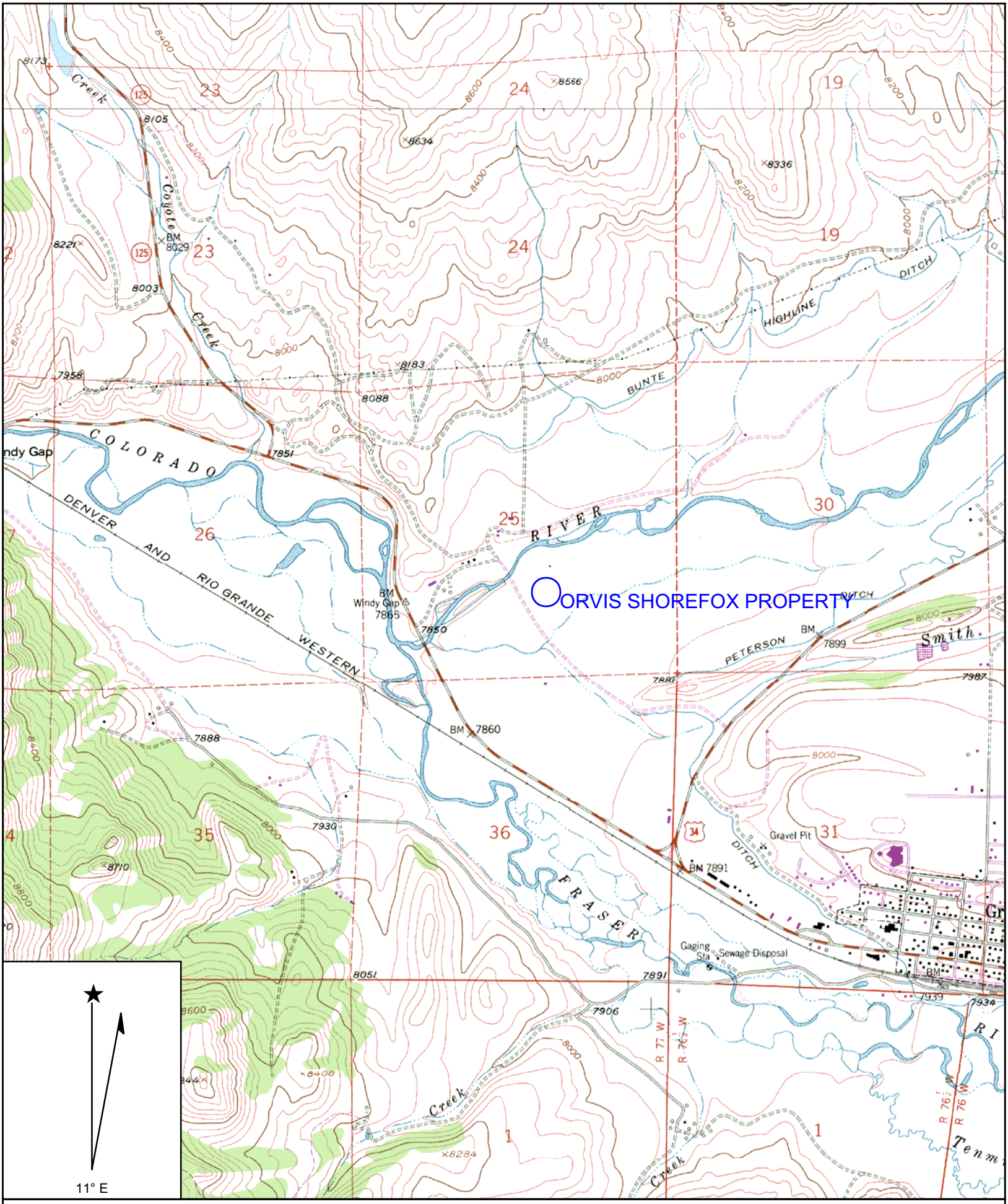
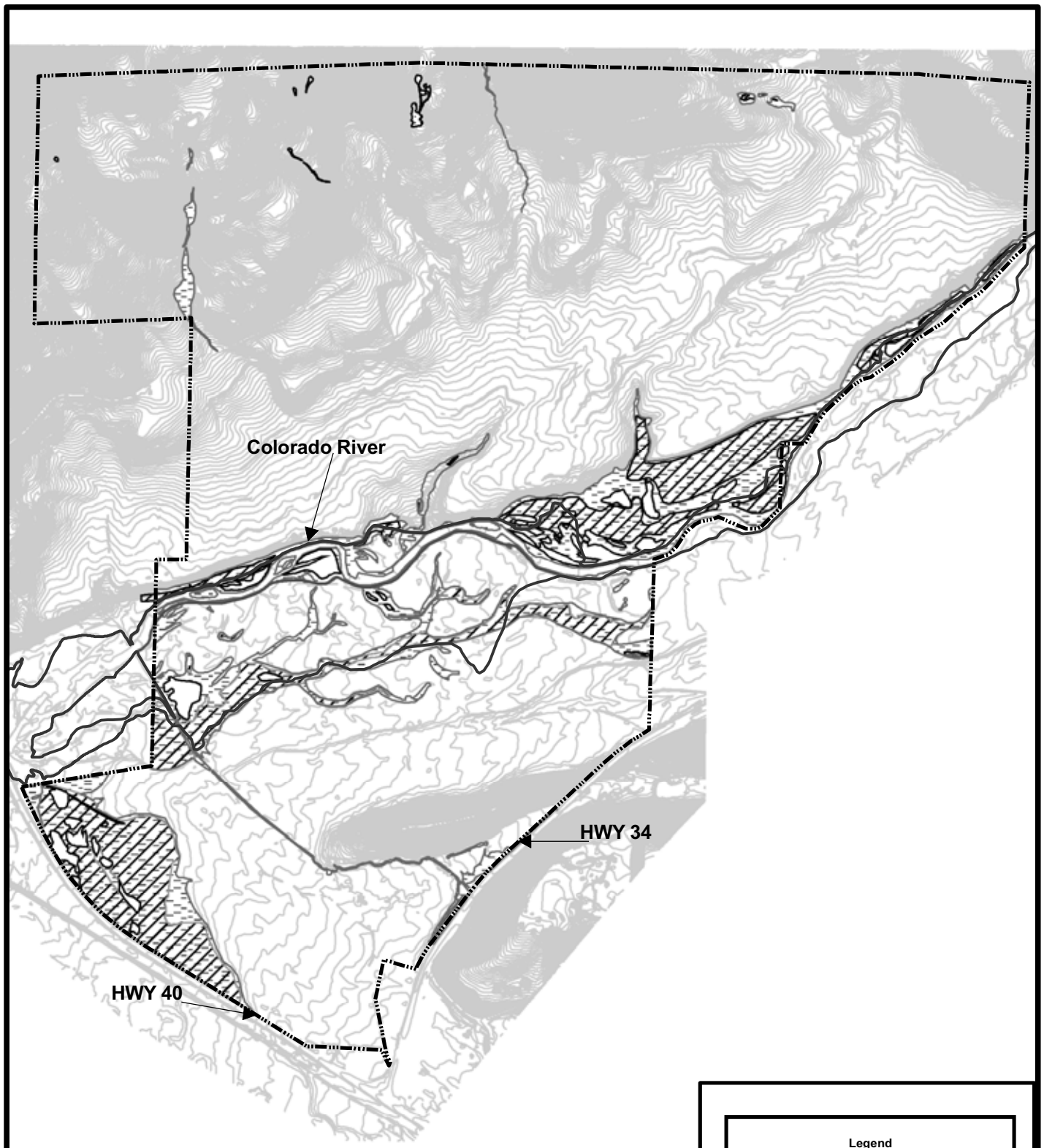


Name: GRANBY
Date: 2/23/2006
Scale: 1 inch equals 2000 feet

Location: 040° 06' 07.6" N 105° 58' 01.8" W
Caption: FIGURE 1.
ORVIS SHOREFOX
SITE LOCATION MAP

Copyright (C) 1997, Maptech, Inc.



Orvis Shorefox Project

Existing Conditions

1,500 750 0 1,500 Feet

1 inch = 1500 feet

Legend

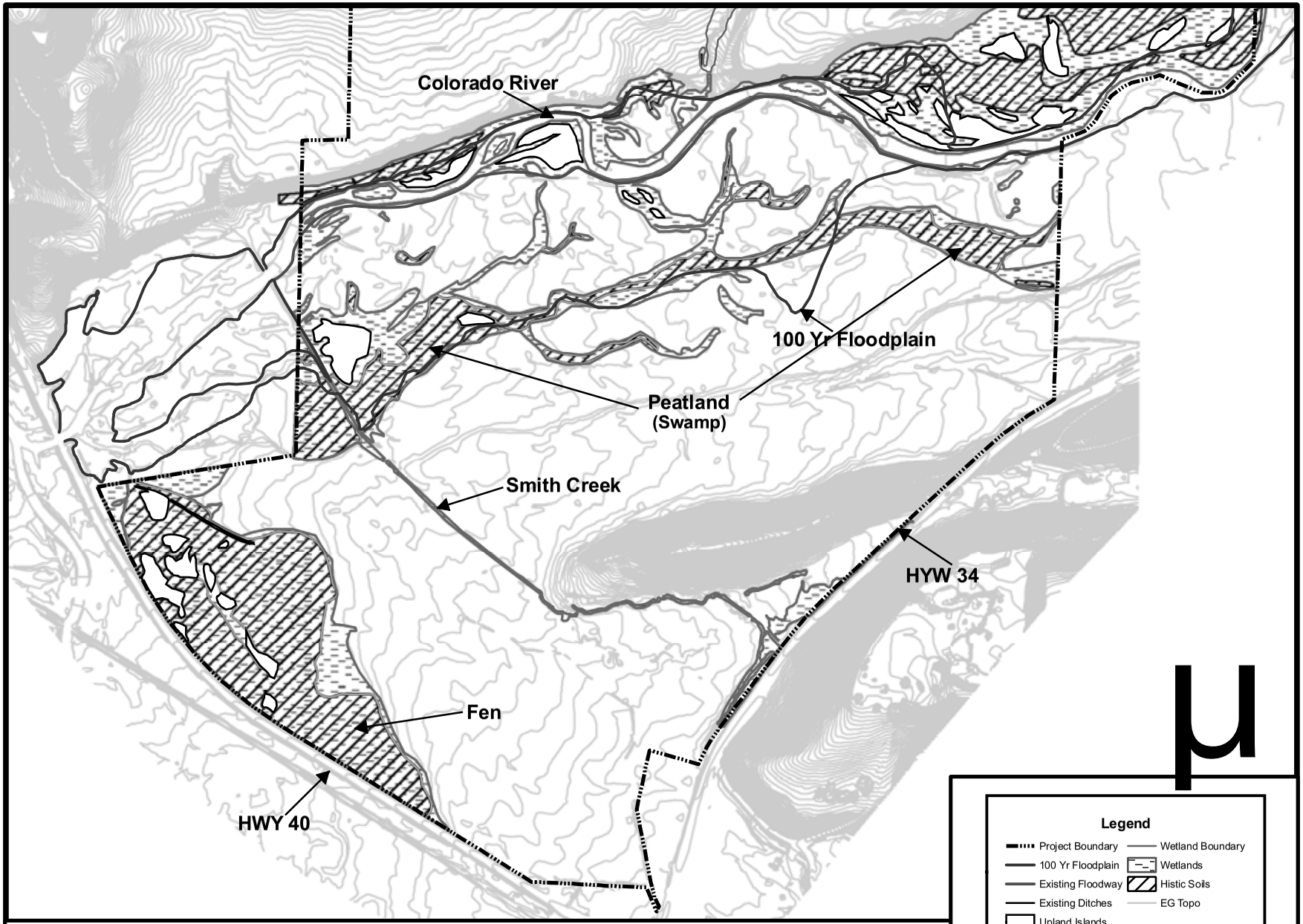
- Project Boundary
- 100yr Floodplain
- Existing Floodway
- Upland Islands
- Histic Soils
- Wetlands
- Non_Jurisdictional Wetlands
- EG Topo

Datum: NAD_1983_UTM_Zone_13N

March 2006

Claffey Ecological Consulting, Inc.

Figure 2



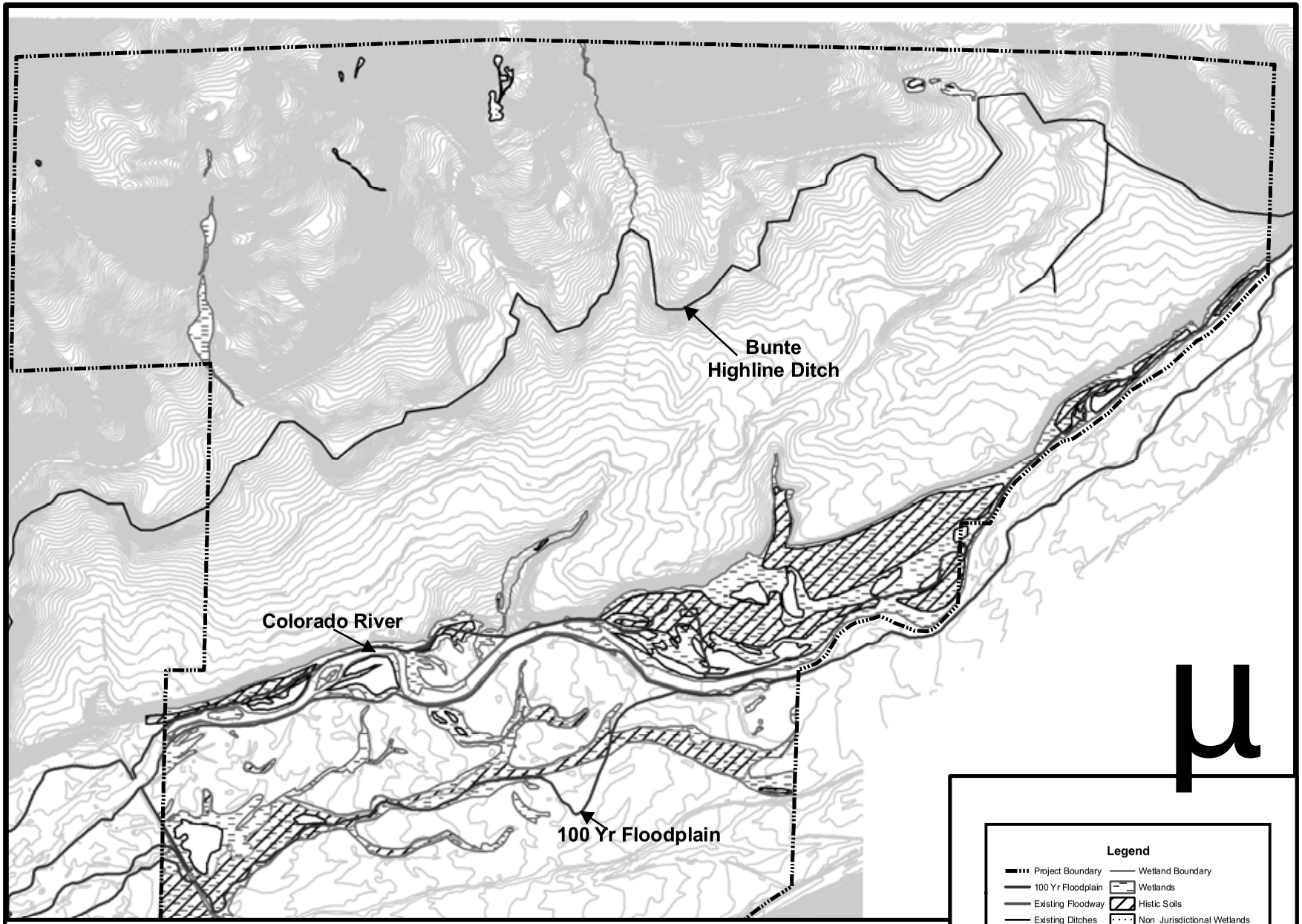
Orvis Shorefox Project
Existing Conditions South

March 2006

Claffey Ecological Consulting, Inc.

Datum: NAD_1983_UTM_Zone_13N

Figure 3

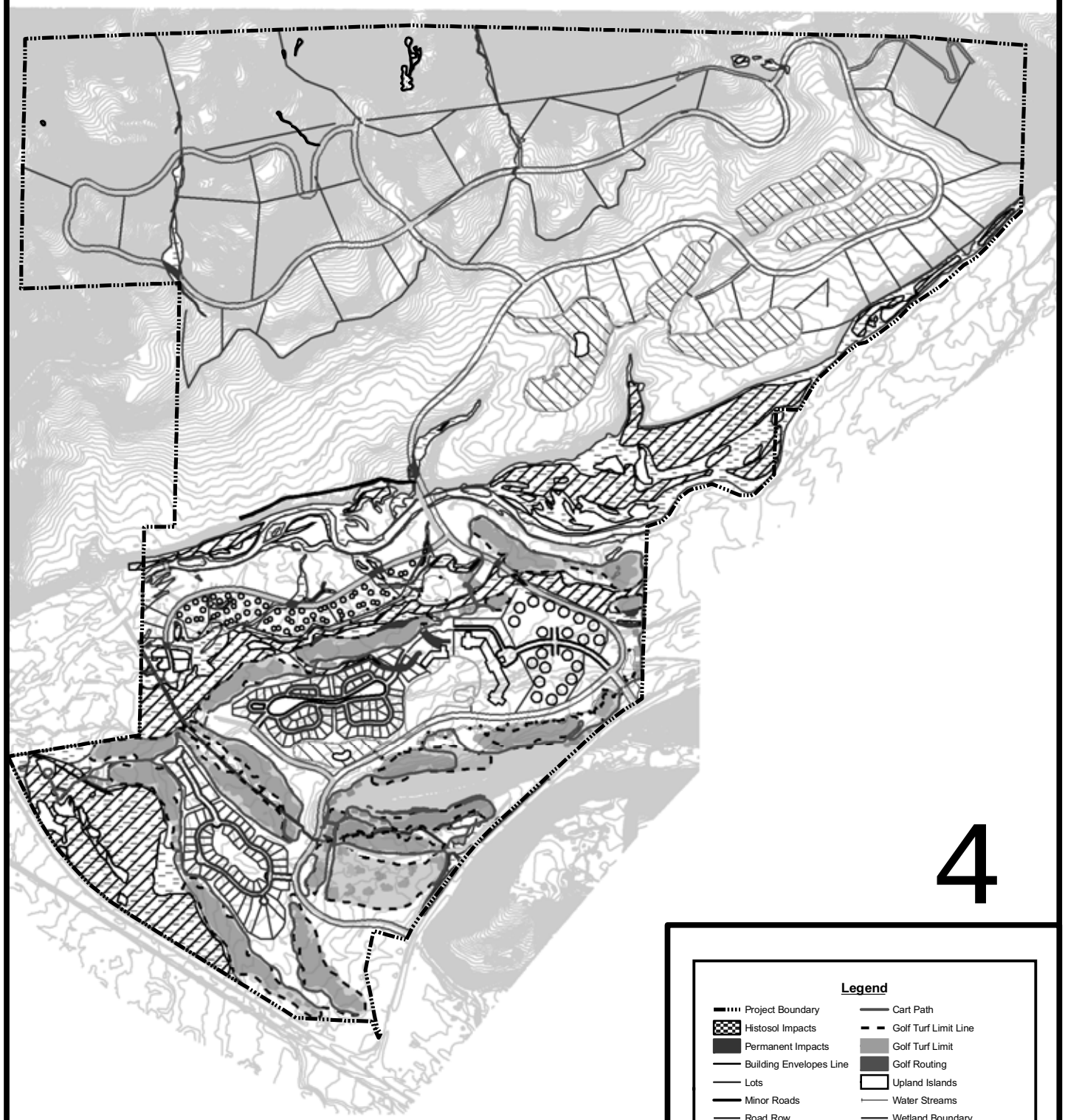


Orvis Shorefox Project
Existing Conditions North

March 2006

Claffey Ecological Consulting, Inc.

Figure 4



4

Legend

- Project Boundary
- Histosol Impacts
- Permanent Impacts
- Building Envelopes Line
- Lots
- Minor Roads
- Road Row
- Utilities Line
- Water, Lakes, Ponds
- Water, Lakes, Ponds Line
- Cart Path
- Golf Turf Limit Line
- Golf Turf Limit
- Golf Routing
- Upland Islands
- Water Streams
- Wetland Boundary
- Wetlands
- Histic Soils
- Non_Jurisdictional Wetlands
- EG Topo

Datum: NAD_1983_UTM_Zone_13N

Orvis Shorefox Project

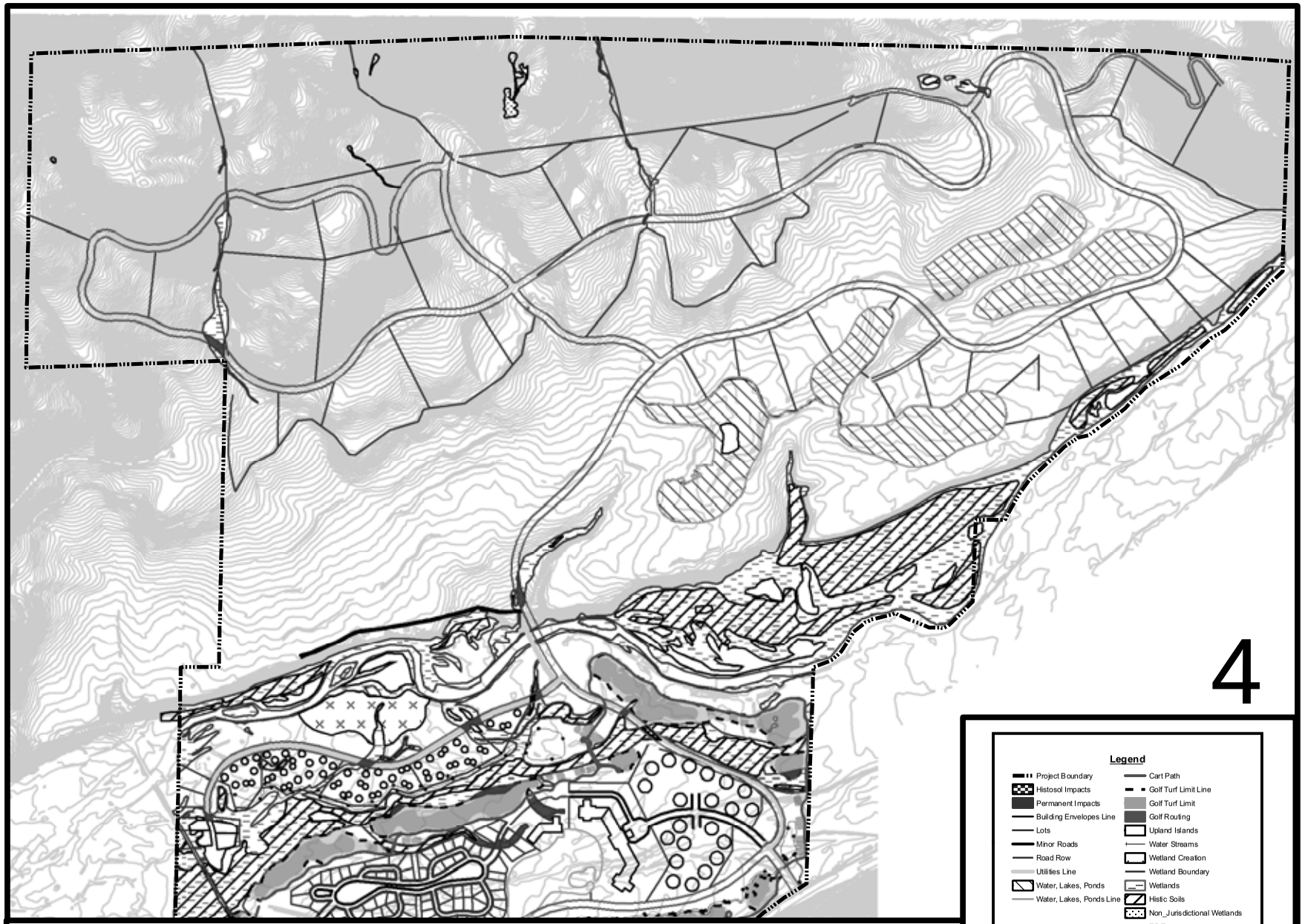
1,500 750 0 1,500 Feet

1 inch = 1500 feet

March 2006

Claffey Ecological Consulting, Inc.

Figure 5



Orvis Shorefox Project

Proposal North

March 2006

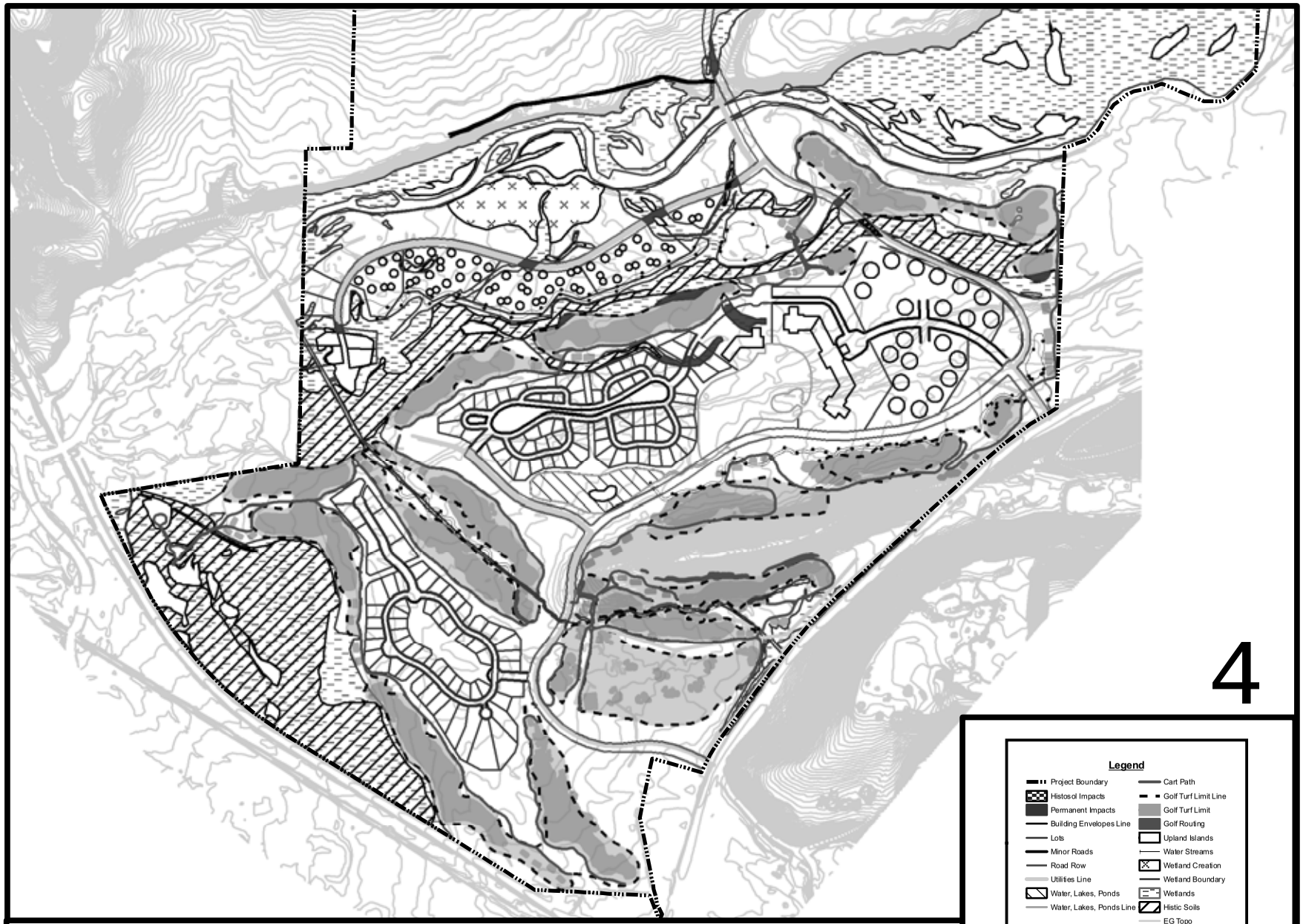
1,200 600 0 1,200 Feet

1 Inch = 1,200 Feet

Claffey Ecological Consulting, Inc.

Datum: NAD_1983_UTM_Zone_13N

Figure 6



Orvis Shorefox Project

Proposal South

March 2006

1 Inch = 1,000 Feet

Claffey Ecological Consulting, Inc.

Datum: NAD_1983_UTM_Zone_13N

Figure 7

Legend

- Project Boundary
- Permanent Impacts
- Temporary Impacts
- Building Envelopes Line
- Lots
- Minor Roads
- Utility Easements
- Cart Path
- Golf Turf Limit Line
- Golf Turf Limit
- Golf Routing
- Upland Islands
- Water Streams
- Wetland Boundary
- Wetlands
- Peatlands
- EG Topo

Orvis Shorefox Project

Southwest

400 200 0 400 Feet

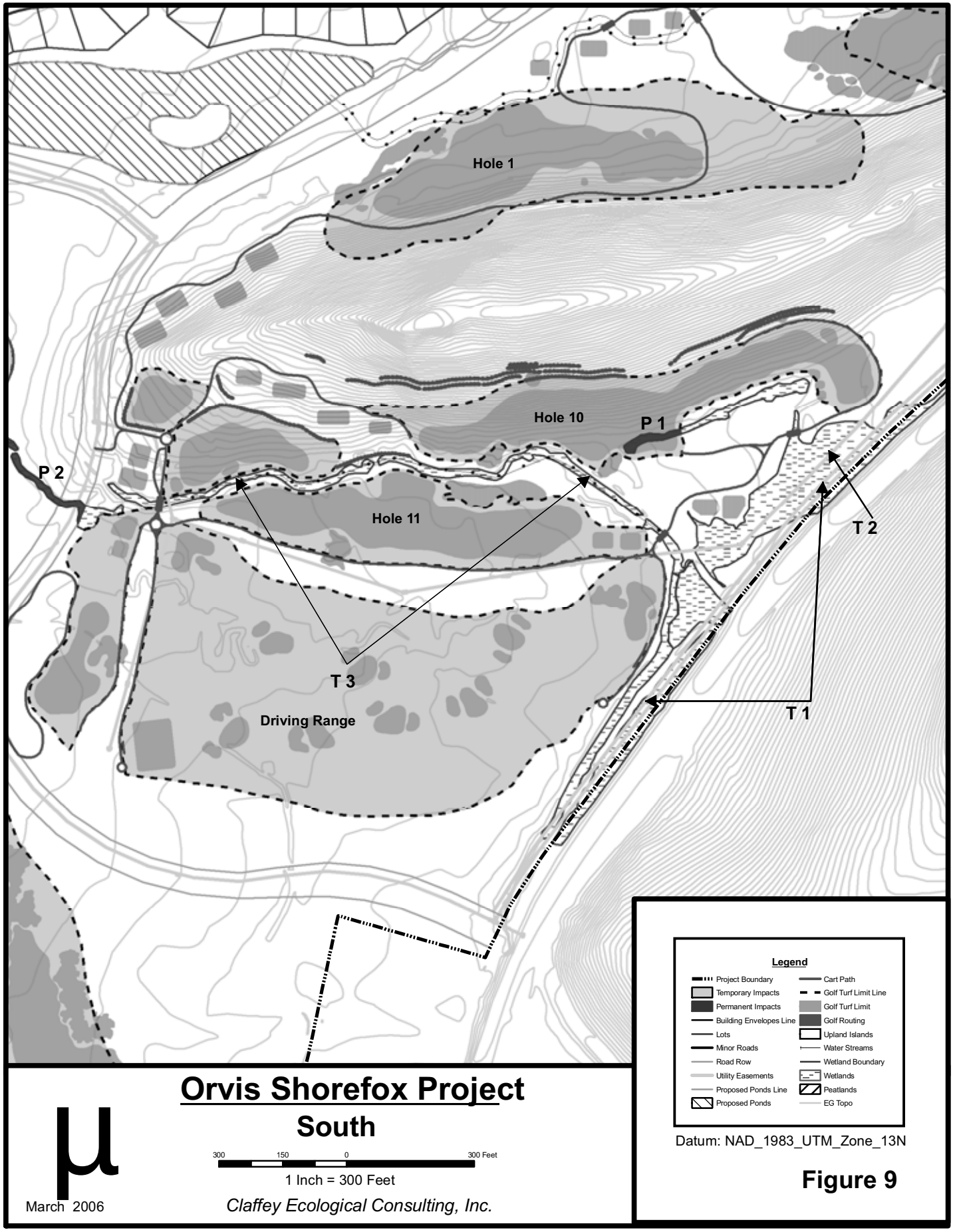
1 Inch = 400 Feet

March 2006

Claffey Ecological Consulting, Inc.

Datum: NAD_1983_UTM_Zone_13N

Figure 8



Orvis Shorefox Project

South

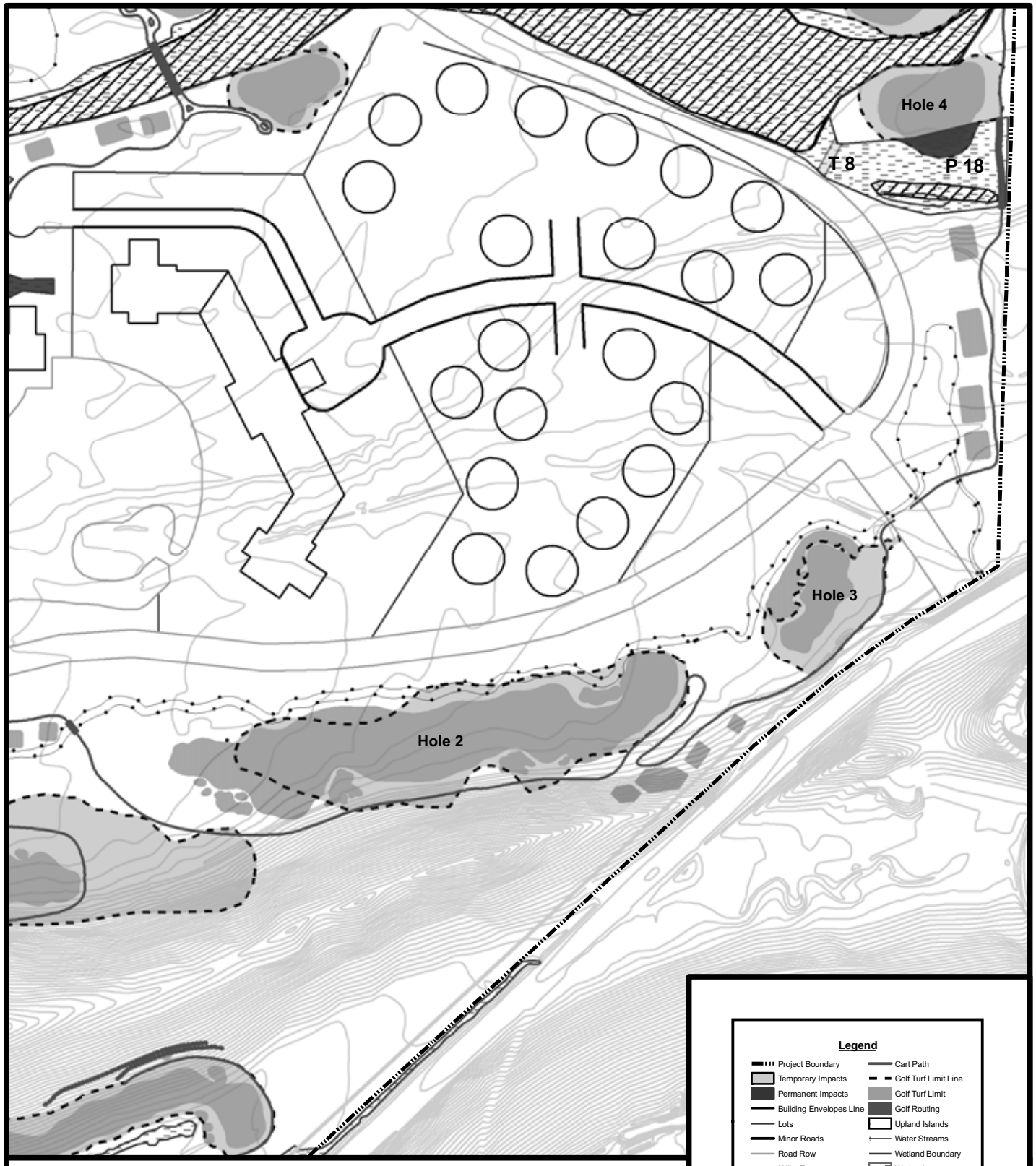
1 Inch = 300 Feet

Datum: NAD_1983_UTM_Zone_13N

Figure 9

March 2006

Claffey Ecological Consulting, Inc.



Legend

- Project Boundary
- Temporary Impacts
- Permanent Impacts
- Building Envelopes Line
- Lots
- Minor Roads
- Road Row
- Utility Easements
- Proposed Ponds Line
- Proposed Ponds
- Cart Path
- Golf Turf Limit Line
- Golf Turf Limit
- Golf Routing
- Upland Islands
- Water Streams
- Wetland Boundary
- Wetlands
- Peatlands
- EG Topo

Datum: NAD_1983_UTM_Zone_13N

Orvis Shorefox Project

Southeast

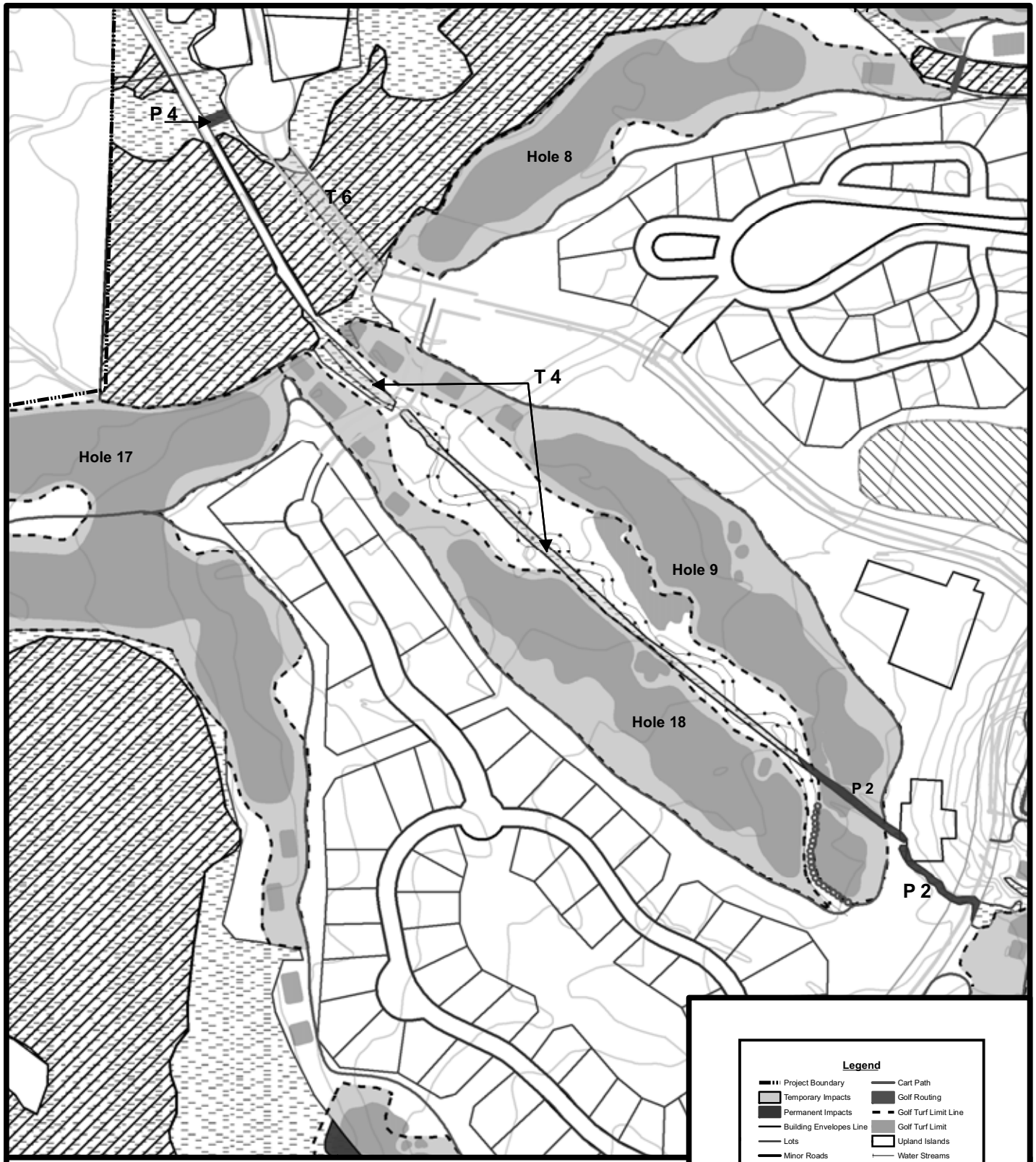
300 150 0 300 Feet

1 Inch = 300 Feet

March 2006

Claffey Ecological Consulting, Inc.

Figure 10



Legend

- Project Boundary
- Temporary Impacts
- Permanent Impacts
- Building Envelopes Line
- Lots
- Minor Roads
- Road Row
- Utility Easements
- Proposed Ponds Line
- Proposed Ponds
- Cart Path
- Golf Routing
- Golf Turf Limit Line
- Golf Turf Limit
- Upland Islands
- Water Streams
- Wetland Boundary
- Wetlands
- Peatlands
- EG Topo

Orvis Shorefox Project

South Central West

300 150 0 300 Feet

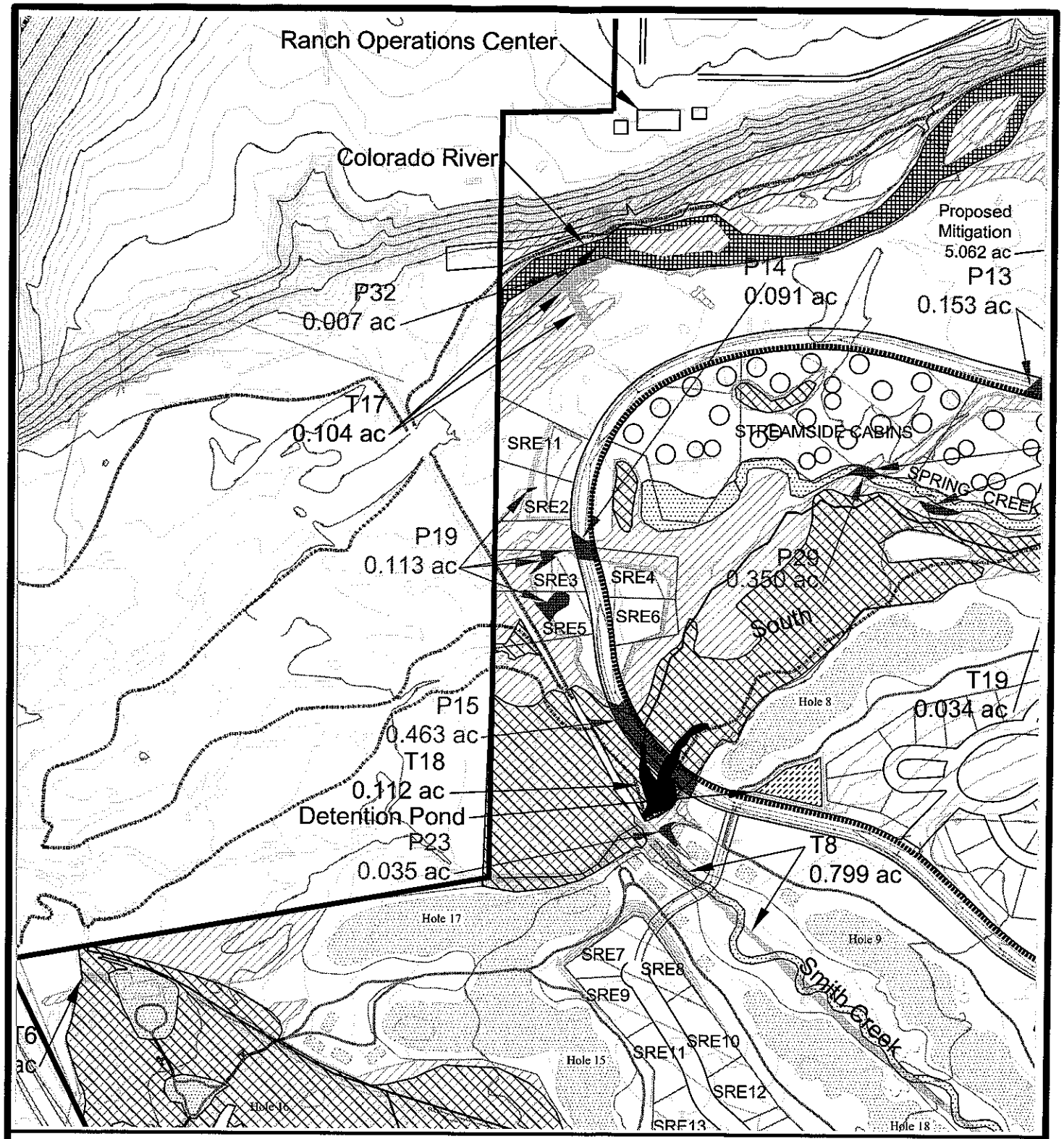
1 Inch = 300 Feet

March 2006

Claffey Ecological Consulting, Inc.

Datum: NAD_1983_UTM_Zone_13N

Figure 11



Orvis Shorefox Project

Alternate Development Plan

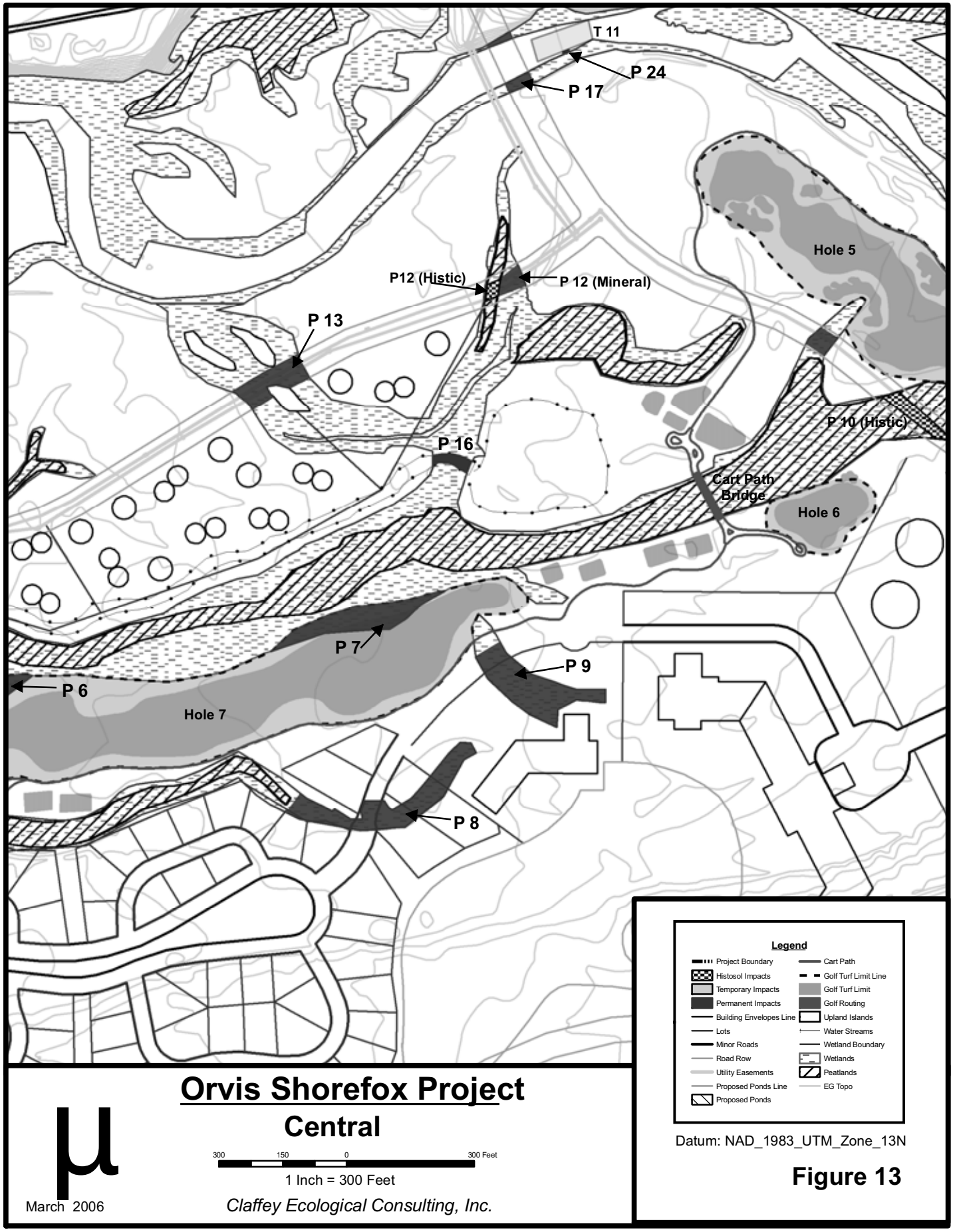
Scale: 1"=400'

Carroll & Lange Inc
Professional Engineers & Land Surveyors
165 South Union Blvd., Suite 156
Lakewood, Colorado 80228
(303) 980-0200

March 2006

Claffey Ecological Consulting, Inc.

Figure 12



Orvis Shorefox Project

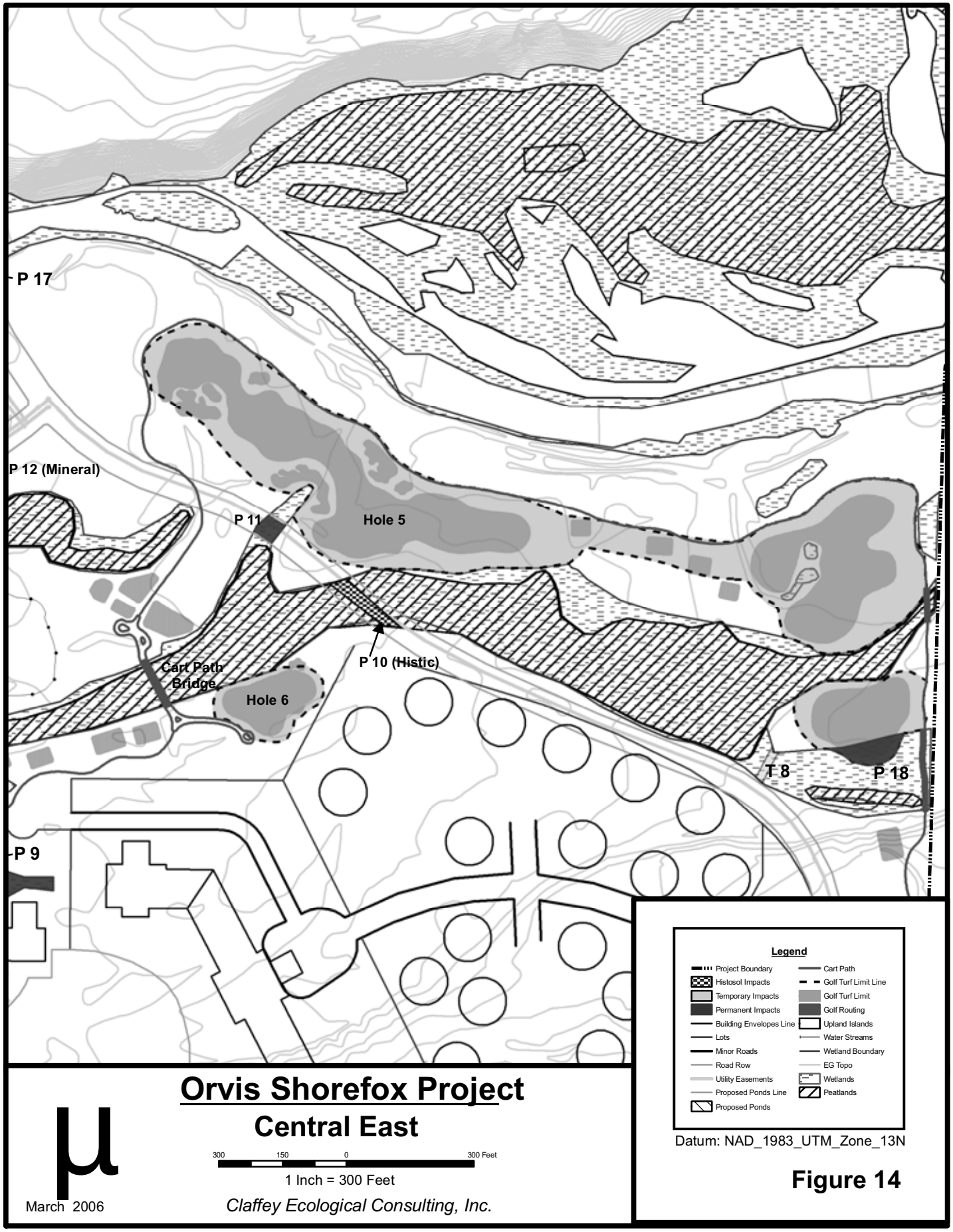
Central

March 2006

Claffey Ecological Consulting, Inc.

Datum: NAD_1983_UTM_Zone_13N

Figure 13



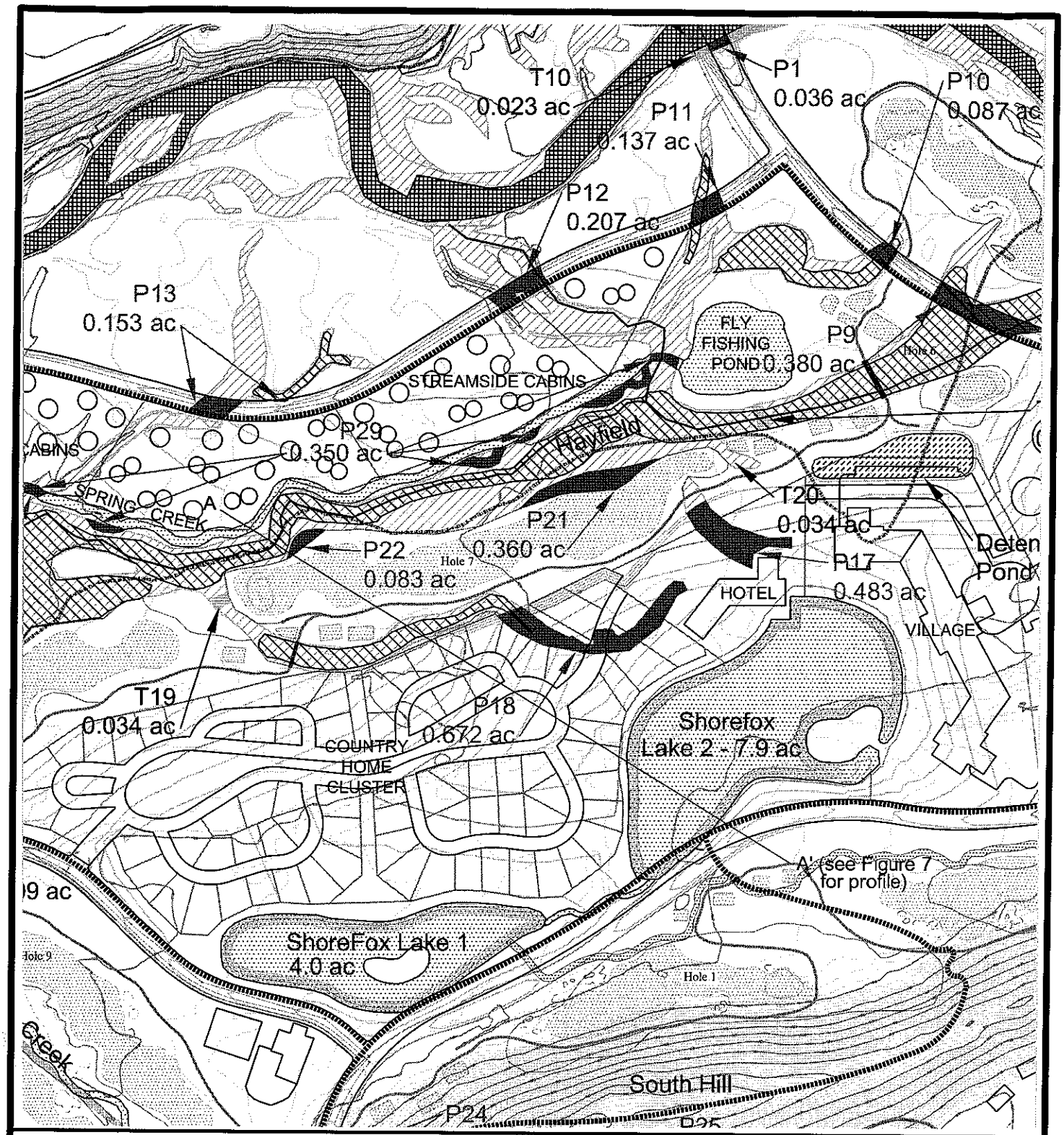
Orvis Shorefox Project

Central East

March 2006

Claffey Ecological Consulting, Inc.

Figure 14



Orvis Shorefox Project

Alternate Development Plan

Scale: 1"=400'

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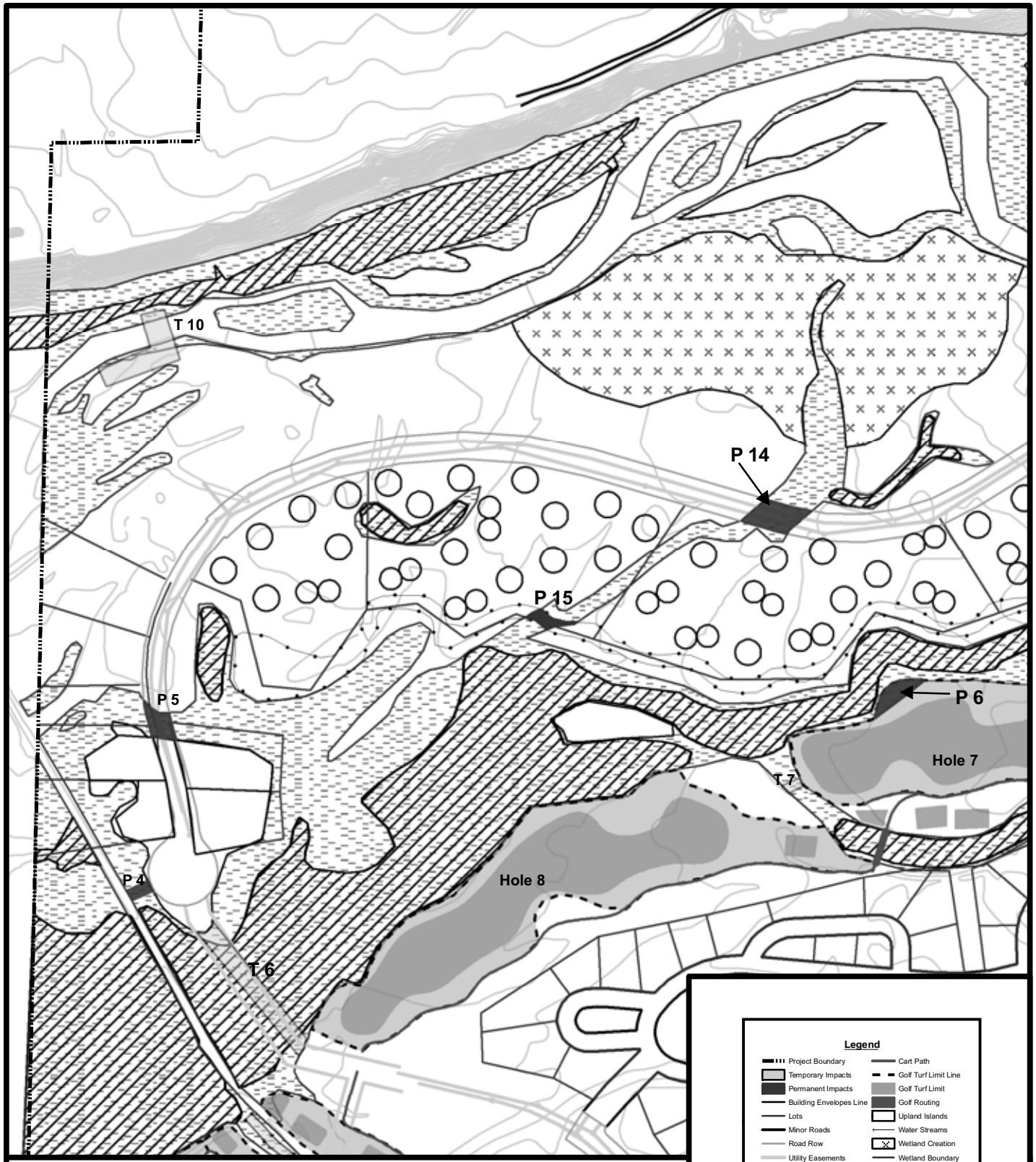
(303) 980-0200

March 2006

Claffey Ecological Consulting, Inc.

Figure 15



Legend

- Project Boundary
- Temporary Impacts
- Permanent Impacts
- Building Envelopes Line
- Lots
- Minor Roads
- Road Row
- Utility Easements
- Proposed Ponds Line
- Proposed Ponds
- Cart Path
- Golf Turf Limit Line
- Golf Turf Limit
- Golf Routing
- Upland Islands
- Water Streams
- Wetland Creation
- Wetland Boundary
- Wetlands
- Peatlands
- EG Topo

Datum: NAD_1983_UTM_Zone_13N

Orvis Shorefox Project

North Central West

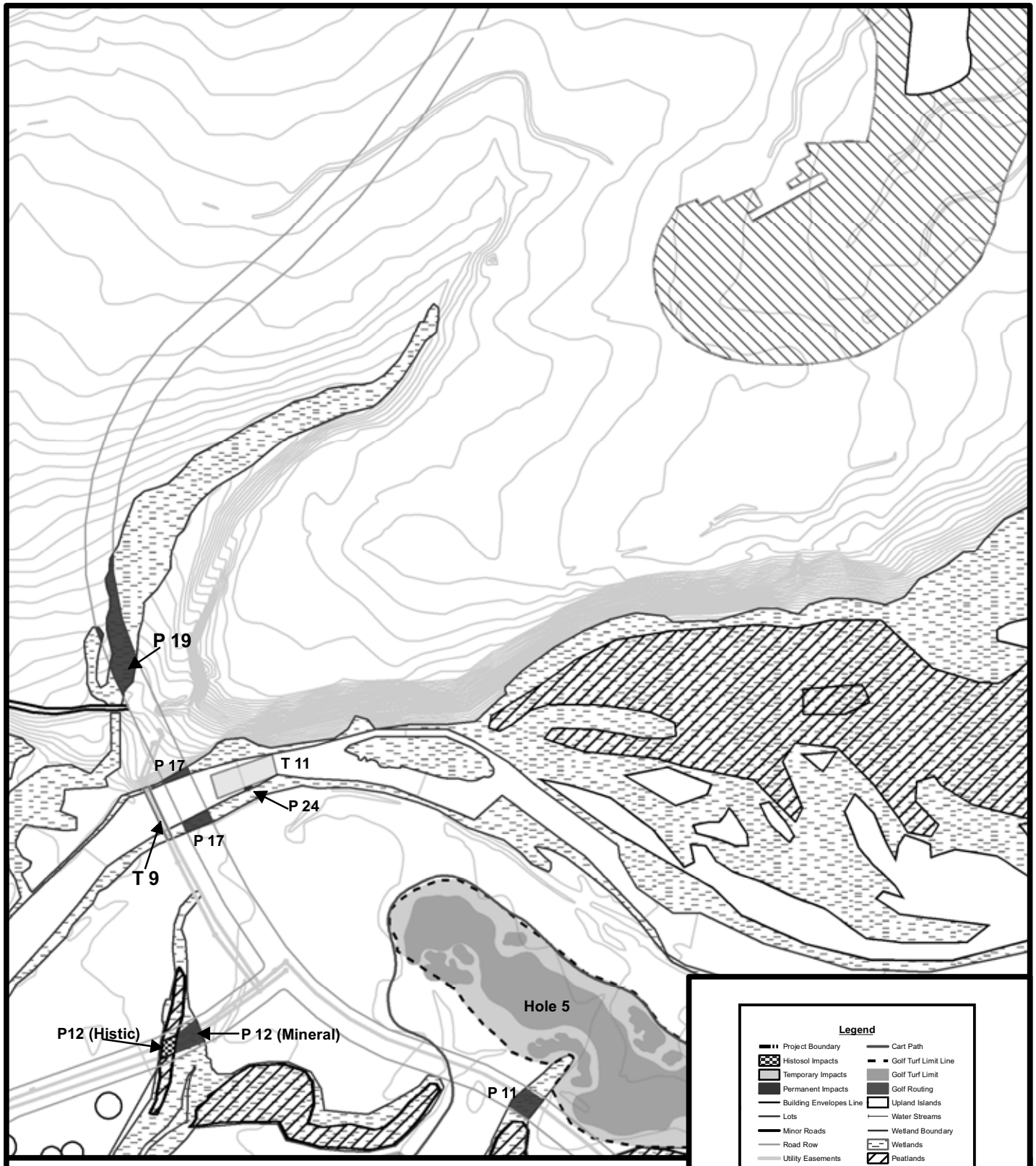
300 150 0 300 Feet

1 Inch = 300 Feet

March 2006

Claffey Ecological Consulting, Inc.

Figure 16



Orvis Shorefox Project

Central North

300 150 0 300 Feet

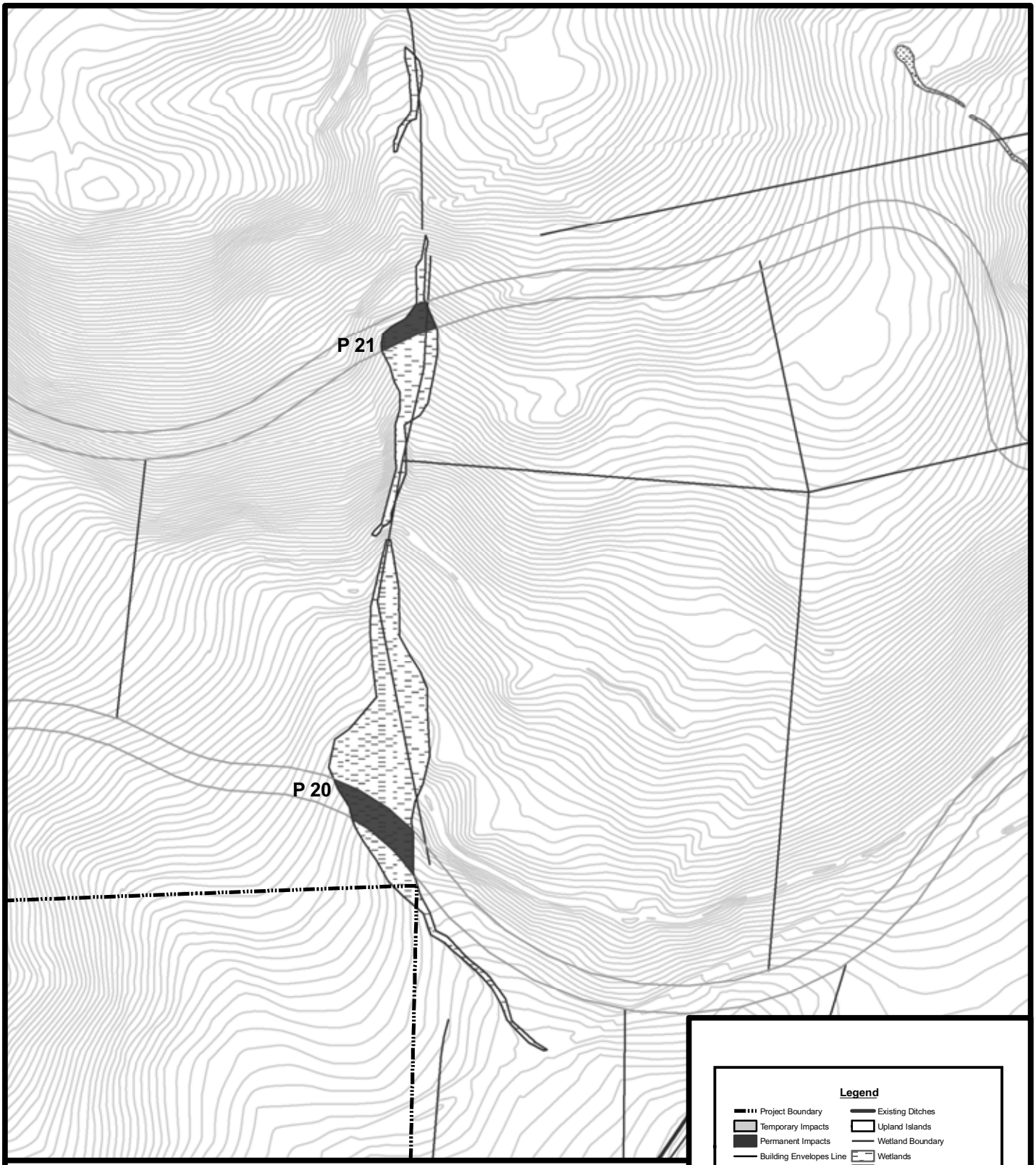
1 Inch = 300 Feet

March 2006

Claffey Ecological Consulting, Inc.

Datum: NAD_1983_UTM_Zone_13N

Figure 17



Orvis Shorefox Project

North West

300 150 0 300 Feet

1 Inch = 300 Feet

March 2006

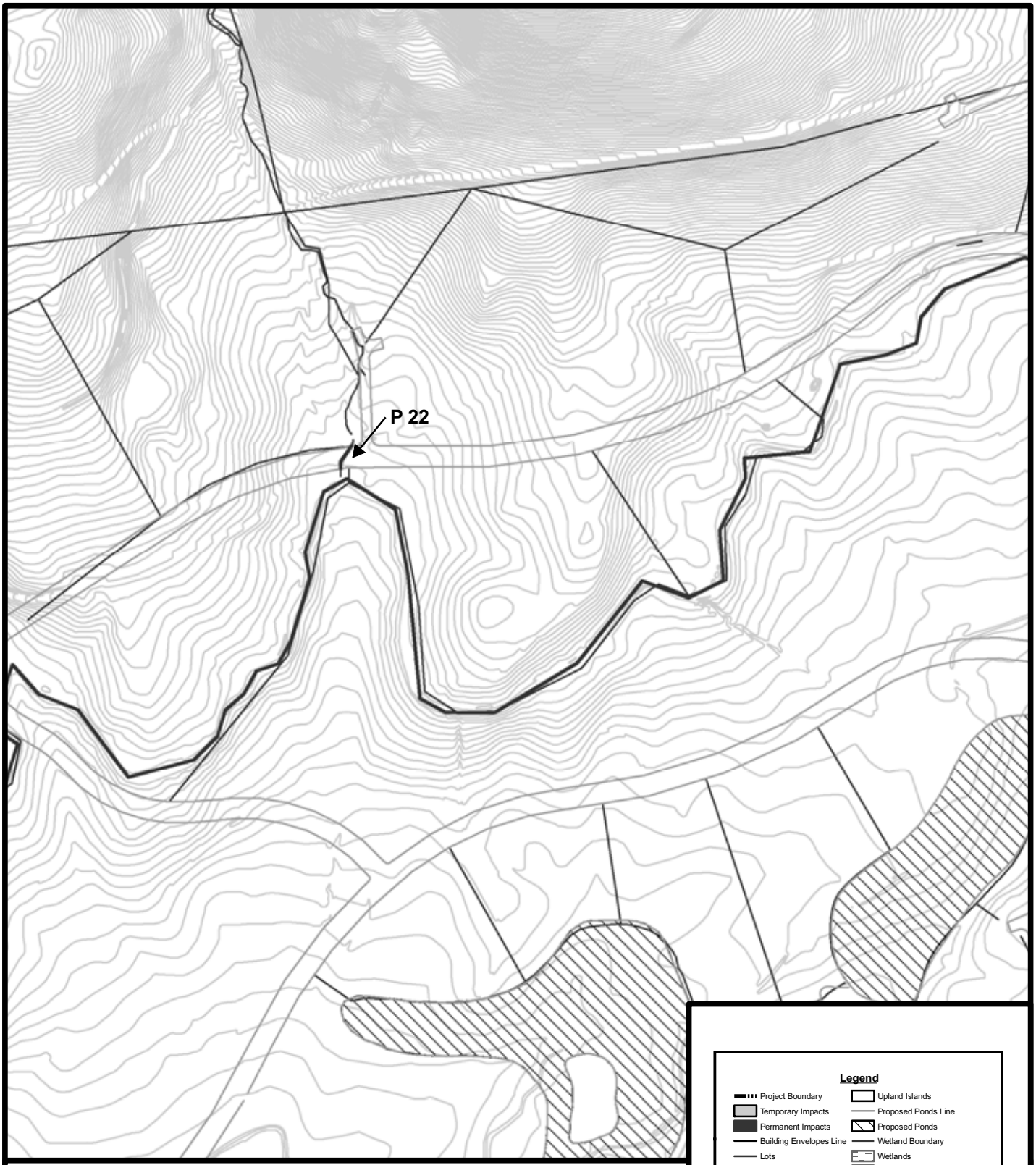
Claffey Ecological Consulting, Inc.

Legend

- Project Boundary
- Temporary Impacts
- Permanent Impacts
- Building Envelopes Line
- Lots
- Minor Roads
- Road Row
- Existing Ditches
- Upland Islands
- Wetland Boundary
- Wetlands
- Peatlands
- Non- Jurisdictional Wetlands
- EG Topo

Datum: NAD_1983_UTM_Zone_13N

Figure 18



Legend

- Project Boundary
- Temporary Impacts
- Permanent Impacts
- Building Envelopes Line
- Lots
- Minor Roads
- Road Row
- Existing Ditches
- Upland Islands
- Proposed Ponds Line
- Proposed Ponds
- Wetland Boundary
- Wetlands
- Peatlands
- Non- Jurisdictional Wetlands
- EG Topo

Datum: NAD_1983_UTM_Zone_13N

Orvis Shorefox Project

North Central

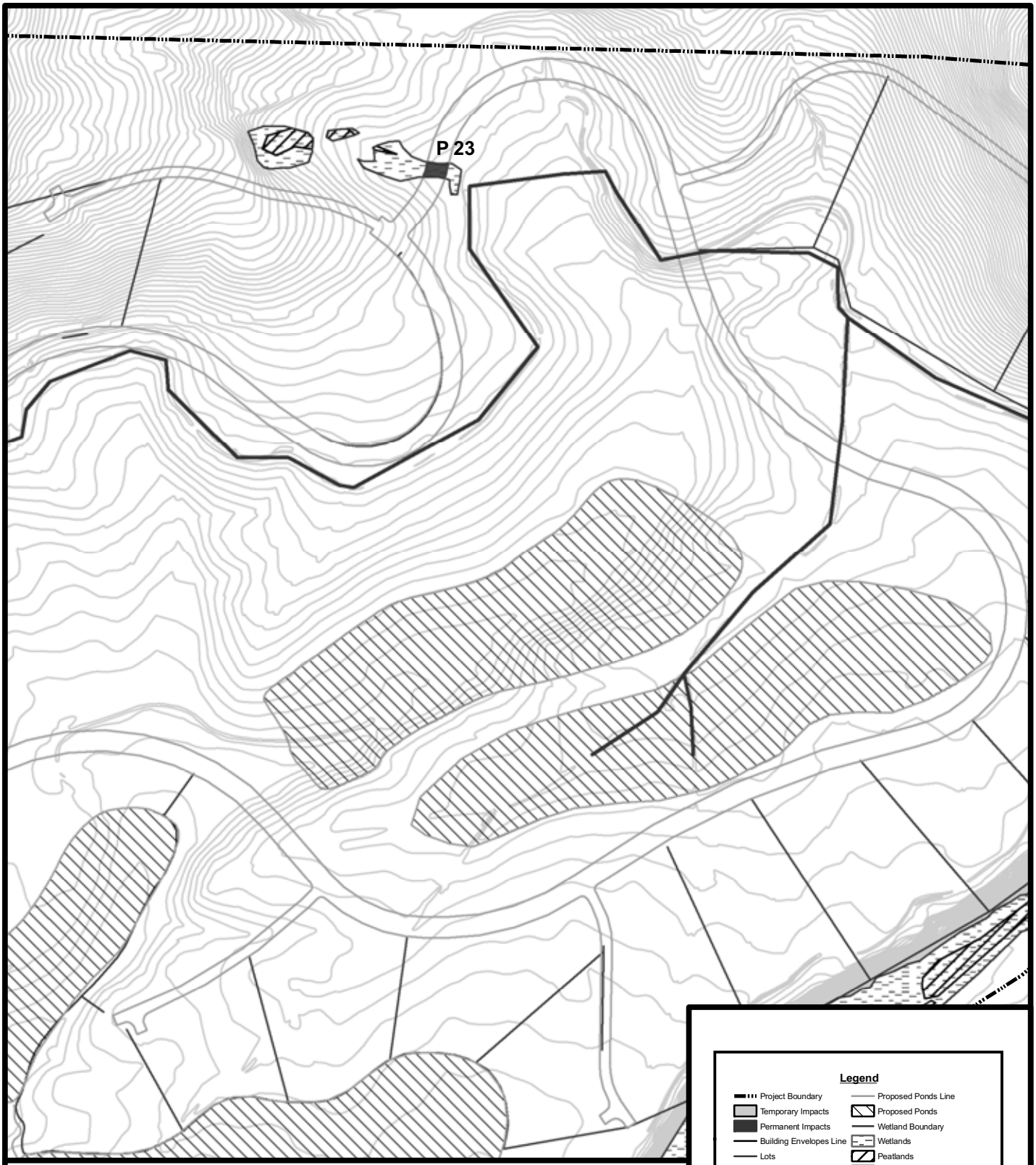
400 200 0 400 Feet

1 Inch = 400 Feet

March 2006

Claffey Ecological Consulting, Inc.

Figure 19



Orvis Shorefox Project

North East

400 200 0 400 Feet

1 Inch = 400 Feet

March 2006

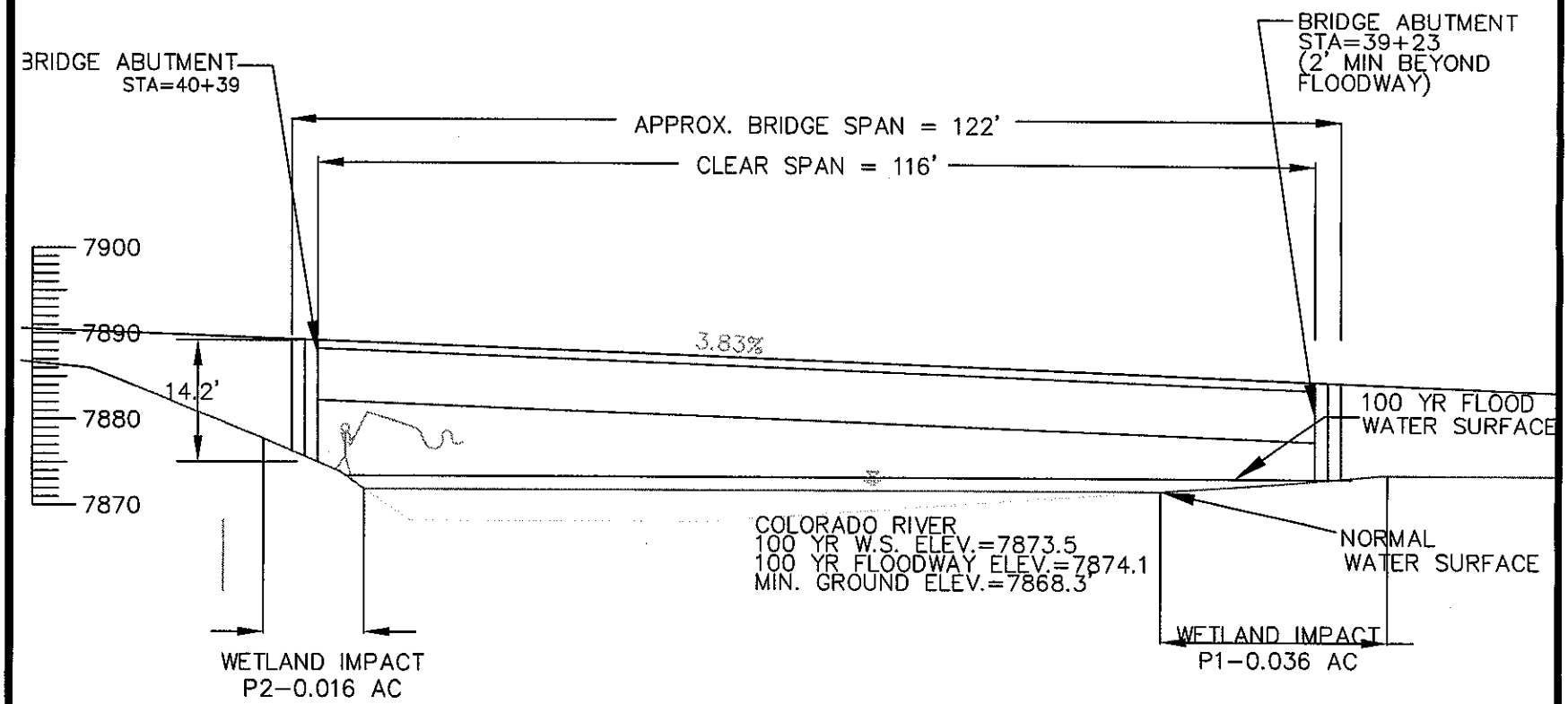
Claffey Ecological Consulting, Inc.

Legend

- Project Boundary
- Temporary Impacts
- Permanent Impacts
- Building Envelopes Line
- Lots
- Minor Roads
- Road Row
- Existing Ditches
- Proposed Ponds Line
- Proposed Ponds
- Wetland Boundary
- Wetlands
- Peatlands
- Non- Jurisdictional Wetlands
- EG Topo

Datum: NAD_1983_UTM_Zone_13N

Figure 20



Orvis Shorefox Project
Bridge Profile

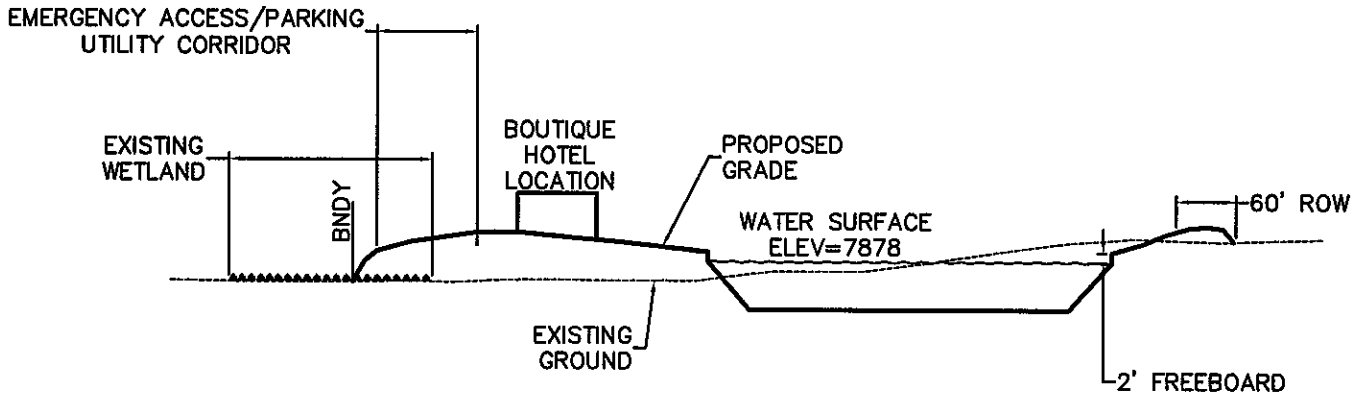
SCALE: 1" = 20'

Carroll & Lange inc
Professional Engineers & Land Surveyors
165 South Union Blvd., Suite 156
Lakewood, Colorado 80228
(303) 980-0200

March 2006

Claffey Ecological Consulting, Inc.

Figure 21



Orvis Shorefox Project N.T.S.

Parking / Emergency Access / Utility Corridor and Hotel Fill Section

March 2006

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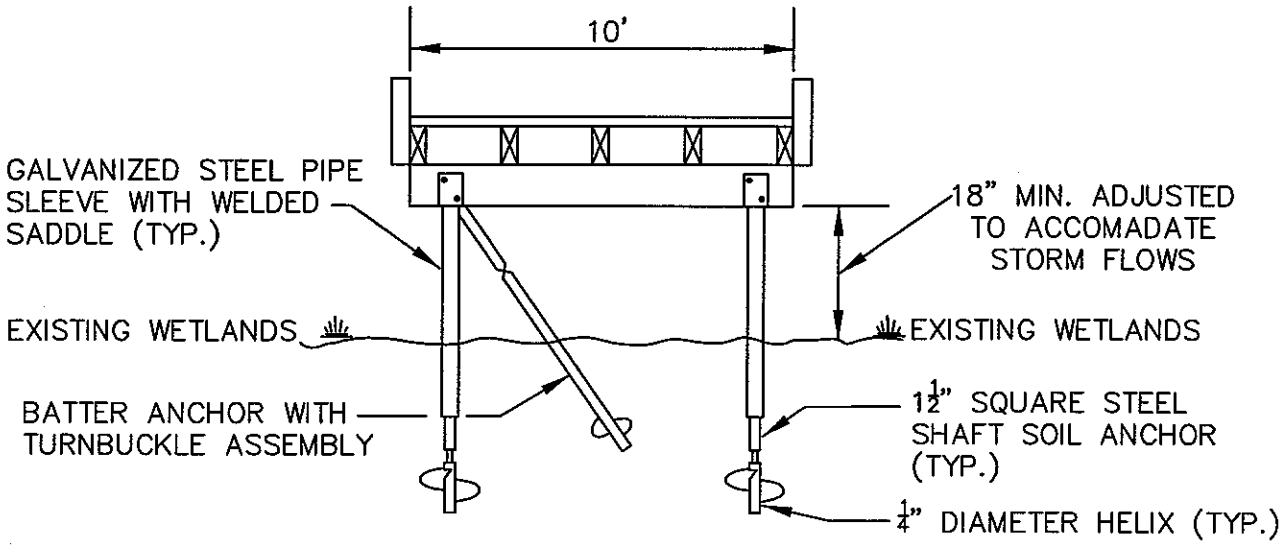
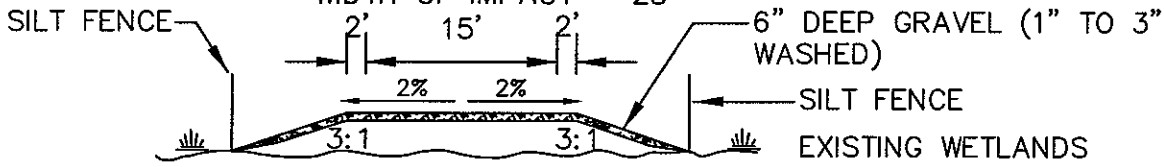
Carroll & Lange inc
Professional Engineers & Land Surveyors
165 South Union Blvd., Suite 156
Lakewood, Colorado 80228
(303) 980-0200

Figure 22

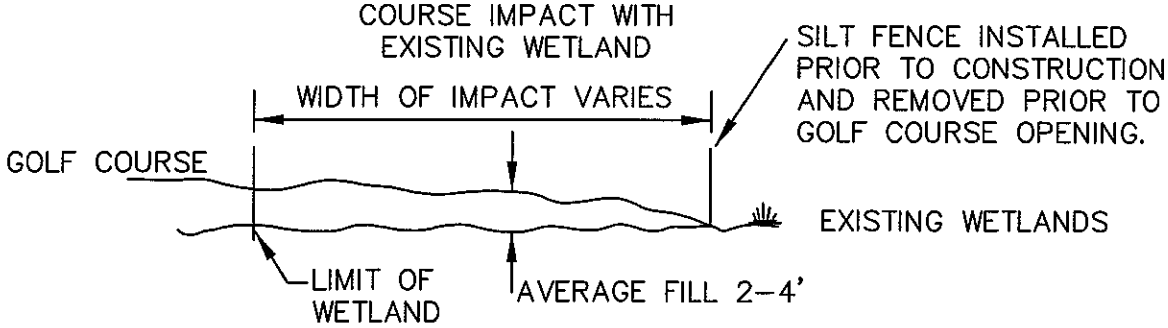
GOLF CART BRIDGE WITH HELICAL PILE
ASSEMBLY SECTION
WIDTH OF IMPACT = 10'
(NOT TO SCALE)



TEMPORARY CONSTRUCTION ACCESS
ROAD SECTION
WIDTH OF IMPACT = 25'



TYPICAL TIE-IN OF GOLF
COURSE IMPACT WITH
EXISTING WETLAND



Orvis Shorefox Project
Alternate Development Plan

Carroll & Lange inc
Professional Engineers & Land Surveyors
165 South Union Blvd., Suite 156
Lakewood, Colorado 80228
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March 2006

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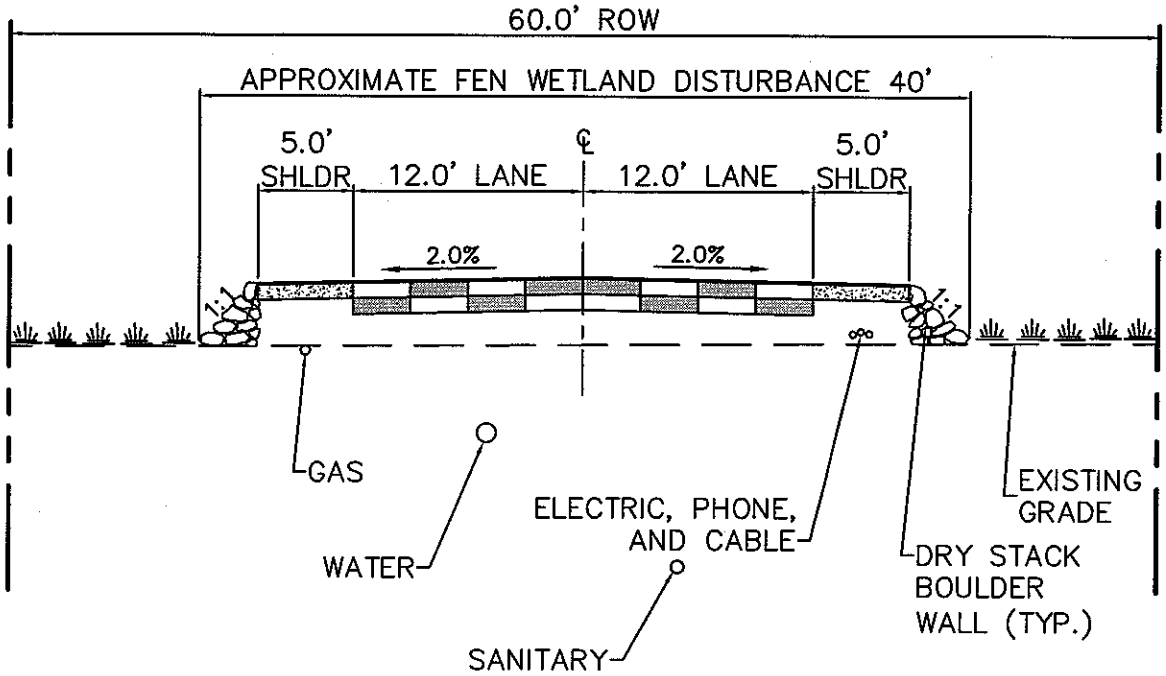
Figure 23



SOUTH RANCH PRINCIPAL RESORT ROAD AT PEATLAND ROAD CROSS SECTION

Orvis Shorefox Project
Road Cross Section

Scale: 1"=10'

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Professional Engineers & Land Surveyors
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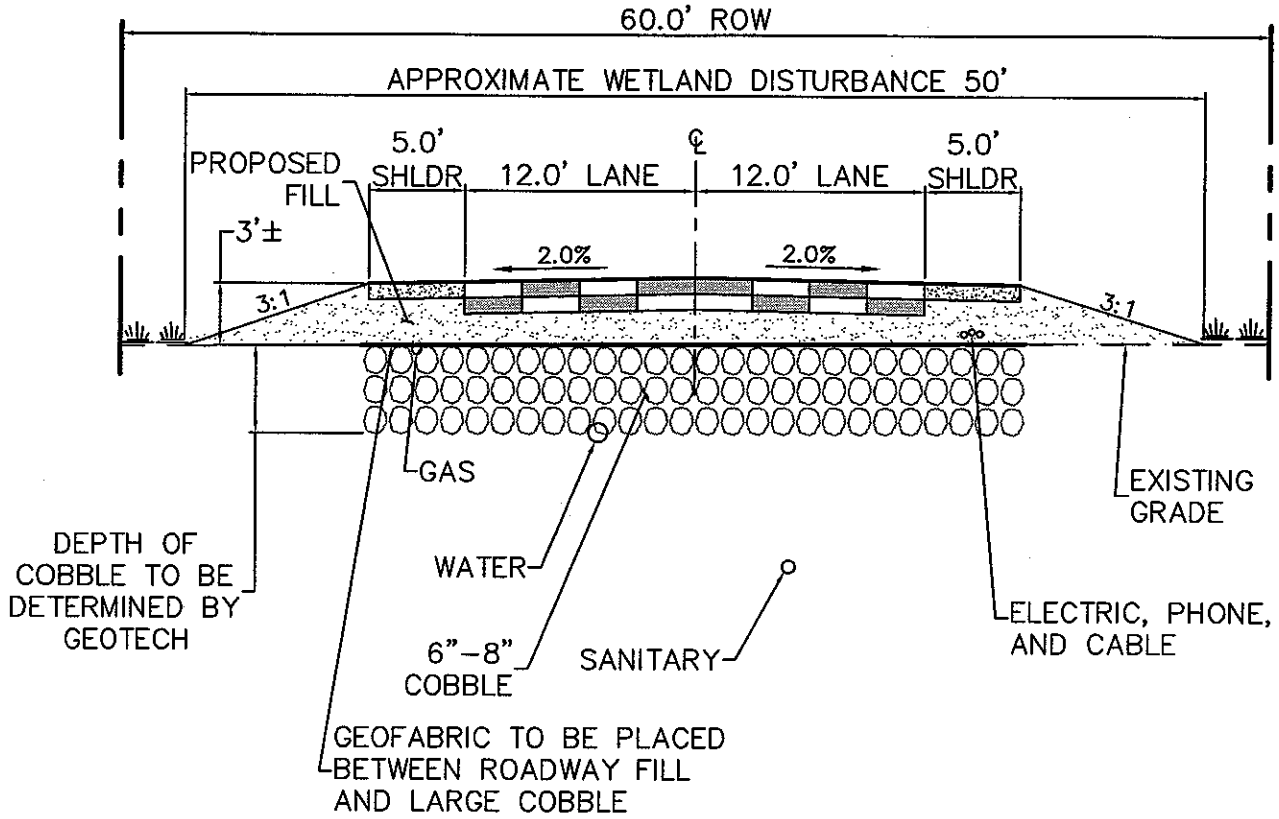
Figure 24



SOUTH RANCH PRINCIPAL RESORT ROAD AT TYPICAL WETLAND ROAD CROSS SECTION

Orvis Shorefox Project

Road Cross Section

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Professional Engineers & Land Surveyors
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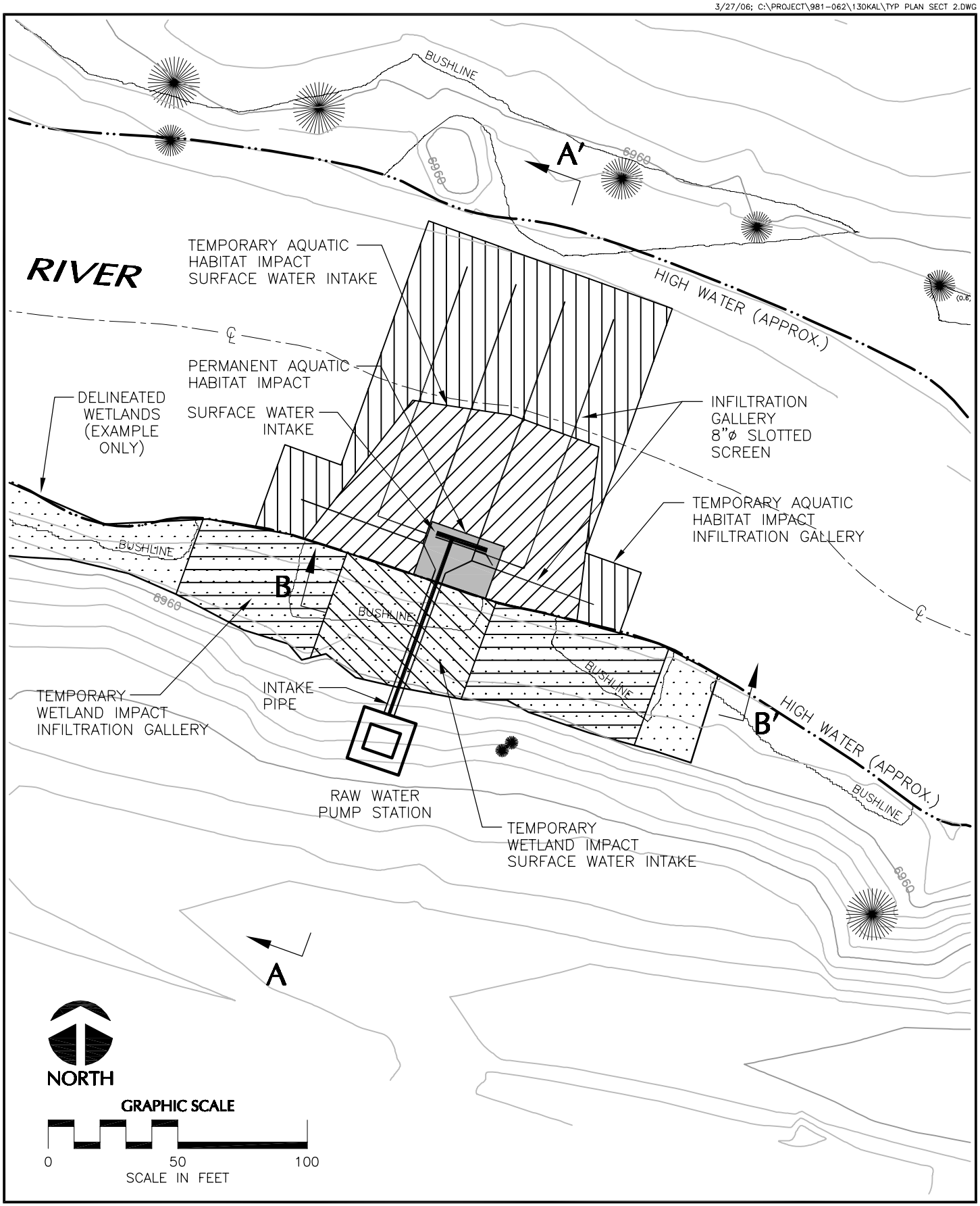
March 2006

Claffey Ecological Consulting, Inc.

Figure 25

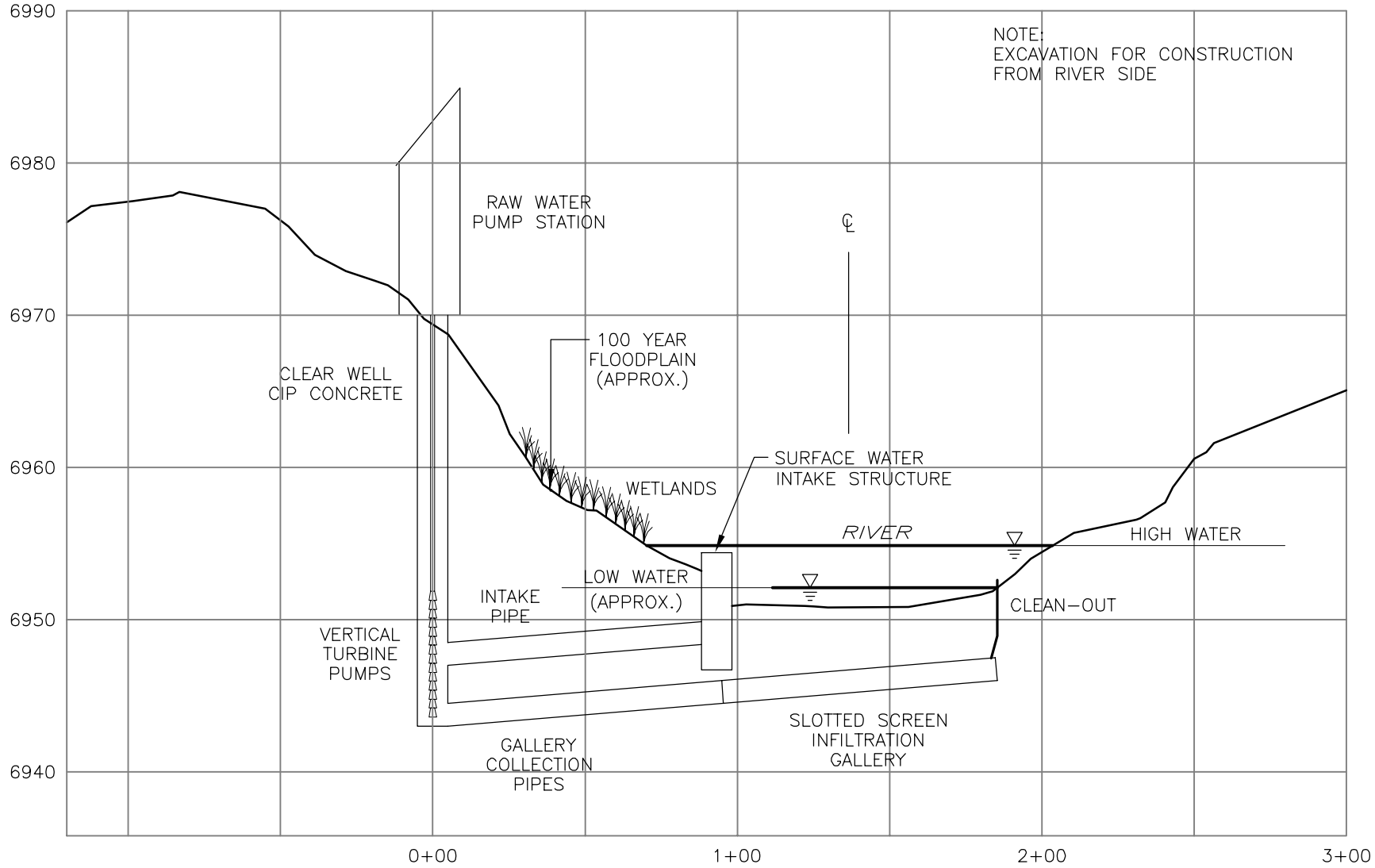


WRIGHT WATER ENGINEERS, INC.
2490 W. 26TH AVE. 100A
DENVER, CO 80211
(303)480-1700

DESIGN	WFL/DWF
DETAIL	KAL
CHECK	WFL
DATE	3/27/06
SCALE	1"=50'

FIGURE 26
TYPICAL SURFACE WATER INTAKE PLAN AND WETLAND/AQUATIC HABITAT IMPACTS P-24 AND T-11

3/27/06; C:\PROJECT\981-062\130KAL\TYP PLAN SECT 2.DWG



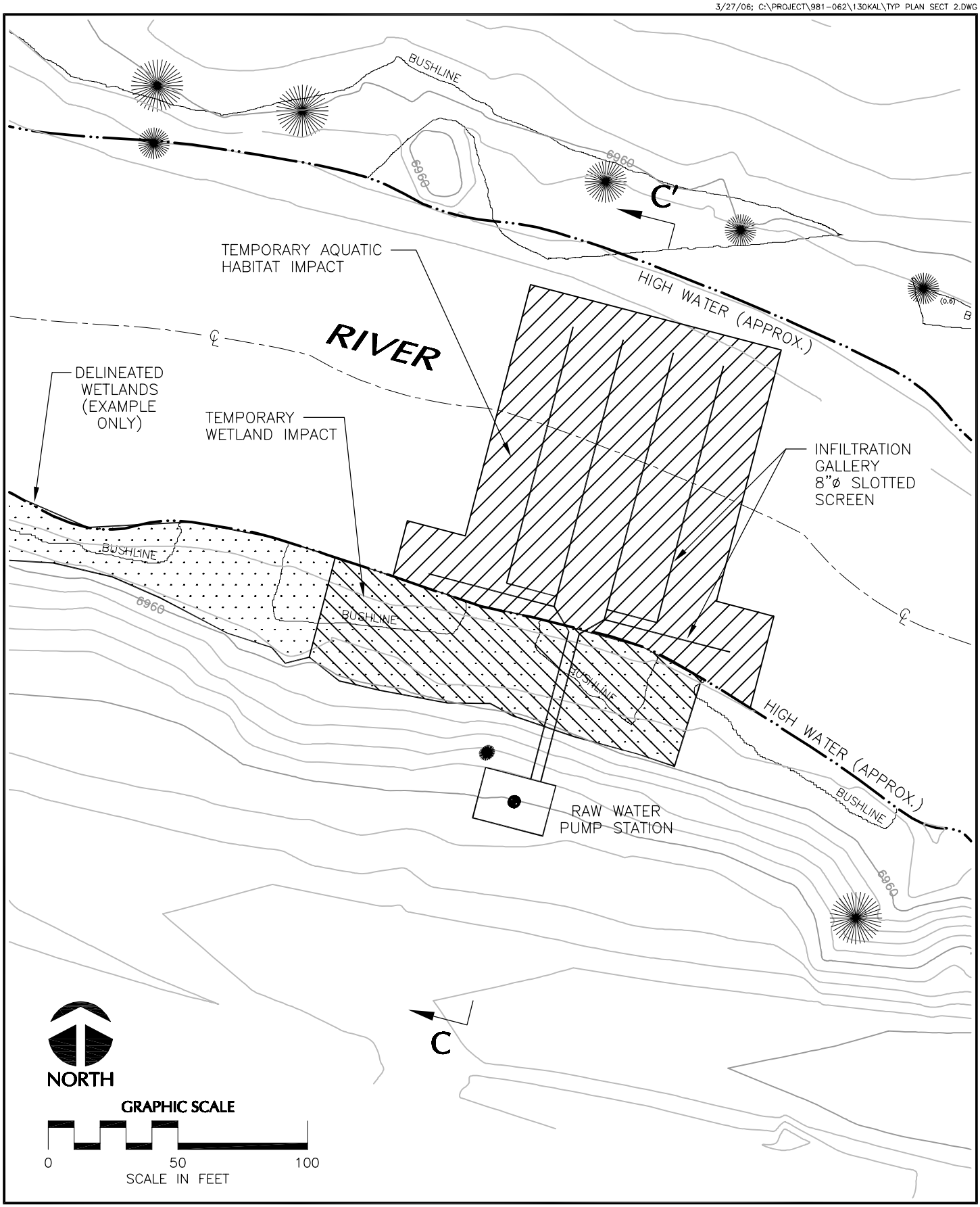
SECTION A-A'

HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10"

WRIGHT WATER ENGINEERS, INC.
2490 W. 26TH AVE. 100A
DENVER, CO 80211
(303)480-1700

DESIGN	WFL/DWF
DETAIL	KAL
CHECK	WFL
DATE	3/27/06
SCALE	AS NOTED

FIGURE 27
TYPICAL SURFACE WATER INTAKE SECTION A-A' AND WETLAND/AQUATIC HABITAT IMPACTS P-24 AND T-11

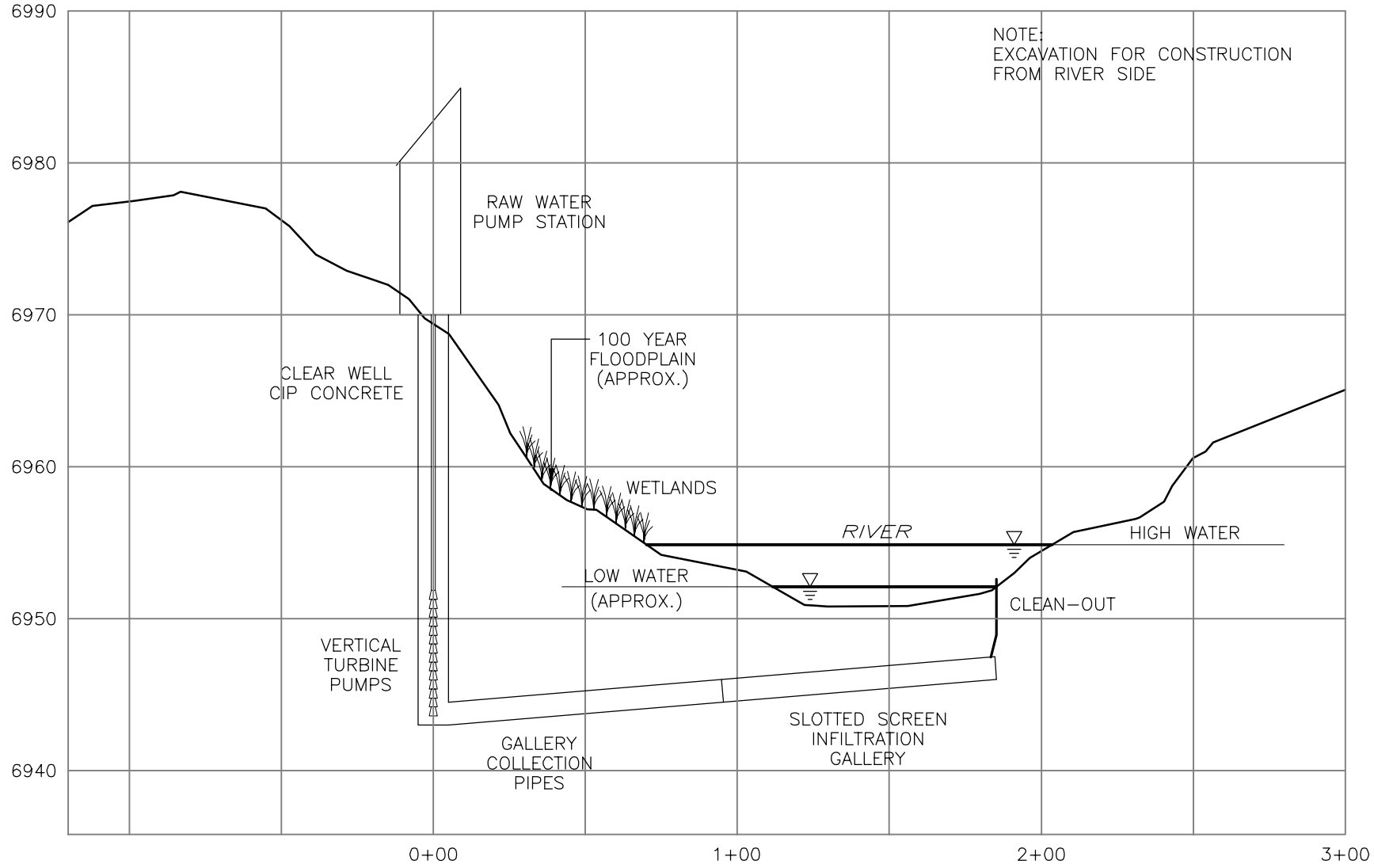


WRIGHT WATER ENGINEERS, INC.
2490 W. 26TH AVE. 100A
DENVER, CO 80211
(303)480-1700

DESIGN	WFL/DWF
DETAIL	KAL
CHECK	WFL
DATE	3/27/06
SCALE	1"=50'

FIGURE 28
TYPICAL INFILTRATION GALLERY INTAKE PLAN AND WETLAND/AQUATIC HABITAT IMPACTS
T-10

3/27/06; C:\PROJECT\981-062\130KAL\TYP PLAN SECT 2.DWG



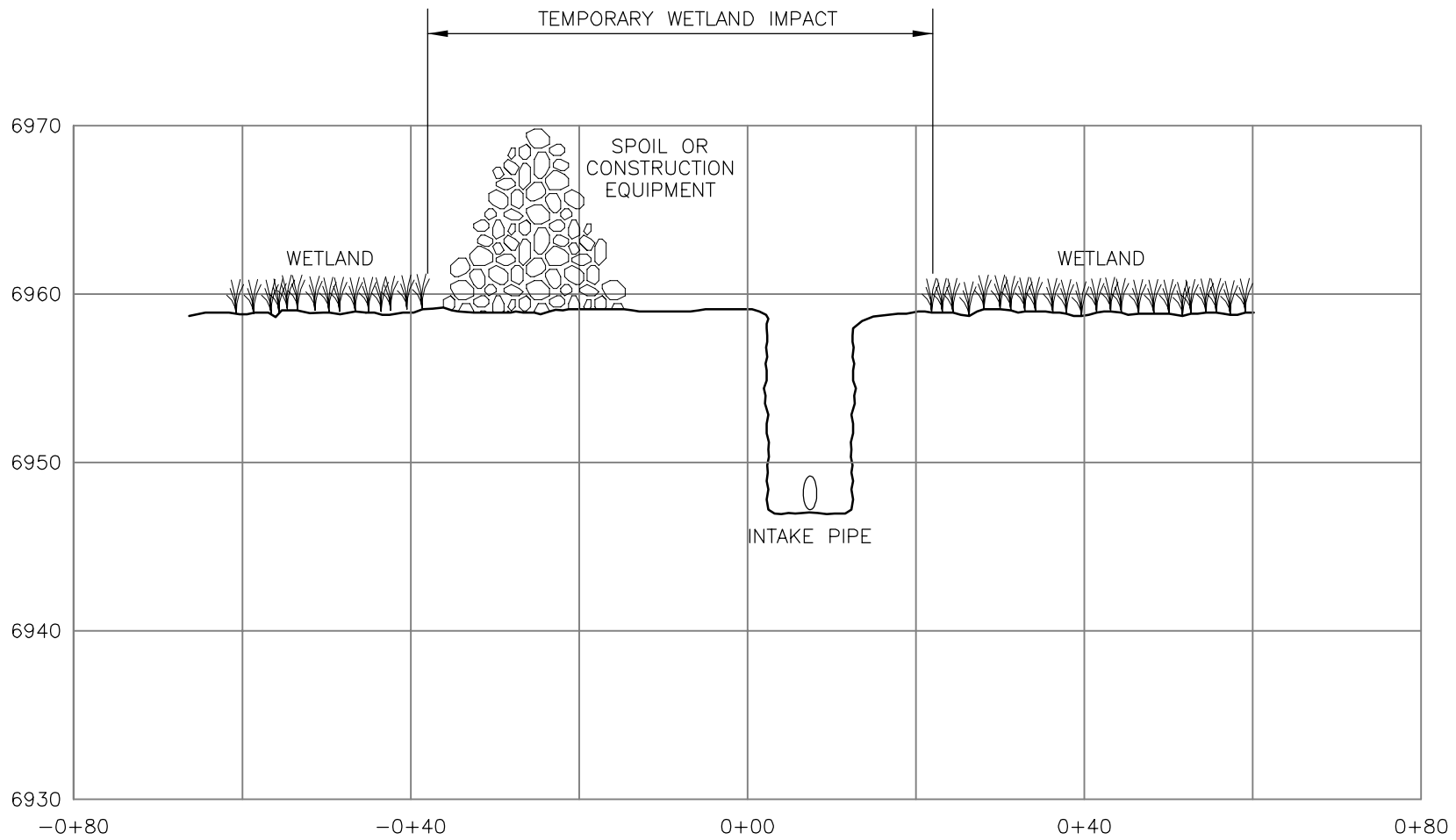
SECTION C-C'

HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10"

WRIGHT WATER ENGINEERS, INC.
2490 W. 26TH AVE. 100A
DENVER, CO 80211
(303)480-1700

DESIGN	WFL/DWF
DETAIL	KAL
CHECK	WFL
DATE	3/27/06
SCALE	AS NOTED

FIGURE 29
TYPICAL INFILTRATION GALLERY INTAKE SECTION C-C' AND WETLAND/AQUATIC HABITAT IMPACTS
T-10



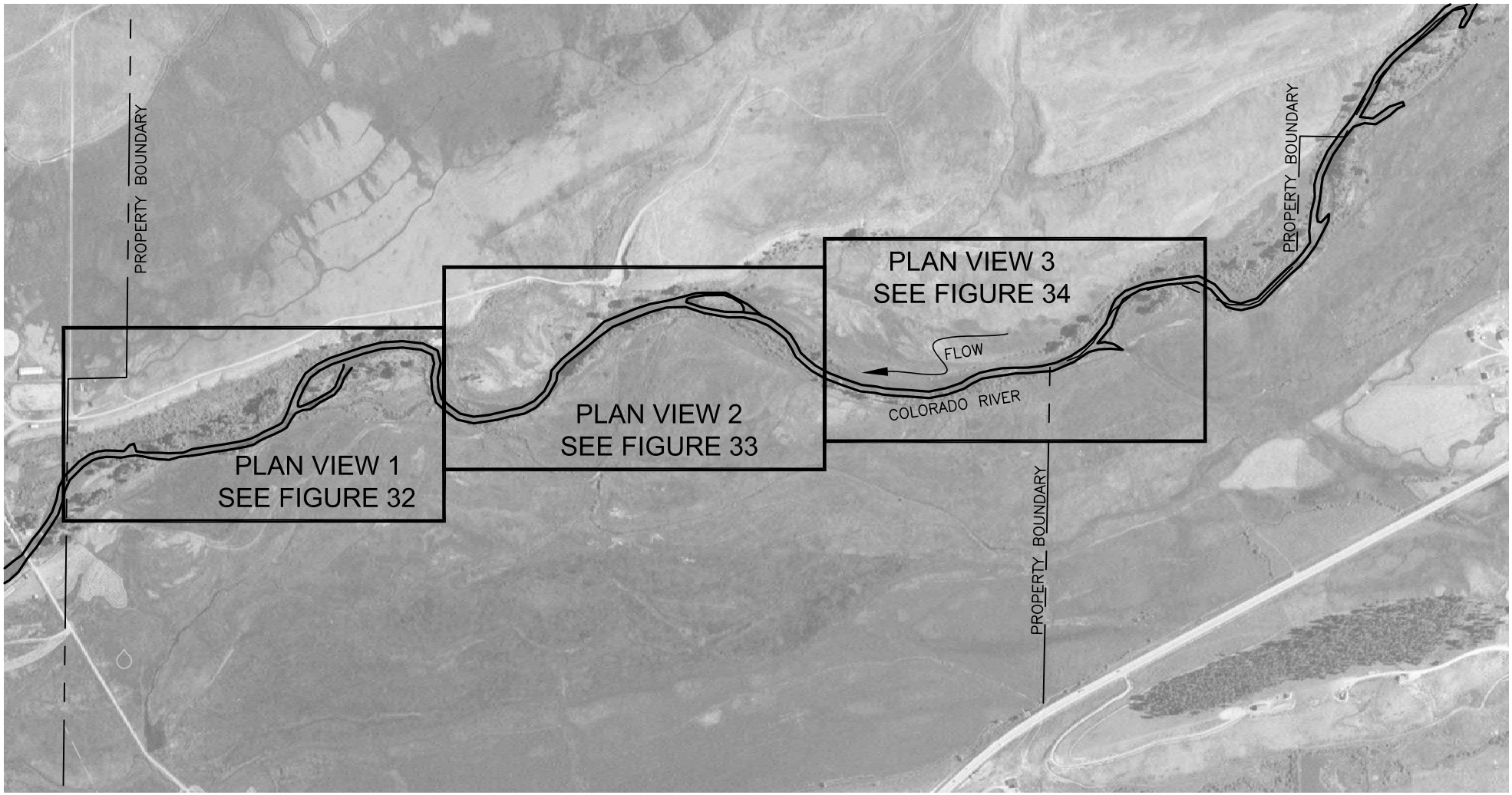
SECTION B-B'

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10"

WRIGHT WATER ENGINEERS, INC.
2490 W. 26TH AVE. 100A
DENVER, CO 80211
(303)480-1700

DESIGN	WFL/DWF
DETAIL	KAL
CHECK	WFL
DATE	3/27/06
SCALE	AS NOTED

FIGURE 30
TYPICAL SURFACE WATER INTAKE SECTION B-B' AND WETLAND/AQUATIC HABITAT IMPACTS



PROJECT IMPACT SUMMARY

EXCAVATION VOLUME WITHIN OHW:	10,000 CY
EXCVATION AREA WITHIN OHW:	1.2 AC
FILL VOLUME WITHIN OHW:	10,000 CY
FILL AREA WITHIN OHW:	3.5 AC
REVEGETATION AREA:	67.4 AC

ALL COLORADO RIVER ENHANCEMENT WORK WILL OCCUR WITHIN LIMITS OF ORDINARY HIGH WATER, AND OUTSIDE OF DELINEATED WETLANDS.

0 800

1 inch = 800 ft.

CLAFFEY ECOLOGICAL CONSULTING, INC.

DESIGNED BY:

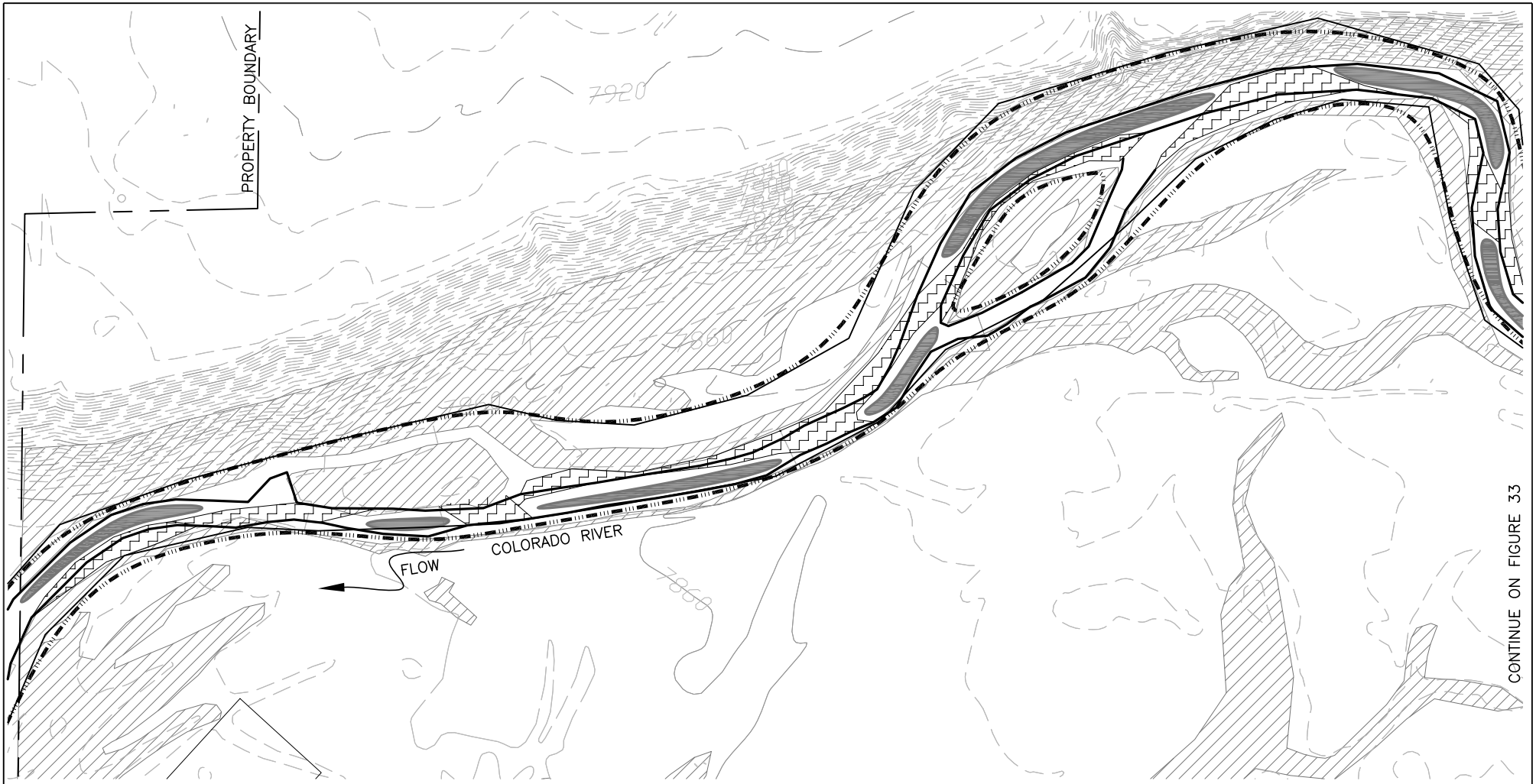
inter·fluve, inc.
1020 Wasco Street, Suite I
Hood River, OR 97031
541.386.4591
www.interfluve.com

ORVIS-SHOREFOX
COLORADO RIVER ENHANCEMENTS

SITE MAP

APP. NO.

FIGURE NO.
31



0 200

1 inch = 200 ft.

PLAN LEGEND

- EXISTING WETLAND AREA
- BAR/RIFFLE FORMATION AREA (FILL)
- POOL FORMATION AREA (CUT)
- PROPERTY LINE
- ORDINARY HIGH WATER

ENHANCEMENT AREAS DEPICTED ON THIS SHEET ARE APPROXIMATE AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND DISCRETION OF IN–STREAM SPECAIALIST.

CLAFFEY ECOLOGICAL CONSULTING, INC.

DESIGNED BY:

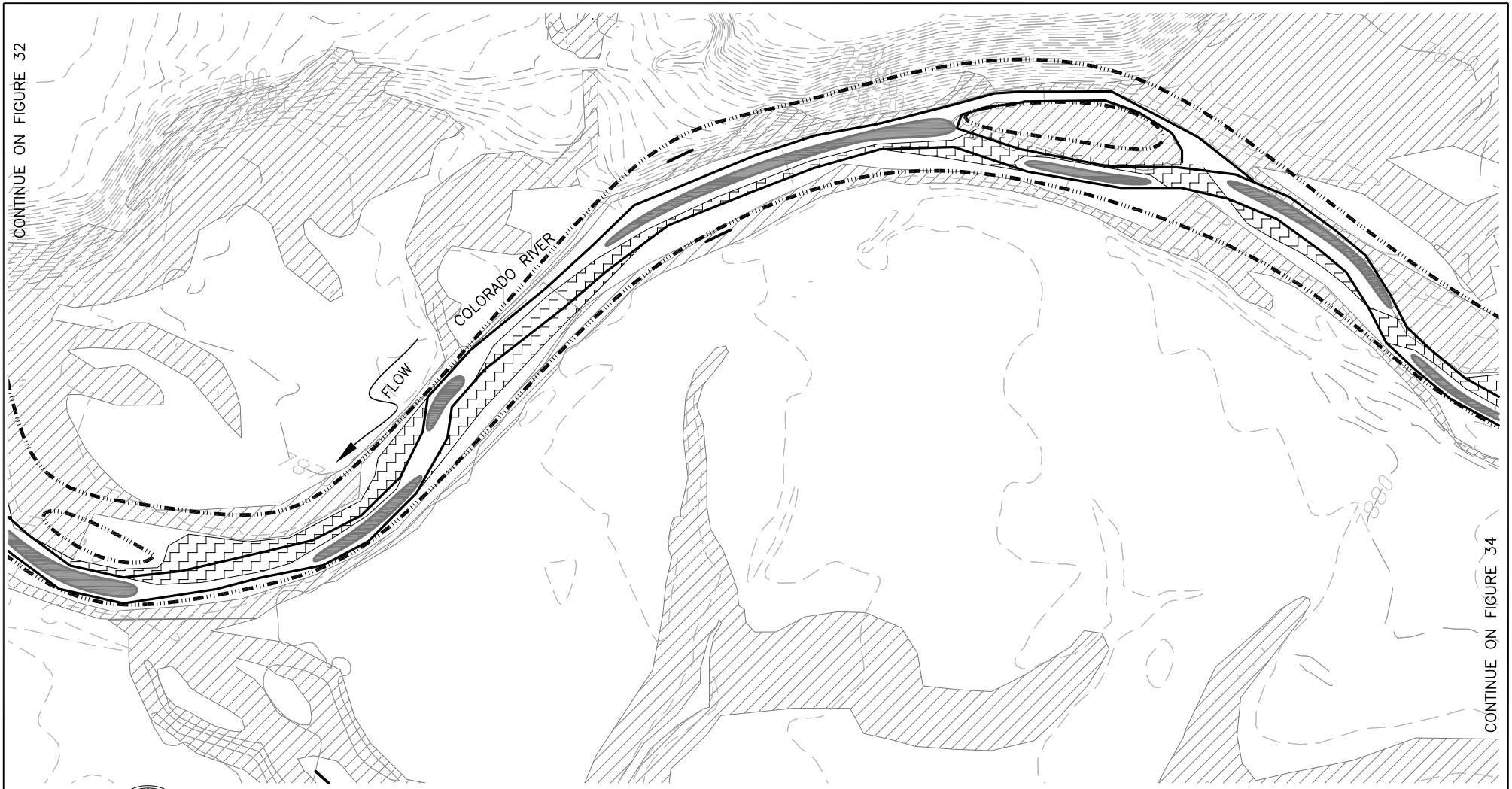
inter·fluve, inc.
1020 Wasco Street, Suite I
Hood River, OR 97031
541.386.4591
www.interfluve.com

ORVIS-SHOREFOX
COLORADO RIVER ENHANCEMENTS

PLAN VIEW 1

APP. NO.

FIGURE NO.
32



0 200

1 inch = 200 ft.

PLAN LEGEND

- EXISTING WETLAND AREA
- BAR/RIFFLE FORMATION AREA (FILL)
- POOL FORMATION AREA (CUT)
- ORDINARY HIGH WATER

ENHANCEMENT AREAS DEPICTED ON THIS SHEET ARE APPROXIMATE AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND DISCRETION OF IN–STREAM SPECAIALIST.

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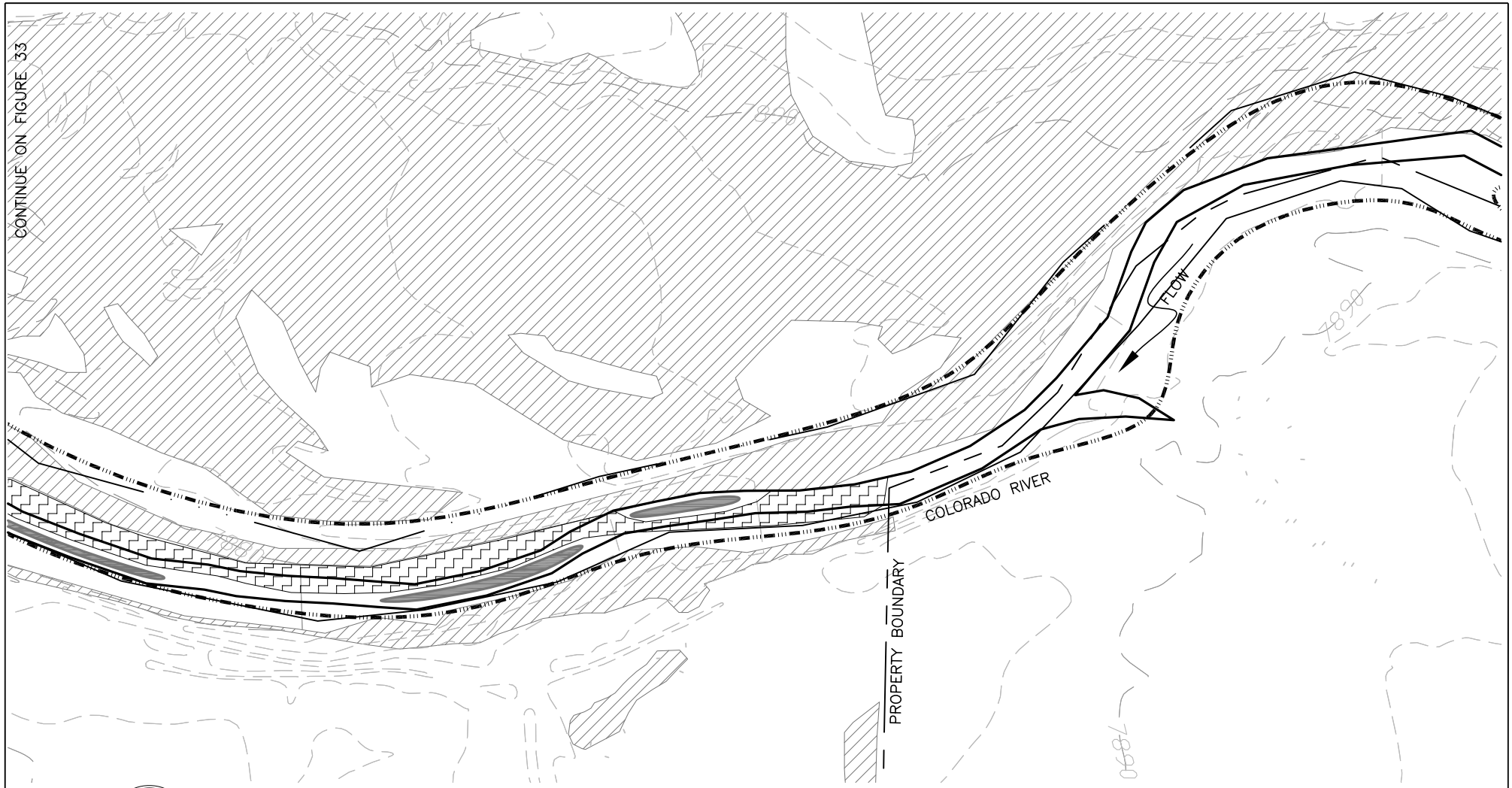
COLORADO RIVER ENHANCEMENTS

PLAN VIEW 2

APP. NO.

FIGURE NO. 33



0 200

1 inch = 200 ft.

PLAN LEGEND

- EXISTING WETLAND AREA
- BAR/RIFFLE FORMATION AREA (FILL)
- POOL FORMATION AREA (CUT)
- PROPERTY LINE
- ORDINARY HIGH WATER

ENHANCEMENT AREAS DEPICTED ON THIS SHEET ARE APPROXIMATE AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND DISCRETION OF IN–STREAM SPECAIALIST.

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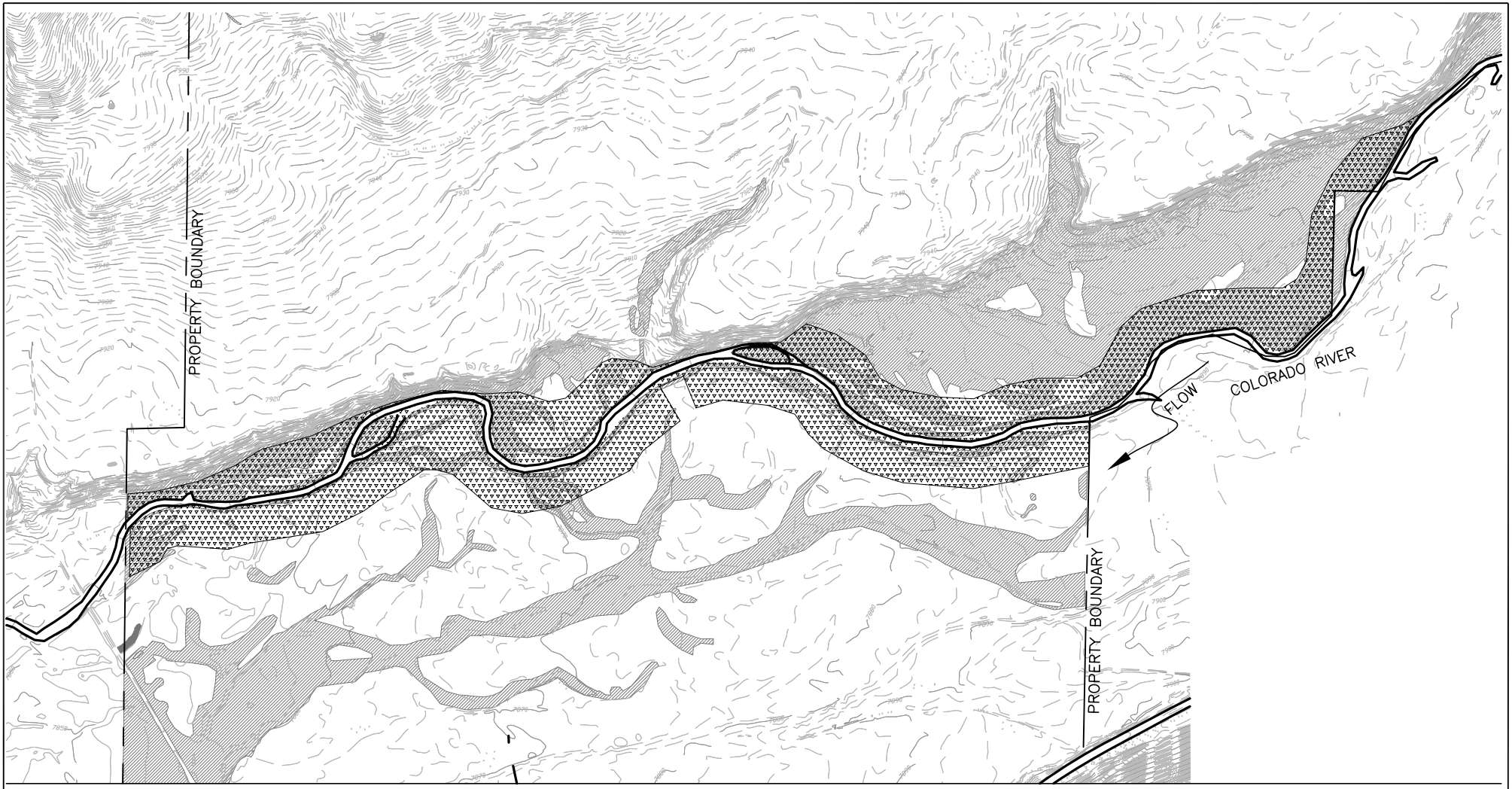
COLORADO RIVER ENHANCEMENTS

PLAN VIEW 3

APP. NO.

FIGURE NO.
34



0 800

1 inch = 800 ft.

PLAN LEGEND

EXISTING WETLAND AREA

RIPARIAN REVEGETATION AREA

PROPERTY LINE

ENHANCEMENT AREAS DEPICTED ON THIS SHEET ARE APPROXIMATE AND SUBJECT TO CHANGE.

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COLORADO RIVER ENHANCEMENTS

RIPARIAN
REVEGETATION
AREAS

APP. NO.

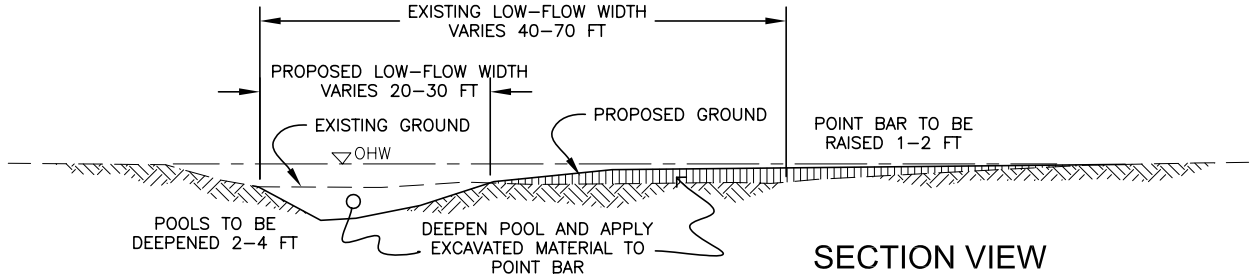
FIGURE NO.
35

EXISTING CHANNEL HAS BEEN IMPACTED BY CATTLE GRAZING SUCH THAT THE CHANNEL IS NOW VERY WIDE AND SHALLOW.

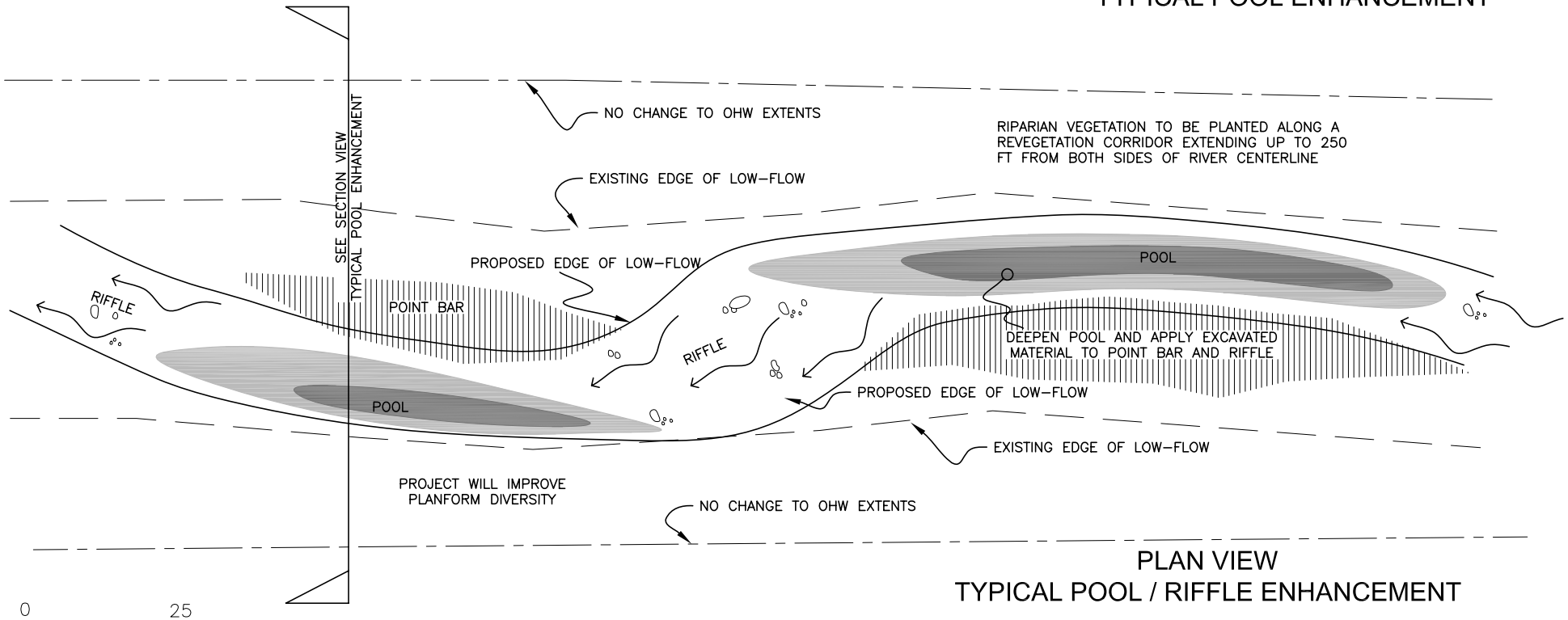
THIS PROJECT WILL RESTORE THE CHANNEL TO A MORE NATURAL HEALTHY CONDITION BY ENHANCING ITS BEDFORM AND PLANFORM.

WORK TO INCLUDE EXCAVATING IN THE CHANNEL TO CREATE DEEP POOLS AND PLACING THE EXCAVATED GRAVEL TO FORM ADJACENT POINT BARS.

RIPARIAN REVEGETATION PLAN TO EXTEND UP TO 250 FT WIDE BEYOND EACH SIDE OF CHANNEL.

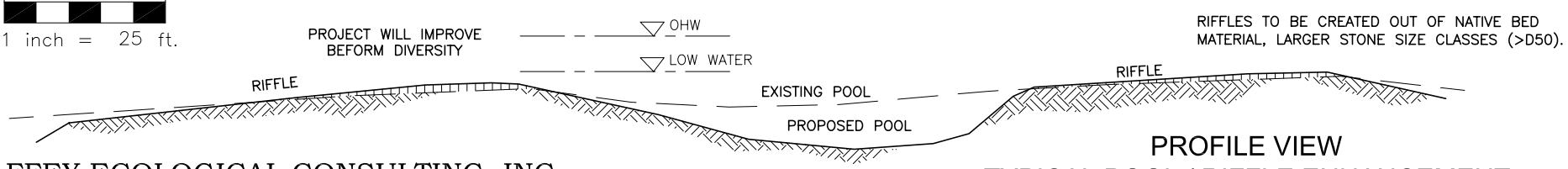


SECTION VIEW
TYPICAL POOL ENHANCEMENT



PLAN VIEW
TYPICAL POOL / RIFFLE ENHANCEMENT

0 25
1 inch = 25 ft.



RIFFLES TO BE CREATED OUT OF NATIVE BED MATERIAL, LARGER STONE SIZE CLASSES (>D50).

PROFILE VIEW
TYPICAL POOL / RIFFLE ENHANCEMENT

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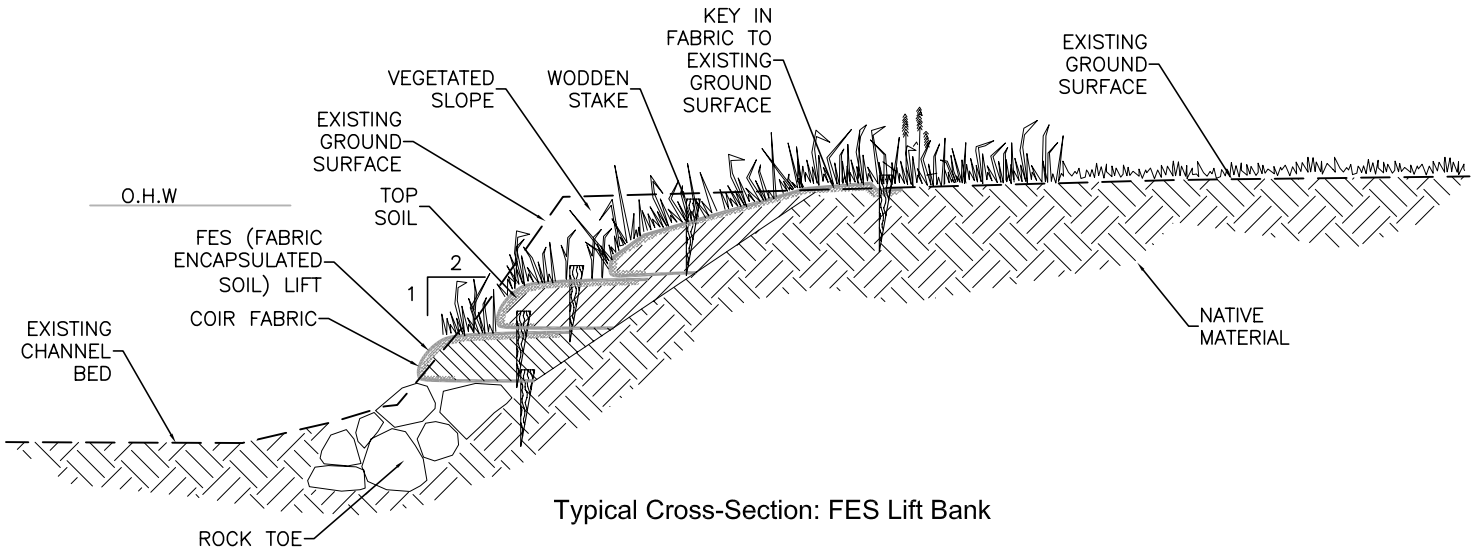
COLORADO RIVER ENHANCEMENTS

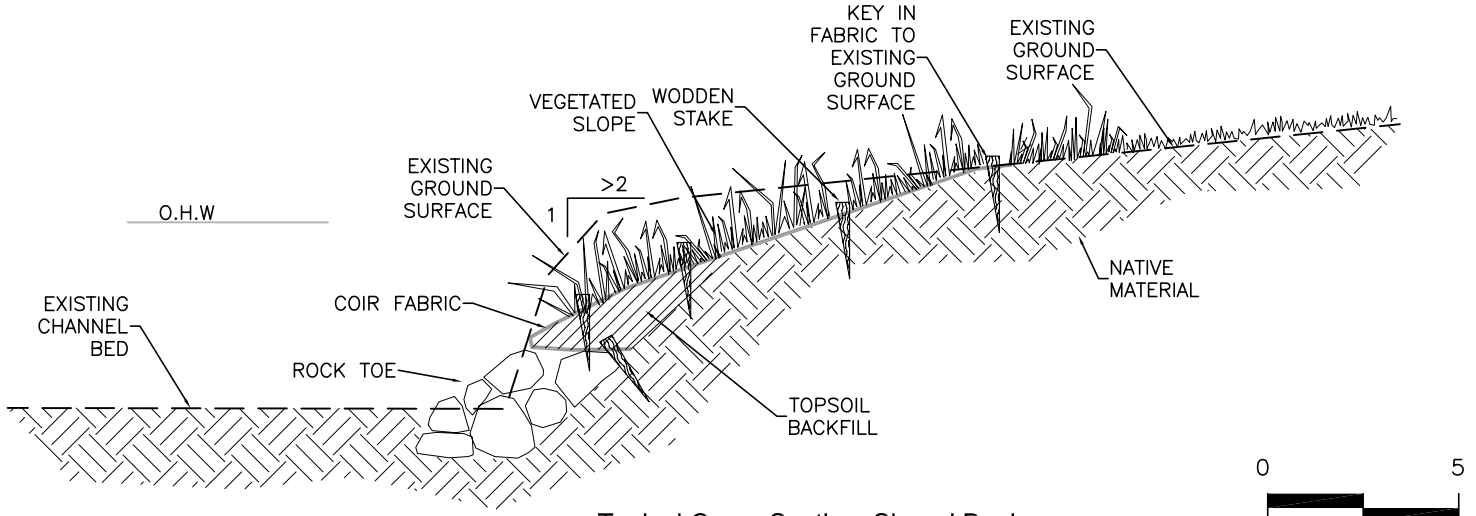
TYPICAL DETAILS

APP. NO.

FIGURE NO.
36



Typical Cross-Section: FES Lift Bank



Typical Cross-Section: Sloped Bank

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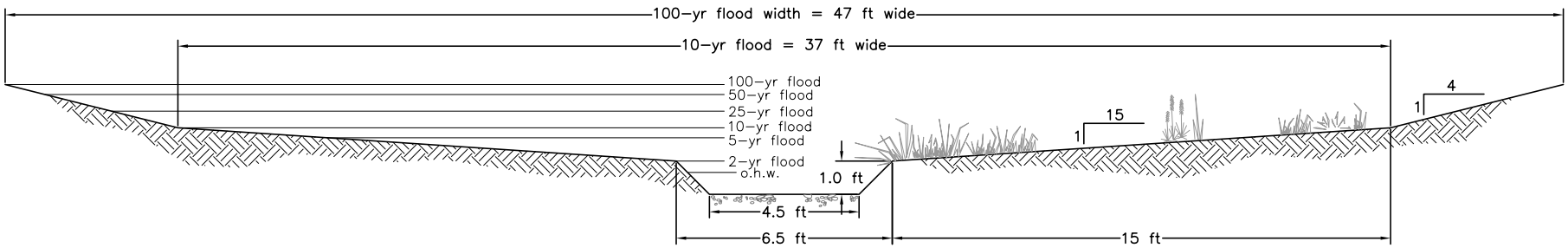
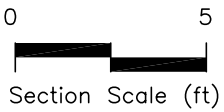
ORVIS-SHOREFOX
COLORADO RIVER ENHANCEMENTS

Colorado River
Bank Stabilzation
Typical Section Views

APP. NO.

FIGURE NO.
37





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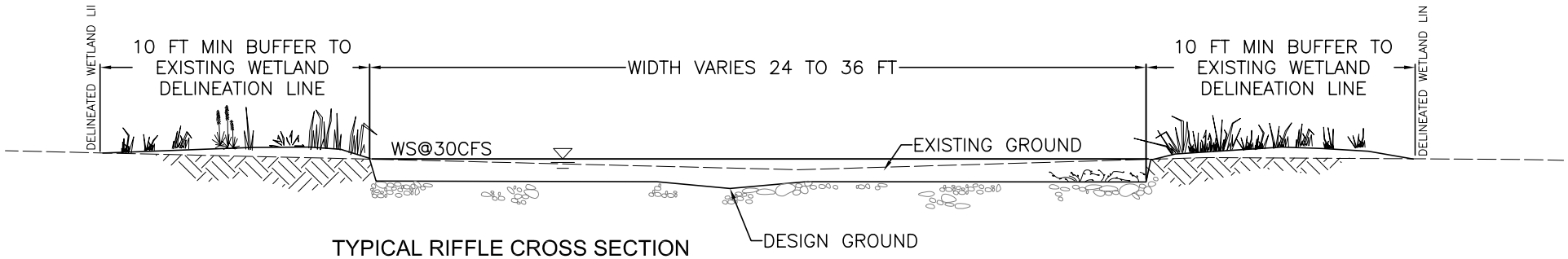
ORVIS-SHOREFOX
GRANBY, COLORADO

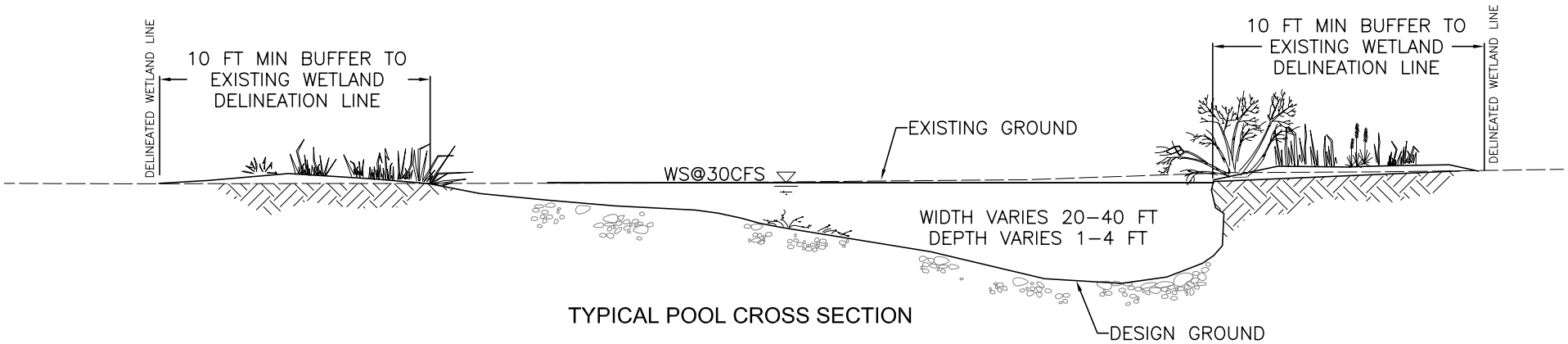
Smith Creek
Typical Section View

APP. NO.

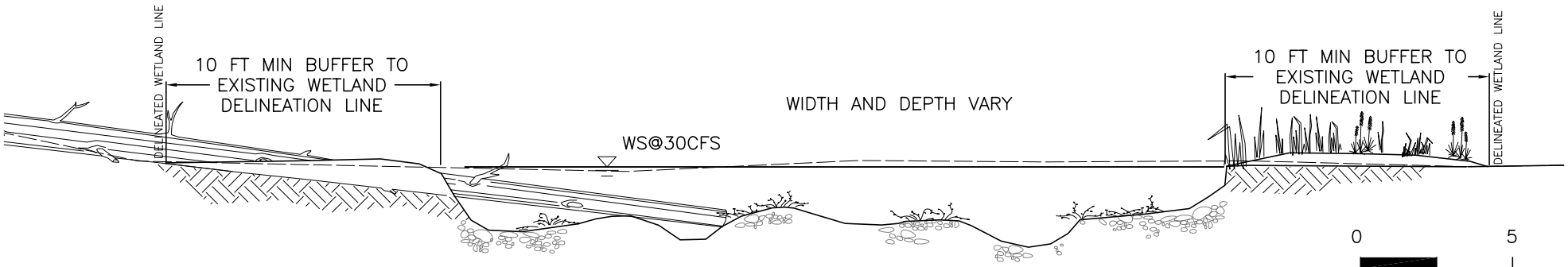
FIGURE NO.
38



TYPICAL RIFFLE CROSS SECTION



TYPICAL POOL CROSS SECTION



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TYPICAL RUN CROSS SECTION
(With Log)

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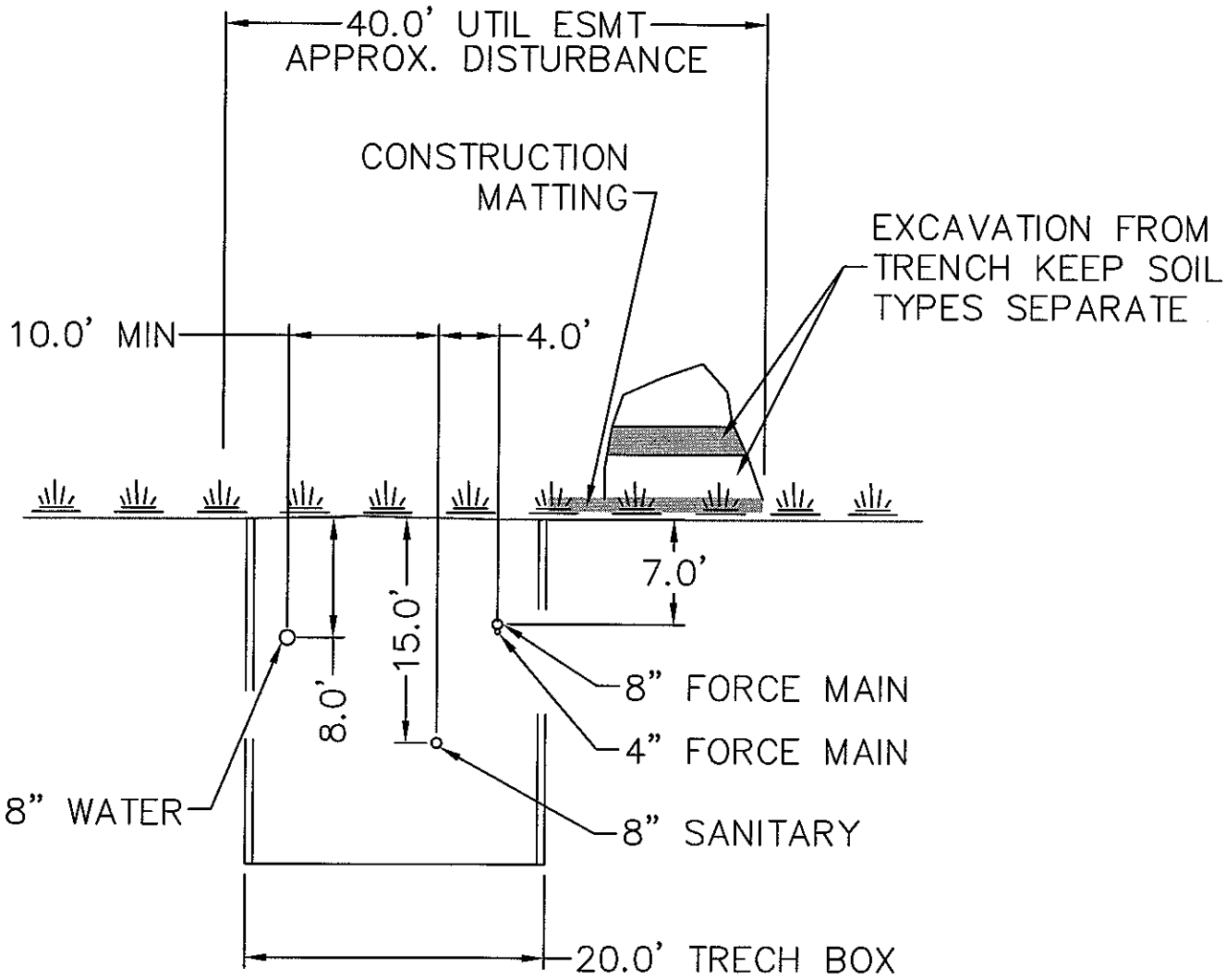
ORVIS-SHOREFOX
GRANBY, COLORADO

Spring Creek
Typical Section Views

APP. NO.

FIGURE NO.
39



Orvis Shorefox Project
Utility Peatland Cross Section

N.T.S.

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Professional Engineers & Land Surveyors
165 South Union Blvd., Suite 156
Lakewood, Colorado 80228
(303) 980-0200

March 2006

Claffey Ecological Consulting, Inc.

Figure 40