

# UTAH DFCM

## UTAH DIVISION OF WILDLIFE RESOURCES LOA FISH HATCHERY SPRING REDEVELOPMENT

MANAGED BY:  
DIVISION OF FACILITIES CONSTRUCTION  
AND MANAGEMENT  
DFCM PROJECT #10050520



State of Utah - Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION  
AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 801 538-3018

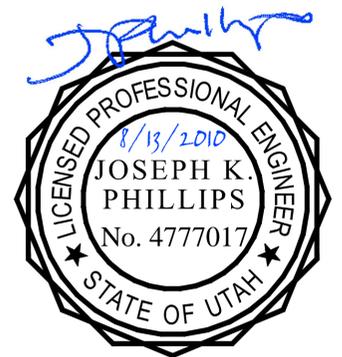
APPROVALS:

\_\_\_\_\_  
Prime Agency Date

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DFCM Date

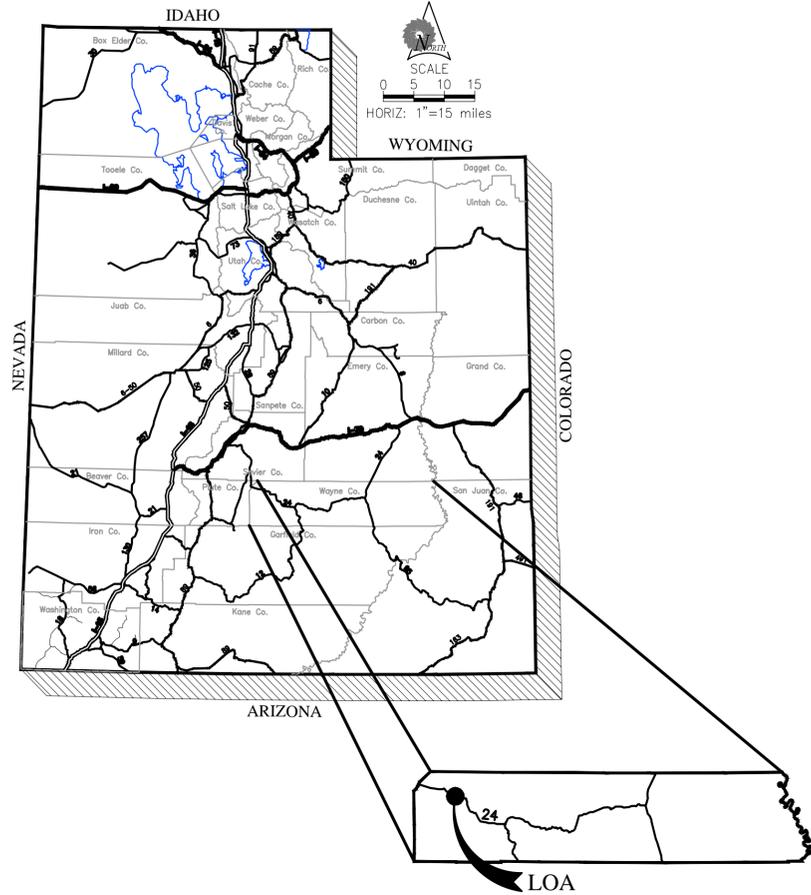
APPROVAL DOES NOT RELIEVE A/E OF DESIGN LIABILITY

CONSTRUCTION DRAWINGS  
AUGUST 2010

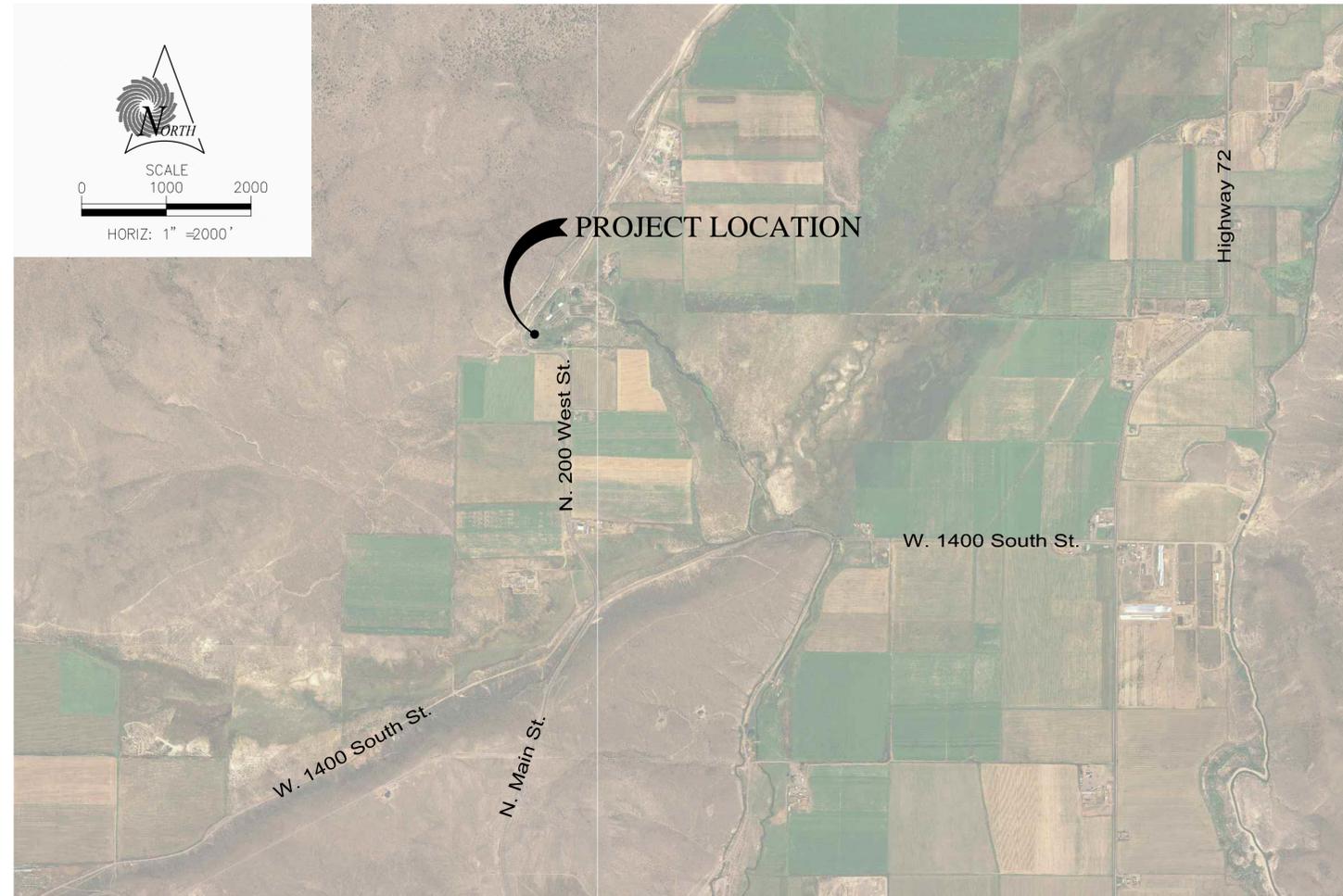


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**AREA MAP**



**LOCATION MAP**

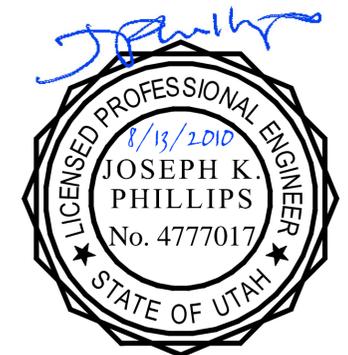


**ABBREVIATIONS**

AB	ANCHOR BOLT	ELL.	ELBOW	±	PLUS OR MINUS
ALT.	ALTERNATE	ELEV. OR EL.	ELEVATION	PE	ELEVATION
ALUM.	ALUMINUM	EXIST.	EXISTING	PE PIPE	POLYETHYLENE PIPE
ACI	AMERICAN CONCRETE INSTITUTE	FT OR '	FEET	PVC	POLYVINYL-CHLORIDE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	FG	FINISHED GRADE	LB. OR #	POUND
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	FS	FINISHED SURFACE	PSI	POUNDS PER SQUARE INCH
∠	ANGLE	FTG.	FITTING	PG	PRESSURE GAUGE
APPROX.	APPROXIMATELY	FLG	FLANGE	P	PROPERTY LINE
ASSY.	ASSEMBLY	FLEX.	FLEXIBLE	R	RADIUS
⊙	AT (MEASUREMENTS)	FL	FLOW LINE	RED.	REDUCER
AVG.	AVERAGE	GALV.	GALVANIZED	REM.	REMOVE
B.M.	BENCH MARK	GPM	GALLONS PER MINUTE	REQ'D.	REQUIRED
BSC	BITUMINOUS SURFACE COURSE	G.V.	GATE VALVE	REV.	REVISION
B.F.	BLIND FLANGE	GA.	GAUGE	R/W	RIGHT-OF-WAY
B.W.	BOTH WAYS	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
BOT.	BOTTOM	H.W.L.	HIGH WATER LEVEL	SHT.	SHEET
BLDG.	BUILDING	HORIZ.	HORIZONTAL	SL	SLOPE
BLM	BUREAU OF LAND MANAGEMENT	IN. OR "	INCH	S	SOUTH
⊕	CENTER LINE	ID	INSIDE DIAMETER	SPEC	SPECIFICATION
CO	CLEAN OUT	INSUL.	INSULATION	SQ.	SQUARE
CONC.	CONCRETE	INV.	INVERT	SQ. FT.	SQUARE FEET
CONT.	CONTINUOUS	JT.	JOINT	SQ. IN.	SQUARE INCHES
CMP	CORRUGATED METAL PIPE	J.B.	JUNCTION BOX	ST. STL.	STAINLESS STEEL
CPLG.	COUPLING	L	LENGTH	STD.	STANDARD
CFS	CUBIC FEET PER SECOND	LN.	LINEAL	STA	STATION
CU.	CUBIC	LN. FT.	LINEAL FEET	STL	STEEL
CU. YD.	CUBIC YARD	MH	MANHOLE	SYM.	SYMMETRICAL
DEG. OR °	DEGREE	MFR.	MANUFACTURER	TYP.	TYPICAL
Δ	DELTA	MATL.	MATERIAL	UBC	UNTREATED BASE COURSE
DPLG.	DETAIL	MAX.	MAXIMUM	UDOT	UTAH DEPARTMENT OF TRANSPORTATION
DIAG.	DIAGONAL	MECH.	MECHANICAL	VERT.	VERTICAL
DIA. OR ∅	DIAMETER	MJ	MECHANICAL JOINT	VOL.	VOLUME
DIM	DIMENSION	MGD	MILLIONS OF GALLONS PER DAY	WS	WATER SURFACE
DIST.	DISTRIBUTION	MIN.	MINIMUM	WT.	WEIGHT
DWG	DRAWING	N	NORTH	W	WEST
DIP	DUCTILE IRON PIPE	NO. OR #	NUMBER	W/REQ'D.	WHERE REQUIRED
EA.	EACH	O.A.	ON CENTER	W/	WITH
E.F.	EACH FACE	OD	OUTSIDE DIAMETER	W/O	WITHOUT
E.W.	EACH WAY	PERP.	PERPENDICULAR		
E	EAST	PL.	PLATE		

**SHEET INDEX**

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REV NO.	COMMENT	DATE
<p><b>State of Utah</b> Department of Administrative Services</p> <p>Division of Facilities &amp; Construction Management 4110 State Office Building Salt Lake City, Utah 84114 Phone: (801) 538-3018 FAX: (801) 538-3267</p> <p>Internet: <a href="http://dfcm.utah.gov">http://dfcm.utah.gov</a></p> <p><b>SUNRISE ENGINEERING</b> 2390 WEST HWY 56, SUITE 6 CEDAR CITY, UTAH 84720 TEL 435 867-8834 <a href="http://www.sunrise-eng.com">www.sunrise-eng.com</a></p> <p><b>UTAH DIVISION OF WILDLIFE RESOURCES</b></p> <p><b>LOA FISH HATCHERY</b> SPRING REDEVELOPMENT</p> <p>AREA MAP, LOCATION MAP, ABBREVIATIONS, &amp; SHEET INDEX</p>		
SEI NO. 03663	DESIGNED JDF	DRAWN DRL
CHECKED JKP	SHEET NO. 2 of 13	<b>G2</b>

# CODE ANALYSIS

## APPLICABLE CODES

	Year		Year
International Building Code	2009	National Electrical Code	2008
International Mechanical Code	2009	Uniform Code for Building Conservation	2009
International Fuel Gas Code	2009	ADA Accessibility Guidelines	2003
International Plumbing Code	2009		
International Fire Code	2009		
International Energy Conservation Code	2009		

A. Occupancy and Group: U

Change in Use: Yes  No  Mixed Occupancy: Yes  No   
 Special Use and Occupancy (e.g. High Rise, Covered Mall): NONE

B. Seismic Design Category: N/A Design Wind Speed: N/A mph

C. Type of Construction (circle one):

I I II III IV V V  
 A B A B A HT A B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):  
 North: N/A South: N/A East: N/A West: N/A

E. Mixed Occupancies: N/A Nonseparated Uses: N/A

F. Sprinklers:  
 Required: N/A Provided: N/A

Type of Sprinkler System (IBC 903.3.1) N/A

G. Number of Stories: N/A Building Height: N/A

H. Actual Area per Floor (square feet): N/A

I. Tabular Area: (table 503): N/A

J. Area Modifications:  

$$A_a = \left\{ A_1 + \left[ A_1 \times I_f \right] + \left[ A_1 \times I_s \right] \right\} I_f = \left[ F/P - 0.25 \right] W / 30$$

N/A

b) Sum of the Ratio Calculations for Mixed Occupancies:

$$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$$

N/A

c) Total Allowable Area for:  
 1) One Story: \_\_\_\_\_  
 2) Two Story:  $A_a(2)$  \_\_\_\_\_ N/A  
 3) Three Story:  $A_a(3)$  \_\_\_\_\_  
 d) Unlimited Area Building: Yes N/A No \_\_\_\_\_ Code Section: \_\_\_\_\_

K. Fire Resistance Rating Requirements for Building Elements (hours): N/A

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	<u>N/A</u>	<u>N/A</u>	Floors - Ceiling Floors	<u>N/A</u>	<u>N/A</u>
Interior Bearing Walls	<u>N/A</u>	<u>N/A</u>	Roofs - Ceiling Roofs	<u>N/A</u>	<u>N/A</u>
Exterior Non-Bearing Walls	<u>N/A</u>	<u>N/A</u>	Exterior Doors and Windows	<u>N/A</u>	<u>N/A</u>
Structural Frame	<u>N/A</u>	<u>N/A</u>	Shaft Enclosures	<u>N/A</u>	<u>N/A</u>
Partitions - Permanent	<u>N/A</u>	<u>N/A</u>	Fire Walls	<u>N/A</u>	<u>N/A</u>
Fire Barriers	<u>N/A</u>	<u>N/A</u>	Fire Partitions	<u>N/A</u>	<u>N/A</u>
			Smoke Partitions	<u>N/A</u>	<u>N/A</u>

L. Design Occupant Load: N/A  
 Exit Width Required: \_\_\_\_\_ Exit Width Provided: \_\_\_\_\_

M. Minimum Number of Required Plumbing Facilities: N/A  
 a) Water Closets - Required (m) \_\_\_\_\_ (f) \_\_\_\_\_ Provided (m) \_\_\_\_\_ (f) \_\_\_\_\_  
 b) Urinals - Required (m) \_\_\_\_\_ (f) \_\_\_\_\_ Provided (m) \_\_\_\_\_ (f) \_\_\_\_\_  
 c) Lavatories - Required (m) \_\_\_\_\_ (f) \_\_\_\_\_ Provided (m) \_\_\_\_\_ (f) \_\_\_\_\_  
 d) Bath Tubs or Showers: \_\_\_\_\_  
 e) Drinking Fountains: \_\_\_\_\_ Service Sinks: \_\_\_\_\_

FOOTNOTES:  
 1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.  
 2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:  
 a) High Rise Requirements.  
 b) Atriums.  
 c) Performance Based Criteria.  
 d) Means or Egress Analysis.  
 e) Fire Assembly Locator Sheet.  
 f) Exterior and Interior Accessibility Route.  
 g) Fire Stopping, Including Tested Design Number.

## DESIGN CRITERIA

### PROJECT SHALL INCLUDE:

1. PROTECTION OF SYSTEM FROM INVASIVE SPECIES AND ALSO ENDEMIC SNAIL.
2. IF POSSIBLE, REMOVE AND DISPOSE OF EXISTING CONCRETE DIKES.
3. ALL EXPLORATION WORK NECESSARY TO EXPOSE WATER-PRODUCING STRATA WITHIN THE CONSTRUCTION ZONE.
4. INSTALLATION OF NEW SPRING COLLECTION TRENCHES AND PIPE SEGMENTS WITH ASSOCIATED MATERIALS AND APPURTENANCES, AND THE SPRING COLLECTION BOX SO THAT SYSTEM IS NOT SURFACE EXPOSED.
5. CONNECTIONS TO THE EXISTING HATCHERY BUILDING AND RACEWAY PIPE INFRASTRUCTURE.
6. IF POSSIBLE, CONSTRUCTION OF A BYPASS LINE FOR THE SPRING COLLECTION SYSTEM DISCHARGE.
7. ALL WORK, MATERIALS, LABOR, EQUIPMENT AND COSTS NECESSARY TO COMPLETE THE WORK AND BRING THE FACILITY TO ITS FULLY OPERABLE CONDITION AS INTENDED BY THESE PLANS AND THE PROJECT CONTRACT DOCUMENTS AND SPECIFICATIONS.

### SPRING PRODUCTION & FLOWS:

1. PROJECT OBJECTIVE IS TO MAXIMIZE SPRING FLOW PRODUCTION. FOR THE PURPOSE OF DESIGN AND SIZING, A FLOW RATE OF 15 CUBIC FEET PER SECOND IS USED.
2. CURRENT TOTAL SPRING PRODUCTION IS REPORTED TO BE APPROXIMATELY 10 CUBIC FEET PER SECOND.
3. IF POSSIBLE, FLOW A MAXIMUM 3 CUBIC FEET PER SECOND TO HATCHERY BUILDING.

## CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROJECT DRAWINGS AND SPECIFICATIONS
2. THERE MAY BE UTILITIES PRESENT WHICH ARE NOT SHOWN. THE CONTRACTOR HAS THE ULTIMATE RESPONSIBILITY TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. ANY UTILITIES DISTURBED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED AT THE CONTRACTOR'S EXPENSE. THE OWNER AND ENGINEER WILL COORDINATE WITH THE CONTRACTOR TO LOCATE OR RELOCATE PLANNED IMPROVEMENTS BASED ON ACTUAL SITE CONDITIONS.
3. THE CONTRACTOR SHALL PROVIDE ALL QUALITY CONTROL TESTING THROUGH A QUALIFIED AGENT PER THE PROJECT SPECIFICATIONS.
4. ALL IMPROVEMENTS SHALL BE INSTALLED AT THE LOCATIONS, ELEVATIONS, AND DEPTHS SHOWN ON THE DRAWINGS AND/OR AS REQUIRED BY THE ENGINEER. THE CONTRACTOR SHALL NOT MOVE THE ALIGNMENT OR LOCATION OF ANY OF THE SHOWN OR INTENDED IMPROVEMENTS WITHOUT THE WRITTEN CONSENT OF THE ENGINEER. THE ENGINEER WILL COORDINATE WITH THE CONTRACTOR TO RELOCATE PLANNED IMPROVEMENTS WHICH CONFLICT WITH ACTUAL SITE CONDITIONS.
5. ANY DEBRIS RESULTING FROM THE PROJECT SHALL BE DISPOSED OF BY THE CONTRACTOR. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DISPOSAL SITES AT WHICH DEBRIS MAY BE LAWFULLY WASTED. FINAL GRADING OF DISTURBED AREAS IS SUBJECT TO THE ENGINEER'S APPROVAL AND SHALL BE COMPLETED IN A NEAT WORKMANLIKE MANNER.
6. ALL LABORERS AND OPERATORS WORKING ON THE PROJECT SHALL BE A MINIMUM OF 18 YEARS OF AGE AND SHALL PROVIDE PROOF OF AGE UPON REQUEST BY THE ENGINEER. IF PROOF IS NOT GIVEN, THE ENGINEER SHALL HAVE AUTHORITY TO STOP WORK AS NEEDED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO ACQUIRE ANY NECESSARY TEMPORARY PERMITS FOR THIS PROJECT.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL OSHA REGULATIONS AND STANDARDS ARE COMPLIED WITH ON THE PROJECT SITE DURING THE CONSTRUCTION PERIOD. THE CONTRACTOR'S PERSONNEL, EQUIPMENT, AND OPERATIONS SHALL COMPLY FULLY WITH ALL APPLICABLE STANDARDS, REGULATIONS, AND REQUIREMENTS OF EXISTING FEDERAL, STATE, AND LOCAL GOVERNMENTAL AGENCIES.
9. WORK INTENDED BY THE DRAWINGS AND SPECIFICATIONS BUT NOT SPECIFICALLY IDENTIFIED IN A PARTICULAR BID ITEM SHALL BE CONSIDERED INCIDENTAL TO THE OTHER BID ITEMS.
10. THE CONTRACTOR IS RESPONSIBLE FOR DUST ABATEMENT AND ANY LIABILITY ISSUES RELATED TO DUST WHICH MAY BE CAUSED BY THIS PROJECT.
11. THE CONTRACTOR SHALL FURNISH ALL LABOR AND EQUIPMENT AND SHALL BEAR ALL COSTS ASSOCIATED WITH EXPOSING EXISTING IMPROVEMENTS TO MAKE NECESSARY CONNECTIONS AND COMPLETE THE PROPOSED SPRING DEVELOPMENT WORK.
12. THE CONFIGURATION OF THE SPRING COLLECTION LINES AND TRENCHES IS SHOWN FOR PLANNING PURPOSES AS A PROBABLE SCENARIO. THE ACTUAL CONFIGURATION WILL BE DETERMINED IN THE FIELD AS PART OF THE SPRING EXPLORATION WORK AND SHALL BE AS DIRECTED BY THE ENGINEER. AS A RESULT, ACTUAL MATERIAL QUANTITIES USED IN THE PROJECT MAY VARY FROM THE QUANTITIES SHOWN ON THE PLANS AND EXPRESSED IN THE BID DOCUMENTS.
13. ALL INDIVIDUAL FITTINGS MAY OR MAY NOT HAVE BEEN SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT AND SHALL BE RESPONSIBLE FOR ALL COSTS OF PROVIDING FITTINGS FOR THE PROJECT TO ACHIEVE THE INTENDED VERTICAL AND HORIZONTAL ALIGNMENTS. CONTRACTOR MAY ALSO BE ABLE TO REDUCE FITTINGS BASED UPON ALLOWABLE CURVATURE OF PIPE OR OTHER METHODS PER THE ENGINEER'S APPROVAL.
14. ALL BURIED DUCTILE IRON PIPE AND FITTINGS, RESTRAINTS, BOLT PACKS, AND OTHER METAL PARTS SHALL BE WRAPPED IN ACCORDANCE WITH SECTION 02222.2.3.1.
15. ALL GRADE SETTING AND ELEVATION VERIFICATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

DETAIL DESIGNATION  
 DETAIL - TITLE  
 NOT TO SCALE  
 DRAWING NUMBER



DETAIL REFERENCE	DESCRIPTION
W	NEW WATER PIPELINE
8"W	NEW WATER PIPELINE (SIZE AS SHOWN)
W	EXIST. WATER PIPELINE
8"W	EXIST. WATER PIPELINE (SIZE AS SHOWN)
S	EXIST. SEWER PIPELINE
IRR	EXIST. IRRIGATION PIPELINE
SD	EXIST. STORM DRAIN
G	EXIST. GAS LINE
OHE	EXIST. OVERHEAD ELECTRIC
UGE	EXIST. UNDERGROUND ELECTRIC
T	EXIST. TELEPHONE LINE
FO	EXIST. FIBER OPTIC LINE
C	EXIST. CABLE TV
---	EXIST. PROPERTY LINE
O	NEW CHAIN LINK FENCE
O	EXIST. CHAIN LINK FENCE
X	EXISTING BARBED WIRE FENCE
---	SURFACE WATER FLOW
---	EXISTING SURFACE CONTOUR (MAJOR)
---	EXISTING SURFACE CONTOUR (MINOR)

MATCHLINE SEE DWG XX01 PLAN SHEET MATCH LINE

## LEGEND

EXISTING	PROPOSED	DESCRIPTION
		CROSS
		TEE
		ELBOW
		WYE
		PLUG - FLANGED
		PLUG - CAPPED
		MJM REPAIR SLEEVE
		WATER SERVICE LATERAL W/ METER SETTERS
		GATE VALVE
		FIRE HYDRANT REDUCER
		PRESSURE REDUCING VALVE
		AIR RELEASE VALVE
		CHECK VALVE
		BUTTERFLY VALVE
		SEWER MANHOLE
		SEWER CLEAN OUT
		SEWER SERVICE CONNECTION
		STORM DRAIN MANHOLE
		STORM DRAIN INLET
		STORM DRAIN CATCH BASIN
		POWER POLE
		PHONE PEDESTAL
		ROADWAY SIGN

SECTION CORNER  
 QUARTER CORNER  
 SIXTEENTH CORNER  
 BENCH MARK  
 2.0% SLOPE AND DIRECTION  
 105 GRADE POINT  
 4393.40 (POINT NO. & ELEV.)



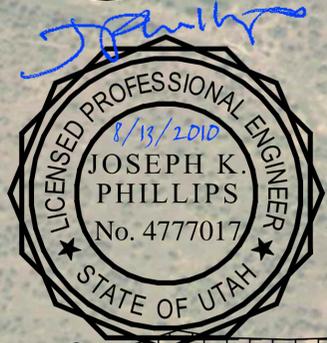
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UTAH DIVISION OF WILDLIFE RESOURCES LOA FISH HATCHERY SPRING REDEVELOPMENT DESIGN CRITERIA, CONSTRUCTION NOTES, CODE ANALYSIS, & LEGEND		
SEI NO. 03663	DESIGNED JDF	CHECKED JKP
DRAWN DRL	CHECKED JKP	SHEET NO. 3 of 13
		<b>G3</b>





**BIOSECURITY PLAN NOTES:**

1. THIS PLAN WILL SERVE AS A GUIDE TO CONTAIN BIOSECURITY HAZARDS THAT ARE CURRENTLY PRESENT AND PREVENT NEW ONES FROM OCCURRING.
2. THE CONTRACTOR SHALL BE AWARE THAT THE WATER SUPPLY FOR THE ENTIRE HATCHERY IS OBTAINED FROM THE SPRING.
3. EQUIPMENT AND HUMAN HANDS ARE RECOGNIZED AS MODES FOR PATHOGEN TRANSFER. VIRUSES, BACTERIA, AND PARASITES ARE INVISIBLE TO THE NAKED EYE SO THEIR TRANSMISSION VIA OBJECTS GOES EASILY UNNOTICED. FOOTWEAR AND HANDS MAY TRANSFER UNDESIRABLE PATHOGENS, PARASITES, OR AQUATIC NUISANCE SPECIES (E.G., WHIRLING DISEASE, QUAGGA MUSSELS, NEW ZEALAND MUD SNAIL, ETC.) ONTO OR INTO FACILITIES.
4. ITEMS WHICH NEED TO BE THOROUGHLY DISINFECTED BEFORE AND AFTER USE ON SITE INCLUDE: PERSONAL PROTECTIVE EQUIPMENT (E.G., WADERS, HIP BOOTS, RUBBER BOOTS, RAINGEAR, GLOVES, CLOTHING, ETC.), WORK EQUIPMENT (E.G., TOOLS, SHOVELS, PUMPS, ETC.), AND VEHICLE EQUIPMENT (E.G., ATV, TRUCKS, EXCAVATOR, DUMP TRUCK, ETC.).
5. DISINFECTION SHALL BE COMPLETED AT THE DESIGNATED CLEANING STATION SHOWN ON THIS SHEET.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISINFECTING. IT IS STRONGLY RECOMMENDED THAT NEW PERSONAL PROTECTIVE EQUIPMENT BE PURCHASED AND LEFT ON SITE FOR THE DURATION OF THE PROJECT.
7. POROUS MATERIALS, SUCH AS WOODEN HANDLED SHOVELS, SHALL BE ELIMINATED AND REPLACED WITH NON-POROUS MATERIALS SUCH AS FIBERGLASS OR METAL.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ALL DIRT & DEBRIS FROM EQUIPMENT PRIOR TO ARRIVING ONSITE. IF CATCH BASIN IS USED, CONTRACTOR SHALL REMOVE, CLEAN, AND DISPOSE OF MATERIALS PROPERLY.
9. EQUIPMENT AND VEHICLE TO BE DISINFECTED SHALL BE POWER WASHED, DRIED AND DISINFECTED AT THE DESIGNATED CLEANING STATION ON THE HATCHERY GROUNDS. THEY SHALL NOT BE USED PRIOR TO DISINFECTION. PROPER DISINFECTION SHALL INCLUDE POWER WASHING, DRYING, AND EXTERNAL SURFACES FURTHER CLEANED WITH 5000 PPM CHLORINE BLEACH 10% SOLUTION. AFTER DISINFECTION, ALL EQUIPMENT AND VEHICLES WILL BE RINSED WITH CLEAN WATER. ALL DISINFECTION TO BE DONE UNDER THE DIRECT SUPERVISION OF ONSITE D.W.R. STAFF.
10. WITH RECREATIONAL WATER IN THE AREA, ALL EQUIPMENT USED FOR BEFORE AND AFTER WORK HOUR ACTIVITIES BY THE CONTRACTOR FOR FISHING AND OTHER WATER RECREATION WILL NOT BE ALLOWED ON SITE AT THE HATCHERY.
11. EARTH MATERIALS IMPORTED FOR THE PROJECT, INCLUDING DRAIN ROCK, FILL, CLAY, ETC., SHALL BE OBTAINED FROM A DRY SOURCE.



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**KNOWN BIO-HAZARD AREAS:**

	NEW ZEALAND MUD SNAIL
	ENDEMIC SNAIL
	WHIRLING DISEASE

**UTAH DIVISION OF WILDLIFE RESOURCES**

**LOA FISH HATCHERY**  
 SPRING REDEVELOPMENT  
 BIOSECURITY PLAN

SEI NO. 03663	DESIGNED JDF	DRAWN DRL	CHECKED JKP	SHEET NO. 5 of 13	<b>BS1</b>
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**DEMOLITION PLAN NOTES:**

1. THE CONTRACTOR SHALL BE RESPONSIBLE UNDER THIS CONTRACT FOR REPAIRING AND REPLACING AT HIS OWN EXPENSE, ANY STRUCTURES, FACILITIES, OR PLANT LIFE DAMAGED OR DESTROYED BY HIS OPERATION WHICH IS NOT INTENDED TO BE DAMAGED OR DESTROYED. LIKEWISE, HE SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY AND ALL DAMAGES OCCURRING BY HIS OPERATION ON ADJACENT PROPERTIES AND ANYWHERE OUTSIDE OF THE PROJECT LIMIT LINES. ALL DAMAGED ITEMS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER.
2. THE CONTRACTOR SHALL PERFORM ALL CLEARING, GRUBBING, DEMOLITION, REMOVAL, AND DISPOSING OR SALVAGING OF EXISTING OBSTRUCTIONS AND SITE FEATURES NECESSARY FOR THE PROPER EXECUTION OF ALL WORK INTENDED BY THE DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR SHALL KEEP ALL PAVING, CURB, AND CONSTRUCTION AREA FREE FROM WEEDS, DEBRIS AND TRASH THROUGH THE DURATION OF THE CONTRACT.
4. ALL ITEMS TO BE SALVAGED SHALL BE SALVAGED IN AN ORDERLY MANNER TO THE OWNER LOCATED ON THE PROJECT SITE.
5. BRUSH AND WEEDS CLEARED FROM THE PROJECT SITE SHALL BE REMOVED & DISPOSED OF BY THE CONTRACTOR.



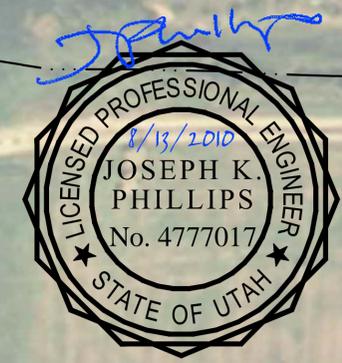
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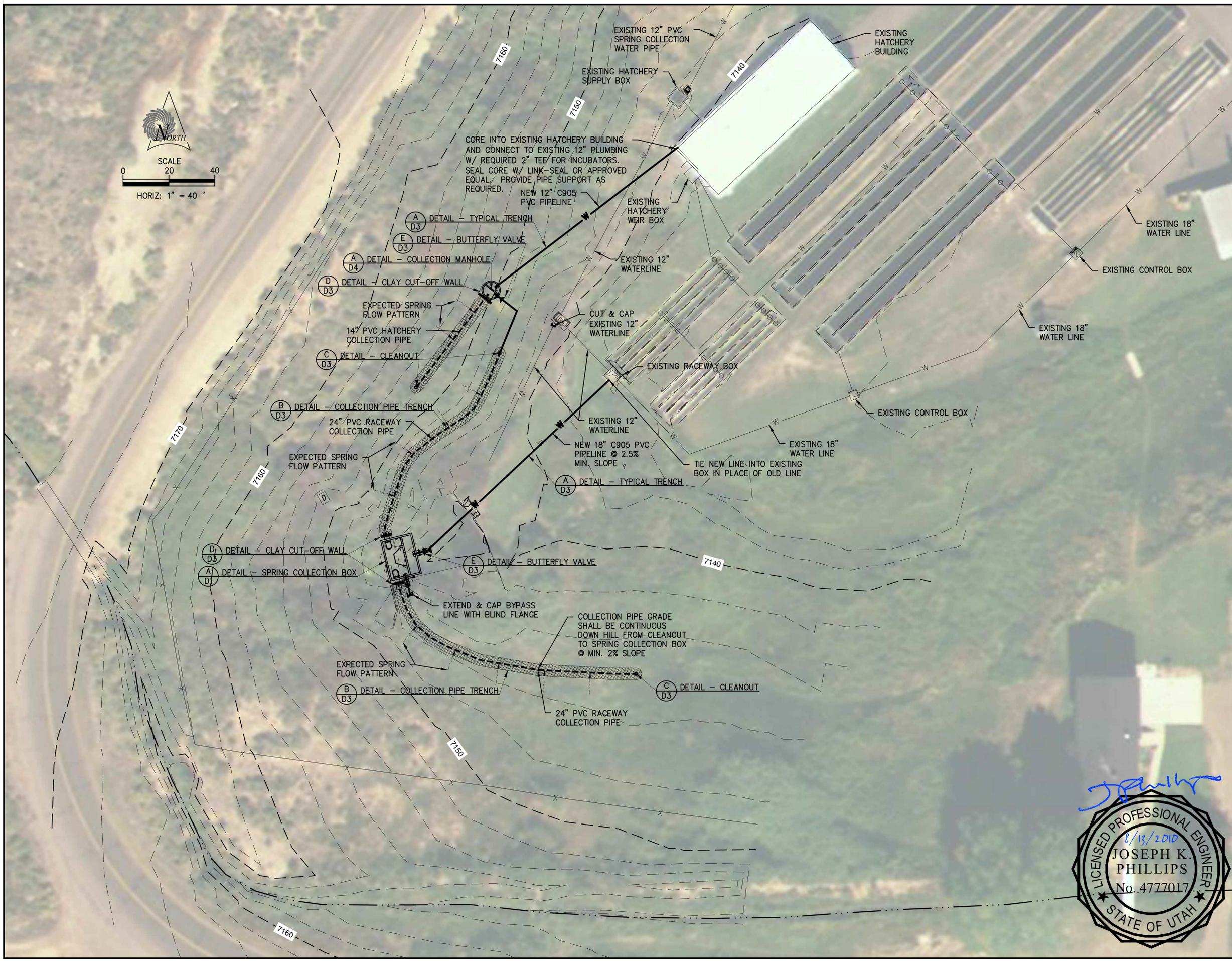
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[www.sunrise-eng.com](http://www.sunrise-eng.com)

UTAH DIVISION OF WILDLIFE RESOURCES				
LOA FISH HATCHERY SPRING REDEVELOPMENT DEMOLITION PLAN				
SET NO. 03663	DESIGNED JDF	DRAWN DRL	CHECKED JKP	SHEET NO. 6 of 13
				<b>DP1</b>



**SITE PLAN NOTES:**

1. CONTRACTOR SHALL BE REQUIRED TO PROVIDE AND INSTALL MISCELLANEOUS FITTINGS AS NECESSARY TO COMPLETE THE WORK.
2. ALL VALVES SHALL BE THE SAME SIZE AS THE PIPELINE UPON WHICH THEY ARE PLACED UNLESS NOTED OTHERWISE BY THE PLANS.
3. ALL BURIED METAL PIPE, FITTINGS, RESTRAINTS, BOLT PACKS, ETC. SHALL BE WRAPPED WITH POLYETHYLENE ENCASEMENT.
4. ALL PIPE BACKFILL AND BEDDING SHALL BE IMPORTED OR SCREENED TO MEET THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
5. CONTRACTOR SHALL STAKE OR OTHERWISE MARK BOUNDARIES OF COLLECTION TRENCH & ALIGNMENT OF SPRING SUPPLY LINES TO FACILITATE POST-CONSTRUCTION SURVEY.
6. CONTRACTOR SHALL GRADE, SMOOTH EARTHWORK, AND RE-SEED W/ APPROVED BLM GRASS MIX IN SPRING DEVELOPMENT AREA TO SATISFACTION OF OWNER.
7. THE SPRING COLLECTION HAS BEEN DESIGNED TO ACCOMMODATE A "HOPED FOR" FLOW OF 15 CFS. AFTER THE SPRING HAS BEEN REDEVELOPED, THE CONTRACTOR SHALL COLLECT ALL THE WATER AND PROVIDE THE ENGINEER WITH AN ESTIMATE OF THE REDEVELOPMENT FLOW. THE ENGINEER WILL THEREBY VERIFY THAT THE WEIR PLATE ASSEMBLY IS PROPERLY DESIGNED. THIS SHALL BE COMPLETED PRIOR TO THE FABRICATION OF THE WEIR PLATE ASSEMBLY.
8. THE CONTRACTOR SHALL EXCAVATE, BUILD, COMPACT, AND OTHERWISE PREPARE A SUITABLE PAD FOR THE CONSTRUCTION OF THE SPRING COLLECTION BOX WITH ITS STABILIZING BASE IN CONSULTATION WITH THE ENGINEER.
9. THE CONFIGURATION OF THE SPRING COLLECTION BOXES AND LINES IS SHOWN AS A POSSIBLE SCENARIO. ACTUAL IMPROVEMENTS WILL BE PLACED BASED ON SPRING DISCOVERY AFTER OVERBURDEN REMOVAL AND EXPLORATION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARILY ROUTING HYDRAULIC FLOWS THROUGH EXISTING BYPASS AND RACEWAYS TO ALLOW CONSTRUCTION OF THE SPRING COLLECTION BOX AND PIPE TRENCH. WHEN NECESSARY, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER FOR THE ROUTING CHANGE PRIOR TO MAKING THE CHANGE.
11. THE CONTRACTOR SHALL ENSURE THAT ALL WORK IS COMPLETED IN A NEAT, WORKMANLIKE MANNER WITH ALL BIOSECURITY RULES BEING FOLLOWED.
12. THE OBJECTIVE OF THE HATCHERY COLLECTION IS 3 C.F.S.

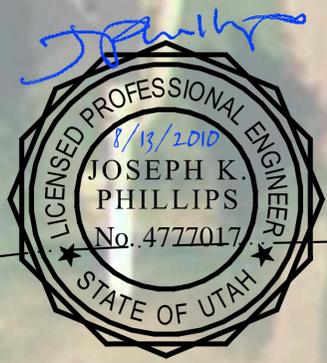
REV NO.	COMMENT	DATE

**State of Utah**  
 Department of Administrative Services

**Division of Facilities & Construction Management**  
 4110 State Office Building  
 Salt Lake City, Utah 84114  
 Phone: (801) 538-3018  
 FAX: (801) 538-3267

Internet: <http://dfcm.utah.gov>

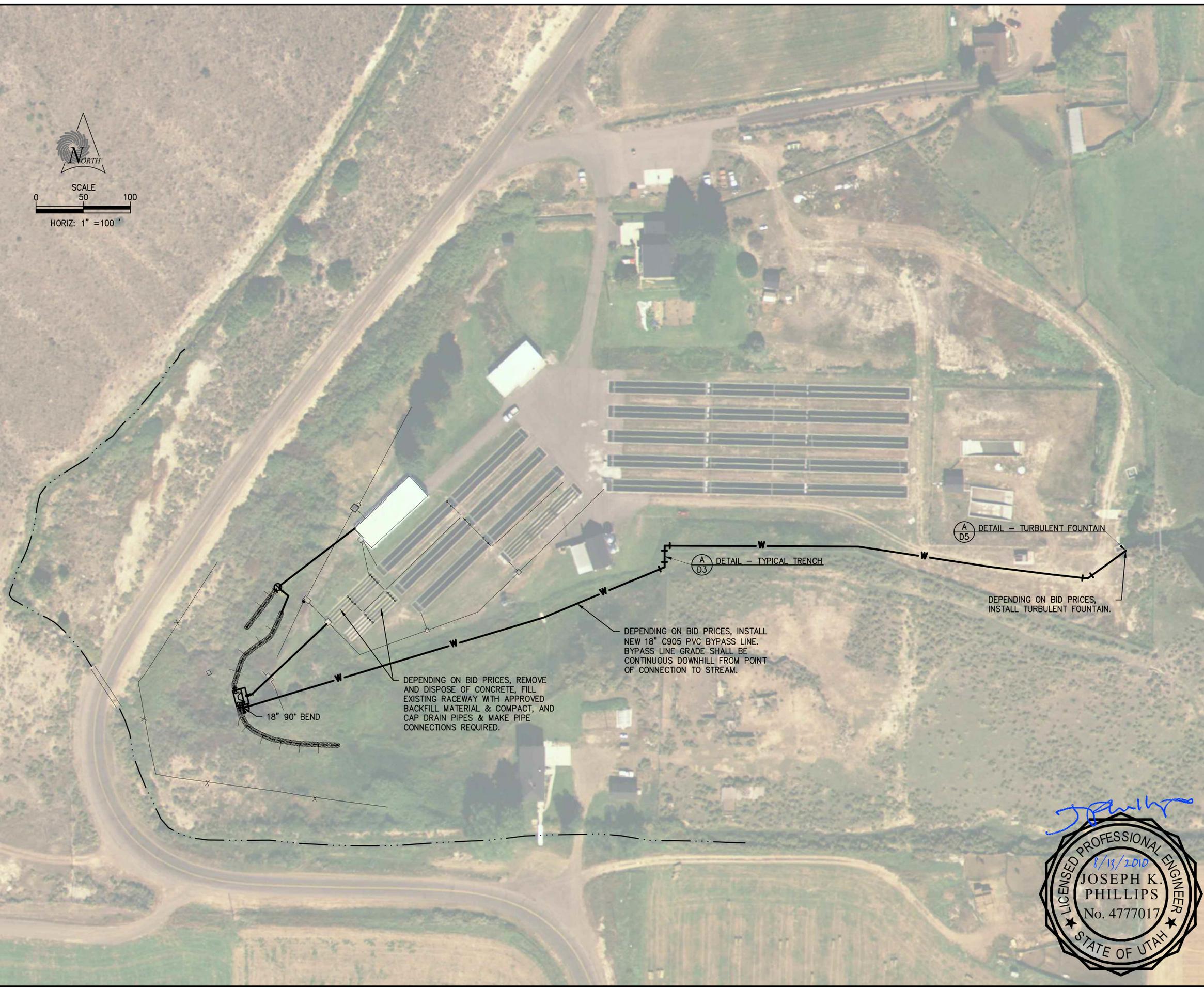
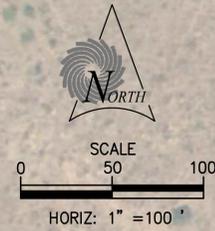
ISSUE TYPE: CONSTRUCTION DRAWINGS  
 ISSUE DATE: AUGUST 2010  
 DFCM PROJECT NO.: #10050520  
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**SUNRISE ENGINEERING**

2390 WEST HWY 56, SUITE 6  
 CEDAR CITY, UTAH 84720  
 TEL 435 867-8834  
 www.sunrise-eng.com

UTAH DIVISION OF WILDLIFE RESOURCES				
LOA FISH HATCHERY SPRING REDEVELOPMENT SITE PLAN				
SEI NO. 03663	DESIGNED JDF	DRAWN DRL	CHECKED JKP	SHEET NO. 7 of 13 <b>SP1</b>



**SITE PLAN NOTES:**

1. CONTRACTOR SHALL BE REQUIRED TO PROVIDE AND INSTALL MISCELLANEOUS FITTINGS AS NECESSARY TO COMPLETE THE WORK.
2. ALL VALVES SHALL BE THE SAME SIZE AS THE PIPELINE UPON WHICH THEY ARE PLACED UNLESS NOTED OTHERWISE BY THE PLANS.
3. ALL BURIED METAL PIPE, FITTINGS, RESTRAINTS, BOLT PACKS, ETC. SHALL BE WRAPPED WITH POLYETHYLENE ENCASEMENT.
4. ALL PIPE BACKFILL AND BEDDING SHALL BE IMPORTED OR SCREENED TO MEET THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
5. CONTRACTOR SHALL STAKE OR OTHERWISE MARK BOUNDARIES OF COLLECTION TRENCH & ALIGNMENT OF SPRING SUPPLY LINES TO FACILITATE POST-CONSTRUCTION SURVEY.
6. CONTRACTOR SHALL GRADE, SMOOTH EARTHWORK, AND RE-SEED W/ APPROVED BLM GRASS MIX IN SPRING DEVELOPMENT AREA TO SATISFACTION OF OWNER.
7. THE SPRING COLLECTION HAS BEEN DESIGNED TO ACCOMMODATE A "HOPED FOR" FLOW OF 15 CFS. AFTER THE SPRING HAS BEEN REDEVELOPED, THE CONTRACTOR SHALL COLLECT ALL THE WATER AND PROVIDE THE ENGINEER WITH AN ESTIMATE OF THE REDEVELOPMENT FLOW. THE ENGINEER WILL THEREBY VERIFY THAT THE WEIR PLATE ASSEMBLY IS PROPERLY DESIGNED. THIS SHALL BE COMPLETED PRIOR TO THE FABRICATION OF THE WEIR PLATE ASSEMBLY.
8. THE CONTRACTOR SHALL EXCAVATE, BUILD, COMPACT, AND OTHERWISE PREPARE A SUITABLE PAD FOR THE CONSTRUCTION OF THE SPRING COLLECTION BOX WITH ITS STABILIZING BASE IN CONSULTATION WITH THE ENGINEER.
9. THE CONFIGURATION OF THE SPRING COLLECTION BOXES AND LINES IS SHOWN AS A POSSIBLE SCENARIO. ACTUAL IMPROVEMENTS WILL BE PLACED BASED ON SPRING DISCOVERY AFTER OVERBURDEN REMOVAL AND EXPLORATION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARILY ROUTING HYDRAULIC FLOWS THROUGH EXISTING BYPASS AND RACEWAYS TO ALLOW CONSTRUCTION OF THE SPRING COLLECTION BOX AND PIPE TRENCH. WHEN NECESSARY, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER FOR THE ROUTING CHANGE PRIOR TO MAKING THE CHANGE. ALL DEBRIS AND SILT LEFT IN RACEWAYS FROM CONSTRUCTION MUST BE REMOVED PRIOR TO TERMINATION OF PROJECT.
11. THE CONTRACTOR SHALL ENSURE THAT ALL WORK IS COMPLETED IN A NEAT, WORKMANLIKE MANNER WITH ALL BIOSECURITY RULES BEING FOLLOWED.
12. THE OBJECTIVE OF THE HATCHERY COLLECTION IS 3 C.F.S.

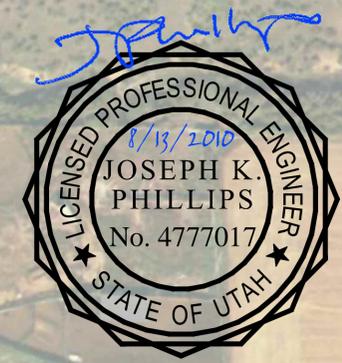
REV NO.	COMMENT	DATE

**State of Utah**  
 Department of Administrative Services

**Division of Facilities & Construction Management**  
 4110 State Office Building  
 Salt Lake City, Utah 84114  
 Phone: (801) 538-3018  
 FAX: (801) 538-3267

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 ISSUE DATE: AUGUST 2010  
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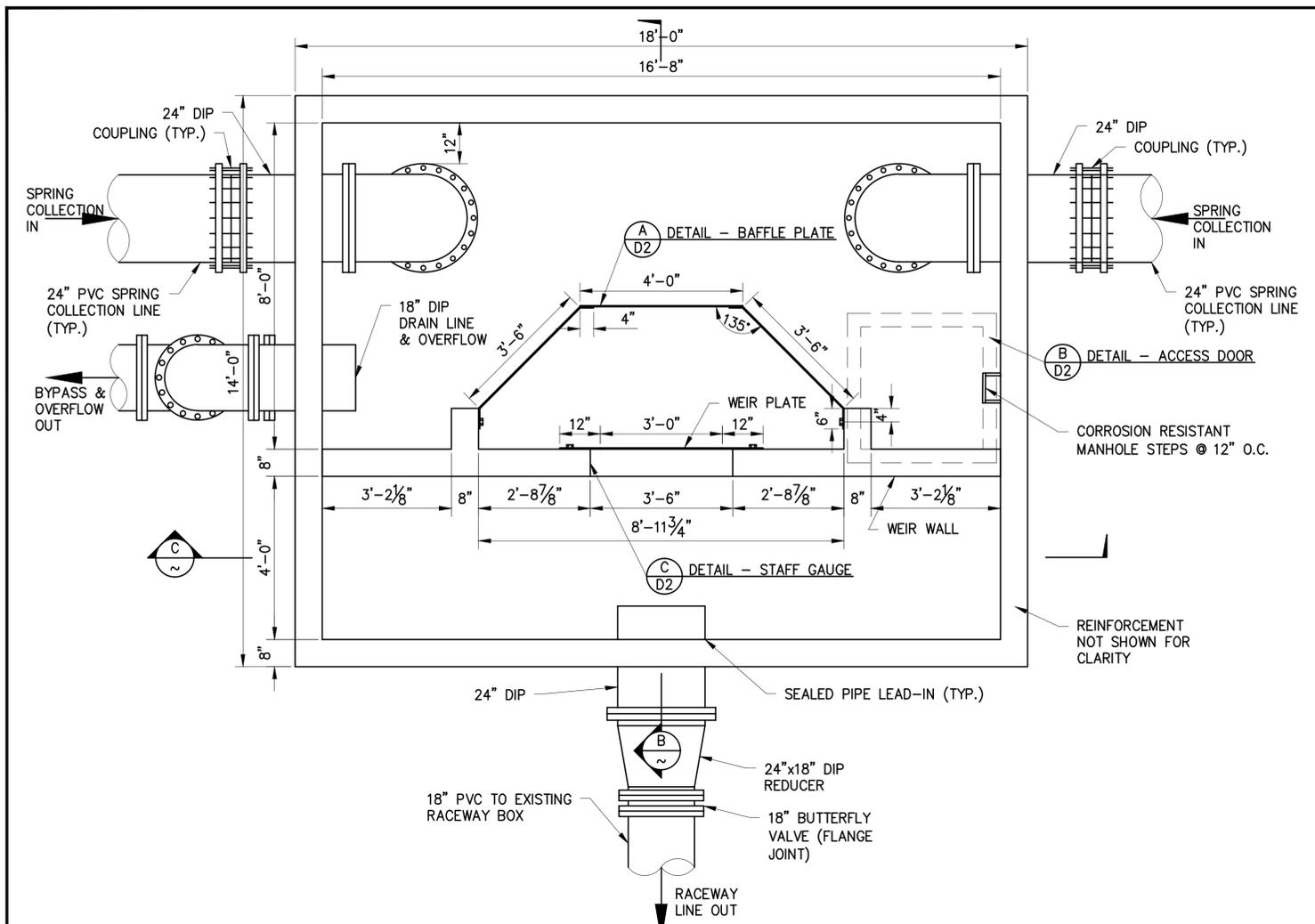
**SUNRISE ENGINEERING**

2390 WEST HWY 56, SUITE 6  
 CEDAR CITY, UTAH 84720  
 TEL 435 867-8834  
[www.sunrise-eng.com](http://www.sunrise-eng.com)

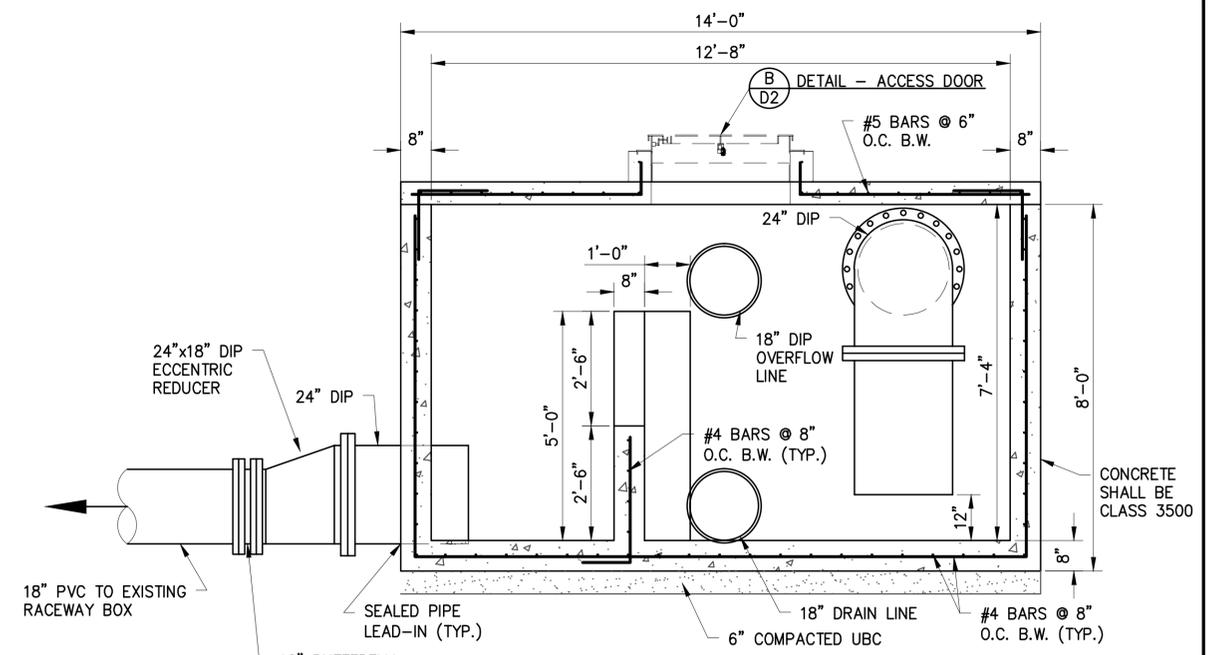
UTAH DIVISION OF WILDLIFE RESOURCES

LOA FISH HATCHERY  
 SPRING REDEVELOPMENT  
 DEDUCTIBLE ALTERNATIVES

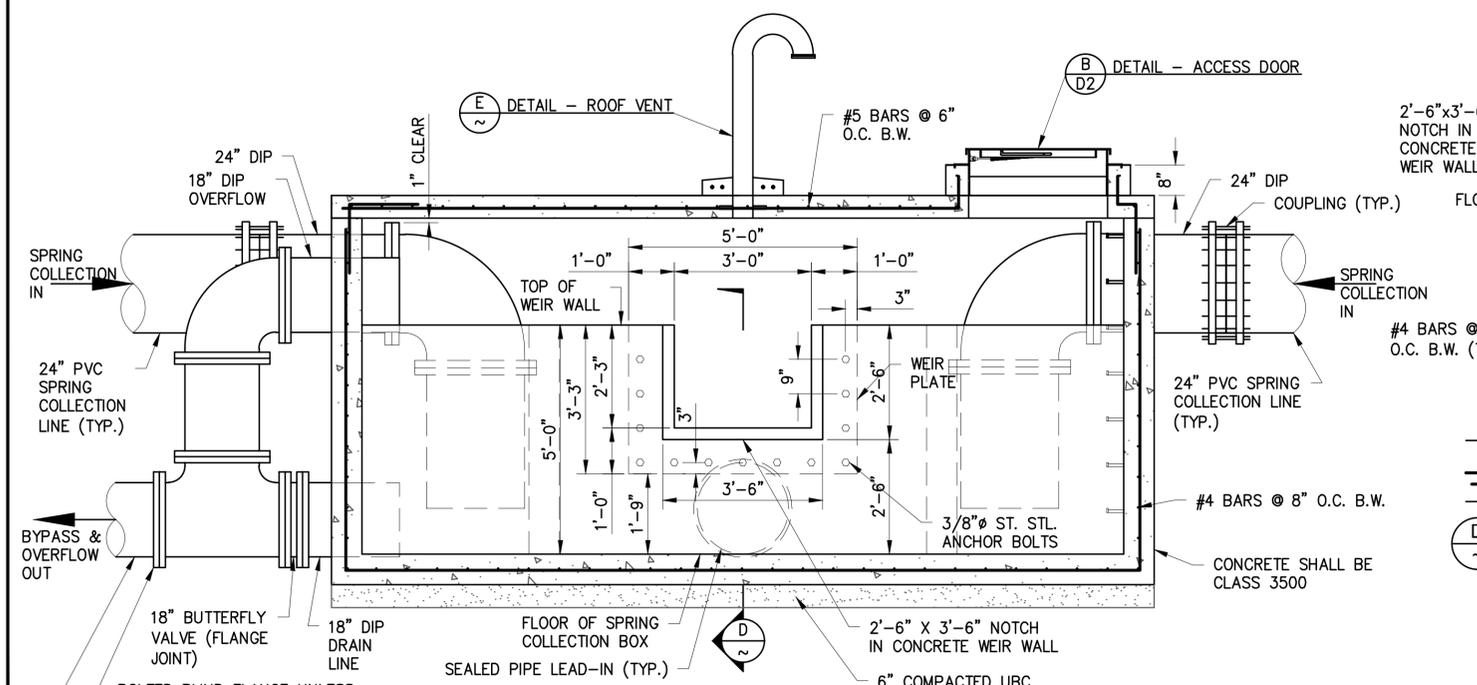
SEI NO. 03663	DESIGNED JDF	DRAWN DRL	CHECKED JKP	SHEET NO. 8 of 13	<b>SP2</b>
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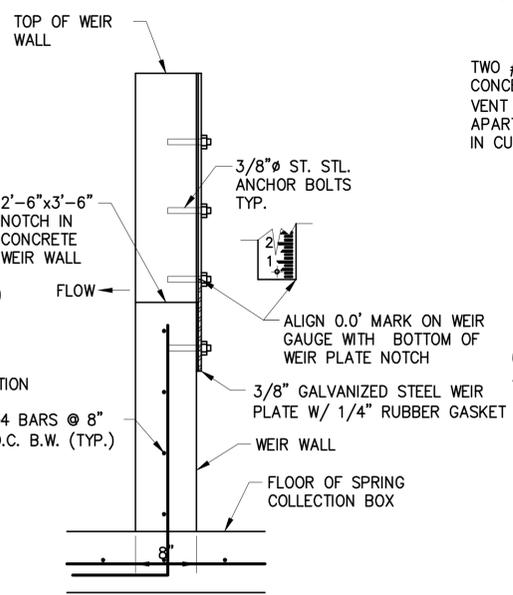
**(A) PLAN - COLLECTION BOX**  
SCALE: AS SHOWN



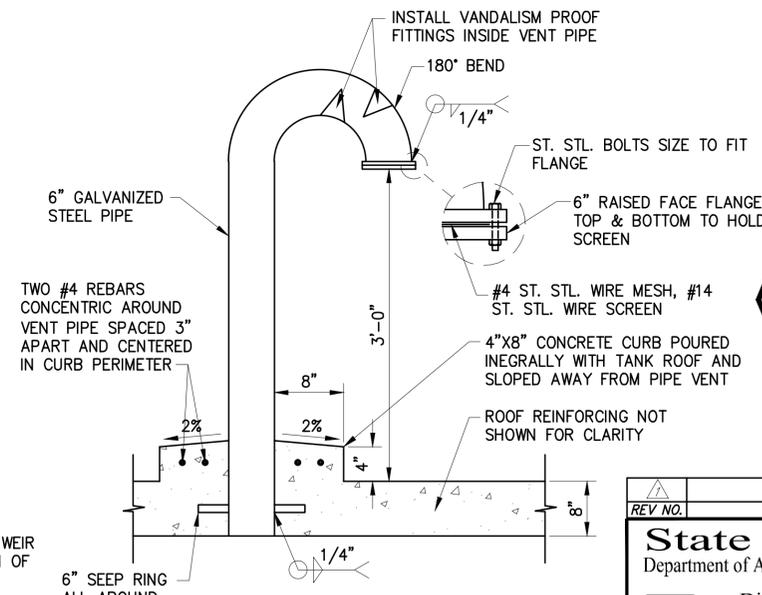
**(B) SECTION - COLLECTION BOX**  
SCALE: AS SHOWN



**(C) DETAIL - COLLECTION BOX**  
SCALE: AS SHOWN

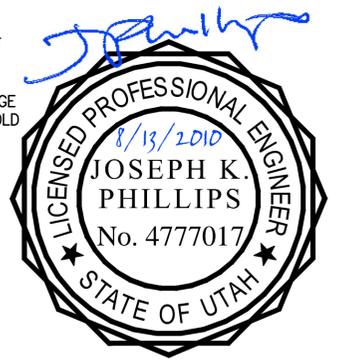


**(D) SECTION - WEIR**  
SCALE: AS SHOWN

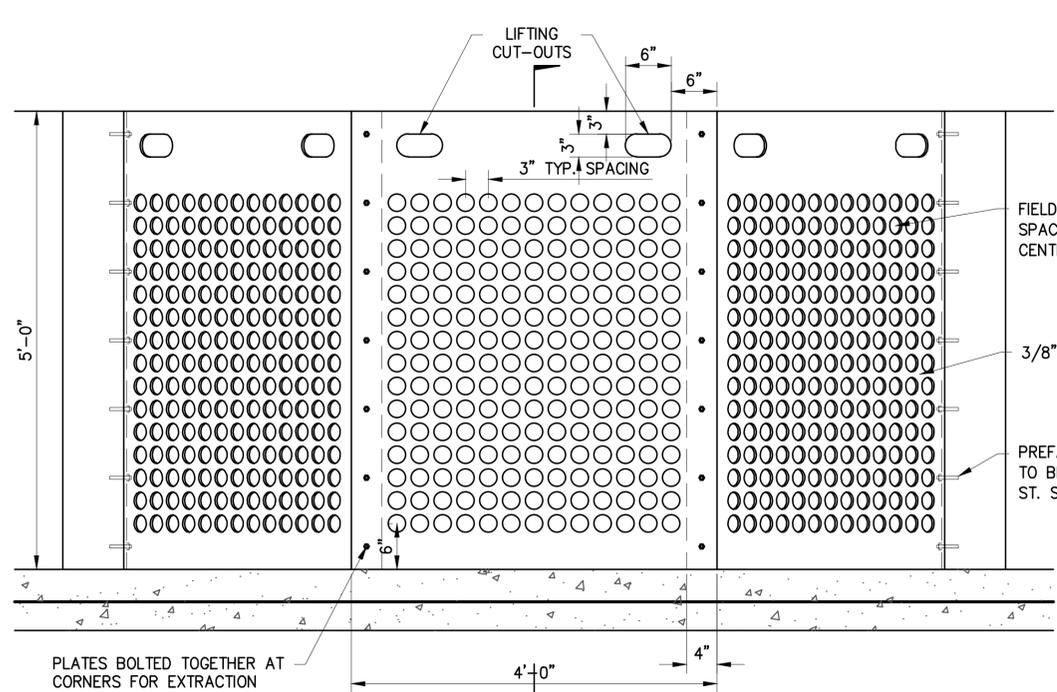


**(E) DETAIL - ROOF VENT**  
NOT TO SCALE

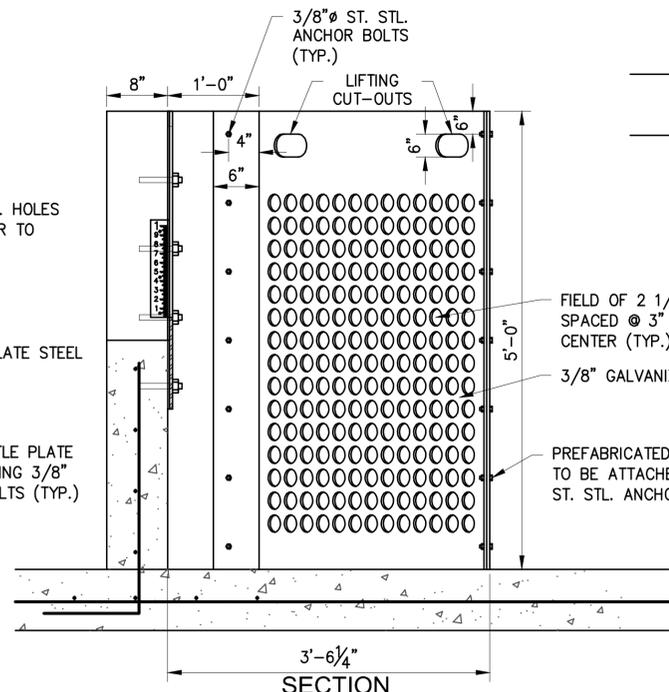
- ROOF VENT NOTES:**
- HOT DIP GALVANIZE ALL PARTS EXCEPT SCREEN & BOLTS AFTER WELDING COMPLETED.
  - PLACEMENT OF ROOF VENTS SHALL NOT INTERFERE WITH REBAR PLACEMENT IN TANK ROOF SLAB.



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<b>State of Utah</b> Department of Administrative Services Division of Facilities & Construction Management 4110 State Office Building Salt Lake City, Utah 84114 Phone: (801) 538-3018 FAX: (801) 538-3267 Internet: <a href="http://dfcm.utah.gov">http://dfcm.utah.gov</a>					
<b>SUNRISE ENGINEERING</b> 2390 WEST HWY 56, SUITE 6 CEDAR CITY, UTAH 84720 TEL 435 867-8834 www.sunrise-eng.com		ISSUE TYPE: CONSTRUCTION DRAWINGS ISSUE DATE: AUGUST 2010 DFCM PROJECT NO.: #10050520 COPYRIGHT: State of Utah			
<b>UTAH DIVISION OF WILDLIFE RESOURCES</b> <b>LOA FISH HATCHERY</b> <b>SPRING REDEVELOPMENT</b> <b>COLLECTION BOX DETAILS</b>					
SEI NO. 03663	DESIGNED JDF	DRAWN DRL	CHECKED JKP	SHEET NO. 9 of 13	<b>D1</b>

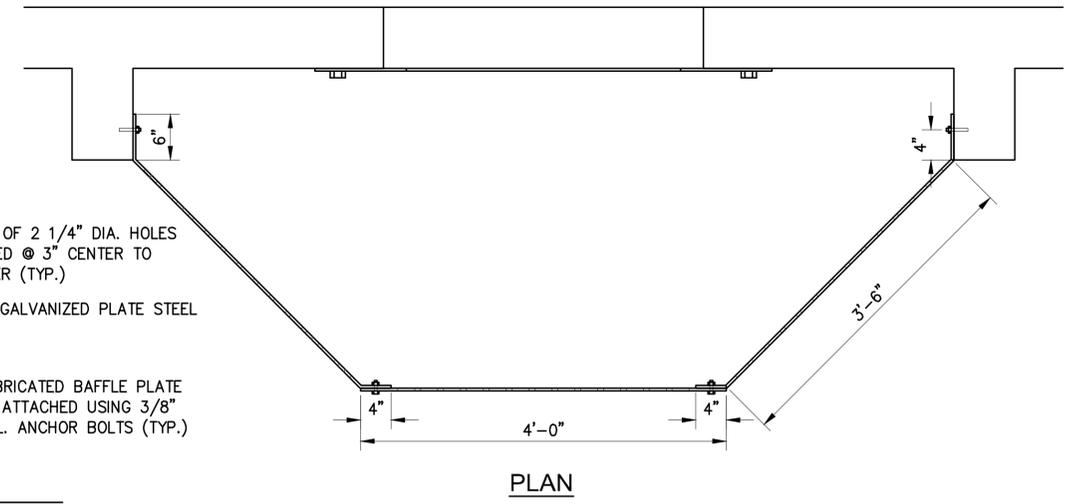


FRONT VIEW

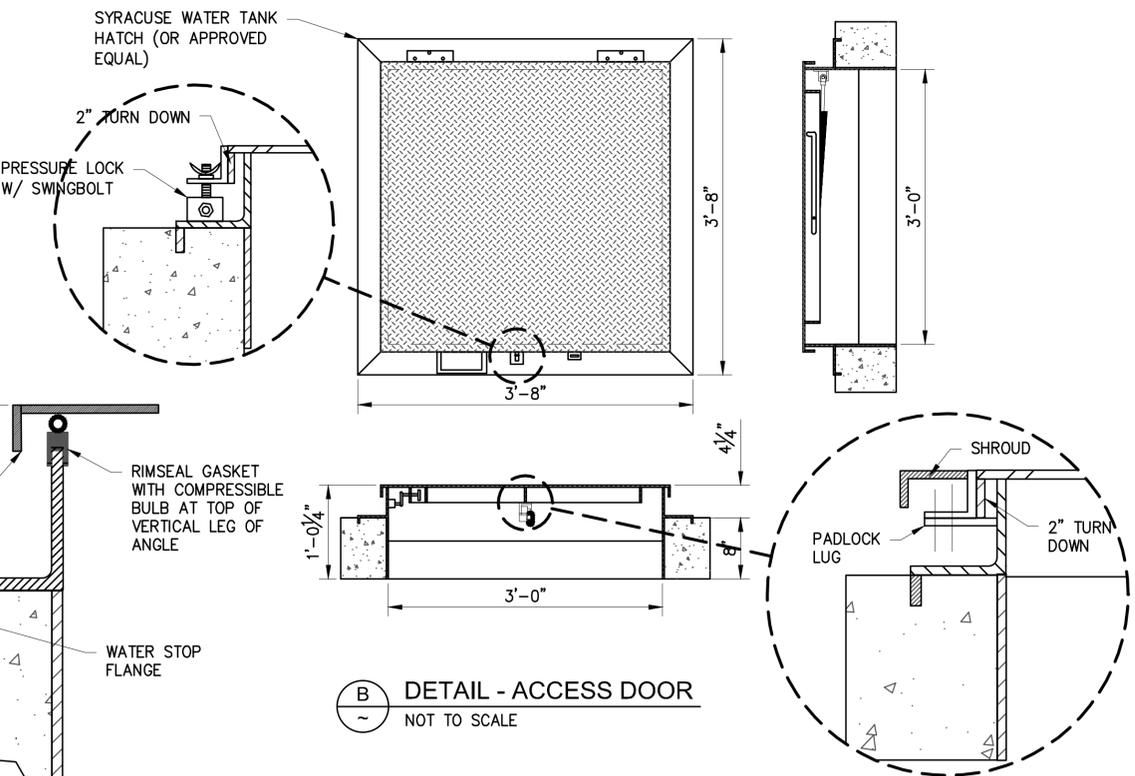


SECTION

**A** DETAIL - BAFFLE PLATE  
SCALE: AS SHOWN



PLAN

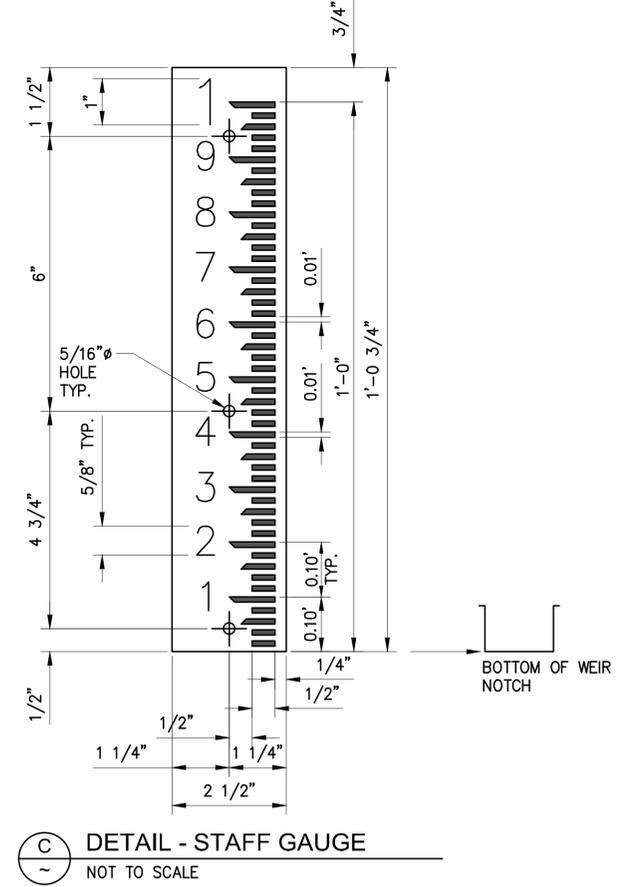


**B** DETAIL - ACCESS DOOR  
NOT TO SCALE

**ACCESS DOOR NOTES:**

1. MODEL "FTP-WT-8" AS MANUFACTURED BY SYRACUSE CASTINGS WEST, TOOELE UT. TEL: 801-544-5728. FAX: 801-544-9571.
2. UNIT DESIGNED FOR 300 LBS. PER S/F.
3. COVER SHALL BE EQUIPPED WITH A HOLD OPEN ARM. DOOR SHALL LOCK OPEN IN THE 90 DEGREE POSITION.

4. EXTERIOR OF FRAME SUPPLIED WITH ONE COAT BLACK PAINT.
5. COVER SHALL BE SUPPLIED WITH AN EXPOSED PADLOCK LUG WITH PROTECTIVE SHROUD.
6. UNIT SUPPLIED WITH A RIMSEAL GASKET ON INSIDE VERTICAL LEG OF ANGLE. SLAMLOCK WILL KEEP COVER PRESSED TIGHTLY AGAINST GASKET.
7. UNIT IS SUPPLIED WITH A SKIRT FOR EMBED INTO CONCRETE CURB.



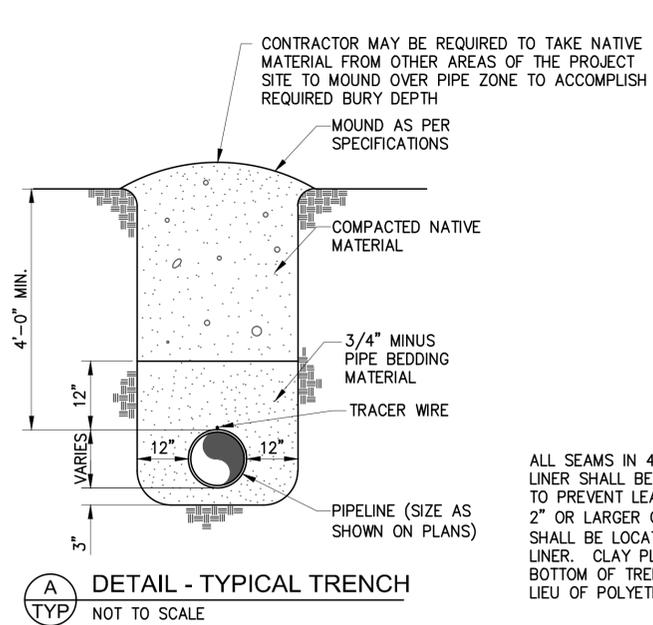
**C** DETAIL - STAFF GAUGE  
NOT TO SCALE

**STAFF GAUGE NOTES:**

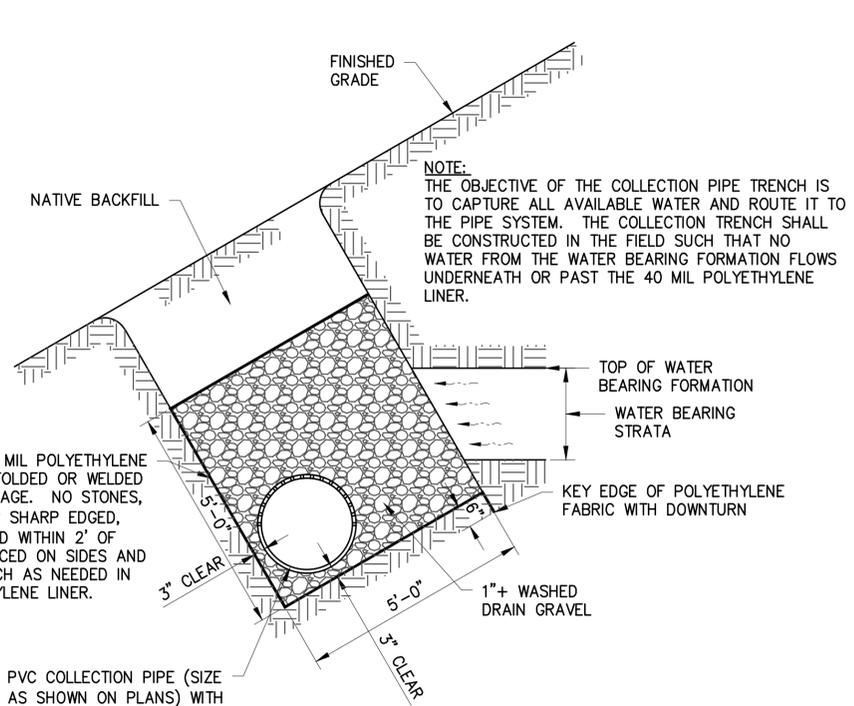
1. GAUGES SHALL BE MADE OF NO. 18 U.S. GAUGE METAL AND SHALL BE COVERED W/ A SUBSTANTIAL THICKNESS OF PORCELAIN ENAMEL.
2. THE FACE OF THE GAUGE SHALL BE WHITE AND ALL NUMBERS AND GRADUATIONS SHALL BE BLACK.
3. GRADUATIONS SHALL BE SHARP AND ACCURATE TO THE DIMENSIONS SHOWN.
4. THE LENGTH SHALL BE AS GIVEN FOR THE STRUCTURE. IN CASE A GREATER LENGTH IS REQ'D. THE DETAILS SHALL BE SIMILAR TO THE DETAILS SHOWN.
5. GAUGES SHALL BE ATTACHED TO CONC. SURFACES W/ 1/4" DIA. ST. STL. ANCHOR BOLTS.



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		ISSUE TYPE: CONSTRUCTION DRAWINGS
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<b>SUNRISE ENGINEERING</b>		
2390 WEST HWY 56, SUITE 6 CEDAR CITY, UTAH 84720 TEL 435 867-8834 www.sunrise-eng.com		
<b>UTAH DIVISION OF WILDLIFE RESOURCES</b>		
<b>LOA FISH HATCHERY</b>		
SPRING REDEVELOPMENT		
COLLECTION BOX DETAILS		
SEI NO. 03663	DESIGNED JDF	CHECKED JKP
DRAWN DRL	CHECKED JKP	SHEET NO. 10 of 13
		<b>D2</b>

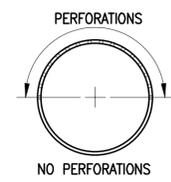


**A**  
TYP  
DETAIL - TYPICAL TRENCH  
NOT TO SCALE

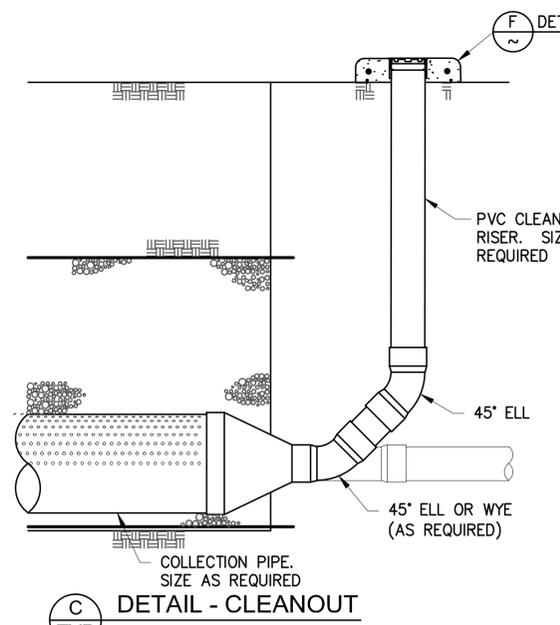


ALL SEAMS IN 40 MIL POLYETHYLENE LINER SHALL BE FOLDED OR WELDED TO PREVENT LEAKAGE. NO STONES, 2" OR LARGER OR SHARP EDGED, SHALL BE LOCATED WITHIN 2' OF LINER. CLAY PLACED ON SIDES AND BOTTOM OF TRENCH AS NEEDED IN LIEU OF POLYETHYLENE LINER.

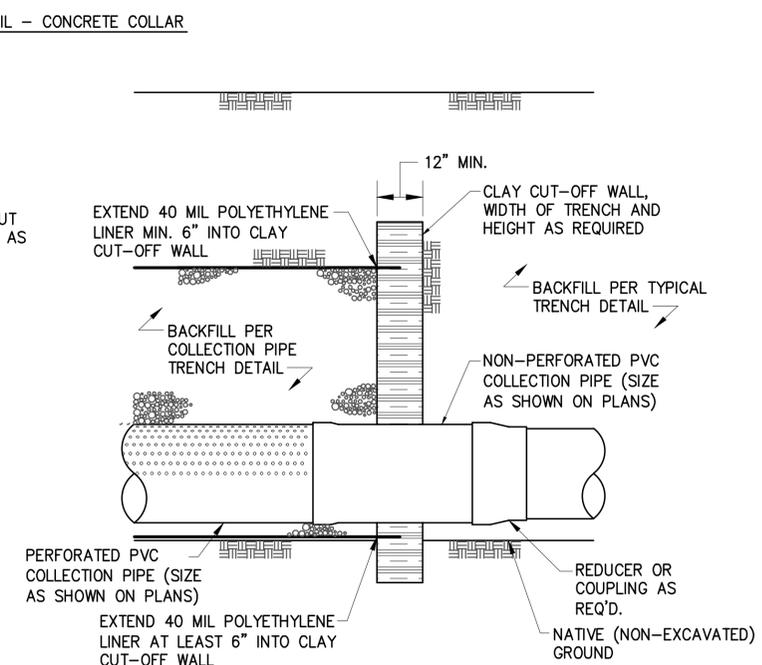
PVC COLLECTION PIPE (SIZE AS SHOWN ON PLANS) WITH 3/4" Ø HOLES DRILLED RANDOMLY 2" APART ON TOP PORTION OF PIPE.



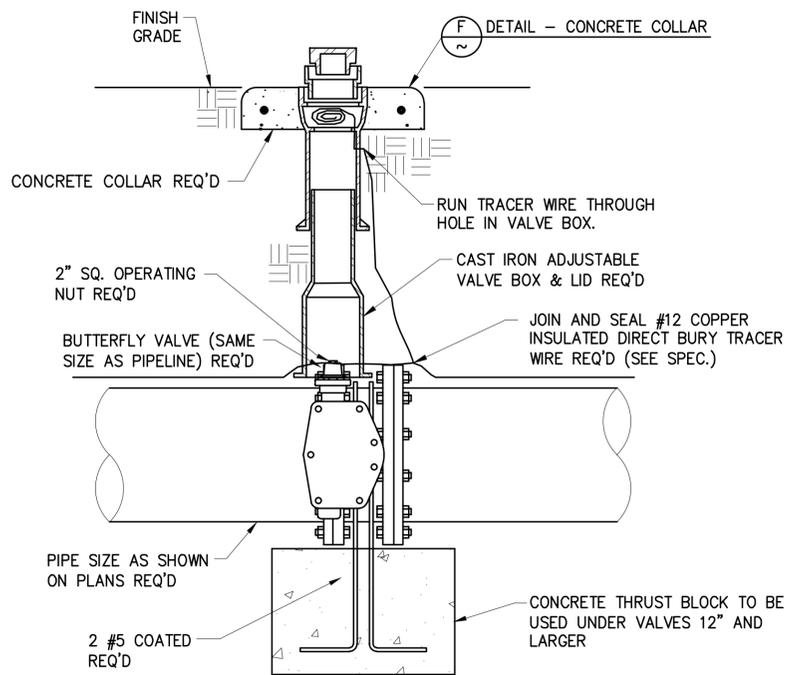
**B**  
TYP  
DETAIL - COLLECTION PIPE TRENCH  
NOT TO SCALE



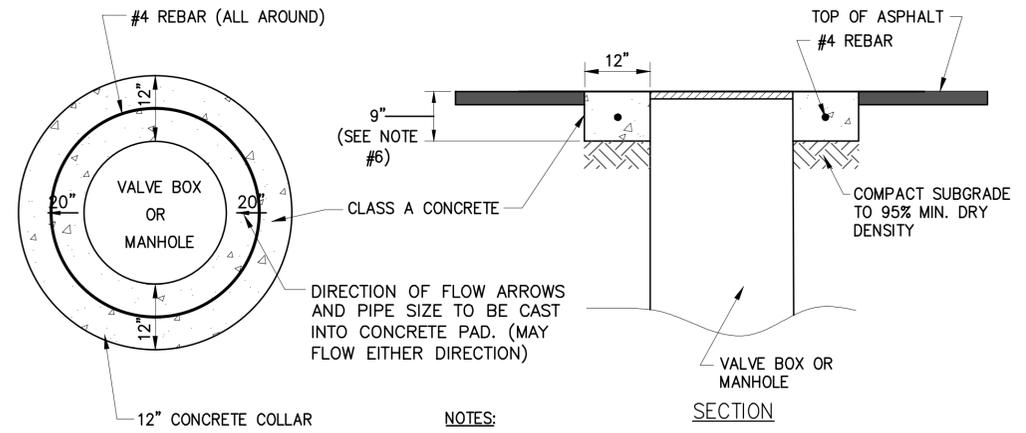
**C**  
TYP  
DETAIL - CLEANOUT  
NOT TO SCALE



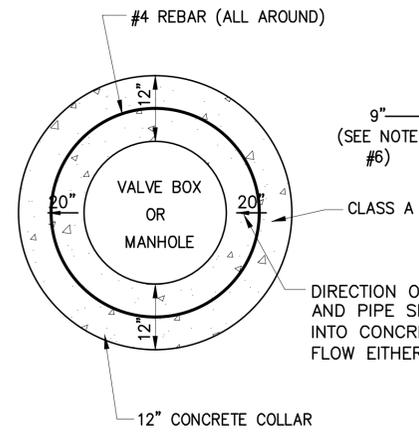
**D**  
TYP  
DETAIL - CLAY CUT-OFF WALL  
NOT TO SCALE



**E**  
TYP  
DETAIL - BUTTERFLY VALVE  
NOT TO SCALE

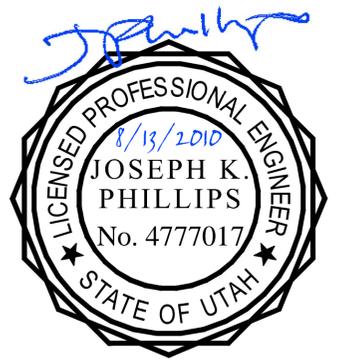


**F**  
TYP  
DETAIL - CONCRETE COLLAR  
NOT TO SCALE



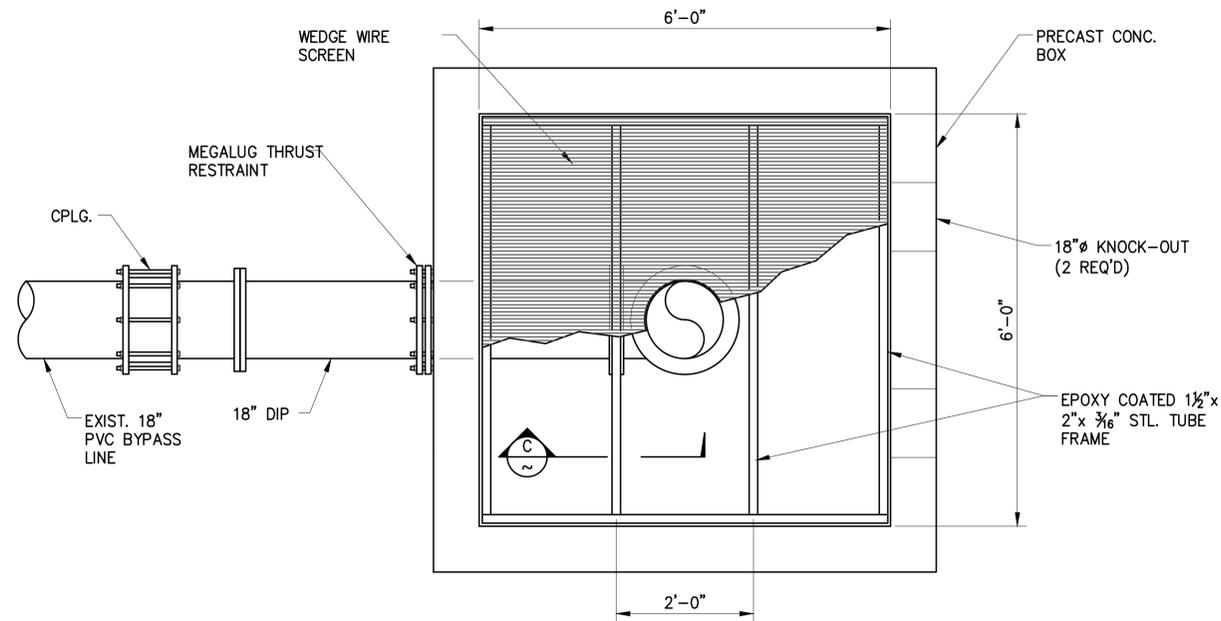
**G**  
TYP  
PLAN  
OPTIONAL  
DETAIL - CONCRETE COLLAR  
NOT TO SCALE

- NOTES:**
1. MANHOLES, VALVE BOXES AND OTHER SIMILAR ITEMS SHALL BE ADJUSTED TO GRADE AFTER PAVING IS COMPLETE.
  2. THE SURFACE OF THE ADJUSTED RING SHALL MATCH THE GRADE OF THE CONCRETE COLLAR. CONCRETE COLLAR SHALL BE 1/8" TO 1/4" LOWER THAN ASPHALT.
  3. ASPHALT SHALL BE CUT IN STRAIGHT VERTICAL LINES.
  4. ADJUSTMENTS TO GRADE SHALL BE MADE WITH STANDARD RINGS OR EXTENSIONS OR AS APPROVED BY THE CITY REPRESENTATIVE.
  5. ALL MANHOLES, VALVE BOXES, AND OTHER SIMILAR ITEMS SHALL HAVE CONCRETE COLLAR AS REQUIRED UNLESS OTHERWISE APPROVED. WHERE OUTSIDE OF ASPHALT, TOP OF COLLAR SHALL BE 6" ABOVE GRADE.
  6. 9" THICK COLLARS SHALL BE REINFORCED. 12" THICK COLLARS DO NOT REQUIRE REINFORCEMENT.
  7. MARK CONCRETE COLLAR ON WATER VALVE BOXES WITH ARROW INDICATING DIRECTION OF FLOW AND PIPE SIZE.

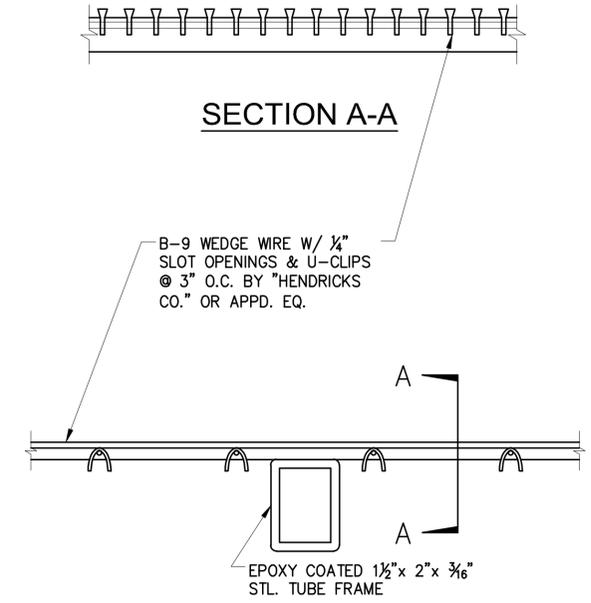


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<p><b>State of Utah</b> Department of Administrative Services</p> <p>Division of Facilities &amp; Construction Management 4110 State Office Building Salt Lake City, Utah 84114 Phone: (801) 538-3018 FAX: (801) 538-3267</p> <p>Internet: <a href="http://dfcm.utah.gov">http://dfcm.utah.gov</a></p> <p><b>SUNRISE ENGINEERING</b> 2390 WEST HWY 56, SUITE 6 CEDAR CITY, UTAH 84720 TEL 435 867-8834 <a href="http://www.sunrise-eng.com">www.sunrise-eng.com</a></p> <p>UTAH DIVISION OF WILDLIFE RESOURCES LOA FISH HATCHERY SPRING REDEVELOPMENT TYPICAL DETAILS</p>		
SEI NO. 03663	DESIGNED JDF	DRAWN DRL
CHECKED JKP	SHEET NO. 11 of 13	<b>D3</b>

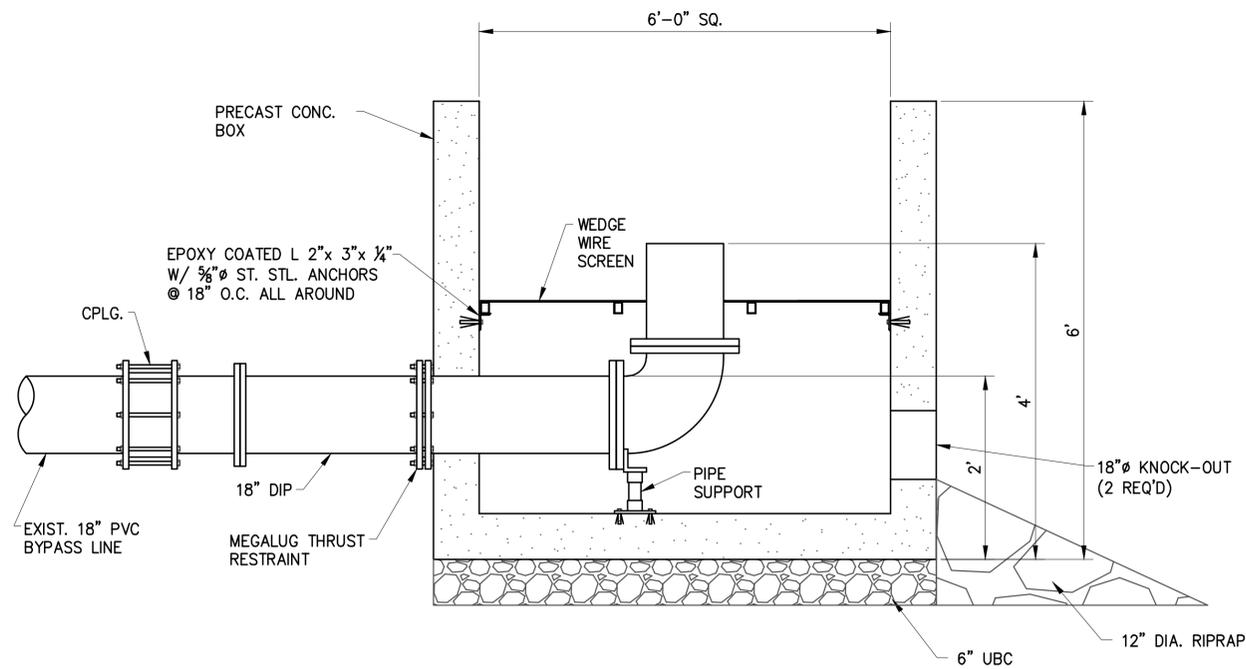




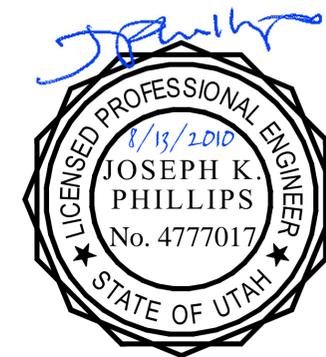
**A** PLAN - TURBULENT FOUNTAIN  
NOT TO SCALE



**C** DETAIL - WEDGEWIRE SUPPORT  
NOT TO SCALE



**B** SECTION - TURBULENT FOUNTAIN  
NOT TO SCALE



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SEI NO. 03663	DESIGNED JDF	DRAWN DRL	CHECKED JKP	SHEET NO. 13 of 13	<b>D5</b>