INDIVIDUAL 404 PERMIT APPLICATION

FOR THE

STAGECOACH RESERVOIR ENLARGEMENT PROJECT

ROUTT COUNTY, COLORADO

Prepared for

The Upper Yampa Water Conservancy District
P.O. Box 880339
Steamboat Springs, CO 80488-0339

Prepared by

IME
P.O. Box 270
Yampa, CO 80483

12 February 2007

Mr. Ken Jacobson
Chief, Colorado/Gunnison Basin Regulatory Office
U.S. Army Corps of Engineers
402 Rood Avenue, Room # 142
Grand Junction, CO 81501-2563

12 February 2007
CERTIFIED RETURN RECEIPT MAIL

Re: Individual 404 Permit Application for the Stagecoach Reservoir Enlargement, Routt County, Colorado.

Dear Ken:

Enclosed you will find a completed Individual 404 Permit Application for the Stagecoach Reservoir Enlargement, which is located in an unincorporated portion of Routt County, on the Yampa River, approximately sixteen miles south of Steamboat Springs, and five miles east of Oak Creek, Routt County, Colorado. This action will result as a result of raising the existing Stagecoach Dam by four feet. This action will result in increasing the area of Stagecoach Reservoir from 777.02 to 828.65 acres with a corresponding increase in storage capacity from the existing 33,275 acre feet to 36,460 acre feet. The lands to be affected by this proposed action are located in Sections 29, 30, 31 and 32 of Township 4 North, Range 84 West; Section 36 of Township 4 North, Range 85 West; and in Sections 1 and 2 of Township 3 North, Range 85 West of the Sixth Principal Meridian.

This 404-Permit Application is being submitted to obtain regulatory approval to impact via flooding, 26.63 acres of jurisdictional waters of the United States of which 23.14 acres of jurisdictional wetlands will be affected. These wetland impacts are considered to be permanent impacts and these wetlands will be subjected to a compensatory wetland mitigation plan. All of the natural undisturbed wetlands will be mitigated at a mitigation ratio of 1.2:1 and the wetlands which have become established since the creation of Stagecoach Reservoir and which are considered to be artificial wetlands, will be mitigated at a ratio of 1:1. These wetland creation areas are located along the new shoreline of the enlarged reservoir.

Please observe from the following list that we have already sent copies of this Permit Application directly to the various state and federal agencies which will be involved in reviewing and providing comments to the Corps of Engineers.

If you have any comments or questions regarding this submittal, please do not hesitate to call me at my office number which is 970-638-4462, on my cell phone number which is 970-734-6203 or contact me via e-mail at kent@imeyampa.com.

Sincerely,

Kent

Kent A. Crofts
IME
P.O. Box 270
Yampa, CO 80483

cc: Mr. John R. Fetcher
Secretary - General Manager
Upper Yampa Water Conservancy District
P.O. Box 880339
Steamboat Springs, CO 80488-0339

Ms. Caryn Fox
Planning Director
Routt County Planning Department
P.O. Box 773749
Steamboat Springs, CO 80477-3749

Ms. Susan M. Werner
Area Wildlife Manager, Steamboat Springs
Colorado Division of Wildlife Resources
6060 Broadway
Denver, CO 80216

Ms. Georgiana Contiguglia
State Historic Preservation Officer
Colorado Historical Society
1300 Broadway
Denver, CO 80203-2137

Mr. Allan R. Pfister
Western Colorado Supervisor
U.S. Fish and Wildlife Service
764 Horizon Drive, Building B
Grand Junction, CO 81506-3946

Mr. Rob Protow
Colorado State Parks
Stagecoach State Park
P.O. Box 98
Oak Creek, CO 80467

Mr. Bill Guey Lee
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Ms. Sarah Fowler
U.S. Environmental Protection Agency
Region 8 - Ecosystems ProgramWetlands and Watershed Unit
1595 Wynkoop St.
Denver, CO 80202-1229

Mr. Steve Gunderson
Colorado Department of Public Health and Environment
Water Quality Control Division
4300 Cherry Creek Drive South
Denver, CO 80246-1530

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT (33 CFR 325)	OMB APPROVAL NO. 0710-003

Public reporting burden for this collection of information is estimated to average 5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-003), Washington, DC 20503. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in, or affecting, navigable waters of the United States; the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine uses: Information provided on this form will be used in evaluating the application for a permit. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME & TITLE (an agent is not required)
Upper Yampa Water Conservancy District	Kent A. Crofts
6. APPLICANT'S ADDRESS P.O. Box 880339, 3310 Clear Water Trail Steamboat Springs, CO 84088-0339	9. AGENT'S ADDRESS IME P.O. Box 270 Yampa, CO 80483
7. APPLICANT'S PHONE NUMBERS WITH AREA CODE a. Residence 970-879-2424 b. Business	10. AGENT'S PHONE NUMBERS WITH AREA CODE a. Residence b. Business 970-638-4462

11. STATEMENT OF AUTHORIZATION

I hereby authorize Kent A. Crofts to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

William B. Fowler
APPLICANT'S SIGNATURE

12 February 2007
DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

Stagecoach Reservoir Enlargement Project

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Yampa River	n/a
15. LOCATION OF PROJECT See Attached narrative Routt COUNTY Colorado STATE	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

See Attached Narrative.

17. DIRECTIONS TO THE SITE

See Attached narrative.

18. NATURE OF ACTIVITY (Description of project, include all features)

See Attached narrative.

19. PROJECT PURPOSE (Describe the reason or purpose of the project, see instructions)

See Attached narrative.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. REASON(S) FOR DISCHARGE

See attached narrative.

21. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS

See attached narrative.

22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED (see instructions)

See attached narrative.

23. IS ANY PORTION OF THE WORK ALREADY COMPLETE? YES ◯ NO ◉ IF YES, DESCRIBE THE WORK

24. ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC. WHOSE PROPERTY ADJOINS THE WATERBODY (If more than can be entered here, please attach a supplemental list)

See attached narrative.

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
See attached narrative.					

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

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE
	12 Feb 2007		12 Feb 2007

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and will fully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, facticious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Mr. Steve Gunderson
Colorado Department of Public Health and Environment
Water Quality Control Division
4300 Cherry Creek Drive South
Denver, CO 80246-1530

12 February 2007

Re: 401-Certification for the Stagecoach Reservoir Enlargement Project.

Dear Mr. Gunderson:

Enclosed is a copy of the 404-Permit Application submitted by the Upper Yampa Water Conservancy District to the U.S. Army Corps of Engineers requesting approval to raise the water level of Stagecoach Reservoir by rasing the existing spillway a total of four feet. The specifics of this project are described in detail in the enclosed 404-Permit Application.

Concurrent with the 404-Permitting process we are submitting a formal request for Section 401 certification with your office. If you have any comments or questions regarding this application please do not hesitate to call me at 970-638-4462 or contact me via e-mail at kent@imeyampa.com.

Sincerely,

Kent A. Crofts
IME
P.O. Box 270
Yampa, CO 80483

cc: Mr. Ken Jacobson
Chief, Colorado/Gunnison Basin Regulatory Office
U.S. Army Corps of Engineers
402 Rood Avenue, Room # 142
Grand Junction, CO 81501-2563

Ms. Sarah Fowler
U.S. Environmental Protection Agency
Region 8 - Ecosystems ProgramWetlands and Watershed Unit
1595 Wynkoop St.
Denver, CO 80202-1229

Mr. Bill Guey Lee
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Mr. John R. Fetcher
Secretary - General Manager
Upper Yampa Water Conservancy District
P.O. Box 880339
Steamboat Springs, CO 80488-0339

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INDIVIDUAL 404 PERMIT APPLICATION

5. APPLICANT'S NAME

Response: The applicant for this Individual 404-Permit Application is: Mr. John R. Fetcher, Secretary - General Manager of The Upper Yampa Water Conservancy District, hereafter called UYWCD.

6. APPLICANT'S ADDRESS

Response: The Applicant's address is P.O. Box 880339, 3310 Clear Water Trail, Steamboat Springs, CO 80488-0339.

7. APPLICANT'S TELEPHONE NUMBER

Response: The Applicant's telephone number is (970) 879-2424 and their fax number is 970-879-8169. The Applicant's e-mail address is upperyampa@mwwater.com.

8. AUTHORIZED AGENT'S NAME AND TITLE

Response: The permitting agent is Mr. Kent A. Crofts, owner of IME, environmental consultants.

9. AGENT'S ADDRESS

Response: The agent's address is IME, P.O. Box 270, Yampa, CO 80483. His e-mail address is kent@imeyampa.com.

10. AGENT'S TELEPHONE NUMBER

Response: The permitting agent's office telephone number is (970) 638-4462, his cell phone telephone number is (970) 734-6203.

11. PROJECT NAME OR TITLE

Response: The name of this project is the Stagecoach Reservoir Enlargment Project.

12. NAME OF WATERBODY

Response: This project is located on the Yampa River and its named tributaries consisting of Martin Creek, Little Morrison Creek, Youngs Creek and Middle Creek and various other unnamed tributaries, which are all tributary of the Yampa River.

15. LOCATION OF PROJECT

Response: This project is located on the existing location of Stagecoach Reservoir, Dam and Power Plant which are located in Sections 29, 30, 31 and 32 of Township 4 North, Range 84 West; Section 36 of Township 4 North, Range 85 West; and in Sections 1 and 2 of Township 3 North, Range 85 West of the Sixth Principal Meridian. The Stagecoach Reservoir is located approximately sixteen miles south of Steamboat Springs and five miles east of Oak Creek, Routt County, Colorado.

This site is located in an area found on the 1969 Oak Creek 7.5 Minute USGS Quad Sheet. A xerox copy of a portion of this map showing the project location is enclosed as Map 1, Site Location Map.

16. OTHER LOCATIONS, DESCRIPTIONS, IF KNOWN

Response: The project is located on the area corresponding to the Stagecoach State Park. The project area is also locally known as the Stagecoach Area and is largely located to the east of Routt County Road # 14 between its intersections with Routt County Road # 16 and 17. The property in question is entirely identified on the maps of the Routt County Assessor's Office as land parcels 950293001 and 950303001.

17. DIRECTIONS TO THE SITE

Response: Starting in the center of downtown Steamboat Springs in front of the Routt County Courthouse proceed east then south on US Highway 40 for a distance of approximately 3.1 miles to the intersection of US Highway 40 and Colorado State Highway 131. Turn to the right off US Highway 40 onto Colorado State Highway 131. Follow Colorado State Highway 131 for a distance of approximately seven miles where there is an intersection in the road with signs indicating the Stagecoach State Park with an arrow pointing to the left or south. Turn to the left on this road, which corresponds to Routt County Road # 14 and proceed on this road for a distance of approximately 7.4 miles to another intersection. Turn left onto the road indicated by the road signs as Routt County Road # 16. At this point there is a bridge over the Yampa River and the Stagecoach Reservoir is located to the east of this point.

18. NATURE OF ACTIVITY

Response: This project involves the addition of a four-foot high concrete lip on the spillway of the existing roller compacted concrete Stagecoach Dam, which will result in raising the water level of Stagecoach Reservoir 4 feet. This will increase the existing area of Stagecoach Reservoir from 777.02 acres to 828.65 acres. This action will result in a total of 26.53 acres of jurisdictional waters of the United States being affected, which includes 23.14 acres of jurisdictional wetlands.

19. PROJECT PURPOSE

Response: The purpose of constructing Stagecoach Reservoir was described in the original Environmental Impact Statement issued in 1986 as to provide "industrial and municipal use, irrigation, recreation, hydroelectric power generation, and fish and wildlife" water. This document states that based upon the 1980 Census information, the population of Routt County was 13,604 persons. The storage capacity of the original Stagecoach Reservoir was estimated to be 33,275 acre-feet.

Due to a prolonged statewide drought, which commenced in 1999, the Colorado General Assembly in 2003 commissioned a study entitled the "Colorado Statewide Water Supply Initiative" (SWSI) to document the "existing supplies and existing and projected demands for water through the year 2030." This study documents that by 2030 the population of Colorado will increase by 2.82 million, and that for the Yampa/White/Green River basins, the population growth will increase faster than the State as a whole, with the 2000 population of Routt County projected to increase from 39,300 to 61,400 persons or at a rate of 56 percent, or at an annual rate of 2.24 percent. Due to past and projected population growth, increased demands for

municipal and domestic uses, increased recreational and environmental uses, increased irrigation demands and projected increases for augmentation supply, it is estimated that there will be an increase in water demand of 22,300 acre-feet in the Yampa/White/Green River basins. While this report acknowledges that conservation is an important tool in meeting future demands, it concludes that to supply the needed water, additional storage projects will have to be constructed or existing storage projected enlarged to meet this demand. Among the projects listed for the Yampa/White/Green River Basins are the enlargements of Elkhead and Stagecoach Reservoirs (Colorado Water Conservation Board 2004).

According to an account published in the 4 February 2007 ***Denver Post*** which summarized the recent report published by the ***Intergovernmental Panel on Climate Change***, the increase in global warming will have significant effects on Colorado, by increasing temperatures, decreasing precipitation, which would decrease the amount of winter snowpack available for storage and ultimately place greater demands on the need for water. This report concludes that the drought of the past few years could well become the "norm" for the future and suggests that this and similar proposals to increase water storage should be implemented sooner rather than later.

The 3,185 acre-feet of additional storage that would be generated by the proposed 4-foot raise in Stagecoach Reservoir would be released under future allotment contracts for municipal and industrial uses, irrigation uses, domestic uses and to satisfy augmentation supplies for adjudicated augmentation plans. This additional water storage may also be released for the generation of hydroelectric power. This additional 3,185 acre-feet of water stored in Stagecoach Reservoir, can also be used as a supplemental increase in the current recreational and fisheries' uses. The actual allocation of the additional stored water to such uses in the future will depend upon the ongoing demand. Ultimately, it is anticipated with the projected growth in the Yampa Valley, that all of the 3,185 acre-feet of additional storage will be used for the current water uses.

Currently, the following positive impacts are anticipated as a result of increasing the storage capacity of Stagecoach Reservoir.

- **Water Supply:** The existing storage capacity of the Yampa River Basin water supply is inadequate to meet both the existing and projected human needs. The inevitable population growth documented in various studies, projects a deficit of water unless additional storage and/or supplies are obtained. Enlarging Stagecoach Reservoir is one of the least environmentally damaging alternatives currently available.

- **Recreation Use:** When initially proposed in 1986, Stagecoach Reservoir, recreational use was projected at 71,000 recreational use days annually. Data obtained from the Colorado State Parks (CSP) documents that from 1989 through June 2006, visitor use averaged 205,357 visitor use days per year. Enlargement of Stagecoach Reservoir would allow for the current recreational use to continue if not slightly increase, which is consistent with local recreational trends. This proposed change is also consistent with the declared local objective of increasing opportunities for summer recreation in the Yampa Valley.

- **Threatened and Endangered Fisheries:** The U.S. Fish and Wildlife Service (Roehm 2004) has documented that the four threatened and endangered fisheries in the Yampa River basin require minimum base flows during the late summer and early fall months for maintenance of existing populations, and for the recovery to suitable population levels. A result of raising Stagecoach Reservoir would be that the base flows during the

late summer and early fall months would be augmented. The greater water storage capacity and the ability to produce additional hydroelectric power during this period when the demand for electricity is highest would be expected to enhance base flows in the lower Yampa River which is deemed a critical habitat for the threatened and endangered fisheries of the Yampa River Basin.

- **Hydroelectric Power Generation:** The enlargement of Stagecoach Reservoir would increase the head of water available to the power plant and storage capacity, allowing power to be produced over a longer period of time and more efficiently. Therefore, without altering the 800kW capacity generator, the project would be able to increase power production by approximately 6%, or 300,000 kWh.

- **Compliance with Colorado State Water Law:** As passed by the 2005 state legislature, House Bill 05-1177 entitled the "Colorado Water Supply for the 21st Century Act" requires State and local water districts to assemble data collected in connection with the SWSI requirements passed by the 2003 legislature to "develop a basin-wide consumptive and non-consumptive water supply needs assessment, conduct an analysis of available unappropriated waters within the basin . . . and propose projects or methods of meeting those needs." The enlargement of Stagecoach Reservoir by raising the water level 4 feet puts the UYWCD in compliance with these state laws.

- **Augmentation Water Supply:** In 2003, the City of Steamboat Springs filed for and obtained an absolute Recreational In-Channel Diversion water right on the Yampa River for flows from April 1 through August 15 of as much as 1,400 cfs. As a result the State Engineer has determined that the Yampa River and its tributaries upstream of Steamboat Springs is a "critical reach" and is over appropriated. As a result all diversions after 2003 will require an approved augmentation plan. Since a customary source for water augmentation plans is water storage, there is a substantial increase expected in demand in the Upper Yampa River basin for contracts for storage water and for augmentation purposes in the future. These demands further justify the proposed enlargement of Stagecoach Reservoir.

20. REASONS FOR DISCHARGE

Response: The discharge of fill materials into wetlands, totally through impacts associated with inundated is associated with the plans of the Applicant to raise the existing dam and corresponding surface water elevation of Stagecoach Reservoir four feet. No wetlands or other jurisdictional waters of the United States will be impacted by any construction or other means, other than inundation.

21. TYPE OF MATERIAL BEING DISCHARGED AND AMOUNT OF EACH TYPE IN CUBIC YARDS.

Response: The type and amount of fill in each impact area are presented in the discussion associated with item number 22.

22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED

A. WETLAND DELINEATION

The extent of jurisdictional wetlands and other waters of the United States on the Stagecoach

Reservoir site was mapped in the spring of 2004 and a formal wetland delineation report was submitted to the U.S. Army Corps of Engineers on 14 June 2004. Based upon a subsequent site verification visit performed by Mr. Ken Jacobson, formal approval of these boundaries was received in a letter dated 2 July 2004.

B. SUMMARY OF IMPACTS

Approval of this permit application will result in a total of 139 wetland areas or polygons above the current operating level (7,200') of Stagecoach Reservoir being affected, a total of 135 wetland polygons below the current operating level (7,200') of Stagecoach Reservoir being affected and a total of eight areas where rivers, streams or other areas of standing waters will be affected (Table 1, Jurisdictional Waters Impacts Summary). Each of these individual impact sites is shown at a small scale on Map 2, Wetland Impact Map and on Map 3, Wetland Impacts Index Map. Additional details, including each individual wetland that will be affected by impact polygon number, area and type of wetland to be impacted are found in Table 1, Jurisdictional Waters Impacts Summary, is found in more detail on Map 4, Impact Sites 1-2, 128-139; 1a-6a, 122a-135a & W1, W6-W8; Map 5, Impact Sites 3-13 & 7a-36a; Map 6, Impact Sites 14-28, 39-50; 37a-57a & W2; Map 7, Impact Sites 29-38, 42, 51-67 & 58a-69a; Map 8, Impact Sites 68-80 & 70a-74a; Map 9, Impact Sites 81-99; 75a-94a & W3; Map 10, Impact Sites 100-110; 95a-108a & W4; and on Map 11, Impact Sites 111-127; 109a-121a & W5.

In calculating the proposed wetland impacts, previous direction given by the COE on other reservoir projects wherein they have adopted the policy that all wetlands below the normal operating pool elevation will be impacted. Unfortunately, this policy is problematic for this site, due to the fact that the operational water levels of Stagecoach Reservoir are considerably more static than most other water storage reservoirs. The Corps' position is that the normal operating pool elevation is equivalent with the "ordinary high water mark" as defined in their regulations and assumes that all of the wetlands below the normal operating pool elevation will be lost as a result of inundation. Adoption of this policy at Stagecoach Reservoir would mean that the 5.96 acres of jurisdictional wetlands below 7,200' or 25.7 percent of the wetlands which will be affected by this action should not exist and that these wetland impacts do not exist at this site. Since these wetlands obviously exist and in order to follow the Corps previous directions, we elected to separate out the wetlands above and below the normal operating pool elevation (7,200') in our impact calculations. The wetlands below the normal operating pool elevation (7,200') also have significant implication with respect to proposed wetland mitigation as well.

Table 1

Jurisdictional Waters Impact Summary

Impact Site	SF Impacted	Cubic Yards of Fill	Wetland Type*	Map
Wetlands Above 7,200 Feet				
1	3,649	Inundated	PSS	3
2	47,878	Inundated	PEA	3
3	54,009	Inundated	PEA	4
4	10	Inundated	PEA	4
5	22	Inundated	PEA	4

6	14	Inundated	PEA	4
7	16	Inundated	PEA	4
8	5,463	Inundated	PEA	4
9	52,821	Inundated	PEA	4
10	309	Inundated	PEN	4
11	4,896	Inundated	PEA	4
12	77	Inundated	PEA	4
13	80	Inundated	PEA	4
14	1,186	Inundated	PEA	5
15	217	Inundated	PEA	5
16	172	Inundated	PEA	5
17	2,253	Inundated	PEA	5
18	418	Inundated	PEA	5
19	72	Inundated	PEA	5
20	509	Inundated	PEA	5
21	927	Inundated	PEA	5
22	124	Inundated	PEA	5
23	96	Inundated	PEA	5
24	4,353	Inundated	PEA	5
25	387	Inundated	PEA	5
26	223	Inundated	PEA	5
27	8,669	Inundated	PEA	5
28	712	Inundated	PEA	5
29	58	Inundated	PEA	6
30	27	Inundated	PEA	6
31	476	Inundated	PEA	6
32	64	Inundated	PEA	6
33	8	Inundated	PEA	6
34	7	Inundated	PEA	6
35	43	Inundated	PEA	6
36	116	Inundated	PEA	6
37	5	Inundated	PEA	6
38	489	Inundated	PEA	5
39	1,316	Inundated	PEA	5
40	730	Inundated	PEA	5
41	2	Inundated	PEA	5
42	122	Inundated	PEA	6

43	17,201	Inundated	PEA	5
44	89	Inundated	PSS	5
45	92	Inundated	PEA	5
46	1,734	Inundated	PEA	5
47	2,273	Inundated	PEA	5
48	291	Inundated	PEA	5
49	141	Inundated	PEA	5
50	155	Inundated	PEA	5
51	169	Inundated	PEA	6
52	1,434	Inundated	PEA	6
53	730	Inundated	PEA	6
54	355	Inundated	PEA	6
55	407	Inundated	PEA	6
56	533	Inundated	PEA	6
57	4,660	Inundated	PEA	6
58	2,200	Inundated	PEA	6
59	226	Inundated	PEA	6
60	1,123	Inundated	PEA	6
61	591	Inundated	PEA	6
62	1,026	Inundated	PEA	6
63	253	Inundated	PEA	6
64	148	Inundated	PEA	6
65	5	Inundated	PEA	6
66	9	Inundated	PEA	6
67	28	Inundated	PEA	6
68	101	Inundated	PEA	7
69	45	Inundated	PEA	7
70	18	Inundated	PEA	7
71	622	Inundated	PEA	7
72	211	Inundated	PEA	7
73	284	Inundated	PEA	7
74	30	Inundated	PEA	7
75	25	Inundated	PEA	7
76	148	Inundated	PEA	7
77	45	Inundated	PEA	7
78	38	Inundated	PEA	7
79	48	Inundated	PEA	7

80	749	Inundated	PEA	7
81	1,208	Inundated	PEA	8
82	676	Inundated	PEA	8
83	190	Inundated	PEA	8
84	40	Inundated	PEA	8
85	594	Inundated	PEA	8
86	1,725	Inundated	PEA	8
87	654	Inundated	PEA	8
88	21	Inundated	PEA	8
89	18	Inundated	PEA	8
90	960	Inundated	PEA	8
91	840	Inundated	PEA	8
92	887	Inundated	PEA	8
93	14,845	Inundated	PEA	8
94	2,088	Inundated	PSS	8
95	721	Inundated	PSS	8
96	35,310	Inundated	PEA	8
97	4,754	Inundated	PEA	8
98	28	Inundated	PEA	8
99	13,142	Inundated	PEA	8
100	322	Inundated	PEA	9
101	78,207	Inundated	PEA	9
102	122	Inundated	PEA	9
103	232	Inundated	PEA	9
104	28	Inundated	PEA	9
105	96	Inundated	PEA	9
106	5,379	Inundated	PEA	9
107	10,173	Inundated	PEA	9
108	708	Inundated	PSS	9
109	85,337	Inundated	PEA	9
110	721	Inundated	PEA	9
111	316	Inundated	PEA	10
112	57	Inundated	PEA	10
113	210	Inundated	PEA	10
114	2	Inundated	PEA	10
115	90	Inundated	PEA	10
116	111	Inundated	PEA	10

117	134	Inundated	PEA	10
118	416	Inundated	PEA	10
119	149	Inundated	PEA	10
120	2,374	Inundated	PEA	10
121	6,178	Inundated	PEA	10
122	28	Inundated	PEA	10
123	53	Inundated	PEA	10
124	18	Inundated	PEA	10
125	96	Inundated	PEA	10
126	1,703	Inundated	PEA	10
127	8	Inundated	PEA	10
128	835	Inundated	PEA	3
129	86	Inundated	PEA	3
130	11,982	Inundated	PEA	3
131	133	Inundated	PEA	3
132	233	Inundated	PEA	3
133	101	Inundated	PEA	3
134	1,525	Inundated	PEA	3
135	33,585	Inundated	PSS	3
136	15,124	Inundated	PSS	3
137	180,680	Inundated	PEN	3
138	369	Inundated	PEN	3
139	850	Inundated	PEN	3
Subtotal	748,734 SF	(17.19 acres)		
Wetlands Below 7,200 Feet				
1a	33,323	Inundated	PEA	3
2a	19	Inundated	PEA	3
3a	62	Inundated	PEA	3
4a	3,525	Inundated	PEA	3
5a	19	Inundated	PEA	3
6a	1,131	Inundated	PEA	3
7a	6	Inundated	PEA	4
8a	13	Inundated	PEA	4
9a	2	Inundated	PEA	4
10a	21	Inundated	PEA	4
11a	268	Inundated	PEA	4
12a	46	Inundated	PEA	4

13a	16	Inundated	PEA	4
14a	8	Inundated	PEA	4
15a	11	Inundated	PEA	4
16a	4	Inundated	PEA	4
17a	1,695	Inundated	PEA	4
18a	609	Inundated	PEA	4
19a	819	Inundated	PEA	4
20a	13	Inundated	PEA	4
21a	5	Inundated	PEA	4
22a	184	Inundated	PEA	4
23a	2,056	Inundated	PEA	4
24a	5,487	Inundated	PEA	4
25a	90	Inundated	PEA	4
26a	45	Inundated	PEA	4
27a	58	Inundated	PEA	4
28a	198	Inundated	PEA	4
29a	680	Inundated	PEA	4
30a	1,422	Inundated	PEA	4
31a	444	Inundated	PEA	4
32a	435	Inundated	PEA	4
33a	54	Inundated	PEA	4
34a	4	Inundated	PEA	4
35a	25	Inundated	PEA	4
36a	177	Inundated	PEA	4
37a	1,468	Inundated	PEA	5
38a	2,157	Inundated	PEA	5
39a	140	Inundated	PEA	5
40a	375	Inundated	PEA	5
41a	18	Inundated	PEA	5
42a	15	Inundated	PEA	5
43a	2	Inundated	PEA	5
44a	227	Inundated	PEA	5
45a	4,058	Inundated	PEA	5
46a	26	Inundated	PEA	5
47a	32	Inundated	PEA	5
48a	39	Inundated	PEA	5
49a	887	Inundated	PEA	5

50a	328	Inundated	PEA	5
51a	7,819	Inundated	PEA	5
52a	7,092	Inundated	PEA	5
53a	151	Inundated	PEA	5
54a	263	Inundated	PEA	5
55a	263	Inundated	PEA	5
56a	253	Inundated	PEA	5
57a	450	Inundated	PEA	5
58a	97	Inundated	PEA	6
59a	67	Inundated	PEA	6
60a	3	Inundated	PEA	6
61a	29	Inundated	PEA	6
62a	14	Inundated	PEA	6
63a	53	Inundated	PEA	6
64a	35	Inundated	PEA	6
65a	20	Inundated	PEA	6
66a	43	Inundated	PEA	6
67a	88	Inundated	PEA	6
68a	1,060	Inundated	PEA	6
69a	25	Inundated	PEA	6
70a	4	Inundated	PEA	7
71a	30	Inundated	PEA	7
72a	25	Inundated	PEA	7
73a	20	Inundated	PEA	7
74a	5	Inundated	PEA	7
75a	22	Inundated	PEA	8
76a	5	Inundated	PEA	8
77a	34	Inundated	PEA	8
78a	298	Inundated	PEA	8
79a	48	Inundated	PEA	8
80a	5	Inundated	PEA	8
81a	191	Inundated	PEA	8
82a	41	Inundated	PEA	8
83a	354	Inundated	PEA	8
84a	2	Inundated	PEA	8
85a	31	Inundated	PEA	8
86a	2,732	Inundated	PEA	8

87a	708	Inundated	PEA	8
88a	1,742	Inundated	PEA	8
89a	60	Inundated	PEA	8
90a	1,889	Inundated	PEA	8
91a	73	Inundated	PEA	8
92a	9	Inundated	PEA	8
93a	52	Inundated	PEA	8
94a	228	Inundated	PEA	8
95a	1,037	Inundated	PEA	9
96a	209	Inundated	PEA	9
97a	4,055	Inundated	PEA	9
98a	2,892	Inundated	PEA	9
99a	2,280	Inundated	PEA	9
100a	288	Inundated	PEA	9
101a	3,494	Inundated	PEA	9
102a	1,775	Inundated	PEA	9
103a	974	Inundated	PEA	9
104a	1,011	Inundated	PEA	9
105a	6,839	Inundated	PEA	9
106a	562	Inundated	PEA	9
107a	145	Inundated	PEA	9
108a	23	Inundated	PEA	9
109a	137	Inundated	PEA	10
110a	62	Inundated	PEA	10
111a	626	Inundated	PEA	10
112a	343	Inundated	PEA	10
113a	16	Inundated	PEA	10
114a	11	Inundated	PEA	10
115a	11	Inundated	PEA	10
116a	5	Inundated	PEA	10
117a	82	Inundated	PEA	10
118a	36	Inundated	PEA	10
119a	60	Inundated	PEA	10
120a	6	Inundated	PEA	10
121a	596	Inundated	PEA	10
122a	42	Inundated	PEA	3
123a	47	Inundated	PEA	3

124a	83	Inundated	PEA	3
125a	4,151	Inundated	PEA	3
126a	1,625	Inundated	PEA	3
127a	345	Inundated	PEA	3
128a	14	Inundated	PEA	3
129a	9	Inundated	PEA	3
130a	24	Inundated	PEA	3
131a	68	Inundated	PEA	3
132a	22	Inundated	PEA	3
133a	100	Inundated	PEA	3
134a	9,537	Inundated	PEA	3
135a	126,618	Inundated	PEA	3
Subtotal	259,439 SF	(5.96 acres)		
Streams, Rivers and Standing Water Above 7,200 Feet				
W1	18,494	Inundated	Yampa River	3
W2	498	Inundated	Martin Creek	5
W3	1,698	Inundated	Little Morrison Creek	8
W4	1,112	Inundated	Youngs Creek	9
W5	353	Inundated	Middle Creek	10
W6	2,344	Inundated	Open Water	3
W7	110,496	Inundated	Open Water	3
W8	16,433	Inundated	Open Water	3
Subtotal	151,617 SF	(3.48 acres)		
TOTAL WETLAND IMPACTS		23.14 acres		
TOTAL WATER IMPACTS		3.48 acres		
TOTAL IMPACTS		26.63 acres		
* PEN=Natural Palustrine Emergent; PEA=*PEA=Artificial Palustrine Emergent*; PSS=Palustrine Shrub-shrub				

C. ALTERNATIVES ANALYSIS

A total of five alternatives have been considered by the Applicant with respect to the proposed enlargement of Stagecoach Reservoir: a 2-foot raise, a 4-foot raise, a 6-foot raise, construction of a new reservoir at a different location and no-action. Evaluations by the UYWCD determined that the proposed 4-foot raise would provide the best balance of environmental impacts, storage capacity and cost factors. The no-action alternative was dismissed since it would not address the need for increased storage capacity, increased recreation opportunities, threatened and endangered species would not receive the benefits of increased base flows, the production capacities for hydroelectric power would remain unchanged and the UYWCD would have to seek other means of complying with the Colorado Water Supply for the 21st Century Act (House

Bill 05-1177). The construction of a new reservoir was dismissed since this alternative would take years to complete and do nothing to address the immediate needs for increased water storage in the upper Yampa River Basin. This alternative would also result in significantly greater environmental impacts, including impacts to jurisdictional wetlands that does the preferred alternative of increasing the current water level by four feet.

The alternatives described above, together with the Applicant's commitment to avoid all unnecessary additional impacts to wetlands or other regulated waters of the United States, and their mitigation commitments described below, demonstrates that they have appropriately provided for avoiding, minimizing, and mitigating all adverse impacts to wetlands and waters of the US to the greatest extent operationally possible.

D. DESCRIPTION OF CONSTRUCTION ACTIVITIES

All of the existing or proposed construction activities which are associated with this project are shown on Map 2, Wetland Impact Map. In the following narrative, each of these activities will be briefly discussed along with a discussion regarding the outstanding construction work which is being requested in connection with the Permitting Action.

Dam Modifications. The only direct construction associated with the enlargement of Stagecoach Reservoir is associated with raising the lip of the existing dam spillway four feet in elevation. The location of the dam is shown on Map 2, Wetland Impact Map and on Map 13, Wetland Mitigation Plan. A detailed plan view of the existing dam along with the area of proposed modification is shown in Figure 1, Plan View of Existing Dam and Proposed Modification. As shown on this figure the actual construction area involves on the spillway crest of the existing dam and is an area only approximately 14.5 feet wide and 58 feet long. Access to the top of the existing spillway crest during construction will be accomplished through the use of a floating work barge and through the use of the existing access road along the top of the dam. The staging areas for the equipment will be the existing parking lot located to the north of the dam and the existing marina area. There will be no additional surface disturbance to any areas as a result of this proposed construction. No jurisdictional waters of any kind will be affected by the actual construction activities. All of the impacts associated with this project to jurisdictional waters will occur as a result of raising the water level of Stagecoach Reservoir four feet in height.

Existing Park Facilities. The UYWCD has worked closely with the Colorado State Parks who has leased the Stagecoach Reservoir for the purpose of operating Stagecoach State Park. Examination of their existing facilities reveals that three existing vault toilets, located just east of the bridge, in the existing Wildlife Habitat Preserve/Wetland Mitigation Area and at the Little Morrison Creek boat ramp, will have to be replaced. In addition, the main marina and Little Morrison Creek boat ramp, will have to have the concrete aprons, extended further up the hillside. The existing swim beach will have to be replaced along with minor modifications to the existing trail alignment along the west side of the reservoir and a few dozen Narrowleaf Cottonwood trees which they have planted along the shoreline will have to be replaced. The District has committed to replace all of the existing park facilities that will be affected by this action. None of these minor changes will result in any additional impacts to any jurisdictional waters other than those affected by inundation, and will not be discussed in further detail in this 404-Permit Application.

Other Impacts. The UYWCD has worked closely with the Morrison Creek Water and Sanitation District, Routt County and the owners and operators of the utility systems found in the

immediate vicinity of Stagecoach Reservoir and no impacts other than actual inundation, have been identified and believes that there will be no impacts other than those directly associated with the increased water level and associated inundation and anticipate no additional wetland impacts or needs of additional remediation beyond what is currently described.

E. WETLAND MITIGATION

Mitigation Plan. All of the wetland mitigation sites associated with the proposed action are shown on Map 12, Wetland Mitigation Plan and are tabulated in Table 2, Wetland Mitigation Summary, are owned by the Applicant. As required in previous permit applications, additional details regarding the proposed Wetland Mitigation Plans which address the Applicants response to sections III, V, VI, VII, VIII and IX of the **HABITAT MITIGATION AND MONITORING PROPOSAL GUIDELINES - SAN FRANCISCO DISTRICT CORPS OF ENGINEERS**. This information is found in the Exhibit A - Wetland Mitigation Plan for the Stagecoach Reservoir project.

The Applicant proposes to implement the terms and conditions of the Wetland Mitigation Plan concurrent with construction activities as soon as approval to commence construction is granted. Hopefully, all of the necessary permit approvals from the various permitting agencies, including the 404-Permit approval are obtained to allow construction to commence in the fall of 2007. Depending on the timing of permit approvals, there is the possibility that some of the reseeding, topsoil removal and transplanting operations might not be completed until the spring of 2008.

As summarized on Table 2, Wetland Mitigation Summary, the Applicant is proposing to create on-site and in-kind wetlands totaling a minimum of at least 25.00 acres to compensate for the 23.15 acres of wetlands that are projected to be lost as a result of inundation.

Selection of Wetland Mitigation Sites. The proposed wetland mitigation plan for the Stagecoach Reservoir enlargement project has been formulated to comply with the existing COE regulations regarding wetland mitigation as found in Regulatory Guidance Letter No. 02-2, issued in January 2003, which requires that compensatory wetland mitigation be directly toward on-site and in-kind mitigation efforts to mitigate the proposed permanent wetland disturbance that will result as a result of a raise of the crest of the dam 4 feet. The summary of proposed wetland impacts found in Table 1, Jurisdictional Waters Impacts Summary, documents that the total wetland impacts associated with this project are 23.15 acres. Three different wetland types will be affected by this action; *Natural Palustrine Emergent* wetlands (PEN); which consist of primarily of natural herbaceous graminoid wetlands, *Palustrine Shrub-Shrub* (PSS) wetlands which consist of a natural shrub dominated over-story with an under-story of graminoid wetland plants and *Artificial Palustrine Emergent* (PEA) wetlands which consist of wetlands which have become established since the construction of Stagecoach Reservoir. The existing shoreline wetlands which have become established since the construction of Stagecoach Reservoir consists primarily of herbaceous graminoid wetlands.

With respect to the wetlands which will be affected by this action, *Natural Palustrine Emergent* wetlands are the most ecologically important and structural diverse wetlands and amount to 1.28 acres or 5.55 percent of the wetlands which will be affected by this proposed action. *Palustrine Shrub-Shrub* wetlands account for 4.18 acres or 18.07 percent of the wetlands which will be affected by this action and these wetlands possess significantly lower ecological importance than due the *Natural Palustrine Emergent* wetlands. *Artificial Palustrine Emergent* wetlands account for 17.68 acres or 76.38 percent of the wetlands which will be impacted by this proposed action. These wetlands are the least ecologically diverse wetlands and possess the lowest wetland

Table 2, Wetland Mitigation Summary			
Mitigation Site	**Area (SF)**	**Mitigation Type**	**Map**
I	7,013	Relocated Shoreline Wetland	12
II	98,031	Relocated Shoreline Wetland	12
III	117,469	Relocated Shoreline Wetland	13
IV	7,881	Relocated Shoreline Wetland	13
V	3,495	Relocated Shoreline Wetland	13
VI	2,615	Relocated Shoreline Wetland	13
VII	6,970	Relocated Shoreline Wetland	13
VIII	44,060	Relocated Shoreline Wetland	13
IX	9,515	Relocated Shoreline Wetland	13
X	7,416	Relocated Shoreline Wetland	13
XI	2,430	Relocated Shoreline Wetland	14
XII	3,627	Relocated Shoreline Wetland	14
XIII	59,610	Relocated Shoreline Wetland	14
XIV	27,856	Relocated Shoreline Wetland	14
XV	87,139	Relocated Shoreline Wetland	14
XVI	23,615	Relocated Shoreline Wetland	14
XVII	253,866	Relocated Shoreline Wetland	14
XVIII	2,015	Relocated Shoreline Wetland	14
XIX	9,982	Relocated Shoreline Wetland	14
XX	13,254	Relocated Shoreline Wetland	12
XXI	4,312	Relocated Shoreline Wetland	12
Subtotal of Relocated Shoreline Wetlands Above 7,204' = 18.19 acres			
XXII	13,118	Relocated Shoreline Wetland	12
XXIII	17,964	Wetlands Above Shoreline	12
XXIV	8,150	Wetlands Above Shoreline	12
XXV	23,930	Wetlands Above Shoreline	12
Subtotal of Uplands Located within Two Feet of 7,204' = 1.45 acres			
IA	12,208	Wetlands Below Shoreline	12
IIA	31,251	Wetlands Below Shoreline	12
IIIA	190,291	Wetlands Below Shoreline	12
Subtotal of Wetlands Located Two Feet Below 7,204' = 5.37 acres			
TOTAL AVAILABLE WETLAND MITIGATION = 25.00 acres			

functions and values of all of the wetlands which will be affected by this action.

Due to the differences in ecological importance and wetland functions and values, these permanently impacted wetlands will be mitigated at different mitigation ratios. All of the natural occurring wetlands, the *Palustrine Shrub-Shrub* and *Natural Palustrine Emergent* wetlands which possess higher ecologically importance and wetland functions and values will be replaced at a higher mitigation ratio. Therefore, these wetlands will be the object of a compensatory wetland mitigation plan using a mitigation ratio of 1.2:1 (5.47 A X1.2 = 6.56 A) while the *Artificial Palustrine Emergent* will be mitigated at a ratio of 1:1 (17.68 A X 1 = 17.68 A). Therefore, the Applicant proposed to create a minium of at least 24.24 acres of compensatory wetland mitigation to offset the 23.15 acres of jurisdictional wetlands which will be affected by this proposed action.

The previous wetland mitigation monitoring efforts of the shoreline wetlands have significantly refined the conditions under which such wetlands become established. The initial 404-permit produced various concerns about the feasibility of the original wetland mitigation proposal. After a careful analysis of the 2004 wetland delineation mapping, it can be documented that there are only certain shoreline configurations that are suitable as proposed wetland mitigation sites. A detailed analysis of the 139 different wetland polygons which have become established above 7,200 foot elevation reveals the obvious. That most of the shoreline wetland formation has been on the flatter slopes. This evaluation reveals that 76.65 percent of the shoreline wetlands that have become established are associated with slopes of less than 10 percent. The greatest abundance of wetlands was found on slopes less than 3 percent (39.12 percent) the next greatest abundance of wetlands (31.66 percent) was associated with slopes between 3 and 6 percent and slopes between 6 and 10 percent accounted for only 5.87 percent of the newly formed shoreline wetlands. Slopes above 10 percent accounted for only 23.35 percent of the newly formed wetlands in these instances nearly all of the shoreline wetlands have formed on small benches formed by wave action against the bank. Our analysis also reveals some linear correlations between the slope and the width of the new shoreline wetlands which have formed since Stagecoach Reservoir was originally constructed. Newly formed wetlands on slopes less than 3 percent averaged 77.2 feet wide and extended for a raise of 2.1 feet above the existing water level of Stagecoach Reservoir (7,200'). Shoreline wetlands on slopes between 3 and 6 percent averaged 37.5 feet wide and had an average raise of 1.8 feet. Shoreline wetlands found on slopes between 6 and 10 percent averaged 20.48 feet in width and had an average raise of 1.9 feet. The exposure of the shoreline to the direction of the prevailing winds also appears to significantly affect the extent of shoreline wetland establishment. Examination of Map 2, Wetland Impact Map, shows that the vast majority of the shoreline wetlands that have become established are in locations that are directly affected by the direction of the winds and corresponding wave action. The prevailing direction of the winds is from west to east. Examination of this map shows very little shoreline wetland establishment on sites that are directly perpendicular to the winds and wave action. For example, in all of the coves and inlets there is significantly less shoreline wetland on the western facing shorelines. The vast majority of shoreline wetlands that have become established at Stagecoach Reservoir are found on sites that appear to be protected by the winds and there is decidedly more pronounced shoreline wetland development on eastern and southeastern than are found on westerly or south-facing shoreline aspects. This information is presented to show that the proposed wetland mitigation plan for the Stagecoach Reservoir is based upon a detailed analysis of those conditions which have allowed the new shoreline wetlands to form and assume that similar conditions will be present in the future.

A total of 25 different wetland mitigation sites are being proposed as shown on Map 11, Wetland Mitigation Plan, with greater details shown on Map 12, Wetland Mitigation Sites I-II & IA-IIIA /

XX-XXV; Map 13, Wetland Mitigation Sites III-X, Wetland Mitigation Sites XI-XIX. As shown in Table 2, Wetland Mitigation Summary the total amount of wetland mitigation area proposed in connection with this project is 25.00 acres.

Three primary kinds of wetland mitigation types are proposed in connection with this wetland mitigation plan. New shoreline wetlands that will be established along the flatter portions of the new shoreline above 7,204 feet, which will be produced as a result of relocating the existing shoreline wetlands and existing flat upland areas which are within 3 feet of the proposed water level that is located around the fringe of the new reservoir shoreline. As summarized in Table 2, Wetland Mitigation Summary, this type of mitigation corresponds to wetland mitigation sites I through XXI and amounts to 18.19 acres or 72.73 percent of the wetland mitigation being proposed.

The second type of wetland mitigation being proposed consists of four areas containing very flat upland sites, labeled with roman numbers XXII through XXV, which are all located immediately adjacent, and within two feet of the proposed new water level of 7,204 feet. Based upon the fact that these areas already possess hydric soils, with the elevated water level, these sites will also become jurisdictional wetlands. As summarized in Table 2, Wetland Mitigation Summary this type of proposed wetland mitigation corresponds to proposed wetland mitigation areas XXII through XXV and amounts to 1.45 acres and accounts for 5.80 percent of the wetland mitigation being proposed.

The third type of wetland mitigation being proposed consists of three four areas containing very flat upland sites, labeled with roman numbers XXII through XXV, which are all located immediately adjacent, and within two feet of the proposed new water level of 7,204 feet. Based upon the fact that these areas already possess hydric soils, with the elevated water level, these sites will also become jurisdictional wetlands. As summarized in Table 2, Wetland Mitigation Summary this type of proposed wetland mitigation corresponds to proposed wetland mitigation areas XXII through XXV amounts to 5.37 acres and accounts for 21.47 percent of the wetland mitigation being proposed.

Wetland Topsoil Salvage. The first component of wetland mitigation consists of salvaging wetland topsoil associated with the impact sites described in Table 1, Wetland Impact Summary. For those wetlands that can be easily accessed with backhoes, dozers and haul trucks without significant disturbance, the wetland topsoils and sod layer on these sites, will be salvaged using a backhoe, hauled to the new wetland creation sites, respread and respread with a dozer to a suitable thickness.

Specifically, wetland mitigation sites I, II & XX, shown on Map 14, Wetland Mitigation Sites I-II; IA-IIIA & XX-XIX will be created by salvaging the wetland topsoils and sod from the adjacent wetlands which will be disturbed by inundation and respread onto the adjacent new mitigation sites. Wetland mitigation sites VIII, IX & X shown on Map 15, Wetland Mitigation Sites III-X will similarly have the wetland topsoils and sod salvaged from the adjoining wetland disturbance sites and respread onto the proposed wetland mitigation areas. In a similar manner, the existing wetland topsoil and soil layer found on the wetlands which will be affected by inundation as shown on Map 16, Wetland Mitigation Sites XI-XIX will be salvaged and respread onto the adjacent wetland mitigation sites corresponding to mitigation sites XII, XIII, XIV, XV XVI, and XVII will be constructed using salvaged and respread wetland topsoil and sod. All of these wetland mitigation sites can be accessed with construction equipment via the existing road system or trails without additional surface disturbance.

The salvaging of existing wetland topsoil and sod from the wetlands adjacent to all proposed wetland mitigation sites will not be feasible in some instances. For example, due to the existence of adjacent park campgrounds, picnic facilities and other features and that fact that significant additional surface disturbance would be required, it will not be feasible to salvage the existing wetland topsoil and sod in the wetlands adjacent to wetland mitigation sites IV, V, VI & VII shown on Map 15, Wetland Mitigation Sites III-X. In the instance of proposed wetland mitigation site XXIII, located at the west end of the inlet area, it is not practicable to respread wetland topsoil and sod at this location because additional wetland impacts would result and this area already contains a hydric soil and many wetland plants and at this site it is believed that raising the water level will result in these areas being sufficiently subirrigated to become viable wetlands.

Significant wetland mitigation efforts are proposed in the vicinity of the reservoir inlet area. As shown on Map 12, Wetland Mitigation Plan and discussed in the previous narrative, in many instances there have been significant wetlands formed in the inlet area, often at depths upwards of 3.7 feet below the existing water level, and which average in the inlet area 2.8 feet below the existing water level of Stagecoach Reservoir and shown in Figure 5, Wetland Impact and Mitigation Cross-Section C - C'. However, in order to estimate proposed wetland mitigation areas below the new operating level of Stagecoach Reservoir, 7,204 feet, we took the overall average of 2.8 feet as shown on Map 12, Wetland Mitigation Plan in projecting where shoreline wetlands below the normal operating pool elevation of 7,204 feet will form.

Immediately to the east of proposed wetland mitigation site XXI are significant and valuable *Palustrine Shrub-Shrub* wetlands, found in the project area. All of these *Palustrine Shrub-Shrub* wetlands below the proposed depth of 7,201.2 feet (2.8 feet below the new operating level) are an ideal barrow source for wetland plant materials. In this area, the wetland sod material containing an over-story of willows below the 7,201.2 feet is available for salvage and redistribution onto proposed wetland mitigation sites IA, XXIII, XXIV and XXV. Similarly, the herbaceous wetland soil materials from this source are available for salvage and redistribution onto proposed wetland mitigation sites IA, IIA and IIIA where it is logical that herbaceous wetlands will form on the upland areas immediately below the 7,204 elevation and down slope to approximately 7,201.2 feet, where the wave action of the water and ice from the winters would allow the establishment of herbaceous *Artificial Palustrine Emergent* wetlands but preclude the establishment of a *Palustrine Shrub-Shrub* wetland type.

Vegetative Restoration Procedures. The Applicant is proposing compensatory wetland mitigation relative to all of the proposed wetland mitigation sites. Where wetland topsoil and the associated sod layer cannot be salvaged, then the Applicant is proposing to prepare these sites for reseeding in the following manner. For example, proposed wetland mitigation sites, IV, V, VI and VII shown on Map 15, Wetland Mitigation Sites III-X, will be prepared for the establishment of wetland vegetation by taking a brush cutter into these areas, and cutting down all of the upland Sagebrush and other upland plants and the discing or scarifying these soil surfaces and preparing a suitable rough and scarified seedbed for the planting of herbaceous wetland species. Those sites which will not receive wetland topsoil and sod will be reseeded with the wetland species found in Table 3, Wetland Seed Mixture and transplanted with willow cuttings to be salvaged from the inlet area described above.

The wetland species will be broadcast seeded at a rate of twenty pounds of pure live seed per acre. The transplants will be planted at the density which consists of planting willow cuttings on one hundred foot centers. The proposed willow transplant areas will not be along the immediate vicinity of the shoreline, where these plants will be subjected to the wave action of the water and

ice scouring during the fact and spring, but will be in these areas located near the up-slope edge of the proposed wetland mitigation areas. The Applicant submits that given the diversity of plant revegetation methods herein proposed, the lost functions and values of the disturbed wetlands will be restored in a timely manner and in fact the newly established wetland mitigation areas will possess higher wetland functions and values than most of the existing shoreline wetlands which will be affected by this action. These plantings will be made in the late fall of 2007 and early spring of 2008 or as soon as practicable after the necessary permit approvals are received and the site suitable.

The Applicant was informed by the COE during a pre-consultation meeting, that a primary concern they have with respect to proposed wetland mitigation efforts is that the wetland mitigation plan must have a defined goal with respect to the revegetation. They also stated that the proposed revegetation success standard should be based on the characteristics of the existing wetland vegetation found adjacent to the wetland impact areas and should contain a quantifiable standard upon which revegetation efforts and subsequent monitoring actions can be compared. If post mitigation monitoring identifies deficiencies in the reestablished vegetation then corrective actions should be presented. The wetland mitigation plantings will attain the following specified levels of wetland plant cover and willow transplant survival levels following planting and until revegetation monitoring is ceased.

The following revegetation success standards are proposed. At or near the end of the end of the first full growing season following the reseeding operations, the percent vegetative cover on the wetland mitigation areas will be equal to 50 percent of the average of all wetland sample plots associated with impacted wetland areas as found in the 2004 Wetland Delineation Report. At the end of the second full growing season, the vegetative cover on the wetland mitigation areas will equal 75 percent of this standard and at the end of the third growing season the percent vegetative cover on the wetland mitigation areas will be equal to 90 percent of this standard. The survival rate for the transplanted willow cuttings will be at least 75 percent.

The Applicant commits to ensuring that the vegetative growth on the proposed wetland mitigation areas will consist predominately of native indigenous wetland plants. However, as can be observed from species composition data found in the 2004 Wetland Delineation Report, there are non-native species which are indigenous to this area and the Applicant submits that they cannot reasonably be excluded from becoming established on the proposed wetland mitigation areas. The plant cover on the proposed wetland mitigation areas will consist predominately of wetland plants and will be progressing toward a wetland plant community dominated by a preponderance of wetland plant species.

In the event that monitoring data collected from the mitigation sites is deficient in terms of meeting the above-mentioned plant cover or willow transplant survival success standards, then the Applicant will propose appropriate corrective action in the required Wetland Mitigation Monitoring Reports such as the need to implement reseeding or additional transplanting measures which will be submitted to the appropriate agencies, to correct these deficiencies.

Vegetation Species List. A list of every plant which was sampled in connection with the wetland delineation mapping is found in original 2004 Wetland Delineation Report and documents that a total of 144 different plant species were found. The original wetland delineation report documents that in the original sampling of the 38 formal wetland sample plots a total of 67 species were wetland plants possessing an indicator status of FAC, FAC+, FACW or OBL. As used in this Permit Application, the term upland species denoted plant species as listed in the ***National List of Plant Species that Occur in Wetlands: Intermountain (Region 8)***

which possess a wetland indicator status of FAC, FAC-, FACU, or UPL.

The goal of wetland mitigation is to reproduce the native wetlands of the area to the greatest extent possible. Mitigated wetlands that are dominated by a few native plants that constitute a monoculture or possess low species diversity are not desirable for mitigation. Any reasonable planting plan must be based on the characteristics of the existing vegetation on the undisturbed areas and must be consistent with the goal of reproducing the native wetland plant community of the area to the extent possible. The proposed wetland seed contains a total of four different species which were all either sampled in the original wetland sample plots or observed growing in undisturbed wetlands on this site. Spreading Bentgrass was the most commonly encountered wetland plant sampled on this site. Given the proposed use of wetland sod and the seeding of native wetland plants proposed for reseeding or transplanting on this site, the Applicant believes that they have made a significant commitment toward reestablishing the native wetland plant community which existed on this site prior to disturbance.

Rather than relying on reseeding and transplanting as the primary sources of revegetation for the proposed wetland mitigation areas, the Applicant is proposing four different revegetation methods in connection with the wetland mitigation planting operations. These include the use of native wetland topsoils which will be salvaged from the proposed inundation area which contains a large seed bank of native wetland plants, rhizomes and seeds. The planting of seed mixtures which include predominately native wetland plant species. The transplanting of native willow cuttings and lastly the readily available seed source which is contained in the adjacent wetlands and associated wind borne mechanisms of seed dispersal along with the water from the Yampa River during periods of high flow, which contain an almost infinite supply of seed. The Applicant believes that these combined sources more than adequately ensure that the proposed wetland mitigation areas will be revegetated to predominantly native indigenous wetland plants and addresses the concerns raised regarding wetland mitigation efforts.

Table 3,

Wetland Seed Mixture. *

Common Name	Scientific Name	Seeding Rate # PLS/acre
Spreading Bentgrass	Agrostis stolonifera	5
Red Fescue	Festuca rubra	5
Creeping Wildrye	Elymus triticoides	5
Strawberry Clover	Trifolium fragiferum	5

*In the event that locally adapted commercially available seed of these species is not available, other species which are commercially available will be substituted and approval obtained from the COE prior to them being planted.

Mitigation Monitoring. All of the proposed wetland and undisturbed wetland sites adjacent to the proposed impact and mitigation sites were evaluated at the time of the original wetland delineation was conducted in the spring of 2004. A detailed summary of these sampled wetlands will be presented in the First Annual Mitigation Monitoring Report. The success rate for planted

vegetation on the wetland mitigation areas will be 50 percent after one year, 75 percent cover after two years, and 90 percent cover after three years.

Plant cover data will be collected using the point intercept vegetation sampling methodology as approved by the U.S. Army Corps of Engineers for use with the 1987 ***Wetland Delineation Manual*** via subsequent amendments and clarifications to the 1987 Manual. The sampling methodology will consist of randomly laying out a transect point and sampling in 10 cm intervals in a random direction. Each individual point will be recorded onto a field data sheet as to whether a live plant, (identified to the species level) litter, rock or bare ground is encountered.

The transect locations will be randomly located in each wetland mitigation area. As found on the guidelines of the Colorado Division of Minerals and Geology (CDMG) Vegetation Sampling Guideline a minimum of 15 plant cover samples will be taken from each wetland mitigation site to characterize the plant cover. Data from these samples will be used in the statistical analysis to determine sample adequacy calculations and by the time that the final Mitigation Monitoring Report is submitted the Applicant will ensure that sampling is conducted with a sufficient number of samples to satisfy the 90 percent confidence interval sampling requirement of the CDMG.

Since multiple sites will be involved in the sampling of the wetland mitigation sites, the Applicant commits to ensure that a statistically adequate number of vegetation transects is sampled from each mitigation site. Therefore, the comparison of the ultimate revegetation success will be determined on comparing each individual mitigation site with the proposed revegetation success standards.

The wetland seed mixture found in Table 3, Wetland Seed Mixture, contains a total of four indigenous wetland species which were either encountered in the wetland sample plot sampling, or observed growing in the wetlands found at the Stagecoach Reservoir site. Several of these five species were commonly encountered in the wetland plots sampled on this site. With this proposed wetland seed mixture, transplanting of the willow cuttings, and the salvaging of wetland sod, the Applicant feels that this is a significant commitment toward reestablishing the native wetland vegetation found on this site.

The 25 new shoreline wetlands that will be created are shown on this map and are labeled with roman numerals I through XXV. At these locations, the existing shoreline wetland fringe will be excavated using a tracked backhoe to a depth of approximately one foot and this existing wetland topsoil and sod will be respread onto the proposed wetland mitigation sites.

Summary of Wetland Mitigation Activities

As recommended by the COE, all of the wetland mitigation efforts proposed in connection with this 404-Permit Application have been prepared to conform to and address all of the elements found in sections III, V, VI, VII, VIII and IX of the **HABITAT MITIGATION AND MONITORING PROPOSAL GUIDELINES - SAN FRANCISCO DISTRICT CORPS OF ENGINEERS**. This information is found in the Exhibit A - Wetland Mitigation Plan.

Credentials. In order to ensure that all of the commitments associated with the wetland mitigation work contained in this 404-Permit Application are accomplished, the direct daily construction activities will be under the direct daily supervision of either Mr. Kent Crofts or Mr. Kevin McBride who will supervise the earth moving contractor in all aspects of the wetland mitigation activities with which the contractor is involved. These same individuals will also supervise any revegetation contractors who might be engaged to implement the provisions of the Wetland Mitigation Plan. Both of these individuals have had extensive prior experience on

the Stagecoach Reservoir site and elsewhere in northwest Colorado in dealing with successful wetland mitigation efforts.

Revegetation. The locations of all of the proposed planting or revegetation areas along with a discussion of the remedial measures to be taken at each site are presented in a previous narrative describing where the wetland mitigation activities will occur. The plant species which will be used in connection with the vegetative restoration procedures will consist only of seeding indigenous plants found in the area and which have been recommended by the Natural Resource Conservation Service for revegetation purposes in this area.

All wetland disturbance areas will be seeded with the mixture found in Table 3, Wetland Seed Mixture which contains only indigenous wetland species which naturally occur at Stagecoach Reservoir. This proposed seed mixture contains a total of four wetland species which were observed growing in this immediate area or which were encountered in the wetland plots sampled on this site. The Applicant feels that this is a significant commitment toward reestablishing the native wetland vegetation found on this site.

The source of the commercial seed which will be planted is not yet known, however, great care will be taken to ensure that the seed which is purchased is local to the area to ensure that unadapted variants of these plants are not planted. It is likely that the wetland plant seed will be purchased from a commercial seed supplier such as the Granite Seed Company or Wind River Seed Company.

Three sources of salvaged woody plants will be used for the mitigation plantings. These sources consist of native willow cuttings which will be collected from adjacent undisturbed lands owned by the Applicant described in the previous narrative. There will be no digging of seedlings, mature plants, sedge plugs or any other wetland plants from the Stagecoach Reservoir site that will not be affected by the changing water level and only those plants or wetland sod that will ultimately be lost to future inundation will be used in the wetland mitigation plantings. The project team has had excellent success in salvaging these types of wetland plant materials in the past and using them in past wetland mitigation efforts.

Planting methods of the commercially obtained seeds will be via a broadcast seeder. The transplanted wetland stock will be either via hand dug holes or in some instances via holes punched by a small backhoe.
Additional impacts to wetland and stream areas during the planting operations will be avoided by ensuring that mechanized equipment is not used in situations where additional disturbance will result. These plantings either will be made by hand plantings or using the hydromulcher which can blow the seed onto the desired site without any additional impacts.

The expected hydrological regime of all proposed wetland mitigation sites will essentially be identical to those found for the existing shoreline wetlands. All existing wetland and stream areas adjacent to the proposed wetland mitigation areas will be delineated by wetland delineation flagging and appropriately marked in the field to ensure that there is no accidental disturbance to these adjacent wetland areas during the wetland mitigation work. Access to all of the proposed wetland mitigation areas by the necessary construction equipment can be made either from existing upland areas or across wetland areas that will be disturbed by future inundation. There will be no reason why equipment will need to affect any of the wetlands adjacent to this site.

There will be direct supervision of all field work adjacent to wetland areas by the project's wetland biologist, Mr. Kent A. Crofts, who will ensure that there are no additional wetland

impacts associated with this project. The flagging of the proposed limits of the new wetland mitigation areas will be performed either by Mr. Crofts or by a registered professional surveyor. Daily supervision of the wetland mitigation efforts will be performed by either Mr. Crofts or Mr. Kevin McBride, project engineer of the UYWCD.

The Applicant hereby commits to implement a wetland mitigation monitoring plan for a period of at least three years or until successful revegetation as determined by a statistical comparison of the wetland plant cover data collected from wetland mitigation sites. If it is found necessary, then undisturbed wetlands adjoining the proposed wetland mitigation sites might be sampled.

The percent vegetative cover on all wetland mitigation sites which will be seeded or receive sod or willow will be monitored by randomly placing vegetative transects. Plant cover on these areas will be sampled using the methodology utilized in documents issued by the CDMG which have been approved by the federal office of Surface Mining and Reclamation entitled "Guidelines for Compliance with Land Use and Vegetation Requirements for Coal Mining" issued on 16 June 1987 and "Guideline Regarding Selected Coal Mine Bond Release Issues" issued on 18 April 1995.

Since the existing shoreline hydrologic regime will be transferred up slope by raising the water level, the Applicant does not feel that it will be necessary to monitor the hydrologic or edaphic conditions in the proposed wetland mitigation sites.

The percent vegetative cover on the corresponding wetland mitigation sites will be compared using a direct comparison with the proposed revegetation success standard. If the plant cover values on the wetland mitigation areas exceed the proposed revegetation success standard then the wetland mitigation efforts will be considered to be successful. In the event that it becomes necessary to sample adjoining undisturbed wetland reference areas, then the plant cover from the wetland mitigation sites will be compared via a simple *"t test"* statistical comparison with data collected from the reference area wetlands. Reference area wetland sampling will only be conducted if the absolute plant cover values from the wetland mitigation sites are less than the proposed standard. In the event that reference area wetland sampling is utilized, then successfulness of revegetation efforts on the wetland mitigation areas will be deemed successful when sampling demonstrates that the plant cover values from the wetland mitigation areas are statistically equal to that found on the corresponding undisturbed wetland reference area. In addition to this vegetation monitoring data, which will be submitted for a period of at least three years or until successful. Revegetation will be documented in the form of an annual wetland mitigation monitoring report, which will be submitted by 15 February each year.

Mitigation Monitoring Report. A wetland mitigation monitoring report will be submitted as outlined in the response above, which addresses the successfulness of all wetland mitigation efforts, and the problems or corrective actions which appear to be necessary. Copies of this report will be submitted to the U.S. Army Corps of Engineers for their review and acceptance.

Representative photographs included in the mitigation monitoring report will be taken from the wetland mitigation sites will be taken from the same reference points each year and include panoramic views of each site. At a minimum, two photographs will be taken from different photo points, which will be identified during the field sampling and staked with permanent stakes, for each proposed wetland mitigation area.

Photographs will be taken from the same reference point, which will be permanently staked in

the field and cover the same area each year and will be appropriately labeled. As a rule of thumb, a minimum of two photographs per site will be taken, depending on the size and complexity of the site. Depending on the conditions of the site being evaluated, additional photographs might be taken as well to document as yet undetermined issues.

The annual wetland mitigation monitoring report will contain a detailed comparison of conditions associated with each proposed wetland mitigation area along with a comparison of the conditions encountered during the monitoring of these areas. In the event of deficiencies in the wetland creation criteria with respect to vegetation, hydrology or soils associated with the proposed reference areas within the time frames committed to, will result in a detailed explanation of the possible reasons along with proposed corrective action which might be deemed necessary to correct the problem. Except for extremely unusual climatological events such as a drought, etc., the Applicant commits to implement the necessary corrective remediation actions before the start of the next growing season.

Contingency Plans If Mitigation is Unsuccessful. In the event that monitoring data demonstrates that the structural components as measured by the vegetation, hydrology or soils have not been adequately restored during the three-year monitoring period, then the Applicant will ensure that the specific contingency plans are identified in the annual mitigation monitoring report along with the necessary corrective actions which must be taken to correct the identified deficiency within one growing season of the problem being identified. Each annual wetland mitigation monitoring report will address the necessary corrective measures when success criteria and time frames of an approved wetland mitigation and 404- permit have not been met.

Two reference area methodologies will be used in connection with the Wetland Mitigation Plan monitoring programs. The first methodology involves quantifying the existing wetland baseline sample plot vegetation data to quantify the characteristics of the wetland vegetation which was impacted and to determine the relative amount and type of plantings which needs to be implemented for the wetland mitigation plantings for this site.

The second methodology involves the use of data collected concurrently at the wetland mitigation sites and undisturbed wetlands under similar climatological conditions. This approach utilizes the characteristics of the undisturbed wetlands adjacent to the disturbance areas to formulate a specific standard upon which the successfulness of the proposed wetland mitigation efforts on the proposed wetland mitigation sites and wetland mitigation areas will be evaluated. In the unlikely event that it becomes necessary to sample wetland reference areas, then the location of these sites will be submitted to an approval obtained from the COE prior to these areas being sampled.

At the present time the Applicant has identified three possible wetland contingency plans in the event that a suitable wetland mitigation area is not formed around the new shoreline of Stagecoach Reservoir. The preferred contingency option is to construct additional wetland mitigation basins along the western edge of the reservoir as shown on Map 12, Wetland Mitigation Plan. The Applicant has determined that there is also an additional area located just to the north of this site that is suitable for mitigation. In the event that it becomes necessary to construction this additional wetland mitigation then additional details will be included in the Annual Report and approval obtained from the COE prior to any work being conducted on this site.

A second contingency option available to the Applicant involves the wetland enhancement of the existing wetlands location mitigation site located near the inlet area. In this area many of the

wetlands that have become established from the original wetland mitigation efforts consist of herbaceous wetlands and as a general rule these wetlands lack the structural diversity commonly associated with riparian wetlands. Willows, Alders and other wetland shrubs and trees, including Narrowleaf Cottonwood could easily be planted into this area to increase the structural diversity and functions and values of these wetland areas.

The third wetland contingency option available consists of cooperating with the Colorado Division of Wildlife in wetland restoration and enhancement work on properties they either own or mange downstream of Stagecoach Reservoir. The Applicant has tried for months to arrange such a meeting to discuss possible wetland mitigation options but the staff needed for this meeting has been unavailable and the earliest possible meeting time available is still several weeks away. The Applicant will pursue this meeting and formula tentative plans and develop options in this area if monitoring of the existing wetland mitigation plan is determined to require additional remediation.

Potential Hydrological Impacts. The Applicant believes that the potential hydrological impacts associated with the wetland mitigation efforts will be minimal.

Inspections by Regulatory Personnel. The Applicant and their authorized agents will provide for inspections by regulatory personnel to monitor any phase of removal of wetland soil materials, wetland mitigation construction or monitoring efforts associated with this project.

Implementation Schedule. The Applicant will complete all of the provisions found in the Mitigation Proposal within twelve months after the issuance of the Individual 404 Permit Application, weather permitting. A tentative wetland mitigation schedule including fall and spring planting times has been presented previously

Wetland Topsoil Removal and Mitigation Schedule. The Applicant and their authorized agents will commit to implement all of the provisions involving removal of wetland topsoil and construction of the proposed wetland mitigation and monitoring activities as outlined in 404-Permit Application as soon as they obtain the necessary approvals from COE. Removal of wetland sod from existing wetlands will commence as soon as approval is given. The Applicant is hopeful that approvals will be obtained to complete all of this work by the fall of 2007. However, in the event that approvals are not given then the wetland mitigation efforts will commence in the spring of 2008 as soon as the ground is dry enough to work and prior to the filling of the reservoir by spring runoff if possible. In the event that approval is not given in time for the necessary field work to be completed in the spring of 2008, then this work will be completed in the fall of 2008.

Assuming that the necessary permit approvals will be obtained by 1 September 2007, the mobilization of equipment will commence as soon as possible after that date. By 10 September all of the equipment will be on-site and the wetland mitigation activities will commence. Wetland topsoil to be salvaged consists of suitable quality wetland topsoil will be segregated for use in the proposed wetland mitigation areas. Depending on the operational constraints, reapplication of these soil materials may be completed simultaneously with salvaging activities or shortly thereafter. As soon as the salvaged wetland topsoil has been respread, then the reseeding operations will commence as soon as possible thereafter. Reseeding and mulching operations should be finished by 1 November 2002. During the actual construction phase of this operation, photographs will be taken and as soon as the reseeding operations are finished, photographs will be taken of the completed mitigation activities. Transplanting of the designated willow cuttings will commence and be completed as soon as operationally feasible.

In the unlikely event that conditions preclude completion of the work in the fall prior the arrival of winter snows, then all of the construction work will be completed as early as possible in the spring of 2008 as soon as site is free of snow, dry enough to work, and prior to the arrival of high water. Reseeding operations will then be conducted once the water recedes.

In any event, the bulk of the planting activities should be completed prior to the onset of winter snows. Artificial seeding should be completed after the onset of fall frosts and prior to the arrival of winter snow. The transplanting of willow cuttings will be completed as soon as the site can be accessed during the following spring and while the soil is still wet.

Monitoring of the wetland mitigation areas will be conducted toward the end of the growing season, near the peak of plant productivity, which is typically near the middle of September. The monitoring reports will be submitted to the COE by 15 February of each year which will allow for adequate time for review and for the implementation of any corrective field work prior to the start of the growing season.

The Applicant commits, and will guarantee, that the implementation of the wetland mitigation plans will result in no additional impacts to wetlands as a result of these actions. Implementation of the wetland mitigation plan will not result in any additional impacts to wetlands.

When the monitoring of the revegetation efforts as documented in the annual monitoring report on the wetland mitigation sites are determined to be complete, wherein the plant cover standards are statistically similar between the mitigated wetlands and the undisturbed wetland reference areas, the Applicant will prepare a final wetland delineation report which will be submitted to the COE.

F. THREATENED AND ENDANGERED SPECIES

Consultation with the Grand Junction field office of the U.S. Fish and Wildlife Service and a corresponding letter mailed to the Applicant dated 18 October 2006 states that downstream of Stagecoach Reservoir there is designated critical habitat of four threatened and endangered fisheries: "the endangered Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*) humpback chub (*Gila cypha*) and bonytail (*Gila elegans*)." This letter states that the greatest concern the U.S. Fish and Wildlife Service has regarding the enlargement of Stagecoach Reservoir is the escapement of northern pike from the reservoir and that they might travel downstream in the Yampa River and adversely affect these threatened and endangered species. This letter recommended that the UYWCD further study the potential escapement of northern pike from Stagecoach Reservoir.

Based upon these recommendations, the UYWCD has initiated studies to determine the potential for increased escapement of northern pike from Stagecoach Reservoir due to the 4-foot increase in dam height. It has been determined that there are three potential avenues for entrainment at Stagecoach Reservoir. Entrainment could potentially occur through the powerhouse, over the spillway, and through the bypass jet value. To address this issue in greater detail, operations are being analyzed with respect to timing, frequency and duration of spill flows and operational releases that may entrain northern pike through all three potential avenues. The UYWCD has not completed this analysis but believes that the enlarged Stagecoach Reservoir will have little or no effect on the potential for escapement by northern pike.

Comments made by the U.S. Fish and Wildlife Service representative during the August 16th public hearing also expressed concerns regarding the potential effect of water depletions on the threatened and endangered species found in the lower Yampa River basin and Colorado Rivers.

To address is issue, UYWCD commissioned Resource Engineering of Glenwood Springs to determine the additional level of water depletions or consumptive use that will be associated with the enlargement of Stagecoach Reservoir. Results from this analysis have documented that there are two potential increases in consumptive use that will occur as a result of this action. There will be additional evapotranspiration as a result of the increased surface area of water in the reservoir and there will be additional consumptive use as result of the increased storage available to downstream users. This analysis reveals that the amount of additional evapotranspiration is calculated to equal 35.2 acre-feet and the amount of additional consumptive use is estimated to equal 435 acre-feet. Therefore, the additional amount of water depletions to the Yampa River basin as a result of this action is calculated to equal 470.2 acre-feet.

23. IS ANY PORTION OF THE WORK ALREADY COMPLETE?

Response: None of the work associated with this proposed action has been initiated and will not commence until all of the necessary approvals and permits are obtained.

24. ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC., WHOSE PROPERTY ADJOINS THE WATERBODY.

Response: According to the records of the Routt County Assessor's Office the following individuals or entities are adjacent landowners to the proposed project area:

Upper Yampa Water Conservancy District
P.O. Box 880339
Steamboat Springs, CO 80488-0339

Elmer E. & Irene E. Mc Millan
3850 Garrison Street
Wheatridge, CO 80033-4213

Public Service Company of Colorado
1225 17th Street, Room 400 - Tax Dept.
Denver, CO 80202-5533

Michael O. & Charles G. Roach
23585 Youngs Creek Way
Oak Creek, CO 80467-8562

Mitchell J. Clark
P.O. Box 881927
Steamboat Springs, CO 80488-1927

Gralen Investments LTD
10700 Montgomery Rd. Ste. 300
Cincinnati, OH 45242-3296

Sharon H. Cannon Revoc. Real Property Trust
P.O. Box 8748
Chatham, GA 31412

Richard Grant Saderdal (et al)
7565 East Easter Lane
Englewood, CO 80112

USDI-Bureau of Land Management
455 Emerson Street
Craig, CO 81625-1129

Barry Cunningham
271 Anemone Drive
Boulder, CO 80302-9783

Karen F. Cunningham
1007 Oyster Cove Drive
Gransonville, MD 21638

Paul P & Sara L. Barry
31020 Pawnee Trail
Oak Creek, CO 80467

Dana N. Hill
157 Ranleigh Ave.
Toronto, Canada

James A. Abels
316 SE Pioneer Way # 418-96
Oak Harbor, WA 98277

Robert D. & Holly H. Harker
7333 N 63rd Street
Longmont, CO 80503-8001

Brain T. Stahl (et al)
P.O. Box 774984
Steamboat Springs, CO 80477-4984

Tri-State Gen & Trans Assoc. - Tax Dept.
P.O. Box 33695 1100 W. 116th Ave.
Westminster, CO 80234-2814

Blue Valley Ranch Homeowners Assoc.
P.O. Box 772814
Steamboat Springs, CO 80477-2814

25. LIST OF OTHER CERTIFICATIONS OR APPROVALS/DENIALS RECEIVED FROM OTHER FEDERAL, STATE OR LOCAL AGENCIES FOR WORK DESCRIBED IN THIS APPLICATION.

Response: The Applicant has submitted a formal Application for Amendment of License to the Federal Energy Regulatory Commission (FERC) to obtain approval to raise the water level of Stagecoach Reservoir by four feet by altering the spillway crest elevation, thereby enlarging the reservoir storage capacity and increasing the project's potential for increasing downstream water supply. The Permit Application for this amendment was submitted on 9 January 2007.

A section 401 Water Quality Certification application will be made concurrent with this 404-Permit Application to the Colorado Department of Public Health and Environment. This compliance will ensure that the project impacts to water quality are avoided, minimized, and mitigated to the greatest extent possible.

The Applicant has been informed by the Routt County Planning Department that they must file a Floodplain Development Permit for impacts that affect lands within the 100-year floodplain as defined in the current FEMA maps as well as a Special Use Permit to modify the existing dam, reservoir and park facility structures that will be modified as a result of this action. The Applicant will work jointly with the Routt County Planning Department and the Colorado Water Conservation Board (CWCB) and apply for a letter of map revision to the floodplain maps and file a Conditional Letter of Map Revision (CLOMR), if such is determined necessary.

The Applicant has been informed by the Colorado State Engineers Office and the Colorado Division of Water Resources that to comply with the Dam Safety Rules and Regulations to modify the existing dam, that the construction plans and specifications must be submitted in a formal Permit for Dam Construction to their office and the necessary approvals obtained prior to commencing construction. The Applicant will file these permits and obtain the necessary approvals prior to beginning construction activities.

Other than these Federal, State and Local permits, the Applicant is not aware of any other permits which will need to be filed in connection with this project.

EXHIBIT A

WETLAND MITIGATION PLAN

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WETLAND MITIGATION PLAN

III. FINAL SUCCESS CRITERIA

All wetland mitigation activities must contain some quantifiable index whereby the successfulness of wetland mitigation efforts can be evaluated. Periodic monitoring of wetland mitigation sites will be conducted to ensure that the wetland mitigation efforts are progressing toward successful completion. Therefore, it is necessary to establish a definable target whereby it can be determined whether the mitigation efforts are moving toward the desired goal.

The focus of this proposed wetland mitigation plan are those areas shown on Map 12, Wetland Mitigation Plan and described in Table 2, Wetland Mitigation Summary and on the accompanying maps. This summary quantifies the probable area of each proposed wetland mitigation site and the appropriate map of each of the proposed wetland mitigation sites,

III. A. Target Functions and Values. The target functions and values of the impacted wetlands which will be restored via the provisions of this wetland mitigation plan are as follows. Since a three-parameter approach in determining whether an area is a jurisdictional wetland, a similar final wetland mitigation success criteria will be proposed for this project. The three parameter methodology utilized by the COE in their 1987 ***Wetland Delineation Manual*** and recently issued Arid West Interim Regional Supplement includes vegetation, soils and hydrology.

Vegetation. For purposes of a success standard, the successfulness of revegetation efforts on the mitigation sites will be evaluated using the following standards.

A. Sampling of the plant cover on the wetland mitigation sites near the end of the first full growing season will be equal to 50 percent.

B. At the end of the second year the vegetative cover on the wetland mitigation sites will be equal to 75 percent.

C. At the end of the third year the total plant cover on the wetland mitigation sites will be equal to 90 percent.

Using these standards, the successfulness of the revegetation efforts at each wetland mitigation site will be considered acceptable when the following vegetation criteria are determined to be present.

- The plant cover collected from a statistically adequate number of samples from each wetland mitigation site as calculated using the methodologies found in the references cited in the documents issued by the Colorado Division of Minerals and Geology and which have been approved by the federal office of Surface Mining and Reclamation to satisfy the requirements of the 1977 **Surface Mining and Reclamation Control Act.** These documents are the "Guidelines for Compliance with Land Use and Vegetation Requirements for Coal Mining" issued on 16 June 1987 and "Guideline Regarding Selected Coal Mine Bond Release Issues" issued on 18 April 1995 will be compared to the proposed revegetation success standard.

- In the event that the absolute cover from the wetland mitigation sites is less than the baseline cover values obtained from the original wetland delineation report for

disturbed and undisturbed wetlands, then reference area sampling might be conducted. In all instances a statistically adequate number of samples collected from the mitigation sites. Statistical adequacy will be determined using the ninety percent confidence interval standard. The two data sets will be averaged into a percent total cover for each respective site. These data will then be compared using a *t-test mean comparison* outlined in the references cited above to determine if the plant cover values are equal.

Plant cover of noxious weeds in excess of five percent, as defined by the Routt County Noxious Weed List, will be excluded from the statistical comparison. The cover on the wetland mitigation sites will be considered to be successful in terms of total plant cover when at least 90 percent of the sample plot values equal or exceed the designated standard at the 90 percent statistical confidence interval.

The final vegetation standard proposed deals with the dominance of wetland plant species growing on the wetland mitigation areas. As defined by the COE in their 1987 ***Wetland Delineation Manual***, the wetland mitigation areas will be judged to possess hydrophytic vegetation when at least 50 percent of the plants contributing to the total plant cover on the site possess wetland indicator status rankings of FAC or wetter as defined in the ***National List of Plant Species That Occur in Wetlands: Intermountain (Region 8)*** or in its subsequent amendments found in the U. S. Fish and Wildlife Service's Biological Report 88(26.8) published in May of 1988.

Soils. The wetland mitigation sites will not be sampled for soils to determine whether the hydric soils' criterion is satisfied since by rasing the water level these soils will be saturated for sufficient time to satisfy the wetland soils' criterion . . .

III. B. Target Hydrological Regime. The target hydrologic regime is the same that exists at the impact sites. The criteria for hydrology contained in the two references cited above will apply to determining whether the wetland mitigation site satisfies the criteria for hydrology. Monitoring of the duration of surface flooding will be primarily based upon hydrograph information collected by the UYWCD and visual examination as documented by dated inspections or photographs. However, the presence of an elevated groundwater table within a foot of the surface of the soil as determined from shallow groundwater monitor wells might also be used to satisfy these criteria. The ultimate criteria which will be used to determine the suitability of the hydrologic regime of the wetland mitigation sites will be that found in the wetland delineation process found in the 1987 Corps of Engineers Wetland Delineation Manual as amended in the Arid West Interim Supplement.

Demonstration of the presence of all of the three jurisdictional wetland criteria on the wetland mitigation sites will be evidence to conclude that the mitigation efforts are successful.

III. C. Target Jurisdictional Acreage to be Created. Based upon specific discussions with the COE, relative to this project and previous experience obtained from other projects in this area, the following mitigation ratio is proposed for the Stagecoach Reservoir wetland mitigation sites. As summarized on Map 12, Wetland Mitigation Plan, the existing 17.68 acres of shoreline wetlands that have formed since the original construction of Stagecoach Reservoir will be replaced at a mitigation ratio of 1:1. The existing 5.47 acres of undisturbed natural wetlands will be replaced at a mitigation ratio of 1.2:1. Applying these two wetland mitigation ratios to the 23.1445 of wetlands which will be impacted by this action means that the Applicant commits to restore a minimum of at least 24.24 acres of wetlands in the form of compensatory wetland

mitigation.

V. IMPLEMENTATION PLAN

The design and proposed implementation of this Wetland Mitigation Plan are based upon an extensive review of the scientific literature pertinent to this subject and area. Considerable information of this subject has been published over the years by the High Altitude Revegetation Workshop sponsored by Colorado State University. Also technical wetlands reports generated by the U. S. Fish and Wildlife Service, EPA, COE and previous experience of the proponents and consultants involved with this project was utilized in the design of this Wetland Mitigation Plan.

V. A. Rational for Expecting Implementation Success. As described previously, many site specific examples exist for this immediate area wherein wetlands have become established voluntarily under much harsher conditions that are being proposed. These examples demonstrate that when sufficient moisture is available and the soils have sufficient moisture holding capacity then it is reasonable to expect the establishment of properly restored wetlands.

V. B. Responsible Parties. The parties responsible for implementing this Wetland Mitigation Plan consist of the Applicant - The Upper Yampa Water Conservancy District and specifically Mr. Kevin McBride the project engineer for this project. The designated agent for the wetland permitting and corresponding Wetland Mitigation Plan is Mr. Kent Crofts. The contractor responsible for this project has not yet been selected.

The direct planning and daily supervision of the wetland mitigation activities will by Mr. Kent Crofts of IME with the assistance of Mr. Kevin McBride of the UYWCD. The unselected construction contractor will be will be directly responsible for the physical implementation of this plan.

V. C. Site Preparation. At each wetland disturbance site, the extent of wetland topsoil and sod material available for salvage will be field identified and flagged. Existing undisturbed wetland areas adjacent to the proposed wetland mitigation sites will be clearly identified so the proposed mitigation areas can be remediated without altering the native wetland soils which existed on these areas.

The wetland topsoil or sod materials will be removed using either backhoes, loaders and trucks, either alone or in combination. Growth medium removal operations will be supervised by the project Wetlands Biologist to ensure that the equipment operators properly implement the designed wetland mitigation plan. Special care will be taken during the wetland mitigation activities to ensure that all equipment access to the mitigation sites is across existing disturbance and no additional wetland disturbance will result due to the wetland mitigation activities.

There will be direct supervision of all field work adjacent to wetland areas by the project's wetland biologist who will ensure that there are no additional wetland impacts associated with this project. The flagging of the proposed limits of the new wetland mitigation areas will be performed by Mr. Kent Crofts, the project wetlands biologist. Daily supervision of the wetland mitigation efforts will be performed by Mr. Crofts as assisted by Mr. McBride.

Following removal of the topsoil materials in the wetland impact sites, these materials will be transported to the wetland mitigation areas for respreading and revegetation. Upon completion of the excavation activities, the wetland impact sites will be inspected by the Project Wetlands Biologist who will approve the topsoil removal operations. He will also ensure that the

respreading operations on each wetland mitigation site and identify either through field staking or other suitable means, how the original wetland topsoil will be prepared for reseeding operations. Once the fill materials have been removed, the original undisturbed wetland topsoil will be prepared for reseeding by roughing of the resulting soil surface by dragging the backhoe bucket or loader bucket across these sites or by some form of surface ripping or similar scarification which will be completed immediately following regrading operations of the respread topsoil to alleviate compaction and ensure proper coverage of the applied seed.

Every effort will be made to ensure that seed bed preparation is completed within a few days following the reapplication of the respread topsoil to encourage volunteer wetland plant growth and to ensure that all of the native seeds, roots and rhizomes found in this wetland material remain viable.

V. D. Planting Plan. The primary means of reseeding each wetland mitigation site will consist either reapplication of the wetland topsoil salvaged from the appropriate wetland disturbance, the reapplication of this salvaged wetland topsoil to the proposed wetland mitigation sites and the planting of the wetland seed mixture. This seed mixture will consist only of seeding indigenous native plants found on the Stagecoach Reservoir site and which have been recommended by the Natural Resource Conservation Service for revegetation purposes in this area. The plant mixture proposed to be used to seed the wetland mitigation sites consists of wetland species indigenous to this site.

Willow cuttings to be obtained from the wetland impact sites at the Stagecoach Reservoir Site a minimum of two three in length.

The seeding rates found in Table 3, Wetland Seed Mixture are based upon broadcast seeding rates. The wetland plant seeds will be purchased from a commercial seed supplier such as the Granite Seed Company or the Wind River Seed Company. Planting methods of the commercially obtained seeds will be via a broadcast seeder. All seeding and transplanting operations will be supervised by the Project Wetland Biologist, Mr. Kent A. Crofts, who is knowledgeable in the proper handling and planting techniques for these species. These plantings will be made in the fall of 2007 or early spring of 2008 or as soon as practicable after the necessary permit approvals are received and the site is dry enough to work. All of the seeding methodologies will be by hand plantings or broadcast seeder to ensure that there are not additional impacts to the adjoining undisturbed wetland areas.

V. E. Schedule. Removal of the existing wetland soil material and sod from each wetland impact site will be completed as soon as operationally feasible. Assuming that the necessary permit approvals will be obtained by 1 September 2007, the mobilization of equipment will commence as soon as possible after that date. By September 15th all of the equipment will be on-site and the wetland mitigation activities will commence. Salvaged wetland topsoil will be removed from each potential wetland impact site and immediately hauled to the proposed wetland mitigation site for reapplication Depending on the operational constraints, reapplication of these soil materials may be completed simultaneously with construction activities or shortly thereafter. The respreading of the wetland topsoil onto the proposed wetland mitigation sites will hopefully be completed by November 1st and the reseeding and transplanting operations will commence as soon as possible thereafter. Reseeding and mulching operations should be finished by 15 November 2007. During the construction phase of this operation and as soon as the reseeding operations are finished photographs will be taken.

Seeding should be completed after the onset of fall frosts and prior to the arrival of winter snow.

The transplanting of selected herbaceous vegetative plugs and woody transplants will be completed as soon as the site can be accessed during the following spring and while the soil is still wet. Transplanting of the willow cuttings should be completed by 1 May 2008.

V. F. Irrigation Plan. There will be no supplemental irrigation for the wetland mitigation sites in connection with this proposal as these areas are regularly saturated with groundwater and surface waters for a prolonged period during the spring and early summer.

V. G. As-Built Conditions. The final configuration of the wetland mitigation areas will be documented via a series of photographs and maps which will be prepared and included in the Annual Monitoring Report.

VI. MAINTENANCE DURING THE MONITORING PERIOD

VI. A. Maintenance Activities. The wetland mitigation sites will be periodically inspected by the project Wetland Biologist, Mr. Kent A. Crofts, during the growing season to monitor hydrologic conditions and plant response. If problems are encountered, they will be corrected and the COE will be notified in writing if conditions suggest that remedial action is required.

In the event that monitoring reveals that there are problems with respect to erosion control which are needed on the wetland mitigation sites, then Mr. Crofts or Mr. McBride will initiate hand corrective action to ensure that the newly planted sites are not damaged. If surface runoff into these sites is identified, then it will be directed into the established wetlands and drainage channels of the site.

The periodic monitoring of the wetland mitigation sites, will ensure that trash does not become a problem. In the event that paper or plastic is found on these sites it will immediately be removed. The monitoring or erosion control, herbivore problems or trash will be noted in the comments section of the field notes taken during the periodic site inspections. Monitoring of these sites will occur on at least a monthly basis during the first growing season and on as needed basis in the following years.

The newly planted wetland mitigation sites will also be monitored for noxious weed growth. Should noxious weeds pose a problem, meaning that the revegetation monitoring document that the percent cover of noxious weeds on these sites is approaching or exceeds the allowable five percent value, the Colorado State University Extension Service office will be consulted and recommendations obtained for control of these noxious weeds. If such control measures become necessary, the COE will be notified.

VI. B. Responsible Parties. The Applicant will ultimately be responsible for the successfulness of all wetland mitigation activities. However, day to day control of these maintenance operations will be under the control of Mr. Kent Crofts and Mr. Kevin McBride. The contractor responsible for implementing the necessary maintenance work has not yet been selected.

VI. C. Schedule. The status of wetland mitigation operations on this site will be monitored on a monthly basis during the growing season by either Mr. Kent Crofts or Mr. Kevin McBride. The results of these regular site visits will be documented in the Annual Monitoring Report.

VII. MONITORING PLAN

VII. A. Performance Criteria. The wetland success standards proposed in Section III. A, will

be routinely monitored to ensure that the vegetative growth on the wetland mitigation areas is progressing toward the desired goals. This evaluation will consist of periodic qualitative inspections of the site along with regularly scheduled quantitative monitoring efforts. During each inspection, the status of the plant growth on the wetland mitigation sites will be evaluated and a written memo prepared for inclusion to the monitoring file. All monitoring efforts will note whether the sites are flooded with surface water or possess sufficient moisture to saturate the soils.

The Applicant hereby commits to implement a wetland mitigation monitoring plan for a period of at least three years or until successful revegetation as determined by a statistical comparison of the wetland plant cover data collected from the adjacent undisturbed wetlands is achieved on the wetland mitigation sites, whichever is later.

VII. B. Monitoring Methods. Periodic inspections of the wetland mitigation areas will be made by the project Wetlands Biologist and Project Engineer who are directly responsible for the implementation of this Wetland Mitigation Plan. During the first growing season following completion of the wetland mitigation construction activities, monthly inspections will be made of the mitigation sites to determine the status of these areas. Emphasis will be placed on identifying problems which need to be corrected. Minor problems will be corrected at the time they are identified and major problems will be brought to the attention of the COE with a specific action plan on how they should be corrected.

Toward the end of the first growing season and following complete implementation of the wetland mitigation plan, and every year there after, which will normally be during the period from the middle of August through the end of September, a detailed quantitative inventory of each wetland mitigation site will be completed. This inventory will be conducted using methodologies similar to those utilized in the original wetland delineation so that comparisons can be made to determine the relative successfulness of the wetland mitigation efforts. At each site, an adequate number of samples will be collected to adequately describe the area. The specific vegetation parameters to be sampled include total plant cover and relative plant cover.

The percent vegetative cover on all wetland mitigation sites will be monitored by randomly placing vegetative transects within these areas. The random placement of the vegetation transects will be made by using a Trimble Model XRS Global Positioning System and the state plane coordinates of each proposed wetland mitigation or mitigation area will be determined. Based upon the four compass bearings these coordinates will be run through a random number generating software program we have developed and the random transect location will be determined. Once the randomized state plain coordinates have been determined these points will be established in the field by using the navigate feature of the GPS unit. Once the random point is staked in the field, the actual direction of the transect will be determined by using a random number generating computer program which will be added to the field data sheets in the office before traveling to the field.

Plant cover on these areas will be sampled using the methodology utilized in documents issued by the Colorado Division of Minerals and Geology and which have been approved by the federal office of Surface Mining and Reclamation entitled "Guidelines for Compliance with Land Use and Vegetation Requirements for Coal Mining" issued on 16 June 1987 and "Guideline Regarding Selected Coal Mine Bond Release Issues" issued on 18 April 1995. The specific sampling technique which will be used on these sites is called the Point Intercept Sampling Method. Using this method as outlined in the 1989 ***Wetland Delineation Manual*** one point will be sampled at 10 cm intervals. These 100 data points will be summarized into a single datum for

purposes of statistical analysis. A statistically adequate number of samples will be collected from the mitigation sites and if necessary from the corresponding reference area wetland areas to compare the data. Once a sufficient number of samples have been collected to characterize each area at the 90 percent confidence interval then the means from these two areas will be statistically compared.

The percent vegetative cover on the corresponding representative wetland will be sampled and compared via either a direct comparison of the appropriate revegetation success standard or a simple *"t test"* statistical comparison if data is collected from the revegetated wetland areas. Revegetation efforts will be considered to be successful when the percent plant cover on the wetland mitigation sites are equal to the approved revegetation success standard or found to be statistically equal to that found on the corresponding wetland reference areas. The success standard at the end of the first full growing season will be 50 percent. At the end of the second year the standard is 75 percent, and at the end of three full growing seasons the standard will be 90 percent.

In addition to this vegetation monitoring data, which will be submitted for a period of at least three years or until successful, revegetation will be documented in the form of an annual wetland mitigation monitoring report, which will be submitted by 15 February each year. This monitoring report will contain copies of the photographs taken on the site as will as copies of all of the wetland field data sheets which are collected from the mitigation sites and reference areas. Groundwater or surface water monitoring results along with the results of the hydric soils evaluations of the sites will also be included in the monitoring report.

During the initial construction process and during each sampling period thereafter, photographs will be taken from established photo points to document the status of the revegetation efforts on each wetland mitigation. These photographs will be included in the Annual Monitoring Report.

The monitoring efforts will extend for a minimum period of three years, at which time it is believed that the success criteria will likely be achieved. In the unlikely event that some sites have not yet achieved their success standards, then based upon the results of the monitoring information, this period may be extended.

In connection with the regularly scheduled monitoring activities, emphasis will be directed toward identifying the need for additional maintenance activities. These items include plant replacement, weed control, embankment stability, erosion control, animal damage, trash removal, and other such activities. Minor maintenance actions will be implemented at the time they are identified. However, normally unscheduled long term maintenance activities will be addressed in the Annual Monitoring Report. If emergency actions are identified which require immediate COE approval, then written notification will be sent to these agencies describing the nature of the problem and requesting a site inspection visit if necessary to correct the problem.

VII. C. Annual Reports. All of the results obtained from the regularly scheduled qualitative monthly inspections and the formal annual sampling will be prepared into an Annual Monitoring Report which will be submitted to the COE. This Annual Report will focus on presenting the quantitative sampling data collected, but will also include copies of the monthly inspection reports and selected photographs. This report will summarize the successfulness of each individual mitigation site relative to the other sites and the ultimate revegetation success criteria. Based upon the results of these monitoring data, recommendations will be made outlining the steps necessary to achieve the established success standards. This report will be submitted for formal agency review by 15 February each year for a period of at least three years.

Any special conditions or modification to the original 404 permit and accompanying wetland Mitigation Plan will be documented in the Annual Report. Copies of any such amendments will be included in an appendix to the Annual Report.

VII. D. Schedule. The Annual Monitoring Report will be submitted by 15 February of each year to the COE.

VIII. COMPLETION OF MITIGATION

The Annual Report will serve as the mechanism for documenting that the Wetland Mitigation Plan success standards have been achieved. If it is determined at the end of the three-year monitoring period that some sites have not yet achieved their designated standards, then based upon the conditions encountered on these sites at this time, recommendations will be made as to how to handle these situations. Approval will be obtained from the COE on how best to address these situations should they develop.

VIII. A. Notification of Completion. The COE will be notified of completion of the wetland mitigation monitoring activities through the Annual Report.

VIII. B. COE Confirmation. Applicant will discontinue monitoring activities upon confirmation from the COE that the mitigation activities are complete and that the goals of the Wetland Mitigation Plan have been achieved.

IX. CONTINGENCY MEASURES

IX. A. Initiating Procedures. In the unlikely event that monitoring data demonstrates that the structural components as measured by the vegetation or hydrologic sampling, are not adequately restored, then the Applicant will undertake the necessary corrective actions. The specific need and proposed contingency measures requested will be submitted to the COE in the Annual Report.

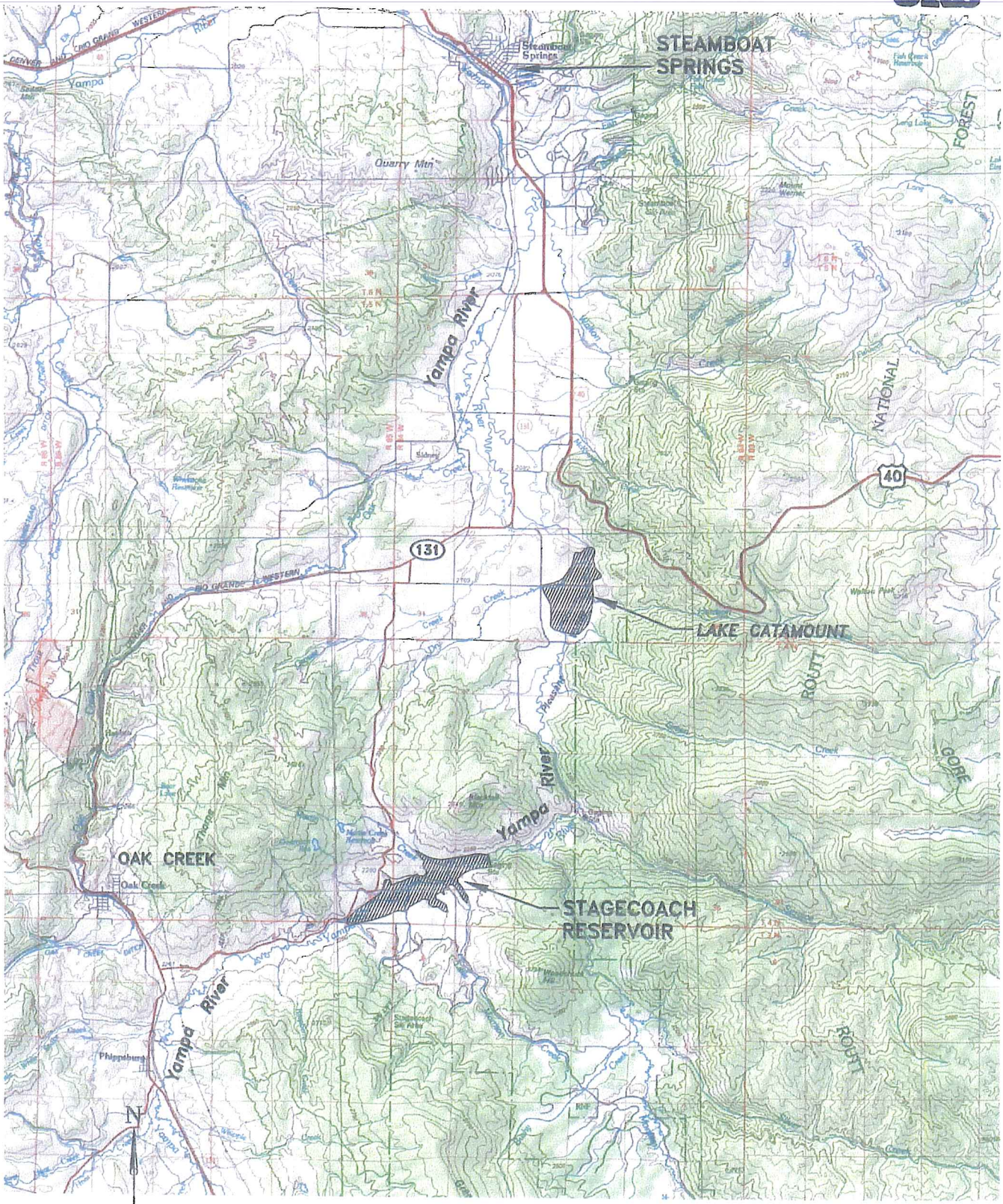
IX. B. Alternative Locations for Contingency Mitigation. As discussed previously, the Applicant has considered three possible contingency measures. The exact location of the possible on-site wetland contingency site is found on Map 12, Wetland Mitigation Plan as is the possible wetland enhancement area. The location of the possible joint CDOW and UYWCD mitigation site is not yet available and will be submitted only when it becomes necessary to pursue this option.

IX. C. Funding Mechanism. The Applicant will be responsible for the funding of any contingency measures which might be deemed necessary on this site.

IX. D. Responsible Parties. The same individuals outlined in the response to Item VI. B. will be responsible for the determination of contingency measures relative to this site.

MAPS

URS



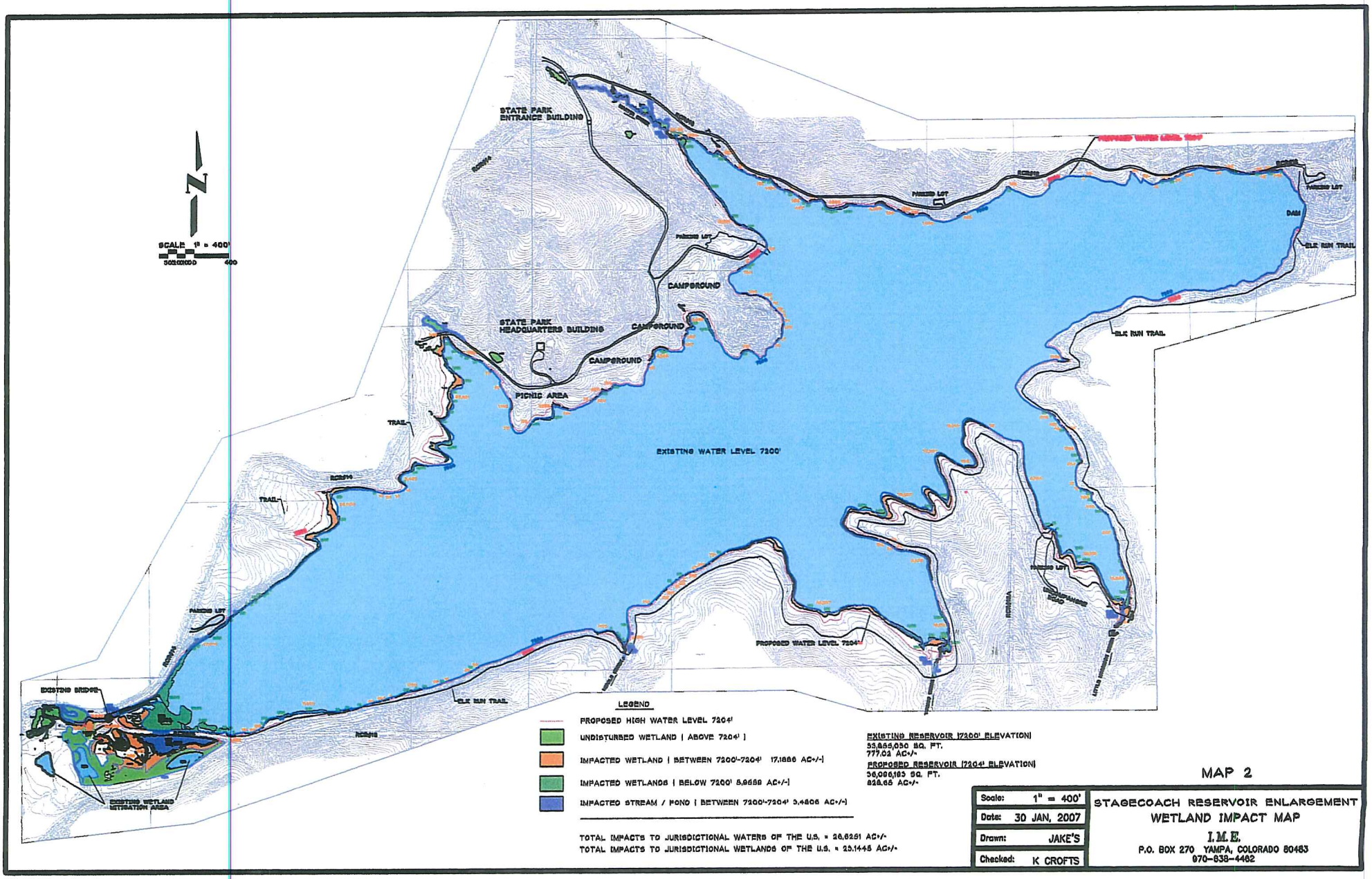
Job No. :	22237403
Prepared by :	JLD
Date :	6/29/06

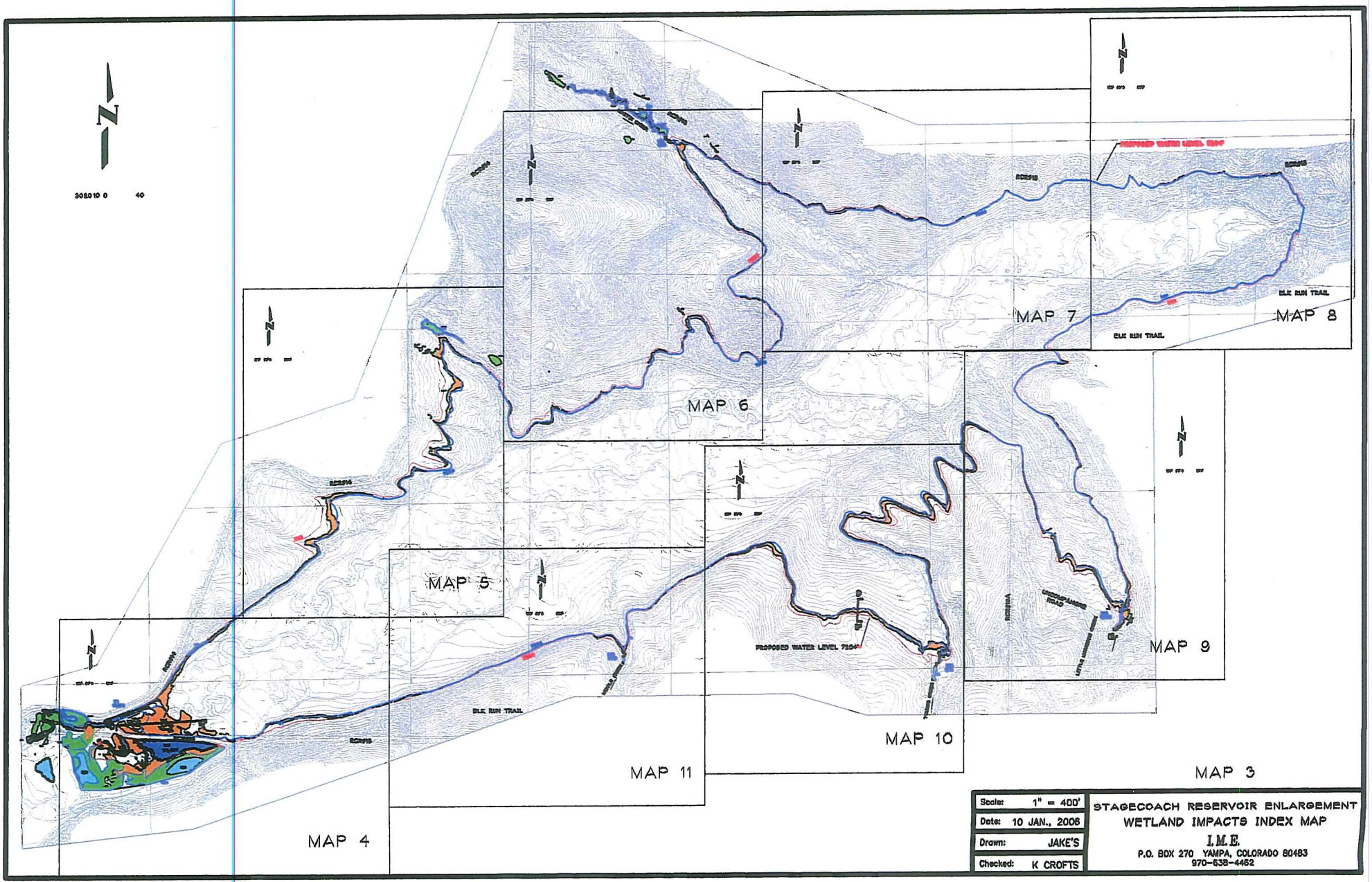
FIGURE E-1

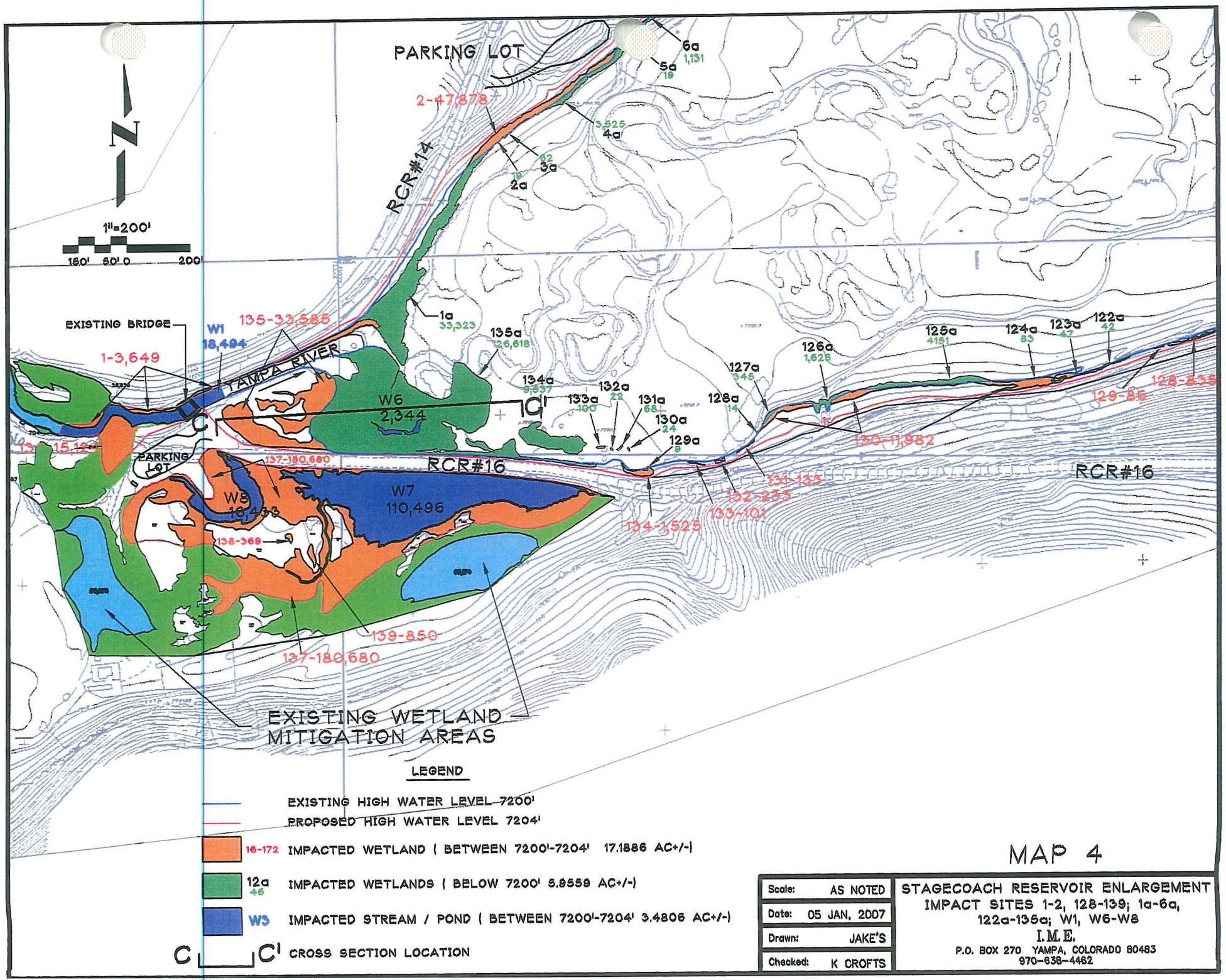
LOCATION MAP

STAGECOACH DAM

N:\Proje...7403_Stagecoach_Dam\Sub_00\09.0_CAD\LOCATION MAP.dwg Jan 04, 2007 - 4:56...


N
SCALE 1" = 400'
400
STATE PARK ENTRANCE BUILDING
STATE PARK HEADQUARTERS BUILDING
CAMPGROUND
CAMPGROUND
CAMPGROUND
PICNIC AREA
EXISTING WATER LEVEL 7200'
PROPOSED WATER LEVEL 7204'
DAM
ELK RUN TRAIL
ELK RUN TRAIL
TRAIL
TRAIL
PARKING LOT
PARKING LOT
PARKING LOT
PARKING LOT
EXISTING BRIDGE
EXISTING WETLAND MITIGATION AREA
LEGEND
PROPOSED HIGH WATER LEVEL 7204'
UNDISTURBED WETLAND (ABOVE 7204')
IMPACTED WETLAND (BETWEEN 7200'-7204' 17.1886 AC+/-)
IMPACTED WETLANDS (BELOW 7200' 5.9559 AC+/-)
IMPACTED STREAM / POND (BETWEEN 7200'-7204' 3.4406 AC+/-)
TOTAL IMPACTS TO JURISDICTIONAL WATERS OF THE U.S. = 26.6251 AC+/-
TOTAL IMPACTS TO JURISDICTIONAL WETLANDS OF THE U.S. = 23.1445 AC+/-
EXISTING RESERVOIR (7200' ELEVATION)
33,855,030 SQ. FT.
777.02 AC+/-
PROPOSED RESERVOIR (7204' ELEVATION)
36,096,183 SQ. FT.
828.65 AC+/-
MAP 2
Scale: 1" = 400'
Date: 30 JAN, 2007
Drawn: JAKE'S
Checked: K CROFTS
STAGECOACH RESERVOIR ENLARGEMENT
WETLAND IMPACT MAP
I.M.E.
P.O. BOX 270 YAMPA, COLORADO 80483
970-638-4462


MAP 4
MAP 5
MAP 6
MAP 7
MAP 8
MAP 9
MAP 10
MAP 11
MAP 3
PROPOSED WATER LEVEL 7304'
ELK RUN TRAIL
RCR#16
Scale: 1" = 400'
Date: 10 JAN., 2006
Drawn: JAKE'S
Checked: K CROFTS
STAGECOACH RESERVOIR ENLARGEMENT
WETLAND IMPACTS INDEX MAP
I.M.E.
P.O. BOX 270 YAMPA, COLORADO 80483
970-638-4462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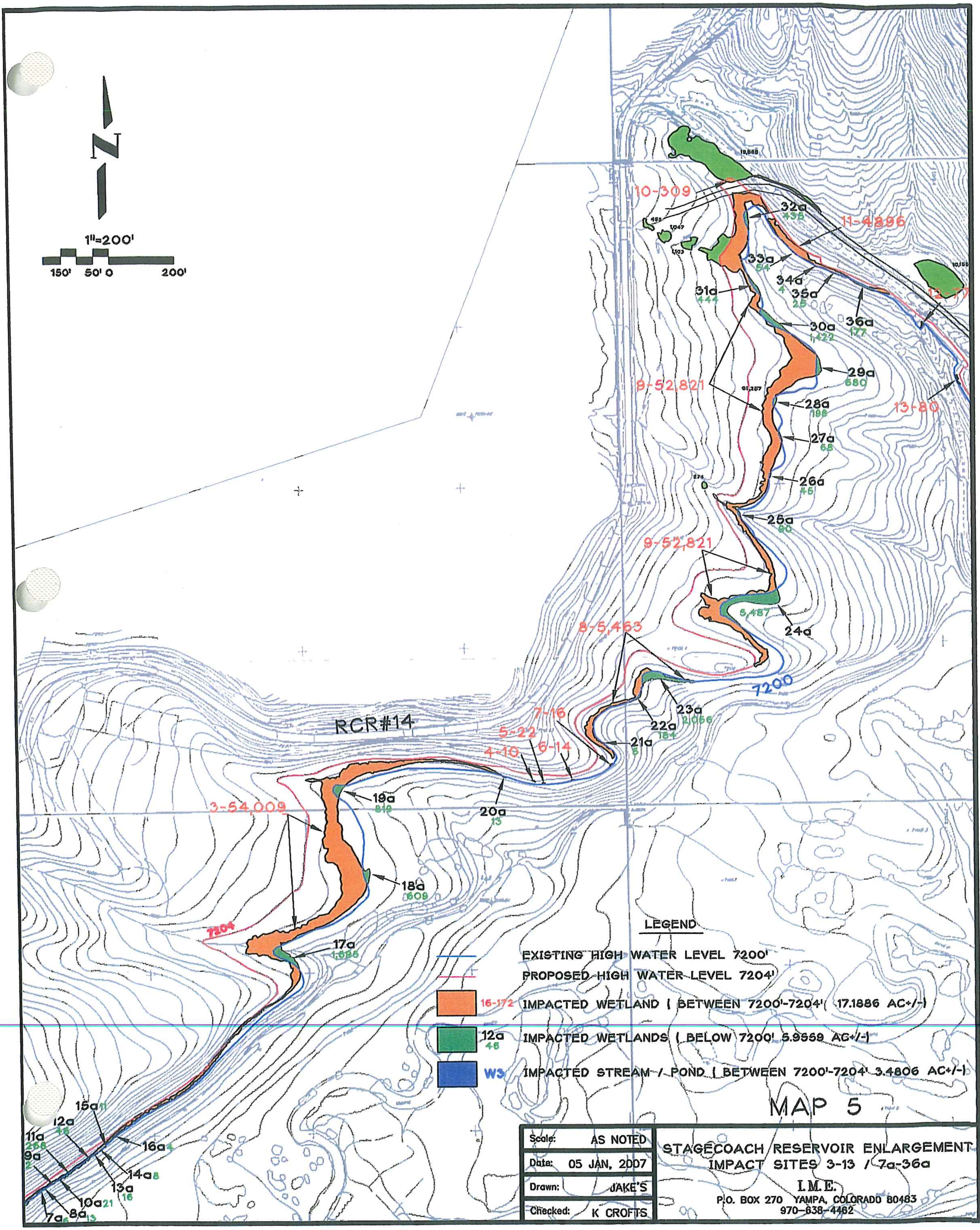
1"=200'
150' 50' 0 200'
PARKING LOT
6a
1,131
5a
19
2-47,878
3,525
4a
RCR#14
82
3a
19
2a
1a
33,323
135-33,585
W1
18,494
EXISTING BRIDGE
1-3,649
YAMPA RIVER
135a
126,618
W6
2,344
C
C'
134a
5,937
133a
100
132a
22
131a
68
130a
24
129a
9
128a
14
127a
345
126a
1,625
125a
4151
124a
83
123a
47
122a
42
129-86
128-838
130-11,982
PARKING LOT
137-180,680
RCR#16
W8
19,433
W7
110,496
138-369
131-135
132-233
133-101
134-1,525
RCR#16
139-850
137-180,680
EXISTING WETLAND MITIGATION AREAS
LEGEND
EXISTING HIGH WATER LEVEL 7200'
PROPOSED HIGH WATER LEVEL 7204'
16-172 IMPACTED WETLAND (BETWEEN 7200'-7204' 17.1886 AC+/-)
12a 46 IMPACTED WETLANDS (BELOW 7200' 5.9559 AC+/-)
W8 IMPACTED STREAM / POND (BETWEEN 7200'-7204' 3.4806 AC+/-)
C C' CROSS SECTION LOCATION
MAP 4
Scale: AS NOTED
Date: 05 JAN, 2007
Drawn: JAKE'S
Checked: K CROFTS
STAGECOACH RESERVOIR ENLARGEMENT
IMPACT SITES 1-2, 128-139; 1a-6a,
122a-135a; W1, W6-W8
I.M.E.
P.O. BOX 270 YAMPA, COLORADO 80483
970-638-4462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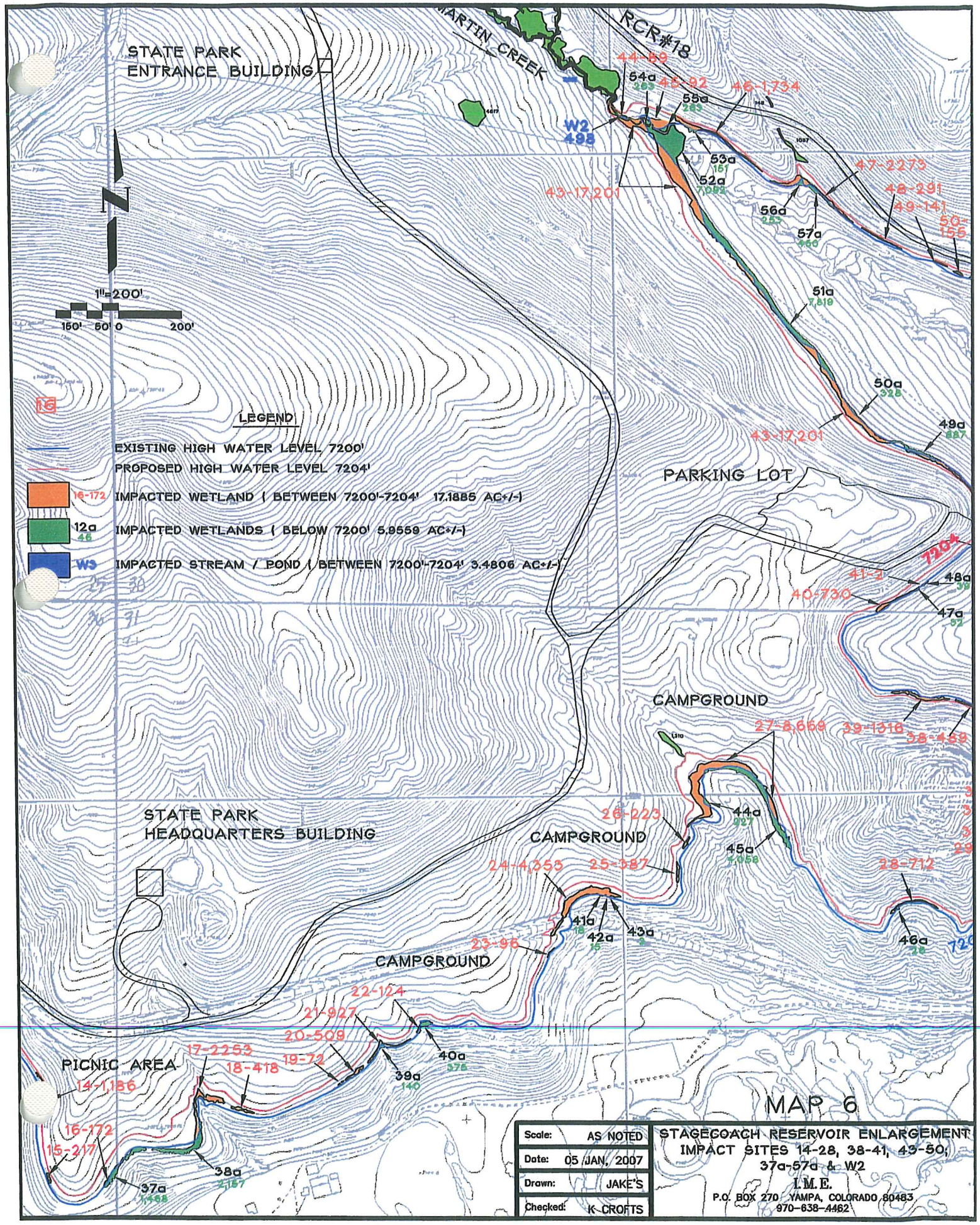
RCR#14
10-309
11-4896
12-77
13-80
9-52,821
9-52,821
8-5,463
7-16
5-22
6-14
4-10
3-54,009
7204
7200
32a 435
33a 54
34a 4
35a 25
36a 177
31a 444
30a 1,422
29a 680
28a 198
27a 65
26a 45
25a 90
24a 5,487
23a 2,056
22a 184
21a 5
20a 13
19a 819
18a 1,609
17a 1,685
16a 4
15a 11
14a 8
13a 16
12a 46
11a 266
10a 21
9a 2
8a 13
7a 6
LEGEND
EXISTING HIGH WATER LEVEL 7200'
PROPOSED HIGH WATER LEVEL 7204'
16-172 IMPACTED WETLAND (BETWEEN 7200'-7204' (17.1886 AC+/-)
12a 46 IMPACTED WETLANDS (BELOW 7200' 5.9559 AC+/-)
W3 IMPACTED STREAM / POND (BETWEEN 7200'-7204' 3.4806 AC+/-)
MAP 5
Scale: AS NOTED
Date: 05 JAN, 2007
Drawn: JAKE'S
Checked: K CROFTS
STAGECOACH RESERVOIR ENLARGEMENT
IMPACT SITES 3-13 / 7a-36a
I.M.E.
P.O. BOX 270 YAMPA, COLORADO 80483
970-638-4462

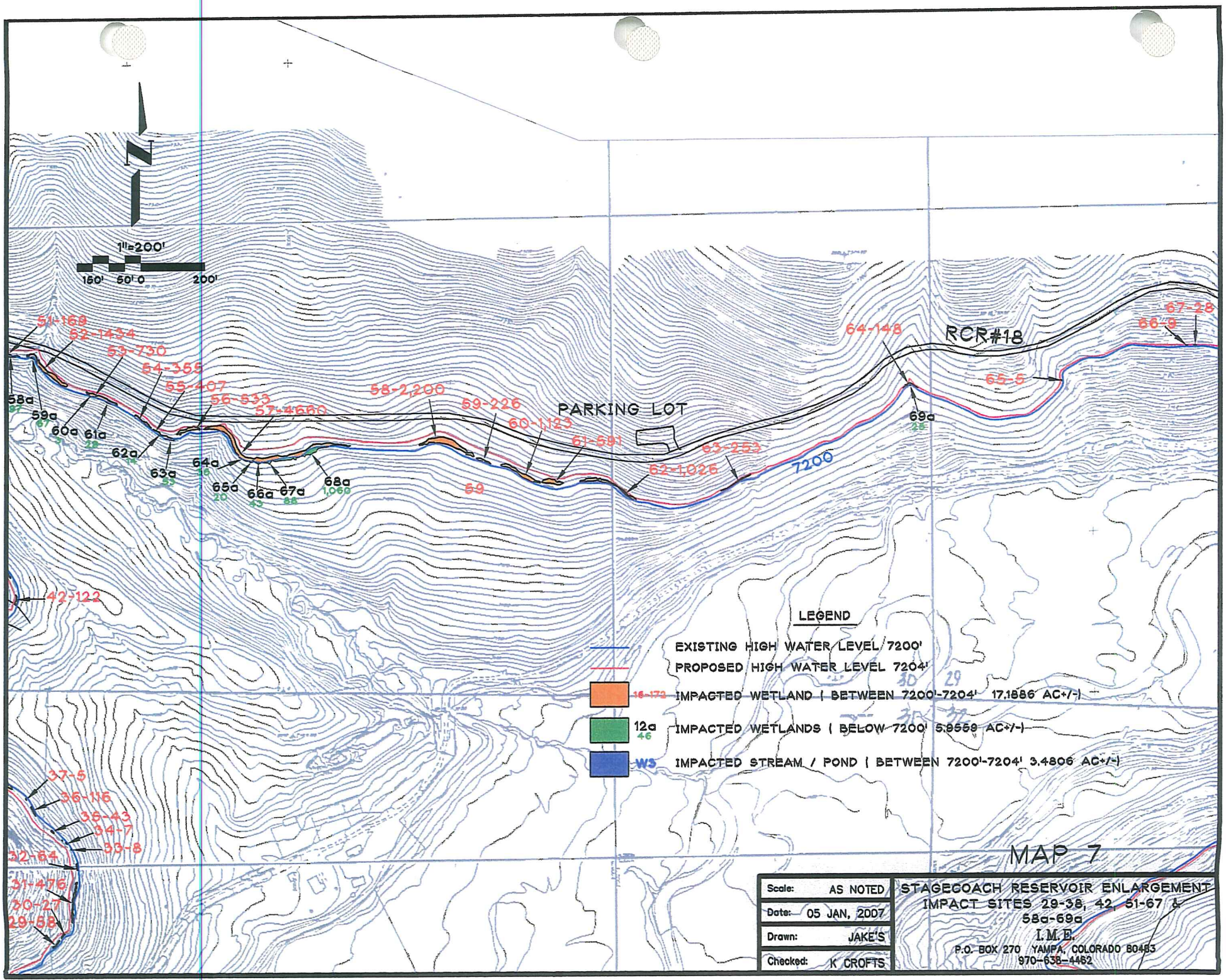


MAP 6

Scale:	AS NOTED
Date:	05 JAN, 2007
Drawn:	JAKE'S
Checked:	K. CROFTS

STAGECOACH RESERVOIR ENLARGEMENT
IMPACT SITES 14-28, 38-41, 43-50,
37a-57a & W2

I.M.E.
P.O. BOX 270 YAMPA, COLORADO 80483
970-638-4462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56-533
57-4660
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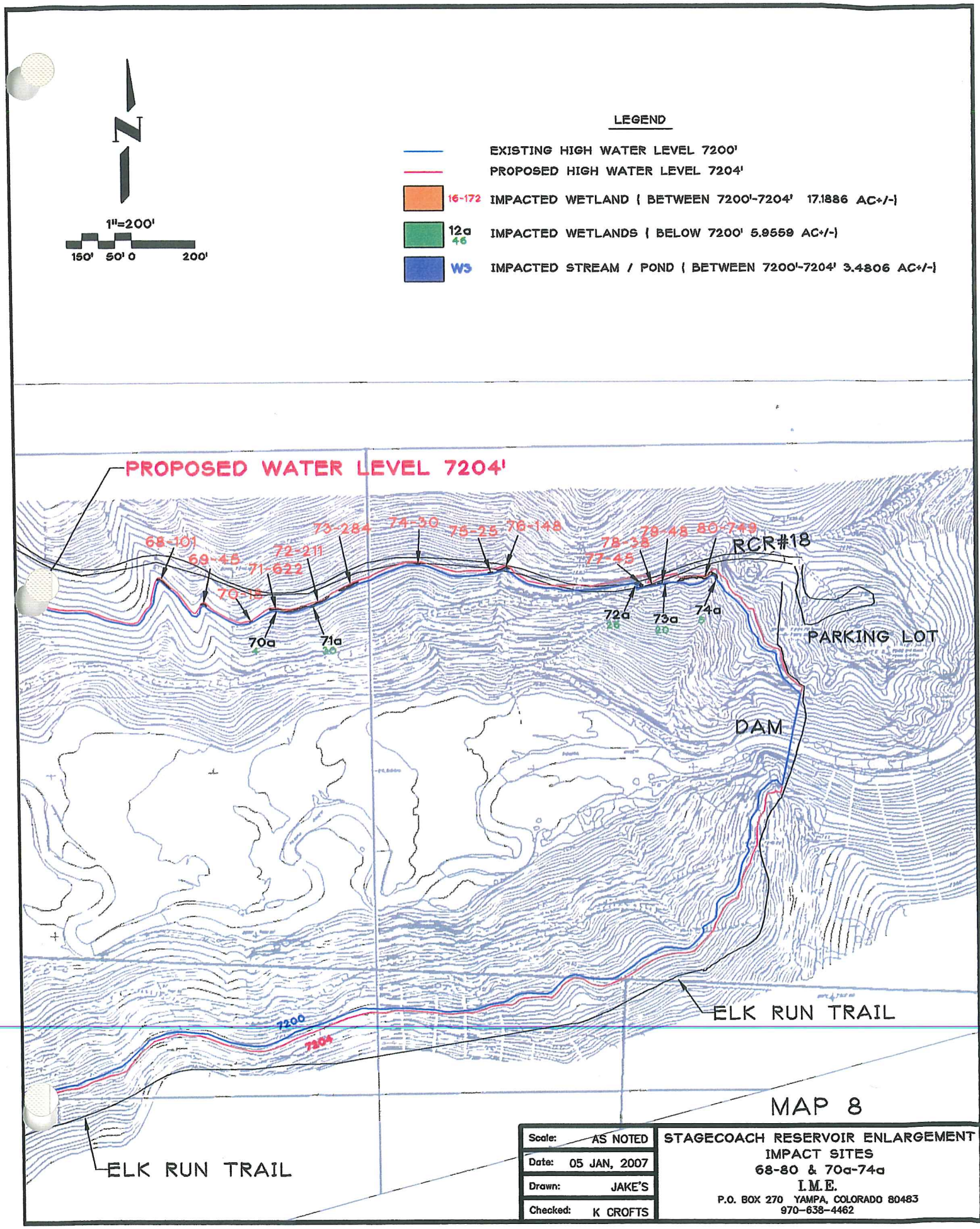
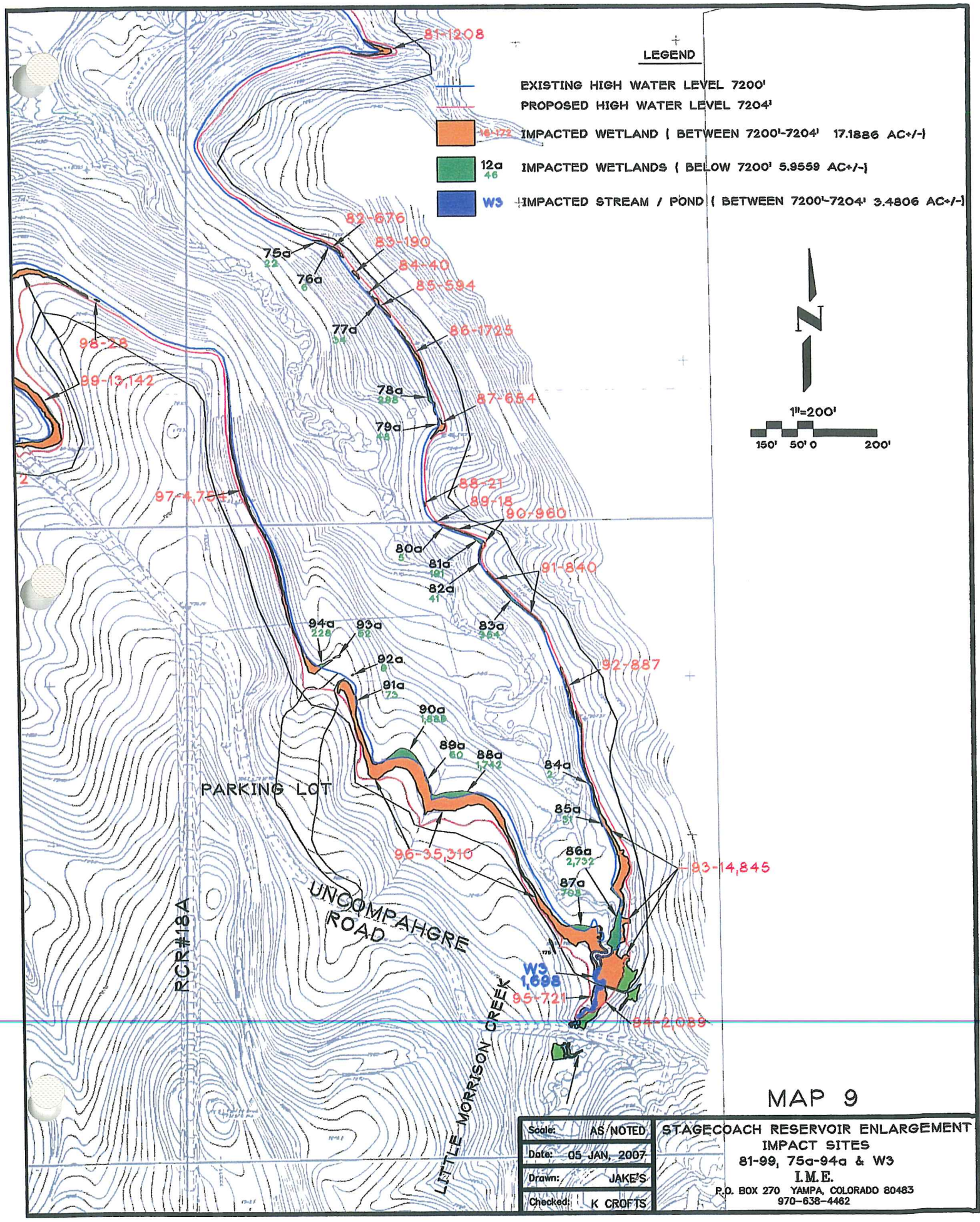
59-226
60-1,123
61-591
62-1,026
63-253
64-148
65-5
66-9
67-28
RCR#18
PARKING LOT
7200
58a
59a
60a
61a
62a
63a
64a
65a
66a
67a
68a
69a
42-122
37-5
36-116
35-43
34-7
33-8
32-64
31-476
20-27
29-58
LEGEND
EXISTING HIGH WATER LEVEL 7200'
PROPOSED HIGH WATER LEVEL 7204'
16-173 IMPACTED WETLAND (BETWEEN 7200'-7204' 17.1886 AC+/-)
12a 46 IMPACTED WETLANDS (BELOW 7200' 5.9559 AC+/-)
WS IMPACTED STREAM / POND (BETWEEN 7200'-7204' 3.4806 AC+/-)
MAP 7
Scale: AS NOTED
Date: 05 JAN, 2007
Drawn: JAKE'S
Checked: K CROFTS
STAGECOACH RESERVOIR ENLARGEMENT
IMPACT SITES 29-38, 42, 51-67 & 58a-69a
I.M.E.
P.O. BOX 270 YAMPA, COLORADO 80483
970-638-4462


N
1"=200'
150' 50' 0 200'
LEGEND
EXISTING HIGH WATER LEVEL 7200'
PROPOSED HIGH WATER LEVEL 7204'
16-172 IMPACTED WETLAND (BETWEEN 7200'-7204' 17.1886 AC+/-)
12a 46 IMPACTED WETLANDS (BELOW 7200' 5.9559 AC+/-)
W3 IMPACTED STREAM / POND (BETWEEN 7200'-7204' 3.4806 AC+/-)
PROPOSED WATER LEVEL 7204'
68-101
69-45
70-18
71-622
72-211
73-284
74-30
75-25
76-148
77-45
78-38
79-48
80-749
70a 4
71a 20
72a 26
73a 20
74a 6
RCR#18
PARKING LOT
DAM
ELK RUN TRAIL
7200
7204
ELK RUN TRAIL
MAP 8
Scale: AS NOTED
Date: 05 JAN, 2007
Drawn: JAKE'S
Checked: K CROFTS
STAGECOACH RESERVOIR ENLARGEMENT
IMPACT SITES
68-80 & 70a-74a
I.M.E.
P.O. BOX 270 YAMPA, COLORADO 80483
970-638-4462



MAP 9

Scale:	AS NOTED
Date:	05 JAN, 2007
Drawn:	JAKE'S
Checked:	K CROFTS

STAGECOACH RESERVOIR ENLARGEMENT
IMPACT SITES
81-99, 75a-94a & W3

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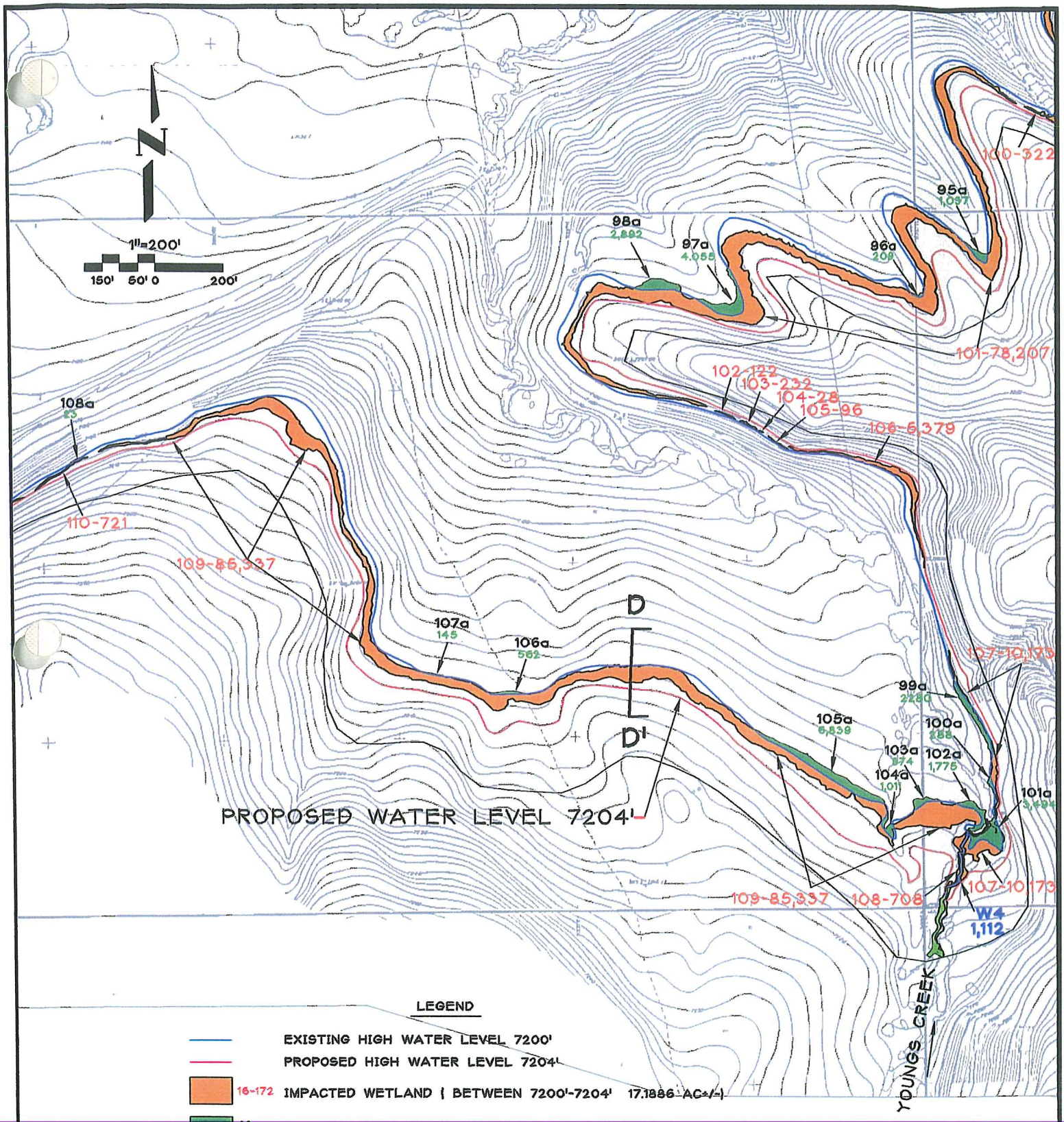
970-638-4462



LEGEND

- EXISTING HIGH WATER LEVEL 7200'
- PROPOSED HIGH WATER LEVEL 7204'
- 16-172 IMPACTED WETLAND (BETWEEN 7200'-7204' 17.1886 AC+/-)
- 12a 46 IMPACTED WETLANDS (BELOW 7200' 5.9559 AC+/-)
- W3 IMPACTED STREAM / POND (BETWEEN 7200'-7204' 3.4806 AC+/-)
- D D' CROSS SECTION LOCATION

MAP 10

Scale:	AS NOTED
Date:	05 JAN, 2007
Drawn:	JAKE'S
Checked:	K CROFTS

STAGECOACH RESERVOIR ENLARGEMENT
IMPACT SITES
100-110, 95a-108a & W4

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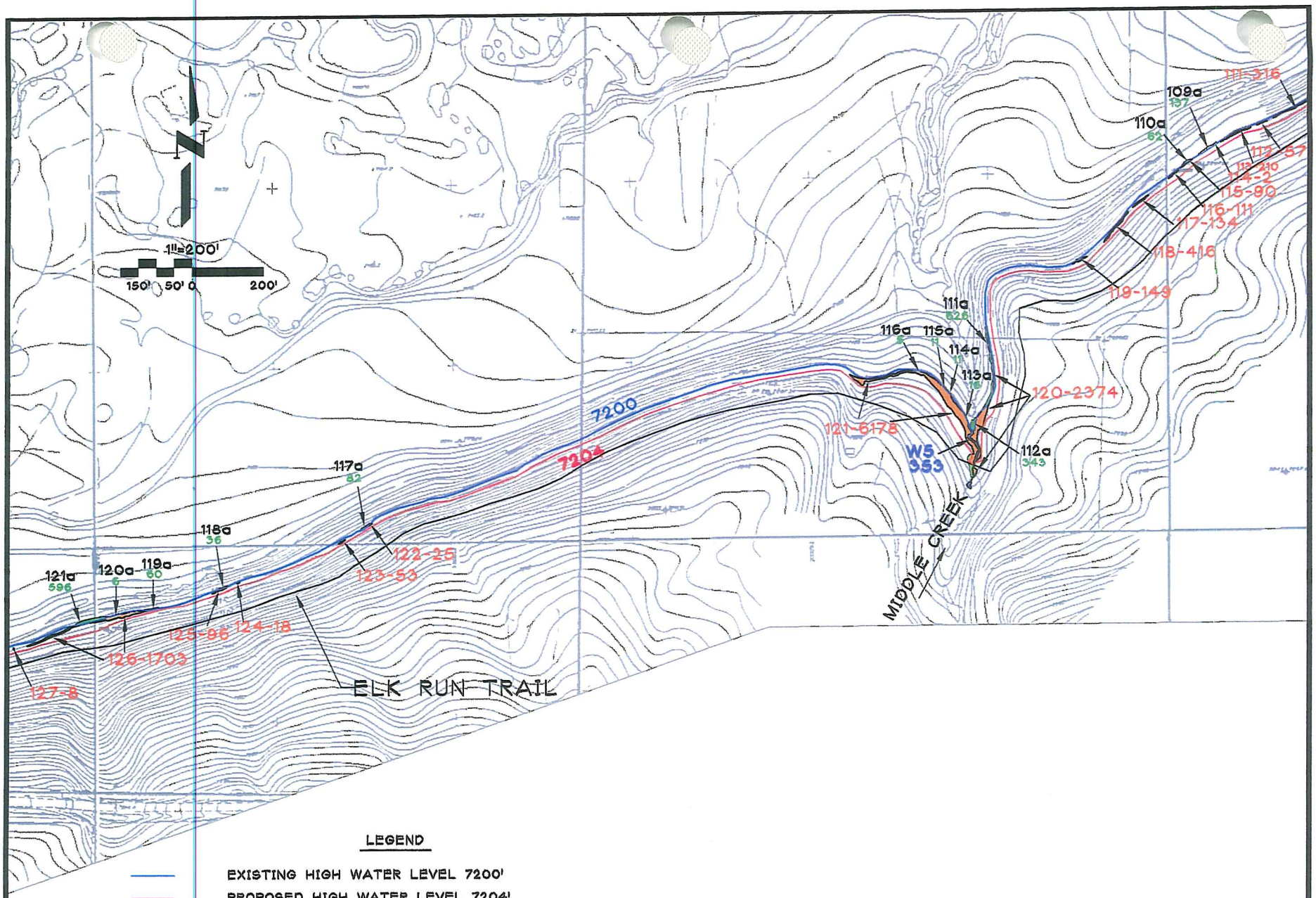

LEGEND

EXISTING HIGH WATER LEVEL 7200'

PROPOSED HIGH WATER LEVEL 7204'

16-172 IMPACTED WETLAND (BETWEEN 7200'-7204' 17.1886 AC+/-)

12a 45 IMPACTED WETLANDS (BELOW 7200' 5.9559 AC+/-)

W3 IMPACTED STREAM / POND (BETWEEN 7200'-7204' 3.4806 AC+/-)

MAP 11

Scale:	AS NOTED
Date:	05 JAN, 2007
Drawn:	JAKE'S
Checked:	K CROFTS

STAGECOACH RESERVOIR ENLARGEMENT
IMPACT SITES
111-127, 109a-121a & W5

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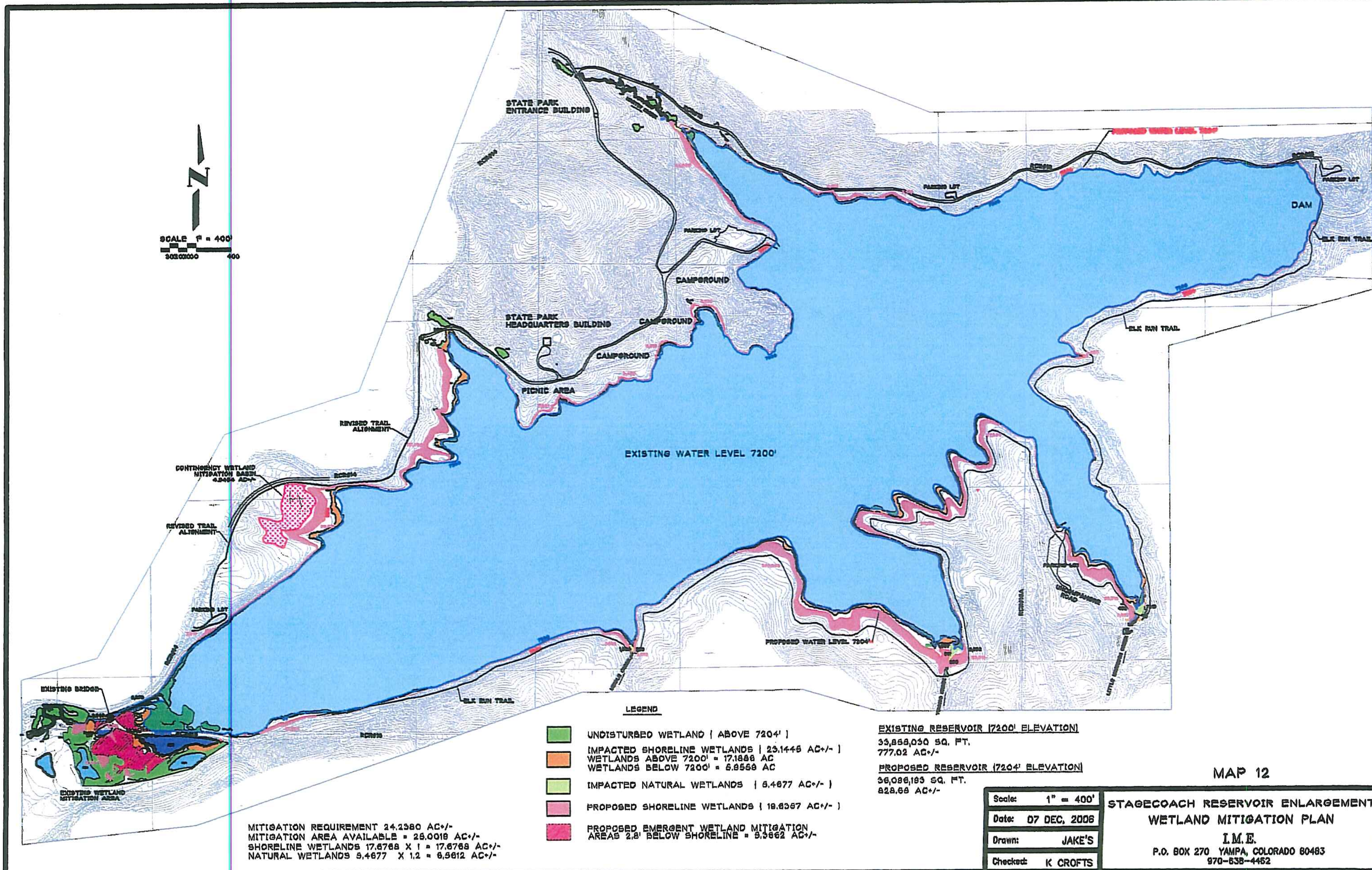
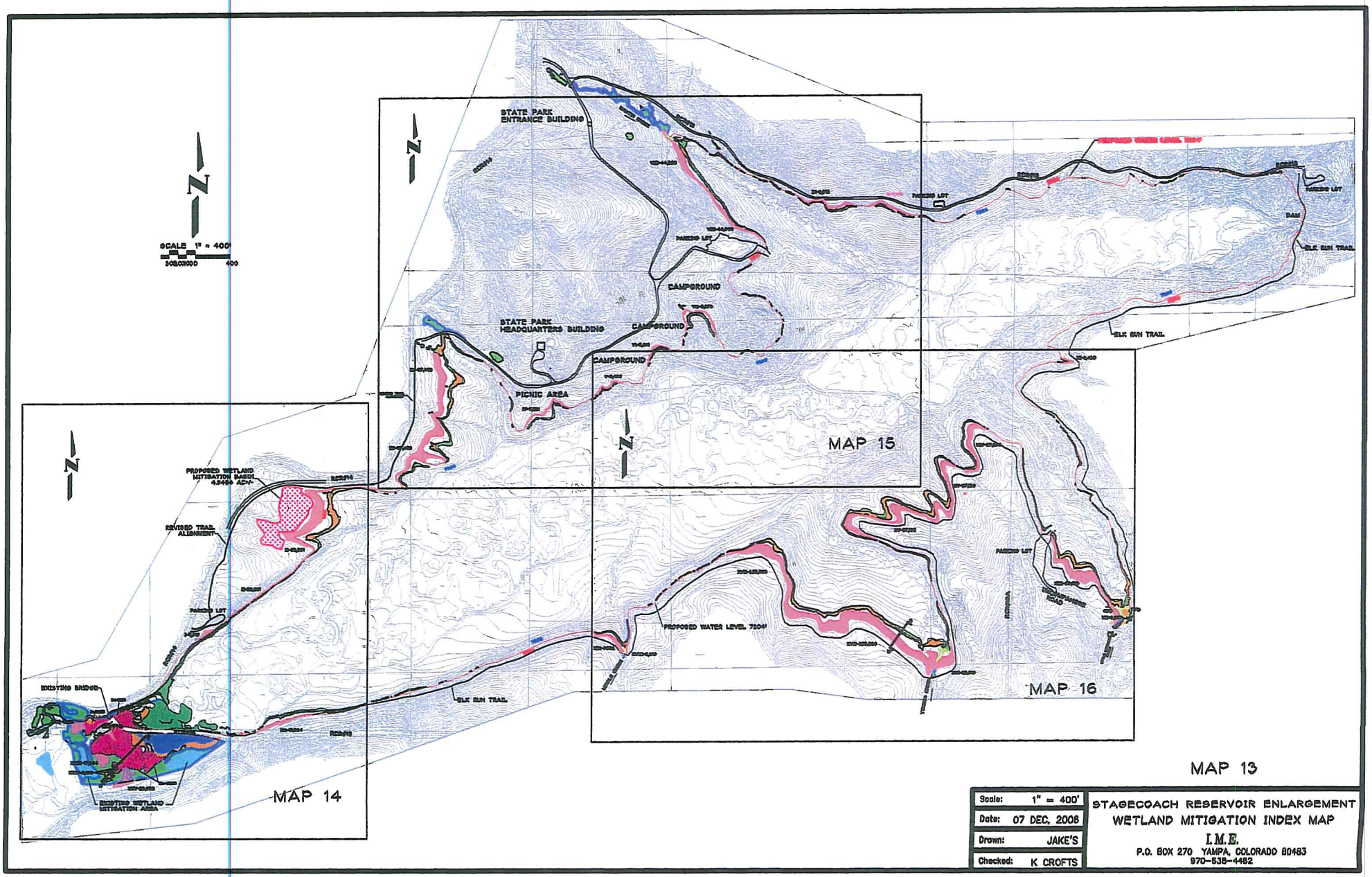
970-638-4462


SCALE 1" = 400'
STATE PARK ENTRANCE BUILDING
STATE PARK HEADQUARTERS BUILDING
CAMPGROUND
CAMPGROUND
CAMPGROUND
PICNIC AREA
PARKING LOT
DAM
ELK RUN TRAIL
ELK RUN TRAIL
ELK RUN TRAIL
REVISED TRAIL ALIGNMENT
REVISED TRAIL ALIGNMENT
CONTINGENCY WETLAND MITIGATION BASIN 4.2464 AC+/-
PARKING LOT
EXISTING WATER LEVEL 7200'
PROPOSED WATER LEVEL 7204'
EXISTING BRIDGE
EXISTING WETLAND MITIGATION AREA
LEGEND
UNDISTURBED WETLAND (ABOVE 7204')
IMPACTED SHORELINE WETLANDS (23.1446 AC+/-)
WETLANDS ABOVE 7200' = 17.1886 AC
WETLANDS BELOW 7200' = 5.9559 AC
IMPACTED NATURAL WETLANDS (5.4677 AC+/-)
PROPOSED SHORELINE WETLANDS (19.6367 AC+/-)
PROPOSED EMERGENT WETLAND MITIGATION AREAS 2.8' BELOW SHORELINE = 9.3662 AC+/-
MITIGATION REQUIREMENT 24.2380 AC+/-
MITIGATION AREA AVAILABLE = 25.0018 AC+/-
SHORELINE WETLANDS 17.6768 X 1 = 17.6768 AC+/-
NATURAL WETLANDS 5.4677 X 1.2 = 6.5612 AC+/-
EXISTING RESERVOIR (7200' ELEVATION)
33,858,030 SQ. FT.
777.02 AC+/-
PROPOSED RESERVOIR (7204' ELEVATION)
36,086,193 SQ. FT.
828.68 AC+/-
MAP 12
Scale: 1" = 400'
Date: 07 DEC, 2006
Drawn: JAKE'S
Checked: K CROFTS
STAGECOACH RESERVOIR ENLARGEMENT
WETLAND MITIGATION PLAN
I.M.E.
P.O. BOX 270 YAMPA, COLORADO 80483
970-638-4452


N
SCALE 1" = 400'
400
STATE PARK ENTRANCE BUILDING
PARKING LOT
CAMPGROUND
STATE PARK HEADQUARTERS BUILDING
CAMPGROUND
CAMPGROUND
PICNIC AREA
DAM
ELK RUN TRAIL
ELK RUN TRAIL
MAP 15
PROPOSED WETLAND MITIGATION BASIN 4.2486 AC+/-
REVISED TRAIL ALIGNMENT
PARKING LOT
EXISTING BRIDGE
ELK RUN TRAIL
EXISTING WETLAND MITIGATION AREA
MAP 14
PROPOSED WATER LEVEL 7204'
PARKING LOT
MAP 16
MAP 13
Scale: 1" = 400'
Date: 07 DEC, 2006
Drawn: JAKE'S
Checked: K CROFTS
STAGECOACH RESERVOIR ENLARGEMENT
WETLAND MITIGATION INDEX MAP
I.M.E.
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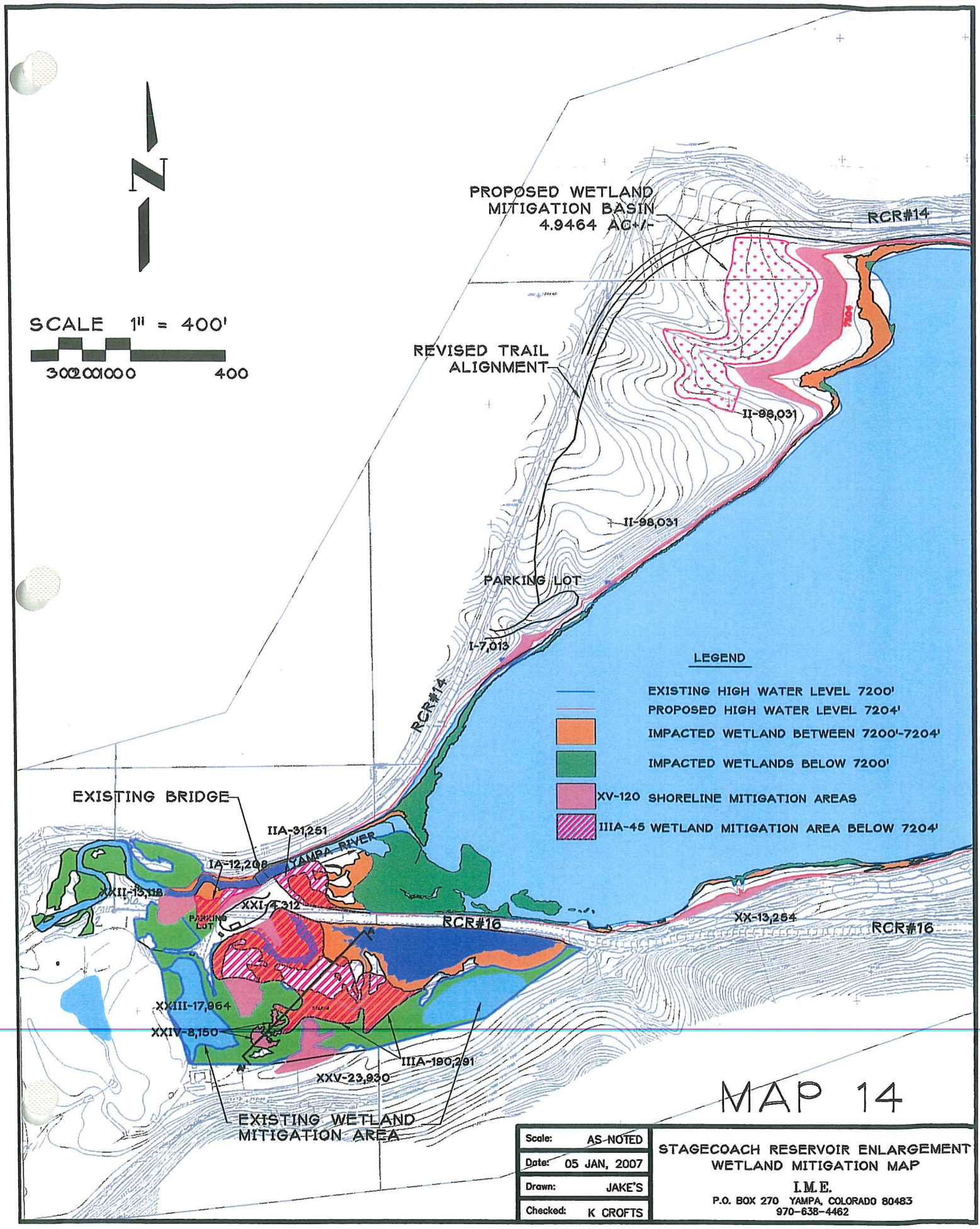
970-638-4482



MAP 14

Scale:	AS-NOTED
Date:	05 JAN, 2007
Drawn:	JAKE'S
Checked:	K CROFTS

STAGECOACH RESERVOIR ENLARGEMENT
WETLAND MITIGATION MAP

I.M.E.
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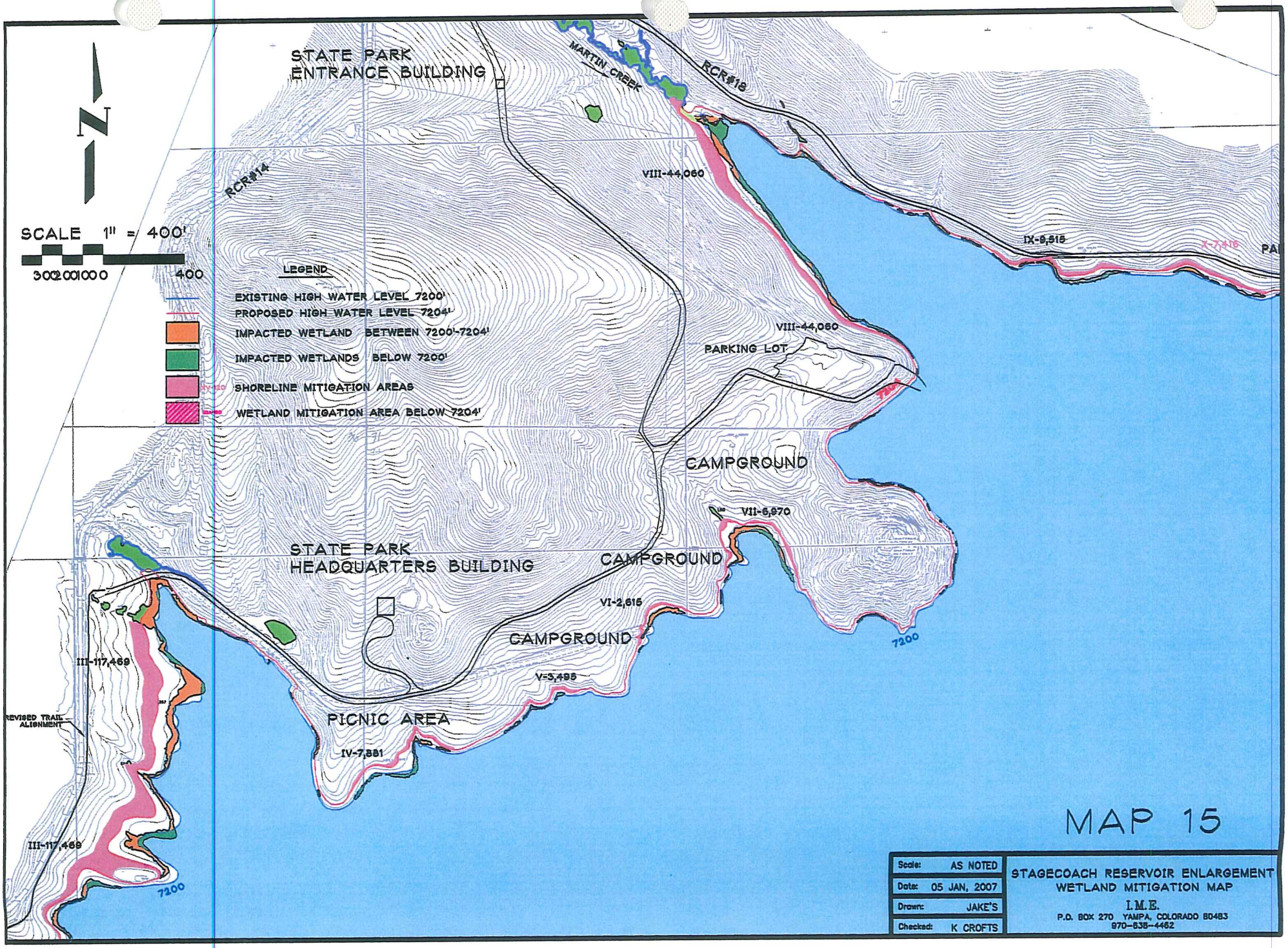
970-638-4462


N
SCALE 1" = 400'
300 200 100 0 400
LEGEND
EXISTING HIGH WATER LEVEL 7200'
PROPOSED HIGH WATER LEVEL 7204'
IMPACTED WETLAND BETWEEN 7200'-7204'
IMPACTED WETLANDS BELOW 7200'
SHORELINE MITIGATION AREAS
WETLAND MITIGATION AREA BELOW 7204'
STATE PARK ENTRANCE BUILDING
MARTIN CREEK
RCR#18
RCR#14
VIII-44,060
IX-5,515
X-7,416
PARKING LOT
VIII-44,060
CAMPGROUND
VII-6,970
STATE PARK HEADQUARTERS BUILDING
CAMPGROUND
VI-2,615
CAMPGROUND
V=3,495
PICNIC AREA
IV-7,551
III-117,469
REVISED TRAIL ALIGNMENT
III-117,469
7200
7200
MAP 15
Scale: AS NOTED
Date: 05 JAN, 2007
Drawn: JAKE'S
Checked: K CROFTS
STAGECOACH RESERVOIR ENLARGEMENT
WETLAND MITIGATION MAP
I.M.E.
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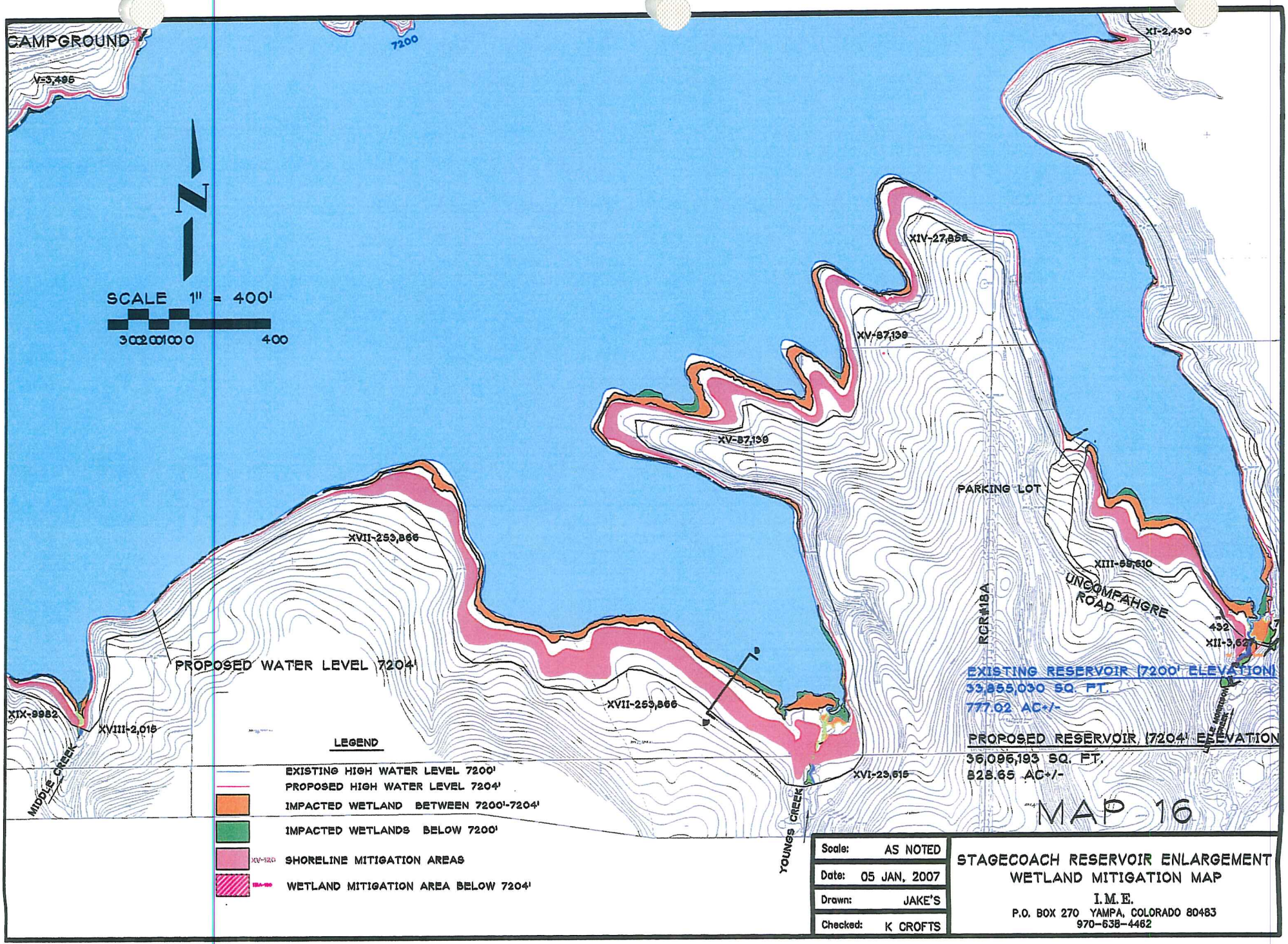
CAMPGROUND
7200
V-3,495
XI-2,430
N
SCALE 1" = 400'
300 200 100 0 400
XIV-27,856
XV-87,139
XV-87,139
PARKING LOT
XVII-253,866
XIII-55,610
UNCOMPAHGRE ROAD
RCR #18A
432
XII-3,627
PROPOSED WATER LEVEL 7204'
XVII-253,866
XIX-9982
XVIII-2,015
MIDDLE CREEK
XVI-23,615
YOUNGS CREEK
LEGEND
EXISTING HIGH WATER LEVEL 7200'
PROPOSED HIGH WATER LEVEL 7204'
IMPACTED WETLAND BETWEEN 7200'-7204'
IMPACTED WETLANDS BELOW 7200'
SHORELINE MITIGATION AREAS
WETLAND MITIGATION AREA BELOW 7204'
EXISTING RESERVOIR (7200' ELEVATION)
33,855,030 SQ. FT.
777.02 AC+/-
PROPOSED RESERVOIR (7204' ELEVATION)
36,096,193 SQ. FT.
828.65 AC+/-
MAP 16
Scale: AS NOTED
Date: 05 JAN. 2007
Drawn: JAKE'S
Checked: K CROFTS
STAGECOACH RESERVOIR ENLARGEMENT
WETLAND MITIGATION MAP
I.M.E.
P.O. BOX 270 YAMPA, COLORADO 80483
970-638-4462