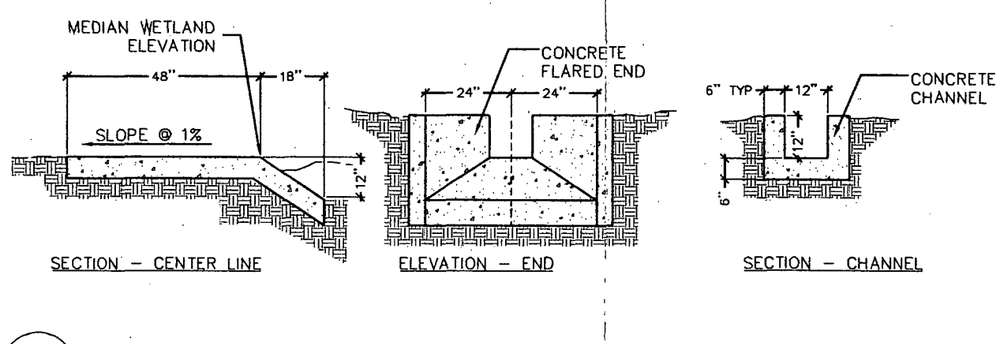
2 WETLAND PLANTING
NOT TO SCALE



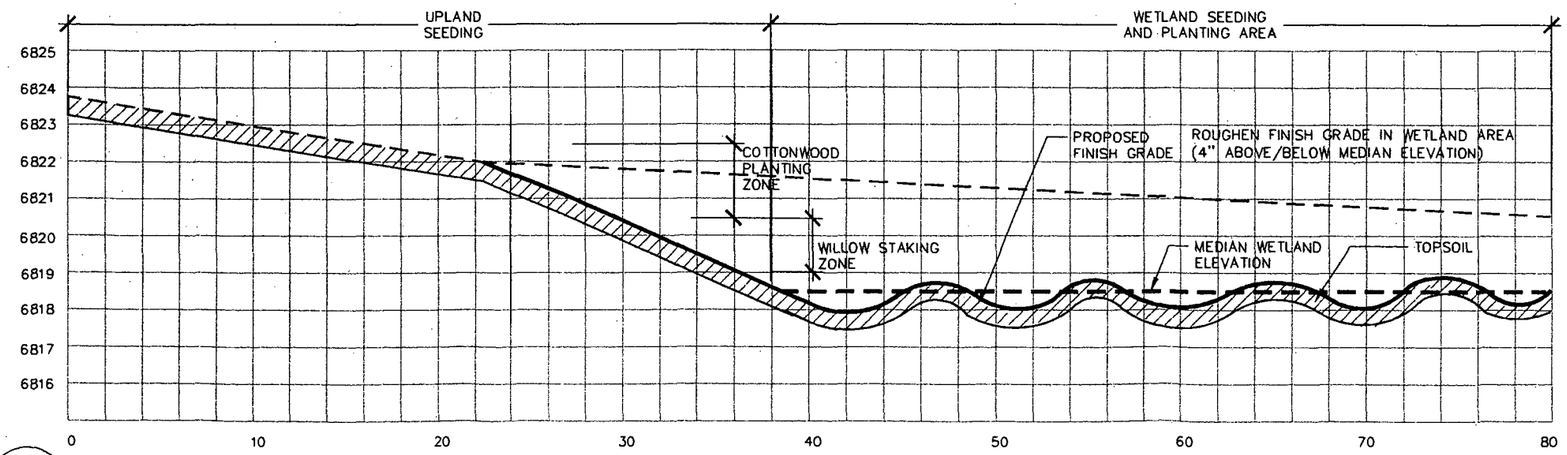
3 RIP RAP
NOT TO SCALE



4 BANK SECTION
NOT TO SCALE

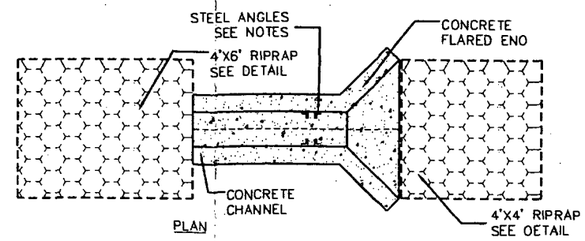


6 OUTLET STRUCTURE
NOT TO SCALE



6 WETLAND SECTION
NOT TO SCALE

NOTES
1. STEEL ANGLES SHALL BE 12"X2"X2.5".
INSTALL WITH CONCRETE ANCHORS, 2 PER SIDE.
INSTALL 4 - 2X4 REDWOOD PLANKS IN SLOT.



6 OUTLET STRUCTURE
NOT TO SCALE

Falcon Highlands
Wetland Mitigation

ISSUES 3-22-05
100%

APPROVALS

REVISIONS

DESIGN PM
DRAWN MS
CHECKED

SHEET TITLE
DETAILS

SHEET NO.
W-4

K-S & Company, Inc.
18220 Red Clover Lane, Monument, Colorado 80132
Phone: (719) 460-5952 Fax: (719) 481-0429
e-mail: k-s@pcisys.net

PRELIMINARY
COMPENSATORY MITIGATION PLAN

FALCON HIGHLANDS DEVELOPMENT
FALCON, COLORADO
Corps Action No. 2000 00359

1. Summary

The overall project consists of a mix of residential, commercial and light industrial development (see Block 18 exhibits of permit application). The development is known as the Falcon Highlands Development which consists of approximately 820 acres. An additional 40 acres, owned by the Moore Family, will be the site of one of two detention basins and, therefore, are included as part of this permit application.

In addition to the residential, commercial and light industrial development, the project includes:

1) a flood-control channel;
2) two regional detention basins;
3) an extension/realignment of Meridian Road.

The total wetland acreage in the within the project site is 14.99 acres. Approximately 5.58 acres of these wetlands are non-jurisdictional leaving 9.41 acres of jurisdictional wetlands. The proposed project will result in approximately 2.5 acres of direct impacts and an estimated 0.5 acres of indirect impacts. Therefore, we have estimated the total wetland impact to be 3.0 acres. We are proposing to mitigate 3.0 acres to compensate for the 3.0 acres of impact. We will be including an additional 0.15-acre contingency in the mitigation to help assure that the 3.0 acres of successful mitigation is achieved. In addition, it is anticipated that excess water from the project will help revive adjacent existing wetlands which were impacted by the recent drought.

2. Responsible Parties

a) Applicant/Permittee: Falcon Highlands Metropolitan District
24 North Tejon Street
Colorado Springs, CO 80903
Attention: Mr. Gregory Timm
(719) 473-4350

b) Entity Having Financial Responsibility
Same as above

c, d) Agent/Preparer: K-S & Company, Inc.
18220 Red Clover Lane
Monument, CO 80132
Attention: Mr. Ron Turner
(719) 460-5952

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3. Project Requiring Mitigation

a) Location: I-25 north to Woodmen Road and drive east for approximately 10.7 miles. The project site is northwest of the Town of Falcon on the south side of Woodman Road between Meridian Road and a point approximately two miles west of Meridian Road. A portion of the project is also located on the north side of Woodmen Road between approximately 1.6 and 2.3 miles west of Meridian Road (see Figure 1).

b) Project Summary: The overall project consists of a mix of residential, commercial and light industrial development (see Block 18 exhibits of the original permit application). The development is known as the Falcon Highlands Development which consists of approximately 820 acres. This permit application also included an additional 40 acres, owned by the Moore Family, where one of two detention basins will be located

In addition to the residential, commercial and light industrial development, the project includes:

1) a flood control channel running north to south from Woodmen Road to a regional detention basin located in the southeast portion of the project;

2) a regional detention basin located in the southeast portion of the project just north of Highway 24;

3) a regional detention basin located along the eastern boundary of the project between Woodmen Road and Highway 24;

4) an extension/realignment of Meridian Road south from Woodmen Road and intersecting Highway 24 just east of existing wetlands and the southern-most detention basin.

Construction of the project is currently underway and will continue in phases with an anticipated completion date of July 2008.

4. Mitigation Goals and Objectives

a) Impact Site – It is estimated that there will be 2.5 acres of emergent persistent wetlands directly impacted by the proposed project. In addition, we have estimated that another 0.5 acre of indirect impact will occur. These wetlands provide the following functions:

- providing general wildlife habitat for small mammals, birds and reptiles that likely inhabit the area
- production of export/food chain support by flushing organic material to downstream habitats along Black Squirrel Creek, especially during storm events
- serving as groundwater discharge/recharge points.

b) Mitigation Site – the proposed mitigation will consist of 3.0 acres (with an additional 0.15 acre contingency) of emergent persistent wetlands which will provide the same functions as described above. In addition, due to the large size of the mitigation site compared to the size of the smaller impacted wetlands, some flooding mitigation capacity will be added to the system.

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Since the groundwater seeps which have been supporting the existing wetlands onsite have dried up as a result of the on-going drought, we propose to use water captured by underdrains under the proposed residential developments. It has been reported that other underdrain systems in the area have continued to produce significant quantities of water throughout the drought. Not only will this more reliable water source support the proposed mitigation site, but we anticipate that it may provide supplemental support for adjacent existing wetlands. Currently, one of two underdrain systems is in place and is producing approximately 30 gallons per minute continuously. The second underdrain system to be installed in the future will also be available for the mitigation site as well as nearby existing wetlands.

The area available for mitigation is approximately 4.2 acres in size. Therefore, the 3.15 acres of constructed wetlands will have an additional buffer of approximately 0.95 acre of native short-grass prairie. In addition, there are existing wetlands adjacent to the eastern portion of the mitigation site.

5. Baseline Information

a) Location

1) *Coordinates* - The projects includes of the following portions of Township 13 South Range 65 West, 6th PM:

- a portion of the SE ¼ of Section 3
- a portion of the SW ¼ of Section 2
- a portion of the northern half of Section 11
- most of Section 12 except for the Town of Falcon and a portion of the SE ¼ on the south side of Highway 24.

2) *Maps* included as part of Block 18 of the permit application indicate the topography of the site, the location of jurisdictional as well as non-jurisdictional wetlands, and the impacted and proposed mitigation areas. Vicinity and soils maps are also included as Figures 1 and 2, respectively.

3) *Aerial/Satellite Photos* – See Falcon Highlands Wetland Delineation Report dated August 3, 2000.

b) Classification - The wetlands onsite are Palustrine emergent wetlands which occur primarily in vegetated swales. There are no regulated channels located onsite. However, other wetlands are located outside of these swales and floodplains and have historically been fed by groundwater seeps caused by shallow bedrock forcing the groundwater up to the surface.

c) Quantify - The total wetland acreage in the within the project site is 14.99 acres (See Table 1). Approximately 5.58 acres of these wetlands are non-jurisdictional leaving 9.41 acres of jurisdictional wetlands. The proposed project will result in approximately 2.5 acres of direct impacts and an estimated 0.5 acre of indirect impacts. Therefore, we have estimated the total wetland impact to be 3.0 acres. We are proposing 3.0 acres of mitigation to compensate for the

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3.0 acres of impact. In addition, we will be constructing a contingency of approximately 0.15 acre to help assure that the 3.0 acres of successful mitigation/compensation is achieved. Excess water from the underdrain system will also be used to help revive adjacent existing wetlands which have been significantly impacted by the recent drought.

d) Assessment Methods – No approved protocol for the Albuquerque District.

e) Existing Hydrology / Topography

1) *Water Budget* – The existing wetlands on the project site have historically been supported by high groundwater forced up to the surface by shallow bedrock formations. However, the effects of the recent drought (e.g., most of the wetlands have lost their hydrologic support and are receding) have demonstrated that this water source can be inconsistent and undependable. On the other hand, underdrains installed in other developments in the area have reportedly continued to flow throughout the drought. The underdrain system recently installed on the project site is producing approximately 30 gallons per minute continuously.

2) *Hydroperiod* - Not applicable. Mitigation site will be supported by groundwater captured in underdrains in adjacent residential development. The recently installed underdrain system has been flowing continuously since its installation.

3) *Historical Hydrology of Mitigation* Site - Historically, water for the wetlands adjacent to the proposed mitigation site appeared to be seeps created by the contact between the Dawson Arkose and the Denver formation. Saturated conditions were present in the upper 12 inches of soil and up to the surface in the adjacent wetlands at the time of their delineation in July 2000. However, as a result of the drought this area, many of the wetlands (including the adjacent wetlands) appear to have lost their hydrologic support from the groundwater.

4) *Contributing Drainage Area* - Not applicable. Mitigation site will be supported by groundwater captured in underdrains in adjacent residential development. The recharge area for this ground water system is difficult to determine but is likely several square miles.

5) *Results of Water Quality Analyses* – None available. No known groundwater contamination in the area.

f) Existing Vegetation

The vegetation on the project site is typical short-grass prairie. The dominant vegetation in the wetland areas identified on the subject site consisted of *Juncus balticus, Agrostis alba* (Redtop), *Carex aquatilus* (Water sedge), *Scirpus americanus* (Olney's bulrush), *and Salix exigua* (Sandbar willow).

g) Existing Soils

The soils at the site are described in the *Soil Survey of El Paso County Area, Colorado* prepared by the Soil Conservation Service (SCS), now known as the Natural Resource Conservation Service. The SCS report identified three soil map units which occur on the project site (see Figure 2 of original permit application). These include the Blakeland loamy sand, the Blakeland complex, and the Columbine gravelly sandy loam. Descriptions of each of these soils, taken from the SCS report, are presented below.

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Blakeland loamy sand – "This deep, somewhat excessively drained soil formed in alluvial and eolian material derived from arkosic sedimentary rock on the uplands. Typically, the surface layer is dark, grayish brown loamy sand about 11 inches thick. The substratum, to a depth of 27 inches, is brown loamy sand; it grades to a pale brown sand that extends to a depth of 60 inches. Permeability of the Blakeland soil is rapid. Available water capacity is low to moderate."

Blakeland complex – "This complex is on uplands, mostly in the Falcon area. This complex is about 60 percent Blakeland loamy sand, about 30 percent Fluvaquentic Haplaquolls, and 10 percent other soils. The Blakeland soil is in the more sloping areas. It is deep and somewhat excessively drained. It formed in sandy alluvium and eolian material derived from arkosic sedimentary rock. Typically the surface layer is dark grayish brown loamy sand about 11 inches thick. The substratum, to a depth of 27 inches, is brown loamy sand; it grades to pale brown sand that extends to a depth of sixty inches or more. Permeability of the Blakeland soil is rapid. The available water capacity is moderate to low. The Fluvaquentic Haplaquolls are in swale areas. They are deep, poorly drained soils. They formed in alluvium derived from arkosic sedimentary rock."

Columbine gravelly sandy loam – "This deep, well drained to excessively drained soil formed in coarse textured material on alluvial terraces and fans and on flood plains. Typically, the surface layer is grayish brown gravelly sandy loam about 14 inches thick. The underlying material is light yellowish brown very gravelly loamy sand. Permeability of this Columbine soil is very rapid. Available water capacity is low to moderate".

According to the SCS report, the soils at the mitigation site are Blakeland Complex soils. As part of the mitigation design process, five (5) soil borings were drilled onsite in order to evaluate the site-specific soil types. The results of this investigation indicated that the soils consist of clayey sand / sandy clay, loam, clay, silty clay, sandy, clayey silt, clayey loam gravelly clay, sandy loam, coarse sand and loamy sand coarse sand.

h) Existing Wildlife Habitat/Use – The project site has historically been grazed by Pronghorn Antelope. Other wildlife onsite include birds, reptiles and small mammals. There are a few areas where there are stands of Sandbar willow otherwise the remainder of the site is short-grass prairie and provides minimal habitat for larger animals. There are also no large bodies of water to attract waterfowl.

i) Threatened and Endangered Species

In order to evaluate the presence of threatened or endangered species in the permitted area, K-S contacted the Colorado Natural Heritage Program (CNHP). No threatened or endangered species of plants or animals were documented in the area. The information provided by the CNHP was included as Attachment 1 in the original permit application package.

In addition, a habitat assessment for the Preble's Meadow Jumping Mouse (PMJM) was performed by ERO Resources in March 2001. ERO concluded that there was no PMJM habitat onsite. The United State Fish and Wildlife Service (USFWS) concurred with ERO's opinion in a letter dated May 1, 2001. Copies of all of these documents were also included in Attachment 1 of the original permit application package.

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j) Historic and Current Land Use
The project site has historically been used for grazing and has never been developed or farmed.

k) Current Owners

- Cygnet Land, LLC
- Falcon Highlands, LLC

l) Watershed Context/Surrounding Land Use
Historically, the land use in the vicinity of the subject site has been rural residential and grazing of the natural short-grass prairie. In recent years there has been a significant amount of single-family residential development in the area, particularly north (i.e., upstream) of the subject site. As a result of the residential development there is currently a significant amount of commercial development taking place along the east side of the proposed project.

There are no natural buffers on the subject site. There are also no permanent water bodies. Surface water flow occurs in vegetated swales only during significant storm events. Many of the wetlands onsite are fed by groundwater seeps in upland locations so there is direct connectivity to upland vegetation. There are significant wetlands in the general area of the proposed project, many of which have not been as seriously impacted by the on-going drought as have the wetlands onsite.

6. Mitigation Site Selection and Justification

a) Site-Specific Objectives
The objective of the proposed mitigation is to replace the 3.0 acres of impacted wetlands at a 1:1 ratio by creating new wetlands and possible providing a more reliable water source to help support and enhance existing wetlands adjacent to the created wetlands. However, an additional 0.15 acre will be included as a contingency to help ensure that the 3-acre goal is attained. In addition, excess water will be used to help rejuvenate adjacent existing wetlands impacted by the recent drought.

b) Watershed/Regional Objectives
The proposed mitigation will compensate for the functions of impacted wetlands by creating a larger, more sustainable and more diverse aquatic resource in the area. By creating a single larger wetland the habitat for small mammals, birds and reptiles will be improved with a built-in buffer due to its size. Production of export/food chain support by flushing organic material to downstream habitats during storm events will be enhanced as a result of the size and diversity of the created wetlands and its close proximity to the drainage swale and box culvert underneath Highway 24. In addition, the wetland will be supported by groundwater collected by underdrains installed underneath the upstream residential developments and will therefore, serve as a recharge area for this same groundwater.

c) Aquatic Resource Functions
The proposed mitigation will contribute to the aquatic resource functions of the area by combining several smaller impacted wetlands, where hydrologic support has been minimal or

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absent as a result of the drought, into a single larger wetland with a more consistent and dependable, drought resistant source of hydrologic support. This single larger wetland will also provide connectivity to other large existing wetlands adjacent to the east side of the mitigation site.

d) Future Adjacent Land Uses

As previously mentioned, the future land use north and northwest of the proposed mitigation site will be single-family residential. A regional detention basin will be constructed north-northeast of the subject site and existing wetlands will remain adjacent to the east side of the mitigation site. Highway 24 will remain on the southeast side of the mitigation site with approximately a 150-foot right-of-way acting as a buffer between the created wetlands and the highway. This right-of-way contains upland vegetation and other wetlands which would be in direct connection to the created wetlands proposed.

e) Site Selection Practicability

The selection of the proposed mitigation site was made based on several factors including:

- the location in the lower, downstream portion of the project site which allows for the easier collection and transmission of potential water sources to the site for critical hydrologic support
- the wetlands will provide a natural buffer between proposed residential areas and Highway 24
- the proposed constructed wetlands will enhance the existing wetlands to the east providing additional improved habitat and a larger refuge for the local wildlife.

f) Proposed Mitigation

The proposed mitigation will be on-site and in-kind.

g) Deed Restrictions, Easements and Rights-of-Way

There are currently no easements, right-of-ways or deed restrictions on the proposed mitigation site. No utility easements through the mitigation site are anticipated at this time.

h) Sustainable and Self-Maintaining

The recent drought has demonstrated how the source of hydrologic support for the existing wetlands onsite is inconsistent and undependable. Based on the reported performance and consistency of other underdrain systems in the vicinity of the project site, it appears that this source will prove more reliable for supporting the proposed mitigation site. One of two underdrain systems has already been installed on the project site and is producing approximately 30 gpm continuously.

i) United States Fish and Wildlife Service (USFWS)

As previously discussed, a habitat assessment for the Preble's Meadow Jumping Mouse (PMJM) was performed by ERO Resources in March 2001. ERO concluded that there was no PMJM habitat onsite. The United State Fish and Wildlife Service (USFWS) concurred with ERO's opinion in a letter dated May 1, 2001. Copies of all of these documents are also included in Attachment 1 of the original permit application.

j) State Historical Preservation

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The State Office of Archaeology and Historical Preservation was contacted concerning any cultural resources in the area. Their records did not indicate the presence of any cultural resources in the area. Copies of the correspondence from the SHPO are included in Attachment 2 of the original permit application.

7. Mitigation Work Plan

a) Maps – A final Grading Plan with cross-sections and Planting Plan are attached.

b) Timing of Mitigation – The timing of the mitigation will be concurrent with many of the authorized impacts. However, some of the authorized impacts have already occurred but were necessary for flood control. In addition, some of the authorized impacts will not occur until after the mitigation.

c) Grading Plan – The Grading Plan for the site is attached. In general, it consists of grading two wetland basins.

d) Construction Methods – Construction specifications are attached. These have been prepared as two separate documents, one for grading and one for seeding and planting, for bidding purposes.

e) Construction Schedule - It is currently anticipated that construction can be accomplished in April and May 2005. However, this will depend on the date of final approval of the Mitigation Plan by the Corps, availability of contractors and on weather. If it cannot be accomplished in the Spring of 2005 construction will take place in the Fall of 2005. As-built drawings will be submitted approximately 90 days after the construction is complete.

f) Planned Hydrology

1) Source of water: groundwater collected by underdrain systems.

2) Connection(s) to existing water: adjacent to existing wetlands saturated to the surface during wet years.

3) Hydroperiod: Does not apply. Shallow groundwater from other underdrain systems in the area have reportedly seen little impact from the drought. In addition, landscape irrigation in residential areas where underdrains will be installed will help recharge the shallow groundwater.

4) Potential Interaction with Groundwater: Mitigation area and adjacent wetlands will provide a location for recharge of the groundwater from the underdrains.

5) Existing Monitoring Data: None available.

6) Stream or Other Open Water Geomorphic Features: Not Applicable.

7) Structure Requiring Maintenance: None.

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g) Planned Vegetation: See attached specifications and drawings.

h) Pest Plant Removal: The new wetlands will be monitored for noxious weeds and other undesirable plant species. If any of these plants appear in the new wetlands they will be manually removed or sprayed with herbicides based on recommendations from the natural Resource Conservation Service.

i) Soils: The soils onsite are discussed above under *Baseline Conditions.* It is anticipated that the onsite topsoil will be stripped and stockpiled prior to grading the site. The site will then be graded to approximately six inches below final grade and then the stockpiled topsoil will be spread over the mitigation site in order to achieve final grade. There is also some clayey, sandy loam already stockpiled onsite which may be used for topsoiling.

j) Planned Habitat Features: This information will be included in final work plan.

k) Planned Buffer: As indicated in the exhibits in Block 18 of the application, the area available for mitigation is approximately 4.2 acres. The 3.6-acre configuration of the mitigation is indicated in the conceptual design attached to this document. The difference acreage will provide a 0.6-acre buffer between the constructed wetlands and surrounding land uses. There is also a right-of-way for Highway 24 on the south side of the side which will provide an additional buffer. In addition, this buffer will provide some upland habitat for wildlife.

l) Other Planned Features: Currently, mitigation boundary signs are planned to inform the public of the location and sensitivity of the wetlands. It is also our understanding that El Paso County is planning a trail on the northwest side of the site (roughly along the current Tamlin Road alignment) between the wetlands and the residential areas.

m) Construction Monitor: K-S personnel will provide onsite monitoring and supervision of the mitigation efforts and will submit a brief report shortly after the completion of each phase of construction.

8. Performance Standards

Performance standards will be submitted along with the detailed work plan after issuance of the 404 permit for the proposed project.

9. Site Protection and Maintenance

Falcon Highland Metropolitan District will be ultimately responsible for the long-term maintenance and protection of the created wetlands. A long-term legal protection instrument will be proposed to the Corps after issuance of the permit. A maintenance plan and schedule and noxious weed control plan will also be submitted along with the final mitigation plan.

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10. Monitoring Plan

Monitoring of the wetlands will be performed for a period of three years or until the Corps of Engineers has determined that the mitigation effort has been successful. The monitoring will be performed by K-S & Company, Inc. (K-S). Prior to beginning the mitigation, K-S will select fixed locations from which to take photos. The photo monitoring locations will be mapped using a Trimble GeoXT GPS unit and plotted on a site map. The first photos taken will represent the pre-construction conditions at the site. Upon completion of the mitigation construction, K-S will monitor the following components of the mitigation site:

- Hydrology – a distribution system will be constructed to deliver the water from the underdrains to the mitigation site. K-S will monitor that system to be sure that it is functioning as designed and that all parts of the mitigation site are receiving adequate amounts of water. The mitigation site also has overflow structures included to help control the depth of the water in the new wetlands. The overflow structure in the southeast portion of the site will be adjusted until the optimal water depth is achieved in the new wetlands.
- Vegetation – K-S will observe the survival rates of the seeded and planted wetland species. If survival rates are observed to be less than that needed to achieve the 70% percent vegetative cover goal, additional seeding/planting will be performed. Other modifications to the soil and/or water levels will be made as appropriate to improve the chances of survivability.
- Noxious weeds – K-S will also monitor the vegetation both in and around the mitigation site for the presence of noxious weeds. When found, the noxious weeds will either be mowed (in upland areas around the site), sprayed or pulled manually (in the mitigation site). If spraying is required, it will be performed selectively in order to prevent killing desirable species.

At the end of each growing season, K-S will take photos from the previously selected photo monitoring locations. These photos, along with the pre-construction photos, will be included in an annual monitoring report to be submitted to the Corps of Engineers by December 31 of each year.

The annual monitoring report will include the following:

1) a drawing or sketch showing the photo monitoring points;
2) before and after photos as described above;
3) a brief discussion of the overall success of the mitigation. Issues discussed will include: site hydrology; bare or problem areas; and, a plan to remedy any problem areas or areas that do not meet wetland criteria.

11. Adaptive Management Plan

a) Responsible Parties - K-S, as a consultant to the Falcon Highlands Metro District, will be responsible for developing adaptive management action plans should they be necessary. Falcon Highland Metro District will be responsible for carrying out these plans, if necessary.

b) Potential Challenges – The mitigation design has included a number of components to minimize the potential risks to project success. These risk minimization components are discussed below.

- Flooding - The mitigation site is located adjacent to a stormwater detention basin design to capture potential flood flows. This detention basin is component of a larger flood control system including upstream flood control channels. The mitigation site will also include overflow structures to safely release excess water without causing erosion of the perimeter berms of the new wetlands. Therefore, the threat of floods impacting the site is minimal.

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- Drought - As discussed in the mitigation design, the wetlands will be supported by water from underdrain systems installed in the upgradient residential developments. The current underdrain system is producing a constant 30 gallons per minute and has been since it was installed several months ago. There will also be a second underdrain system installed in the relatively near future. Similar underdrain systems in the general vicinity of the site have produced water throughout the recent drought. Therefore, we anticipate that the planned hydrologic support for the mitigation site will be more reliable than the ground water which supported the existing wetlands prior to the drought.
- Invasive species – Invasive species will be controlled by mowing or spraying the buffer area surrounding the mitigation site, as necessary. The wetlands themselves will be inundated with water which will prevent many invasive species from surviving within these wetlands.

c) *Potential Remedial Measures* - Measures to modify the conditions at the site, as necessary, have been discussed above. These include: adjusting the water levels in the wetlands to achieve optimum water depth; replacing plantings that may not survive the initial planting; and controlling invasive plants by mowing, spraying or manual removal.

d) Modification of Performance Standards – It is possible that water added to the areas of the existing wetlands onsite may result in a significant recovery of those wetlands and even an expansion of those wetlands. K-S will monitor the recovery of the existing wetlands and if that recovery results in and expansion of those wetlands, the amount of expansion could potentially be used to satisfy the projects mitigation requirements should the mitigation sites not be as successful as anticipated.

12. Financial Assurances

Falcon Highlands Metro District is currently working on acquiring bonding to satisfy the financial assurance requirements. Since the Falcon Highlands Metro District is a new district, it is taking longer than normal to secure this bonding. A proposal for this will be submitted to the Corps of Engineers as soon as possible.

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PRELIMINARY
COMPENSATORY MITIGATION PLAN

FALCON HIGHLANDS DEVELOPMENT
FALCON, COLORADO
Corps Action No. 2000 00359

1. Summary

The overall project consists of a mix of residential, commercial and light industrial development (see Block 18 exhibits). The development is known as the Falcon Highlands Development which consists of approximately 820 acres. An additional 40 acres, owned by the Moore Family, will be the site of one of two detention basins and, therefore, is included as part of this permit application.

In addition to the residential, commercial and light industrial development, the project includes:

1) a flood control channel;

2) two regional detention basins;

3) an extension/realignment of Meridian Road.

The total wetland acreage in the within the project site is 14.99 acres. Approximately 5.58 acres of these wetlands are non-jurisdictional leaving 9.41 acres of jurisdictional wetlands. The proposed project will result in approximately 2.5 acres of direct impacts and an estimated 0.5 acres of indirect impacts. Therefore, we have estimated the total wetland impact to be 3.0 acres. We are proposing to mitigate 3.0 acres to compensate for the 3.0 acres of impact. We will be including an additional 0.6-acre contingency in the mitigation to help assure that the 3.0 acres of successful mitigation is achieved.

2. Responsible Parties

a) Applicant/Permittee: Falcon Highlands Metropolitan District
24 North Tejon Street
Colorado Springs, CO 80903
Attention: Mr. Gregory Timm
(719) 473-4350

b) Entity Having Financial Responsibility
Same as above

c, d) Agent/Preparer: K-S & Company, Inc.
18220 Red Clover Lane
Monument, CO 80132
Attention: Mr. Ron Turner
(719) 460-5952

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3. Project Requiring Mitigation

a) Location: I-25 north to Woodmen Road and drive east for approximately 10.7 miles. The project site is northwest of the Town of Falcon on the south side of Woodman Road between Meridian Road and a point approximately two miles west of Meridian Road. A portion of the project is also located on the north side of Woodmen Road between approximately 1.6 and 2.3 miles west of Meridian Road (see Figure 1).

b) Project Summary: The overall project consists of a mix of residential, commercial and light industrial development (see Block 18 exhibits). The development is known as the Falcon Highlands Development which consists of approximately 820 acres. This permit application also includes an additional 40 acres, owned by the Moore Family, where one of two detention basins will be located

In addition to the residential, commercial and light industrial development, the project includes:

1) a flood control channel running north to south from Woodmen Road to a regional detention basin located in the southeast portion of the project;

2) a regional detention basin located in the southeast portion of the project just north of Highway 24;

3) a regional detention basin located along the eastern boundary of the project between Woodmen Road and Highway 24;

4) an extension/realignment of Meridian Road south from Woodmen Road and intersecting Highway 24 just east of existing wetlands and the southern-most detention basin.

Construction of the project is currently underway and will continue in phases with an anticipated completion date of July 2008. Some grading activities outside of the wetland areas have begun. In particular, the western flood control channel is currently being constructed under the authority of Nationwide Permit No. 39. This portion of the project was necessary to expedite as a result of upstream flood control structures installed by others as part of the Woodmen Road construction project.

4. Mitigation Goals and Objectives

a) Impact Site – It is estimated that there will be 2.5 acres of emergent persistent wetlands directly impacted by the proposed project. In addition, we have estimated that another 0.5 acre of indirect impact will occur. These wetlands provide the following functions:

- providing general wildlife habitat for small mammals, birds and reptiles that likely inhabit the area
- production of export/food chain support by flushing organic material to downstream habitats along Black Squirrel Creek, especially during storm events
- serving as groundwater discharge/recharge points.

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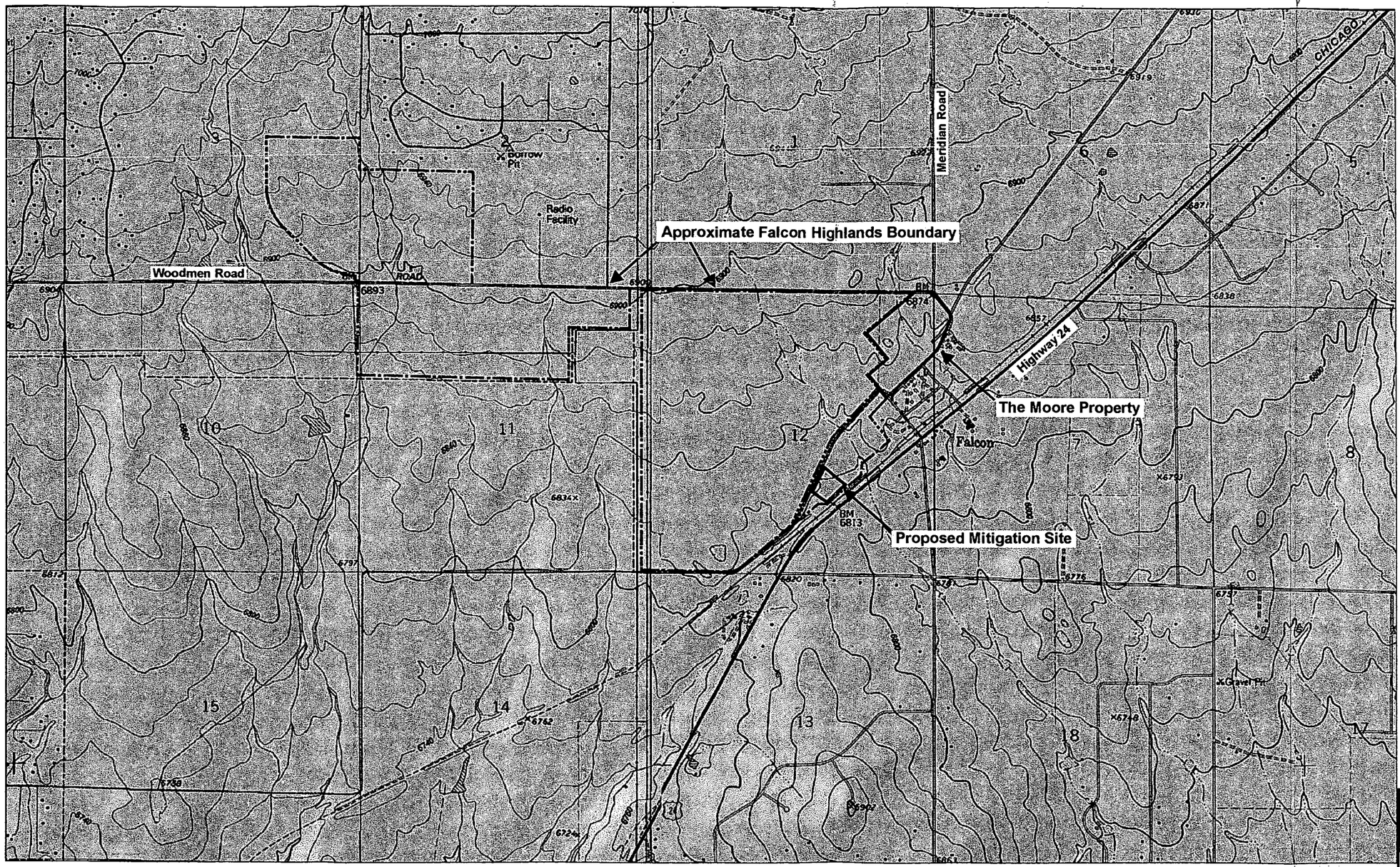

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Approximate Scale: 1" = 2000'

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FIGURE 1

LOCATION MAP
FALCON HIGHLANDS
METROPOLITAN DISTRICT

KS-0058-01 August 2004

b) Mitigation Site – the proposed mitigation will consist of 3.0 acres (with an additional 0.6 acre contingency) of emergent persistent wetlands which will provide the same functions as described above. In addition, due to the large size of the mitigation site compared to the size of the smaller impacted wetlands, some flooding mitigation capacity will be added to the system. Since the groundwater seeps which have been supporting the existing wetlands onsite have dried up as a result of the on-going drought, we propose to use water captured by underdrains under the proposed residential developments. It has been reported that other underdrain systems in the area have continued to produce significant quantities of water throughout the drought. Not only will this more reliable water source support the proposed mitigation site, but we anticipate that it may provide supplemental support for adjacent existing wetlands.

The area available for mitigation is approximately 4.2 acres in size. Therefore, the 3.6 acres (3-acre goal plus 0.6-acre contingency) of constructed wetlands will have an additional buffer of approximately 0.6 acre of native short-grass prairie.

5. Baseline Information

a) Location

1) *Coordinates* - The projects includes of the following portions of Township 13 South Range 65 West, 6th PM:

- a portion of the SE ¼ of Section 3
- a portion of the SW ¼ of Section 2
- a portion of the northern half of Section 11
- most of Section 12 except for the Town of Falcon and a portion of the SE ¼ on the south side of Highway 24.

2) *Maps* included as part of Block 18 of the permit application indicate the topography of the site, the location of jurisdictional as well as non-jurisdictional wetlands, and the impacted and proposed mitigation areas. Vicinity and soils maps are also included as Figures 1 and 2, respectively.

3) *Aerial/Satellite Photos* – See Falcon Highlands Wetland Delineation Report dated August 3, 2000.

b) Classification - The wetlands onsite are Palustrine emergent wetlands which occur primarily in vegetated swales. There are no regulated channels located onsite. However, other wetlands are located outside of these swales and floodplains and are fed by groundwater seeps caused by shallow bedrock surfaces forcing the groundwater up to the surface.

c) Quantify - The total wetland acreage in the within the project site is 14.99 acres (See Table 1). Approximately 5.58 acres of these wetlands are non-jurisdictional leaving 9.41 acres of jurisdictional wetlands. The proposed project will result in approximately 2.5 acres of direct impacts and an estimated 0.5 acre of indirect impacts. Therefore, we have estimated the total wetland impact to be 3.0 acres. We are proposing 3.0 acres of mitigation to compensate for the

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Table 1.
Summary of Wetland Impacts

Wetlands	Delineation Date	Area (acres)	Status	Direct Impacts	Indirect Impacts
Falcon Highlands Wetlands	August 2000				
Area A		0.96	jurisdictional	0.96	
Area B		0.07	jurisdictional	0.07	
Area C		0.95	non-jurisdictional	NA	
Area D		0.69	non-jurisdictional	NA	
Area E		3.60 4.50	non-jurisdictional jurisdictional	NA 0.07	0.25
Area F		0.34	non-jurisdictional		
Area G		0.29	jurisdictional	0.29	
Area H		0.24	jurisdictional	0.24	
Area I		0.28	jurisdictional	0.28	
Area J		1.61	jurisdictional	none	
Area K		1.04	jurisdictional	0.37	0.25
Area L		0.03	jurisdictional	0.03	
Moore Wetlands	August 2002				
Wetland 1		0.09	jurisdictional	0.09	
Wetland 2		0.08	jurisdictional	0.08	
Meridian Rd./Hwy 24 Box Culvert Wetlands	July 2004	0.22	jurisdictional	0.02	
Total Wetland Areas		15.03			
Total Non-jurisdictional Wetlands		5.58			
Total Jurisdictional Wetlands		9.45			
Estimated Direct Impacts				2.5	
Estimated Indirect Impacts					0.5
Total Estimated Impacts					**3.00**

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3.0 acres of impact. In addition, we will be constructing a contingency of approximately 0.6 acre to help assure that the 3.0 acres of successful mitigation/compensation is achieved.

d) Assessment Methods – No approved protocol for the Albuquerque District.

e) Existing Hydrology / Topography

1) *Water Budget* – The existing wetlands on the project site have historically been supported by high groundwater forced up to the surface by shallow bedrock formations. However, the effects of the recent drought (e.g., most of the wetlands have lost their hydrologic support and are receding) have demonstrated that this water source can be inconsistent and undependable. On the other hand, underdrains installed in other developments in the area have reportedly continued to flow throughout the drought. There is no data available to demonstrate the reliability of this water source. Therefore, we propose to perform the mitigation in phases.

2) *Hydroperiod* - Not applicable. Mitigation site will be supported by groundwater captured in underdrains in adjacent residential development.

3) *Historical Hydrology of Mitigation* Site - Historically, water for the wetlands adjacent to the proposed mitigation site appeared to be seeps created by the contact between the Dawson Arkose and the Denver formation. Saturated conditions were present in the upper 12 inches of soil and up to the surface in the adjacent wetlands at the time of their delineation in July 2000. However, as a result of the drought this area, many of the wetlands (including the adjacent wetlands) appear to have lost their hydrologic support from the groundwater.

4) *Contributing Drainage Area* - Not applicable. Mitigation site will be supported by groundwater captured in underdrains in adjacent residential development.

5) *Results of Water Quality Analyses* – None available. No known groundwater contamination in the area.

f) Existing Vegetation

The vegetation on the project site is typical short-grass prairie. The dominant vegetation in the wetland areas identified on the subject site consisted of *Juncus balticus, Agrostis alba* (Redtop), *Carex aquatilus* (Water sedge), *Scirpus americanus* (Olney's bulrush), *and Salix exigua* (Sandbar willow).

g) Existing Soils

The soils at the site are described in the *Soil Survey of El Paso County Area, Colorado* prepared by the Soil Conservation Service (SCS), now known as the Natural Resource Conservation Service. The SCS report identified three soil map units which occur onsite (see Figure 2). These include the Blakeland loamy sand, the Blakeland complex, and the Columbine gravelly sandy loam. Descriptions of each of these soils, taken from the SCS report, are presented below.

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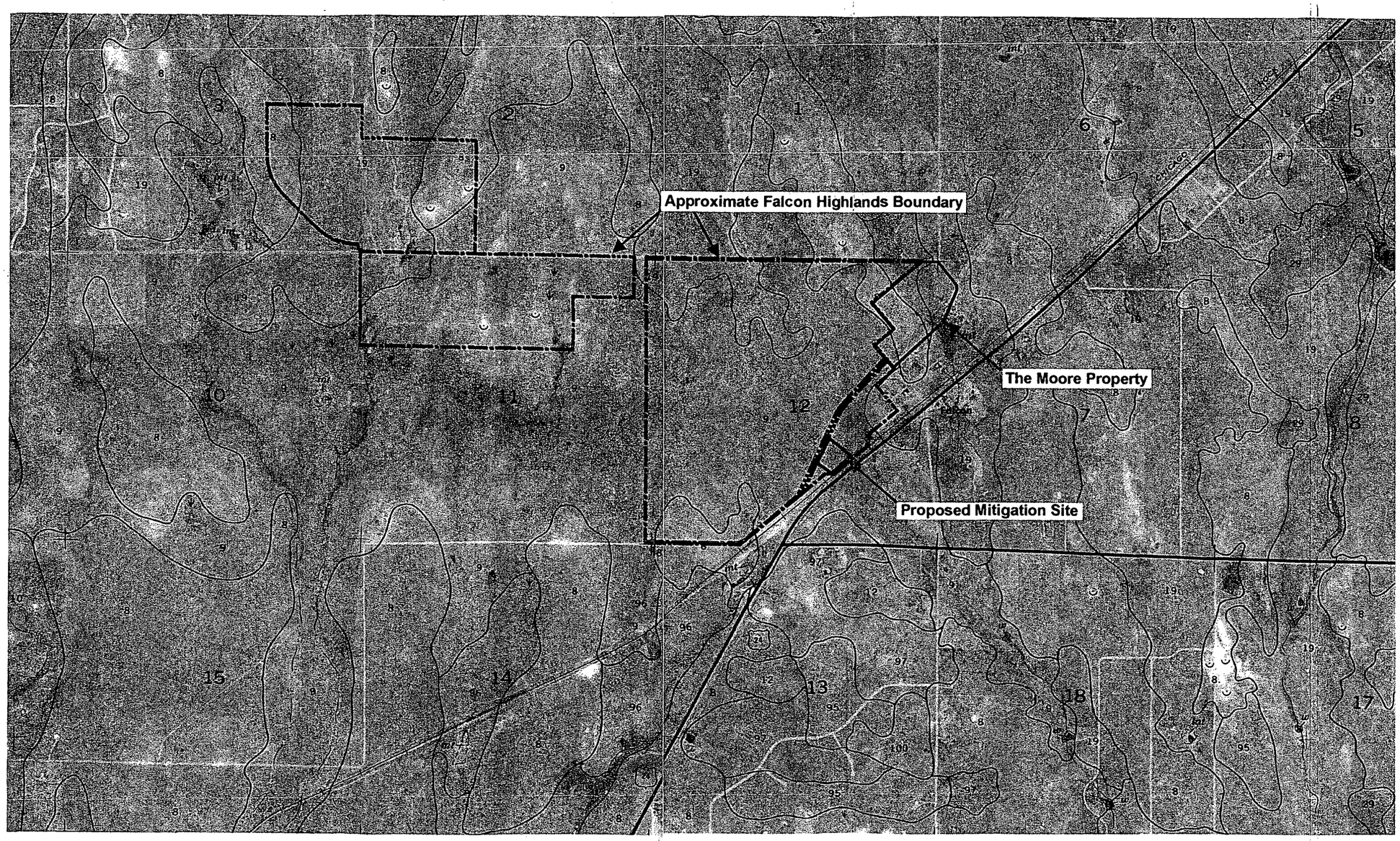

LEGEND

8: *Blakeland loamy sand* - "...deep, somewhat excessively drained soil formed in alluvial and eolian material derived from arkosic sedimentary rock on the uplands. Permeability...is rapid. Available water capacity is low to moderate."

9: *Blakeland complex* - "...deep, somewhat excessively drained ...formed in alluvial and eolian material derived from arkosic sedimentary roc. Permeability ...is low...available water capacity is moderate to low. The Fluvaquentic Haplaquolls...are deep, poorly drained soils...in swale areas."

19: *Columbine gravelly sandy loam* - "...deep, well drained to excessively drained soil formed in coarse texture material on alluvial terraces and fans and on flood plains. Permeability...is very rapid. Available water capacity is low to moderate."

Source: U.S. Dept. of Agric., Soil Conservation Service, 1981

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Approximate Scale: 1" = 2000'

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FIGURE 2

SOILS MAP
FALCON HIGHLANDS
METROPOLITAN DISTRICT

KS-0058-01 August 2004

Blakeland loamy sand – "This deep, somewhat excessively drained soil formed in alluvial and eolian material derived from arkosic sedimentary rock on the uplands. Typically, the surface layer is dark, grayish brown loamy sand about 11 inches thick. The substratum, to a depth of 27 inches, is brown loamy sand; it grades to a pale brown sand that extends to a depth of 60 inches. Permeability of the Blakeland soil is rapid. Available water capacity is low to moderate."

Blakeland complex – "This complex is on uplands, mostly in the Falcon area. This complex is about 60 percent Blakeland loamy sand, about 30 percent Fluvaquentic Haplaquolls, and 10 percent other soils. The Blakeland soil is in the more sloping areas. It is deep and somewhat excessively drained. It formed in sandy alluvium and eolian material derived from arkosic sedimentary rock. Typically the surface layer is dark grayish brown loamy sand about 11 inches thick. The substratum, to a depth of 27 inches, is brown loamy sand; it grades to pale brown sand that extends to a depth of sixty inches or more. Permeability of the Blakeland soil is rapid. The available water capacity is moderate to low. The Fluvaquentic Haplaquolls are in swale areas. They are deep, poorly drained soils. They formed in alluvium derived from arkosic sedimentary rock."

Columbine gravelly sandy loam – "This deep, well drained to excessively drained soil formed in coarse textured material on alluvial terraces and fans and on flood plains. Typically, the surface layer is grayish brown gravelly sandy loam about 14 inches thick. The underlying material is light yellowish brown very gravelly loamy sand. Permeability of this Columbine soil is very rapid. Available water capacity is low to moderate".

h) Existing Wildlife Habitat/Use – The project site has historically been grazed by Pronghorn Antelope. Other wildlife onsite include birds, reptiles and small mammals. There are a few areas where there are stands of Sandbar willow otherwise the remainder of the site is short-grass prairie and provides minimal habitat for larger animals. There are also no large bodies of water to attract waterfowl.

i) Threatened and Endangered Species

In order to evaluate the presence of threatened or endangered species in the permitted area, K-S contacted the Colorado Natural Heritage Program (CNHP). No threatened or endangered species of plants or animals were documented in the area. The information provided by the CNHP is included as Attachment 1.

In addition, a habitat assessment for the Preble's Meadow Jumping Mouse (PMJM) was performed by ERO Resources in March 2001. ERO concluded that there was no PMJM habitat onsite. The United State Fish and Wildlife Service (USFWS) concurred with ERO's opinion in a letter dated May 1, 2001. Copies of all of these documents are also included in Attachment 1.

j) Historic and Current Land Use

The project site has historically been used for grazing and has never been developed or farmed.

k) Current Owners

- Cygnet Land, LLC
- Falcon Highlands, LLC

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l) Watershed Context/Surrounding Land Use

Historically, the land use in the vicinity of the subject site has been rural residential and grazing of the natural short-grass prairie. In recent years there has been a significant amount of single-family residential development in the area, particularly north (i.e., upstream) of the subject site. As a result of the residential development there is currently a significant amount of commercial development taking place along the east side of the proposed project.

There are no natural buffers on the subject site. There are also no permanent water bodies. Surface water flow occurs in vegetated swales only during significant storm events. Many of the wetlands onsite are fed by groundwater seeps in upland locations so there is direct connectivity to upland vegetation. There are significant wetlands in the general area of the proposed project, many of which have not been as seriously impacted by the on-going drought as have the wetlands onsite.

6. Mitigation Site Selection and Justification

a) Site-Specific Objectives

The objective of the proposed mitigation is to replace the 3.0 acres of impacted wetlands at a 1:1 ratio by creating new wetlands and possible providing a more reliable water source to help support and enhance existing wetlands adjacent to the created wetlands. However, an additional 0.6 acre will be included as a contingency to help ensure that the 3-acre goal is attained.

b) Watershed/Regional Objectives

The proposed mitigation will compensate for the functions of impacted wetlands by creating a larger, more sustainable and more diverse aquatic resource in the area. By creating a single larger wetland the habitat for small mammals, birds and reptiles will be improved with a built-in buffer due to its size. Production of export/food chain support by flushing organic material to downstream habitats during storm events will be enhanced as a result of the size and diversity of the created wetlands and its close proximity to the drainage swale and box culvert underneath Highway 24. In addition, the wetland will be supported by groundwater collected by underdrains installed underneath the upstream residential developments and will therefore, serve as a recharge area for this same groundwater.

c) Aquatic Resource Functions

The proposed mitigation will contribute to the aquatic resource functions of the area by combining several smaller impacted wetlands, where hydrologic support has been minimal or absent as a result of the drought, into a single larger wetland with a more consistent and dependable, drought resistant source of hydrologic support. This single larger wetland will also provide connectivity to other large existing wetlands adjacent to the east side of the mitigation site.

d) Future Adjacent Land Uses

As previously mentioned, the future land use north and northwest of the proposed mitigation site will be single-family residential. A regional detention basin will be constructed north-

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northeast of the subject site and existing wetlands will remain adjacent to the east side of the mitigation site. Highway 24 will remain on the southeast side of the mitigation site with approximately a 150-foot right-of-way acting as a buffer between the created wetlands and the highway. This right-of-way contains upland vegetation and other wetlands which would be in direct connection to the created wetlands proposed.

e) Site Selection Practicability

The selection of the proposed mitigation site was made based on several factors including:

- the location in the lower, downstream portion of the project site which allows for the easier collection and transmission of potential water sources to the site for critical hydrologic support
- the wetlands will provide a natural buffer between proposed residential areas and Highway 24
- the proposed constructed wetlands will enhance the existing wetlands to the east providing additional improved habitat and a larger refuge for the local wildlife.

f) Proposed Mitigation

The proposed mitigation will be onsite and inkind.

g) Deed Restrictions, Easements and Rights-of-Way

There are currently no easements, right-of-ways or deed restrictions on the proposed mitigation site. No utility easements through the mitigation site are anticipated at this time.

h) Sustainable and Self-Maintaining

The recent drought has demonstrated how the source of hydrologic support for the existing wetlands onsite is inconsistent and undependable. Based on the reported performance and consistency of other underdrain systems in the vicinity of the project site, it appears that this source will prove more reliable for supporting the proposed mitigation site. This will be demonstrated by conducting the mitigation in two phases to test the reliability of the underdrain systems as a source of water. Once the adequacy of the water source is demonstrated, the system should be self-sustaining because the underdrain systems will flow by gravity to the mitigation site.

i) United States Fish and Wildlife Service (USFWS)

As previously discussed, a habitat assessment for the Preble's Meadow Jumping Mouse (PMJM) was performed by ERO Resources in March 2001. ERO concluded that there was no PMJM habitat onsite. The United State Fish and Wildlife Service (USFWS) concurred with ERO's opinion in a letter dated May 1, 2001. Copies of all of these documents are also included in Attachment 1.

j) State Historical Preservation

The State Office of Archaeology and Historical Preservation was contacted concerning any cultural resources in the area. Their records did not indicate the presence of any cultural resources in the area. Copies of the correspondence from the SHPO are included in Attachment 2.

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7. Mitigation Work Plan

A detailed work plan with final mitigation design, plans and specifications will be submitted after issuance of the 404 permit for the proposed project. A conceptual design and preliminary construction specifications are attached. The following is a draft outline for the final workplan.

a) Maps – A conceptual design drawing is attached.

b) Timing of Mitigation – We propose that the 3.0 acres of mitigated wetlands be constructed in two phases. This would paralell the phased construction schedule and allow time to install the necessary underdrain systems. The first phase would also be used to demonstrate that there is sufficient groundwater from the underdrain system to support the entire 3 acres. It would also allow for any modifications to the design of the second phase of mitigation which may be warranted based on the results of the first phase. Based on the proposed construction schedule, we would anticipate that these two phases of mitigation would be in the spring of 2005 and 2006.

c) Grading Plan – To be submitted with final work plan.

d) Construction Methods – Preliminary construction specifications are attached.

e) Construction Schedule
- Phase One: March – May 2005
- Phase Two: March – May 2006
- As-built Drawings: October 2005, October 2006

f) Planned Hydrology

1) Source of water: groundwater collected by underdrain systems.

2) Connection(s) to existing water: adjacent to existing wetlands saturated to the surface during wet years.

3) Hydroperiod: Does not apply. Shallow groundwater from other underdrain systems in the area have reportedly seen little impact from the drought. In addition, landscape irrigation in residential areas where underdrains will be installed will help recharge the shallow groundwater.

4) Potential Interaction with Groundwater: Mitigation area and adjacent wetlands will provide a location for recharge of the groundwater from the underdrains.

5) Existing Monitoring Data: None available.

6) Stream or Other Open Water Geomorphic Features: Not Applicable.

7) Structure Requiring Maintenance: Not Applicable.

g) Planned Vegetation: See attached preliminary specifications.

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h) Pest Plant Removal: This information will be included in final work plan.

i) Soils: This information will be included in final work plan.

j) Planned Habitat Features: This information will be included in final work plan.

k) Planned Buffer: As indicated in the exhibits in Block 18 of the application, the area available for mitigation is approximately 4.2 acres. The 3.6-acre configuration of the mitigation is indicated in the conceptual design attached to this document. The difference acreage will provide a 0.6-acre buffer between the constructed wetlands and surrounding land uses. There is also a right-of-way for Highway 24 on the south side of the side which will provide an additional buffer. In addition, this buffer will provide some upland habitat for wildlife.

l) Other Planned Features: Currently, mitigation boundary signs are planned to inform the public of the location and sensitivity of the wetlands. It is also our understanding that El Paso County is planning a trail on the northwest side of the site (roughly along the current Tamlin Road alignment) between the wetlands and the residential areas.

m) Construction Monitor: K-S personnel will provide onsite monitoring and supervicion of the mitigation efforts and will submit a brief report shortly after the completion of each phase of construction.

8. Performance Standards

Performance standards will be submitted along with the detailed work plan after issuance of the 404 permit for the proposed project.

9. Site Protection and Maintenance

Falcon Highland Metropolitan District will be ultimately responsible for the long-term maintenance and protection of the created wetlands. A long-term legal protection instrument will be proposed to the Corps after issuance of the permit. A maintenance plan and schedule and noxious weed control plan will also be submitted along with the final mitigation plan.

10. Monitoring Plan

A monitoring plan will be submitted after issuance of the permit. The plan will include monitoring for a 5-year period or until the mitigation has been deemed successful by the Corps of Engineers, whichever occurs first.

11. Adaptive Management Plan

This information will be included in final work plan.

12. Financial Assurances

Proposed method(s) of financial assurances will be submitted to the Corps of Engineers for their approval upon issuance of the permit.

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BLOCK 25

Other Certifications or Approvals/Denials

BLOCK 25.

List of other Certifications or Approvals/Denials Received from other Federal, State or local Agencies for Work Described in this Application

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
El Paso County Board of County Commissioners	-Planned Unit Development	PUD-00-012	Not available	August 9, 2001	
	-Preliminary Plan	SP-00-016	Not available	August 9, 2001	
	-Final Plat – Filing No. 1	Resolution No. 04 - 199	Not available	May 13, 2004	
El Paso County Dept. of Transportation	-Drainage Report and Plan	Not Applicable	June 2003	Pending	
	-Grading Plan	Not Applicable	June 2003	Pending	
	-Erosion Control Plan	Not Applicable	June 2003	Pending	
	-Sewer Construction Plan	Not Applicable	June 2003	Pending	
	-Detention Basin Construction Plan	Not Applicable	June 2003	Pending	
El Paso County Dept. of Health and Environment	-Stormwater Management Plan	Not Applicable	June 15, 2004	June 15, 2004	
	-Construction Activity Permit	PT0518305		June 21, 2004	
FEMA	-Floodplain Development Permit	Not Applicable	May 25, 2004	June 3, 2004	
	-Conditional Letter of Map Revision	Not Applicable	May 15, 2004	Pending	
Colorado Dept. of Public Health and Environment	-401 Water Quality Certification		August 16, 2004	Pending	
	-Air Pollution Emissions Notice	04EP0421L	June 30, 2004	Pending	

*Would include but is not restricted to zoning, building and flood plain permits

ALTERNATIVES ANALYSIS

ALTERNATIVES ANALYSIS

Falcon Highlands Metropolitan District
Corps Action No. 2000 00359
August 9, 2004

K-S & Company, Inc. (K-S) evaluated the following alternatives to determine the most feasible option for meeting the development needs onsite and to document compliance with Corps of Engineers (Corps) Section 404(b)(1) Guidelines. Those guidelines limit the issuance of a permit to the least environmentally damaging, practicable alternative that is not contrary to the public interest.

- Alternative 1. Development with No Wetlands Impacts
- Alternative 2. Development with Minimal Impacts
- Alternative 3. Development with Minimal Impacts to Wetlands and Onsite Mitigation.

Alternative 1. Development with No Wetlands Impacts
In recent years there has been an ever-increasing demand for single-family housing and associated commercial development in the Falcon area. The majority of the available land in the area has already been developed or will be developed in the next few years. Developing the subject site without any wetland impacts would be difficult due to the distribution of wetlands across the site. The subject wetlands are not restricted to a few stream channels but are widely distributed in 14 different locations across the site. They are located not only in drainage swales, but also on topographic highs, and in irrigation ditches and erosion control swales. This wide and somewhat random distribution is due to the high groundwater which has historically provided the hydrologic support for the wetlands. The high groundwater in the area is caused by shallow bedrock forcing the groundwater to the surface as seeps.

In addition, some of the wetlands occur in drainage swales which transmitted surface water, particularly during large storm events, across the site. One of these swales coincides with a large box culvert underneath the new Woodmen Road alignment. Based on the anticipated future flows through this box culvert, it is necessary to construct a higher-capacity engineered channel in this swale. Based on the surface water hydrology of the area and upstream improvements by others, avoidance of this swale and associated wetlands was not feasible.

Alternative 2. Development with Minimal Impacts
Several factors were considered in trying to minimize the wetlands impacts on the site. These include:

1. Since not all of the wetlands could be avoided, the project was designed around the largest of the 14 wetlands areas. As proposed in this permit application, only 2.5 acres of the 9.45 acres of jurisdictional wetlands will be directly impacted. We have estimated that another 0.5 acre will be impacted indirectly. This results in approximately a 32% loss of the wetlands onsite. It should be noted that many of these wetlands that will be impacted have lost their hydrologic support as a result of the on-going drought.

2. Temporary detention basins are necessary (and required by El Paso County) to properly manage the stormwater onsite. Due to the topography and regional drainage patterns, these basins need to be

located on the downstream side of the development and in or near drainage channels. For this reason, technically feasible locations for these basins are limited. The smaller basin along the eastern boundary of the project was also limited by surrounding development. However, the southern-most basin was able to be designed as an off-channel basin allowing it to be located in between two of the largest wetlands onsite with little or no impact to those wetlands.

3. As part of this project, Meridian Road is being realigned and extended from Woodmen Road to Highway 24. Due to the required minimum distance between intersections with signals and maximum road curvature limitations, the new intersection of Meridian Road needed to be located as proposed in this permit application. Therefore, impacts to the wetlands in that area could not be avoided. For example, the intersection dictated the widening of Highway 24 which, in turn, necessitated the extension of the box culvert in that location. Since there are wetlands immediately adjacent to the existing box culvert impacts could not be avoided.

However, in that area Meridian Road was designed with as low of a profile as practicable in order to minimize the width between the two toe-of-slopes of the roadway. Bike paths across Meridian Road were also designed with at-grade crossings in order to alleviate the need for elevating the road to accommodate a below-grade crossing (the road would need to be elevated so the below-grade crossings wouldn't encounter groundwater). Elevating the road bed for this purpose would have resulted in a much greater distance between the toe-of-slopes for the roadway and significantly more wetlands impacts.

Alternative 3. Development with Minimal Impacts to Wetlands and Onsite Mitigation.

Due to limitations imposed by the site characteristics (e.g., drainage patterns, wide distribution of wetlands), institutional requirements and cost, impacts to the wetlands could not be avoided. However, as described above, significant effort has been made to minimize the impact to wetlands onsite.

As part of this permit application, we propose to construct 3.0 acres of emergent wetlands onsite to compensate for the 2.5 acres of direct impact and 0.5 acre of indirect impact. The selected site is located on the downgradient side of the development making it easier to transport water to the site to support the wetlands. The water source will be groundwater collected by underdrain systems which need to be installed in the residential areas. The mitigation site will provide a location for the recharge of this groundwater collected from under the residential areas. In addition, the mitigation site will provide a larger habitat area for wildlife and will compliment other adjacent wetlands as well as providing a natural buffer between the residential areas and Highway 24.

ATTACHMENT 1

Threatened and Endangered Species Information

Habitat Assessments

USFWS Clearances

Colorado State University

Knowledge to Go Places

July 23, 2004

Colorado Natural Heritage Program
Colorado State University
8002 Campus Delivery
Fort Collins, Colorado 80523-8002
(970) 491-1309
FAX: (970) 491-3349
www.cnhp.colostate.edu

Ronald J. Turner, R.G.
K-S & Company, Inc.
18220 Red Clover Lane
Monument, CO 80132

Dear Ronald:

The Colorado Natural Heritage Program (CNHP) is in receipt of your request for information regarding the K-S & Company, Inc. area of interest. In response, I have searched our Biological and Conservation Datasystem (BCD) for natural heritage elements (occurrences of significant natural communities and rare, threatened or endangered plants and animals) documented from the vicinity of the area specified in your request, specifically in Township 13.0 S, Range 65 W, Sections 2, 3, 11, and 12 in El Paso, Colorado.

The enclosed report describes natural heritage resources known from this area and gives location (by Township, Range, and Section), precision information, and the date of last observation of the element at that location. This report includes elements known to occur within the specified project site, as well as elements known from similar landscapes near the site. Please note that "precision" reflects the resolution of original data. For example, an herbarium record from "4 miles east of Colorado Springs" provides much less spatial information than a topographic map showing the exact location of the occurrence. "Precision" codes of Seconds, Minutes, and General are defined in the footer of the enclosed report.

The report also outlines the status of known elements. We have included status according to Natural Heritage Program methodology and legal status under state and federal statutes. Natural Heritage ranks are standardized across the Heritage Program network, and are assigned for global and state levels of rarity. They range from "1" for critically imperiled or extremely rare elements, to "5" for those that are demonstrably secure.

You may notice that some occurrences do not have sections listed. Those species have been designated as "sensitive" due to their rarity and threats by human activity. Peregrine falcons, for example, are susceptible to human breeders removing falcon eggs from their nests. For these species, CNHP does not normally provide location information beyond township and range. Please contact us should you require more detailed information for sensitive occurrences.

There are CNHP designated Potential Conservation Areas (PCAs) located within the vicinity of your project area (see enclosed map and site profile). In order to successfully protect populations or occurrences, it is necessary to delineate conservation areas. These conservation areas focus on capturing the ecological processes that are necessary to support the continued existence of a particular element of natural heritage significance. Conservation areas may include a single occurrence of a rare element or a suite of rare elements or significant features.

Natural Heritage Program
COLORADO

The goal of the process is to identify a land area that can provide the habitat and ecological processes upon which a particular element or suite of elements depends for their continued existence. The best available knowledge of each species' life history is used in conjunction with information about topographic, geomorphic, and hydrologic features, vegetative cover, as well as current and potential land uses. The proposed boundary does not automatically exclude all activity. It is hypothesized that some activities will cause degradation to the element or the process on which they depend, while others will not. Consideration of specific activities or land use changes proposed within or adjacent to the preliminary conservation planning boundary should be carefully considered and evaluated for their consequences to the element on which the conservation unit is based.

The Colorado Division of Wildlife has legal authority over wildlife in the state. CDOW would therefore be responsible for the evaluation of and final decisions regarding any potential effects a proposed project may have on wildlife. If you would like more specific information regarding these or other vertebrate species in the vicinity of the area of interest, please contact the Colorado Division of Wildlife.

The information contained herein represents the results of a search of Colorado Natural Heritage Program's (CNHP) Biological and Conservation Data System (BCD), and can be used as notice to anticipate possible impacts or identify areas of interest. Care should be taken in interpreting these data. Sensitive elements are currently known from within the proposed project area, and additional, but undocumented, elements may also exist (see enclosed report). Please note that the absence of data for a particular area, species, or habitat does not necessarily mean that these natural heritage resources do not occur on or adjacent to the project site, rather that our files do not currently contain information to document their presence. CNHP information should not replace field studies necessary for more localized planning efforts, especially if impacts to wildlife habitat are possible.

Although every attempt is made to provide the most current and precise information possible, please be aware that some of our sources provide a higher level of accuracy than others, and some interpretation may be required. CNHP's data system is constantly updated and revised. Please contact CNHP for an update or assistance with interpretation of this natural heritage information.

The data contained in the report is the product and property of the Colorado Natural Heritage Program (CNHP), a sponsored program at Colorado State University (CSU). The data contained herein are provided on an as is, as available basis without warranties of any kind, expressed or implied, including (but not limited to) warranties of merchantability, fitness for a particular purpose, and non-infringement. CNHP, CSU and the state of Colorado further expressly disclaim any warranty that the data are error free or current as of the date supplied.

Sincerely,

Michael Menefee
Environmental Review Coordinator

Enc.

Colorado Natural Heritage Program Environmental Review

Locations and Status of Rare and/or Imperiled Species and Natural Communities known from or likely to occur within the K-S & Company, Inc. Area of Interest in El Paso County, Colorado

Report generated: 22 July 2004

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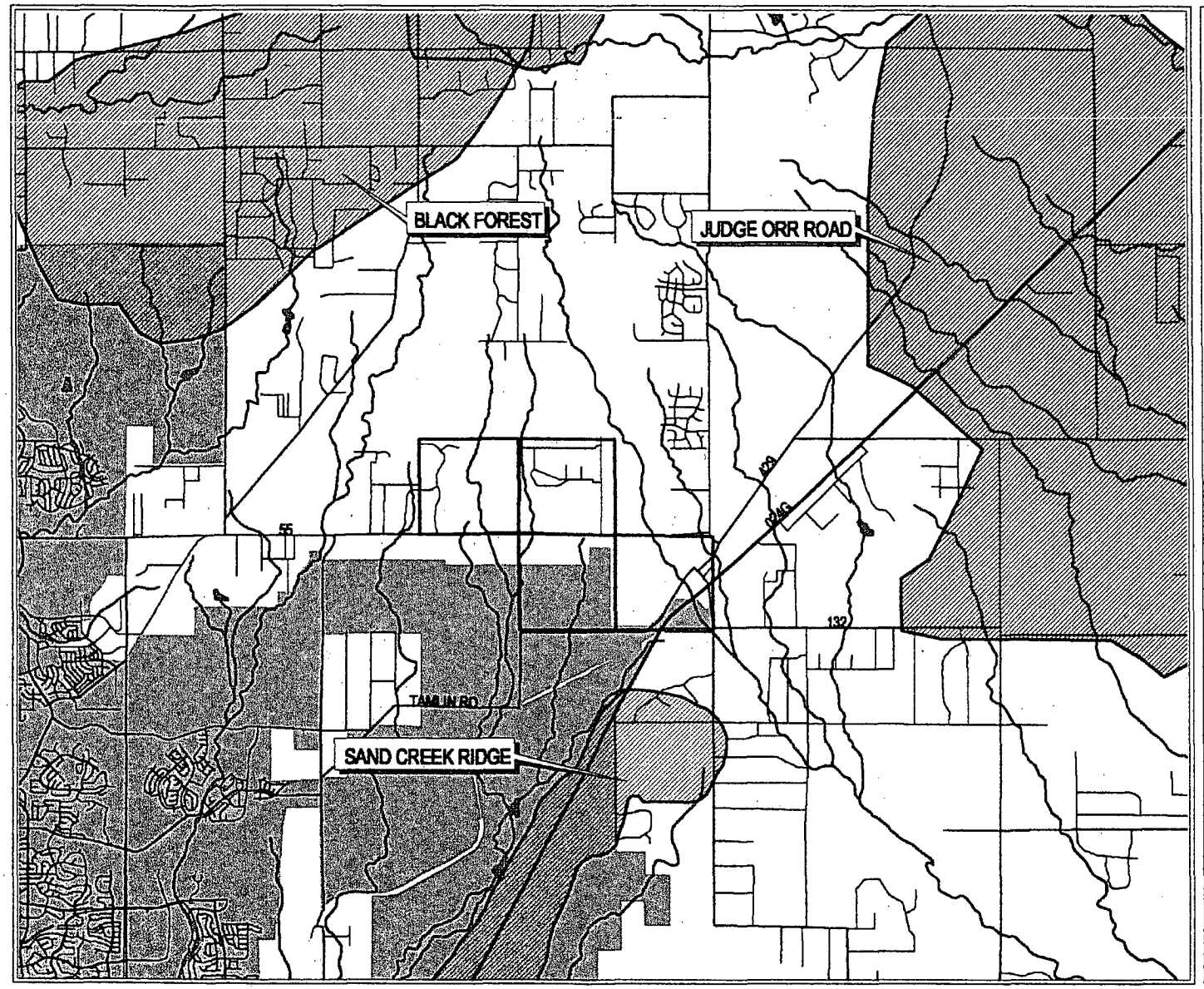
EO_ID	major group	scientific name	common name	prec	last obs	trs	grank	srank	eorank	ESA	fed stat	st stat
3,172	Natural Communities	*ANDROPOGON GERARDII-SPOROBOLUS HETEROLEPIS*	Xeric Tallgrass Prairie	M	1978-99-99	012S064W 19;	G2	S1S2	H			
1,221	Natural Communities	*STIPA COMATA-BOUTELOUA GRACILIS*	Montane Grasslands	S	2000-10-27	013S064W 18,19; 013S065W 13,14,23,24,26, 27,34,35; 014S065W 03,04,08,09;	G5	S2S3	B			
8,766	Vascular Plants	*Juncus brevicaudatus*	Narrow-panicled Rush	G	1957-08-25	012S064W 24;	G5	S1	H			
4,863	Vascular Plants	*Liatris ligulistylis*	Gay-feather	G	1929-08-15	012S065W 08;	G5?	S1S2	H			
10,907	Vascular Plants	*Liatris ligulistylis*	Gay-feather	G	1957-08-18	012S064W 24;	G5?	S1S2	H			
3,207	Vascular Plants	*Unamia alba*	Prairie Goldenrod	M	1996-08-29	012S065W 29;	G5	S2S3	C			
7,952	Vascular Plants	*Viola pedatifida*	Prairie Violet	G	1987-05-31	012S065W 08;	G5	S2				

precision codes: S = "seconds", location known within 100m; M = "minutes", location known within 1 mile; G = "general", location known within 5 miles

CNHP Potential Conservation Areas (PCAs) Known from the Vicinity of the K-S & Company, Inc. Area of Interest in El Paso County



Universal Transverse Mercator (UTM), Nad 27, Zone 13

0 1 2 3 4 5 Miles

N

Natural Heritage Program COLORADO

Colorado State University
Knowledge to Go Places

Colorado Natural Heritage Program
Colorado State University
8002 Campus Delivery
Fort Collins, CO 80523-8002

Map Created
23 July 2004
CNHP Environmental Review mdm

Area of Interest

Potential Conservation Areas

- **1: Outstanding Significance**
- **2: Very High Significance**
- **3: High Significance**
- **4: Moderate Significance**
- **5: General Biodiversity Interest**

- **Highways**
- **Major Roads**
- **Local Roads**
- **Lakes and Reservoirs**
- **Rivers, Streams, and Creeks**
- **Municipal Boundaries**

The accuracy of the data shown on this map is not guaranteed. The Colorado Natural Heritage Program is not responsible and shall not be liable to the user for incidental, consequential or special damages arising from its use or interpretation

The absence of data for a particular area or habitat does not necessarily mean that the species does not occur on or adjacent to the project site, rather that our files do not currently contain information to document their presence.

Although every attempt is made to provide the most current and precise information possible, please be aware that some of our sources provide a higher level of accuracy than others, and some interpretation may be required. CNHP's data system is constantly updated and revised. Please contact CNHP for an update or assistance with interpretation of this natural heritage information.

Data are not appropriate for site level planning or evaluation.

Conservation Site Report

Name Judge Orr Road **Site Code** S.USCOHP*22002

IDENTIFIERS

Site ID 558 **Site Class** Standard site

Site Alias None

Network of Conservation Areas (NCA)

NCA Site ID	NCA Site Code	NCA Site Name
-		No Data

Site Relations Overlaps the Black Squirrel Creek at Holcom Hills PCA (S.USCOHP*172).

LOCATORS

Nation United States

State Colorado

Quad Code	Quad Name
39104-A5	Eastonville
38104-H5	Falcon
38104-H4	Haegler Ranch
39104-A4	Peyton

County

El Paso (CO)

Watershed Code	Watershed Name
11020004	Chico

Township/Range	Section	Meridian	Note
011S064W	33	6P	
011S064W	34	6P	
012S063W	18	6P	
012S063W	19	6P	
012S063W	20	6P	
012S063W	28	6P	
012S063W	29	6P	
012S063W	30	6P	
012S063W	31	6P	
012S063W	32	6P	
012S063W	33	6P	
012S063W	34	6P	
012S064W	02	6P	
012S064W	03	6P	
012S064W	04	6P	
012S064W	08	6P	
012S064W	09	6P	
012S064W	10	6P	
012S064W	11	6P	
012S064W	13	6P	
012S064W	14	6P	
012S064W	15	6P	
012S064W	16	6P	
012S064W	17	6P	
012S064W	20	6P	
012S064W	21	6P	
012S064W	22	6P	
012S064W	23	6P	
012S064W	24	6P	
012S064W	25	6P	

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Conservation Site Report

Name Judge Orr Road **Site Code** S.USCOHP*22002

012S064W	26	6P
012S064W	27	6P
012S064W	28	6P
012S064W	29	6P
012S064W	32	6P
012S064W	33	6P
012S064W	34	6P
012S064W	35	6P
012S064W	36	6P
013S063W	03	6P
013S063W	04	6P
013S063W	05	6P
013S063W	06	6P
013S063W	07	6P
013S063W	08	6P
013S063W	09	6P
013S063W	16	6P
013S063W	17	6P
013S063W	18	6P
013S064W	01	6P
013S064W	02	6P
013S064W	03	6P
013S064W	04	6P
013S064W	08	6P
013S064W	09	6P
013S064W	10	6P
013S064W	11	6P
013S064W	12	6P
013S064W	13	6P
013S064W	14	6P
013S064W	15	6P
013S064W	16	6P

SITE DESCRIPTION

Minimum Elevation	6,420.00	**Feet**	1,957.00	**Meters**
Maximum Elevation	7,200.00	**Feet**	2,195.00	**Meters**

Site Description

Low rolling hills of tallgrass, midgrass, and shortgrass prairie with swales containing wet meadows and small ephemeral drainages form a relatively intact landscape in north-central El Paso County. Located south and west of the Black Forest, the site encompasses the upper watershed of Black Squirrel Creek and its tributaries. Remnants of tallgrass prairie occur in Colorado as disjuncts from the historic tallgrass prairie that made up the eastern third of the Great Plains. Historically, tallgrass prairie occupied approximately 60 million hectares, but today less than 2 percent of that remains (Samson and Knopf 1994). Most tallgrass prairie has been converted to cropland or other uses. In Colorado, tallgrass prairie remnants are limited to the plains adjacent to the Front Range where the rainfall and soil is appropriate. As you move further east of the Front Range the rainfall diminishes and shortgrass prairie dominates. Very few large patches of tallgrass prairie remain in Colorado. Tallgrass prairie is present in scattered patches in El Paso County both along the foothills and out into the plains in the northern portion of the county. Within the Judge Orr Road Site, two grassland communities have been described. The first is south of Highway 24 and along both sides of Judge Orr Road where a fairly large occurrence of a big bluestem and prairie sandreed tallgrass prairie (Andropogon gerardii-Calamovilfa longifolia) is present. The community occurs in patches within about a five square mile area. The occurrence appears to be in good condition with relatively few weeds and sustainable grazing practices. Other grasses present include blue grama (Bouteloua gracilis), little bluestem (Schizachyrium scoparium), and scattered Indian grass (Sorghastrum nutans). Associated with tallgrass prairie are at least

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five species of skippers (butterflies in the family Hesperiidae) known to rely on big bluestem as their primary host plant (Opler and Wright 1999). These eastern Great Plains skippers occur, like tallgrass prairie, as disjunct populations along the Colorado Front Range. Though we have no current records of these species within the Judge Orr Road Site, three skippers tracked by CNHP have been documented in El Paso County (Opler et al. 1995, Colorado Natural Heritage Program 2001a). These include the Dusted Skipper (Atrytonopsis hianna), Crossline Skipper (Polites origines), and Ottoe Skipper (Hesperia ottoe). Future surveys may reveal populations of these rare butterflies. North of Highway 24 is another relatively intact grassland. The dominant species appear to be little bluestem, blue grama, and mountain muhly (Muhlenbergia montana). The community is described as little bluestem with sideoats grama (Schizachyrium scoparium-Bouteloua curtipendula), a globally vulnerable midgrass prairie community. Perhaps the most striking aspect of the prairie along Judge Orr Road is the abundance of creeks and wetlands. These creeks and wetlands are supported by regional shallow groundwater resulting from groundwater recharge in the Black Forest to the north. The land gently slopes to the southeast forming the headwaters of Black Squirrel Creek. Many small drainages flow from the area and can form wide wet meadows of up to 40 acres in size. Along Judge Orr Road, the many drainages and wet meadows support a mosaic of wetland communities including Baltic rush (Juncus balticus var. montanus), Nebraska sedge (Carex nebrascensis), Clustered sedge (Carex praegracilis), Woolly sedge (Carex lanuginosa), three-square bulrush (Scirpus pungens), and saltgrass (Distichlis spicata). Another prevalent species is the European pasture grass redtop (Agrostis gigantea). These communities can form monotypic stands or intermingle with adjacent types. The drainages and associated ponds support small fishes (unidentified species), abundant northern leopard frogs (Rana pipiens, a species on CNHP's "watchlist"), and a variety of aquatic invertebrates. Birds observed within the site wetlands include Common Snipe, American Coot, Pied-billed Grebe, and Northern Harrier. Aquatic vegetation in the ponds and drainages includes pondweed (Potamogeton sp.), hornwort (Ceratophyllum demersum), duckweed (Lemna minor), and arrowhead (Sagittaria sp.). Small-headed rush (Juncus brachycephalus), a common wetland in parts of the eastern US and Canada, occurs as a disjunct in Colorado. Streams draining the Black Forest and their associated wet meadows are the only known current Colorado locations for this plant. Small-headed rush has been documented on Black Squirrel Creek and a tributary. Development pressures are intense in this portion of the county. The primary land use within the site is cattle grazing but with increasing encroachment of the town of Falcon. Falcon occurs within the described wetland complex and is in a period of rapid expansion. Water diversion structures have been constructed and wetlands dredged and filled to allow for residential and commercial development. Drainage and diversion structures have the potential to alter the hydrologic regime supporting the larger wetland complex.

Key Environmental Factors

No Data

Climate Description

No Data

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes **Mapped Date** 06/15/2001

Designer Doyle, G.A.

Boundary Justification

The boundary encompasses the tallgrass prairie and midgrass prairie element occurrences. The boundary also encompasses the wetlands and riparian areas and a portion of the upstream watershed to account for continued surface flow and periodic flooding. These processes are necessary for the viability of the occurrence and maintenance of ecological functions. The site could be expanded to include a greater proportion of the upstream watershed to ensure maintenance of the ecological and hydrological processes. The wetlands and grasslands extend beyond the boundary of the site; the boundary includes the largest known grasslands/wetlands in good condition with relatively unfragmented ownership. Further investigation might extend the occurrences east of Peyton.

Primary Area 25,592.19 **Acres** 10,356.83 **Hectares**

SITE SIGNIFICANCE

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Conservation Site Report

Name Judge Orr Road **Site Code** S.USCOHP*22002

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

This site contains a good (B-ranked) occurrence of a globally imperiled (G2 S2) big bluestem prairie sandreed tallgrass prairie community (Andropogon gerardii-Calamovilfa longifolia). Large occurrences of this community type are rarely encountered and no A-ranked occurrences remain in Colorado. The site also includes good example of many globally vulnerable to common wetland communities but the biodiversity rank is not dependent on these occurrences.

Other Values Rank No Data

Other Values Comments

No Data

MANAGEMENT/PROTECTION

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

No Data

Offsite

No Data

Information Needs

No Data

ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
22810	*Juncus brachycephalus*	Small-headed Rush	G5	S1	No
21815	*CAREX LANUGINOSA*	Montane Wet Meadows	G3	S3	No
18593	*CAREX PRAEGRACILIS*	Clustered Sedge Wetland	G3G4	S2	No
17188	*DISTICHLIS SPICATA*	Salt Meadows	G5	S3	No
22403	*CAREX NEBRASCENSIS*	Wet Meadows	G4	S3	No
17188	*DISTICHLIS SPICATA*	Salt Meadows	G5	S3	No
24967	*SCHIZACHYRIUM SCOPARIUM-BOUTELOUA CURTIPENDULA*	Great Plains Mixed Grass Prairies (Sandstone/Gravel Breaks)	G3	S2	No
18654	*SCHOENOPLECTUS PUNGENS*	Bulrush	G3G4	S3	No
24138	*JUNCUS BALTICUS*	Western Slope Wet Meadows	G5	S5	No
22810	*Juncus brachycephalus*	Small-headed Rush	G5	S1	No
24925	*ANDROPOGON GERARDII-CALAMOVILFA LONGIFOLIA*	Mesic Tallgrass Prairie	G2	S2	No

REFERENCES

Reference ID	Full Citation
-	No Data

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Lead Responsibility No Data

Version Date 06/15/2001

Version Author G. Doyle

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Conservation Site Report

Name Sand Creek Ridge **Site Code** S.USCOHP*22919

IDENTIFIERS

Site ID 1428 **Site Class** Standard site

Site Alias None

Network of Conservation Areas (NCA)

NCA Site ID	NCA Site Code	NCA Site Name
-		No Data

Site Relations Shares southern boundary with Colorado Springs Airport Site (S.USCOHP*7770).

LOCATORS

Nation United States

State Colorado

Quad Code	Quad Name
38104-G6	Elsmere
38104-H5	Falcon
38104-H6	Falcon NW

County

El Paso (CO)

Watershed Code	Watershed Name
11020003	Fountain
11020004	Chico

Township/Range	Section	Meridian	Note
013S064W	18	6P	
013S064W	19	6P	
013S065W	13	6P	
013S065W	14	6P	
013S065W	23	6P	
013S065W	24	6P	
013S065W	25	6P	
013S065W	26	6P	
013S065W	27	6P	
013S065W	33	6P	
013S065W	34	6P	
013S065W	35	6P	
014S065W	02	6P	
014S065W	03	6P	
014S065W	04	6P	
014S065W	05	6P	
014S065W	08	6P	
014S065W	09	6P	
014S065W	10	6P	
014S065W	16	6P	
014S065W	17	6P	

SITE DESCRIPTION

Minimum Elevation - **Feet** - **Meters**

Maximum Elevation - **Feet** - **Meters**

Site Description

The site is located directly between the tallgrass prairie areas around the Colorado Springs Airport and the mixed grass prairies of the Judge Orr Road site. The Sand Creek Ridge Site consists of a gently rolling ridgeline that separates the Upper Jimmy Camp Creek drainage from the East Fork Sand Creek drainage. The east side of the ridge descends through moderately steep hillsides of ponderosa pine woods into the Upper Jimmy Camp Creek drainage. The west side of the ridge descends gradually through open needle and

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Conservation Site Report

Name Sand Creek Ridge **Site Code** S.USCOHP*22919

thread (Stipa comata) prairies down to the East Fork of the Sand Creek. U.S. Highway 24 traverses the ridge on the west side.

Key Environmental Factors
No Data

Climate Description
No Data

Land Use History
No Data

Cultural Features
No Data

SITE DESIGN

Site Map Y - Yes **Mapped Date** 12/15/2000

Designer Stevens, J.E.

Boundary Justification

The boundary encompasses the mixed grass prairie element occurrence. It extends from just north of Colorado Highway 94 and continues northeast along the ridge to south of the town of Falcon. On the east it is bordered by the Ponderosa pine woodlands and on the west by the transition into a more diverse mixture of short and midgrass species.

Primary Area 4,179.31 **Acres** 1,691.31 **Hectares**

SITE SIGNIFICANCE

Biodiversity Significance Rank B4: Moderate Biodiversity Significance

Biodiversity Significance Comments

This site contains a good (B-ranked) occurrence of a globally-secure (G5 S2S3) needle and thread-blue grama (Stipa comata-Bouteloua gracilis) prairie community. While the size and quality of this site are good, the proximity of the site to urban areas and its location along Highway 24 reduce its landscape context value.

Other Values Rank No Data

Other Values Comments
No Data

MANAGEMENT/PROTECTION

Land Use Comments
No Data

Natural Hazard Comments
No Data

Exotics Comments
No Data

Offsite
No Data

Information Needs
No Data

ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
24787	*STIPA COMATA-BOUTELOUA GRACILIS*	Montane Grasslands	G5	S2S3	Yes

REFERENCES

Reference ID	Full Citation
162298	Stevens, Joe, E. Mohr, and M. Hyde. 2001. Colorado Natural Heritage Program Basinwide Mapping Survey of the Upper White River Basin.

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Conservation Site Report

Name Sand Creek Ridge **Site Code** S.USCOHP*22919

ADDITIONAL TOPICS

Additional Topics
No Data

VERSION

Lead Responsibility No Data
Version Date 12/13/2001
Version Author J. Bell

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ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: 830-1199

Denver • Boise

www.eroresources.com
ero@eroresources.com

July 8, 2002

Mr. Peter Plage
Colorado Field Office
U.S. Fish and Wildlife Service
755 Parfet Street, Suite 361
Lakewood, CO 80215

RE: Preble's Meadow Jumping Mouse Habitat Assessment for The Moore Property, Falcon, CO.

Dear Mr. Plage:

On behalf of K-S and Company, I am requesting that the Moore Property wetlands site be excluded from a Preble's mouse survey. This project is located near the Town of Falcon, NE ¼ Section 7 and NW ¼ Section 12, Township 13 South, Range 65 West, in El Paso County, Colorado (Figure 1). The UTM coordinates are Zone 13: 4309900mN, 534000mE.

The proposed project consists of extending and widening Meridian Road. These road improvements will traverse though the Moore Property. The topography of the Moore Property consists of rolling hills covered with shortgrass prairie. There is a small area of wetlands associated with an unnamed intermittent drainage that flows through the property and under Meridian Road. Vegetation in the wetland areas consists mostly of cattail (*Typha latifolia*), soft-stem bulrush (*Scirpus validus*), Baltic rush (*Juncus balticus*), showy milkweed (*Asclepias speciosa*), wild licorice (*Galium circaezans*) and Canada thistle (*Cirsium arvense*). There is a small patch of sandbar willow (*Salix exigua*), less than 0.1 acres, along the eastern edge of the property at Meridian Road.

Rationale for excluding the site as potential Preble's mouse habitat:
ERO Resources visited the site on June 20, 2002 and has determined that the project will not disturb habitat for Preble's mice for the following reasons:

- The project area lacks the adequate shrub cover by sandbar willow and other riparian shrubs typically associated with known Preble's habitat.
- The project area is dominated by vegetation not typically associated with Preble's.
- The site is isolated from any known populations of Preble's.

Enclosed are surveyor qualifications, site information, and photos of the site. After you review this information, I would appreciate written acceptance or rejection of this habitat evaluation.

Consultants in Natural Resources and the Environment

Please call me if you need any additional information or have any questions. I look forward to hearing from you.

Sincerely,

COPY

Clint Henke
Natural Resource Specialist

cc: Ron Turner, K-S & Company

SITE INFORMATION

Location: The Moore Property, Falcon, CO, Township 13 South, Range 65 West, NW ¼ Section 7, NE ¼ Section 12, El Paso County, CO.

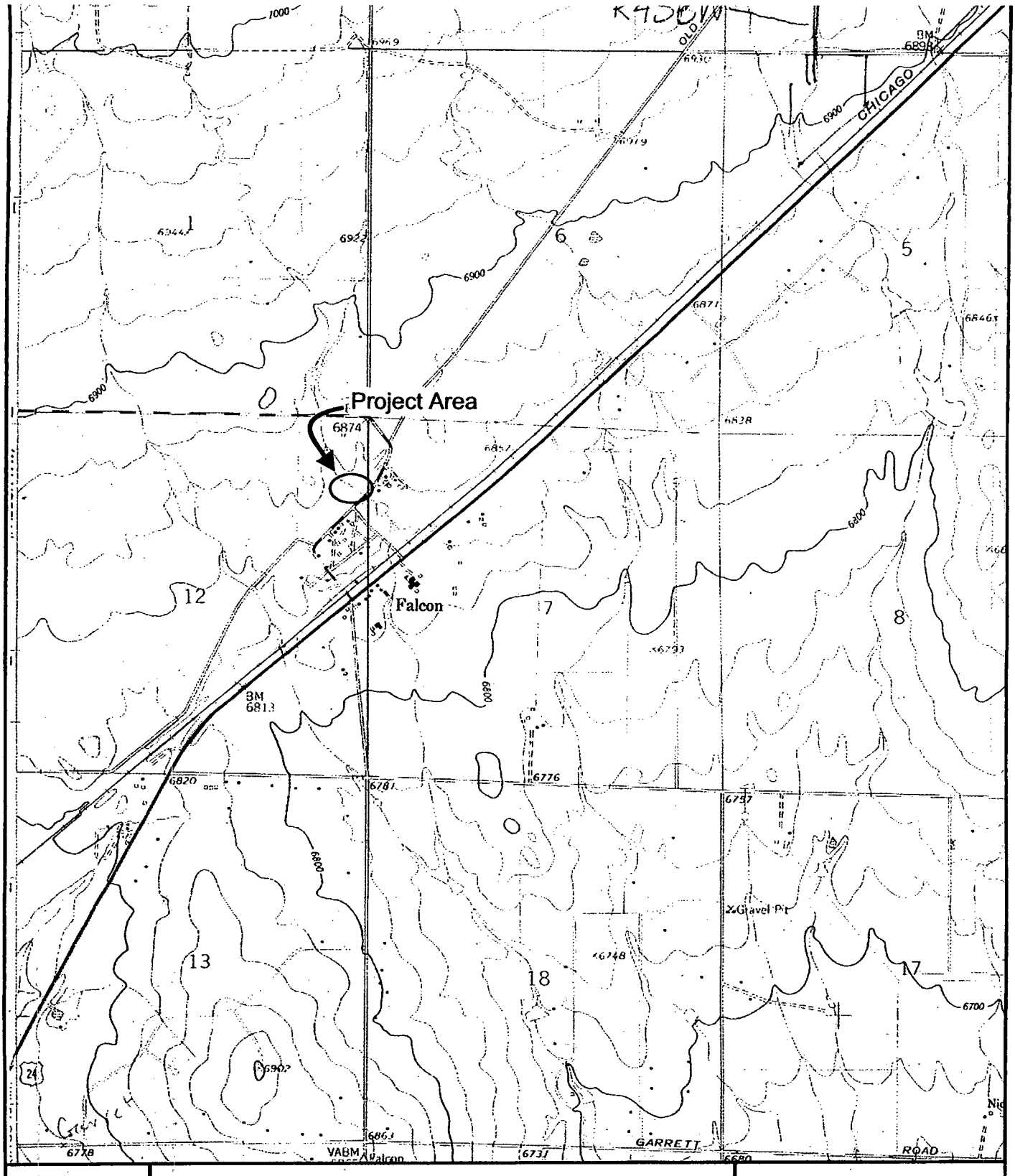
Elevation: 6,860 feet.

Soils: Blakeland loamy sand and Blakeland complex.

Site Hydrology: Intermittent Drainage.

QUALIFICATIONS OF SURVEYORS

Qualifications of Clint R. Henke have been previously submitted to the U.S. Fish and Wildlife Service and are available upon request. Clint R. Henke has a B.S. in biology from Fort Lewis College and is currently working on obtaining a Master of Environmental Science from the University of Colorado at Denver. Mr. Henke has 4 years conducting habitat assessments and biogeographical mapping. Clint has experience performing PMJM habitat assessments and presence/absence surveys, and has experience identifying and handling PMJM in the field.



ERO

ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: 830-1199

The Moore Property
NE 1/4, Section 12, NW 1/4 Section 7, T13S, R65W
UTM Coordinates: Zone 13; 4309900mN, 534000mE
Falcon Quadrangle,
El Paso County, Colorado

1 Inch = 2,000 Feet

N

Figure 1
Site Location

Prepared for: Ron Turner
File: 2011 Fig1.cdr
June 2002

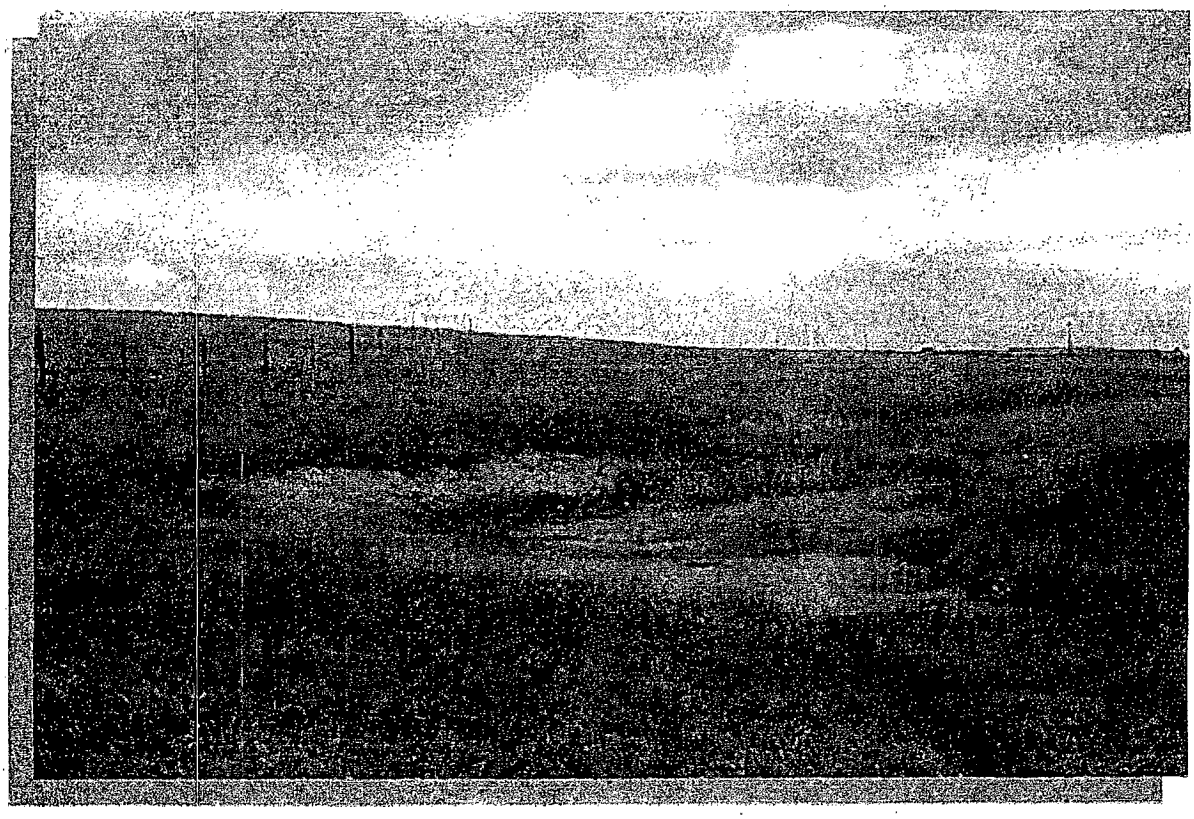


Photo 1 - Moore Property. View is to the northwest.

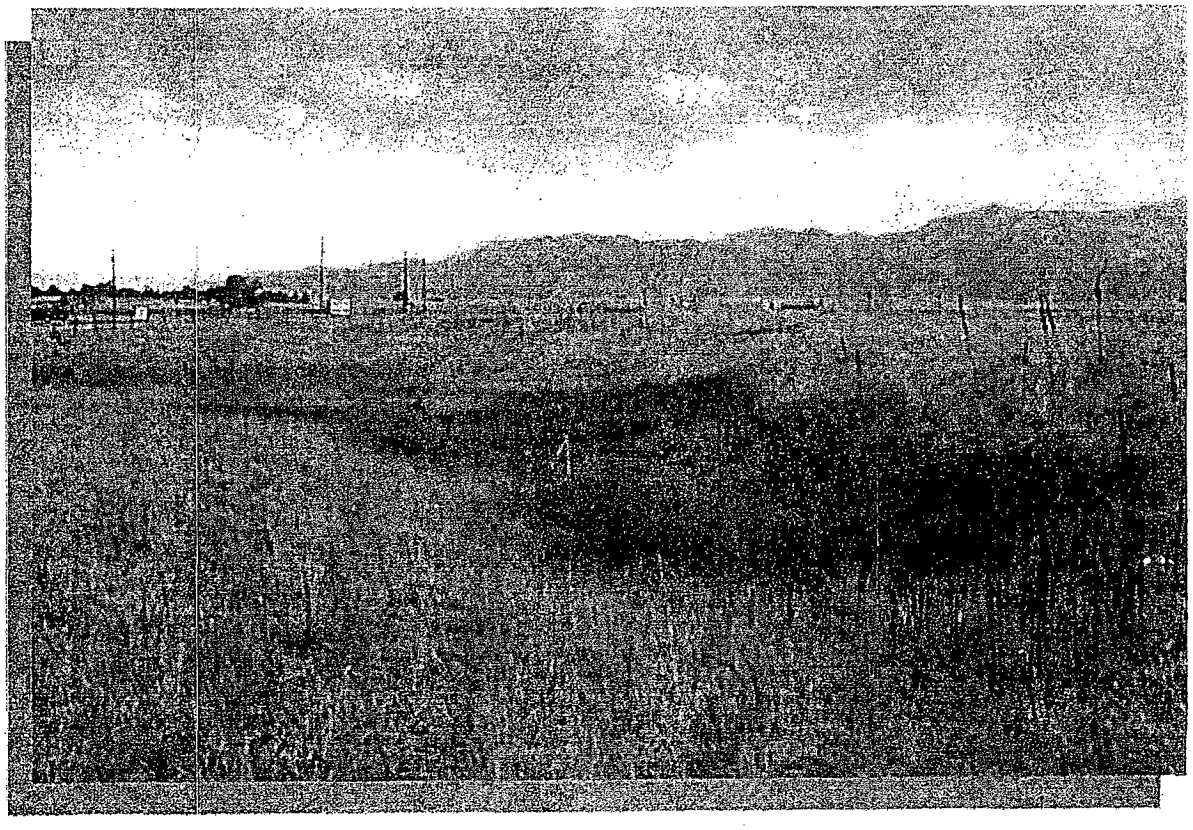


Photo 2 - Southwest view of the Moore Property.

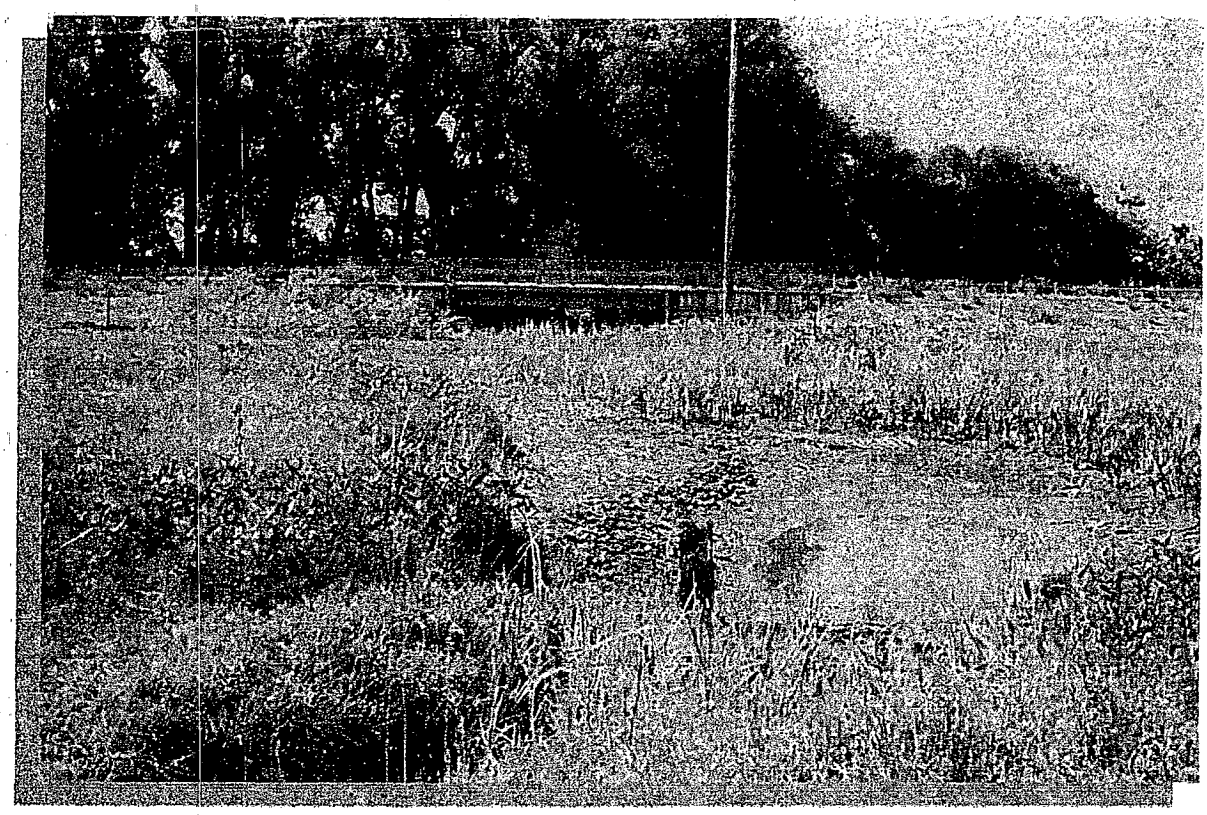


Photo 3 - Wetlands on the Moore Property. View is to the east.

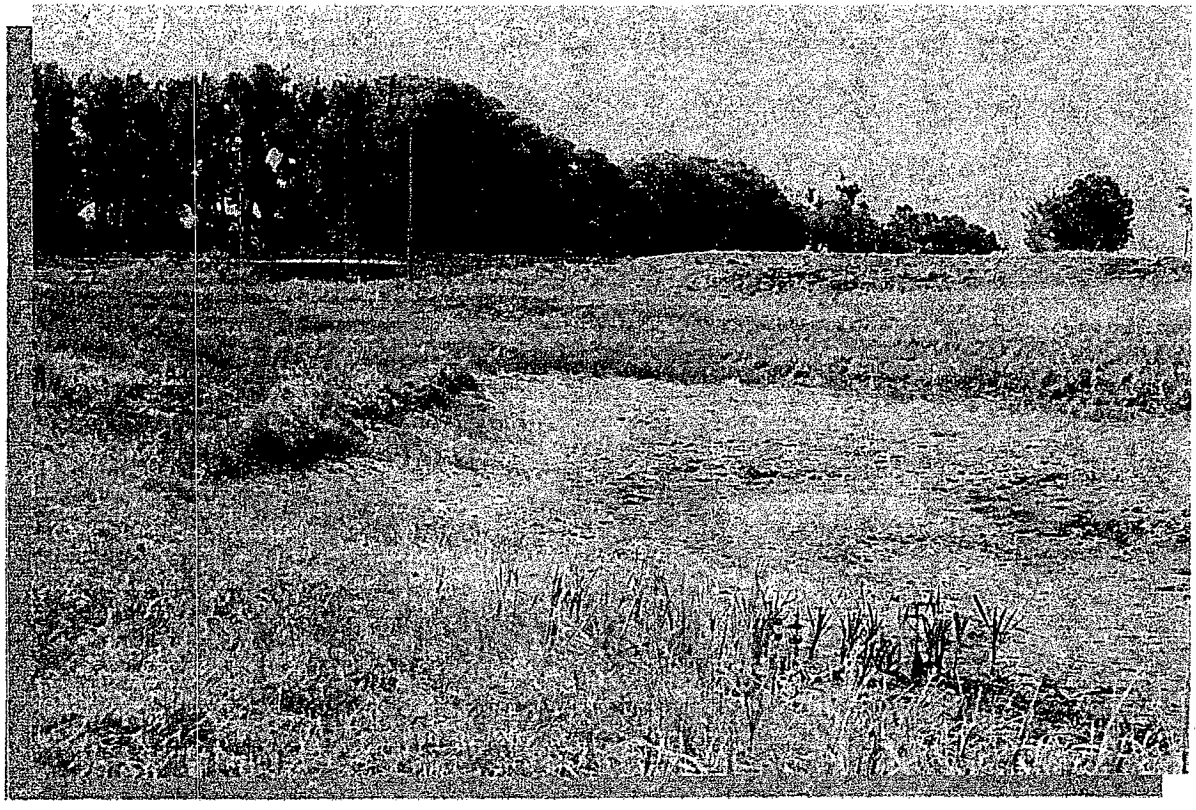


Photo 4 - Dry pond in the study area. View is to the east.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Colorado Field Office
755 Parfet Street, Suite 361
Lakewood, Colorado 80215

RECEIVED
AUG 14 2002

IN REPLY REFER TO:
ES/CO: T&E/PMJM/Survey
Mail Stop 65412

AUG 9 2002

Clint Henke
ERO Resources
1842 Clarkson Street
Denver, Colorado 80218

Dear Mr. Henke:

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), the Service reviewed the Preble's meadow jumping mouse, *Zapus hudsonius preblei* (Preble's), habitat assessment report submitted with your letter of July 8, 2002. This report regards the proposed site plan review for the **Meridian Road Widening Project at the Moore Property** in El Paso County, Colorado. The project, as proposed, may disturb wetlands and other riparian habitats.

Based on the information provided, and given your compliance with the Preble's survey guidelines, the Service finds the report acceptable and agrees that a population of Preble's is not likely to be present within the subject area. Thus, the Service concludes that the proposed project on this site should not have direct adverse affects to Preble's. Should Preble's populations exist downstream from the site, actions on the site that result in significant modifications of Preble's habitat downstream (for example, through alteration of existing flow regimes, or sedimentation) may be subject to provisions of the ESA.

If the Service can be of further assistance, please contact Barbara Spagnuolo of my staff at (303) 275-2370.

Sincerely,

LeRoy W. Carlson
Colorado Field Supervisor

cc: Spagnuolo

Reference: BJS\ElPaso\Moore.wpd

ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: 830-1199

Denver • Boise

www.eroresources.com
ero@eroresources.com

March 23, 2001

Mr. Peter Plage
Colorado Field Office
U.S. Fish and Wildlife Service
P.O. Box 25486, DFC
Denver, CO 80225

RE: Preble's Meadow Jumping Mouse Habitat Assessment for the Falcon Highland Site

Dear Mr. Plage:

On behalf of Cygnet Land, LLC, I am requesting that the Falcon Highland site be excluded from a Preble's mouse survey. The Falcon Highland site is located in Township 13 South, Range 65 West, in portions of Sections 2, 3, 11, and 12 in El Paso County, Colorado (Figure 1). The UTM coordinates are Zone 13: 530000mE, 431000mN, and 533500mE, 4309100mN.

Site Description

The Falcon Highland site consists of generally flat, open rangeland from 6,820 to 6,940 feet in elevation, located west of the town of Falcon. Shortgrass prairie vegetation, including blue grama (*Bouteloua gracilis*), little bluestem (*Schizachyrium scoparium*), three-awn (*Aristida purpurea*), western wheatgrass (*Agropyron smithii*), and fringed sage (*Artemisia frigida*) covers most of the site. Several small drainages cross the site from north to south. These drainages are generally grassy or sandy swales without much wetland vegetation or shrub cover. A wet area occurs along one of these swales between an unpaved road and an abandoned railroad grade. The vegetation of this area consists of dense stands of sandbar willow (*Salix exigua*), Baltic rush (*Juncus balticus*), and Torrey's rush (*Juncus torreyi*). This wet area is connected to a cattail and willow wetland that follows the old railroad grade to the southwest for less than 1 mile. South of Highway 24, the drainage is drier and lacks significant shrub cover.

Rationale for Excluding the Site as Potential Preble's Mouse Habitat

Preble's mice typically inhabit areas characterized by well-developed plains riparian vegetation with relatively undisturbed grassland and a water source in close proximity (Armstrong et al. 1997). Recent studies have suggested that Preble's may have a wider ecological tolerance than previously thought, and that the requirement for diverse vegetation and well-developed cover can be met under a variety of circumstances (Meaney et al. 1997). Radio-tracking studies conducted by the Colorado Division of Wildlife (CDOW) have documented Preble's using upland habitat adjacent to wetlands and riparian areas (Shenk and Sivert 1999). Additional research by CDOW has suggested that habitat quality for PMJM can be predicted by the amount of shrub cover available at a site (White and Shenk 2000).

On March 7, 2001, ERO Resources visited the site and determined that the site is not appropriate habitat for Preble's mice and differs from the criteria of the U.S. Fish and Wildlife Service's *Interim Survey Guidelines for Preble's Meadow Jumping Mouse,* Revised May 19, 1999, for the following reasons:

- Most of the site lacks the significant tree or shrub cover typically associated with Preble's.
- The willow stands located on the southeastern edge of the site are too small to support a viable population of Preble's and are isolated from any larger areas of potential habitat.

Enclosed are surveyor qualifications, site information, and photos of the site. After you review this information, I would appreciate written acceptance or rejection of this habitat evaluation.

Please call me if you need any additional information or have any questions. I look forward to hearing from you.

Sincerely,

COPY

Steve Butler
Biologist

cc: Ron Turner, K-S and Company, Inc. (two copies)

SITE INFORMATION

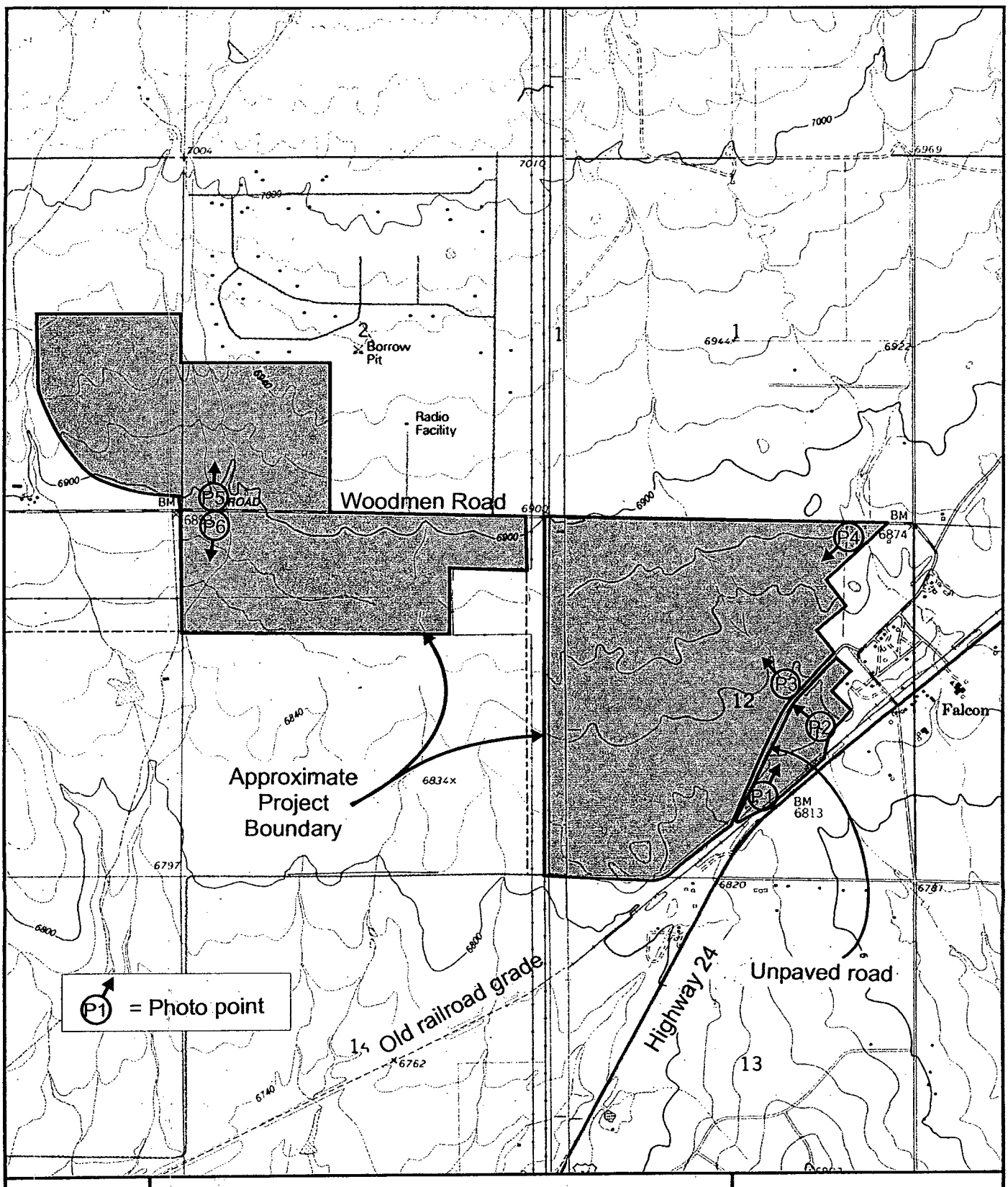
Location: The Falcon Highland site is located in Township 13 South, Range 65 West, in portions of Sections 2, 3, 11, and 12 in El Paso County, Colorado (Figure 1). The UTM coordinates are Zone 13: 530000mE, 431000mN, and 533500mE, 4309100mN.

Elevation: 6,820 to 6,940 feet.

Site Hydrology: Ephemeral streams, seeps

QUALIFICATIONS OF SURVEYORS

Qualifications of Steve Butler have been previously submitted to the U.S. Fish and Wildlife Service but are available on request.



ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: 830-1199

Falcon Highland Site
T13S, R65W, Section 2,3,11, and 12
UTM Coordinates: Zone 13; 530000mE, 431000mN and 533500mE, 4309100mN

Falcon and Falcon NW Quadrangles, El Paso County, Colorado

1 Inch = 2,000 Feet

N

Figure 1
Site Location

Prepared for: K - S and Company
File: 1549-Falcon-Fig1.cdr
March 2001

FALCON HIGHLAND
PHOTO LOG
MARCH 8, 2001

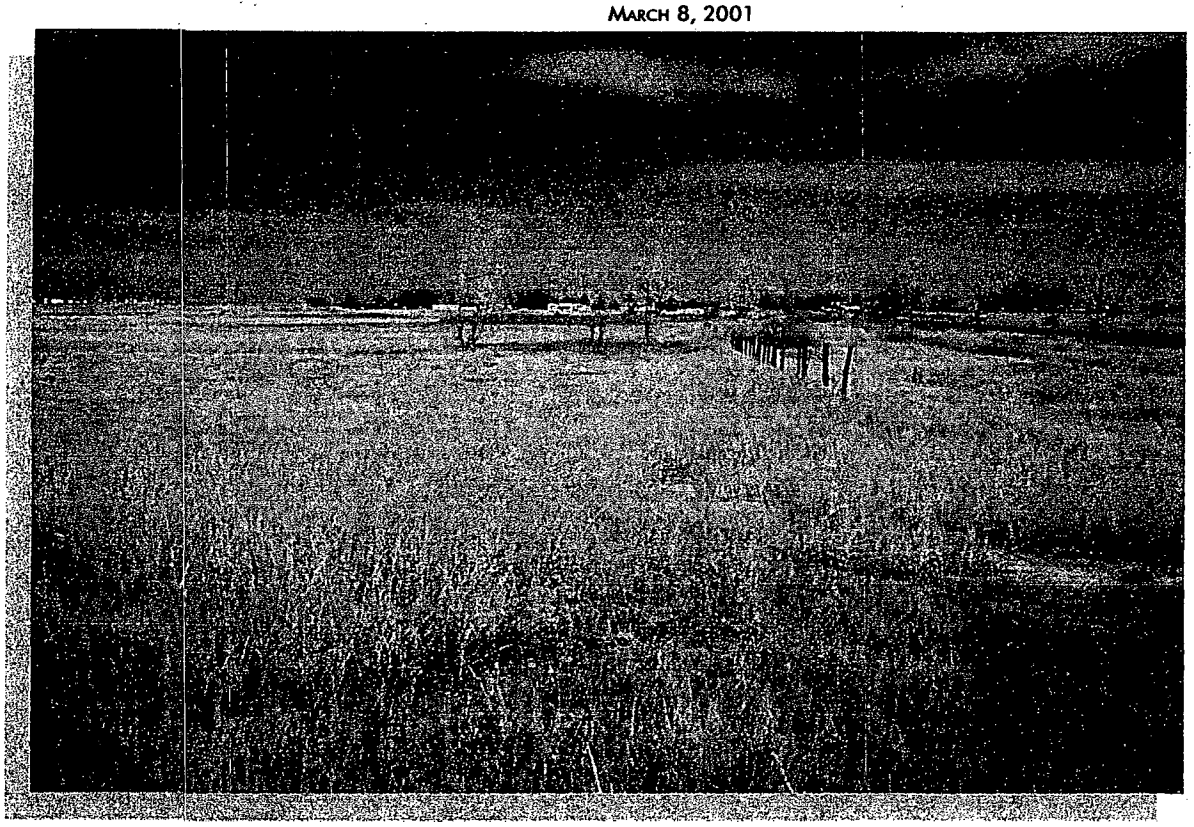


Photo 1 - View northeast along southeastern edge of site, towards Falcon.

Photo 2 - View northwest along small drainage from old railroad grade on edge of site.

FALCON HIGHLAND
PHOTO LOG
MARCH 8, 2001

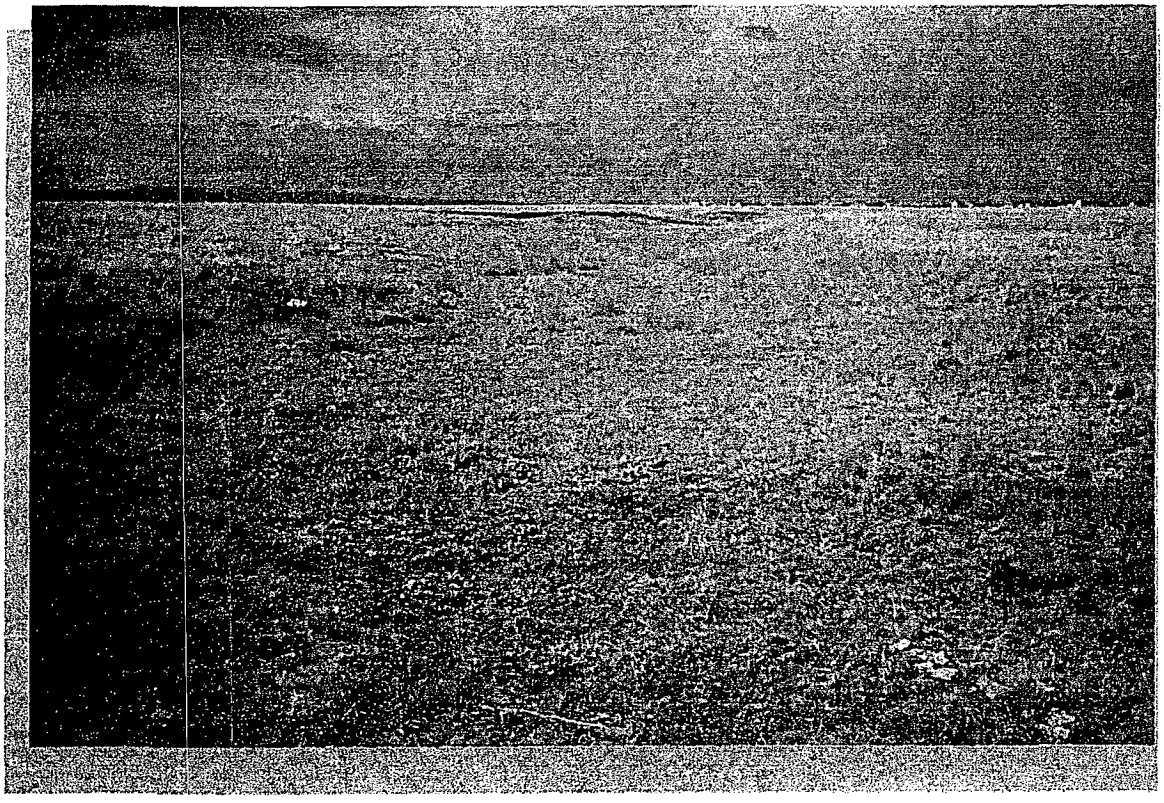


Photo 3 - View northwest along drainage from dirt road.

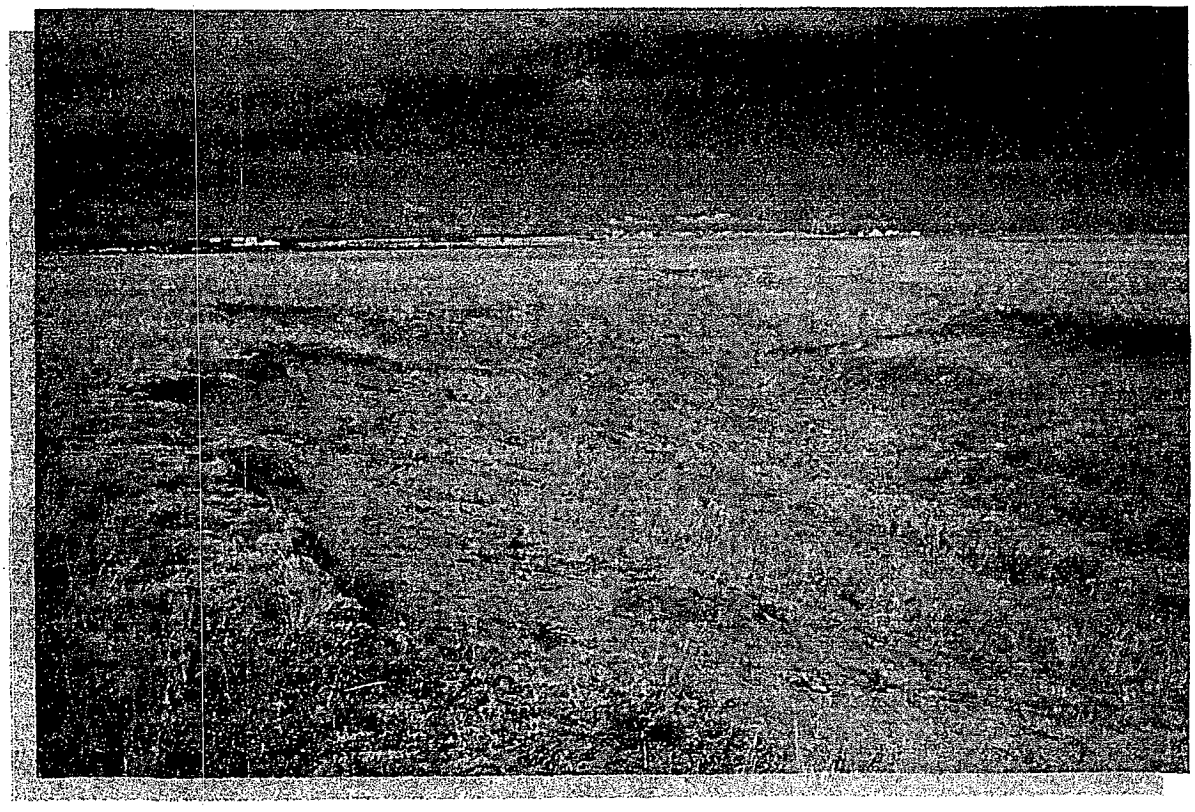


Photo 4 - View south along drainage from Woodmen Road.

FALCON HIGHLAND
PHOTO LOG
MARCH 8, 2001

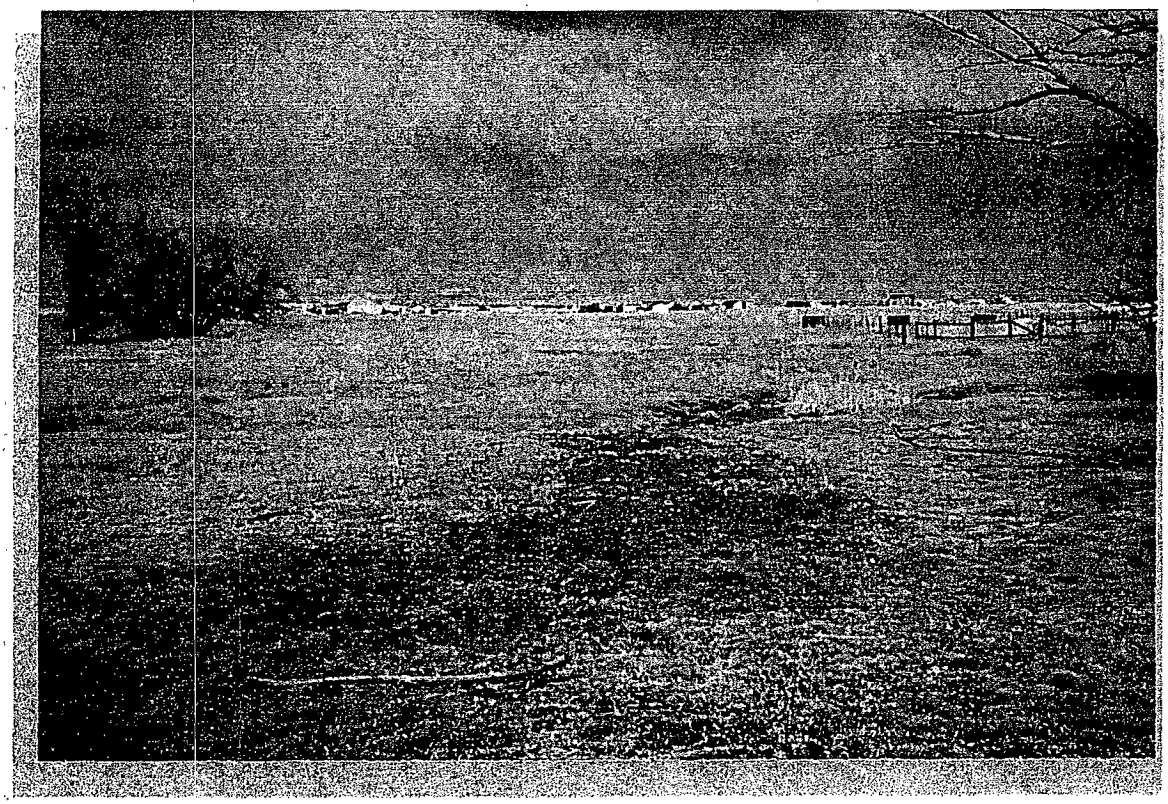


Photo 5 - View north along drainage from Woodmen Road.

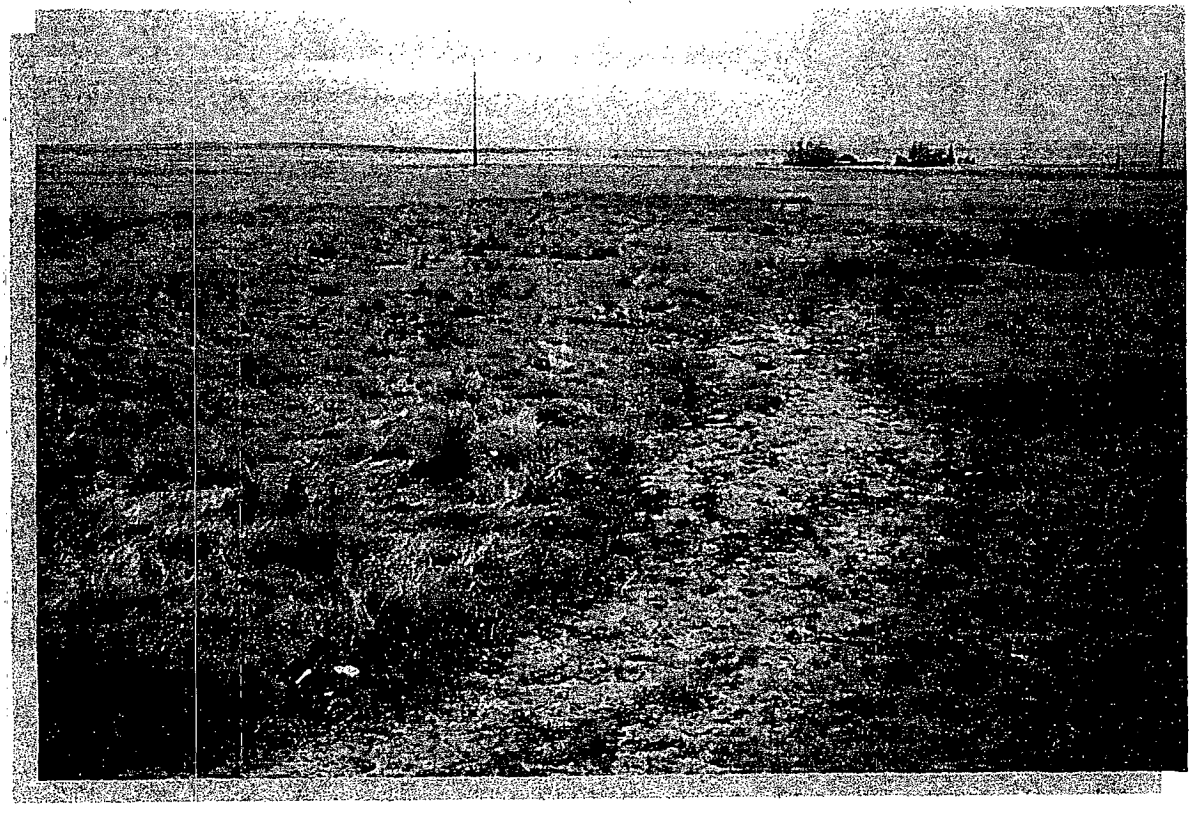


Photo 6 - View south along drainage in NW corner of site from Woodmen Road.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Colorado Field Office
755 Parfet Street, Suite 361
Lakewood, Colorado 80215

IN REPLY REFER TO:
ES/CO: T&E/PMJM/Survey
Mail Stop 65412

MAY - 1 2001

Steve Butler
ERO Resources
1842 Clarkson Street
Denver, CO 80218

Dear Mr. Butler:

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), the Service reviewed the Preble's meadow jumping mouse, *Zapus hudsonius preblei,* (Preble's) survey report submitted with your letter of March 23, 2001. This report regards the **Falcon Highlands** site in El Paso County, Colorado (Sections 2, 3, 11, and 12, Township 13 South, Range 65 West).

Given your compliance with the Preble's survey guidelines, the Service finds the report acceptable and agrees that Preble's habitat is not present within the subject area. Thus, the Service concludes that development or other actions on this site should not have direct adverse effects Preble's. Should Preble's populations exist downstream from the site, actions on the site that result in significant modification of Preble's habitat downstream (for example, through alteration of existing flow regimes, or sedimentation) may be subject to provisions of the ESA.

If the Service can be of further assistance, please contact Peter Plage of my staff at (303) 275-2370.

Sincerely,

LeRoy W. Carlson
Colorado Field Supervisor

cc: U.S. Army COE, Pueblo, CO
Plage

Reference:Peter/PMJM/2001.51

ATTACHMENT 2

Cultural Resource Evaluation

COLORADO HISTORICAL SOCIETY

Office of Archaeology and Historic Preservation
1300 Broadway
Denver, CO 80203

May 21, 2004

Ronald J. Turner
K-S & Company, Inc.
18220 Red Clover Lane
Monument, CO 80132

Re: File Search - Sections 2, 11 & 12, T13S, R65W

At your request, our office has conducted a search of the Colorado Inventory of Cultural Resources for this project area.

There are NO historic properties located in the project area.

Our files contain incomplete information for this area, as most of Colorado has not yet been inventoried for cultural resources. There is the possibility that as yet unidentified cultural resources exist within the project area.

Therefore, in the event there is Federal or State involvement, we recommend that a professional survey be conducted to identify any cultural resources in the project area which are eligible to be listed on the National Register of Historic Places. We look forward to consulting with you regarding the effect of the proposed project on any eligible cultural resource in accordance with the Advisory Council on Historic Preservation Procedures for the Preservation and Protection of Historic and Cultural Resources (36 CFR 800). Please provide this office with the results of the cultural resource survey for our review of professional adequacy and compliance with regulations.

If you have any questions, please contact Jim Green with the Office of Archaeology and Historic Preservation at (303) 866-4674.

Thank you for your interest in Colorado's cultural heritage.

Susan M. Collins
Deputy State Historic Preservation Officer for Archaeology

*Information regarding significant archaeological resources is excluded from the Freedom of Information Act. Therefore, legal locations of these resources must not be included in documents for public distribution.

COLORADO HISTORICAL SOCIETY

Office of Archaeology and Historic Preservation
1300 Broadway
Denver, CO 80203

July 20, 2004

Ronald J. Turner
K-S & Company
18220 Red Clover Lane
Monument, CO 80132

Re: File Search - Sec. 3, T13S, R65W

At your request, our office has conducted a search of the Colorado Inventory of Cultural Resources for this project area.

There are NO identified sites located in the project area and NO surveys have been undertaken in the project area.

Our files contain incomplete information for this area, as most of Colorado has not yet been inventoried for cultural resources. There is the possibility that as yet unidentified cultural resources exist within the project area.

Therefore, in the event there is Federal or State involvement, we recommend that a professional survey be conducted to identify any cultural resources in the project area which are eligible to be listed on the National Register of Historic Places. We look forward to consulting with you regarding the effect of the proposed project on any eligible cultural resource in accordance with the Advisory Council on Historic Preservation Procedures for the Preservation and Protection of Historic and Cultural Resources (36 CFR 800). Please provide this office with the results of the cultural resource survey for our review of professional adequacy and compliance with regulations.

If you have any questions, please contact Jim Green with the Office of Archaeology and Historic Preservation at (303) 866-4674.

Thank you for your interest in Colorado's cultural heritage.

Susan M. Collins
Deputy State Historic Preservation Officer for Archaeology

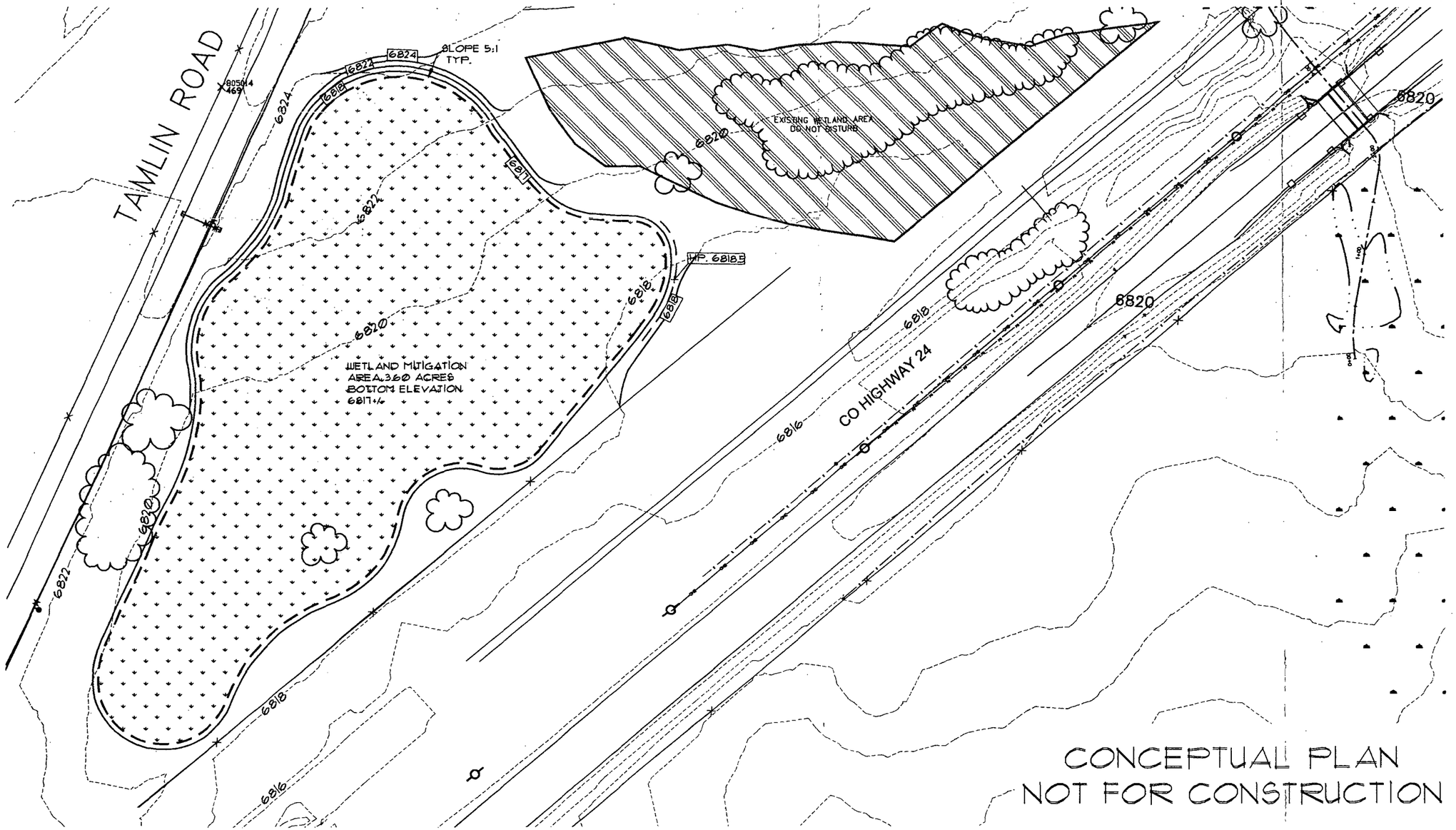
*Information regarding significant archaeological resources is excluded from the Freedom of Information Act. Therefore, legal locations of these resources must not be included in documents for public distribution.

ATTACHMENT 3

Conceptual Design

and

Preliminary Construction Specifications



CONCEPTUAL PLAN
NOT FOR CONSTRUCTION

GENERAL

1. SURVEY AND TOPOGRAPHY INFORMATION WAS TAKEN FROM DRAWINGS PREPARED BY URS (719) 531-0001.

2. DO NOT DISTURB EXISTING WETLANDS.

3. TOTAL AREA OF PROPOSED CONSTRUCTED WETLANDS ON THIS PLAN IS 3.60 ACRE.

4. ALL EXCAVATED MATERIAL SHALL BE REMOVED FROM THE AREAS AND DISPOSED OF IN A LOCATION APPROVED BY THE OWNER. IN NO INSTANCE WILL EXCAVATED MATERIAL BE STOCKPILED IN OR NEAR WATERS OF THE U.S.

5. TEMPORARY SILT FENCING SHALL BE ESTABLISHED ALONG THE EXISTING WETLANDS AND MAINTAINED UNTIL ALL EXCAVATION AND GRADING ARE COMPLETED.

6. CONSTRUCTION AND EXCAVATION LIMITS SHALL BE ESTABLISHED ON THE SITE USING BARRICADE FENCING TO AVOID OVER EXCAVATION OR DISCHARGES INTO THE ADJACENT WETLAND.

7. ALL TOPSOIL FROM AREAS TO BE DISTURBED SHALL BE STRIPPED AND RESPREAD IN NEW WETLAND AREAS.

8. UPLAND SEEDING: ALL UPLAND AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SEEDED WITH THE UPLAND SEED MIX AS SPECIFIED. LIMIT OF SEEDING INDICATED ON THE PLANS IS MINIMUM AREA TO BE SEEDED. ALL SEED BAG TAGS MUST BE SUBMITTED TO THE OWNER'S REPRESENTATIVE PRIOR TO SEEDING. NO SUBSTITUTIONS SHALL BE ACCEPTED WITHOUT APPROVAL OF A WETLAND ECOLOGIST.

9. PLANT MATERIAL FOR CONSTRUCTED WETLAND AREAS MAY INCLUDE: SALIX EXIGUA-SANDBAR WILLOW, POPULUS DETLTOIDES-PLAINS COTTONWOOD, JUNCUS BALTICUS-BALTIC RUSH, JUNCUS TORREYI-TORREY'S RUSH, CAREX NEBRASKENSIS-NEBRASKA SEDGE.

10. SOURCE OF WATER FOR PROPOSED WETLANDS SHALL BE UNDERDRAINS FROM ADJACENT DEVELOPMENT.

N W E S

0 50 100

Falcon Highlands

ISSUES 7-28-04

APPROVALS

REVISIONS

DESIGN FM
DRAWN FM
CHECKED

SHEET TITLE
Conceptual Mitigation Plan
SHEET NO.
W-1

PRELIMINARY
WETLAND MITIGATION SPECIFICATIONS

FALCON HIGHLANDS
EL PASO COUNTY, COLORADO

Topsoil Placement

Part 1. General

This item shall consist of the placement of 6 inches of topsoil in the 3.6-acre wetland mitigation areas.

Part 2. Materials

Up to 3,000 cubic yards of topsoil salvaged from adjacent areas and other wetlands areas of the site (to the extent feasible) which will be impacted by the project.

Part 3. Execution

Subsoil shall be excavated to 6 inches below the final soil surface in the mitigation site. Excavated soil shall be placed in upland areas not in wetlands.

Contractor shall seek approval of Owner's Representative following subsoil grading in the wetland areas. Equipment shall be capable of operating in saturated soil conditions. If ground water, suitable hydrologic conditions, or evidence of the normal water table is not encountered, it will be necessary to further excavate until the water table is reached.

Prior to final grading of the wetland site, the Contractor shall contact the Owner's Representative and the Engineer to be on site during final grading.

Upon completion of grading operations, wetland topsoil shall be placed to a depth of 6 inches in the wetland areas as shown on the plans.

Prior to seeding, the wetland area shall be disked or plowed in areas where the soil has become compacted during construction.

Soil Preparation

Part 1. General

Description — This work shall consist of ground surface preparation, including tilling and harrowing, and all labor and equipment required to loosen the seedbed to a minimum depth of 4 inches.

Insofar as it is determined practical and feasible by the Owner's Representative, the seedbed surface at the time of seed application should not be excessively wet, snow-covered, or frozen, and should be reasonably free of large clumps, clods, and impervious

crusts of dirt. There should be no appreciable areas of loose soils that can be compacted feasibly. The surface to a depth of approximately 4 inches should not be so tightly compacted that seed cannot begin growth. The Contractor shall treat such areas, as required by the Owner's Representative, to attain as nearly as practical the condition described.

Part 2. Execution

- Disk, rake, or harrow all seedbed areas, breaking up soil to a depth of 2 to 4 inches.
- In areas inaccessible to a tractor, soils must be dragged with a 4-wheeler or raked to break up the soil. Contractor shall seek the review of seedbed preparation from the Owner's Representative prior to seeding and planting.
- Seeding and mulching must take place within 14 days of tilling activities.
- Contractor shall not disturb any existing wetlands or other waters of the U.S.

Soil Amendments and Seeding

Part 1. General

This work shall consist of furnishing and planting seed, weed-free wheat straw mulch, and cleanup. This work includes permanent seeding. This work also shall consist of crimping straw mulch into seeded areas.

Part 2. Materials

Seed — Tables 1 and 2 contain the seeding schedule.

The Contractor must supply the Owner's Representative with all seed bag tags and a certification from the supplier stating that the seed complies with the Federal Seed Act. Seed bag tags shall be labeled with:

a) The common name, genus, species, and variety of each species in excess of 5%;
b) The percentage of each type of seed;
c) The state or county of origin;
d) The approximate percentage of viable seed of each species, together with the date of test;
e) The approximate percentage by weight of pure seed, meaning the freedom of seed from inert matter and from other seeds;
f) The approximate percentage by weight of sand, dirt, broken seeds, sticks, chaff, and other inert matter;

g) The approximate percentage by weight of other seeds;
h) The full name and address of the person or firm selling the seed.

All seed must be guaranteed for purity and germination, free of noxious weed seed, and supplied on a Pure Live Seed (PLS) basis.

Table 1. Wetland Seed Mix

Species Name	% of Mix	PLS* Lbs/ac*
Glycreia striata/Fowl mannagrass	65	4
Agrostis scabra/ Ticklegrass	4	0.5
Panicum virgatum/Switchgrass	15	2
Poa palustris/Fowl bluegrass	5	1
Puccinellia distans/Alkaligrass	8	1
Beckmannia schizachne./Sloughgrass	3	1
Total	100	9.5

*PLS = Pure Live Seed
*Double this rate for broadcast seeding

Table 2. Upland Seed Mix

Species Name	% of Mix	PLS* Lbs/ac*
Bouteloua gracilis/Blue grama	9	1.0
Bouteloua curtipendula/Sideoats grama	24	3.0
Oryzopsis hymenoides/Indian ricegrass	24	3.0
Poa canbyi/Canby bluegrass	4	0.5
Pascopyrum smithii/Western wheatgrass	39	5.0
Sporobolus cryptandrus/Sand dropseed	2	0.25
Total	**100.00**	**12.75**

*PLS = Pure Live Seed
*Double this rate for broadcast seeding

Straw Mulch — Straw mulch shall consist of clean, weed- and seed-free, long-stemmed grass hay or cereal grain straw. At least 50% of the mulch, by weight, should be 10 inches or more in length. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil 4 inches deep without cutting them. Mulch shall be applied at a rate of 1 ton per acre.

Part 3. Execution

Seed Distribution — Seeding equipment used for applying grass seed must be designed, modified, or equipped to regulate the application rate and planting depth of grass seed. In drill-seeded areas, if equipment for sowing is not equipped with press wheels, the seed shall be compacted with a cultipacker immediately after the ground has been drilled. Seed must be uniformly distributed in the drill hopper during the drilling operation. Acceptable drills are: custom seeders, furrow drills, disc drills, no till drills, or other drills approved by the Owner's Representative.

- Seed shall be planted to a depth of 0.25 to 0.5 inch. Planting depth shall be regulated by depth bands or coulters. The drill box shall be partitioned by dividers no more than 25 inches apart, in order to provide for more even distribution on sloping areas. Seed shall be applied in two equal applications, in perpendicular directions, to assure uniformity.
- Seeding by hand or mechanical broadcasting will be permitted on areas inaccessible to drills. Approved broadcast seeding methods include a drop or whirly-bird type spreader. Seed shall be applied in two equal applications, in perpendicular directions, to assure uniformity.
- Seeding rates must be doubled for broadcast seeding. Following broadcast seeding, seeded areas must be raked or dragged perpendicular to the slope of the land.
- Broadcast seeding methods shall not be used when wind velocity is such as to prevent uniform seed distribution. No application shall be undertaken during inclement or the forecast of inclement weather. No application shall take place in the presence of free surface water or when the ground is frozen or otherwise untillable.
- The applied seed, regardless of method of application, shall be covered by a soil thickness of between 0.25 and 0.5 inch in depth.
- Where they are adjacent to one another, the upland and wetland seed mixes shall have a 2-foot horizontal overlap.
- All seed must be guaranteed for purity and germination, free of noxious weeds, and supplied on a PLS basis
- Seed shall be incorporated into the soil by dragging or raking the topsoil.

Exceptions will be made for seed drills that are capable of incorporating the fertilizer and seed directly into the seedbed. Seed shall be incorporated with equipment operated at right angles to the slope of the land.

Straw Mulch — Mulch must be applied to seeded areas not more than 48 hours after seeding. Mulch shall be applied evenly at a rate of 1 ton per acre. Mulch fibers shall be crimped into the soil surface at least 4 inches deep.

Planting

Part 1. General

Description — This work shall consist of furnishing and planting all plant material, labor, equipment, and non-plant material required to complete installation of planting as indicated in the drawings.

This work shall be performed by personnel experienced with planting live plant materials, under the direction of a skilled foreman.

Part 2. Materials

- Plant materials must be shipped accompanied by certificates of inspection as required by governing authorities. All plant materials must comply with regulations applicable to landscape plant materials.
- No substitutions shall be made unless specified plant materials are unavailable. Contractor must notify Owner's Representative if materials are unavailable, and list proposed substitutions. Owner's Representative must approve all substitutions.
- Contractor must provide plant materials of the specified size, genus, species, and variety shown and scheduled in Table 3. Plants shall be healthy, vigorous, grown in a recognized nursery approved by the Owner's Representative. Plants must be grown in accordance with good horticultural practice and free of disease, insects, eggs, larvae, and defects such as knots, sun-scald, injuries, abrasions, or disfigurement.
- Owner's Representative will inspect all plant materials and may reject plant materials they deem to be of insufficient quality. The Owner's Representative may re-inspect the plants at any time during the planting process, and may reject plant materials at any time. Plants with dry, broken, or crumbling roots shall not be accepted for planting.

Wetland Plant materials are listed in Table 3.

Table 3. Wetland Planting*

Species Name	No. of Plants	Container Size
Juncus balticus/Baltic rush	400	10 in.^{3}
Juncus torreyi/Torrey rush	400	10 in^3
Carex nebrascensis/Nebraska sedge	400	10 in.^{3}
Total	1200	

**See "Wetland Mitigation" specifications.

Part 3. Execution

- Planting operations will be conducted under favorable weather conditions. The Contractor will notify the Owner 24 hours before beginning plantings.
- Planting shall be done in accordance with good horticultural practices. Plants shall be placed with their vertical stems extending straight up. Plants with a partially dry root system shall be soaked for a period of 3 hours prior to planting. Plastic, metal, or peat containers shall be removed.
- The first watering shall be done immediately after all plants are placed. Any plants damaged by the Contractor's operations shall be replaced at no expense to the Owner.

Willow Cuttings

Part 1. General

This work shall consist of planting the willow cuttings within the mitigation site. The general locations are shown on the planting plans; exact locations of each species will be determined by a wetland ecologist at the time of planting.

Part 2. Materials

A total of 200 cuttings sandbar willow(*Salix exigua)* shrub cuttings will be planted in the mitigation site as described below:

Cutting Materials. Live sandbar stakes will be cut from existing willows found on the site as directed by a wetland ecologist. The existing shrubs will be cut 8 to 10 inches from the ground with loppers or hand saws. The cuts will be at a 45-degree angle. Willow stakes will be approximately 2 to 3 feet long and between ¼ and ¾ inch in diameter.

Immediately after cutting the plants will be submerged in water.

Part 3. Execution

Willow stakes shall be planted in the wetland mitigation sites with the thicker end, the end that would normally be closer to the base of the shrub, planted first. The willow

cuttings must be dormant at the time of planting. Rebar or other similar sized implement shall be driven into the ground, to a distance of 1.5 to 2 feet. The willow cuttings shall be planted in the hole created by the rebar. Willow cuttings shall be planted so that at least 2/3 of the cutting is underground. Willow cuttings shall be planted so that the bottom portion of the willow cutting reaches the water table.

Project Completion Inspection

At completion of the project, a Project Completion Inspection will be conducted by a Owner's Representative. During this inspection, an inventory of losses and unacceptable plantings will be made, as well as unacceptable tilling, mulching, or seeding. At this time, corrective actions and necessary cleanup measures will be determined by the Owner's Representative.

The Contractor shall reseed, remulch, retill, or replant any areas or items determined to be unacceptable by the Owner's Representative. All plants that die or are in badly impaired condition shall be removed and replaced. Replacement stock shall be subject to all requirements specified in the original material. Replacement stock shall be planted in accordance with the specifications.

Acceptability of all replacement plant material will be determined after all replacement plant material is planted.