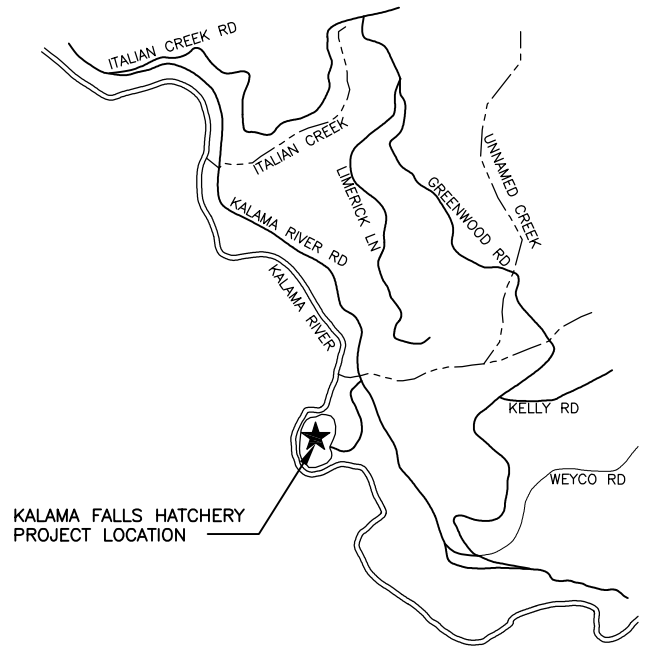
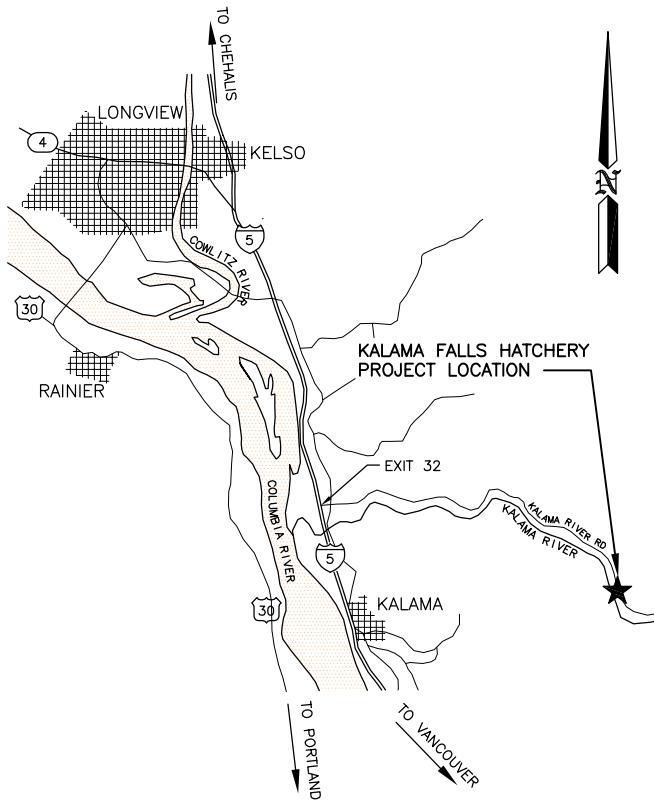


KALAMA FALLS HATCHERY  
PROJECT LOCATION



KALAMA FALLS HATCHERY  
PROJECT LOCATION

**VICINITY MAP**  
NOT TO SCALE

ENG. PROJECT NO. CZ:H28:11-2

PORTION OF: SEC 7, T6N, R1E

REFERENCE NUMBER:  
 APPLICANT:  
 WASHINGTON DEPT. of FISH & WILDLIFE  
 600 CAPITOL WAY N.  
 OLYMPIA, WA 98501-1091

PROJECT LOCATION (ADDRESS):  
 KALAMA FALLS HATCHERY  
 3900 KALAMA RIVER ROAD  
 KALAMA, WA

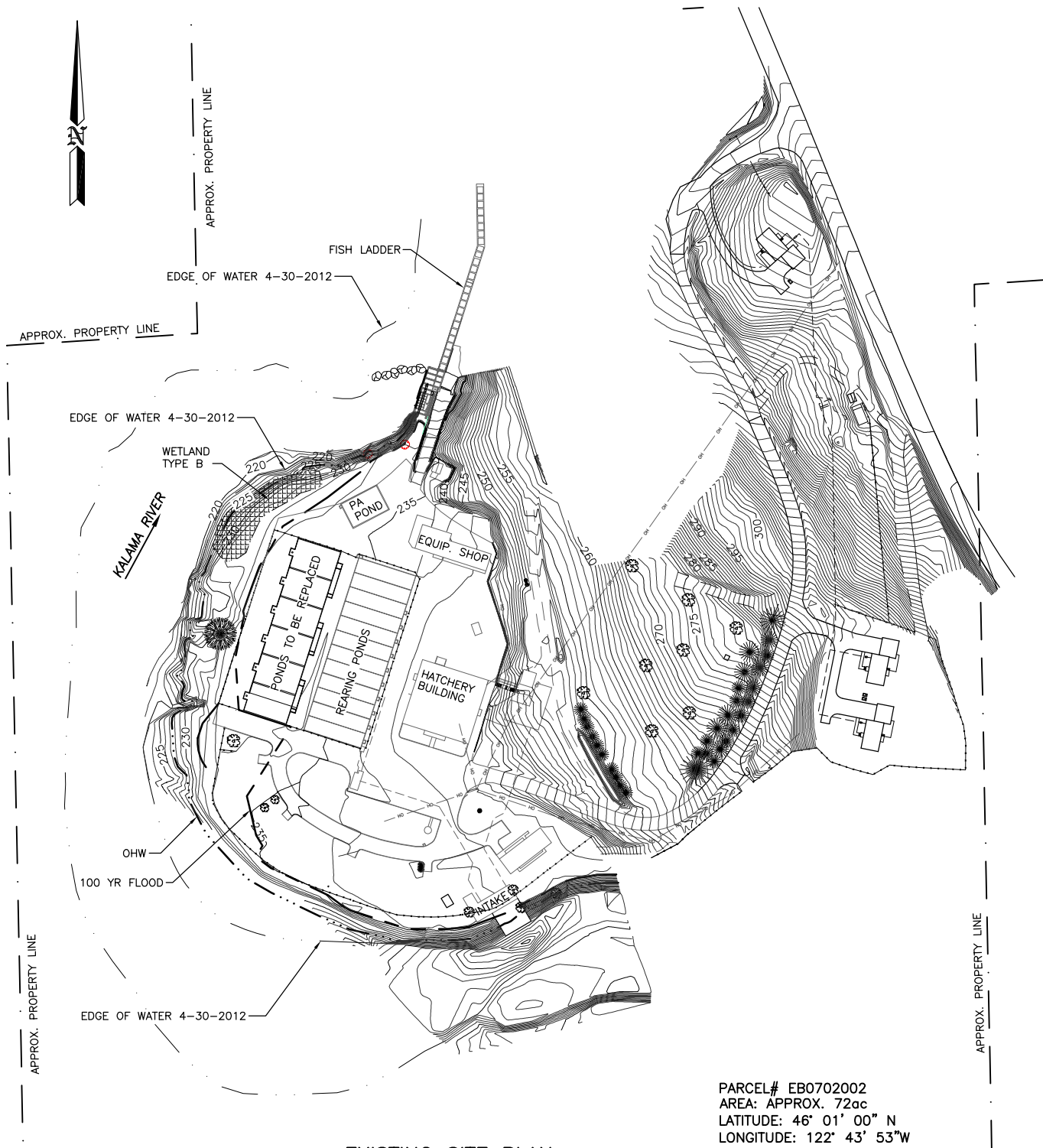
PROPOSED PROJECT:  
 UPDATE BROODSTOCK PONDS

ADJACENT PROPERTY OWNER:

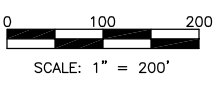
- 1.
- 2.

LAT/LONG: 46° 01' 00"N/122° 43' 53"W  
 DATUM: NAVD 88  
 SHEET 1 OF 9 DATE: 10/1/2012

IN: KALAMA RIVER  
 NEAR/AT: KALAMA  
 COUNTY: COWLITZ  
 STATE: WA

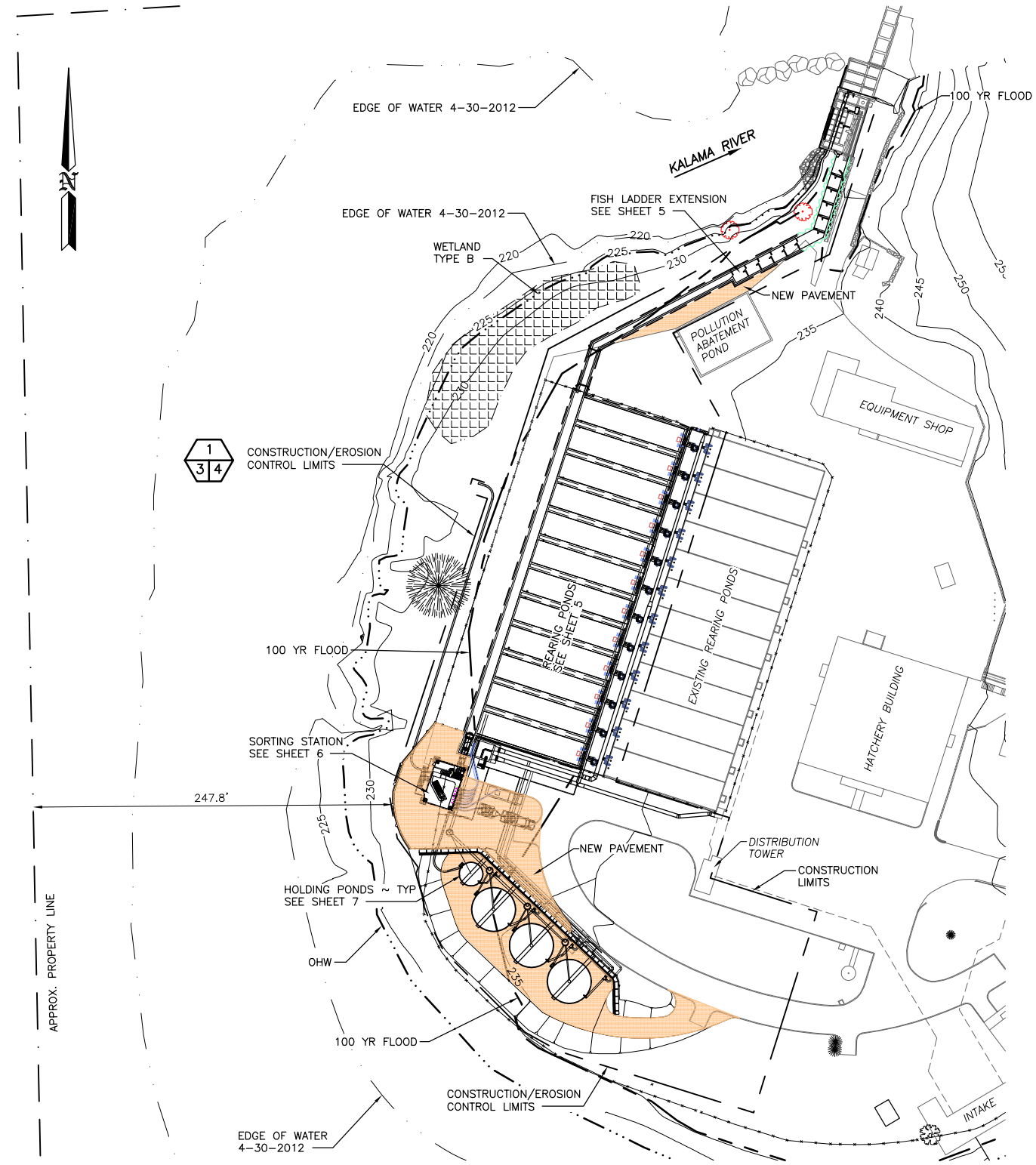


**EXISTING SITE PLAN**  
SCALE: 1" = 200'



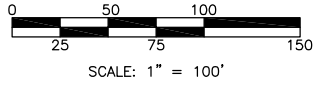
PARCEL# EB0702002  
AREA: APPROX. 72ac  
LATITUDE: 46° 01' 00" N  
LONGITUDE: 122° 43' 53"W

REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE
<b>KALAMA FALLS HATCHERY BROODSTOCK MODIFICATIONS EXISTING SITE PLAN</b>
AT: <u>KALAMA</u> , WASHINGTON
DATE: <u>10/1/2012</u> SHEET <u>2</u> OF <u>9</u>

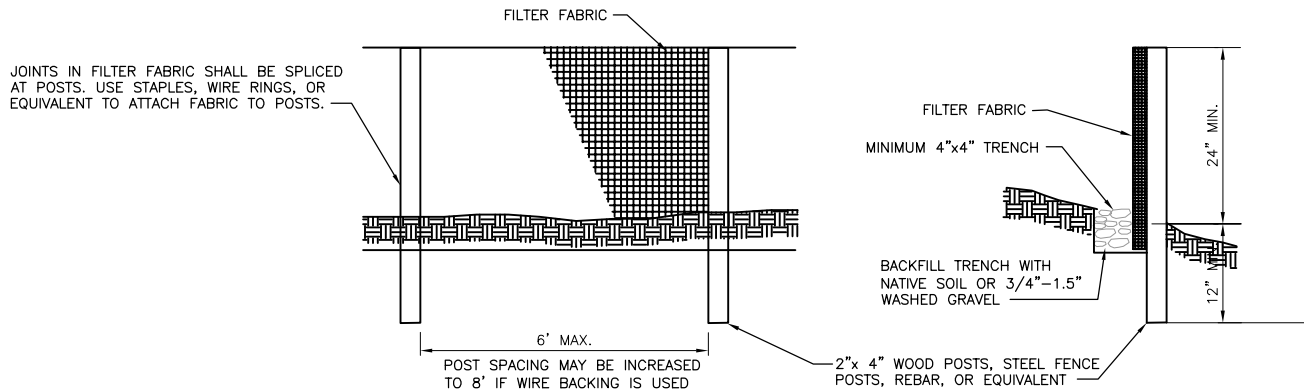


**SITE PLAN**

SCALE: 1" = 100'



REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE
<b>KALAMA FALLS HATCHERY SITE PLAN</b>
AT: <u>KALAMA</u> , WASHINGTON
DATE: <u>10/1/2012</u> SHEET <u>3</u> OF <u>9</u>



**NOTES:**

1. FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOURS WHENEVER POSSIBLE.
2. FABRIC SHALL BE EQUAL TO "MIRAFI" WITH 100 LB GRAB TENSILE STRENGTH, 200 PSI BURST STRENGTH, AND 70-200 SIEVE # APPARENT OPENING.

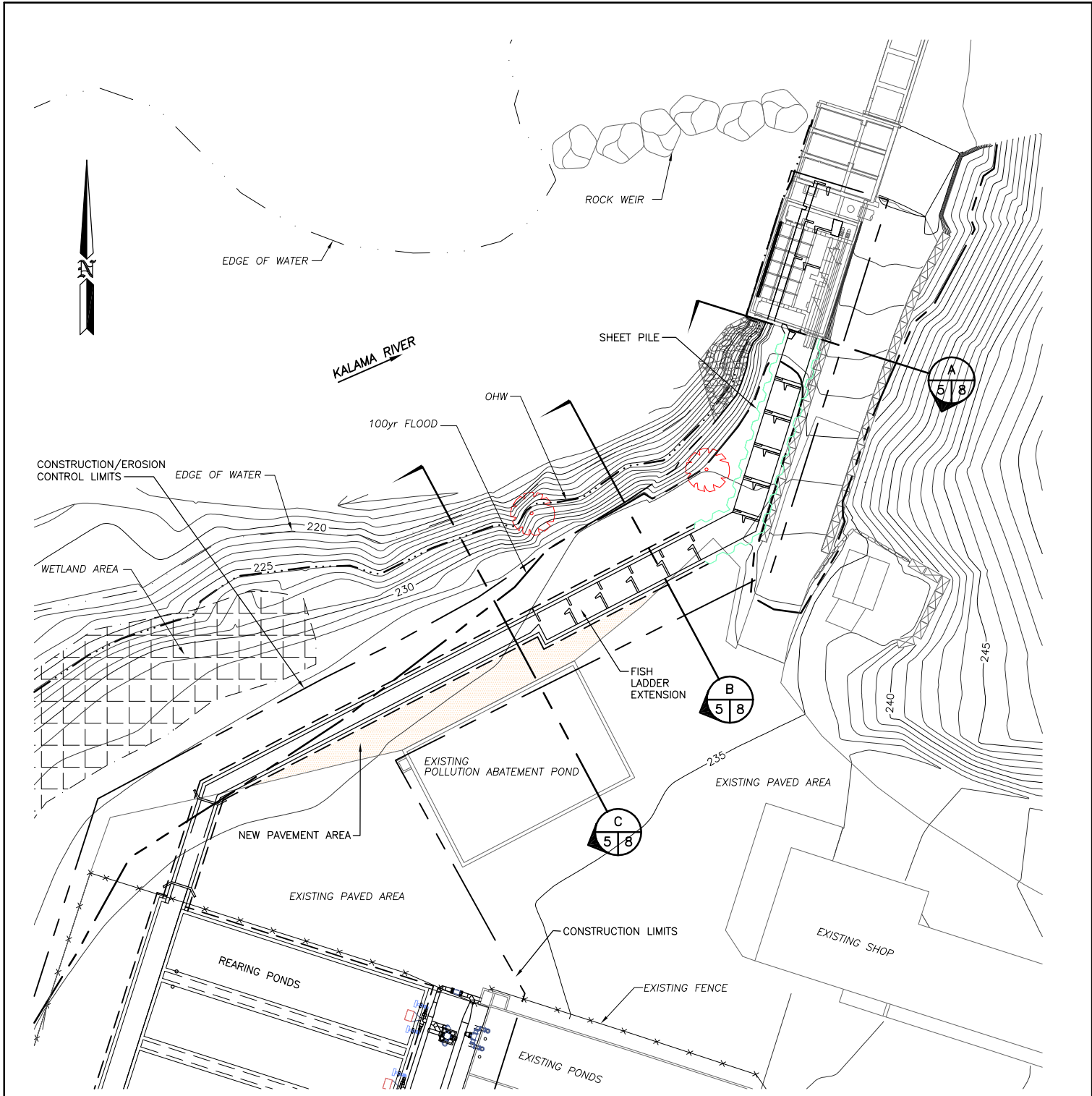
**EROSION CONTROL BARRIER**  
NOT TO SCALE



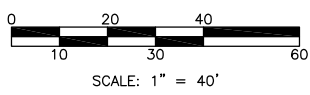
**TEMPORARY EROSION AN SEDIMENT CONTROL NOTES:**

1. IN WATER COFFERDAM CONSTRUCTION WORK ON THE PROJECT SHALL NOT BEGIN UNTIL APRIL 1st AND SHALL BE COMPLETED BY JULY 31st.
2. THE WDFW AREA HABITAT BIOLOGIST ASSIGNED TO THIS PROJECT, SHALL RECEIVE WRITTEN NOTIFICATION (FAX, EMAIL, MAIL) NO LESS THAN THREE WORKING DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
3. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEM, AND ADJACENT PROPERTIES IS MINIMIZED.
4. THE TESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR THE ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD THESE TESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS
5. THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/TESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE TESC FACILITIES DURING CONSTRUCTION.
6. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAY DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED TESC METHODS (E.G. SEEDING, MULCHING, PLASTIC COVERING, ETC.).
7. THE TESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS OF FOLLOWING A STORM EVENT.
8. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM 2-INCH THICKNESS.
9. THE COFFERDAMS SHALL BE COMPLETELY SEALED TO PREVENT CONCRETE OR OTHER DELETERIOUS PRODUCTS FROM LEACHING INTO THE RIVER. UPON COMPLETION OF THE PROJECT, ALL COFFERDAM MATERIALS SHALL BE REMOVED.
10. ALL WASTE MATERIAL SUCH AS CONSTRUCTION DEBRIS, SILT, EXCESS DIRT OR OVERBURDEN RESULTING FROM THIS PROJECT SHALL BE DEPOSITED ABOVE THE LIMITS OF FLOODWATER IN AN APPROVED UPLAND DISPOSAL SITE.
11. WASTEWATER FROM PROJECT ACTIVITIES AND WATER REMOVED FROM IN THE WORK AREA SHALL BE ROUTED TO AN AREA UPLAND OF THE ORDINARY HIGH WATER LINE TO ALL REMOVAL OF FINE SEDIMENT AND OTHER CONTAMINANTS PRIOR TO DISCHARGE INTO THE RIVER.
12. MAINTENANCE AND FUELING OF CONSTRUCTION EQUIPMENT SHALL BE PERFORMED IN SUCH A MANNER TO MINIMIZE THE POTENTIAL CONTAMINATION OF SOIL AND DEBRIS SHALL BE REMOVED FROM THE DRIVE MECHANISMS AND THE UNDERCARRIAGE OF EQUIPMENT PRIOR TO ITS WORKING INSIDE THE COFFERDAMS. EQUIPMENT SHALL BE CHECKED DAILY FOR LEAKS AND ANY NECESSARY REPAIRS SHALL BE COMPLETED PRIOR TO COMMENCING WORK ACTIVITIES NEAR THE RIVER.
14. EXCAVATION EQUIPMENT WILL WORK FROM ABOVE THE EXCAVATION AND DIG UP SLOPE TOWARDS THEM. EXCAVATED MATERIAL WILL BE PLACED DIRECTLY INTO TRUCKS AND HAULED OFFSITE.
15. RESTORE UNDEVELOPED DISTURBED AREAS ON THE BANK OF THE KALAMA RIVER WITH WEIGHTED JUTE MATTING.
16. SILT BAGS WILL BE USED FOR THE COLLECTION OF WATER FROM THE COFFERDAMS AND DEEP EXCAVATIONS TO PREVENT DISCHARGING HIGH TURBIDITY WATER INTO THE RIVER.

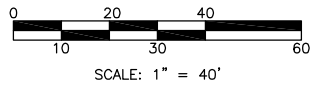
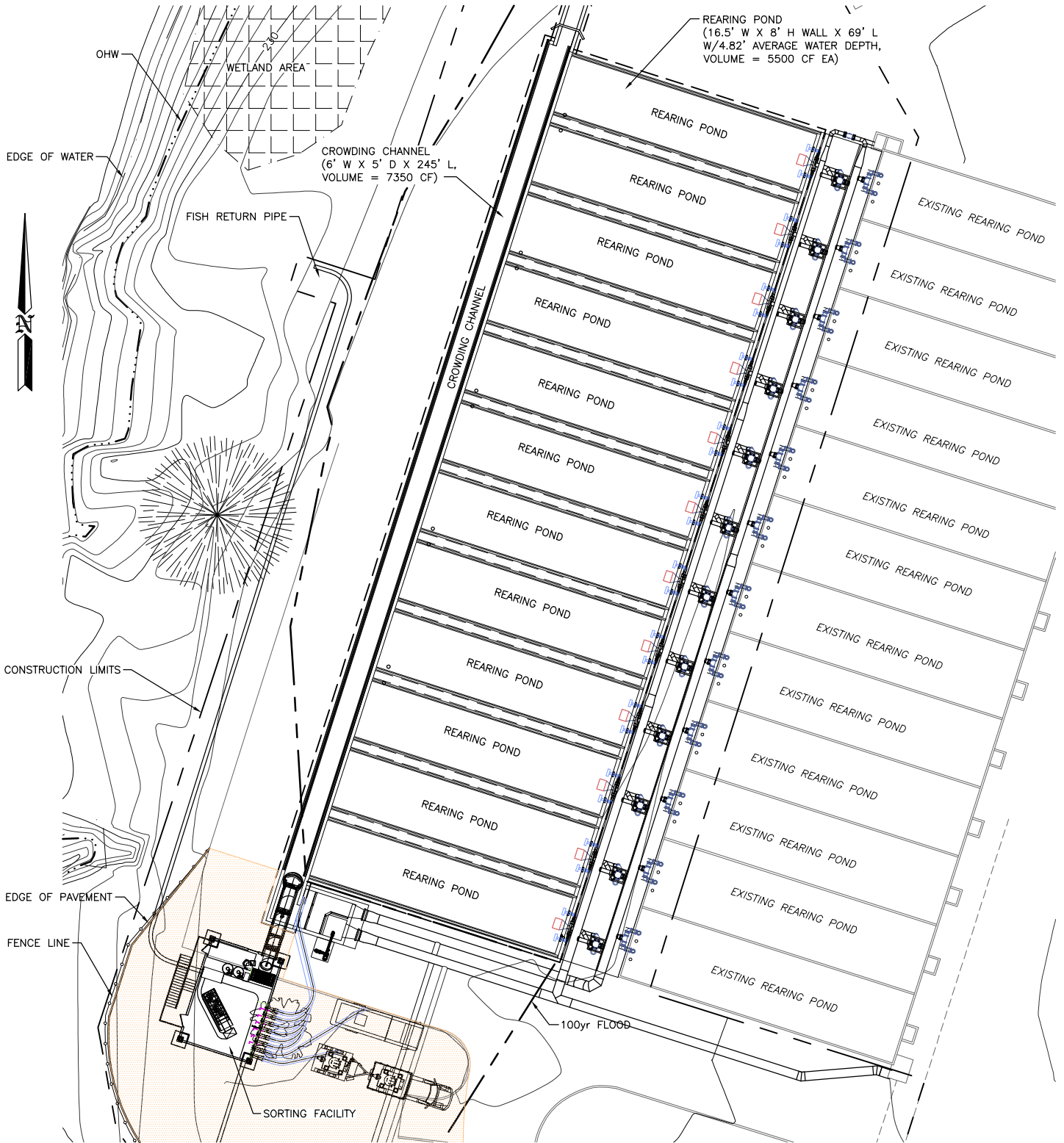
REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE
<b>KALAMA FALLS HATCHERY EROSION CONTROL DETAIL AND NOTES</b>
AT: <u>KALAMA</u> , WASHINGTON
DATE: <u>10/1/2012</u> SHEET <u>4</u> OF <u>9</u>



**FISH LADDER**  
SCALE: 1" = 40'



REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE
<b>KALAMA FALLS HATCHERY FISH LADDER PLAN</b>
AT: <u>KALAMA</u> , WASHINGTON
DATE: <u>10/1/2012</u> SHEET <u>5</u> OF <u>9</u>

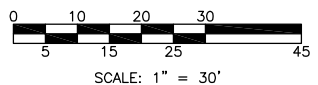
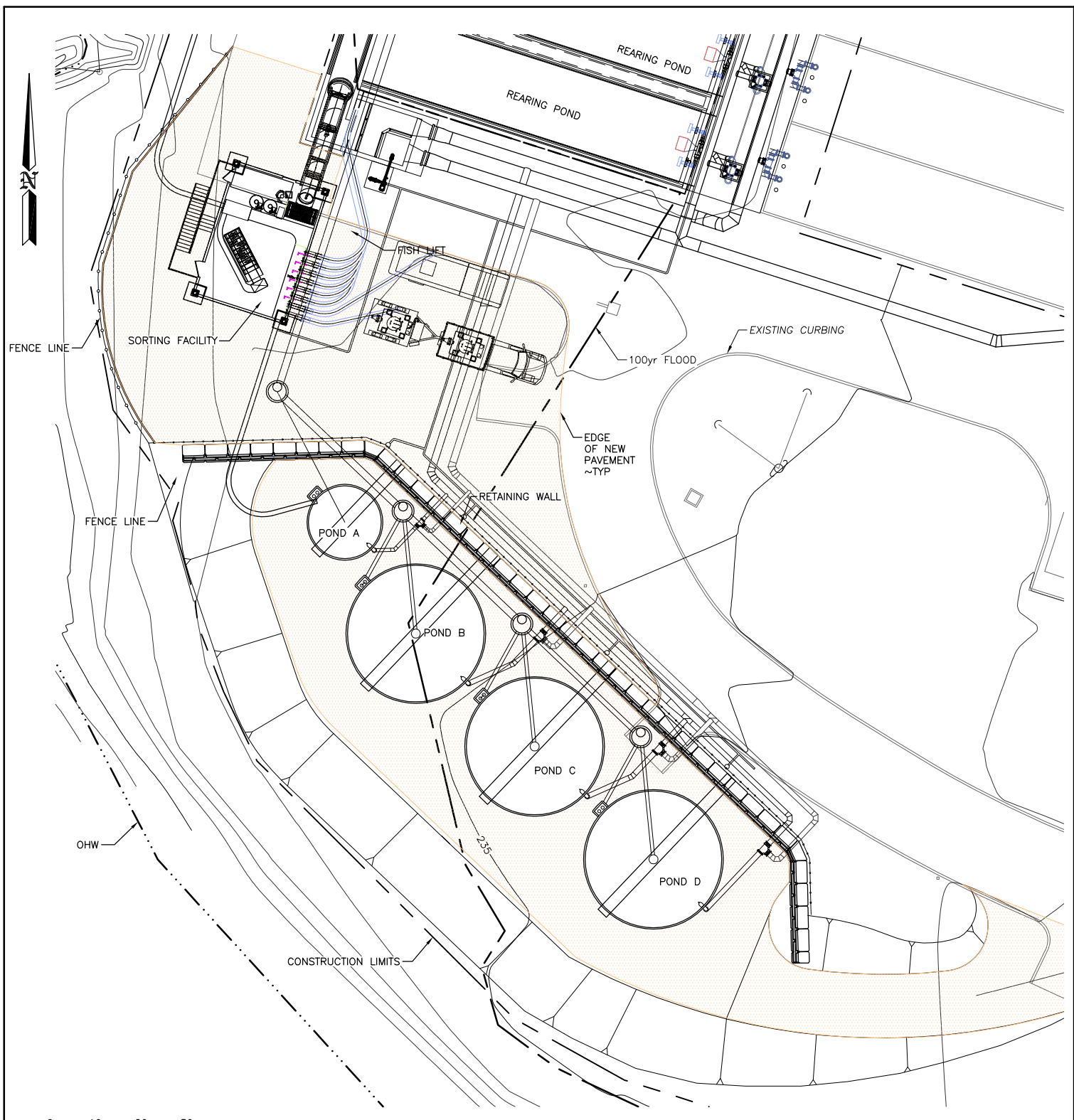


**REARING PONDS PLAN**  
SCALE: 1" = 40'

**NOTE:**  
STRUCTURE DIMENSIONS  
CROWDING CHANNEL (6'W x 5'D x 245'L)  
REARING PONDS (16.5'W x 8'H WALL x 69'L)

REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE
<b>KALAMA FALLS HATCHERY REARING POND PLAN</b>

AT: KALAMA, WASHINGTON  
DATE: 10/1/2012 SHEET 6 OF 9

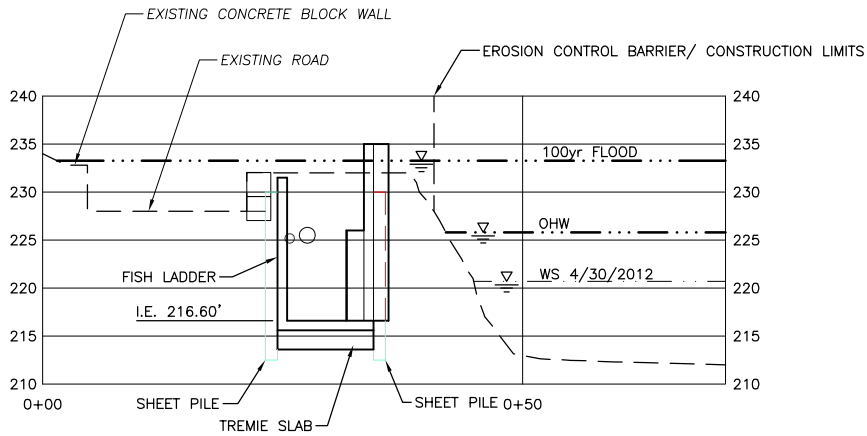


**HOLDING POND PLAN**  
SCALE: 1" = 30'

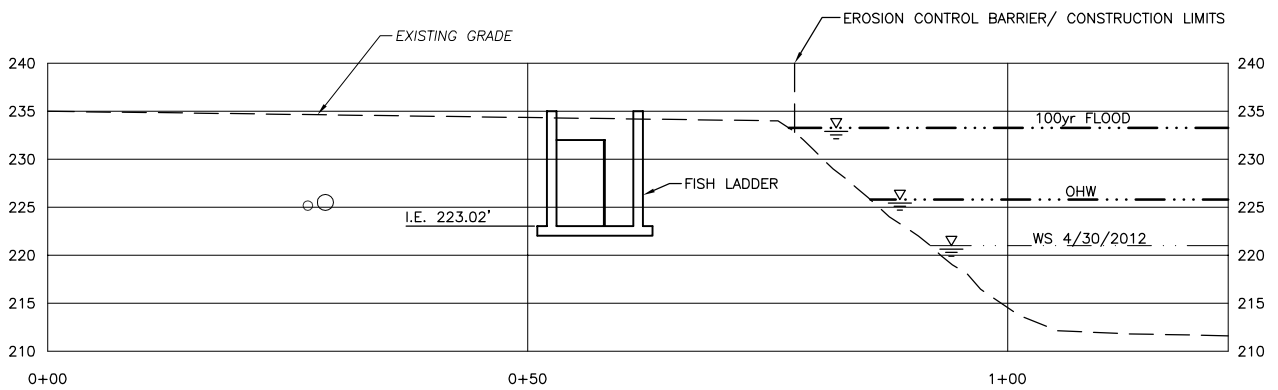
**NOTE:**  
HOLDING POND DIMENSIONS  
POND A - 16' DIAMETER  
POND B - 30' DIAMETER  
POND C - 30' DIAMETER  
POND D - 30' DIAMETER

REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE
<b>KALAMA FALLS HATCHERY HOLDING PONDS PLAN</b>

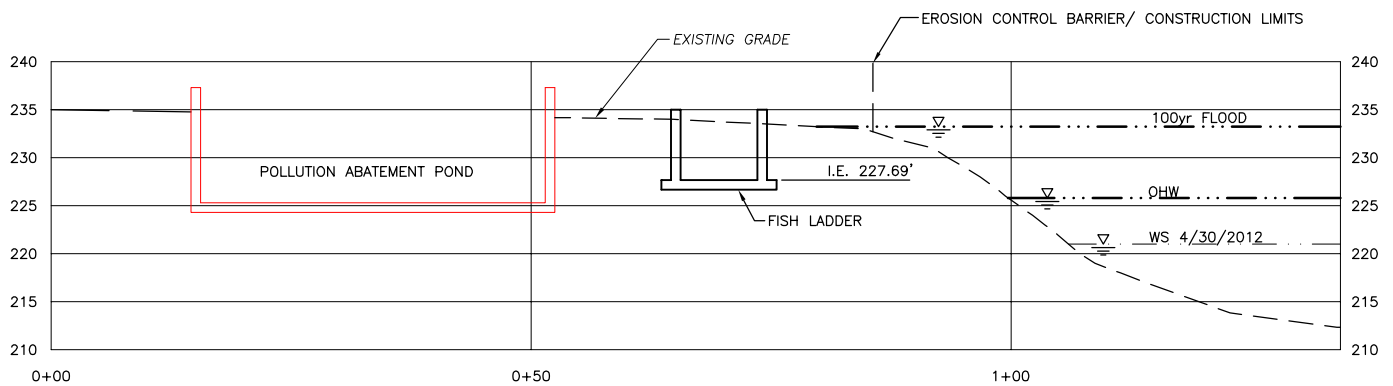
AT: KALAMA, WASHINGTON  
DATE: 10/1/2012 SHEET 7 OF 9



**SECTION A**  
SCALE: 1" = 20'  
5 | 8



**SECTION B**  
SCALE: 1" = 20'  
5 | 8



**SECTION C**  
SCALE: 1" = 20'  
5 | 8

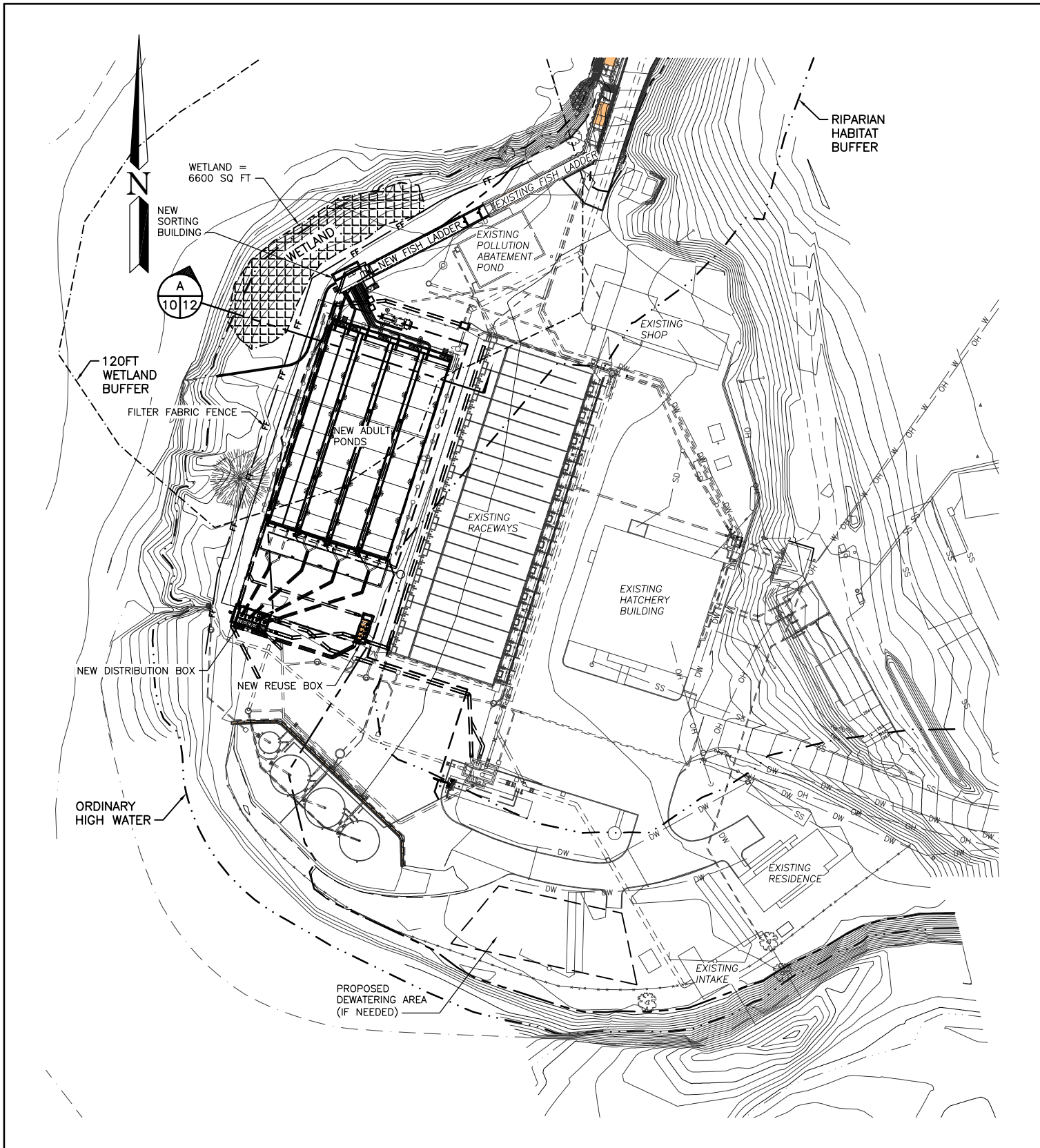
REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE
<b>KALAMA FALLS HATCHERY FISH LADDER SECTIONS</b>
AT: <u>KALAMA</u> , WASHINGTON
DATE: <u>10/1/2012</u> SHEET <u>8</u> OF <u>9</u>



**CUT AND FILL DATA**

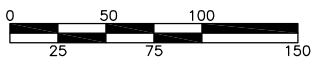
SITE TOTALS	SF BELOW OHW	CY BELOW OHW	SF ABOVE OHW	CY ABOVE OHW	TOTAL CY
<b>REARING PONDS</b>					
SOIL EXCAVATION			12,555	2,485.78	
CONCRETE DEMOLITION			16,532	594.57	3,080.35 (CUT)
BACKFILL			8,918	1,778.96	
CONCRETE FILL			20,169	978.73	2,757.69 (FILL)
DISTURBED AREA			29,087		
<b>FISH LADDER</b>					
SOIL EXCAVATION			6,643.52	1,849.17	1,849.17 (CUT)
BACKFILL			4,503.75	903.55	
CONCRETE FILL	587.92	225.71	2,139.82	442.90	1,572.15 (FILL)
DISTURBED AREA			6,643.52		
<b>SORTING FACILITY &amp; LOADING CHANNEL</b>					
SOIL EXCAVATION			2,194.22	273.07	273.07 (CUT)
BACKFILL			1,294	185.67	235.74 (FILL)
CONCRETE FILL			900.22	50.07	
DISTURBED AREA			2,194.22		
<b>CIRCULAR PONDS</b>					
SOIL EXCAVATION			14,570.70	4,465.48	4,465.48 (CUT)
BACKFILL			10,642.10	2,066.94	
CONCRETE FILL			532.71	142.73	2,209.66 (FILL) SEE NOTE 1
DISTURBED AREA			14,570.70		
<b>PAVED AREA</b>					
EXISTING PAVED AREA (WITHIN CONSTRUCTION LIMITS)			SF 28,872	CY	SEE NOTE 2
<b>NEW PAVEMENT</b>					
FISH LADDER			1,086	13.41	
SORTING FACILITY			5,546	68.47	
CIRCULAR POND			8,008	98.86	
EXISTING TO BE REPLACED			14,974	184.86	
<b>TOTAL IMPERVIOUS</b>			<b>29,614</b>		
NET CHANGE IN IMPERVIOUS			-742		
<b>NOTES:</b>					
1) CONCRETE WALL INCLUDES BLOCK WALL AND MANHOLES					
2) CY OF NEW PAVEMENT IS BASED ON 4" THICKNESS					

REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE
<b>KALAMA FALLS HATCHERY CUT AND FILL DATA</b>
AT: <u>KALAMA</u> , WASHINGTON
DATE: <u>10/1/2012</u> SHEET <u>9</u> OF <u>9</u>



**NEW SITE PLAN**

SCALE: 1" = 100'



SCALE: 1" = 100'

REFERENCE NUMBER:

APPLICANT NAME:

WASHINGTON DEPT. of FISH & WILDLIFE

PROPOSED PROJECT:

BROODSTOCK MODIFICATION PHASE 2

LOCATION: KALAMA FALLS HATCHERY

SHEET 10 OF 13

DATE: 4-8-2016



WETLAND =  
6600 SQ FT

WETLAND

NEW FISH LADDER

EXISTING POLLUTION  
ABATEMENT  
POND

NEW SORTING  
BUILDING

FILTER FABRIC FENCE

2000 SQ FT IMPACTED  
AREA OUTSIDE  
EXISTING FOOTPRINT

ORDINARY  
HIGH WATER

NEW ADULT  
PONDS

RIPARIAN  
HABITAT  
BUFFER

120FT  
WETLAND  
BUFFER

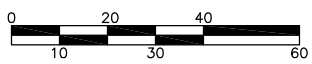
EXISTING  
RACEWAYS

NEW DISTRIBUTION BOX

NEW REUSE BOX

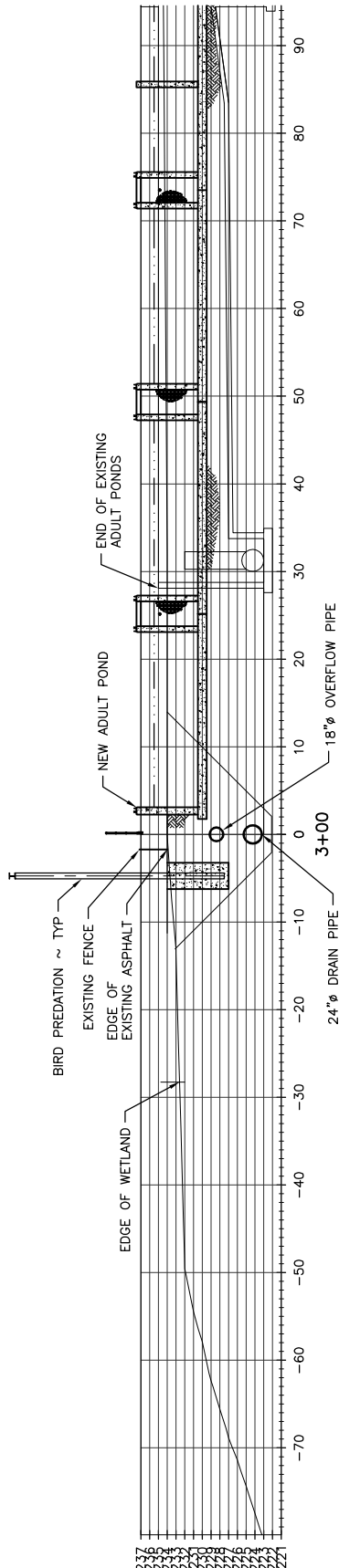
**ENLARGED NEW SITE PLAN**

SCALE: 1" = 40'



SCALE: 1" = 40'

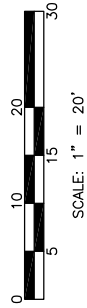
REFERENCE NUMBER:  
 APPLICANT NAME:  
 WASHINGTON DEPT. of FISH & WILDLIFE  
 PROPOSED PROJECT:  
 BROODSTOCK MODIFICATION PHASE 2  
 LOCATION: KALAMA FALLS HATCHERY  
 SHEET 11 OF 13      DATE: 4-8-2016



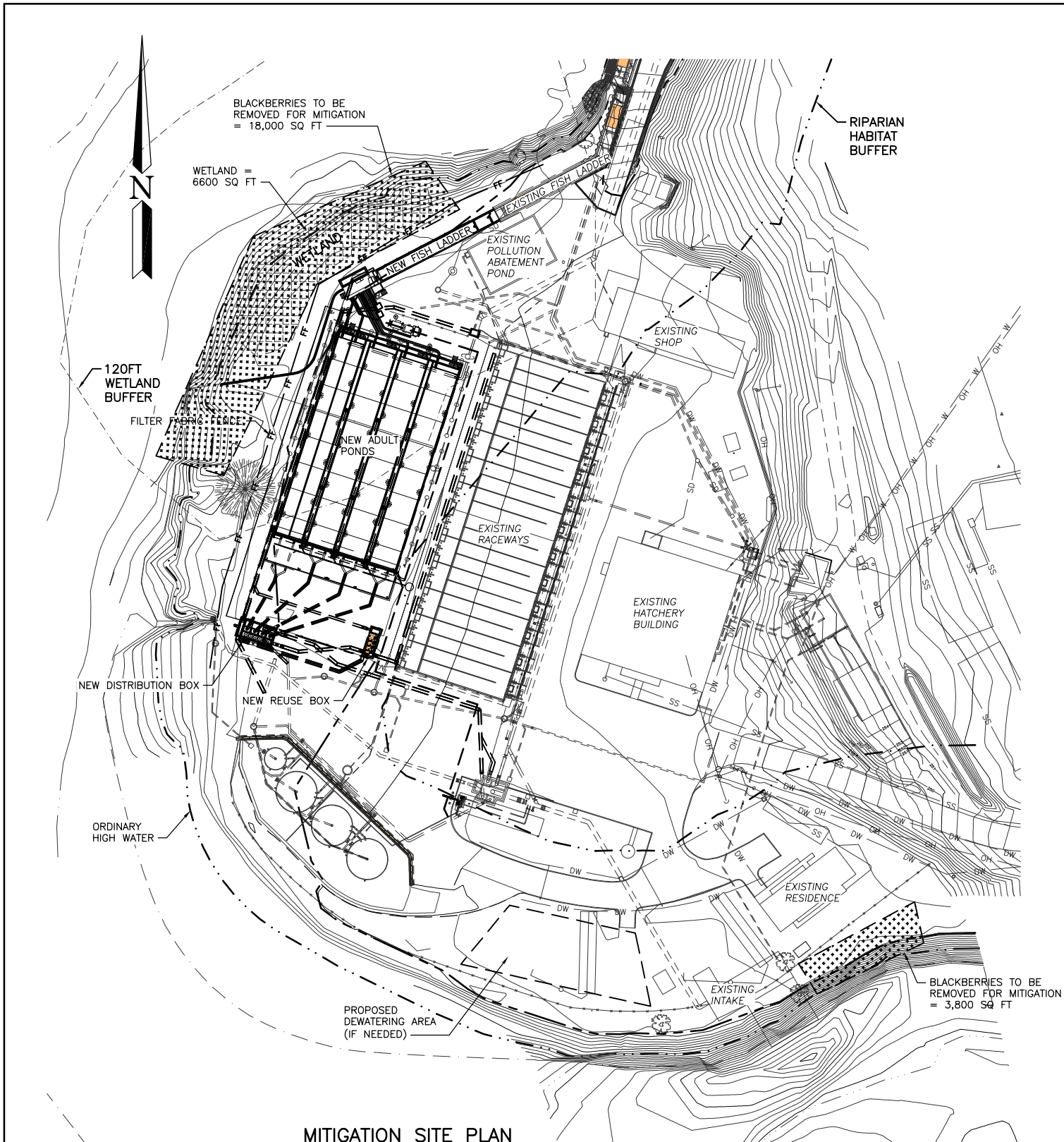
**NOTES:**

1. CUT FOR 24"Ø AND 18"Ø PIPES = 1100 CY
2. IMPACTED AREA IN THE WETLAND BUFFER AREA = 2000 SQ. FT.

**SECTION**  
SCALE: 1" = 20'



REFERENCE NUMBER:  
 APPLICANT NAME:  
 WASHINGTON DEPT. of FISH & WILDLIFE  
 PROPOSED PROJECT:  
 BROODSTOCK MODIFICATION PHASE 2  
 LOCATION: KALAMA FALLS HATCHERY  
 SHEET 12 OF 13 DATE: 4-8-2016

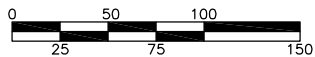


**MITIGATION SITE PLAN**

SCALE: 1" = 100'

**NOTE:**

MITIGATION RATIO IS 10:1  
REMOVAL OF BLACKBERRIES



SCALE: 1" = 100'

REFERENCE NUMBER:

APPLICANT NAME:

WASHINGTON DEPT. of FISH & WILDLIFE

PROPOSED PROJECT:

BROODSTOCK MODIFICATION PHASE 2

LOCATION: KALAMA FALLS HATCHERY

SHEET 13 OF 13

DATE: 4-8-2016