

3 HMB Circle  
 US 460  
 Frankfort, KY 40601  
 Office: (502) 695-9800  
 Fax: (502) 695-9810

June 7, 2012

Linda Faulkner, Director of Filing  
 Public Service Commission  
 211 Sower Blvd  
 Frankfort, KY 40602

RE: Case No. 2009-00201  
 Fountain Run Water District  
 HMB #4124.01

Dear Ms. Faulkner:

This letter is to certify that the above referenced project which included approximately 13,500 l.f. of water, a 200,000 gallon elevated tank, a booster pump station, a SCADA system and a master meter was completed in accordance to the contract plans and specifications.

Please find a copy of the record drawings for Contract I and Contract II.

If you have any questions, please call.

Sincerely,

**HMB Professional Engineering, Inc.**

Jeff Reynolds, P.E.

cc: Fountain Run Water District

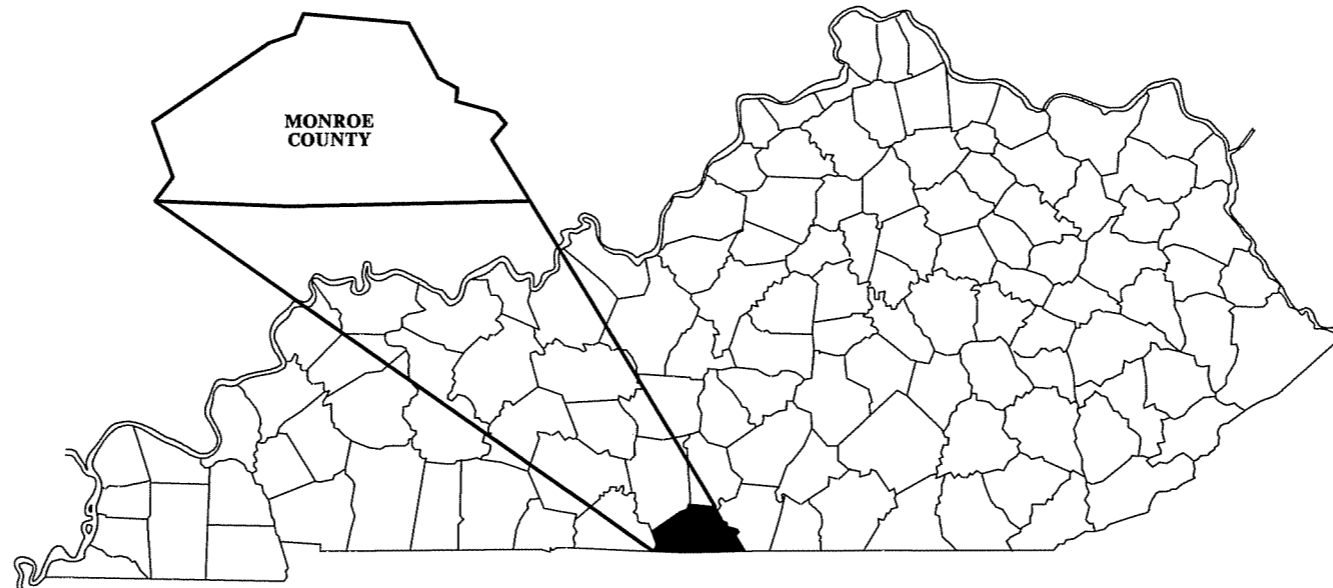
RECEIVED

JUN - 8 2012

PUBLIC SERVICE  
 COMMISSION

- Highway Engineering
- Structural Engineering
- Water & Wastewater
- Site Development
- Right-of-Way
- Master Planning
- Environmental Planning
- Surveying
- Project Management
- Cost Estimation
- Construction Inspection
- Aviation Services
- Environmental Remediation
- Landscape Architecture

# WATER SYSTEM IMPROVEMENTS KY 100 WATER LINE UPGRADE FOUNTAIN RUN WATER DISTRICT No. 1 MONROE COUNTY, KENTUCKY



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PUBLIC SERVICE  
COMMISSION

2009-00201

RECORD DRAWING

INFORMATION PROVIDED BY OWNER REPRESENTATIVE.  
HMB PROFESSIONAL ENGINEERS, INC. MAKES NO  
GUARANTEE TO THEIR ACCURACY.

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JUN - 8 2012

PUBLIC SERVICE  
COMMISSION

NOVEMBER 2010

JEFF D. REYNOLDS, P.E.  
KENTUCKY REGISTRATION NO. 20,469

Plans Prepared By:



3 HMB Circle (502)895-9800  
Frankfort, Kentucky Fax (502)895-9810

**GENERAL NOTES:**

UNLESS OTHERWISE NOTED, A SEPARATE BID ITEM HAS NOT BEEN ESTABLISHED FOR FITTINGS. THE FITTINGS INVOLVED, BUT NOT LIMITED TO, TEES, BENDS, PLUGS, REDUCERS, SADDLES, CROSSES, COUPLINGS, ETC. CONTRACTOR SHALL INCLUDE THE COST OF THESE ITEMS IN THE UNIT PRICE FOR THE PIPE.

NO SEPARATE PAY ITEM HAS BEEN ESTABLISHED FOR CONNECTION TO EXISTING LINES. THE COST FOR CONNECTING TO EXISTING LINES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PIPE.

NO PAY ITEM FOR EXTRA TRENCH DEPTH HAS BEEN SET UP. CONTRACTOR SHALL INCLUDE THE COST OF THE ADDITIONAL DEPTH IN HIS UNIT PRICE WHEN THE WATER PIPE CROSSES UNDER AN EXISTING UTILITY, CULVERT OR DRAINAGE DITCH.

FINAL LOCATION OF SERVICES, GATE VALVES AND OTHER APPURTENANCES ARE TO BE FIELD LOCATED DURING CONSTRUCTION AND APPROVED BY THE ENGINEER.

EXISTING UTILITIES, ESPECIALLY GAS LINES AND OIL LINES, MAY BE CATHODICALLY PROTECTED, THEREFORE, DUCTILE IRON PIPE, FITTINGS GATE VALVES, AND/OR BOXES LAID WITHIN 100' OF THESE LINES WITH CATHODIC PROTECTION SHALL MEET THE REQUIREMENTS OF AWWA C-105, LATEST REVISION. A SEPARATE PAY ITEM HAS NOT BEEN ESTABLISHED. ALL COSTS FOR LABOR AND MATERIALS MUST BE INCLUDED IN THE UNIT PRICE BID FOR PIPE.

ALL DAMAGE TO EXISTING UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.

THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION ACTIVITY TO THE AREA WITHIN THE EXISTING EASEMENTS AND CONSTRUCTION LIMITS, UNLESS OTHERWISE APPROVED IN WRITING BY THE OWNER.

THE CONTRACTOR WILL BE SOLELY LIABLE FOR ANY WORK HE PERFORMS OUTSIDE OF LEGAL EASEMENTS OR CONSTRUCTION LIMITS.

IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ASCERTAIN THE LOCATIONS OF ANY AND ALL UTILITIES ENCOUNTERED BY THE FINAL ALIGNMENT OF WATERLINE. THE CONTRACTOR SHALL USE CAUTION WHEN EXCAVATING AND SHALL TAKE THE NECESSARY MEASURES TO PROTECT THE EXISTING UTILITIES TO KEEP THEM IN SERVICE. IF UTILITIES ARE SHOWN, THE INFORMATION IS GENERAL IN NATURE AND NOT TO BE TAKEN AS AS-BUILTS. CONTRACTOR SHALL CONTACT REPRESENTATIVES OF LOCAL UTILITIES A MINIMUM OF 48 HOURS BEFORE COMMENCING WORK ON THE PROJECT.

ALL WATER MAINS SHALL BE PVC CLASS 200 SDR 21 UNLESS OTHERWISE NOTED ON THE PLANS.

AT THE CONTRACTORS OPTION, CLASS 350 DUCTILE IRON PIPE MAY BE SUBSTITUTED FOR ANY PIPE PARTICULARLY SPECIFIED, BUT AT NO ADDITIONAL COST TO THE OWNER.

PROVIDE 40" MINIMUM COVER FOR ALL WATER MAINS PLACED WITHIN UNPAVED COUNTY ROADS OR IN DITCH LINES.

THE CONTRACTOR SHALL NOTIFY PROPERTY OWNERS PRIOR TO PERFORMING DRIVEWAY CUTS IN ORDER TO PROVIDE PROPERTY OWNER ACCESS TO THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL INSTALL THESE DRIVEWAY CROSSINGS WITH EXPEDIENCE AND SHALL RESTORE THE DRIVEWAY AS SOON AS POSSIBLE.

ALL PAVED AND CONCRETE SURFACES, INCLUDING DRIVEWAYS, CROSSED BY THE PROPOSED WATER MAINS SHALL BE BORED AND JACKED (UNCASED).

ALL TEES AND BENDS SHALL BE THRUST BLOCKED AS DETAILED ON THE THRUST BLOCK DETAIL SHEET. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR PIPE.

ALL EXISTING WATER LINES THAT ARE TO BE ABANDONED SHALL BE PLUGGED WITH CONCRETE. ALL COSTS INCLUDING LABOR AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE FOR PLUGGING EXISTING WATER LINES.

SEPTIC SYSTEMS NOTED WHERE PROPERTY OWNER NOTIFIED US. ALL MAY NOT BE SHOWN. CONTRACTOR TO USE CAUTION IN THESE AREAS. WATER MAIN TO BE ENCASED IN CONCRETE WHEN LAID WITHIN 10' OF DRAIN LINES OR FIELD. SEE DETAIL AND NOTE ON STANDARD DETAIL SHEET.

UNLESS OTHERWISE NOTED, A SEPARATE BID ITEM HAS NOT BEEN ESTABLISHED FOR CONNECTIONS TO EXISTING SYSTEM. CONTRACTOR SHALL INCLUDE COST OF CONNECTIONS TO EXISTING SYSTEM IN THE UNIT PRICE FOR THE PIPE.

THE CONTRACTOR SHALL BE REQUIRED TO CLEAN IMMEDIATELY AFTER INSTALLING WATER LINE WHERE MAIN IS TO BE LAID ON STATE RIGHT-OF-WAY.

THE FOLLOWING GENERAL NOTES ARE REQUIREMENTS OF THE COMMONWEALTH OF KENTUCKY TRANSPORTATION CABINET PERMIT ENGINEERS. THESE NOTES APPLY WHEN LAYING WATER LINE IN STATE RIGHT-OF-WAY:

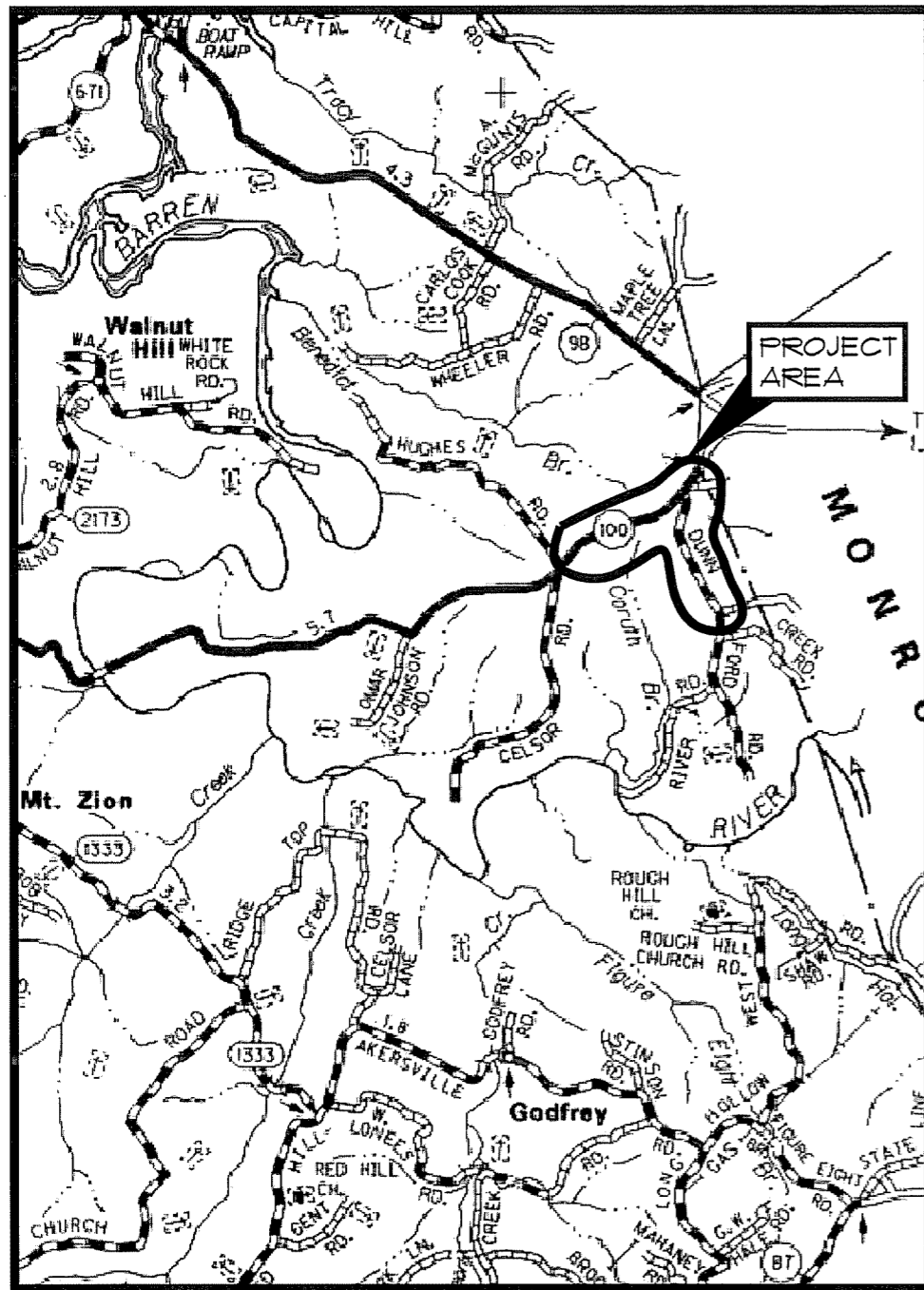
ALL WATER LINES BEING PLACED ABOVE CROSS DRAINS NEED TO HAVE AT LEAST ONE (1) FOOT OF SOIL MATERIAL AS A CUSHION BETWEEN LINE AND THE CROSS DRAIN CULVERT. SEE UTILITY CROSSING DETAIL.

ALL PROPOSED WATER LINES TO BE PLACED BEHIND ALL PRIVATE AND COMMERCIAL ENTRANCE CULVERTS.

ALL PROPOSED WATER LINES TO BE PLACED AT BACK OF DITCH LINE IN TIGHT AREAS.

**LEGEND:**

- PROPOSED WATERLINE
- EXISTING WATERLINE
- PROPOSED BUTTERFLY VALVE
- EXISTING GATE OR BUTTERFLY VALVE
- AUTOMATIC AIR RELEASE VALVE
- FIRE HYDRANT
- PROPERTY LINE
- BLOWOFF ASSEMBLY
- STREAM
- EXISTING SANITARY SEWER
- EXISTING GAS LINE
- PLUG
- FENCE
- PVA MAP - PARCEL NUMBER
- POWER POLE



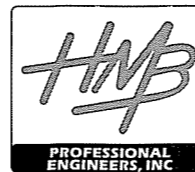
VICINITY MAP  
SCALE: NTS

**RECORD DRAWING**

INFORMATION PROVIDED BY OWNER REPRESENTATIVE. HMB PROFESSIONAL ENGINEERS, INC. MAKES NO GUARANTEE TO THEIR ACCURACY.

PROJECT: 4124.01 DATE: NOV. 2010  
SCALE: AS NOTED

DESIGNED BY	NAME	DATE
T&F	T&F	
T&F	T&F	
JDR	JDR	
RECORD DWS.		



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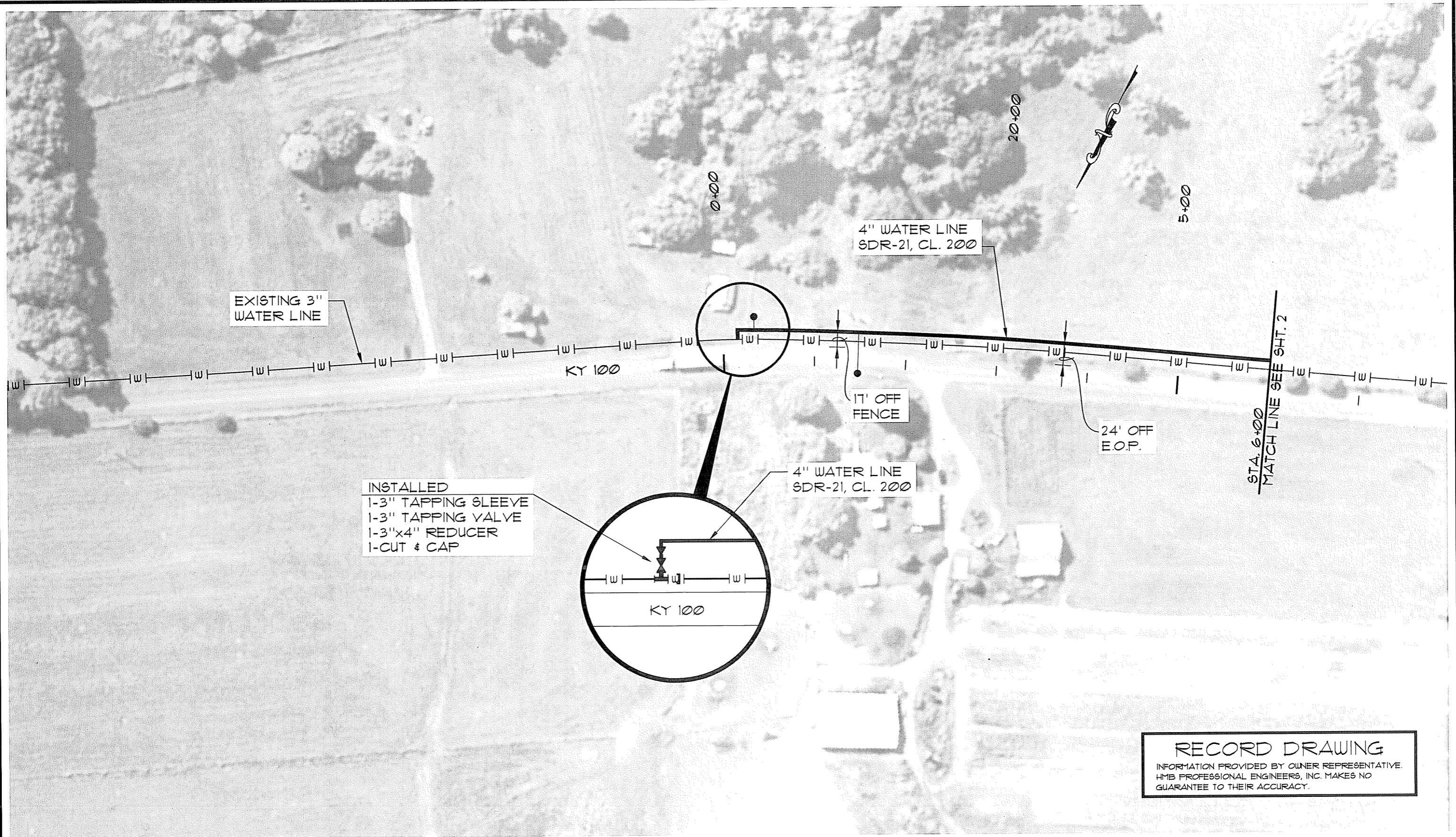
**WATER LINE UPGRADE**  
**FOUNTAIN RUN WATER DISTRICT No. 1**  
**MONROE COUNTY, KENTUCKY**

**GENERAL NOTES/LEGEND/VICINITY MAP**

SHEET  
GNI  
OF  
GNI



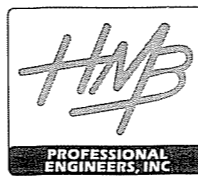
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**RECORD DRAWING**  
 INFORMATION PROVIDED BY OWNER REPRESENTATIVE.  
 HMB PROFESSIONAL ENGINEERS, INC. MAKES NO  
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PROJECT: 412401 DATE: NOV. 2010  
 SCALE: 1"=100'

DESIGNED BY	NAME	DATE
T&F		
DRAWN BY	SAB	
CHECKED BY	JDR	
RECORD DUGS.		



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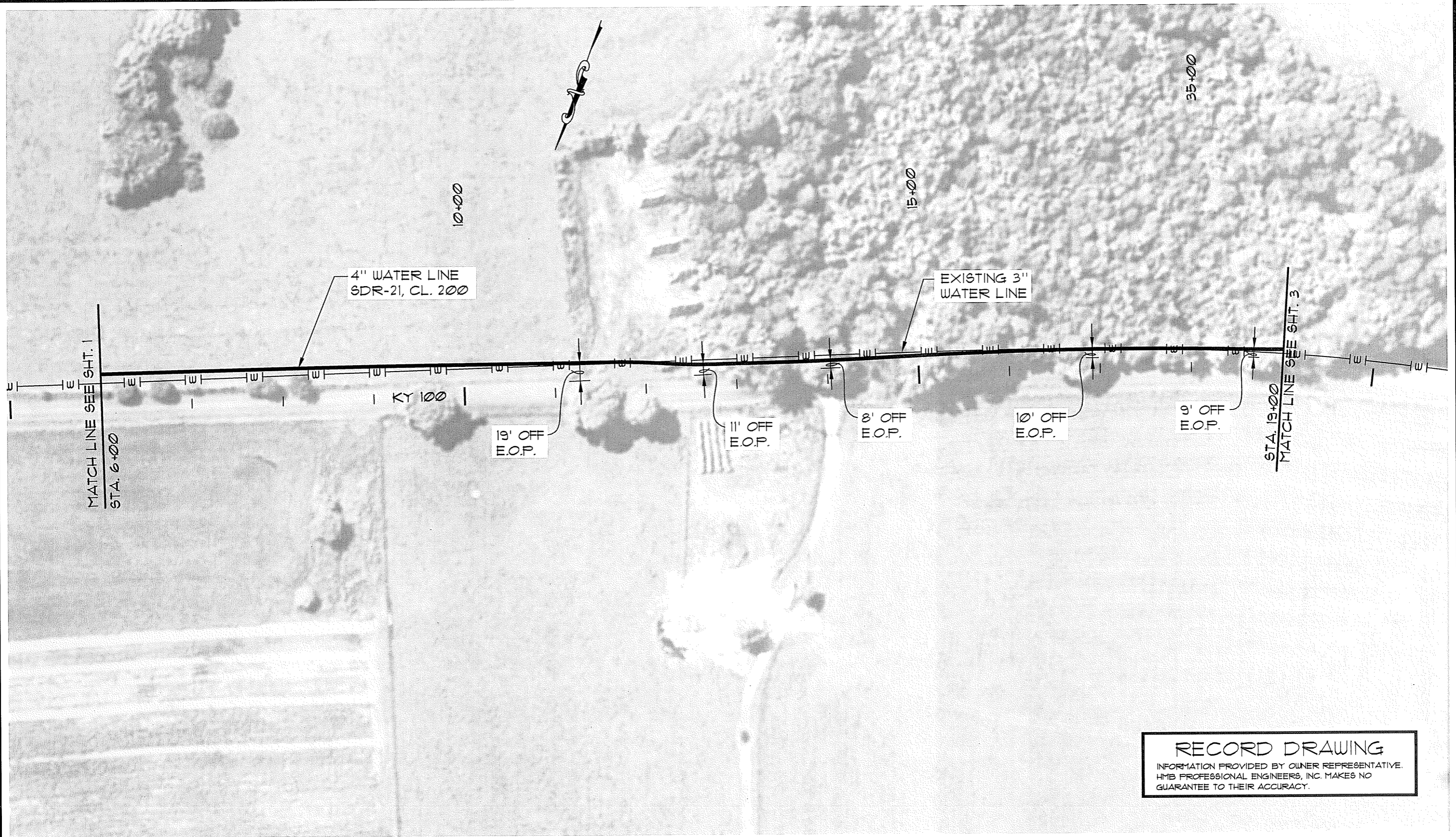
**WATER LINE UPGRADE**  
**FOUNTAIN RUN WATER DISTRICT No. 1**  
**MONROE COUNTY, KENTUCKY**

**KY. 100 - STA. 0+00 TO STA. 6+00**

NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

SHEET  
 A-1  
 OF  
 A-5





**RECORD DRAWING**  
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PROJECT: 4124.01    DATE: NOV. 2010  
 SCALE: 1"=100'

	NAME	DATE
DESIGNED BY	T&F	
DRAWN BY	SAB	
CHECKED BY	JDR	
RECORD DUGS.		



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**WATER LINE UPGRADE**  
**FOUNTAIN RUN WATER DISTRICT No. 1**  
**MONROE COUNTY, KENTUCKY**

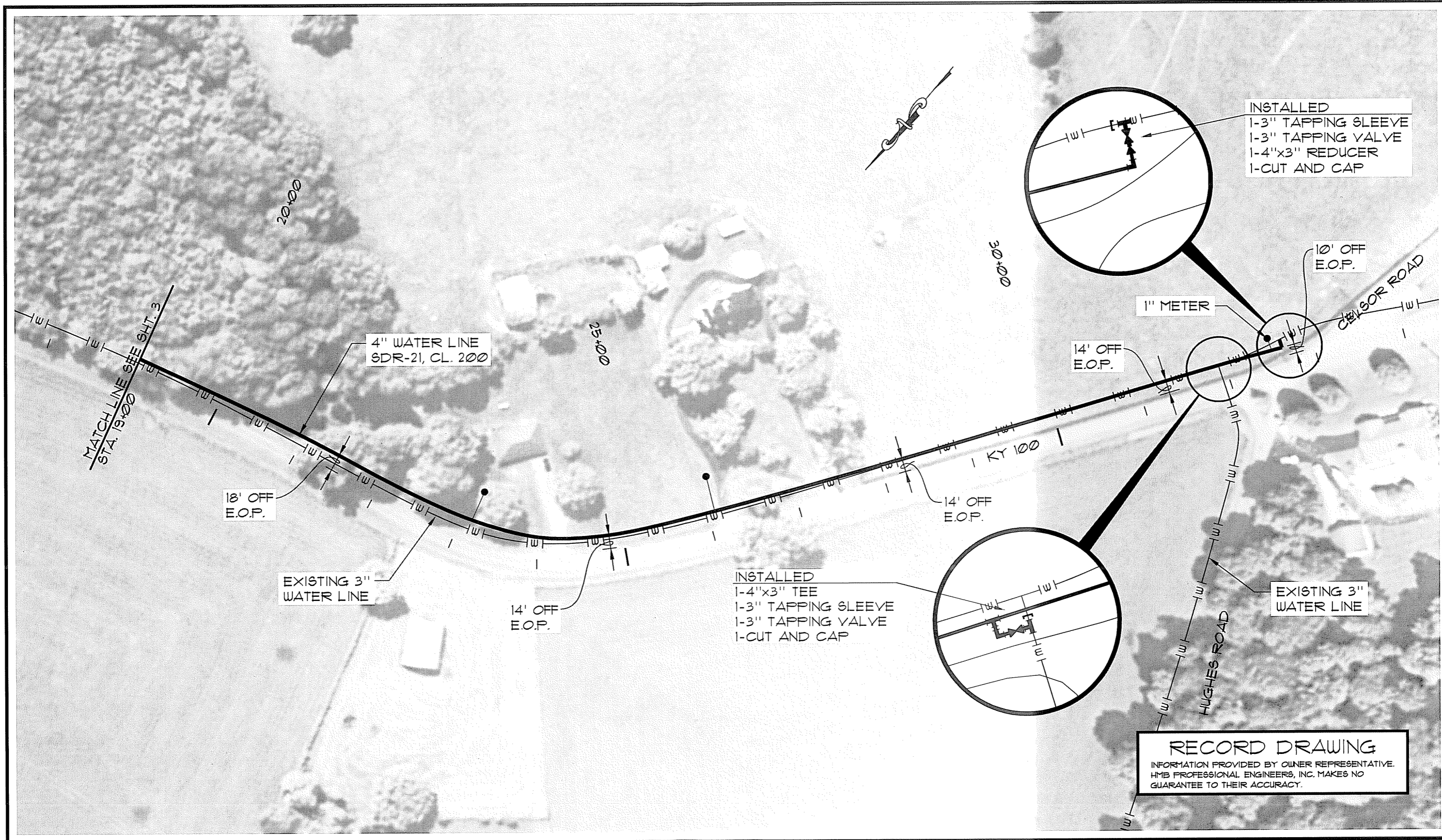
KY. 100 - STA. 6+00 TO STA. 19+00

NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

SHEET  
 A-2  
 OF  
 A-5



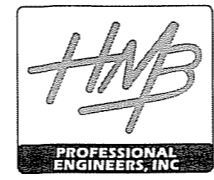
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**RECORD DRAWING**  
 INFORMATION PROVIDED BY OWNER REPRESENTATIVE.  
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NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT: 4124.01	DATE: NOV. 2010	
SCALE: 1"=100'		
DESIGNED BY	NAME	DATE
DRAWN BY	SAB	
CHECKED BY	JDR	
RECORD DUGS.		

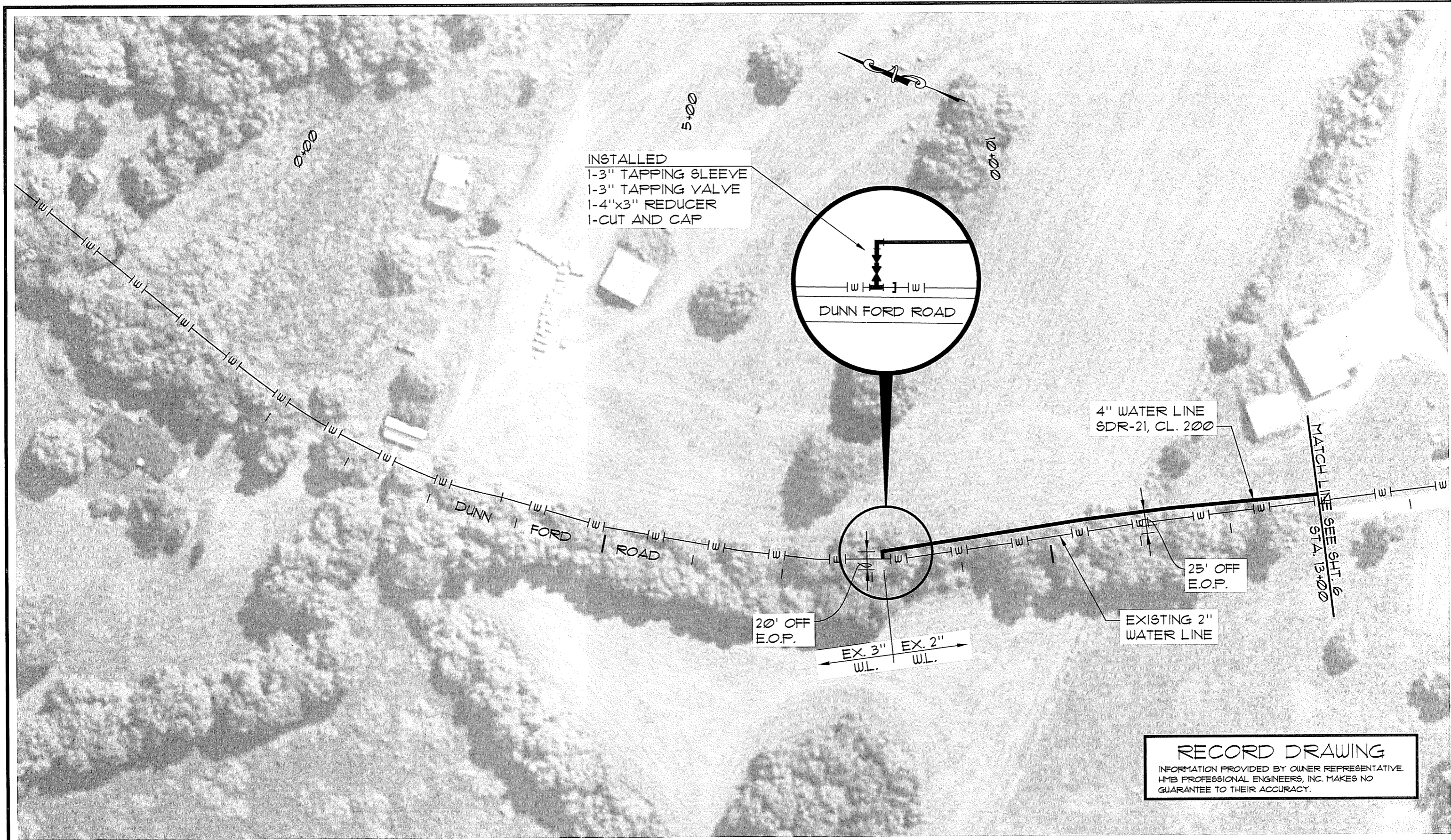


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<b>WATER LINE EXTENTION</b> <b>FOUNTAIN RUN WATER DISTRICT No. 1</b> <b>MONROE COUNTY, KENTUCKY</b>	SHEET <b>A-3</b>
	OF <b>A-5</b>
<b>KY. 100 - STA. 19+00 TO STA. 33+00</b>	



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NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT: 4124.01	DATE: NOV. 2010	
SCALE: 1"=100'		
DESIGNED BY	NAME	DATE
DRAWN BY	SAB	
CHECKED BY	JDR	
RECORD DUGS.		



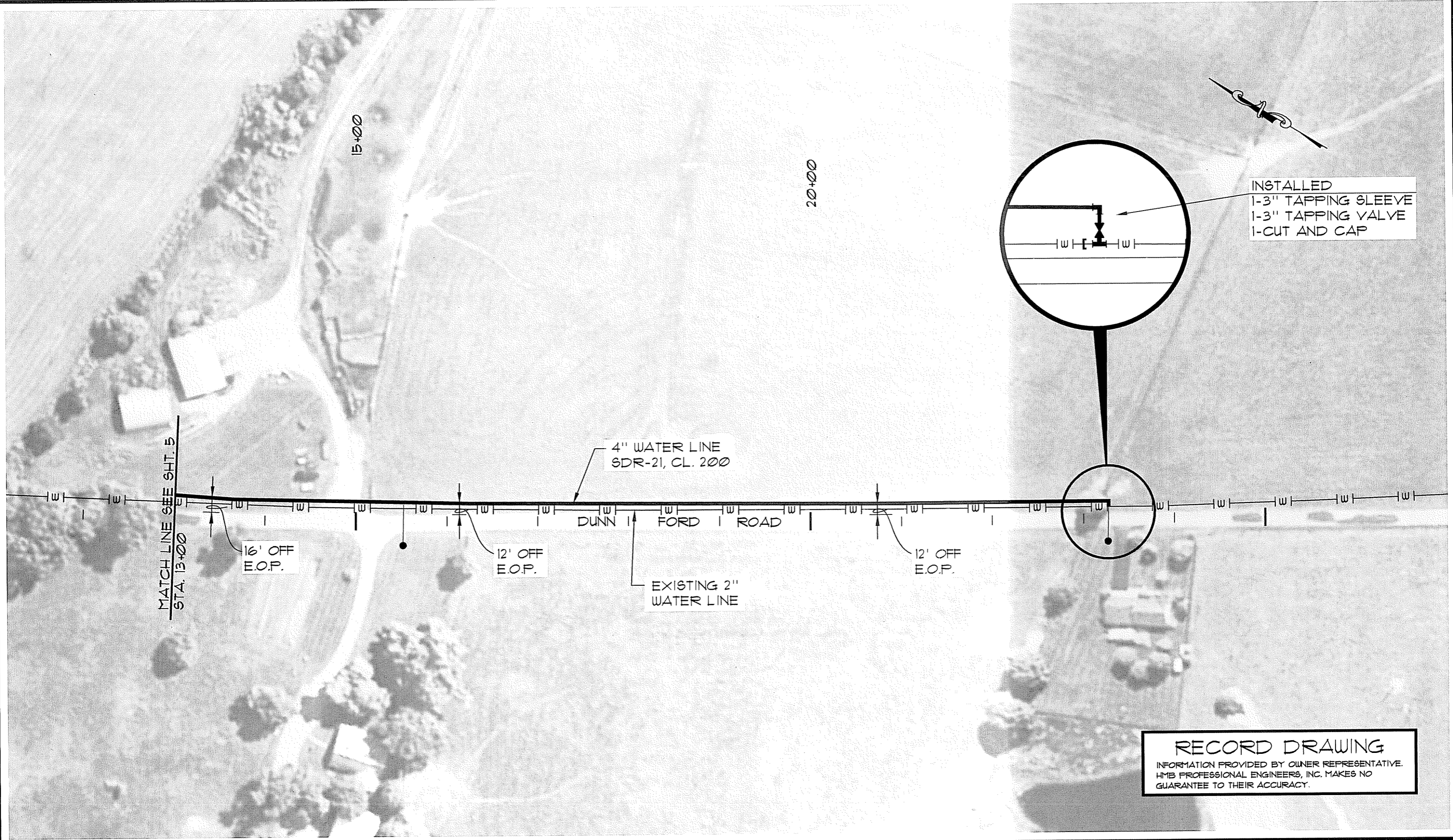
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**WATER LINE UPGRADE**  
**FOUNTAIN RUN WATER DISTRICT No. 1**  
**MONROE COUNTY, KENTUCKY**

**DUNN FORD ROAD - STA. 0+00 TO STA. 13+00**

SHEET  
 A-4  
 OF  
 A-5





INSTALLED  
 1-3" TAPPING SLEEVE  
 1-3" TAPPING VALVE  
 1-CUT AND CAP

4" WATER LINE  
 SDR-21, CL. 200

EXISTING 2"  
 WATER LINE

MATCH LINE SEE SHT. 5  
 STA. 13+00

16' OFF  
 E.O.P.

12' OFF  
 E.O.P.

12' OFF  
 E.O.P.

**RECORD DRAWING**  
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NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT: 4124.01	DATE: NOV 2010	
SCALE: 1"=100'		
DESIGNED BY	NAME	DATE
DRAWN BY	SAB	
CHECKED BY	JDR	
RECORD DRGGS.		

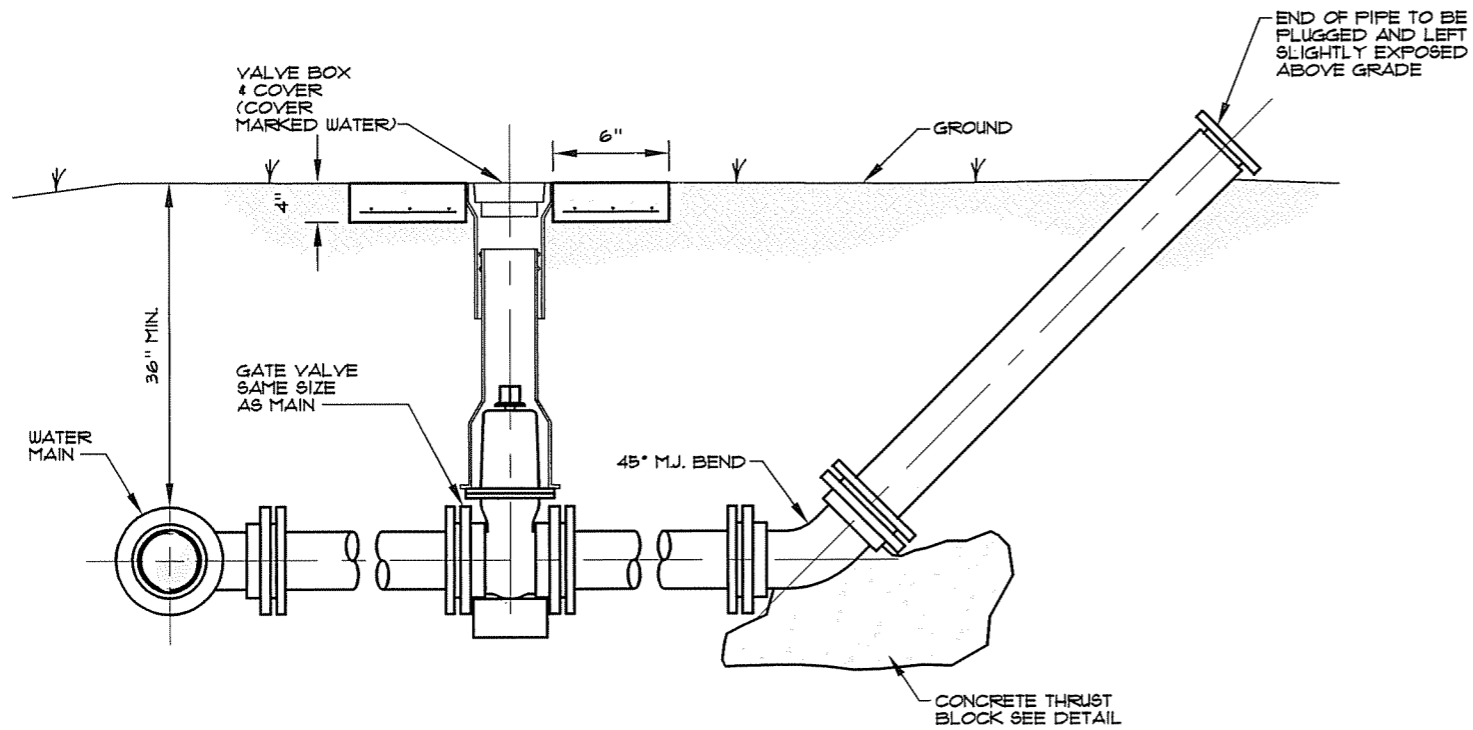


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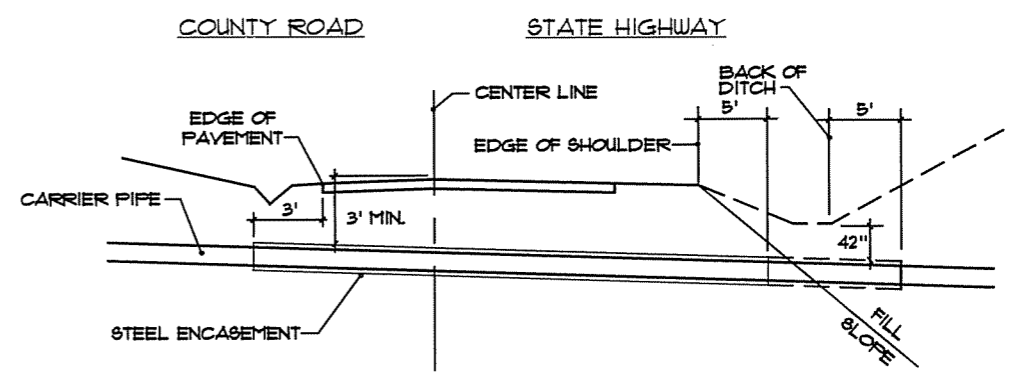
**WATER LINE UPGRADE**  
**FOUNTAIN RUN WATER DISTRICT No. 1**  
**MONROE COUNTY, KENTUCKY**

**DUNN FORD ROAD - STA. 13+00 TO STA. 23+70**

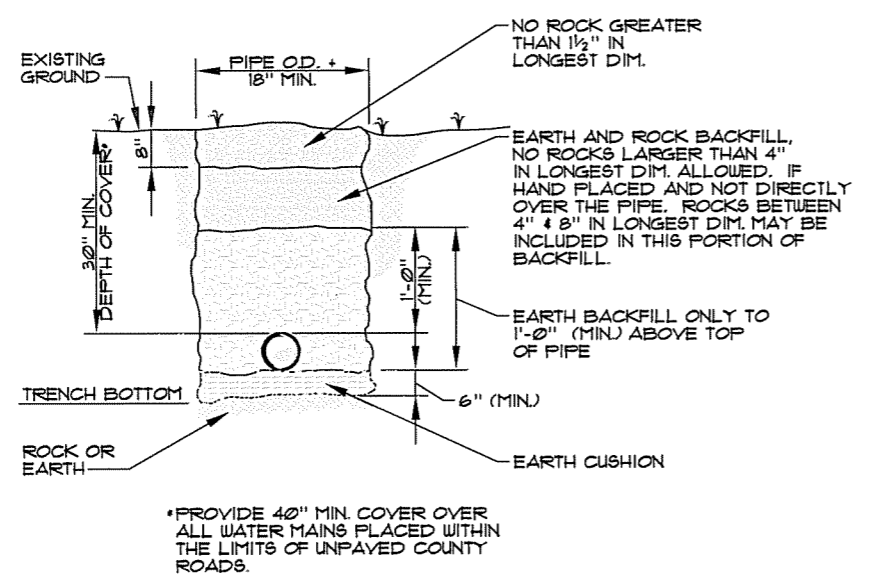
SHEET  
 A-5  
 OF  
 A-5



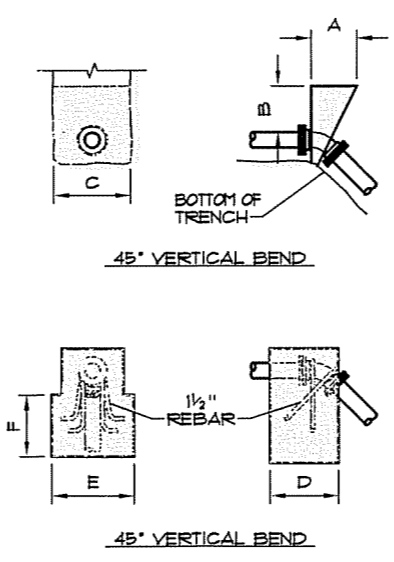
**BLOWOFF ASSEMBLY**  
SCALE: N.T.S.



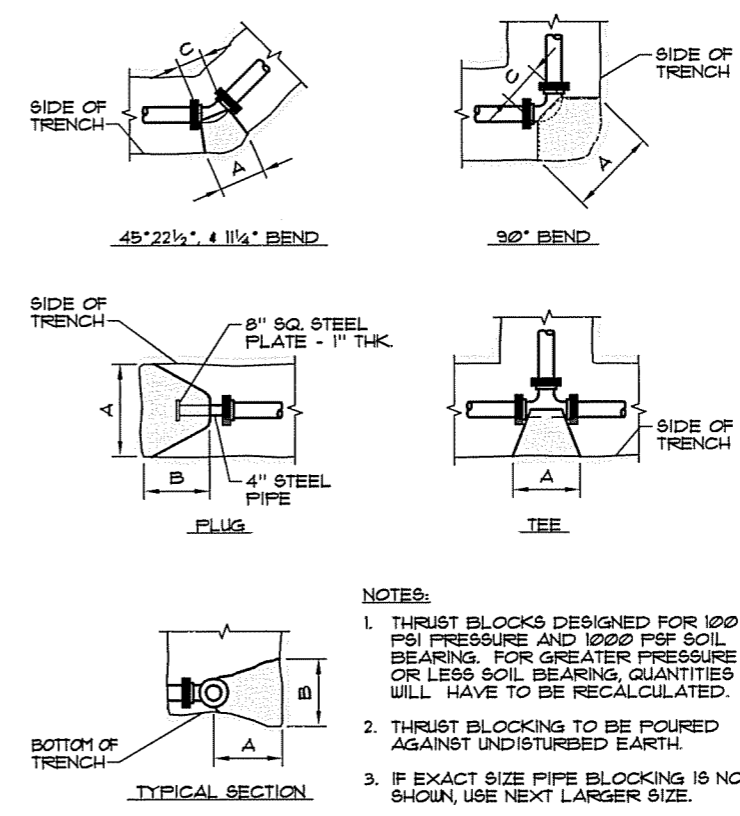
**TYPICAL ROAD CROSSING**  
SCALE: N.T.S.



**BEDDING/BACKFILL**  
SCALE: N.T.S.



**RECORD DRAWING**  
INFORMATION PROVIDED BY OWNER REPRESENTATIVE.  
HMB PROFESSIONAL ENGINEERS, INC. MAKES NO  
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- NOTES:**
- THRUST BLOCKS DESIGNED FOR 100 PSI PRESSURE AND 1000 PSF SOIL BEARING. FOR GREATER PRESSURE OR LESS SOIL BEARING, QUANTITIES WILL HAVE TO BE RECALCULATED.
  - THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
  - IF EXACT SIZE PIPE BLOCKING IS NOT SHOWN, USE NEXT LARGER SIZE.
  - THRUST BLOCKING TO BE POURED IN PLACE CLASS B CONCRETE.

**THRUST BLOCKS**  
SCALE: N.T.S.

90° BEND								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	72	64	50	40	33	26	16	16
B	72	64	50	40	33	24	16	16
C	32	30	16	15	12	12	9	9
D	36	32	28	20	16	12	8	8

45° BEND								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	54	48	37	31	24	18	12	12
B	54	48	37	31	24	18	12	12
C	16	18	16	14	12	12	8	8
D	28	22	18	15	12	9	6	6

22 1/2° BEND								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	38	34	26	23	18	13	9	9
B	38	34	26	23	18	13	9	9
C	16	18	16	14	12	10	8	8
D	18	16	13	11	9	6	4	4

1 1/4° BEND								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	27	24	18	16	13	11	9	9
B	27	24	18	16	13	11	9	9
C	16	18	16	14	12	10	8	8
D	14	12	9	8	6	5	4	4

PLUG								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	60	54	52	43	34	26	26	26
B	60	54	52	43	34	26	26	26
C	12	12	12	12	12	12	12	12
D	84	44	32	22	15	11	11	11

TEE								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	60	54	52	42	26	43	26	26
B	60	54	52	43	26	43	26	26
C	32	30	12	12	12	12	12	12
D	36	30	26	21	13	21	13	13

DIMENSIONS ARE IN INCHES

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NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT:	413100	DATE:	NOV. 2010
SCALE:	AS NOTED	DESIGNED BY:	T&F
		DRAWN BY:	JH
		CHECKED BY:	JDR
		RECORD DWGS.	



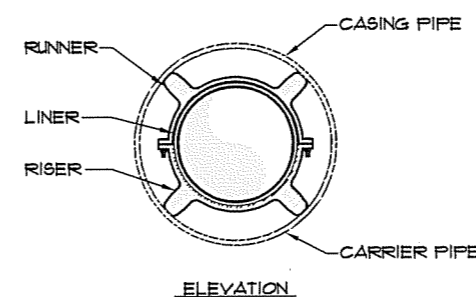
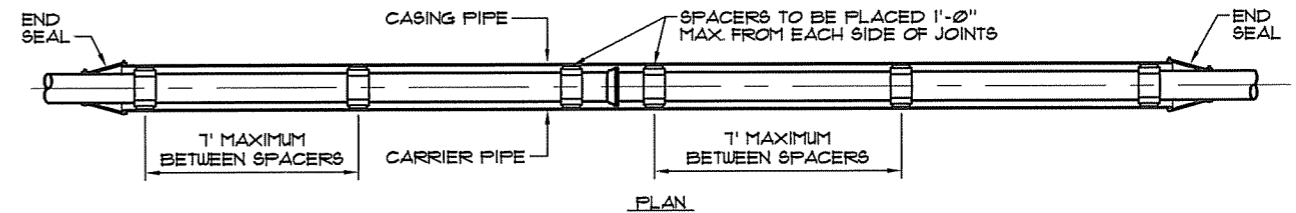
3 HMB CIRCLE  
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(502) 695-9810 FAX

**WATER LINE UPGRADE**  
**FOUNTAIN RUN WATER DISTRICT # 1**  
**MONROE COUNTY, KENTUCKY**

**STANDARD DETAILS**

SHEET  
SD1  
OF  
SD4



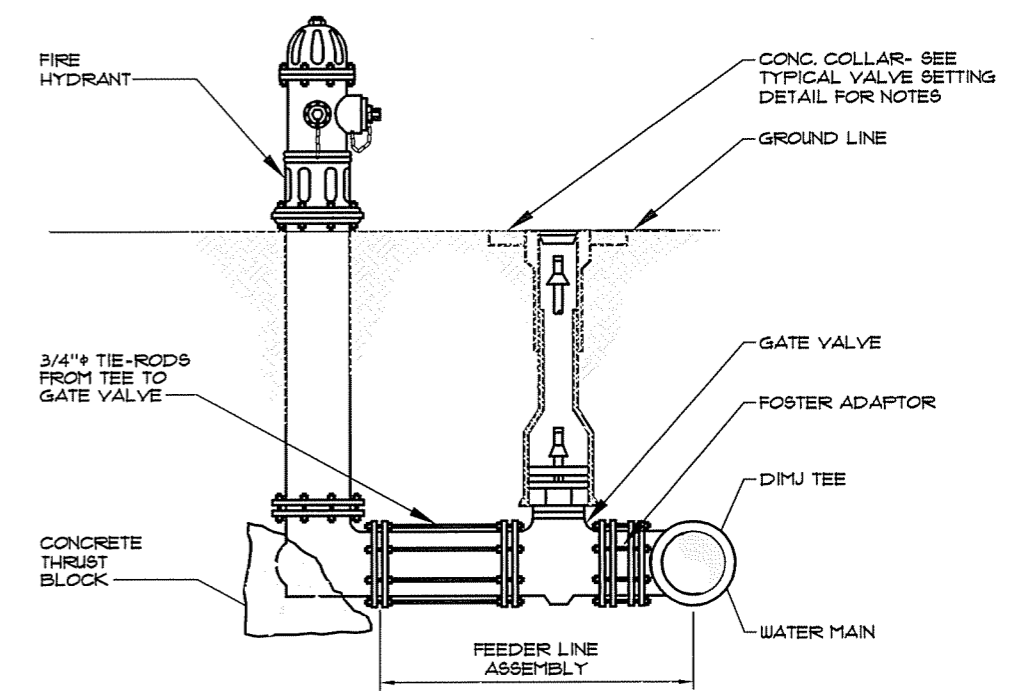


- TYPICAL ROAD CROSSING NOTES:**
1. ALL JOINTS SHALL BE SOLIDLY WELDED. END CASING SHALL BE SEALED AFTER LINE HAS BEEN INSTALLED AND TESTED.
  2. MINIMUM DEPTHS MAY INCREASE IN AREA WHICH REQUIRE MINIMUM SEPARATION WITH OTHER FACILITIES.
  3. OPEN TRENCH NO CLOSER THAN THE DITCH LINE OR TOE OF FILL FROM THE EDGE OF THE PAVEMENT OR AS DIRECTED BY STATE, COUNTY OR MUNICIPAL SPECIFICATIONS.
  4. HIGHWAY CROSSINGS SHALL UTILIZE STEEL CASING PIPE. STEEL CASING PIPES 4" AND LESS SHALL BE NEW SCHEDULE 40. STEEL CASING PIPES LARGER THE 4" SHALL HAVE MINIMUM WALL THICKNESS OF 0.25". ALL BORED AND JACKED ENCASMENT PIPE SHALL BE INSTALLED IN BORE HOLES NO LARGER THAN THE OUTSIDE DIAMETER OF THE ENCASMENT PIPE.

- TYPICAL STREAM CROSSING NOTES:**
1. END CASING SHALL BE SEALED AFTER LINE HAS BEEN INSTALLED AND TESTED.
  2. CONCRETE CAP SHALL END A MINIMUM OF ONE FOOT FROM EDGE OF CASING PIPE.
  3. STREAM CROSSINGS SHALL UTILIZE PVC SDR-35 CASING PIPE.

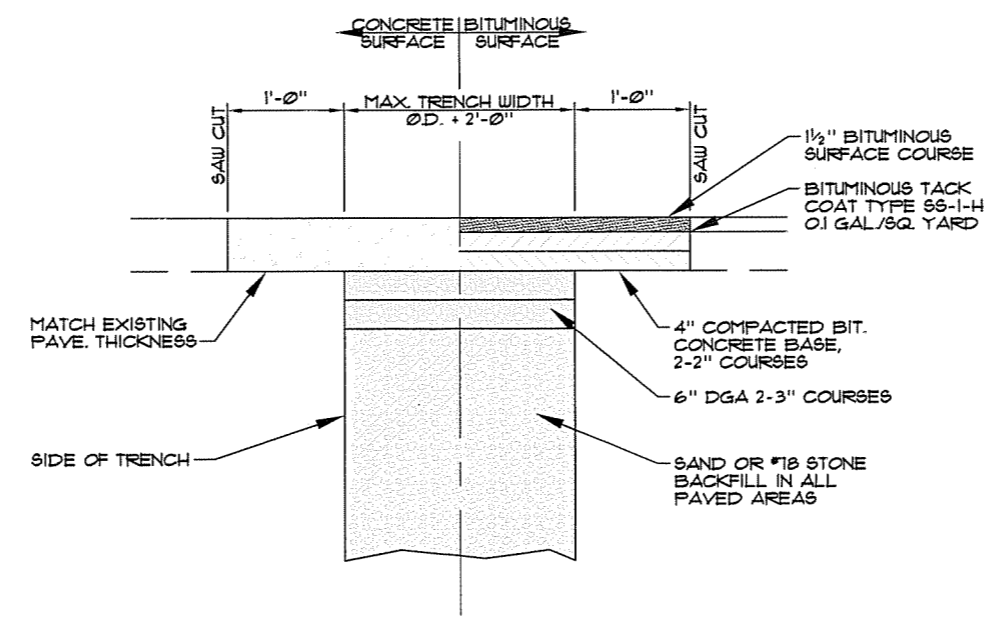
**ENCASMENT PIPE SPACER**  
SCALE: N.T.S.

NOTE:  
HYDRANT DRAIN TO BE LEFT CLEAR AND OPERABLE.

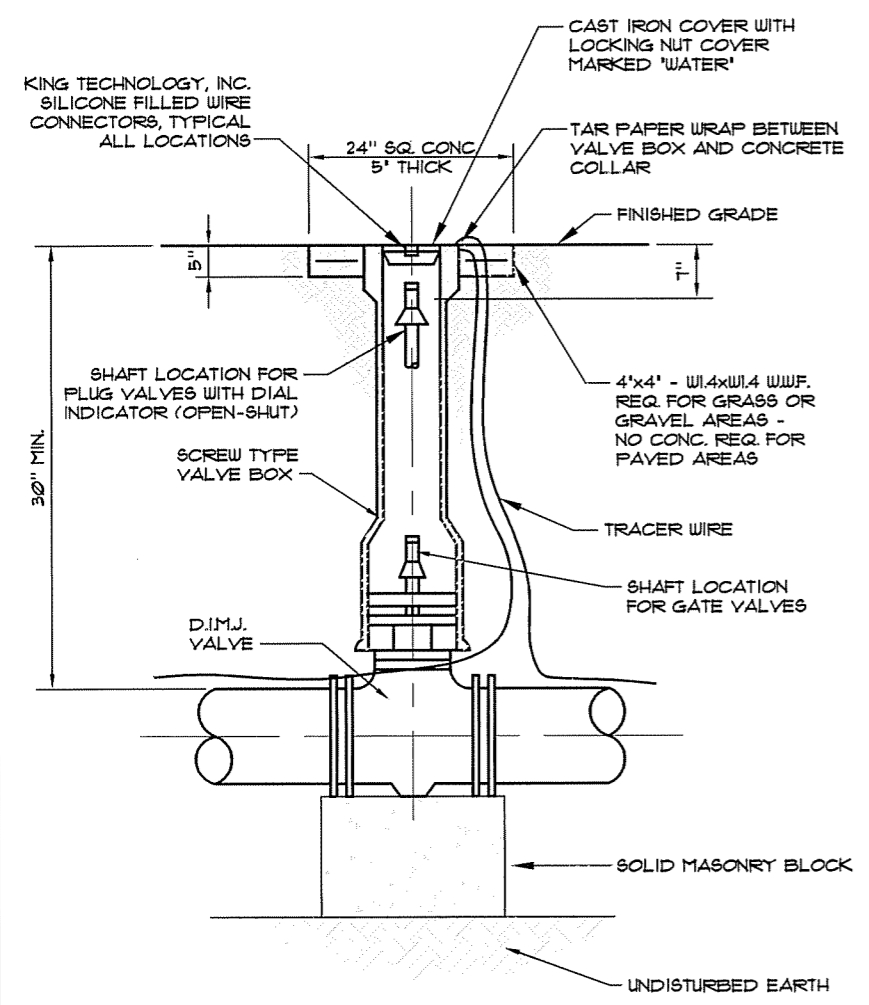


**FIRE HYDRANT (3 NOZZLE) OR SINGLE NOZZLE BLOW-OFF HYDRANT (1 NOZZLE)**  
SCALE: N.T.S.

**RECORD DRAWING**  
INFORMATION PROVIDED BY OWNER REPRESENTATIVE.  
HMB PROFESSIONAL ENGINEERS, INC. MAKES NO GUARANTEE TO THEIR ACCURACY.



**PAVEMENT REPLACEMENT**  
SCALE: N.T.S.



**VALVE & VALVE BOX**  
SCALE: N.T.S.

NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT: 413100	DATE: NOV. 2010	
SCALE: AS NOTED		
DESIGNED BY	NAME	DATE
DRAWN BY	JH	
CHECKED BY	JDR	
RECORD DWGS.		



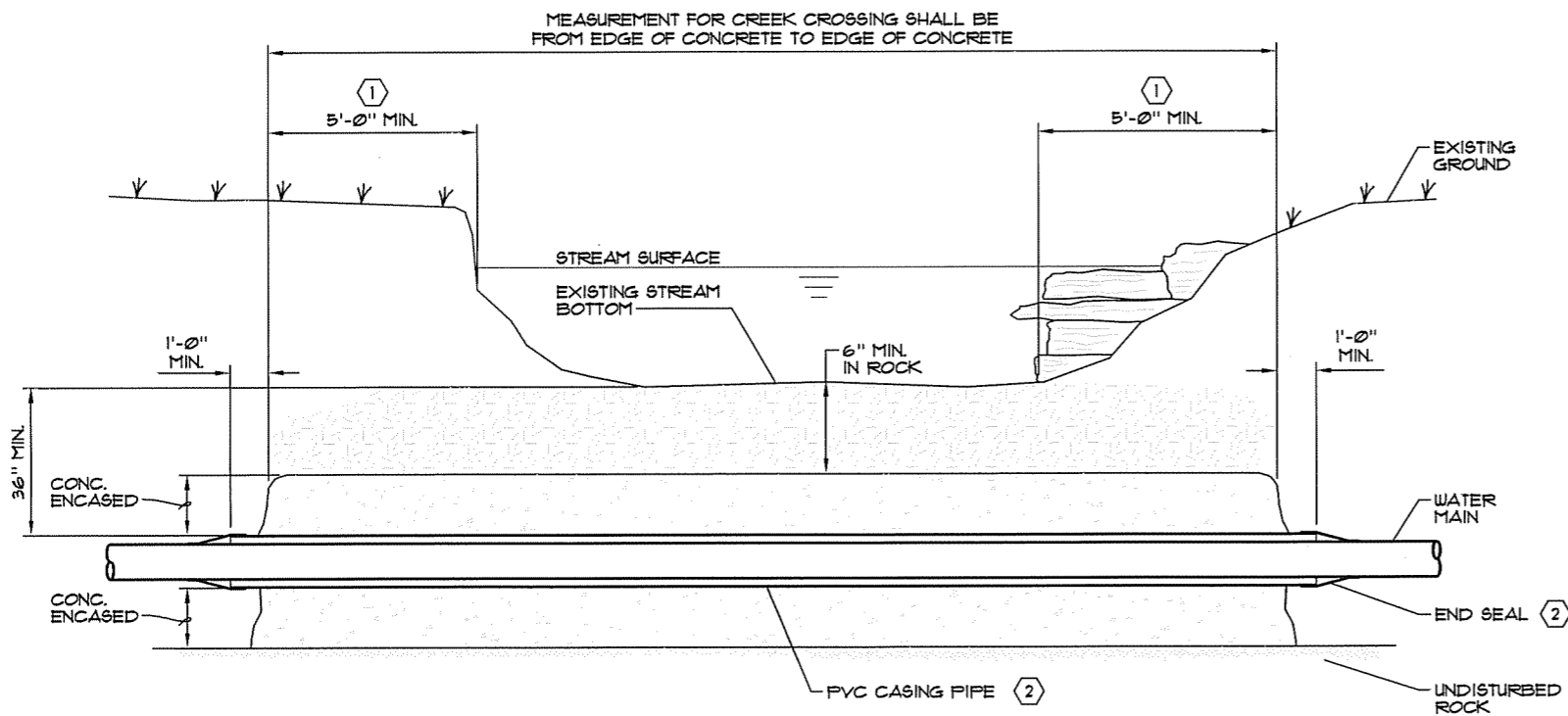
3 HMB CIRCLE  
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**WATER LINE UPGRADE  
FOUNTAIN RUN WATER DISTRICT #1  
MONROE COUNTY, KENTUCKY**

**STANDARD DETAILS**

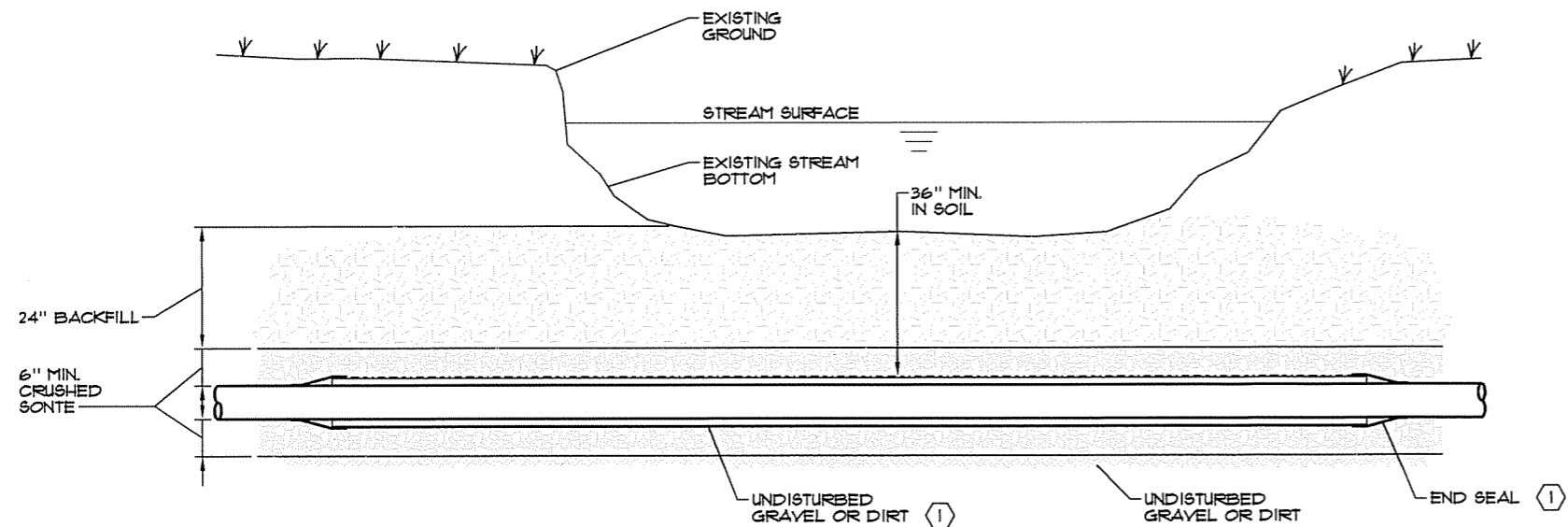
SHEET  
SD2  
OF  
SD4





- NOTES:
- ① CONCRETE TO EXTEND 5'-0" @ BEGINNING POINT OF BANK
  - ② REFER TO DETAIL - ENCASUREMENT PIPE SPACER

**TYPE "B" STREAM CROSSING**  
SOLID ROCK BOTTOM WITH CONCRETE CAP  
SCALE: N.T.S.

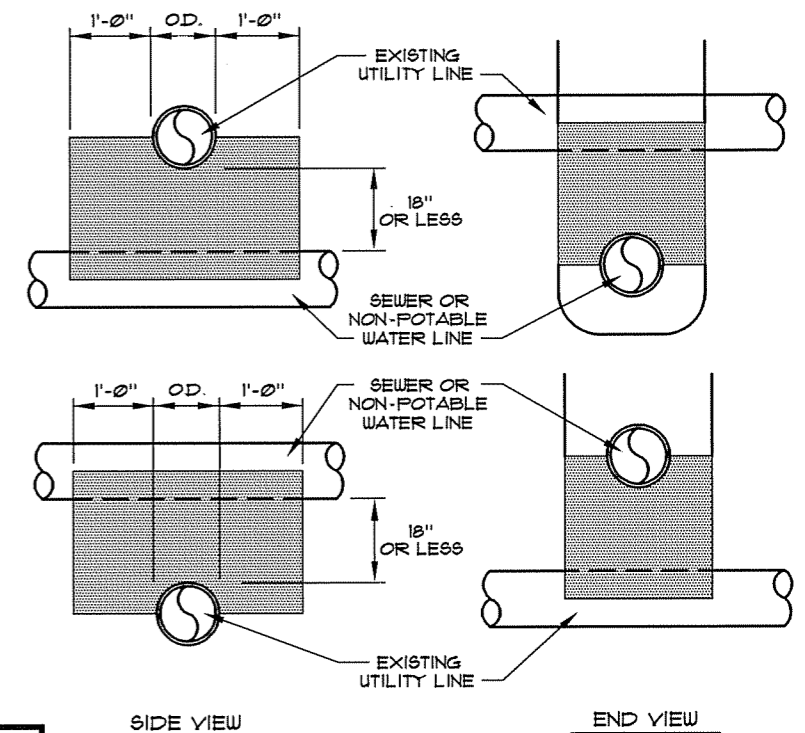


- NOTE:
- ① REFER TO DETAIL - ENCASUREMENT PIPE SPACER

**TYPE "A" STREAM CROSSING**  
GRAVEL OR DIRT BOTTOM W/ GRAVEL CAP  
SCALE: N.T.S.

NOTES:

- 1. CONCRETE ENCASUREMENT SHALL BE USED WHEN CLEARANCE BETWEEN SEWER OR NON-POTABLE WATER LINE AND UTILITY LINE IS 18" OR LESS.
- 2. WHEN ENCOUNTERING UTILITY LINE WITH SEPARATION LESS THAN 18" VERTICAL OR 10'-0" HORIZONTAL, CONCRETE ENCASUREMENT SHALL BE USED. FULL SECTION OF SEWER OR NON-POTABLE WATER LINE SHALL BE CENTERED UNDER UTILITY LINE TO ACHIEVE MAXIMUM JOINT DISPLACEMENT.
- 3. CONCRETE ENCASUREMENT IS NOT A SEPARATE PAY ITEM.

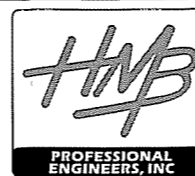


**UTILITY CROSSING/ENCASUREMENT**  
SCALE: N.T.S.

**RECORD DRAWING**  
INFORMATION PROVIDED BY OWNER REPRESENTATIVE.  
HMB PROFESSIONAL ENGINEERS, INC. MAKES NO  
GUARANTEE TO THEIR ACCURACY.

PROJECT: 413100 DATE: NOV. 2010  
SCALE: AS NOTED

DESIGNED BY	NAME	DATE
T&F		
DRAWN BY	JH	
CHECKED BY	JDR	
RECORD DWGS.		



3 HMB CIRCLE  
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**WATER LINE UPGRADE**  
**FOUNTAIN RUN WATER DISTRICT #1**  
**MONROE COUNTY, KENTUCKY**

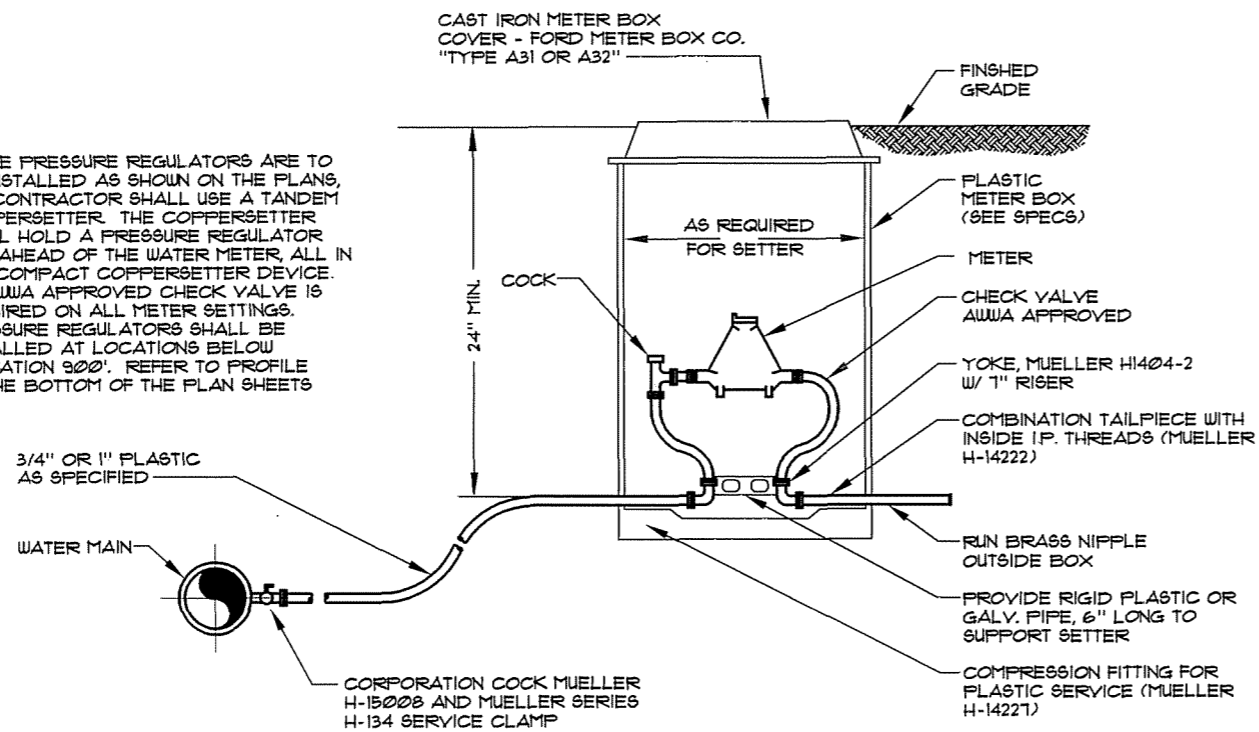
**STANDARD DETAILS**

SHEET  
SD3

OF  
SD4

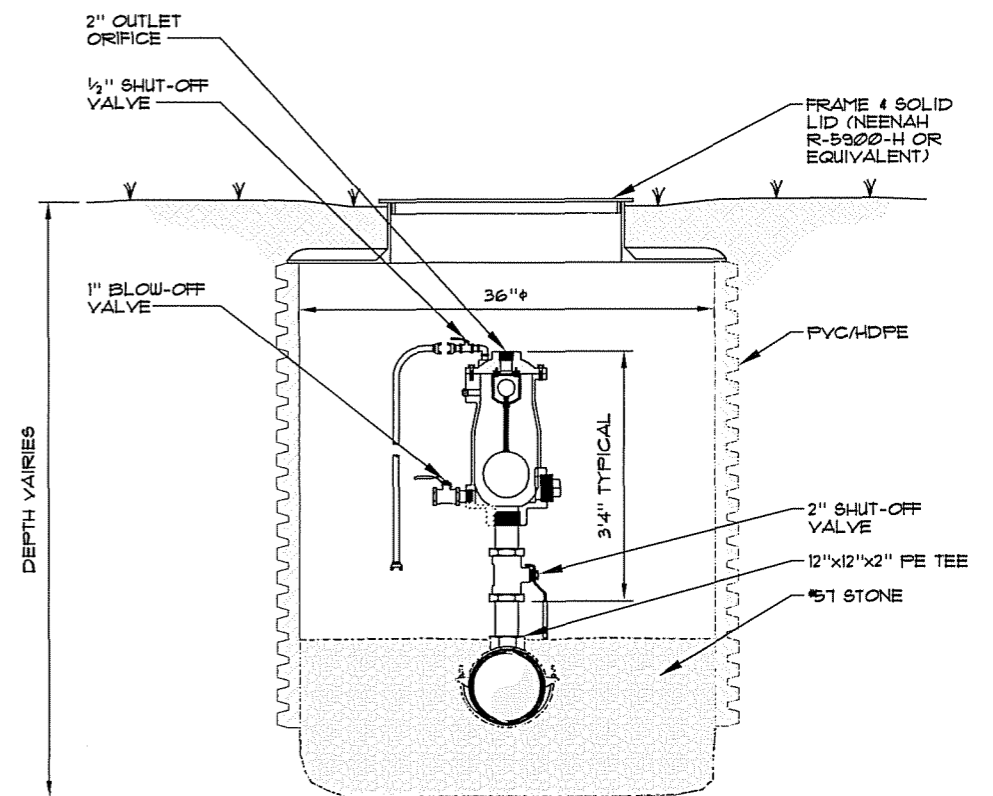
**NOTES:**

1. WHERE PRESSURE REGULATORS ARE TO BE INSTALLED AS SHOWN ON THE PLANS, THE CONTRACTOR SHALL USE A TANDEM COPPERSETTER. THE COPPERSETTER SHALL HOLD A PRESSURE REGULATOR JUST AHEAD OF THE WATER METER, ALL IN ONE COMPACT COPPERSETTER DEVICE.
2. AN AWWA APPROVED CHECK VALVE IS REQUIRED ON ALL METER SETTINGS.
3. PRESSURE REGULATORS SHALL BE INSTALLED AT LOCATIONS BELOW ELEVATION 900'. REFER TO PROFILE AT THE BOTTOM OF THE PLAN SHEETS



**TYPICAL METER SETTING**  
 3/8" x 3/4" & 1" SERVICES  
 SCALE: N.T.S.

**RECORD DRAWING**  
 INFORMATION PROVIDED BY OWNER REPRESENTATIVE.  
 HMB PROFESSIONAL ENGINEERS, INC. MAKES NO  
 GUARANTEE TO THEIR ACCURACY.

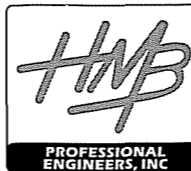


**AUTOMATIC AIR RELEASE VALVE**  
 SCALE: N.T.S.

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NO.	DATE	REVISIONS	CHK'D	APP'R'D	DATE

PROJECT: 413100	DATE: NOV. 2010	
SCALE: AS NOTED		
DESIGNED BY	TSF	DATE
DRAWN BY	JH	
CHECKED BY	JDR	
RECORD DWGS.		



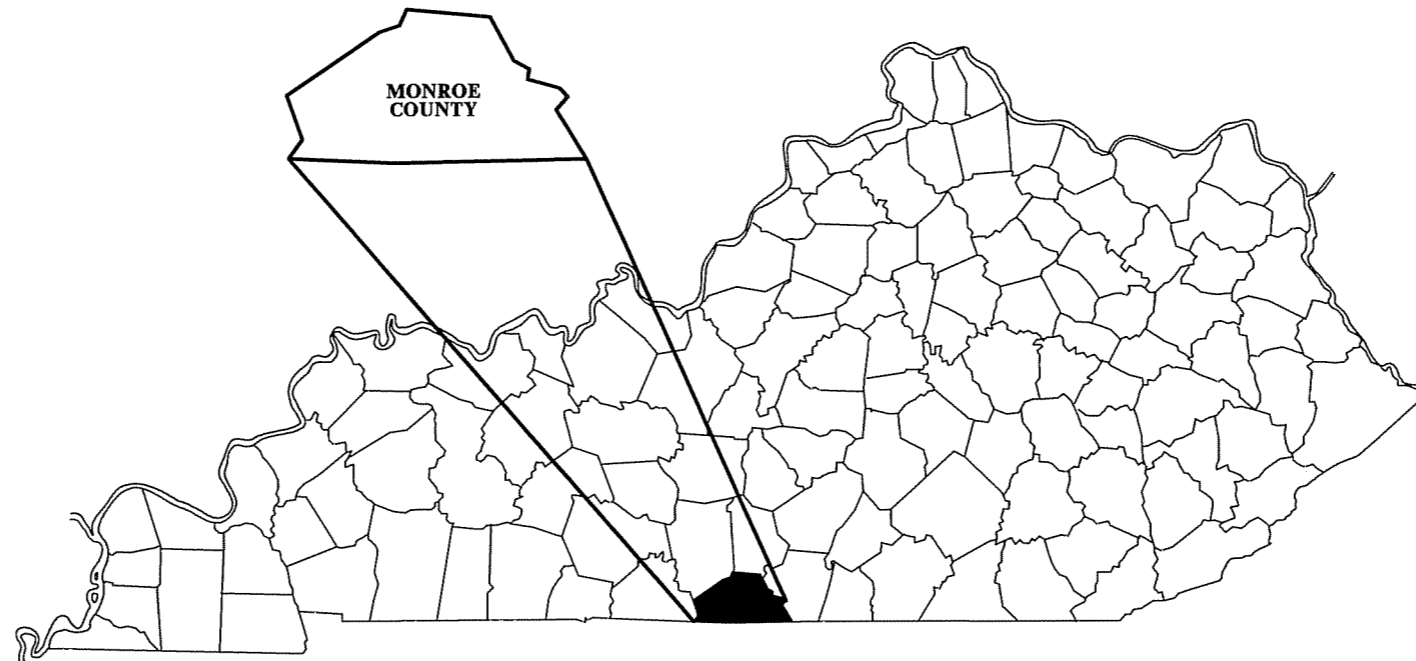
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**WATER LINE UPGRADE**  
**FOUNTAIN RUN WATER DISTRICT #1**  
**MONROE COUNTY, KENTUCKY**

**STANDARD DETAILS**

SHEET  
 SD4  
 OF  
 SD4

# WATER SYSTEM IMPROVEMENTS 200,000 GALLON ELEVATED TANK FOUNTAIN RUN WATER DISTRICT No. 1 CONTRACT II



**JUNE 2010**

2009-00201  
RECEIVED  
JUN 08 2012  
PUBLIC SERVICE  
COMMISSION

## RECORD DRAWINGS

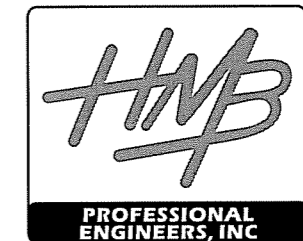
DATE: JUNE 2010

REVISED BY: TSF

DATE REVISED: JUNE 2010

JEFF D. REYNOLDS, P.E.  
KENTUCKY REGISTRATION NO. 20,469

Plans Prepared By:
















3 HMB Circle (502)695-9800  
Frankfort, Kentucky Fax (502)695-9810



**GENERAL NOTES:**

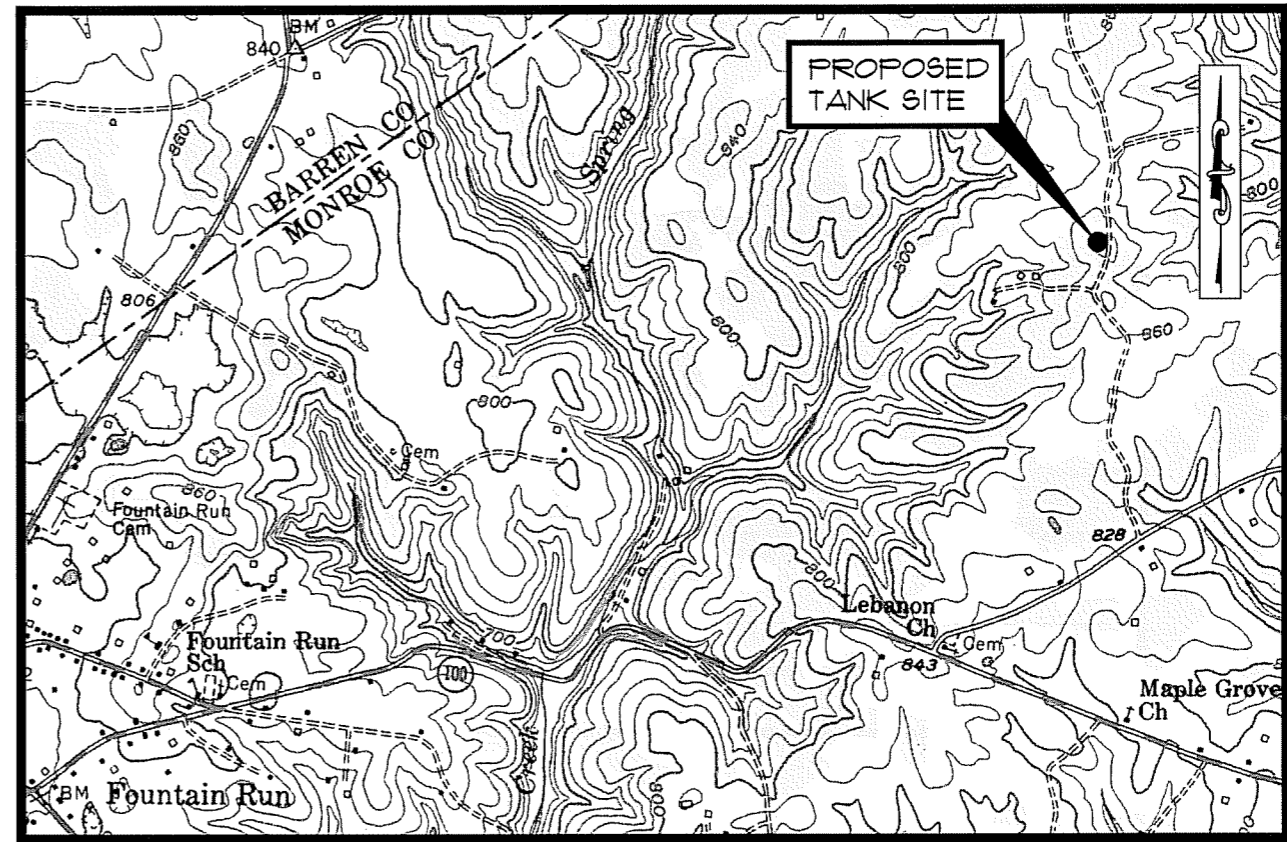
1. UNLESS OTHERWISE NOTED, A SEPARATE BID ITEM HAS NOT BEEN ESTABLISHED FOR FITTINGS. THE FITTINGS INVOLVED, BUT NOT LIMITED TO, TEES, BENDS, PLUGS, REDUCERS, SADDLES, CROSSES, COUPLINGS, ETC. CONTRACTOR SHALL INCLUDE THE COST OF THESE ITEMS IN THE UNIT PRICE FOR THE PIPE.
2. NO SEPARATE PAY ITEM HAS BEEN ESTABLISHED FOR CONNECTION TO EXISTING LINES. THE COST FOR CONNECTING TO EXISTING LINES SHALL BE INCLUDED IN THE LUMP SUM BID FOR THE TANK.
3. NO PAY ITEM FOR EXTRA TRENCH DEPTH HAS BEEN SET UP. CONTRACTOR SHALL INCLUDE THE COST OF THE ADDITIONAL DEPTH IN HIS UNIT PRICE WHEN THE WATER PIPE CROSSES UNDER AN EXISTING UTILITY, CULVERT OR DRAINAGE DITCH.
4. FINAL LOCATION OF SERVICES, GATE VALVES AND OTHER APPURTENANCES ARE TO BE FIELD LOCATED DURING CONSTRUCTION AND APPROVED BY THE ENGINEER.
5. EXISTING UTILITIES, ESPECIALLY GAS LINES AND OIL LINES, MAY BE CATHODICALLY PROTECTED, THEREFORE, DUCTILE IRON PIPE, FITTINGS GATE VALVES, AND/OR BOXES LAID WITHIN 100' OF THESE LINES WITH CATHODIC PROTECTION SHALL MEET THE REQUIREMENTS OF AWWA C-105, LATEST REVISION. A SEPARATE PAY ITEM HAS NOT BEEN ESTABLISHED. ALL COSTS FOR LABOR AND MATERIALS MUST BE INCLUDED IN THE UNIT PRICE BID FOR PIPE.
6. ALL DAMAGE TO EXISTING UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
7. ALL TEES AND BENDS SHALL BE THRUST BLOCKED AS DETAILED ON THE THRUST BLOCK DETAIL SHEET.
8. THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION ACTIVITY TO THE AREA WITHIN THE EXISTING EASEMENTS AND CONSTRUCTION LIMITS, UNLESS OTHERWISE APPROVED IN WRITING BY THE OWNER.
9. THE CONTRACTOR WILL BE SOLELY LIABLE FOR ANY WORK HE PERFORMS OUTSIDE OF LEGAL EASEMENTS OR CONSTRUCTION LIMITS.
10. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ASCERTAIN THE LOCATIONS OF ANY AND ALL UTILITIES ENCOUNTERED BY THE FINAL ALIGNMENT OF WATERLINE. THE CONTRACTOR SHALL USE CAUTION WHEN EXCAVATING AND SHALL TAKE THE NECESSARY MEASURES TO PROTECT THE EXISTING UTILITIES TO KEEP THEM IN SERVICE. IF UTILITIES ARE SHOWN, THE INFORMATION IS GENERAL IN NATURE AND NOT TO BE TAKEN AS AS-BUILTS. CONTRACTOR SHALL CONTACT REPRESENTATIVES OF LOCAL UTILITIES A MINIMUM OF 48 HOURS BEFORE COMMENCING WORK ON THE PROJECT.
11. GRIP RING RESTRAINTS SHALL BE USED ON ALL M.J. FITTINGS

**LEGEND:**

- PROPOSED WATERLINE 
- EXISTING WATERLINE 
- PROPOSED BUTTERFLY VALVE 
- EXISTING GATE OR BUTTERFLY VALVE 
- AUTOMATIC AIR RELEASE VALVE 
- FIRE HYDRANT 
- PROPERTY LINE 
- BLOWOFF ASSEMBLY 
- STREAM 
- EXISTING SANITARY SEWER 
- EXISTING GAS LINE 
- PLUG 
- FENCE 

**TABLE OF CONTENTS**

- SHT. 1 - TANK SITE SURVEY
- SHT. 2 - WATER STORAGE TANK ELEVATION & SITE PLAN
- SHT. 3 - VALVE VAULT
- SD1 - STANDARD DETAIL
- SD2 - STANDARD DETAIL
- SD3 - STANDARD DETAIL



**TOPOGRAPHIC MAP**

SCALE: NTS

PROJECT: 412401		DATE: NOV. 2008	
SCALE: AS NOTED			
DESIGNED BY	T&F	NAME	DATE
DRAWN BY	JH		
CHECKED BY	JDR		
RECORD DUGS.			



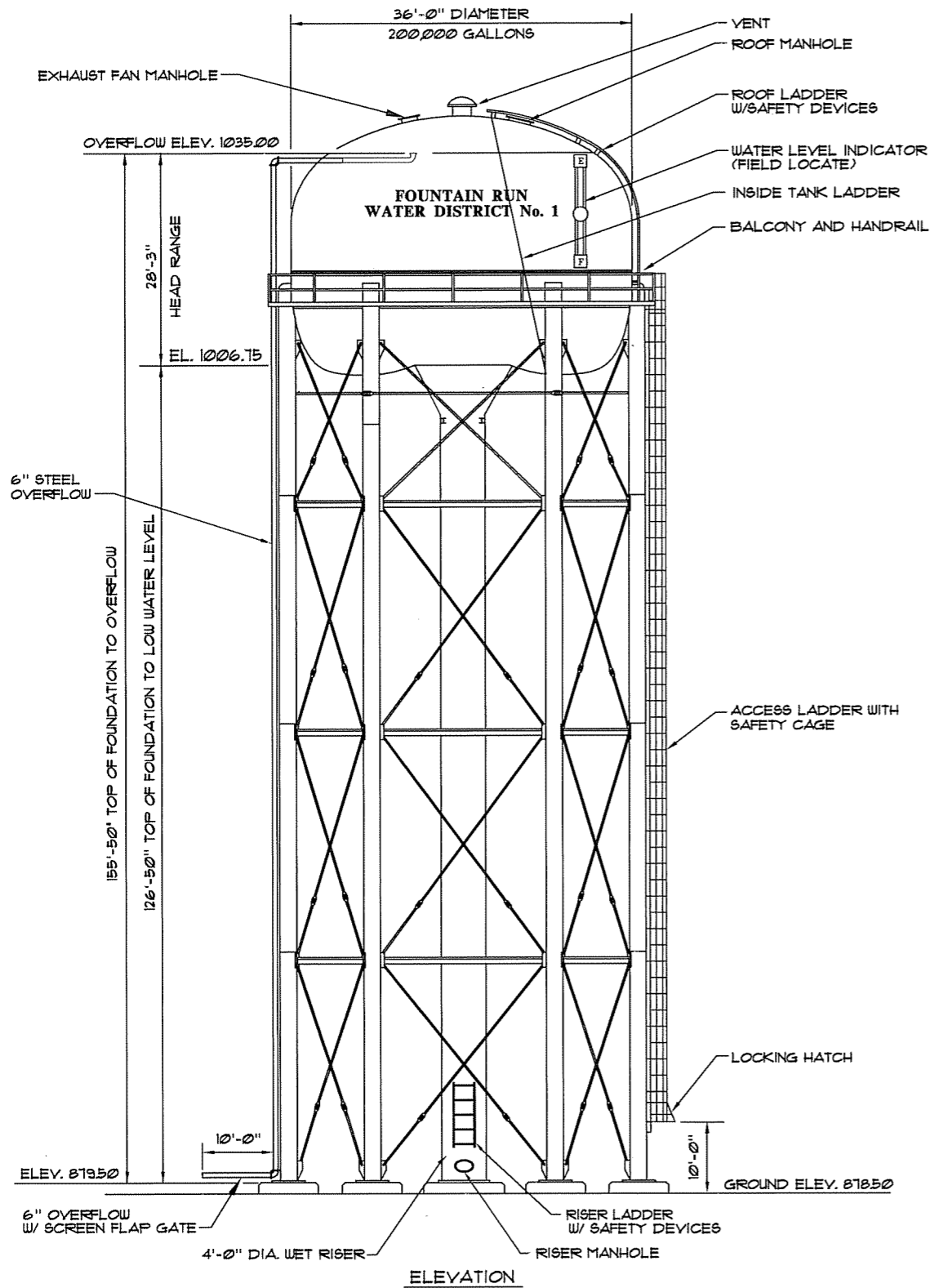
3 HMB CIRCLE  
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(502) 695-9810 FAX

**WATER SYSTEM IMPROVEMENTS  
FOUNTAIN RUN WATER DISTRICT No. 1  
MONROE COUNTY, KENTUCKY**

**GENERAL NOTES / LEGEND / SHEET INDEX /  
TOPOGRAPHIC MAP**

SHEET  
GNI  
OF  
GNI

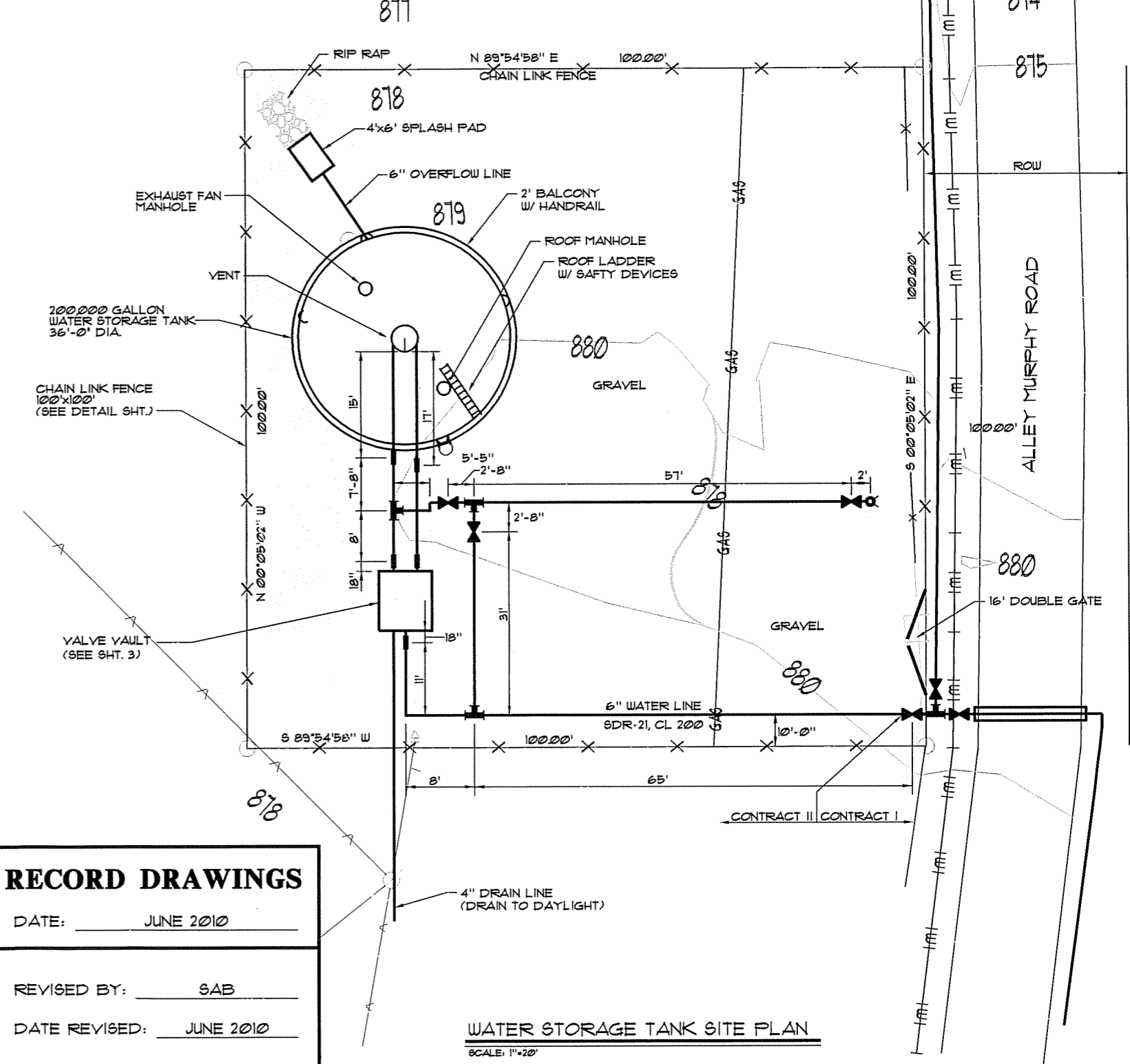
NO.	DATE	REVISIONS	CHK'D	APP'D	DATE



**WATER STORAGE TANK ELEVATION**  
SCALE: N.T.S.

NOTE: SEE SITE PLAN ON THIS SHEET FOR TANK APPURTENANCE LOCATIONS.

- NOTES:
1. THE CONTRACTOR IS RESPONSIBLE FOR FOUNDATION DESIGN. A SUBSURFACE INVESTIGATION REPORT IS INCLUDED IN THE SPECIFICATIONS. ANY DEVIATION FROM THIS REPORT SHALL BE SPECIFICALLY ADDRESSED DURING THE SHOP DRAWING SUBMITTAL PHASE OF THE PROJECT.
  2. TANK APPURTENANCES TO BE FIELD LOCATED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER
  3. THE SITE SHALL BE REGRADED TO ENSURE THAT RUNOFF IS AWAY FROM THE TANK FOUNDATION.



**RECORD DRAWINGS**

DATE: JUNE 2010

REVISED BY: SAB

DATE REVISED: JUNE 2010

**WATER STORAGE TANK SITE PLAN**  
SCALE: 1"=20'

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NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT:	412401	DATE:	8/12/08
SCALE:	AS NOTED	DESIGNED BY:	T&F
		DRAWN BY:	T&F
		CHECKED BY:	JDR
		RECORD DUGS:	



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**WATER SYSTEM IMPROVEMENTS**  
**200,000 GALLON ELEVATED TANK**  
**FOUNTAIN RUN WATER DISTRICT No. 1**

**WATER STORAGE TANK ELEVATION & SITE PLAN**

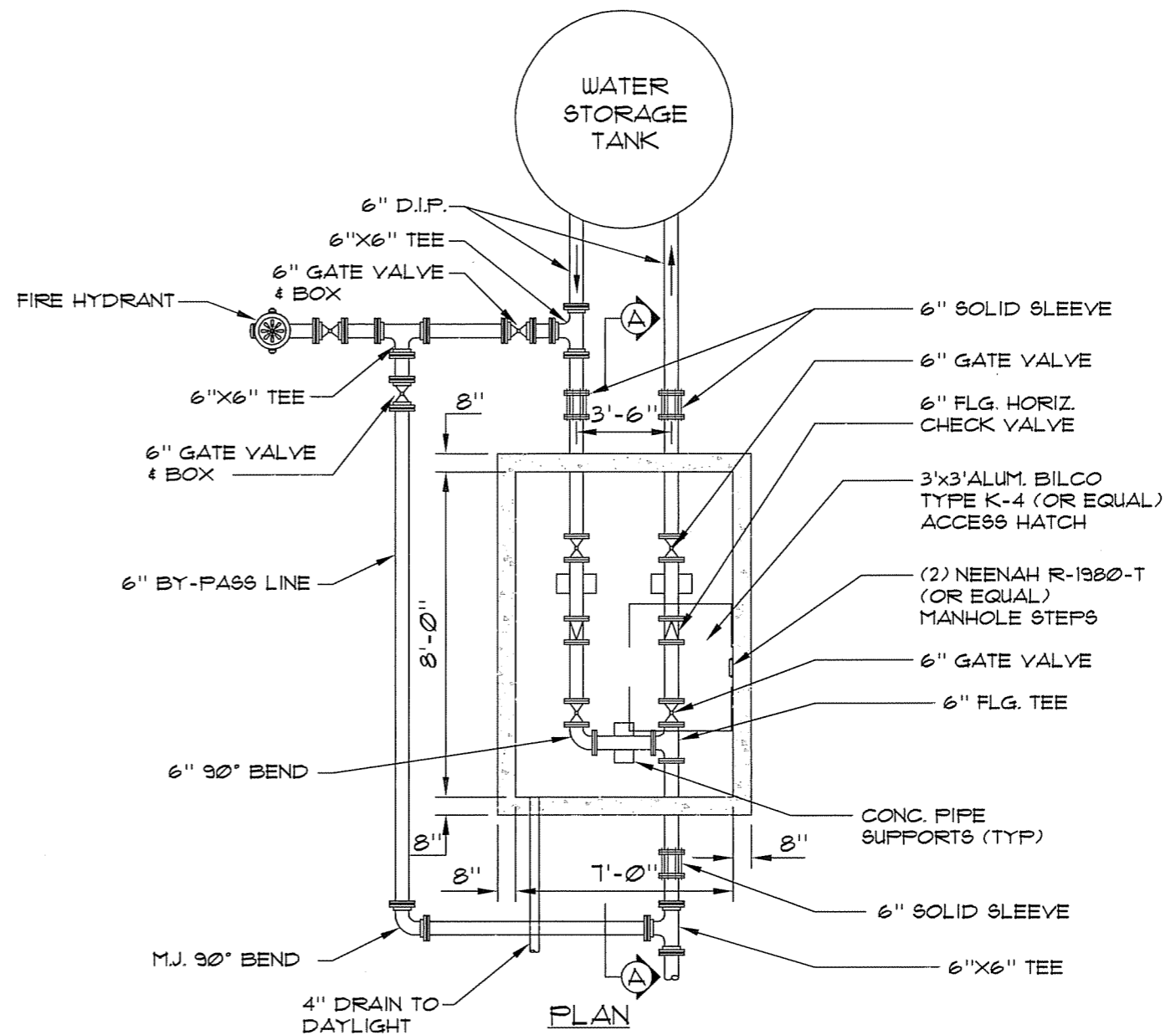
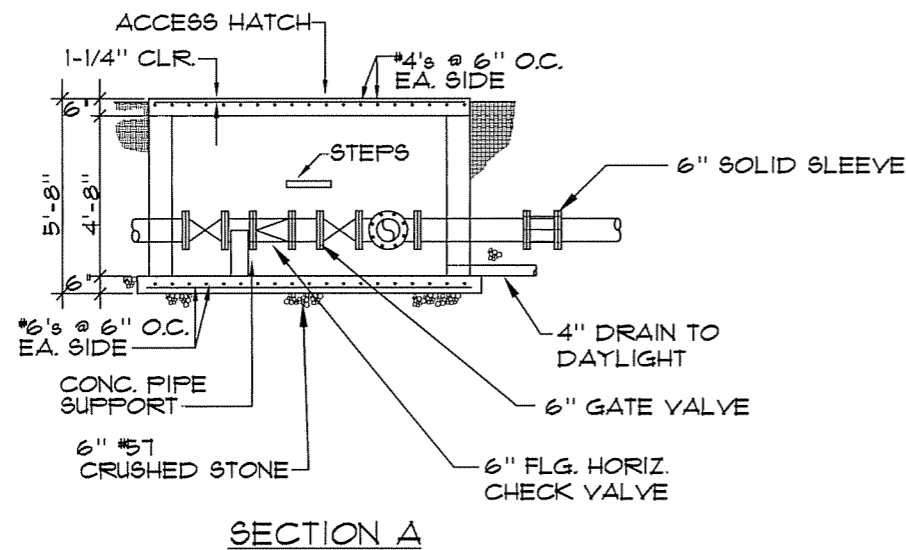
SHEET  
2  
OF  
3

**NOTES:**

CONTRACTOR SHALL PROVIDE FLANGED COUPLING ADAPTER ON ALL THREE PIPES ENTERING AND EXITING VALVE VAULT.

CONTRACTOR SHALL PROVIDE TWO (2) TAPPED CONNECTIONS AND PRESSURE GAUGES FOR SAMPLING ON OUTLET PIPING BETWEEN VAULT WALL AND CHECK VALVE.

ALL PIPING & FITTINGS WITHIN VALVE VAULT SHALL BE FLANGED.



**DETAIL - VALVE VAULT**  
SCALE: N.T.S.

PROJECT: 4124.01 DATE: NOV. 2008  
SCALE: AS NOTED

DESIGNED BY	NAME	DATE
TBF		
DRAWN BY	JH	
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RECORD DWGS.		



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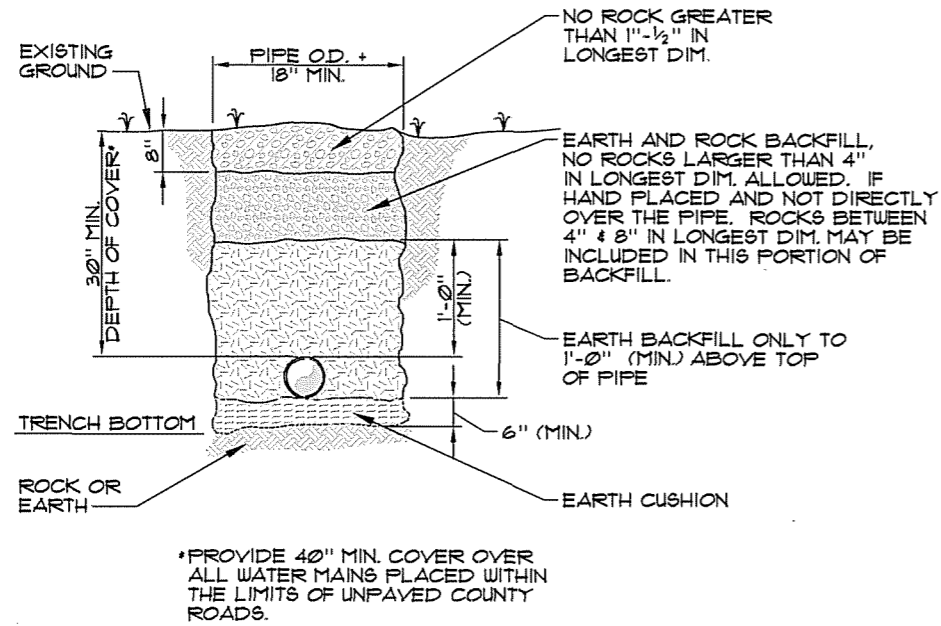
**WATER SYSTEM IMPROVEMENTS**  
**FOUNTAIN RUN WATER DISTRICT No. 1**  
**MONROE COUNTY, KENTUCKY**

**VALVE VAULT**

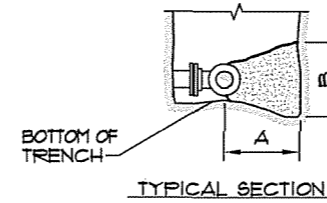
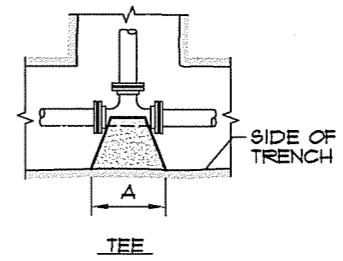
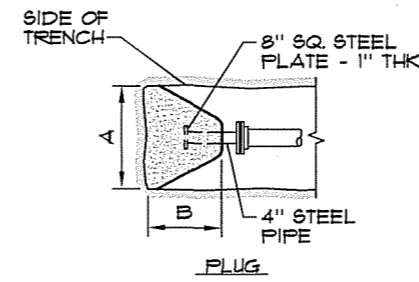
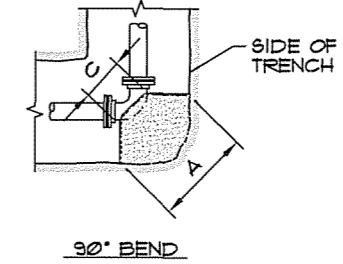
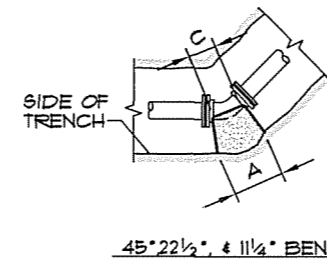
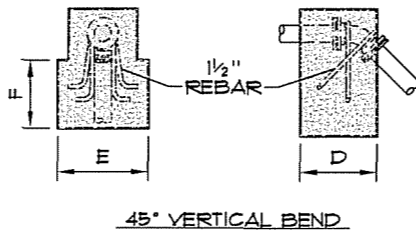
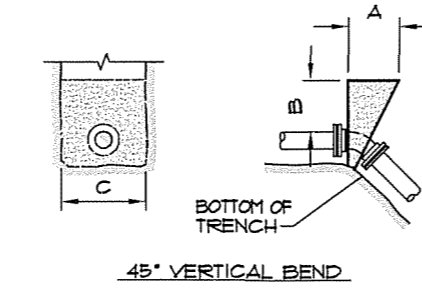
SHEET  
3  
OF  
3

NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE





**BEDDING/BACKFILL**  
SCALE: N.T.S.



**NOTES:**

1. THRUST BLOCKS DESIGNED FOR 100 PSI PRESSURE AND 1000 PFG SOIL BEARING. FOR GREATER PRESSURE OR LESS SOIL BEARING, QUANTITIES WILL HAVE TO BE RECALCULATED.
2. THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
3. IF EXACT SIZE PIPE BLOCKING IS NOT SHOWN, USE NEXT LARGER SIZE.
4. THRUST BLOCKING TO BE POURED IN PLACE CLASS B CONCRETE.

**THRUST BLOCKS**  
SCALE: N.T.S.

90° BEND								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	72	64	50	40	33	26	16	16
B	72	64	50	40	33	24	16	16
C	32	30	16	15	12	12	8	9
D	36	32	25	20	16	12	8	9

45° BEND								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	54	48	37	31	24	18	12	12
B	54	48	37	31	24	18	12	12
C	16	18	16	14	12	12	8	8
D	25	22	18	15	12	9	6	6

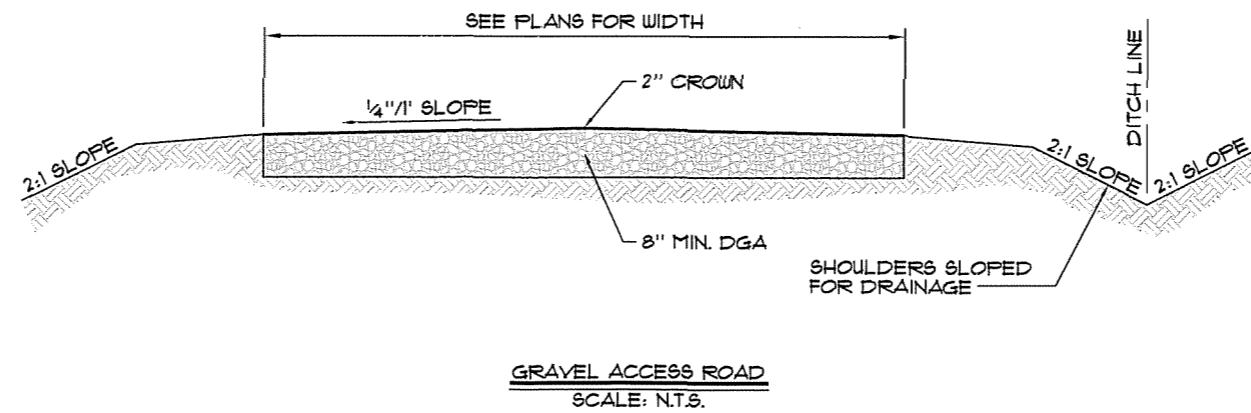
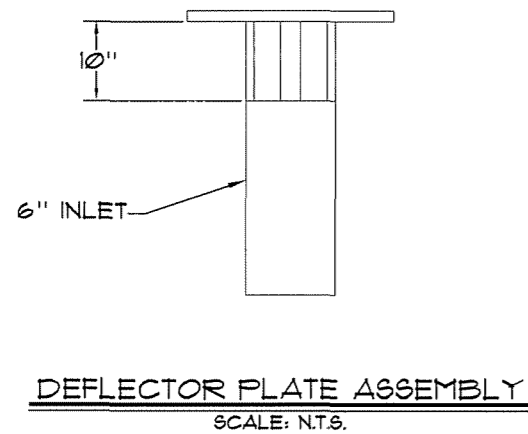
22 1/2° BEND								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	38	34	26	23	18	13	9	9
B	38	34	26	23	18	13	9	9
C	16	18	16	14	12	10	8	8
D	18	16	13	11	9	6	4	4

11 1/4° BEND								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	27	24	18	16	13	11	9	9
B	27	24	18	16	13	11	9	9
C	16	18	16	14	12	10	8	8
D	14	12	9	8	6	5	4	4

PLUG								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	60	54	52	43	34	26	26	26
B	60	54	52	43	34	26	26	26
C	12	12	12	12	12	12	12	12
D	54	44	32	22	15	11	11	11

TEE								
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	60	54	52	42	26	43	26	26
B	60	54	52	43	26	43	26	26
C	32	30	12	12	12	12	12	12
D	36	30	26	21	13	21	13	13

DIMENSIONS ARE IN INCHES



**RECORD DRAWINGS**

DATE: JUNE 2010

REVISED BY: SAB

DATE REVISED: JUNE 2010

NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT: 4124.01	DATE: 8/12/08	
SCALE: AS NOTED		
DESIGNED BY	NAME	DATE
DRAWN BY	JH	
CHECKED BY	JDR	
RECORD DWGS.		



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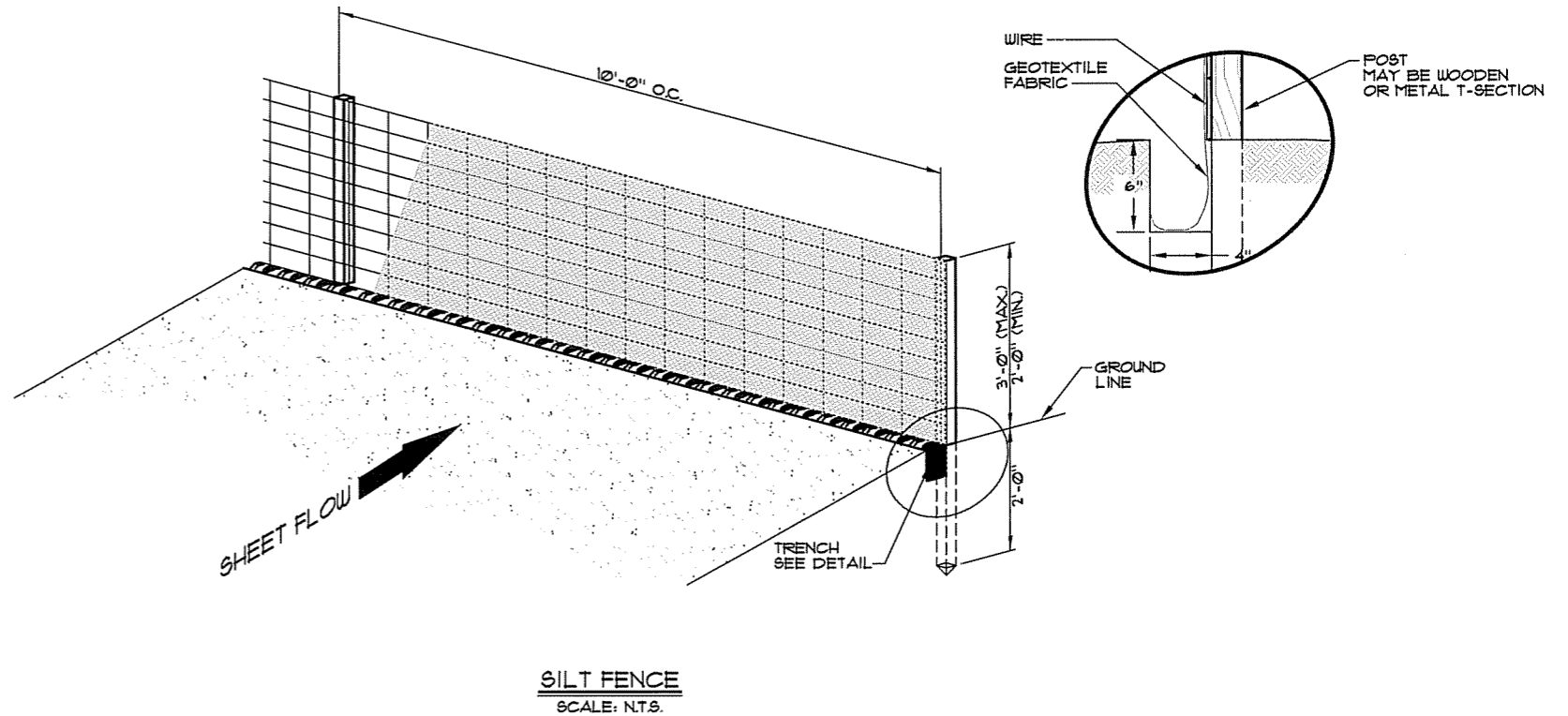
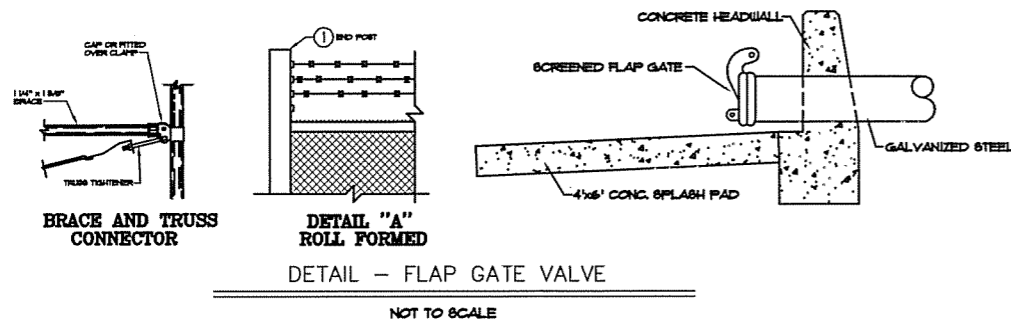
**WATER SYSTEM IMPROVEMENTS**  
**200,000 GALLON ELEVATED TANK**  
**FOUNTAIN RUN WATER DISTRICT No. 1**

STANDARD DETAILS

SHEET  
SD1  
OF  
SD3

**LEGEND / (ALTERNATES)**

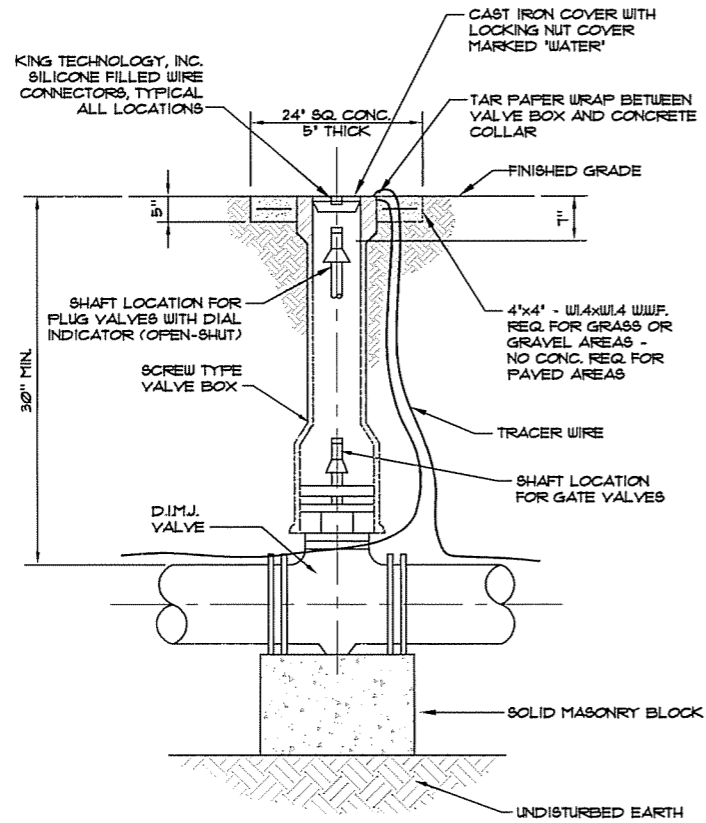
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① 3" NPS END POST	3 1/2" X 3 1/2" END POST
② 2 1/2" NPS LINE POST	2 1/4" H-COL. LINE POST
③ 3/8" DIA. TRUSS ROD AND TIGHTNER	3/8" DIA. TRUSS ROD AND TIGHTNER
④ BARBED WIRE ARMS	BARBED WIRE ARMS
⑤ 1 1/4" NPS TOP RAIL & BRACE	1 1/4" X 1 5/8" TOP RAIL & BRACE
⑥ BARBED WIRE	BARBED WIRE
⑦ FLAT TENSION BAR	NOT REQUIRED
⑧ BRACE BAND AND TENSION BAND	NOT REQUIRED



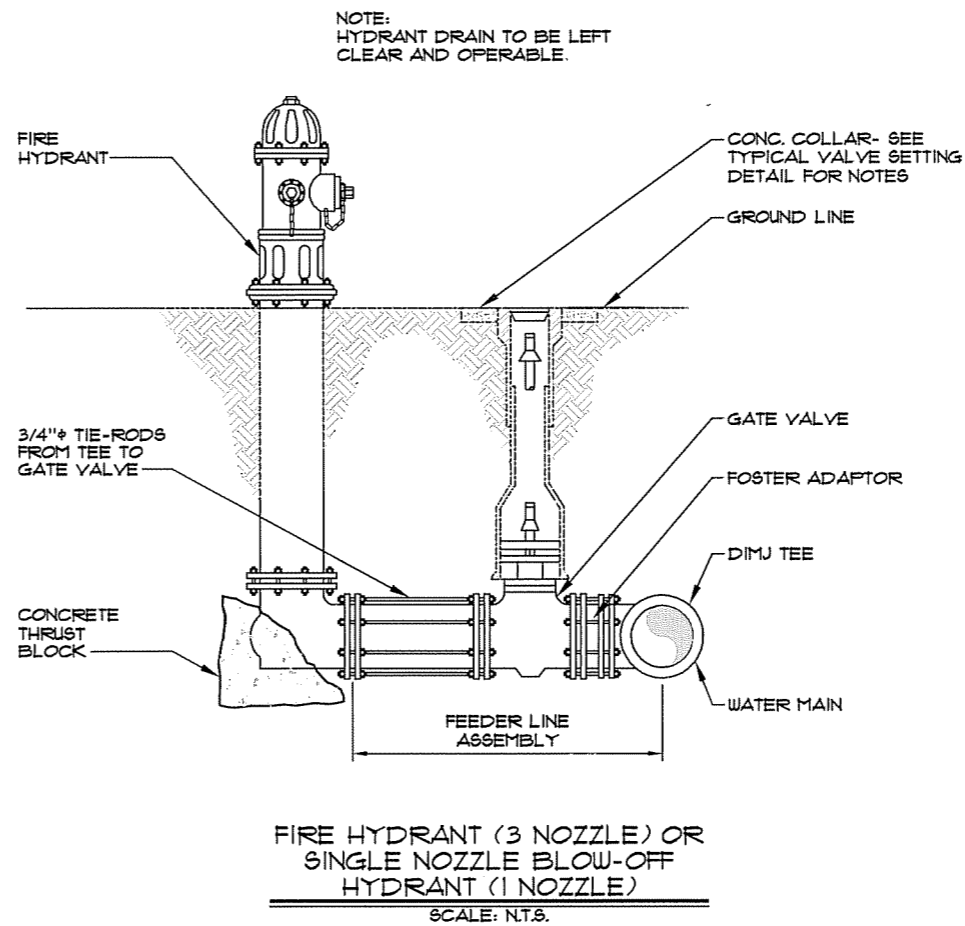
**DETAIL - FLAP GATE VALVE**

NOT TO SCALE

**SILT FENCE**  
SCALE: N.T.S.



**VALVE & VALVE BOX**  
SCALE: N.T.S.



**FIRE HYDRANT (3 NOZZLE) OR  
SINGLE NOZZLE BLOW-OFF  
HYDRANT (1 NOZZLE)**  
SCALE: N.T.S.

<b>RECORD DRAWINGS</b>	
DATE: _____	JUNE 2010
REVISED BY: _____	SAB
DATE REVISED: _____	JUNE 2010

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NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT: 4124.01	DATE: 6/12/08
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DESIGNED BY: TGF	NAME: TGF
DRAWN BY: JH	NAME: JH
CHECKED BY: JDR	NAME: JDR
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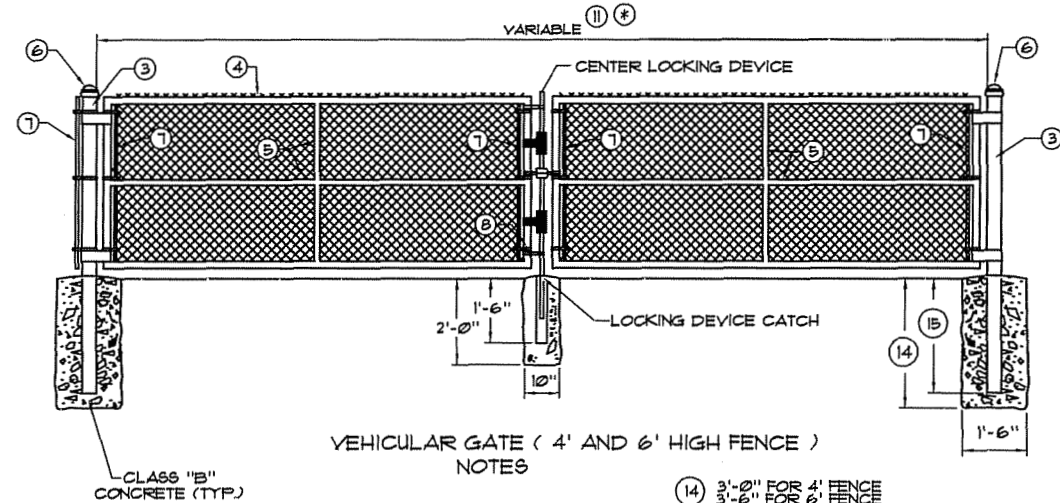
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**WATER SYSTEM IMPROVEMENTS  
200,000 GALLON ELEVATED TANK  
FOUNTAIN RUN WATER DISTRICT No. 1**

**STANDARD DETAILS**

SHEET  
SD2  
OF  
SD3

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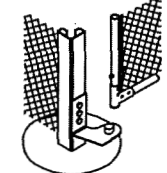


VEHICULAR GATE ( 4' AND 6' HIGH FENCE )  
NOTES

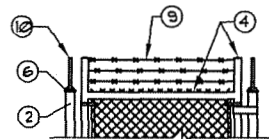
- (14) 3'-0" FOR 4' FENCE  
3'-6" FOR 6' FENCE
- (15) 2'-6" FOR 4' FENCE  
3'-0" FOR 6' FENCE

ALL POST SHALL BE SET IN CONCRETE TO THE DIMENSIONS AS INDICATED ON THIS DRAWING.  
VEHICULAR AND PEDESTRIAN GATES SHALL HAVE HEAVY PRESSED STEEL CORNERS SECURELY RIVETED OR SHALL BE MACHINE NOTCHED, AND ELECTRICALLY WELDED SO AS TO BE RIGID AND WATER TIGHT AND EQUIPPED WITH PADLOCKING DEVICE AND GROUND STOP.  
ALL WELDED JOINTS SHALL BE CLEANED AND PAINTED WITH TWO ( 2 ) COATS OF ALUMINUM PAINT.  
4' HIGH GATES SHALL HAVE 4' FABRIC HEIGHT. 6' HIGH GATES SHALL HAVE 6' FABRIC HEIGHT.  
(\*) 8' HIGH GATES SHALL HAVE 7' FABRIC HEIGHT. 9' HIGH GATES SHALL HAVE 8' FABRIC HEIGHT.  
10' HIGH GATES SHALL HAVE 9' FABRIC HEIGHT. 11' HIGH GATES SHALL HAVE 10' FABRIC HEIGHT.  
12' HIGH GATES SHALL HAVE 11' FABRIC HEIGHT.  
BARBED WIRE IS REQUIRED ON 8' TO 12' HIGH GATES. SEE DETAIL 'A' AND 'B' FOR INSTALLATION.

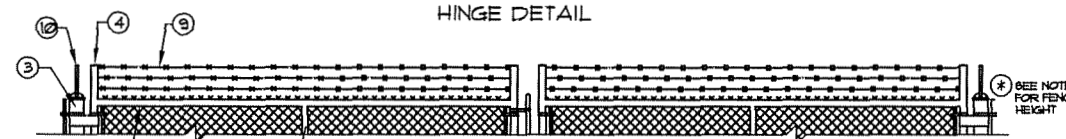
NPS = NOMINAL PIPE SIZE - ASTM F1083 AND ASTM F1043 (HEAVY INDUSTRIAL FENCE) SHALL GOVERN.  
ALL FENCE FITTINGS SHALL COMPLY WITH ASTM F 626.  
(11) 6' TO 13' WIDTH FOR SINGLE GATE OR 12' TO 26' WIDTH FOR DOUBLE GATE.  
(12) 4' TO 6' WIDTH.  
THE CONTRACT UNIT PRICE FOR CHAIN LINK GATES SHALL BE:  
(11) FEET WIDE SINGLE VEHICULAR CHAIN LINK GATE (13) HIGH.  
(11) 16' FEET WIDE DOUBLE VEHICULAR CHAIN LINK GATE (13) 8' HIGH.  
(12) FEET WIDE PEDESTRIAN CHAIN LINK GATE (13) HIGH.  
(13) AS SHOWN ON PLANS.



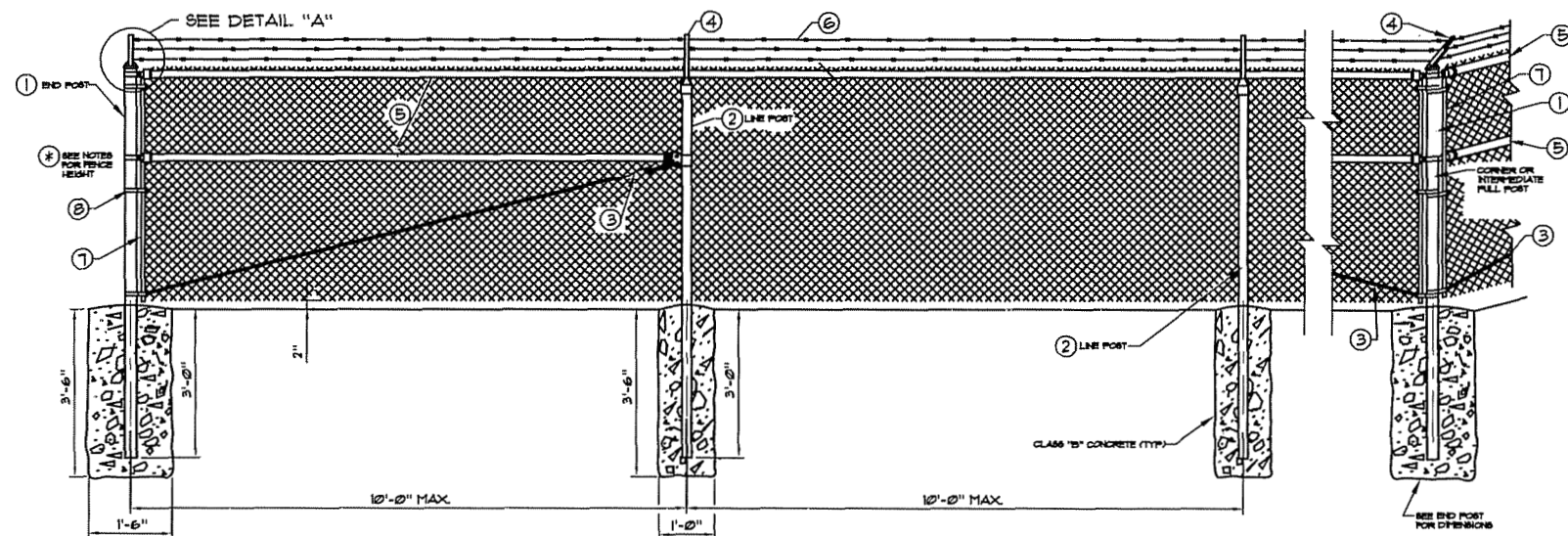
ROLL FORMED HINGE DETAIL



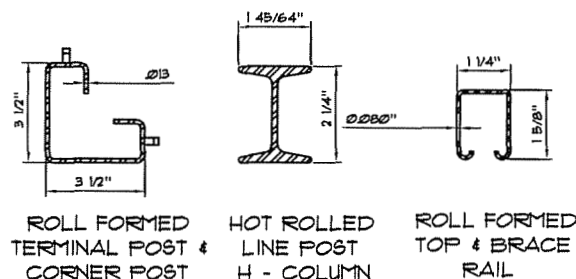
DETAIL "A"  
( 8' TO 12' HIGH FENCE )



DETAIL "B"  
( 8' TO 12' HIGH FENCE )



φ NOTES φ



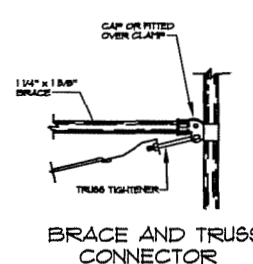
ROLL FORMED TERMINAL POST & CORNER POST  
HOT ROLLED LINE POST H - COLUMN  
ROLL FORMED TOP & BRACE RAIL

CONSTRUCTION REQUIREMENT:  
ALL POSTS SHALL BE SET IN CONCRETE TO THE DIMENSIONS SHOWN ON THIS DRAWING.  
A, 1 1/4" NPS OR A 1 1/4" x 1 5/8" ROLL FORMED SECTION, BOTTOM RAIL SHALL BE REQUIRED AROUND ALL UTILITY INSTALLATIONS AND AT OTHER LOCATIONS DESIGNATED BY THE ENGINEER.  
MATERIALS:  
(\*) 8' HIGH FENCE SHALL HAVE 7' FABRIC HEIGHT. 9' HIGH FENCE SHALL HAVE 8' FABRIC HEIGHT.  
10' HIGH FENCE SHALL HAVE 9' FABRIC HEIGHT. 11' HIGH FENCE SHALL HAVE 10' FABRIC HEIGHT.  
12' HIGH FENCE SHALL HAVE 11' FABRIC HEIGHT.  
ALL FENCE FITTINGS SHALL COMPLY WITH ASTM F 626.  
POST CAPS AND SOCKET TYPE BRACE END CONNECTION SHALL BE GALVANIZED PRESSED STEEL, CAST IRON OR OTHER TYPE AS APPROVED BY THE ENGINEER. THEY SHALL BE DESIGNED IN A MANNER TO EXCLUDE MOISTURE FROM INSIDE THE POSTS AND RAILS.  
NPS = NOMINAL PIPE SIZE - ASTM F1083 AND F1043 (HEAVY INDUSTRIAL FENCE) SHALL GOVERN.

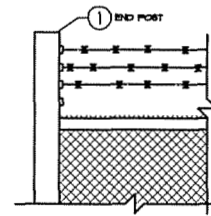
CHAIN LINK FENCE  
SCALE: NTS.

LEGEND / (ALTERNATES)

TUBULAR	ROLL FORMED
(1) 3" NPS END POST	3 1/2" X 3 1/2" END POST
(2) 2 1/2" NPS LINE POST	2 1/4" H-COL. LINE POST
(3) 3/8" DIA. TRUSS ROD AND TIGHTNER	3/8" DIA. TRUSS ROD AND TIGHTNER
(4) BARBED WIRE ARMS	BARBED WIRE ARMS
(5) 1 1/4" NPS TOP RAIL & BRACE	1 1/4" X 1 5/8" TOP RAIL & BRACE
(6) BARBED WIRE	BARBED WIRE
(7) FLAT TENSION BAR	NOT REQUIRED
(8) BRACE BAND AND TENSION BAND	NOT REQUIRED



BRACE AND TRUSS CONNECTOR



DETAIL "A" ROLL FORMED

**RECORD DRAWINGS**

DATE: JUNE 2010

REVISED BY: SAB

DATE REVISED: JUNE 2010

PROJECT: 4124.01 DATE: 8/12/08  
SCALE: AS NOTED

DESIGNED BY	NAME	DATE
TBF		
DRAWN BY	JH	
CHECKED BY	JDR	
RECORD DWGS.		



3 HMB CIRCLE  
FRANKFORT, KENTUCKY  
(502) 695-9800  
(502) 695-9810 FAX

WATER SYSTEM IMPROVEMENTS  
200,000 GALLON ELEVATED TANK  
FOUNTAIN RUN WATER DISTRICT No. 1

STANDARD DETAILS

SHEET  
SD3  
OF  
SD3