

LOCATION MAP

I Have Reviewed the Technical Aspects of These Drawings:

/s/ XXXXXXXX _____ Date
Accessibility Coordinator

/s/ XXXXXXXX _____ Date
Project Manager

/s/ XXXXXXXX _____ Date
Forest Landscape Architect

/s/ XXXXXXXX _____ Date
Forest Engineer

Recommended By:

/s/ XXXXXXXX _____ Date
Engineering/Regional Specialist (Title)

These drawings comply with the Forest Plan and project specific NEPA documentation.

/s/ XXXXXXXX _____ Date
Forest Supervisor

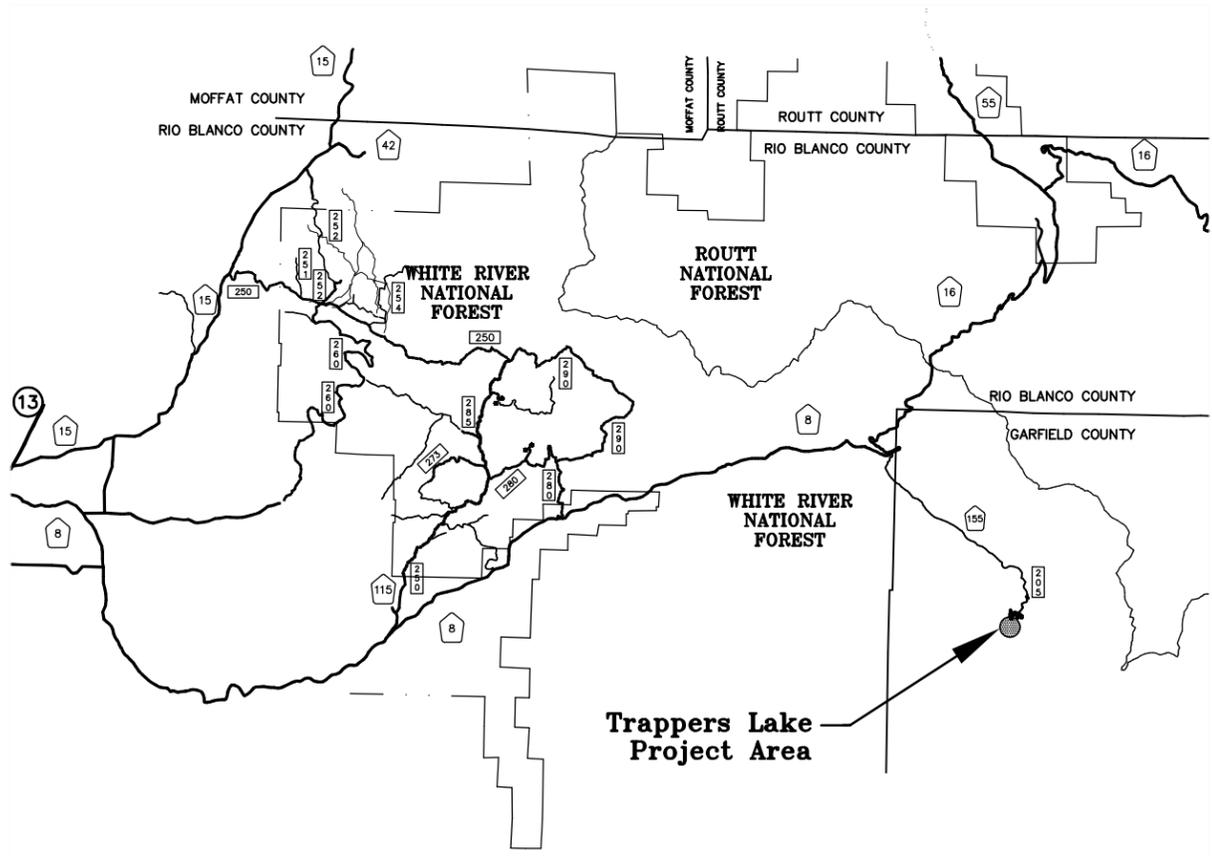
Approved By:

/s/ GLENDA L. WILSON _____ Date
Regional Engineer

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
ROCKY MOUNTAIN REGION
WHITE RIVER NATIONAL FOREST
BLANCO RANGER DISTRICT
CONSTRUCTION DRAWINGS FOR
TRAPPER'S LAKE CAMPGROUND
SPRING DEVELOPMENT

INDEX

SHEET	SUB SHEET	TITLE OF SHEET
1	T1	TITLE SHEET
2	G1	OVERALL SITE PLAN
3	U1	WATER LINE PLAN VIEW-SPRING TO TREATMENT BLDG
4	U2	WATER LINE PLAN VIEW-SPRING TO TREATMENT BLDG
5	U3	SPRING IMPROVEMENTS-SITE PLAN
6	U4	SPRING BOX-DETAILS
7	U5	STORAGE TANK MODIFICATIONS
8	U6	TREATMENT BUILDING MODIFICATIONS
9	U7	MISCELLANEOUS DETAILS
10	U8	CHAIN-LINK FENCE DETAILS



PROJECT SITE



50% REVIEW

4/26/05 18:18 SMCDDWEL R16 K:\PS\OP_CAPITAL_INVEST_PROGRAM\SKM\TRAPPERS_LAKE\DWGS\TITLE-SHT.DWG

**U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE**
R2
ROCKY MOUNTAIN REGION

Revisions:

No. 1	_____	_____	_____
No. 2	_____	_____	_____
No. 3	_____	_____	_____

Design: S. McDOWELL
Drawn: CDI
Checked: _____
Date: 4/2005

Sheet Title: **TITLE SHEET**
TRAPPER'S LAKE CAMPGROUND - SPRING DEVELOPMENT

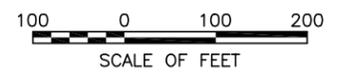
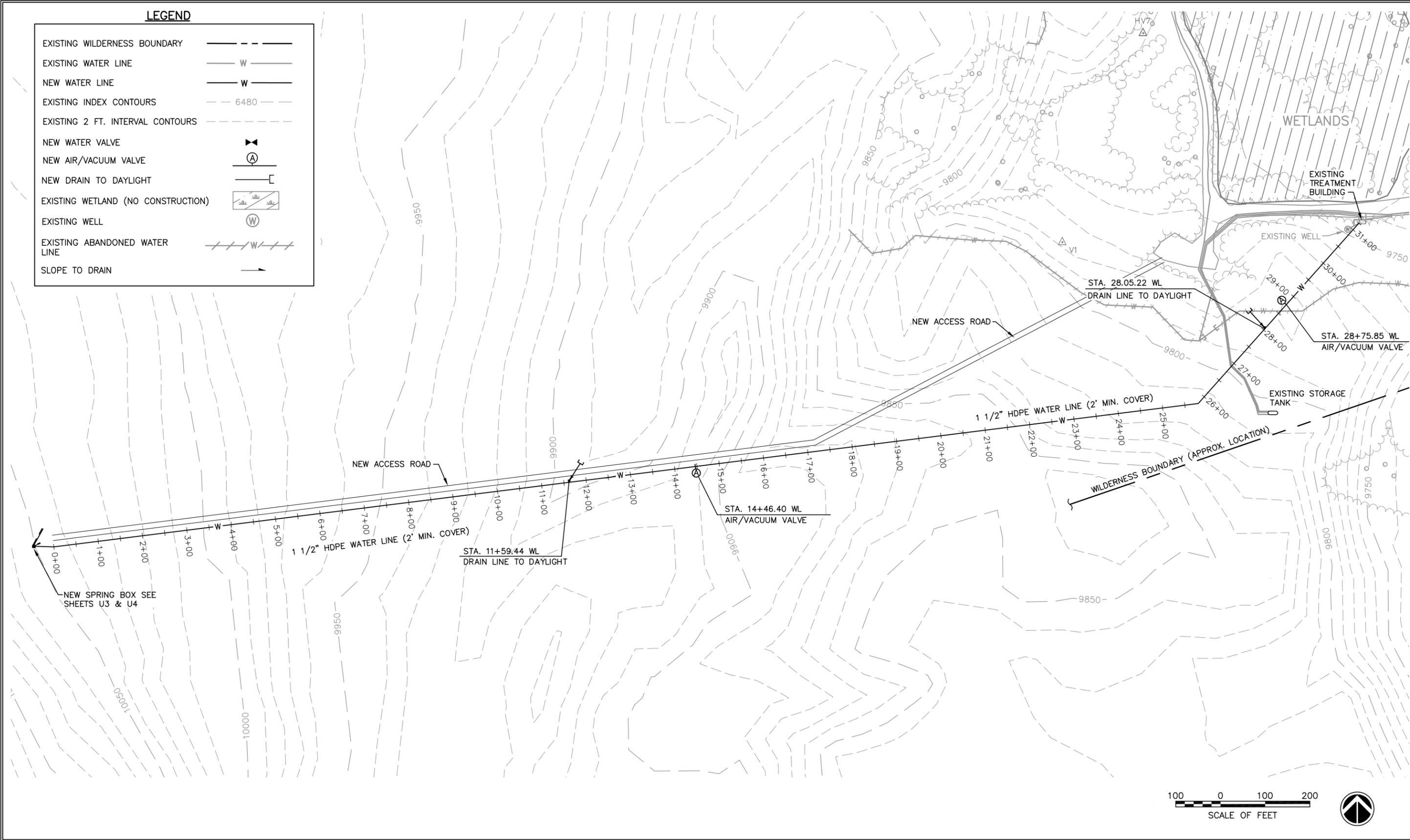
Sub Sheet: **T1**

Project No: _____
Sheet **1** OF **10**

4/27/05 09:15 JKEHM R16 K:\ENG\PROJECTS\WHRI\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\G1-OVERALL-SITE-PLAN.DWG XREFS: K:\ENG\PROJECTS\WHRI\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\Y-TRAPPERS-BASE-2005.DWG; X-Y-UTIL.DWG;

LEGEND

EXISTING WILDERNESS BOUNDARY	---
EXISTING WATER LINE	— W —
NEW WATER LINE	— W —
EXISTING INDEX CONTOURS	- - - 6480 - - -
EXISTING 2 FT. INTERVAL CONTOURS	- - - - -
NEW WATER VALVE	⊠
NEW AIR/VACUUM VALVE	⊙
NEW DRAIN TO DAYLIGHT	— [—
EXISTING WETLAND (NO CONSTRUCTION)	▨
EXISTING WELL	⊙
EXISTING ABANDONED WATER LINE	- - - W - - -
SLOPE TO DRAIN	→



U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
R2
 ROCKY MOUNTAIN REGION

Forest
WHITE RIVER NATIONAL FOREST
 BLANCO RANGER DISTRICT

Design: S. McDOWELL
 Drawn: J. KEHM
 Checked: _____
 Date: 4/2005

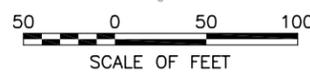
Sheet Title:
OVERALL SITE PLAN
 TRAPPER'S LAKE CAMPGROUND - SPRING DEVELOPMENT

Sub Sheet:
G1

Project No:
 Sheet **2** OF **10**

4/26/05 15:16 JKEHM R16 K:\ENG\PROJECTS\WHRI\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\U1-U2_WATERLINE-LAYOUT.DWG XREFS: K:\ENG\PROJECTS\WHRI\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\X-TRAPPERS-BASE-2005.DWG; \X-UTIL.DWG;

EXISTING WILDERNESS BOUNDARY	---
EXISTING WATER LINE	— W —
NEW WATER LINE	— W —
EXISTING INDEX CONTOURS	- - - 6480 - - -
EXISTING 2 FT. INTERVAL CONTOURS	- - - - -
NEW WATER VALVE	⊕
NEW AIR/VACUUM VALVE	⊕
NEW DRAIN TO DAYLIGHT	— T —
EXISTING WETLAND (NO CONSTRUCTION)	▨
EXISTING WELL	⊕
EXISTING ABANDONED WATER LINE	— / W / —
SLOPE TO DRAIN	→



U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R2
ROCKY MOUNTAIN REGION

Forest
**WHITE RIVER
NATIONAL FOREST**
BLANCO RANGER DISTRICT

Design: S. McDOWELL
Drawn: J. KEHM
Checked: B. BARRON
Date: 4/2005

Sheet Title:
WATERLINE PLAN VIEW
SPRING TO TREATMENT BUILDING
TRAPPER'S LAKE CAMPGROUND - SPRING DEVELOPMENT

Sub Sheet:
U1

Project No:
Sheet **3** OF **10**

4/27/05 09:24 JKEHM R16 K:\ENG\PROJECTS\WHRI\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\X-TRAPPERS-BASE-2005.DWG; X-Y=UTL.DWG; XREFS: K:\ENG\PROJECTS\WHRI\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\X-TRAPPERS-BASE-2005.DWG; X-Y=UTL.DWG

LEGEND

EXISTING WILDERNESS BOUNDARY	---
EXISTING WATER LINE	— W —
NEW WATER LINE	— W —
EXISTING INDEX CONTOURS	- - - 6480 - - -
EXISTING 2 FT. INTERVAL CONTOURS	- - - - -
NEW WATER VALVE	⬤
NEW AIR/VACUUM VALVE	⊙
NEW DRAIN TO DAYLIGHT	— [—
EXISTING WETLAND (NO CONSTRUCTION)	
EXISTING WELL	⊙
EXISTING ABANDONED WATER LINE	- - - W - - -
SLOPE TO DRAIN	→



U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
R2
 ROCKY MOUNTAIN REGION

Forest
WHITE RIVER NATIONAL FOREST
 BLANCO RANGER DISTRICT

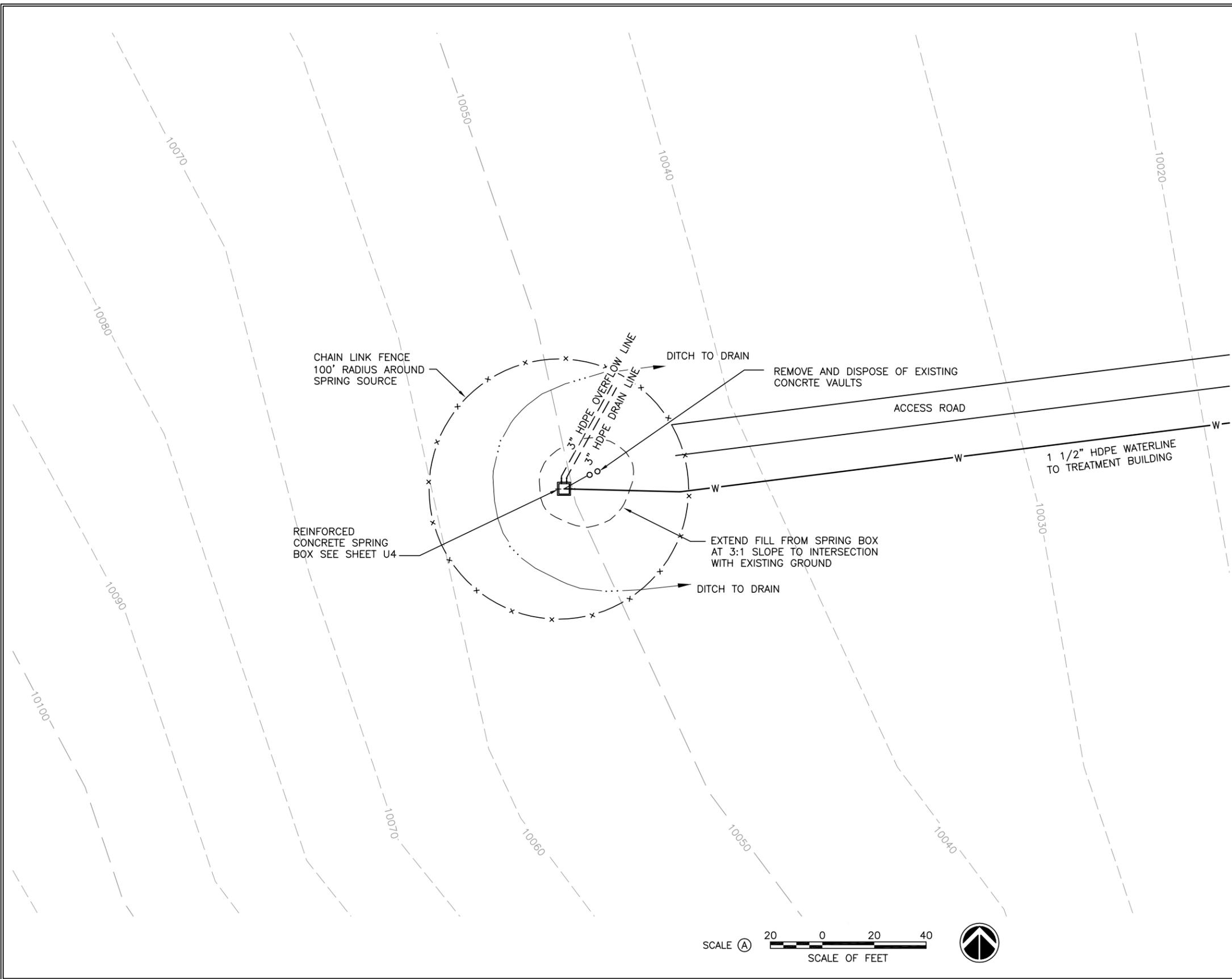
Design: S. McDOWELL
 Drawn: J. KEHM
 Checked: B. BARRON
 Date: 4/2005

Sheet Title:
WATERLINE PLAN VIEW
SPRING TO TREATMENT BUILDING
 TRAPPER'S LAKE CAMPGROUND - SPRING DEVELOPMENT

Sub Sheet:
U2

Project No:
 Sheet **4** OF **10**

4/27/05 10:01 JKEHM R16 K:\ENG\PROJECTS\WHR\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\U3-SPRING-SITE-PLAN.DWG XREFS: K:\ENG\PROJECTS\WHR\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\X-TRAPPERS-BASE-2005.DWG; \X-UTIL.DWG;



LEGEND	
EXISTING WILDERNESS BOUNDARY	--- --
EXISTING WATER LINE	--- W ---
NEW WATER LINE	--- W ---
EXISTING INDEX CONTOURS	--- 6480 ---
EXISTING 2 FT. INTERVAL CONTOURS	--- --
NEW WATER VALVE	◀▶
NEW AIR/VACUUM VALVE	Ⓐ
NEW DRAIN TO DAYLIGHT	— [
EXISTING WETLAND (NO CONSTRUCTION)	▨
EXISTING WELL	Ⓜ
EXISTING ABANDONED WATER LINE	--- W ---
SLOPE TO DRAIN	→

- NOTES:
- 1) THE SPRING AREA SHALL BE CLEARED AND GRUBBED PRIOR TO PERFORMING ANY EXCAVATION OR PLACEMENT OF SELECT BORROW.
 - 2) THE COR WILL STAKE THE ON-SITE BORROW SOURCE PERIMETER.
 - 3) THE NATIVE TOPSOIL WITHIN THE SPRING AND BORROW SOURCE DISTURBED AREAS SHALL BE STRIPPED, STOCKPILED AND LATER RESPREAD OVER THE DISTURBED AREAS.
 - 4) THE EXISTING SPRING BOXES SHALL BE REMOVED AND HAULED OFF SITE TO AN APPROVED LANDFILL.
 - 5) THE SPRING AREA SHALL BE DEWATERED AS NEEDED DURING CONSTRUCTION TO FACILITATE THE PROPER PLACEMENT OF PIPING, GRAVEL, AND THE CONCRETE BOX SECTIONS.
 - 6) PLACE SELECT BORROW AS NEEDED OVER THE SPRING AREA TO SHAPE A SMOOTH UNIFORM PLANE TO PROVIDE A BASE FOR THE EPDM MEMBRANE.
 - 7) CONTRACTOR SHALL USE CAUTION AND AVOID DAMAGE TO TREES AND VEGETATION. THE CONTRACTOR SHALL CONFINE ALL OPERATION AND ACTIVITIES TO WITHIN THE CLEARING LIMITS.

U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
R2
 ROCKY MOUNTAIN REGION

Forest
WHITE RIVER NATIONAL FOREST
 BLANCO RANGER DISTRICT

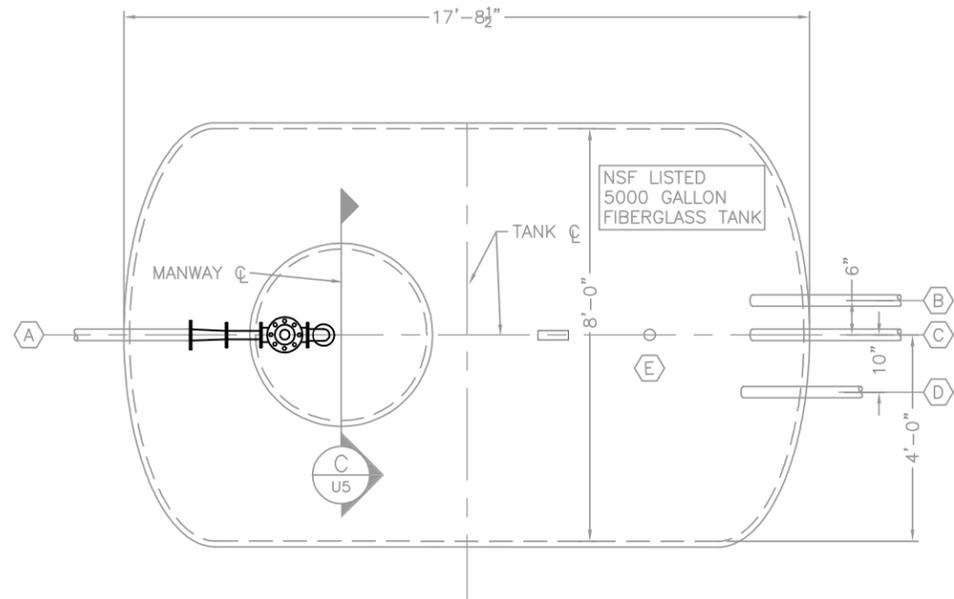
Design: S. McDOWELL
 Drawn: J. KEHM
 Checked: B. BARRON
 Date: 4/2005

Sheet Title:
SPRING DEVELOPMENT SITE PLAN
 TRAPPER'S LAKE CAMPGROUND - SPRING DEVELOPMENT

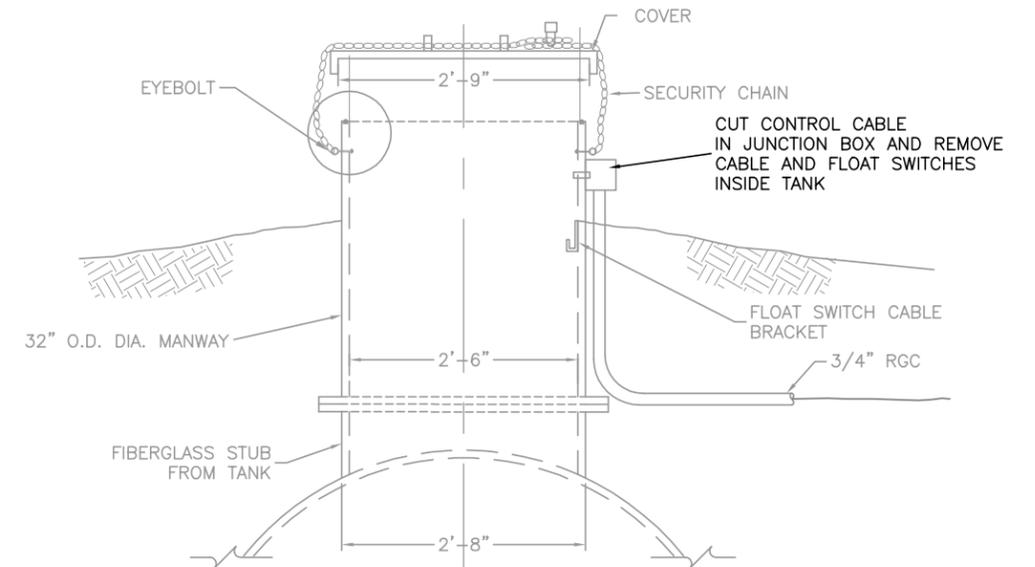
Sub Sheet:
U3

Project No:
 Sheet **5** OF **10**

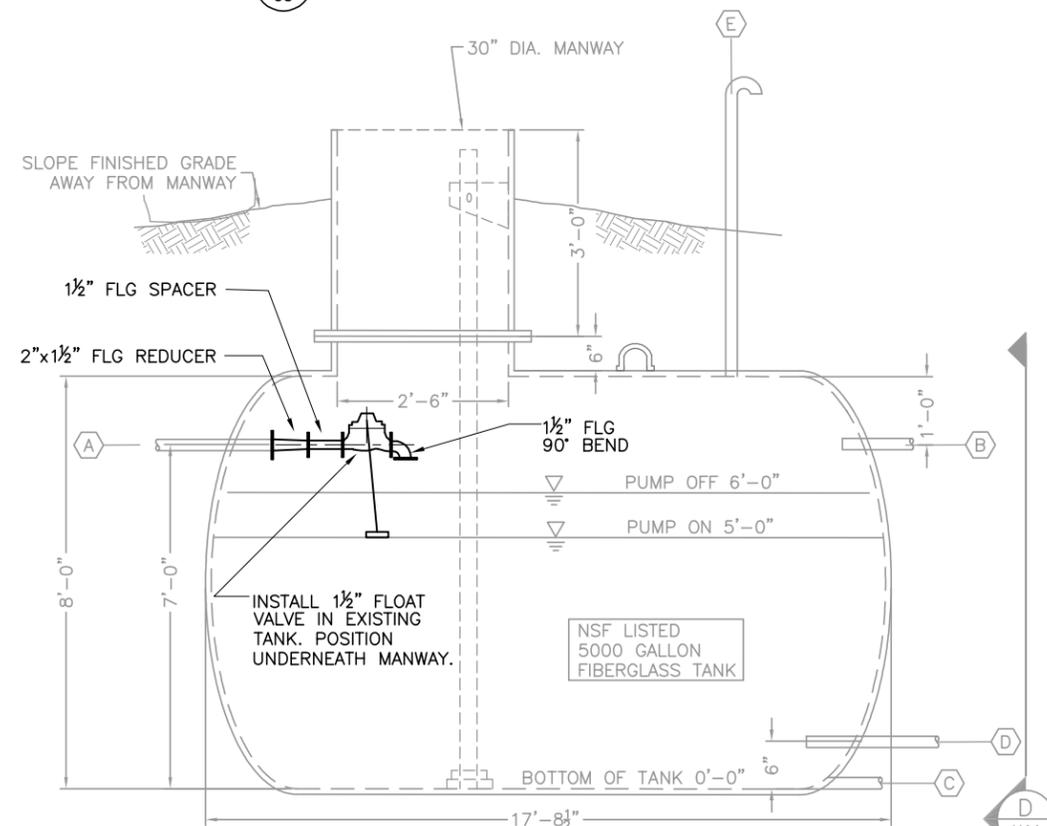
4/27/05 09:28 MKEHM R16 K:\ENG\PROJECTS\WHR\TRAPPERS_LAKE_2005_SPRING_REHAB\DWGS\U5-STORAGE-TANK-MOD.DWG



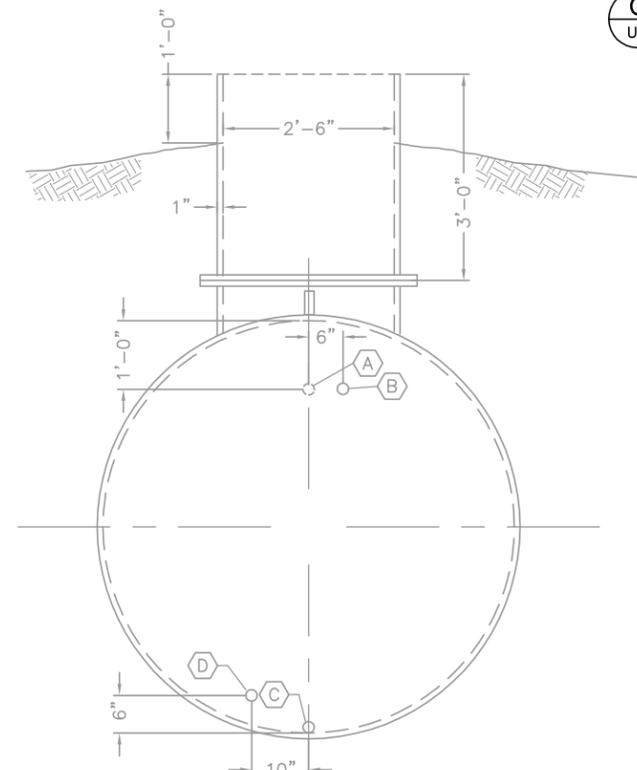
A PLAN VIEW
U5 NO SCALE



C MANWAY DETAIL
U5 NO SCALE



B ELEVATION VIEW
U5 NO SCALE

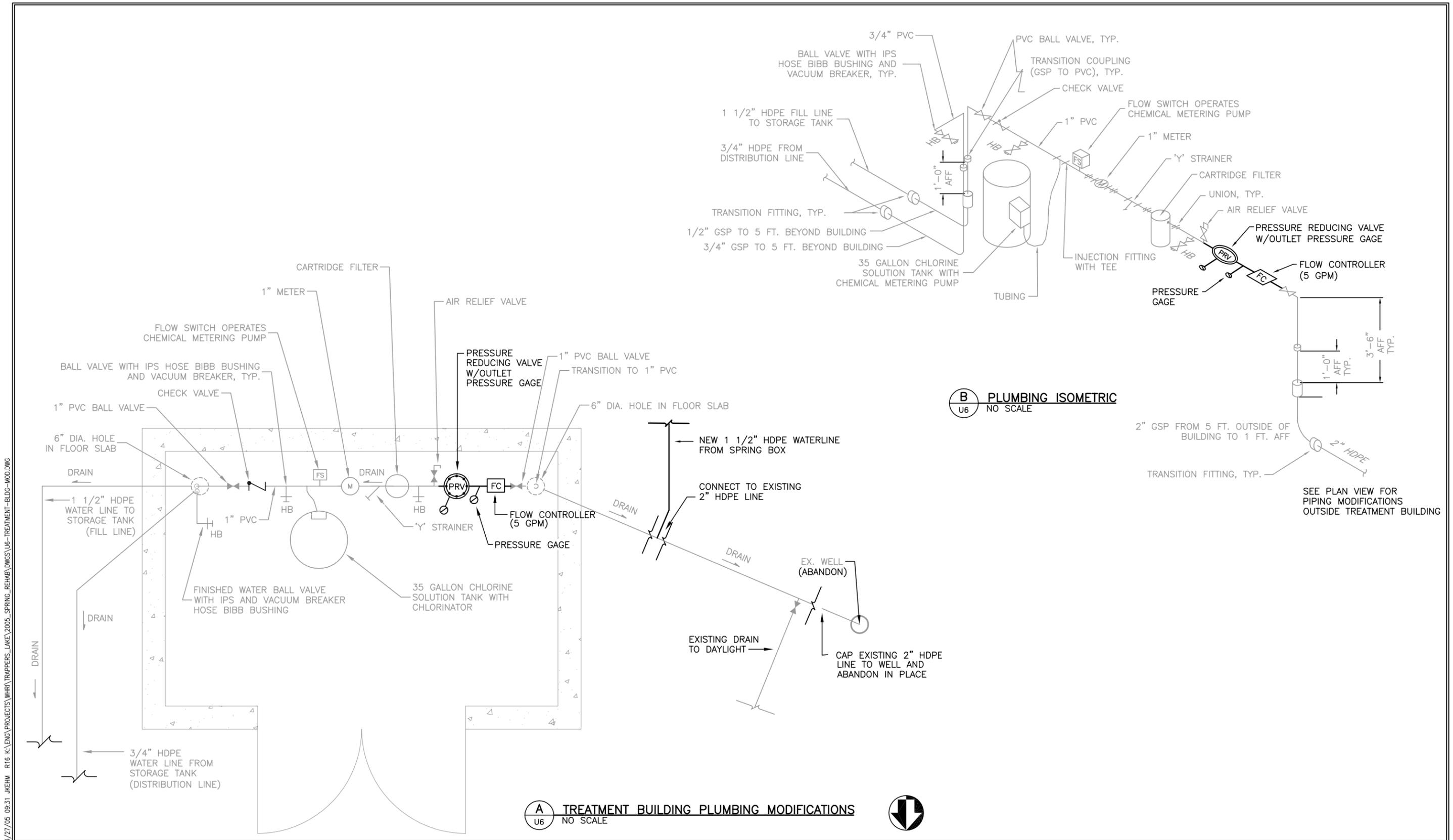


D ELEVATION VIEW
U5 NO SCALE

NOZZLE	SIZE
A FROM TREATMENT BUILDING (INLET)	2"
B OVERFLOW	2"
C FULL BOTTOM TANK DRAIN	2"
D DISTRIBUTION LINE (OUTLET)	4"
E VENT	4"

SHEET NOTES:

4/27/05 09:31 JKCHM R16 K:\ENG\PROJECTS\WHRR\TRAPPERS_LAKE_2005_SPRING_REHAB\DWGS\U6-TREATMENT-BLDG-MOD.DWG



A TREATMENT BUILDING PLUMBING MODIFICATIONS
U6 NO SCALE

B PLUMBING ISOMETRIC
U6 NO SCALE



U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R-2
ROCKY MOUNTAIN REGION

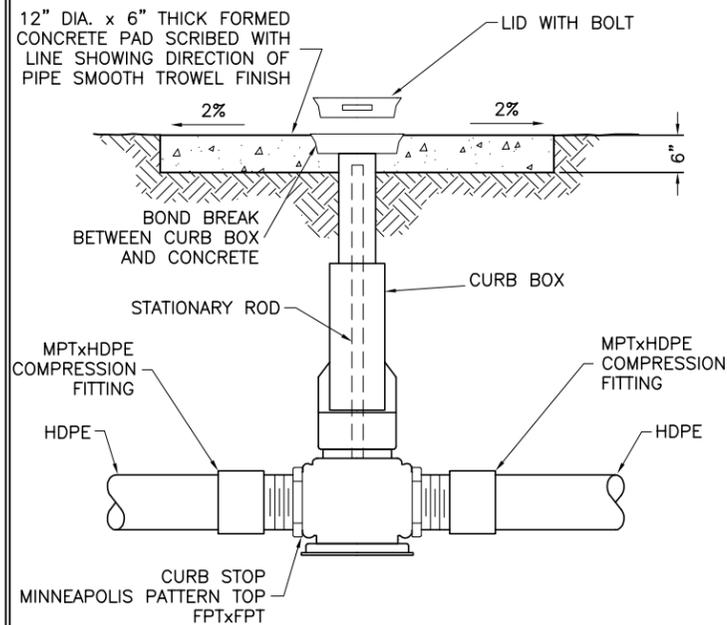
Forest
WHITE RIVER NATIONAL FOREST
BLANCO RANGER DISTRICT

Design: S. MCDOWELL
Drawn: BARRON/MCDOWELL
Checked: B. BARRON
Date: 4/2005

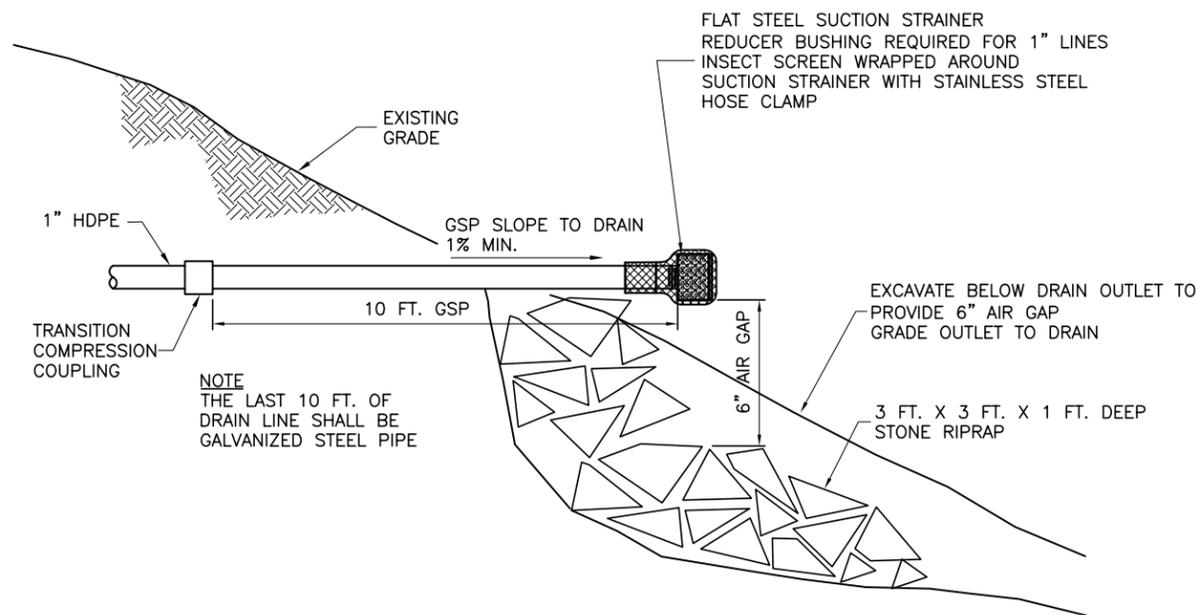
Sheet Title:
TREATMENT BUILDING MODIFICATIONS
TRAPPERS LAKE CG - SPRING DEVELOPMENT

Sub Sheet:
U6

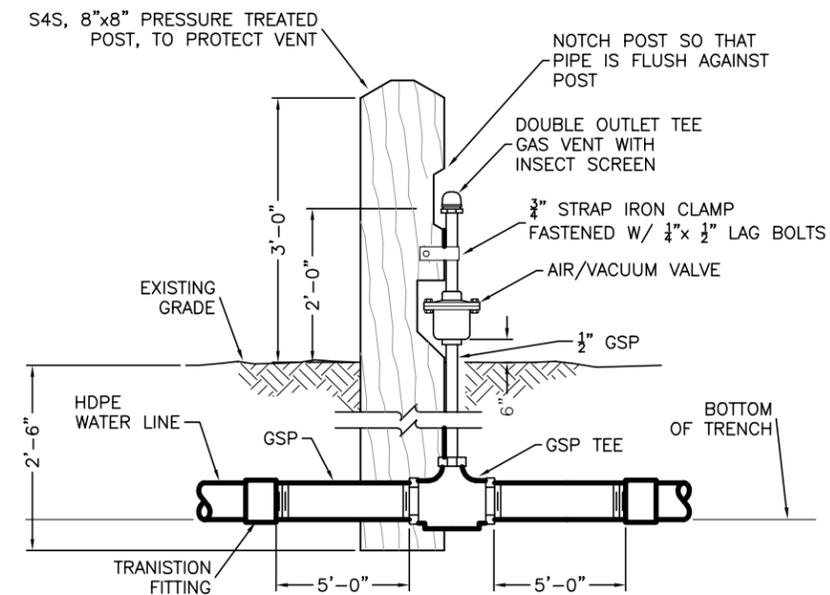
Project No:
Sheet
8 OF 10



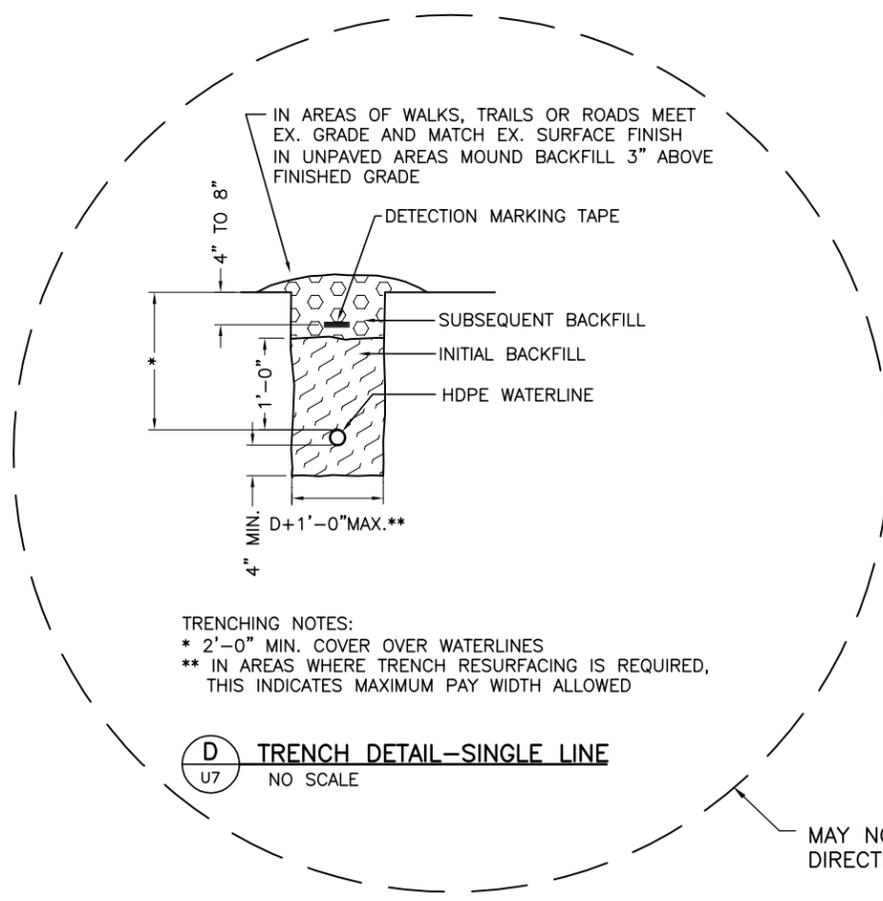
A CURB VALVES (VALVES 2" AND SMALLER)
U7 NO SCALE



B DAYLIGHT DRAIN DETAIL
U7 NO SCALE

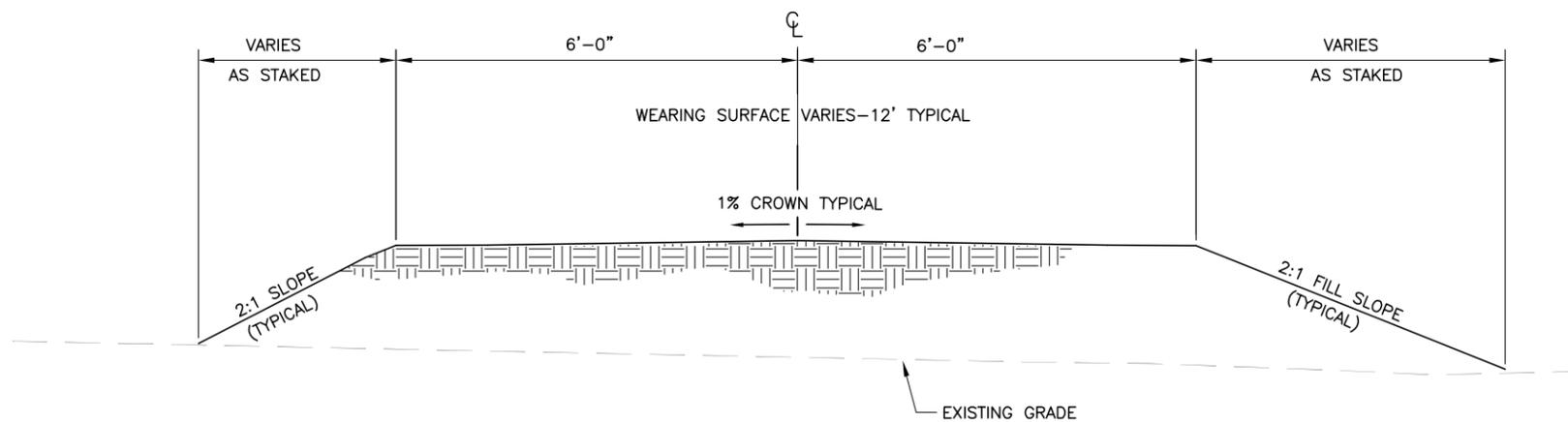


C AIR/VACUUM VALVE DETAIL
U7 NO SCALE



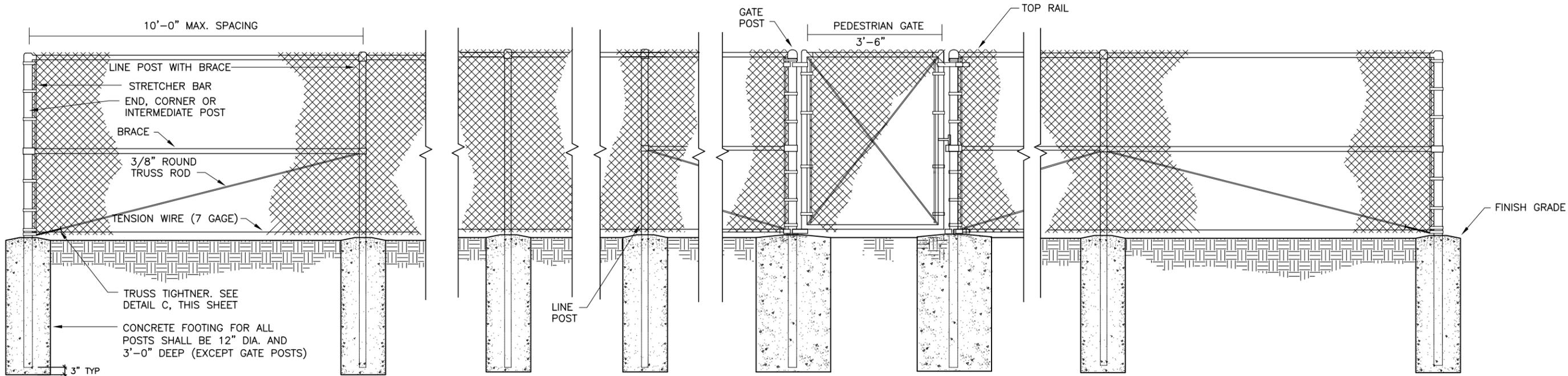
TRENCHING NOTES:
 * 2'-0" MIN. COVER OVER WATERLINES
 ** IN AREAS WHERE TRENCH RESURFACING IS REQUIRED, THIS INDICATES MAXIMUM PAY WIDTH ALLOWED

D TRENCH DETAIL-SINGLE LINE
U7 NO SCALE

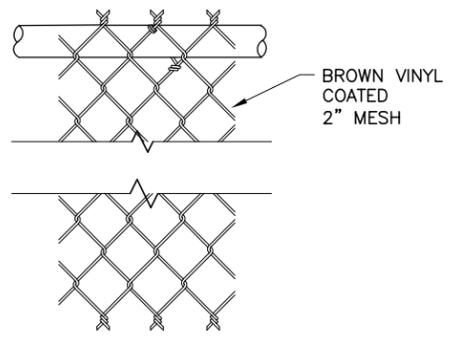


E TEMPORARY ROAD DETAIL
U7 NO SCALE

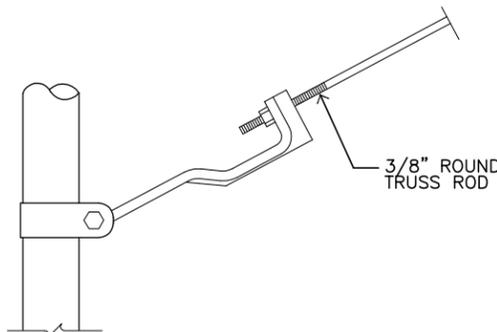
4/27/05 09:34 JKEHM R16 K:\ENG\PROJECTS\WHRI\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\U8-CHAINLINK_FENCE.DWG



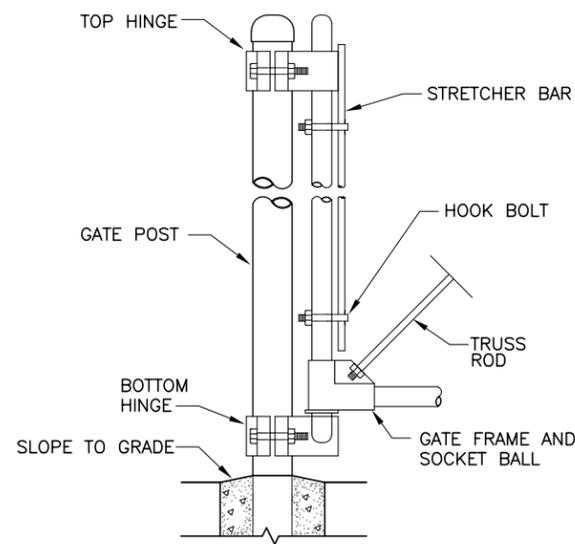
A TYPICAL GATE ELEVATION
R8 NO SCALE



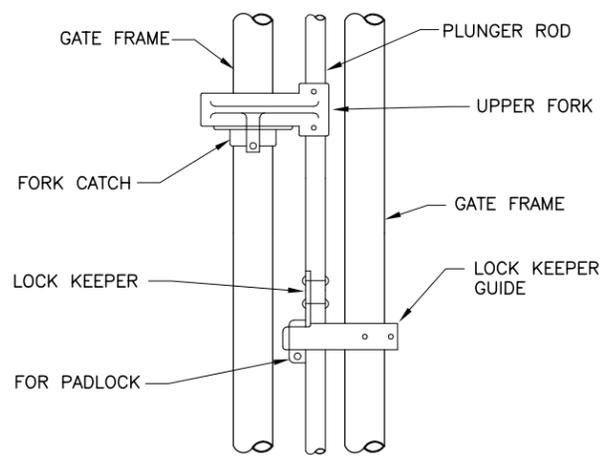
B TYPICAL FABRIC DETAIL
R8 NO SCALE



C TRUSS TIGHTNER DETAIL
R8 NO SCALE



D GATE HINGE DETAIL
R8 NO SCALE



E GATE LOCK DETAIL
R8 NO SCALE

- NOTES**
1. CONTRACTOR SHALL PROVIDE ONE PEDESTRIAN GATE AS SHOWN. COR SHALL FIELD LOCATE.
 2. FASTEN THE BOTTOM TENSION WIRE WITHIN THE BOTTOM 6" OF FABRIC.
 3. ALL TENSION WIRE SHALL MATCH FENCE FABRIC.
 4. TENSION WIRE SHALL BE SECURELY FASTENED TO THE CORNER POSTS, AND SHALL BE TAUT AND FREE OF SAG.
 5. BRACING SYMMETRICAL ABOUT CORNER AND INTERMEDIATE POSTS.

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R-2
ROCKY MOUNTAIN REGION

Forest
WHITE RIVER NATIONAL FOREST
BLANCO RANGER DISTRICT

Design: S. McDOWELL
Drawn: J. KEHM
Checked: T. WONG
Date: 4/2005

Sheet Title:
CHAIN LINK FENCE DETAILS
TRAPPER'S LAKE CAMPGROUND - SPRING DEVELOPMENT

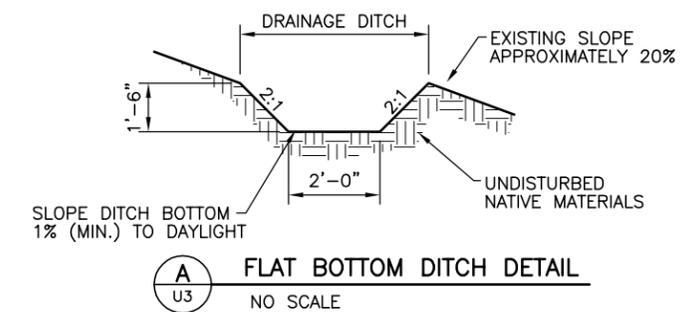
Sub Sheet:
U8

Project No:
Sheet
10 OF 10

7/28/05 16:16 JKEHM R16 K:\ENG\PROJECTS\WHRI\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\U3-SPRING-SITE-PLAN.DWG XREFS: K:\ENG\PROJECTS\WHRI\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\U3-TRAPPERS-BASE-2005.DWG; \X-UTIL.DWG;

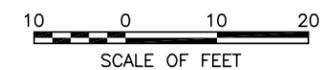
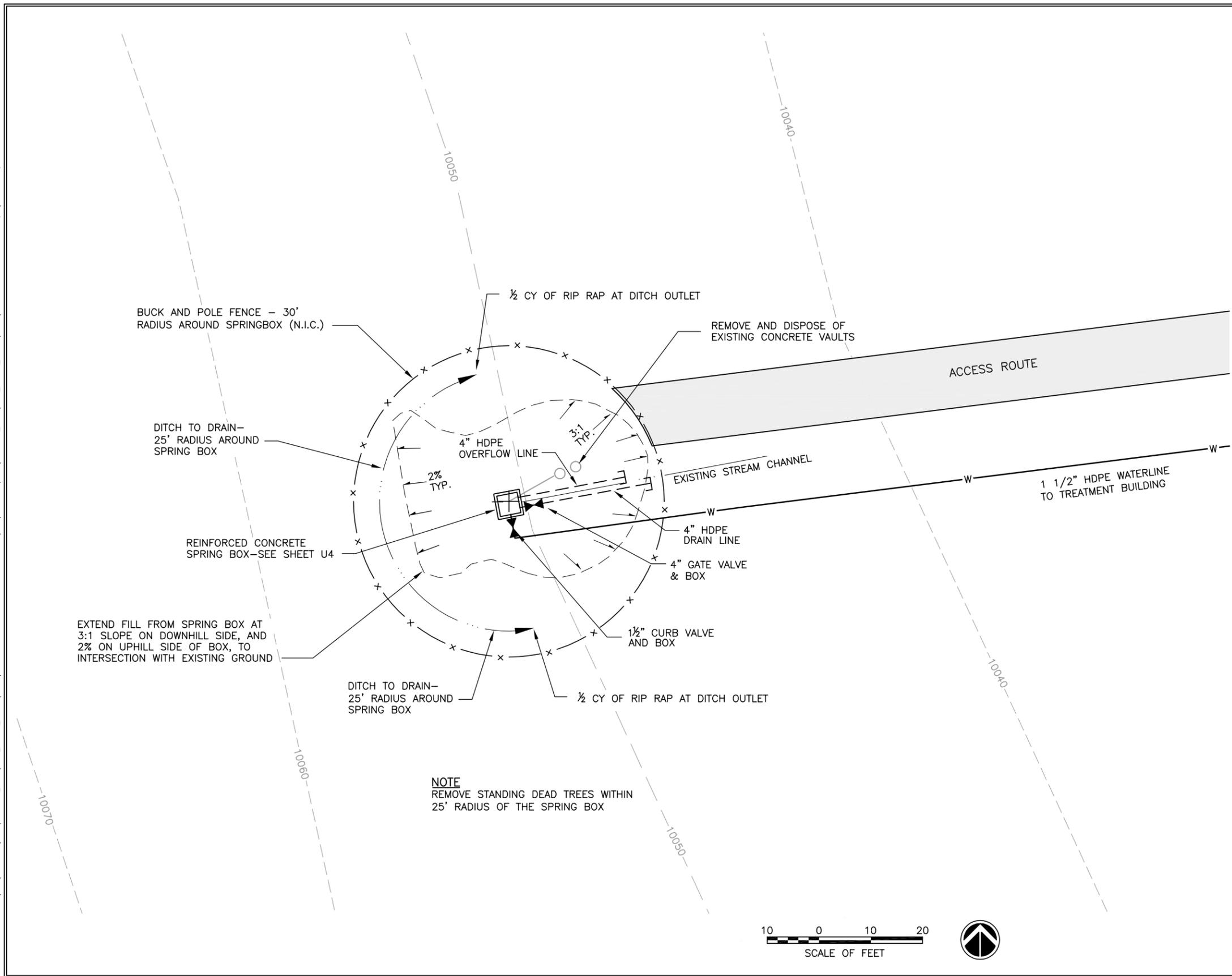
LEGEND

EXISTING WILDERNESS BOUNDARY	-----
EXISTING WATER LINE	— W —
NEW WATER LINE	— W —
EXISTING INDEX CONTOURS	--- 6480 ---
EXISTING 10 FT. INTERVAL CONTOURS	-----
NEW WATER VALVE	⬄
NEW AIR/VACUUM VALVE	⊙
NEW DRAIN TO DAYLIGHT	— [
EXISTING WETLAND (NO CONSTRUCTION)	
EXISTING WELL	⊙
EXISTING ABANDONED WATER LINE	--- W ---
SLOPE TO DRAIN	→



NOTES

- 1) THE SPRING AREA SHALL BE CLEARED AND GRUBBED PRIOR TO PERFORMING ANY EXCAVATION OR PLACEMENT OF SELECT BORROW.
- 2) THE C.O. WILL STAKE THE ON-SITE BORROW SOURCE PERIMETER.
- 3) THE NATIVE TOPSOIL WITHIN THE SPRING AND BORROW SOURCE DISTURBED AREAS SHALL BE STRIPPED, STOCKPILED AND LATER RESPREAD OVER THE DISTURBED AREAS.
- 4) THE EXISTING SPRING BOXES SHALL BE REMOVED AND HAULED OFF SITE TO AN APPROVED LANDFILL.
- 5) THE SPRING AREA SHALL BE DEWATERED AS NEEDED DURING CONSTRUCTION TO FACILITATE THE PROPER PLACEMENT OF PIPING, GRAVEL, AND THE CONCRETE BOX SECTIONS.
- 6) FLOW SHALL BE ROUTED BACK INTO ORIGINAL STREAM CHANNEL WITHIN 50' OF ANY DEWATERING DIVERSION.
- 7) PLACE SELECT BORROW AS NEEDED OVER THE SPRING AREA TO SHAPE A SMOOTH UNIFORM PLANE TO PROVIDE A BASE FOR THE POLYPROPYLENE LINER.



U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R2
ROCKY MOUNTAIN REGION

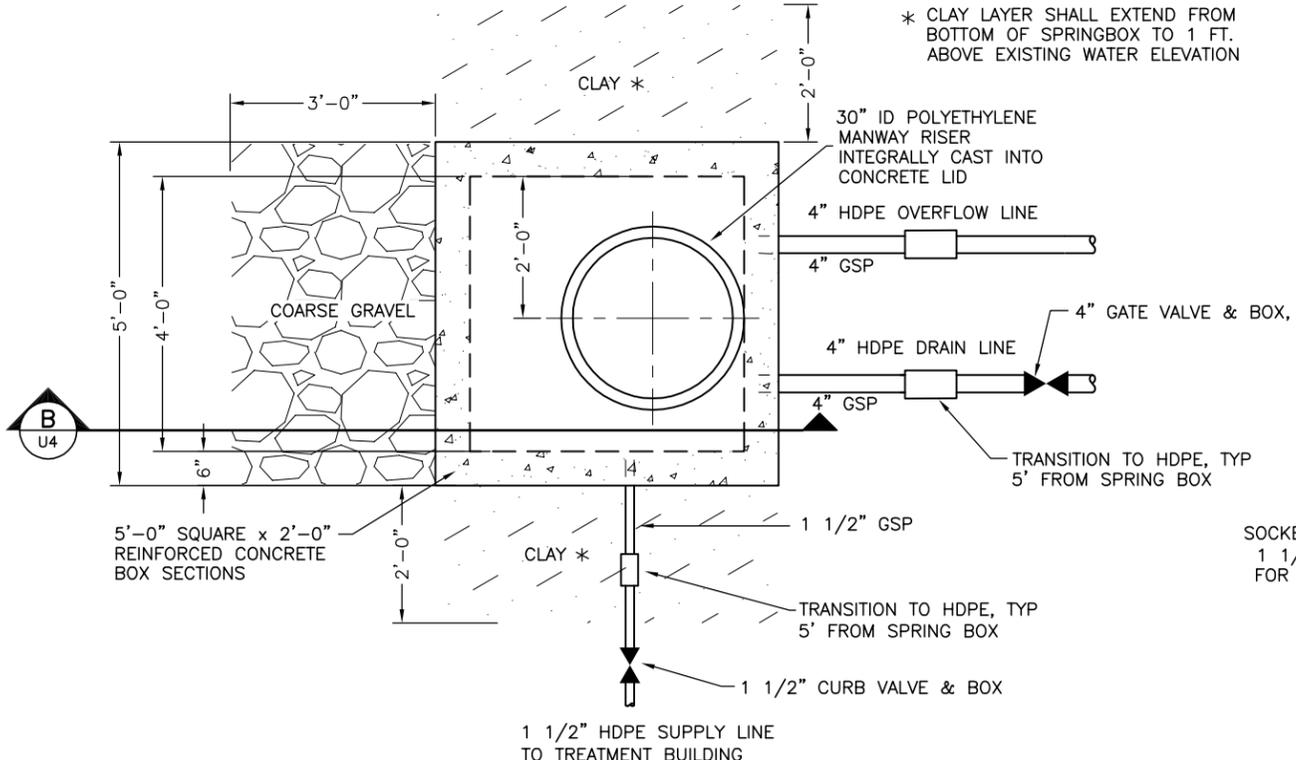
Forest
WHITE RIVER NATIONAL FOREST
BLANCO RANGER DISTRICT

Design: S. McDOWELL
Drawn: J. KEHM
Checked: B. BARRON
Date: 7/2005

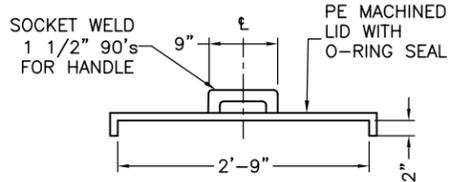
Sheet Title:
SPRING DEVELOPMENT SITE PLAN
TRAPPERS LAKE CAMPGROUND - SPRING DEVELOPMENT

Sub Sheet:
U3

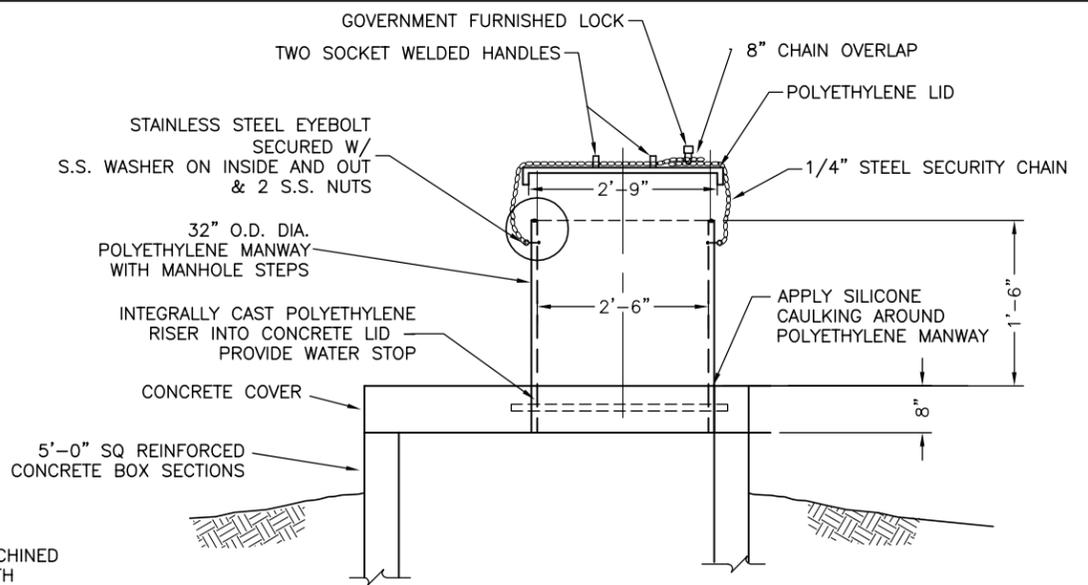
Project No:
Sheet **5** OF **10**



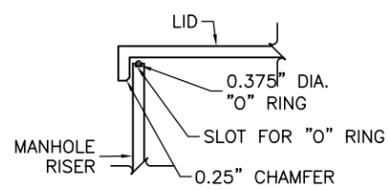
A SPRING BOX - PLAN VIEW
U4 NO SCALE



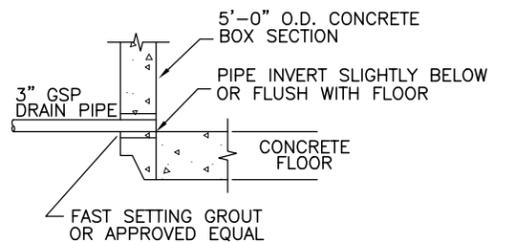
D MANHOLE LID DETAIL
U4 NO SCALE



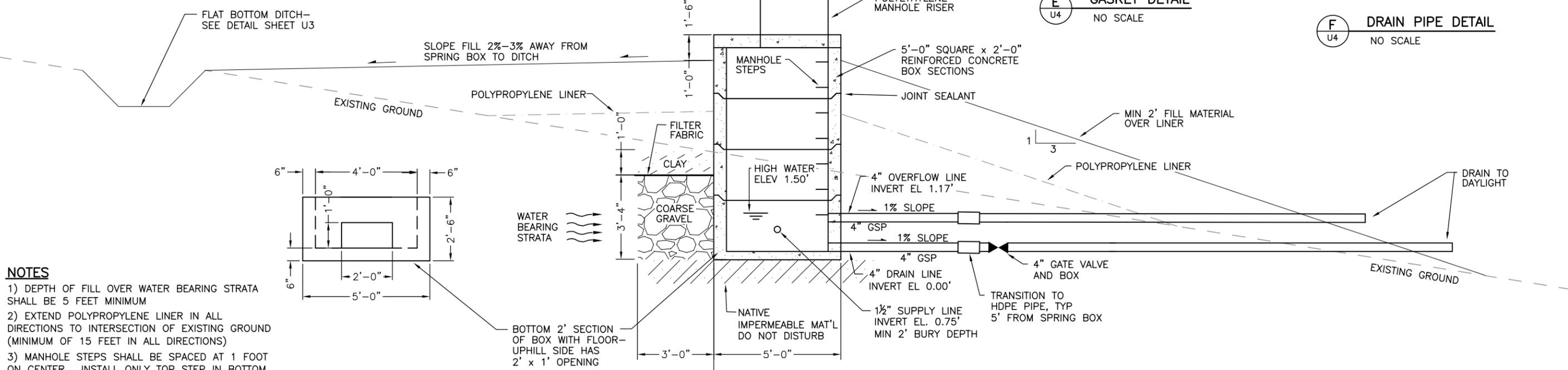
C MANHOLE RISER AND LID DETAIL
U4 NO SCALE



E GASKET DETAIL
U4 NO SCALE



F DRAIN PIPE DETAIL
U4 NO SCALE



B SPRING BOX - SECTION VIEW
U4 NO SCALE

- NOTES**
- 1) DEPTH OF FILL OVER WATER BEARING STRATA SHALL BE 5 FEET MINIMUM
 - 2) EXTEND POLYPROPYLENE LINER IN ALL DIRECTIONS TO INTERSECTION OF EXISTING GROUND (MINIMUM OF 15 FEET IN ALL DIRECTIONS)
 - 3) MANHOLE STEPS SHALL BE SPACED AT 1 FOOT ON CENTER. INSTALL ONLY TOP STEP IN BOTTOM CONCRETE BOX SECTION.
 - 4) SEAL ALL CONCRETE JOINTS WITH RAM-NEK OR APPROVED EQUAL AND GROUT INSIDE AND OUTSIDE (TYP.)

7/28/05 15:35 JKHEM R16 K:\ENG\PROJECTS\WHR\TRAPPERS_LAKE\2005_SPRING_REHAB\DWGS\U4-SPRING-BOX-DETAILS.DWG

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R2
ROCKY MOUNTAIN REGION

Forest
WHITE RIVER NATIONAL FOREST
BLANCO RANGER DISTRICT

Design: S. MCDOWELL
Drawn: S. MCDOWELL
Checked: B. BARRON
Date: 7/2005

Sheet Title: **SPRING BOX DETAILS**
TRAPPERS LAKE CAMPGROUND - SPRING DEVELOPMENT

Sub Sheet:
U4

Project No:
Sheet **6** OF **10**



TRAPPERS LAKE SPRING – August 22, 2005

The spring surfaces in a very isolated, restricted manner beneath the rocks in the lower right corner of this photo. The rocks in the upper right of the photo are less than 15 feet from the spring, and the ground around them is dry as the entire surrounding hillside. Vegetation typical of wetter conditions extends only 2-3 feet on either side of the spring.



Close up view of spring surfacing area.



Spring flow is approximately 65 gallons per minute.



This photo is taken standing approximately 30' above the spring – 25% slope. The white rectangle identifies where the spring surfaces. The middle left of the photo shows the existing concrete spring boxes. The spring flow is away toward the center and then off toward the right side of the photo. The narrow band of riparian vegetation distinguishes the minimal water influence zone. The water flow channel is approximately 24" in width at its wider points.