


**MEMORANDUM**

**TO:** South Weber City Mayor and Council

**FROM:** Brandon K. Jones, P.E.  
South Weber City Engineer 

**CC:** David Larson – South Weber City Manager  
Mark Larsen – South Weber City Public Works Director

**RE:** **CANYON MEADOWS PARK – WETLANDS RESTORATION PLAN**

**Date:** December 5, 2019

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Over the past several months our office has conducted detailed field surveys and documented existing conditions as it relates to the wetlands in Canyon Meadows Park. We have also delineated the fill or disturbed areas inside the wetlands that need to be restored. With this information, we have created fill removal plans with section views and proposed contours that establish the elevations to which the fill needs to be removed to its predisturbed surface elevations. These plans were given to Dennis Wenger (Frontier Corporation), to be incorporated into the Restoration Plan; a draft of which (dated November 30, 2019) is being provided to the City Council for your review and comment prior to submitting it to the US Army Corps of Engineers (USACE) for approval.

Although the Restoration Plan contains more detail, the main elements of the plan can be summarized as follows:

- Project Area 1 (Park Area) – Boundary (16.55 acres), Wetlands (2.23 acres), Filled (0.85 acres)
- Project Area 2 (Detention Basin Area) – Boundary (1.76 acres), Wetlands (0.86 acres), Filled (0.00 acres)
- The City is only responsible for restoring the filled/disturbed areas in Project Area 1 (seven different locations).
- No work can be performed until USACE approval.
- Fill removed must be placed outside the existing wetlands.
- Once fill is removed, the ground will be graded to match the predisturbed elevations shown in the plans, raked, prepared, and planted with approved native wetland seed mix.
- During construction activities, the entire wetland area is to be protected with temporary high visibility staking and/or orange vinyl construction fencing.
- Following construction, the areas that were restored must be protected with temporary high visibility staking and/or orange vinyl construction fencing.

- The restored wetlands must be monitored for 2 years (2 growing seasons). Assuming the restoration takes place in the spring of 2020, the first growing season would be 2021 and the second growing season would be 2022.
- Following the 2 years, the City may reevaluate and re-delineate based on how well the natural hydrology supports the wetlands.
- During the 2 years, the City is responsible for controlling invasive weed species (e.g. Phragmites, Reed Canarygrass, Russian Olive, Tamarisk) in the wetlands.
- There are monitoring, reporting, documenting, and as-built requirements during construction and during the 2 years following construction.
- The USACE may conduct site visits to inspect the progress of the fill removal and wetlands restoration work.

We are hopeful that this plan will be approved by the USACE as soon as possible. Following approval, we will then bid out the Restoration Project in accordance with the approved Restoration Plan.

If you have any questions or comments, please let us know.

**Canyon Meadows Park  
Fill Removal and Wetlands Restoration Plan**

South Weber City Property, Davis County, Utah

Sections 28 and 29, Township 5 North, Range 1 West  
Salt Lake Base and Meridian

**Prepared by:**

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**November 30, 2019**

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## **APPENDIX A – FIGURES/MAPS**

Exhibit 1. Site Vicinity Map

Exhibit 2a. Project Area Location Map – Topo Base

Exhibit 2b. Project Area Location Map – Aerial Base

Canyon Meadows Park Wetland Restoration Plan

(25 Sheet Plan Set prepared by Jones & Associates dated October 2019)

## **APPENDIX B - TABLES**

Table 1. Wetland Seed Mix

Table 2. Upland Seed Mix



## EXECUTIVE SUMMARY

South Weber City (SWC) proposes to conduct a fill removal and wetlands restoration plan on property that is owned by SWC in South Weber, Davis County, Utah (Exhibit 1). The Project Area is approximately 18.31 acres in size and consists of two property parcels, referred to as Project Area 1 and Project Area 2, situated in Sections 28 and 29, Township 5 North, Range 1 West, Salt Lake Base & Meridian (SLB&M) (Exhibit 2a).

Project Area 1 is within Canyon Meadows Park and is approximately 16.55 acres in size. This is a city sports park located on the south side of Petersen Parkway approximately 750 feet southeast of Project Area 2 (Exhibit 2b). The approximate coordinates for the center of Project Area 1 are 41.141797° Latitude, -111.966251° Longitude. Approximately 2.23 acres of wetlands were delineated in Project Area 1 in December 2006. A total of 0.85 acres of filled wetlands will be restored as part of this fill removal and wetlands restoration plan.

Project Area 2 is approximately 1.76 acres in size and consists of undeveloped land used for storm water management and open space on the east side of 475 East (Exhibit 2b). The approximate coordinates for the center of Project Area 2 are 41.145035° Latitude, -111.968378° Longitude. Approximately 0.86 acres of wetlands were delineated within Project Area 2 in December 2006, but there is no fill in wetlands to be removed as part of this plan.

The fill removal and wetlands restoration plan was prepared by Frontier Corporation USA (Frontier) environmental consultants in coordination with the SWC personnel, Jones & Associates civil engineering (JA), and Matt Wilson, U.S. Army Corps of Engineers (USACE).

Pre-disturbance wetland conditions were identified using a wetlands delineation that was completed by Bio-West in December 2006. Wetland fill areas were identified and surveyed in the field by JA in October 2019. JA overlaid the December 2006 delineation with the surveyed fill areas and prepared a plan set for the fill removal and wetlands restoration, dated October 2019 and titled *Canyon Meadows Park Wetland Restoration Plan*. The plan set includes plan

view maps showing existing wetlands and wetland fill areas, representative cross sections for fill removal areas, and photos depicting current site conditions in and around the fill removal areas.

Seven wetland fill removal areas totaling 0.85 acres are identified in the JA plan set. Fill material will be removed from the seven wetland fill removal areas; the approximate predisturbance surface elevations and topographic contours will be reestablished in each of the seven fill removal areas; and each fill removal area will be planted with a native wetlands seed mix to restore wetland plant communities. The removed fill will be disposed in non-wetlands areas within the Project Area 1 boundaries or hauled off-site to an uplands disposal site. The seven fill removal areas will be monitored for restoration success for a 2-year period, as described in the plan. Monitoring will begin the first growing season following the completion of the fill removal and reseeded of the seven wetland restoration areas.

Implementation of the fill removal and wetlands restoration plan will be initiated once final approval is received from the USACE, which has federal Clean Water Act jurisdiction. It is anticipated that fill removal work will begin early January 2020 pending favorable weather conditions for heavy earth moving equipment; all fill removal and reseeded will be completed by July 1, 2020; the 2-year restoration success monitoring will be begin during the 2021 growing season and will be completed during the 2022 growing season.

## **1.0 EXISTING SITE CONDITIONS**

The Project Area is approximately 18.31 acres in size and consists of two property parcels, referred to as Project Area 1 and Project Area 2, situated in Sections 28 and 29, Township 5 North, Range 1 West, Salt Lake Base & Meridian (SLB&M) (Exhibits 2a and 2b). Project Area 1 is located within Canyon Meadows Park and is approximately 16.55 acres in size. This is a city sports park located on the south side of Peterson Parkway approximately 750 feet southeast of Project Area 2 (Exhibit 2b). The approximate coordinates for the center of Project Area 1 are 41.141797° Latitude, -111.966251° Longitude. Project Area 2 is approximately 1.76 acres in size and consists of undeveloped land used for storm water management and open space on the east side of 475 East. The approximate coordinates for the center of the Project Area 2 are 41.145035° Latitude, -111.968378° Longitude.

A wetlands delineation completed by Bio-West in 2006 will be used as the baseline for identifying wetland conditions as they existed prior to the development of Canyon Meadows Park. This delineation was done for a developer that subdivided farmland for a residential development. The land containing the present day Canyon Meadows Park and the stormwater management and open space area were dedicated to SWC after the wetlands delineation was completed as part of the residential subdivision approval process.

JA prepared a plan set for the fill removal and wetlands restoration plan, which includes an overlay of the 2006 wetlands delineation with the Project Area 1 and Project Area 2 boundaries. The plan set is dated October 2019 and titled *Canyon Meadows Park Wetland Restoration Plan*. The plan set includes plan view maps, representative cross sections for fill removal areas, and photos depicting current site conditions in and around the fill removal areas. A copy of the plan set is enclosed with this fill removal and wetlands restoration plan.

### **1.1 IDENTIFIED WETLANDS**

According to the Bio-West 2006 delineation, a total of approximately 2.23 acres of wetlands were identified in Project Area 1 containing Canyon Meadows Park, and a total of 0.86 acres of wetlands were identified in Project Area 2 containing the stormwater management and open space area (see Figures 1 and 2 in the JA plan set).

## **1.2 WETLAND FILL AREAS**

JA surveyed the extent of fill limits and overlaid them with the 2006 wetlands delineation boundaries to identify and quantify wetland fill areas. Seven wetland fill removal areas totaling 0.85 acres are identified in Project Area 1, Canyon Meadows Park (see Figure 1 in the JA plan set). No wetland fill areas are identified in Project Area 2, stormwater management and open space area (see Figure 2 in the JA plan set).

## **2.0 FILL REMOVAL AND WETLANDS RESTORATION**

### **2.1 OBJECTIVES**

- Conduct wetland restoration by removing fill material from the seven wetland fill removal areas.
- Dispose the removed fill material in non-wetlands areas within the Project Area 1 boundaries or haul the removed fill material off-site to an uplands disposal site.
- Regrade fill removal areas to match approximate predisturbance surface elevations and topographic contours.
- Plant the fill removal areas with a native wetlands seed mix to restore wetland plant communities.
- Monitor the fill removal areas for two growing seasons (2-year period) following the completion of the fill removal and wetlands reseeding work.

### **2.3 FILL REMOVAL AND WETLAND RESTORATION PROCEDURES**

- A. SWC Public Works Department personnel or a hired Contractor will perform the fill removal and wetlands restoration work.

- B. SWC will retain a qualified wetlands scientist to help supervise the successful completion of the fill removal and wetlands restoration work.
- C. JA will stake the surveyed boundaries of the seven fill removal areas.
- D. High visibility staking and/or orange vinyl construction fencing will be installed to protect the avoided wetland areas located outside the fill removal and wetlands restoration work areas from incidental encroachments by heavy machinery that will be used to remove the fill.
- E. Remove fill from the seven designated wetland fill removal areas until the bottom elevations of the fill removal areas are substantially the same as surface elevations of adjacent unfilled wetland areas. A laser level will be set up in the existing wetlands to compare the bottom finish elevations of the wetland restoration areas.
- F. 3:1 or 4:1 side slopes will be used to transition the bottom elevations of the restored wetland areas to match adjacent upland surface elevations.
- G. No earth-disturbing construction work associated with the fill removal will be allowed to commence before the USACE issues its final approval for the fill removal and wetlands restoration plan.
- H. Trackhoes and/or backhoes will be used to remove fill and standard haul trucks will be used to remove the fill material for disposal in non-wetland areas.
- I. The surface soils of restored wetland areas will be disced, harrowed and/or raked in preparation for reseeded.
- J. Water from flood irrigation was likely a main source of water for the wetlands that were delineated in 2006. However, flood irrigation was removed from the Project Area 1 and adjacent properties when the farmland was subdivided for residential development. Native groundwater and surface water runoff will be the main sources of hydrology for the restored wetland areas. These same sources of water contributed to wetland hydrology prior to the removal of flood irrigation, abandonment of farming practices and filling of wetlands.
- K. A combination of re-seeding the seven wetlands restoration areas with native wetland plants and colonization from adjacent wetland areas will be the method for revegetation. Reseeding will help control the introduction and presence of Phragmites, Reed canarygrass, Russian olive, Tamarisk and other invasive weed species.

- L. The wetland seed mix will be based on the availability of native sources available through Granite Seed, a seed company located in Lehi, Utah. A 2019 list of wetland seed carried by Granite Seed, approximately seed costs, and application rates recommended by Frontier is shown in Table 1 (Appendix B). The final seed mix may substitute plant species based on availability of seed at the time of purchase. The wetland seed mix will be submitted to the USACE for approval prior to purchase and application.
- M. An upland seed mix for use in the revegetation of uplands disturbed during the fill removal and wetland restoration work is identified in Table 2 (Appendix B). This seed mix will be applied to disturbed uplands that are immediately adjacent to existing wetland areas and the restored wetlands area. The final seed mix may substitute plant species based on availability of seed at the time of purchase.
- N. Both wetland and upland seed mixes will be applied by broadcasting and hand raking methods. No mulching or fertilizer applications are planned.
- O. Once the wetland restoration areas are reseeded, the temporary high visibility staking/fencing around the avoided wetland areas will be removed and re-installed around the seven wetland restoration areas. The high visibility staking/fencing will be maintained and will remain in place until the end of the 2-year monitoring period.

## **2.4 ON-SITE EQUIPMENT AND CONSTRUCTION PROCEDURES**

Equipment and construction procedures to implement the fill removal and wetlands restoration plan will likely include:

- A. Survey equipment.
- B. Excavation trackhoes, backhoes or similar excavation equipment.
- C. Standard haul trucks and/or dump trucks to transport excavated fill material to designated upland disposal sites.
- D. Small trucks, utility vehicles and any other equipment needed to successfully complete the fill removal and wetlands restoration construction work.
- E. Communications systems among all on-site workers.
- F. Traffic control, fire extinguishers, first-aid and other safety equipment.

- G. Daily safety meetings with all work crews.
- H. Weekly construction reports completed by SWC personnel identifying work performed and construction progress.

## **2.5 ENVIRONMENTAL PROTECTION**

- A. High visibility staking and/or orange vinyl construction fencing will be installed to protect the avoided wetland areas located outside the fill removal and wetlands restoration work areas from incidental encroachments by heavy machinery that will be used to remove the fill.
- B. Once the wetland restoration areas are reseeded, the temporary high visibility staking/fencing around the avoided wetland areas will be removed and re-installed around the seven wetland restoration areas. The high visibility staking/fencing will be maintained and will remain in place around the seven wetland restoration areas until the end of the 2-year monitoring period.
- C. Revegetation will be monitored for a 2-year post-construction period beginning the first growing season following the completion of the fill removal and wetlands reseeded work. Best management practices for controlling invasive weed species will be implemented as needed during this 2-year period.

## **2.6 IMPLEMENTATION SCHEDULE**

- A. Assuming all approvals and agreements for the implementation of the fill removal and wetlands restoration plan are obtained by December 31, 2019, it is anticipated construction work would begin in the spring of 2020 as soon as snow-free ground conditions are present and soils are sufficiently dry for heavy earth-moving equipment. It is anticipated that all fill removal and reseeded work will be completed by July 2020.
- B. An as-built survey report will be completed and submitted to the USACE within 60 days completion of the fill removal and wetlands restoration work described in this plan.

- C. The first year post-construction monitoring for wetland restoration success would be conducted during the 2021 growing season.
- D. The second year post-construction monitoring for wetland restoration success would be conducted during the 2022 growing season.

### **3.0 PROOF OF RESTORATION AND SUCCESS CRITERIA**

- A. The USACE will be requested to conduct an on-site inspection within 30 days of receiving the as-built report and aerial drone videography and/or still photography (described in Section 4.2) to confirm the completion of the fill removal and wetlands restoration work.
- B. Upon completion of the on-site site inspection, the USACE will be requested to provide email correspondence that confirms the work to physically remove the fill from the wetlands restoration area has been completed.
- C. Aerial drone videography and/or still photographs shall be submitted to the USACE with an as-built survey report. The aerial drone videography and/or still photographs, in conjunction with ground photos, will provide photographic evidence that the fill removal work has been completed.
- D. The wetlands restoration will be determined successful when the bottom elevations of the seven fill removal areas are revegetated with at least 80% Area I plant cover. The presence of wetland hydrology and hydric soil conditions will also be documented during the 2-year monitoring period, but will not be used as success criteria.
- E. At the conclusion of the 2-year monitoring period, the restored wetlands may be reevaluated to determine whether site hydrology in the absence of flood irrigation is sufficient to maintain wetland conditions in accordance the Corps of Engineers 2008 Arid West Delineation Manual.
- F. No earthmoving work will be done in either the restored or avoided wetland areas in either Project Area 1 or Project Area 2 unless a new delineation is completed and reverified by the USACE.



## **4.0 MONITORING AND REPORTING PROCEDURES**

### **4.1 CONSTRUCTION MONITORING**

- A. The excavation work crews will submit weekly progress reports to the City Manager.
- B. A wetlands scientist will be on-site regularly during the fill removal and wetlands restoration work to help supervise the implementation of the plan and verify compliance with the environmental protection measures specified in Section 2.5.
- C. SWC will keep receipts of the wetland and upland seed mixes that were used for revegetation, and copies of the receipts will be included in the as-built report.
- D. The USACE will be updated at the end of each calendar week via email correspondence on the progress of the fill removal and wetlands restoration work.
- E. Copies of the weekly construction progress reports will be made available at the request of the USACE.

### **4.2 AS-BUILT DOCUMENTATION AND RESTORATION MONITORING**

- A. Aerial drone videography and/or still photography will be taken to document as-built conditions in the fill removal and wetlands restoration area. The project area will be walked by a qualified wetlands scientist to verify that the fill that was placed within the seven wetland restoration areas has been removed.
- B. An as-built report will be submitted to the USACE within 60 days completion of the aerial drone videography and/or still photography of the work area.
- C. The as-built report will include an as-built survey of the actual fill removal limits for the seven wetland restoration areas. This will be a redline mark-up of FIGURES 5A and 5B in the JA plan set.
- D. The as-built report will include photographic documentation of the seven restored wetlands areas. This will include repeats of the photographs shown on sheets PIC 1 thru PIC 19 in the JA plan set. The same repeat photo point locations will be used for the 2-year restoration

monitoring. Additional photo points will be added to document the post-restoration monitoring.

- E. Restoration monitoring will be completed for two growing seasons following the removal of the fill material and reseeded of the seven wetland restoration areas. Restoration monitoring will be completed in late-April or early-May for soils and hydrology, and in late-August or early-September for revegetation.
- F. Assuming the fill removal and restoration work is completed by July 1, 2020, restoration monitoring will begin during the 2021 growing season.
- G. A qualified wetland scientist will complete annual monitoring inspections to document the progress of wetland revegetation in the fill removal area.
- H. Annual monitoring inspections will include the recordation of three 1x1 meter quadrats in each of the seven wetlands restoration areas (21 total) to document plant species revegetation and percent aerial plant cover. Soil and hydrology observations will also be recorded at the same 1x1 meter quadrat locations. The vegetation, soils and hydrology observations will be recorded on Corps of Engineers 2008 Arid West Delineation Manual data forms.
- I. Photographs of the vegetation, soils and hydrology observations will be included in the annual monitoring inspections.
- J. Annual monitoring inspections will also include repeat photos at the designated locations identified on the as-built survey.
- K. An annual monitoring report will be submitted to the USACE by October 31 of each monitoring year. The USACE will be requested to provide written comments on the progression of the wetlands restoration within 45 days receipt of the annual monitoring report.

#### **4.3 USACE INSPECTION PROCEDURES**

- A. The USACE may conduct site visits to inspect the progress of the fill removal and wetlands restoration work. In most circumstances, the USACE will attempt to provide no less than 1 week prior notice to SWC for a requested site visit

B. When USACE provides notice of an impending site visit, SWC will be given the opportunity to attend the site inspections with its wetlands and engineering consultants.

## 5.0 REFERENCES CITED

U.S. Army Corps of Engineers (USACE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

## **APPENDIX A - FIGURES**

Exhibit 1. Site Vicinity Map

Exhibit 2a. Project Area Location Map – Topo Base

Exhibit 2b. Project Area Location Map – Aerial Base

Canyon Meadows Park Wetland Restoration Plan

(25 Sheet Plan Set prepared by Jones & Associates dated October 2019)



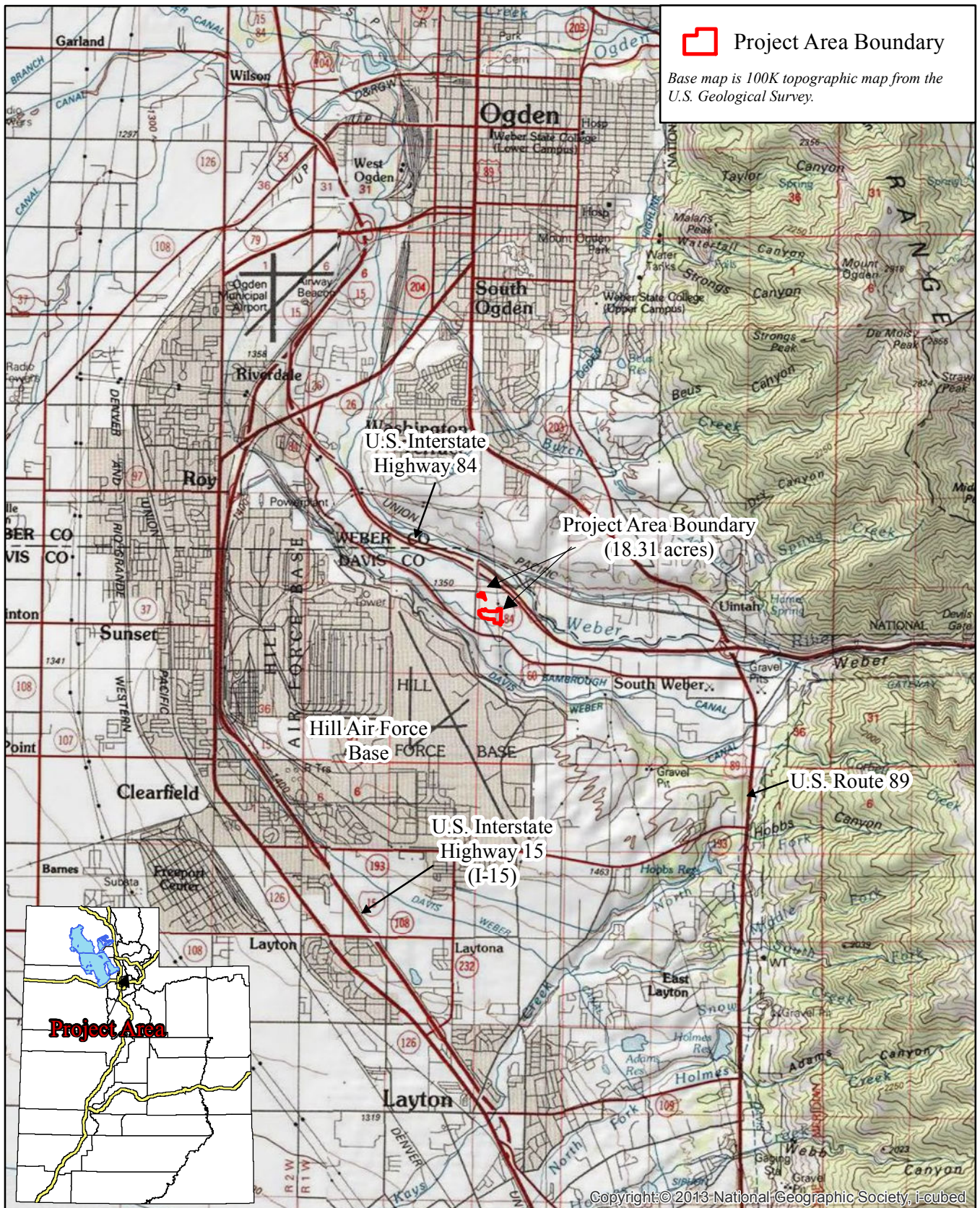


Figure 1. Site Vicinity Map



0 0.5 1 2 Miles

1 inch = 1.6 miles





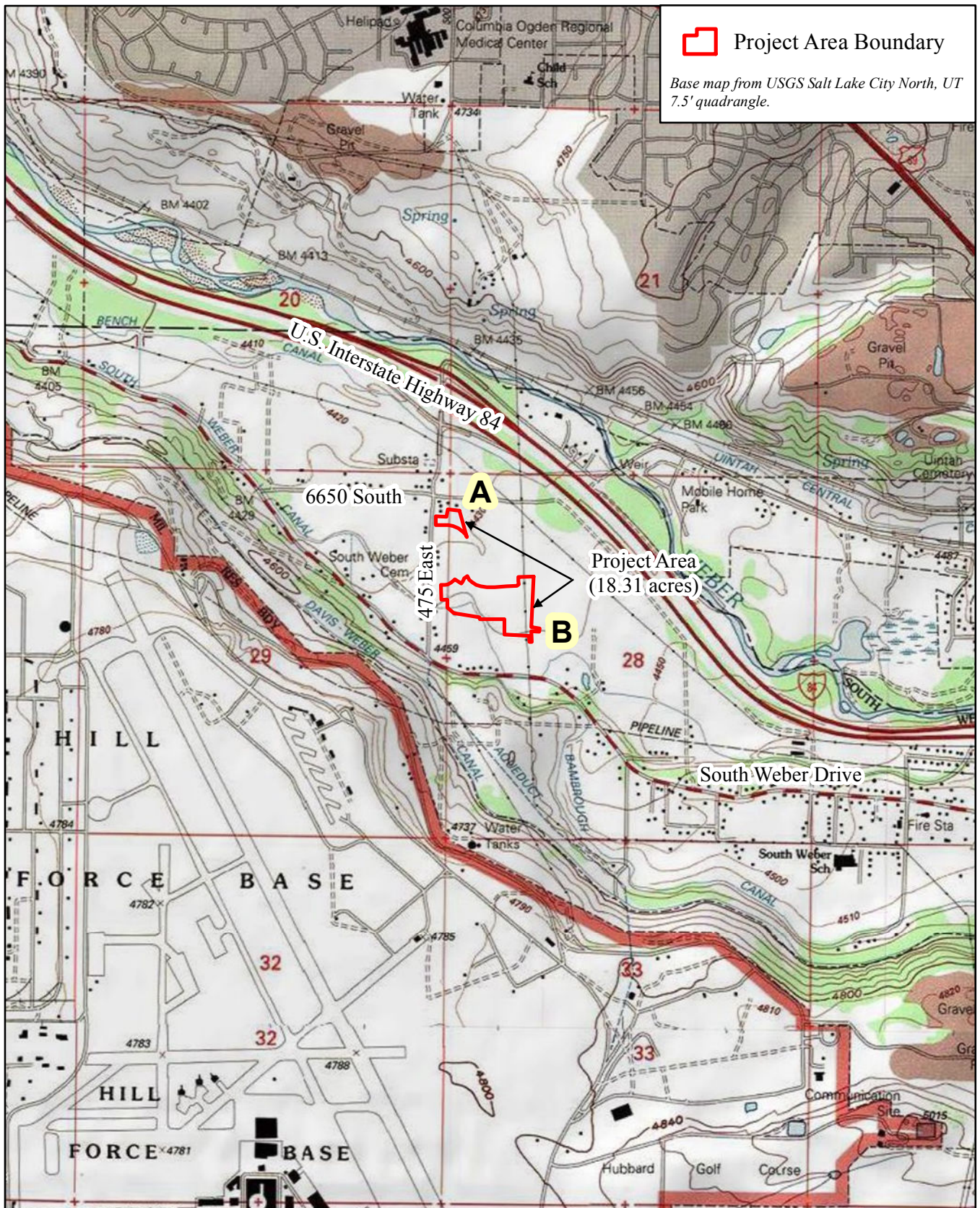


Figure 2a. Project Area Location Map  
1:24,000 Scale Topographic Base.



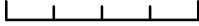




Figure 2b. Project Area Location Map  
1:24,000 Scale Aerial Base.



0 1,000 2,000 Feet



1 inch = 2,000 feet



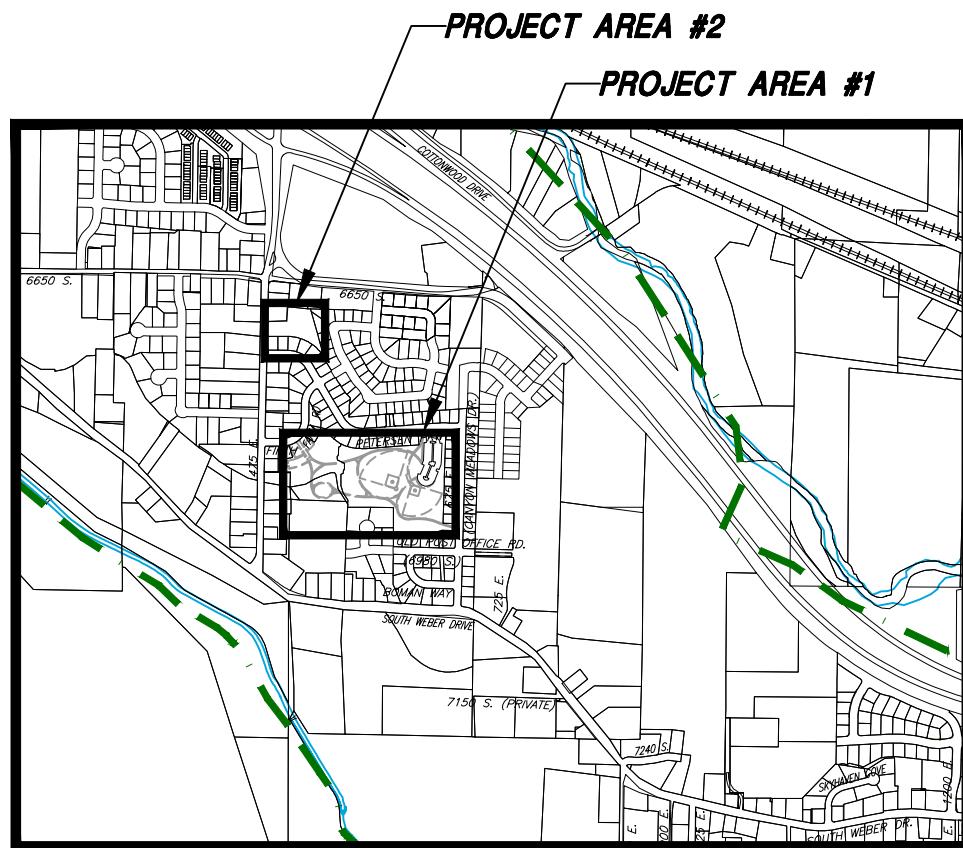


# SOUTH WEBER CITY CORPORATION

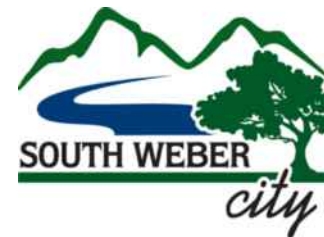
## CANYON MEADOWS PARK WETLAND RESTORATION MAP

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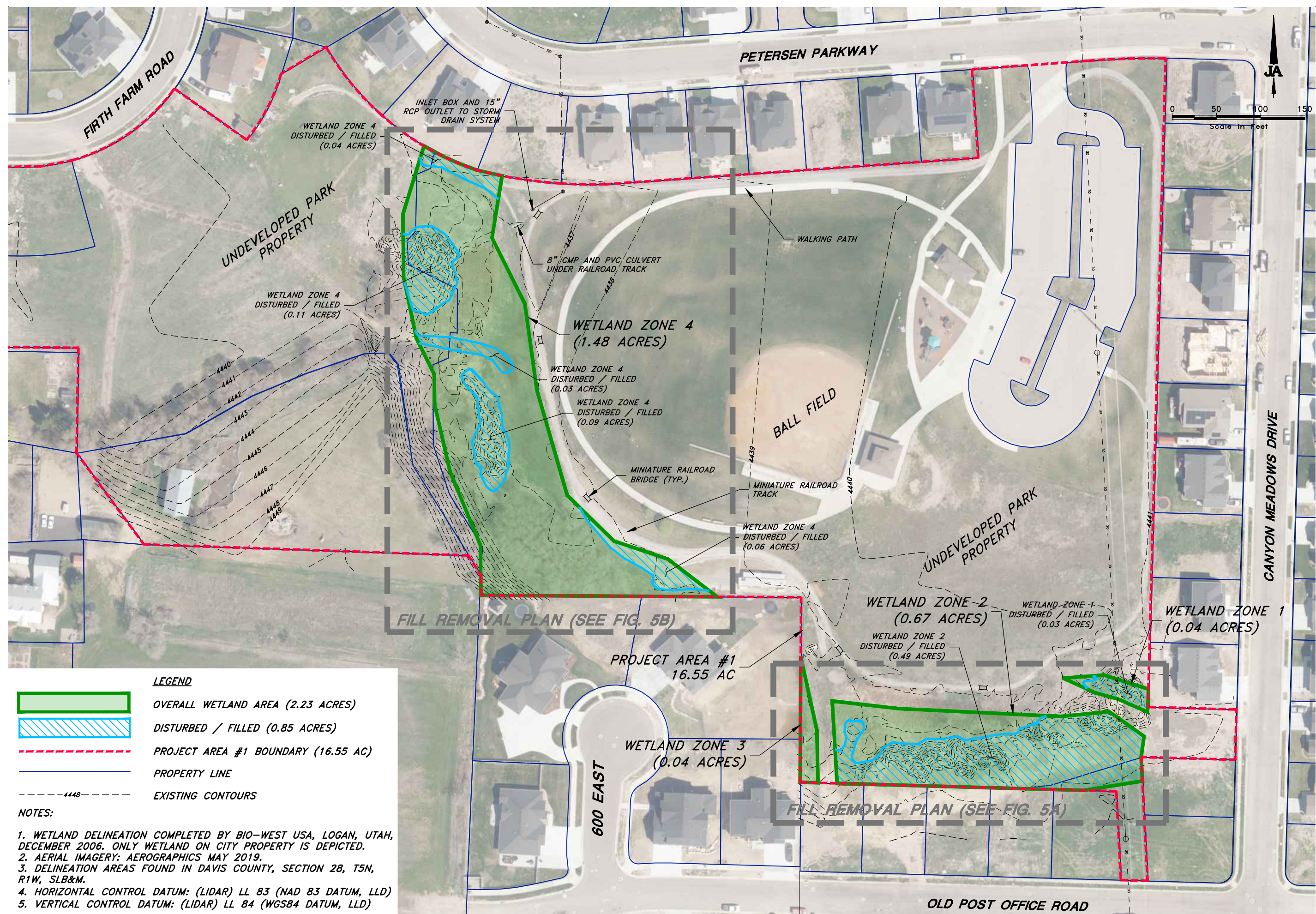
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**LOCATION MAP**







SOUTH WEBER CITY CORPORATION  
 CANYON MEADOWS PARK - WETLAND RESTORATION PLAN  
**EXISTING CONDITIONS MAP**  
 PROJECT AREA #1

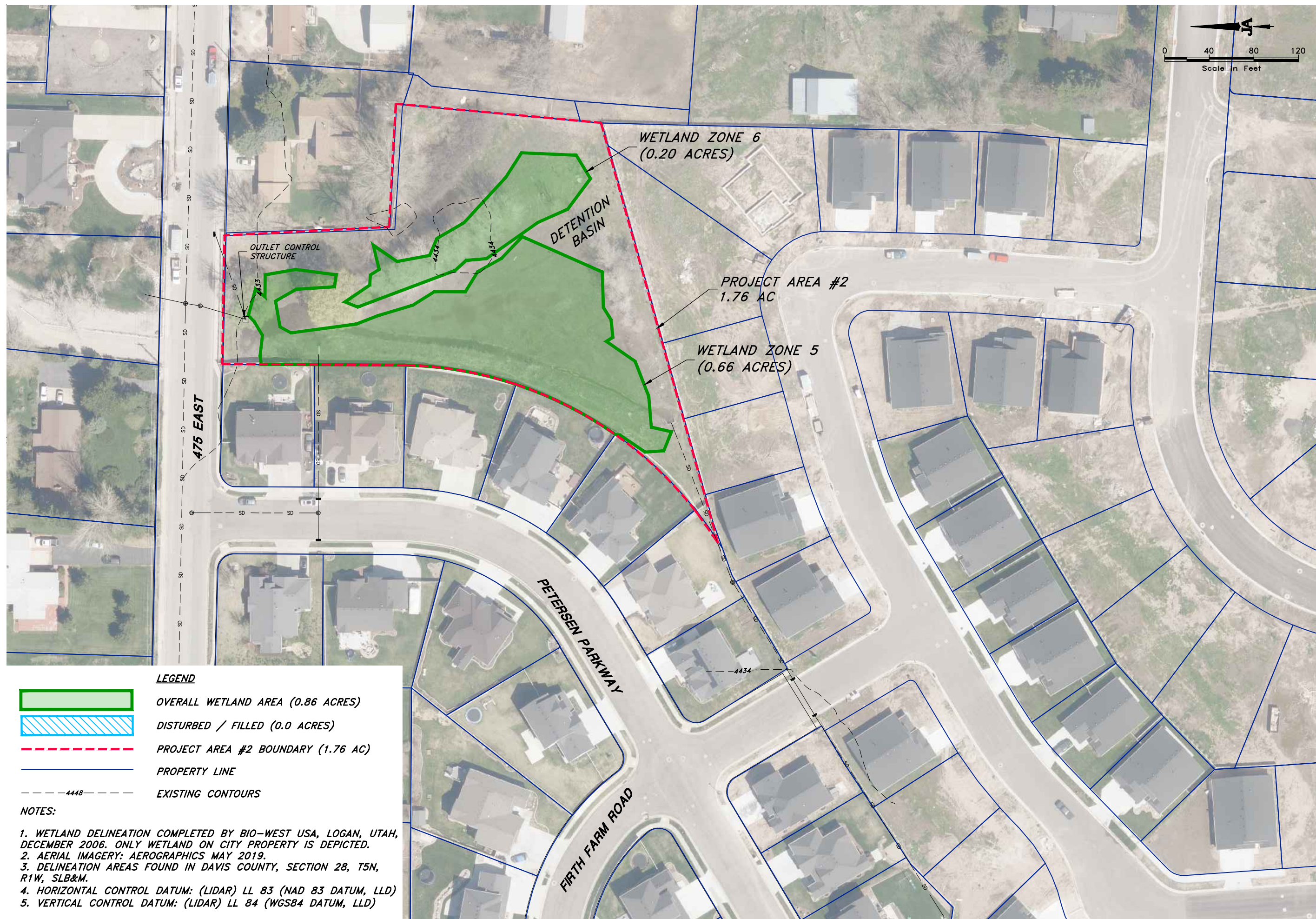
**LEGEND**

	OVERALL WETLAND AREA (2.23 ACRES)
	DISTURBED / FILLED (0.85 ACRES)
	PROJECT AREA #1 BOUNDARY (16.55 AC)
	PROPERTY LINE
	EXISTING CONTOURS

- NOTES:**
1. WETLAND DELINEATION COMPLETED BY BIO-WEST USA, LOGAN, UTAH, DECEMBER 2006. ONLY WETLAND ON CITY PROPERTY IS DEPICTED.
  2. AERIAL IMAGERY: AEROGRAPHICS MAY 2019.
  3. DELINEATION AREAS FOUND IN DAVIS COUNTY, SECTION 28, T5N, R1W, SLB&M.
  4. HORIZONTAL CONTROL DATUM: (LIDAR) LL 83 (NAD 83 DATUM, LLD)
  5. VERTICAL CONTROL DATUM: (LIDAR) LL 84 (WGS84 DATUM, LLD)





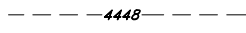
SCALE:	BKJ	DESIGNED	TIME	BKJ	CHECKED
24" x 36"					
H:1"=50'					
11" x 17"					
H:1"=100'					
SHEET:	REV. DATE APPR.				
<b>FIG. 1</b>					
OF SHEETS					





SOUTH WEBER CITY CORPORATION  
CANYON MEADOWS PARK - WETLAND RESTORATION PLAN  
**EXISTING CONDITIONS MAP**  
PROJECT AREA #2

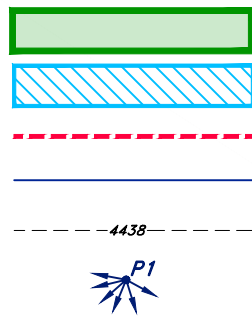
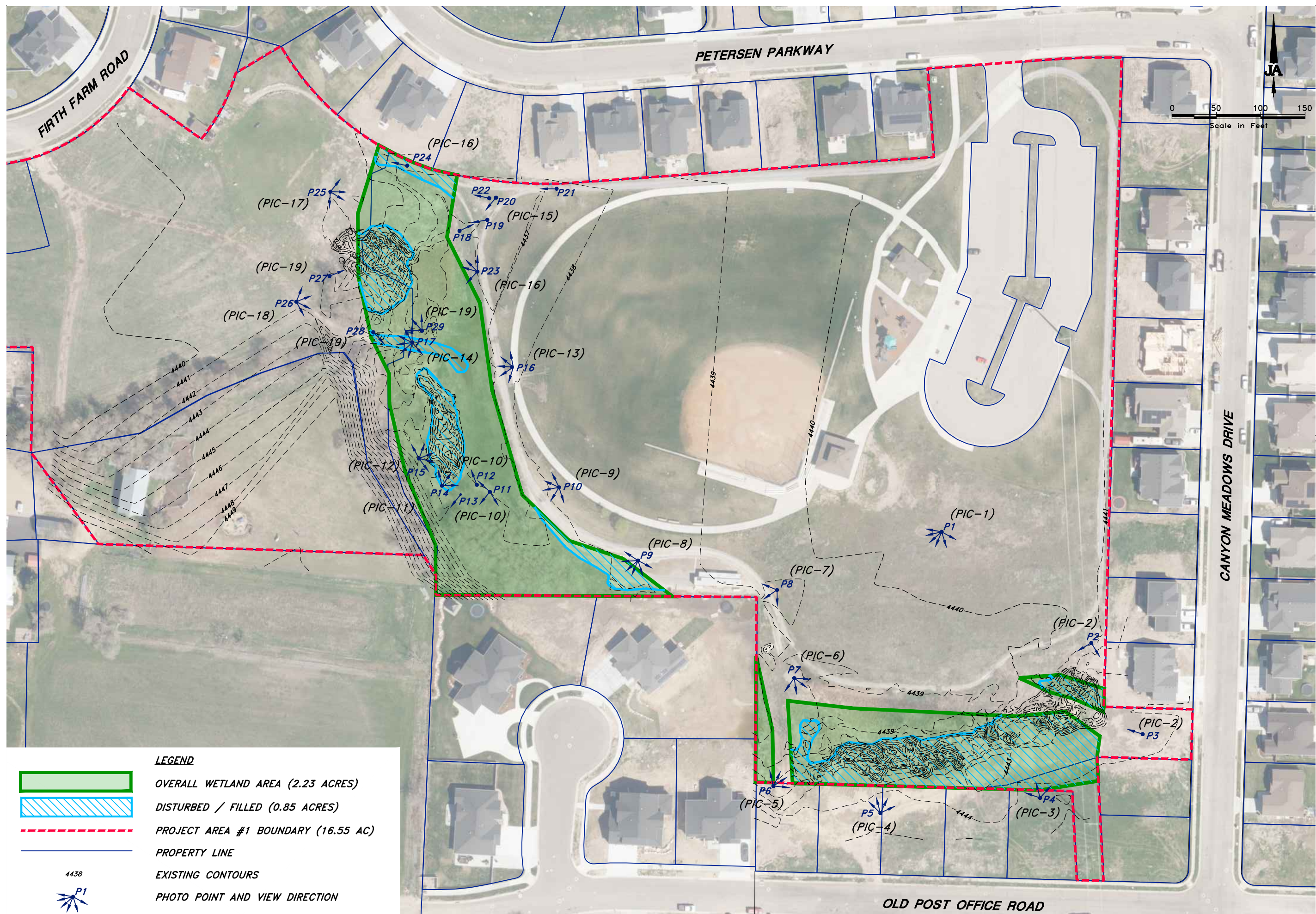
**LEGEND**

	OVERALL WETLAND AREA (0.86 ACRES)
	DISTURBED / FILLED (0.0 ACRES)
	PROJECT AREA #2 BOUNDARY (1.76 AC)
	PROPERTY LINE
	EXISTING CONTOURS

- NOTES:**
1. WETLAND DELINEATION COMPLETED BY BIO-WEST USA, LOGAN, UTAH, DECEMBER 2006. ONLY WETLAND ON CITY PROPERTY IS DEPICTED.
  2. AERIAL IMAGERY: AEROGRAPHICS MAY 2019.
  3. DELINEATION AREAS FOUND IN DAVIS COUNTY, SECTION 28, T5N, R1W, SLB&M.
  4. HORIZONTAL CONTROL DATUM: (LIDAR) LL 83 (NAD 83 DATUM, LLD)
  5. VERTICAL CONTROL DATUM: (LIDAR) LL 84 (WGS84 DATUM, LLD)

SCALE: 24" x 36" H:1"=40'	BKJ DESIGNED	TIME	BKJ DRAWN	BKJ CHECKED	REV.	DATE	APPR.
SHEET: <b>FIG. 2</b>	OF SHEETS						





**LEGEND**

OVERALL WETLAND AREA (2.23 ACRES)

DISTURBED / FILLED (0.85 ACRES)

PROJECT AREA #1 BOUNDARY (16.55 AC)

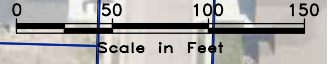
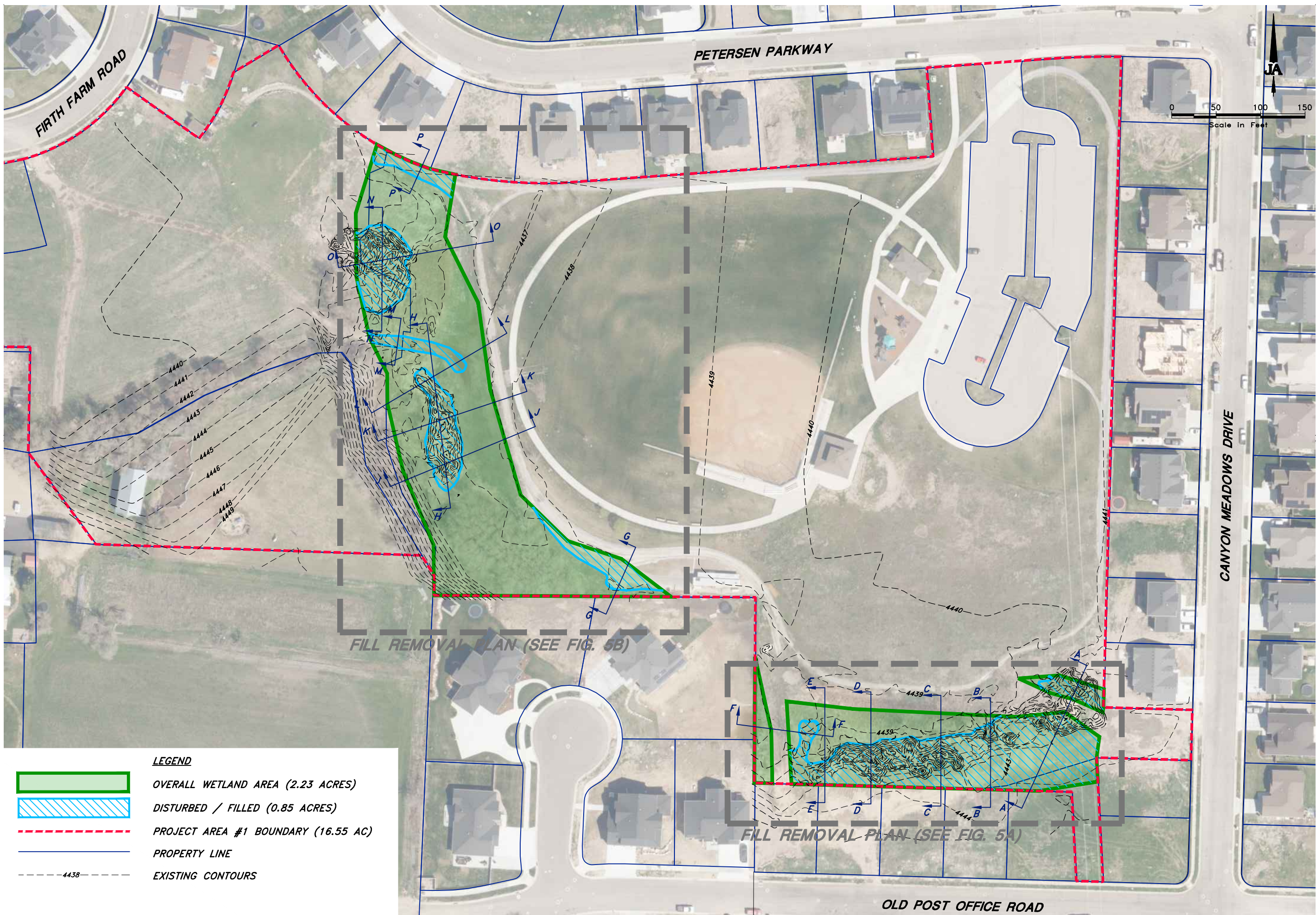
PROPERTY LINE

EXISTING CONTOURS

PHOTO POINT AND VIEW DIRECTION

SCALE:	BKJ	DESIGNED	TIME	BKJ	CHECKED	REV.	DATE	APPR.
24" x 36"								
H:1"=50'								
11" x 17"								
H:1"=100'								
SHEET: <b>FIG. 3</b>								
OF SHEETS								





FIRTH FARM ROAD

PETERSEN PARKWAY

CANYON MEADOWS DRIVE

OLD POST OFFICE ROAD

FILL REMOVAL PLAN (SEE FIG. 5B)

FILL REMOVAL PLAN (SEE FIG. 5A)

- LEGEND**
- OVERALL WETLAND AREA (2.23 ACRES)
  - DISTURBED / FILLED (0.85 ACRES)
  - PROJECT AREA #1 BOUNDARY (16.55 AC)
  - PROPERTY LINE
  - EXISTING CONTOURS

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**SOUTH WEBER CITY CORPORATION**  
**CANYON MEADOWS PARK - WETLAND RESTORATION PLAN**  
**CROSS-SECTION SUMMARY MAP**

SCALE:	DESIGNED	DRAWN	CHECKED	APPR.
24" x 36" H: 1" = 50'	BKJ	TIME	BKJ	
11" x 17" H: 1" = 100'				









**LEGEND**

OVERALL WETLAND AREA (2.23 ACRES)

DISTURBED / FILLED (0.85 ACRES)

PROJECT AREA #1 BOUNDARY (16.55 AC)

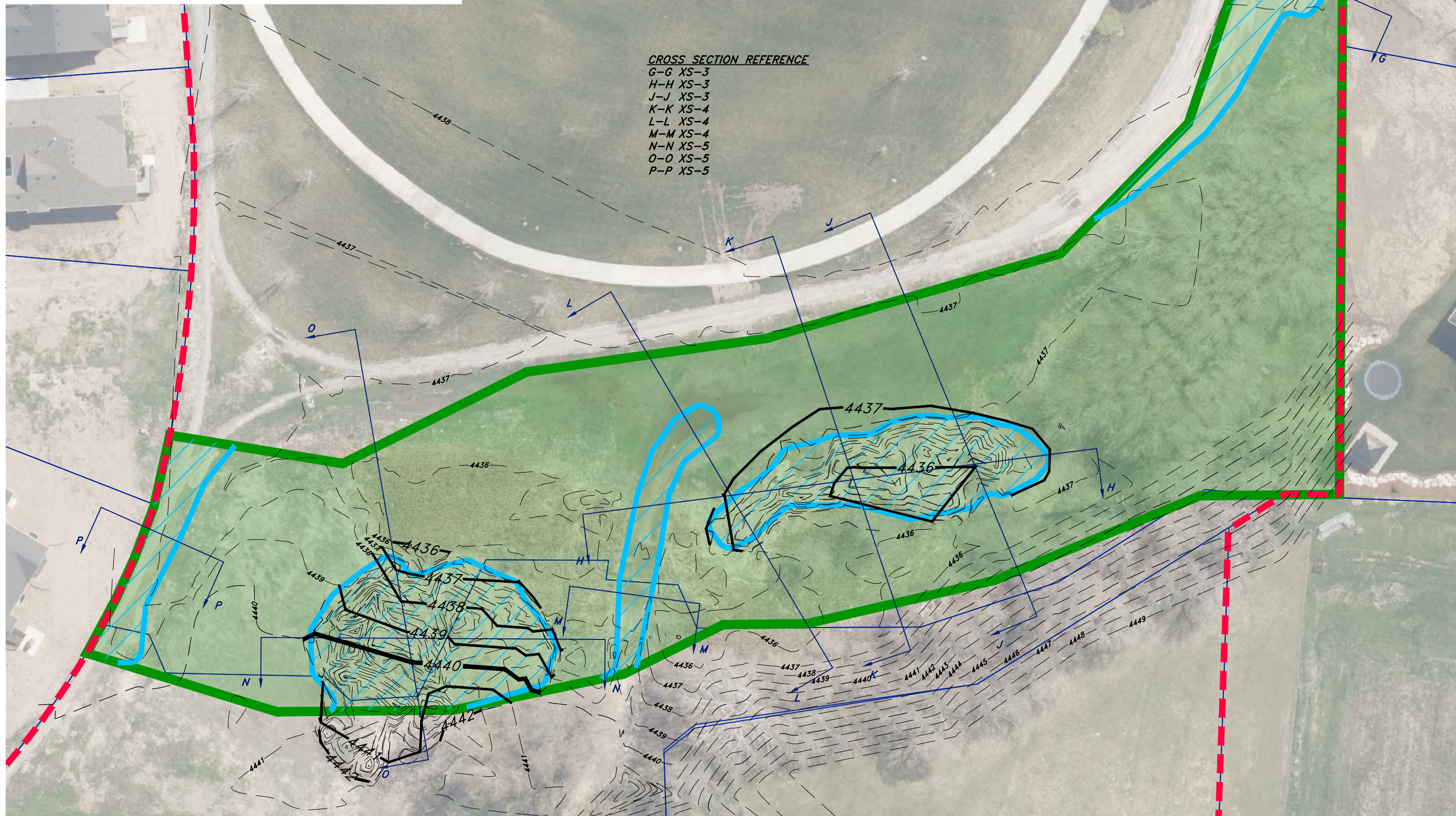
PROPERTY LINE

EXISTING CONTOURS

PROPOSED CONTOURS

**CROSS SECTION REFERENCE**

- G-G XS-3
- H-H XS-3
- J-J XS-3
- K-K XS-4
- L-L XS-4
- M-M XS-4
- N-N XS-5
- O-O XS-5
- P-P XS-5

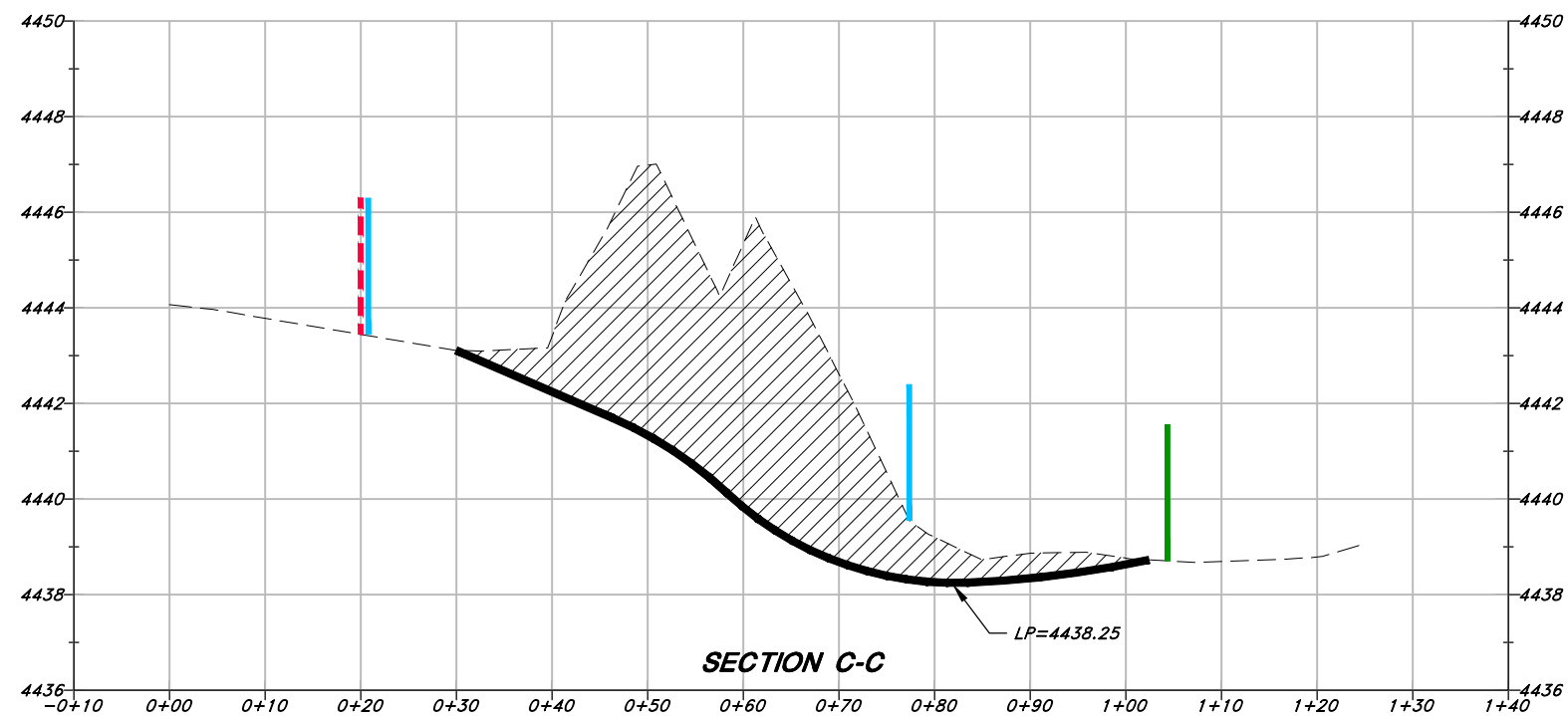
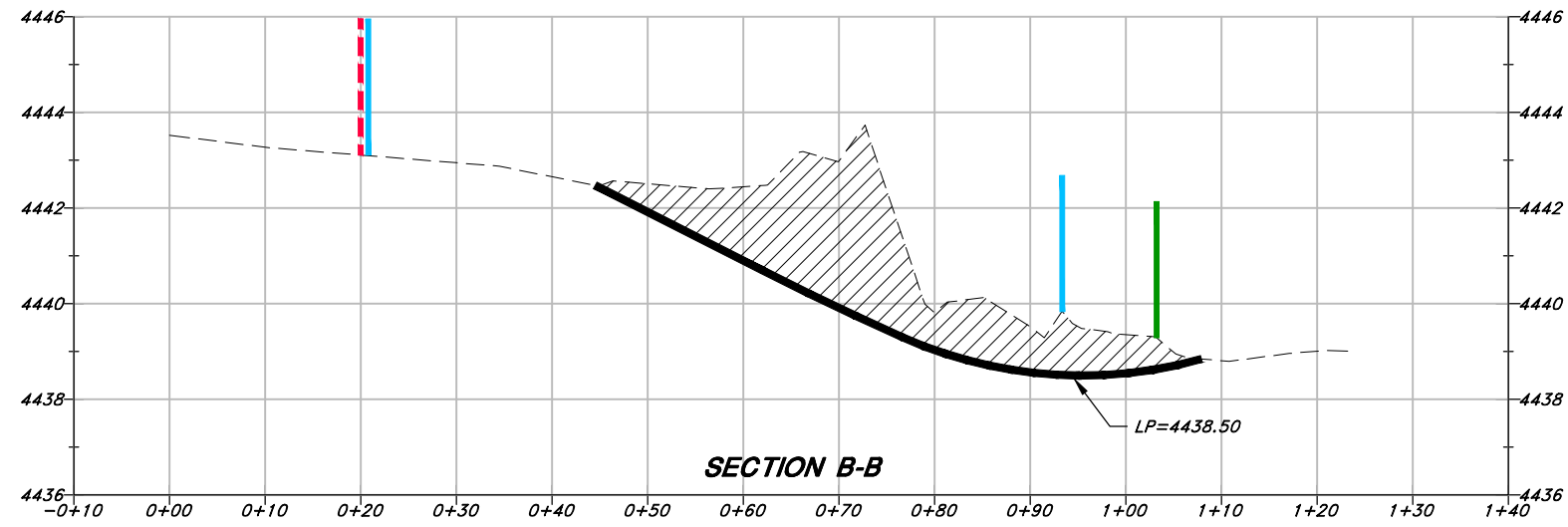
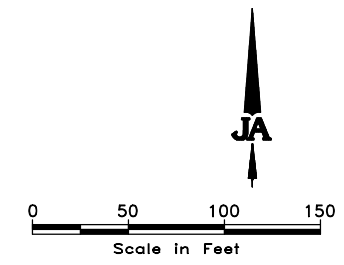
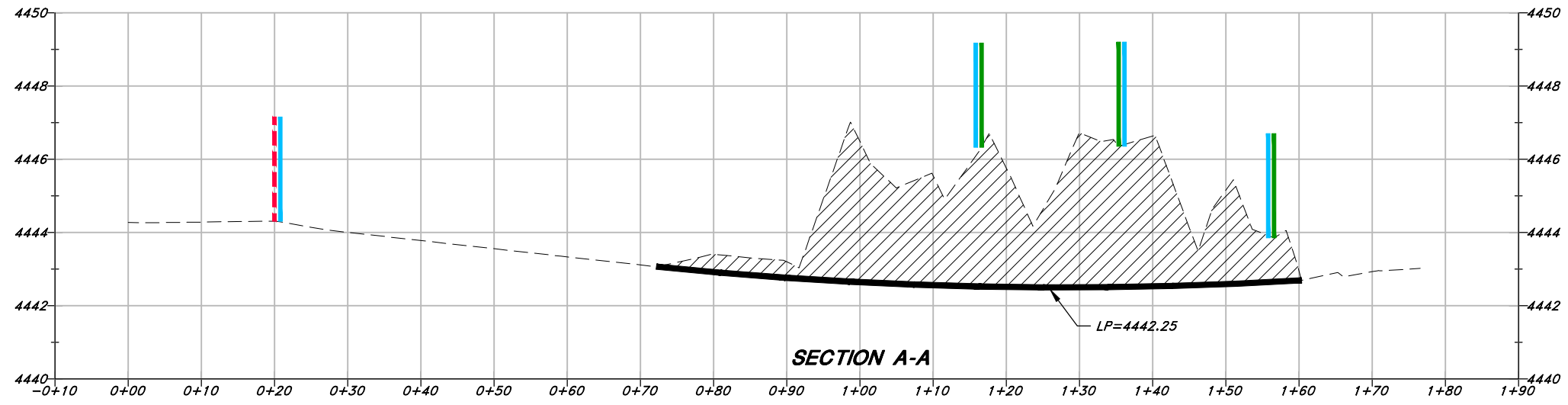


**FILL REMOVAL PLAN**

REV.	DATE	APPR.

SCALE:	BKJ DESIGNED	TIME	BKJ DRAWN	BKJ CHECKED
24" x 36" H:1"=20'				
11" x 17" H:1"=40'				





- LEGEND**
- WETLAND BOUNDARY
  - DISTURBED / FILL LIMITS
  - - - PROJECT AREA BOUNDARY
  - FILL REMOVAL
  - RESTORATION GRADE LINE

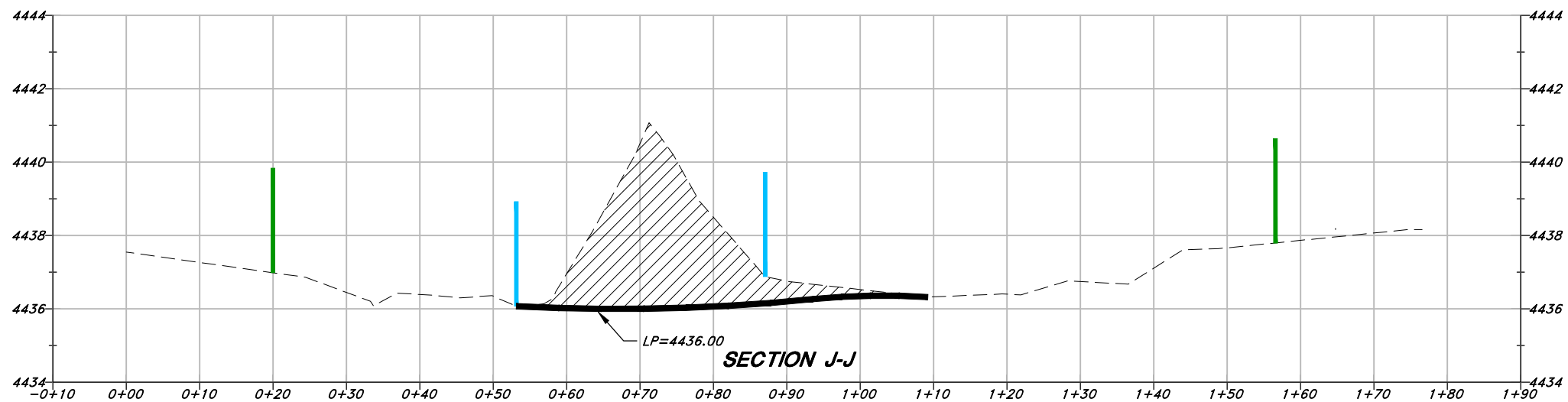
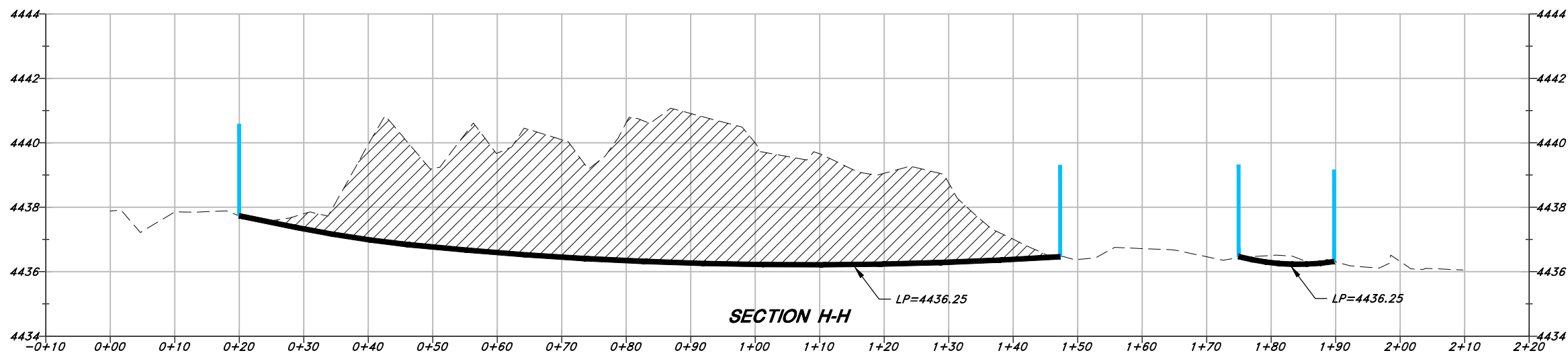
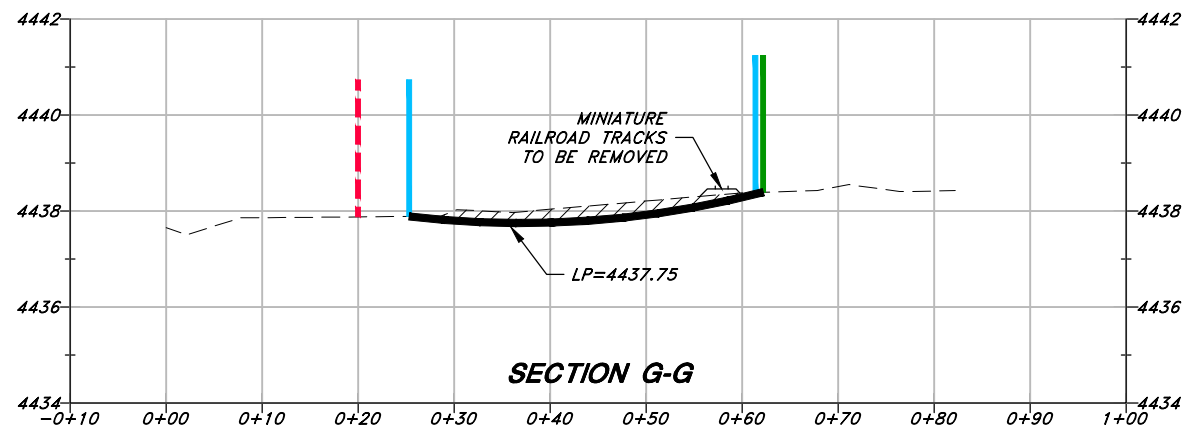
REV.	DATE	APPR.

SCALE:	BKJ	DESIGNED	TIME	BKJ	CHECKED
24" x 36"	H:1"=10'	V:1"=2'		H:1"=20'	V:1"=4'





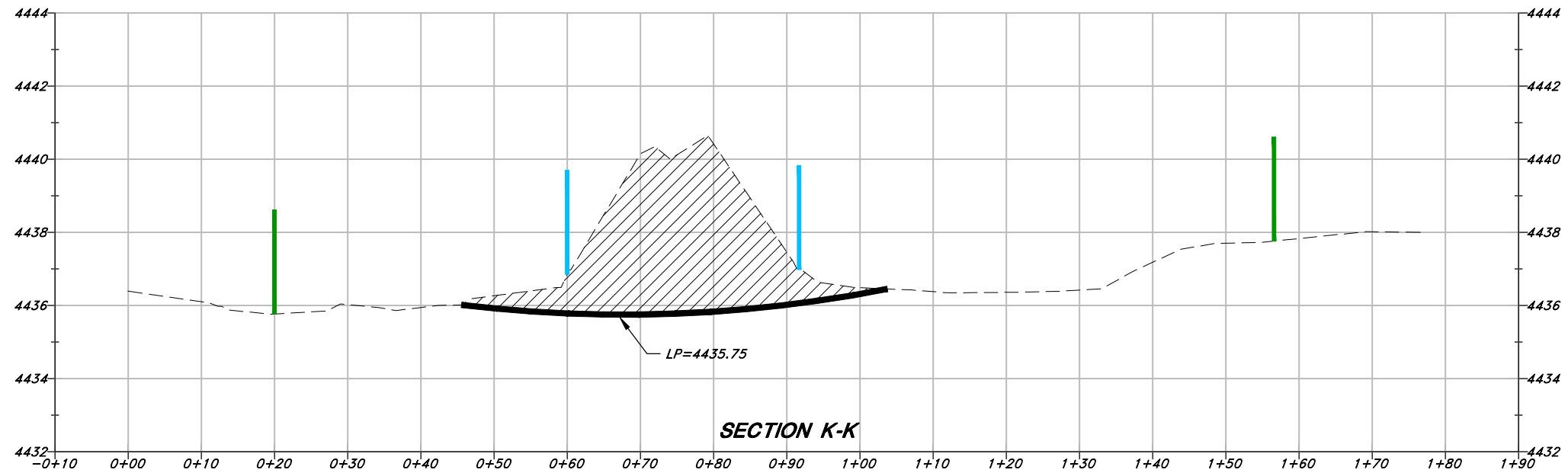
- LEGEND**
- WETLAND BOUNDARY
  - DISTURBED / FILL LIMITS
  - PROJECT AREA BOUNDARY
  - FILL REMOVAL
  - RESTORATION GRADE LINE



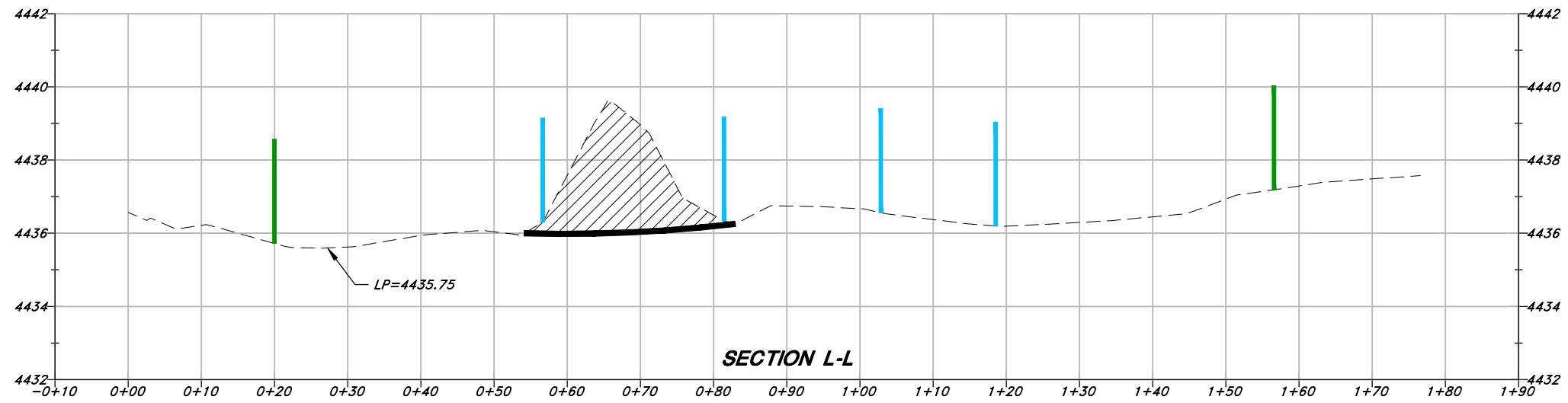
SOUTH WEBER CITY CORPORATION  
 CANYON MEADOWS PARK - WETLAND RESTORATION PLAN  
**CROSS-SECTION AND FILL REMOVAL PLAN**  
**X-SECTIONS - G-G, H-H, AND J-J**

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 South Ogden, Utah 84403  
 (801) 476-9767 www.jonescivil.com

SCALE:	24" x 36"	H:1"=10'	V:1"=2'	11" x 17"	H:1"=20'	V:1"=4'
DESIGNED	BKJ	DRAWN	BKJ	CHECKED		
REV.		DATE		APPR.		

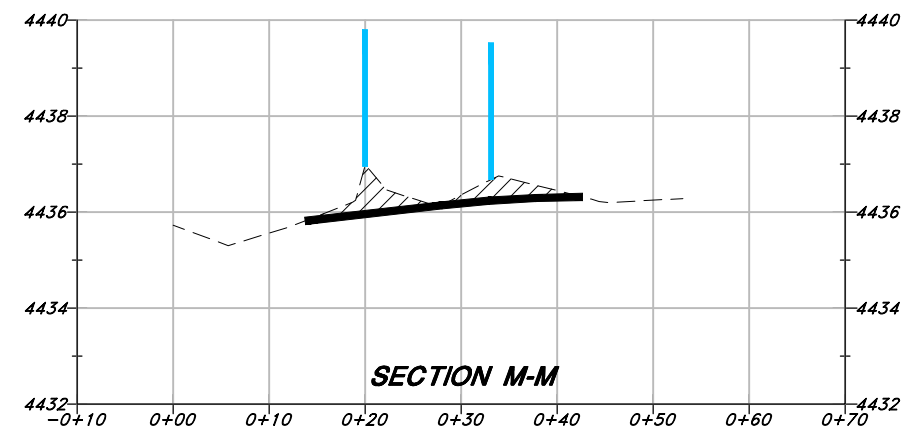


SECTION K-K

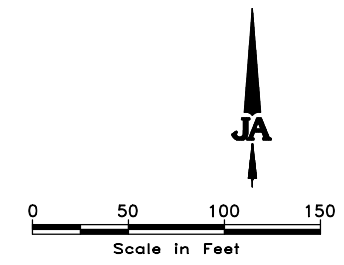


SECTION L-L

- LEGEND**
- WETLAND BOUNDARY
  - DISTURBED / FILL LIMITS
  - - - PROJECT AREA BOUNDARY
  - FILL REMOVAL
  - RESTORATION GRADE LINE



SECTION M-M



REV.	DATE	APPR.

SCALE:	BKJ	DESIGNED	TIME	BKJ	CHECKED
24" x 36"	H:V = 10'			H:V = 20'	
	V:1 = 2'			V:1 = 4'	







P1-1



P1-2



P1-3



P1-4



P1-5



P1-6



P1-PANORAMA

REV.	DATE	APPR.

BKJ DESIGNED	TIME	BKJ DRAWN	BKJ CHECKED
SCALE: 24" x 36"		11" x 17"	





P2-1



P2-2



P2-PANORAMA



P3

**SOUTH WEBER CITY CORPORATION**  
**CANYON MEADOWS PARK - WETLAND RESTORATION PLAN**  
**EXISTING CONDITIONS - PHOTOS**  
**PHOTO PAGES - P2 AND P3**

REV.	DATE	APPR.

SCALE: 24" x 36" 11" x 17"

BKJ DESIGNED	TWE DRAWN	BKJ CHECKED
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P4-1



P4-2



P4-3



P4-PANORAMA

REV.	DATE	APPR.

SCALE: 24" x 36"	BKJ DESIGNED
11" x 17"	TWE DRAWN
	BKJ CHECKED





P5-1



P5-2



P5-3



P5-4



P5-PANORAMA

REV.	DATE	APPR.

BKJ DESIGNED	TIME	BKJ DRAWN	BKJ CHECKED
SCALE: 24" x 36"	11" x 17"		





P6-1



P6-2



P6-3



P6-4



P6-PANORAMA

REV.	DATE	APPR.

SCALE: 24" x 36"	BKJ DESIGNED
11" x 17"	TIME DRAWN
	BKJ CHECKED





P7-1



P7-2



P7-3



P7-4



P7-PANORAMA

REV.	DATE	APPR.

SCALE: 24" x 36"	BKJ DESIGNED
11" x 17"	TME DRAWN
	BKJ CHECKED









P9-1



P9-2



P9-3



P9-4



P9-5



P9-6



P9-PANORAMA

REV.	DATE	APPR.

BKJ DESIGNED	TIME	BKJ DRAWN	BKJ CHECKED
SCALE: 24" x 36"		11" x 17"	





P10-1



P10-2



P10-3



P10-4



P10-5



P10-PANORAMA

REV.	DATE	APPR.

BKJ DESIGNED	TIME	BKJ DRAWN	BKJ CHECKED
SCALE: 24" x 36"	11" x 17"		

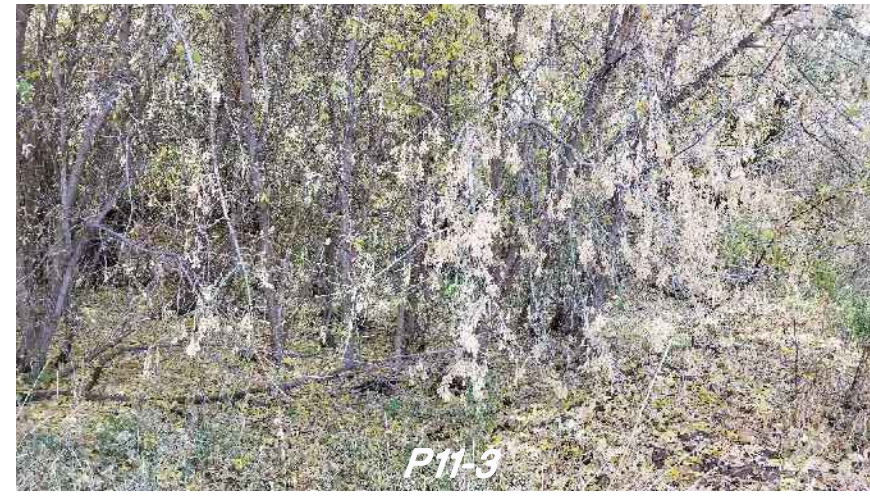




P11-1



P11-2



P11-3




P11-PANORAMA



P12



P13


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SOUTH WEBER CITY CORPORATION  
 CANYON MEADOWS PARK - WETLAND RESTORATION PLAN  
**EXISTING CONDITIONS - PHOTOS**  
**PHOTO PAGES - P11, P12, AND P13**

REV.	DATE	APPR.

SCALE: 24"x36"  
 11"x17"  
 BKJ DESIGNED  
 TIME DRAWN  
 BKJ CHECKED

SHEET:  
**PIC-10**  
 OF SHEETS





P14-1



P14-2



P14-3



P14-PANORAMA

REV.	DATE	APPR.

SCALE: 24" x 36" / 11" x 17"

BKJ DESIGNED  
 TIME DRAWN  
 BKJ CHECKED









P16-1



P16-2



P16-3



P16-4



P16-5



P16-PANORAMA

REV.	DATE	APPR.

SCALE: 24" x 36"	BKJ DESIGNED
11" x 17"	TIME DRAWN
	BKJ CHECKED





P17-1



P17-2



P17-3



P17-4



P17-5



P17-6



P17-7



P17-PANORAMA

REV.	DATE	APPR.

SCALE: 24" x 36"	BKJ DESIGNED
11" x 17"	TME DRAWN
	BKJ CHECKED









P23-1



P23-2



P23-3



P23-4



P23-PANORAMA



P24

REV.	DATE	APPR.

SCALE: 24" x 36"	BKJ DESIGNED
11" x 17"	TME DRAWN
	BKJ CHECKED





P25-1



P25-2



P25-3



P25-4



P25-PANORAMA

REV.	DATE	APPR.

BKJ DESIGNED	TIME	BKJ DRAWN	BKJ CHECKED
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SCALE:  
 24" x 36" = 11" x 17"





P26-1



P26-2



P26-3



P26-4



P26-PANORAMA

REV.	DATE	APPR.

SCALE: 24" x 36"	BKJ DESIGNED
11" x 17"	TME DRAWN
	BKJ CHECKED





P27



P28



P29-1



P29-2



P29-3



P29-PANORAMA

REV.	DATE	APPR.



## APPENDIX B - TABLES

**Table 1. Wetland Seed Mix.**

Plant Species	Wetland Indicator	Cost \$ PLS/lbs.	Seeding Rate: PLS lbs. /acre	Percent
Baltic rush ( <i>Juncus balticus</i> )	FACW	120.00	1.00	5%
Clustered fieldsedge ( <i>Carex praegracilis</i> )	FACW	110.00	2.00	10%
Seaside arrow-grass ( <i>Triglochin maritima</i> )	OBL	80.00	2.00	10%
Saltgrass ( <i>Distichlis spicata</i> )	FAC	42.00	4.00	20%
Alkaligrass ( <i>Puccinellia distans</i> )	FACW	9.00	4.00	20%
Western wheat grass ( <i>Pascopyrum smithii</i> )	FAC	8.00	5.00	25%
Alkali sacaton ( <i>Sporobolus airoides</i> )	FAC	24.00	2.00	10%
<b>Wetland seed mix rate</b>			<b>20 lbs./acre</b>	<b>100%</b>

Wetland seed available through Granite Seed Company, Lehi, Utah.

**Table 2. Upland Seed Mix.**

Plant Species	Wetland Indicator	Cost \$ PLS/lbs.	Seeding Rate: PLS lbs. /acre	Percent
Kentucky bluegrass ( <i>Poa Pratensis</i> )	FAC	3.75	2.00	20%
Streamside wild rye ( <i>Elymus lanceolatus</i> )	UPL	7.00	2.00	20%
Meadow fescue ( <i>Festuca pratense</i> )	FACU	5.00	1.50	15%
Yellow sweet clover ( <i>Melilotus officinalis</i> )	FACU	3.50	1.00	10%
Curly bluegrass ( <i>Poa secunda</i> )	FACU	9.00	1.50	15%
Slender wild rye ( <i>Elymus trachycaulus</i> )	FACU	5.00	1.50	15%
Crested wheatgrass ( <i>Agropyron cristatum</i> )	FACU	5.50	0.50	5%
<b>Upland seed mix rate</b>			<b>10 lbs./acre</b>	<b>100%</b>

Upland seed available through Granite Seed Company, Lehi, Utah.