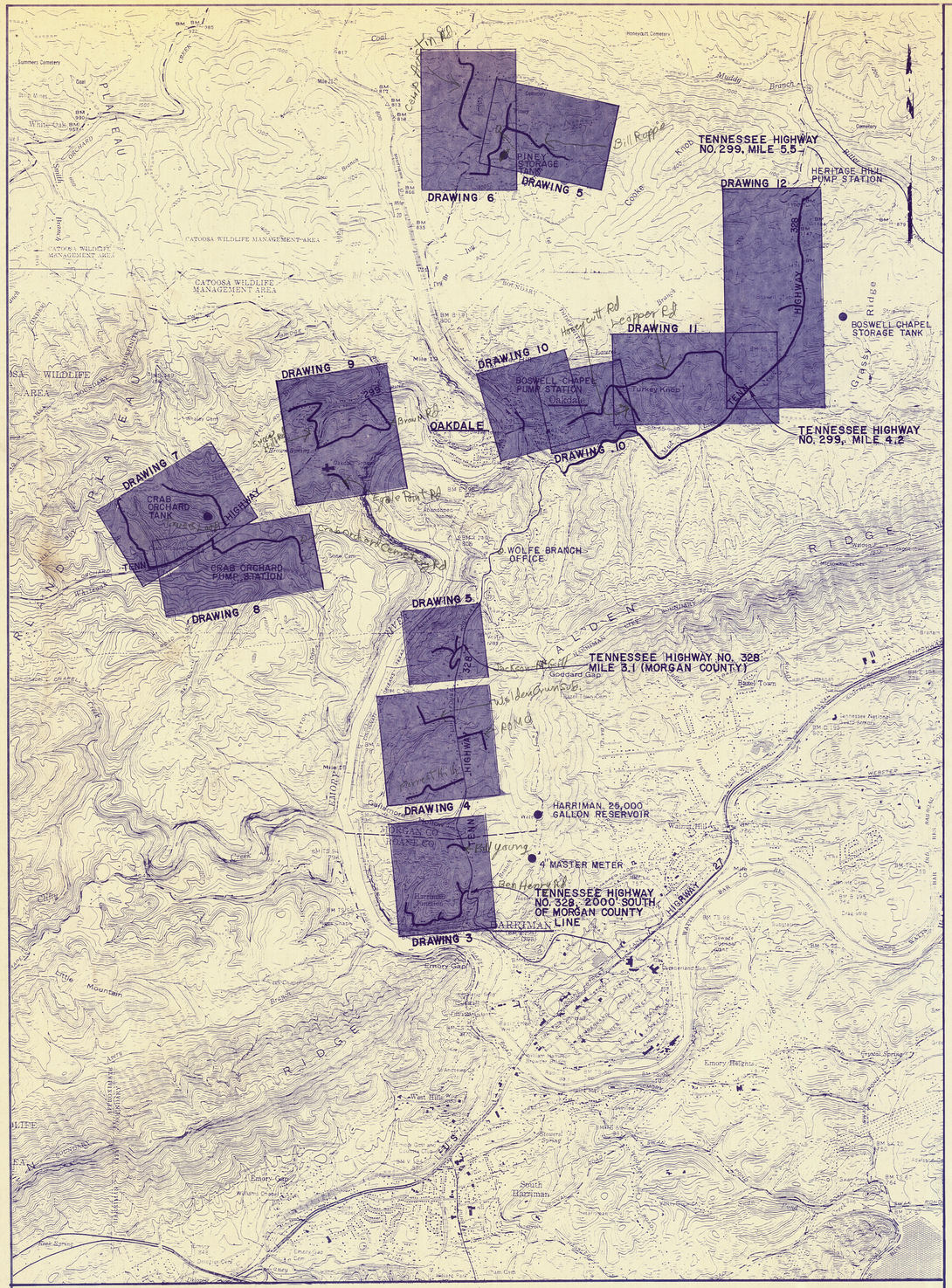

SCALE: 1"=2000'

GENERAL NOTES (APPLY TO ALL DRAWINGS)

1. 48 Hours prior to construction in each area, the Contractor shall notify appropriate utility companies or their agents, such as:
   a. Tennessee One Call: 1-800-351-1111
   b. TDOT
   c. Norfolk Southern Railroad
2. Exact location of existing water lines, culverts, and other utilities is shown as approximate only and may vary.
3. The Contractor shall locate all water, gas, telephone, storm drainage, and other underground utilities, before proceeding with any trench excavation for pipe lines so that water lines to be installed may be located with the least conflict with existing utilities as determined by the Engineer.
4. Contractor shall immediately repair or replace any existing utility lines which are damaged during construction. Existing water service shall remain uninterrupted during construction.
5. Contractor shall reconnect existing service lines to new water lines. Payment will be included in the unit price for installation of service line.
6. Existing water lines shall remain in service unless otherwise noted on the drawings or as directed by the Engineer.
7. No additional payment shall be allowed for water lines required to be buried deeper than that for normal cover. Payment shall be included in unit price bid for pipe.
8. All sod, shrubs, flowers, plantings, walls, driveways, etc., damaged during construction shall be replaced to as near original condition as possible at Contractor's expense. Grassed areas shall be restored to prior conditions in the following manner: Areas less than 3:1 slope shall be reseeded and mulched with grasses or ground cover as outlined in the specifications. Areas greater than 3:1 slope shall be reseeded and mulched with a fabric material as outlined in the specifications. No separate payment shall be made for this work.
9. Where lines cross under curbs, they shall be tunneled under the curb. No separate payment will be allowed for repairing curbs damaged or destroyed during water line construction.
10. Unnecessary destruction of trees along water line installation will not be permitted. All reasonable efforts will be made by the Contractor to protect and safeguard trees.
11. Any existing fences, rock walls, guardrails, etc., along the water line right-of-way are to be removed and reinstalled in their original condition (or better). No separate payment will be allowed.
12. No separate payment shall be allowed for diversion of water in ditches or creek.
13. When blasting for excavation of work, adequate precautions shall be used to prevent damage to surrounding property.
14. Class A concrete shall be 4,000 psi minimum strength concrete containing not less than 6.2 sacks of cement per yard of concrete with a 1" maximum aggregate size and a water/cement ratio of not more than 5.5 gallons per sack of cement.
15. Class B concrete shall be 3,000 psi minimum strength concrete containing not less than 5.9 sacks of cement per yard of concrete with a 1" maximum aggregate size and a water/cement ratio of not more than 7 gallons per sack of cement.
16. Reinforcing steel shall be ASTM A615, Grade 60. Welded wire fabric shall be ASTM A185 with ASTM A82 cold-drawn wire. Submit reinforcing steel shop drawings to Owner.
17. Compacted backfill shall be fine, sound, loose earth free from all wood, vegetable matter, debris, and other objectionable material, and having scattered clods, stones, or broken concrete less than 2" maximum dimension. Backfill shall contain optimum moisture content for compaction to 95 percent of maximum density as determined by AASHTO T-99, Method A.

JEROME D. HIGHTOWER — REGISTERED ENGINEER — 11411 — STATE OF TENNESSEE

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
1		
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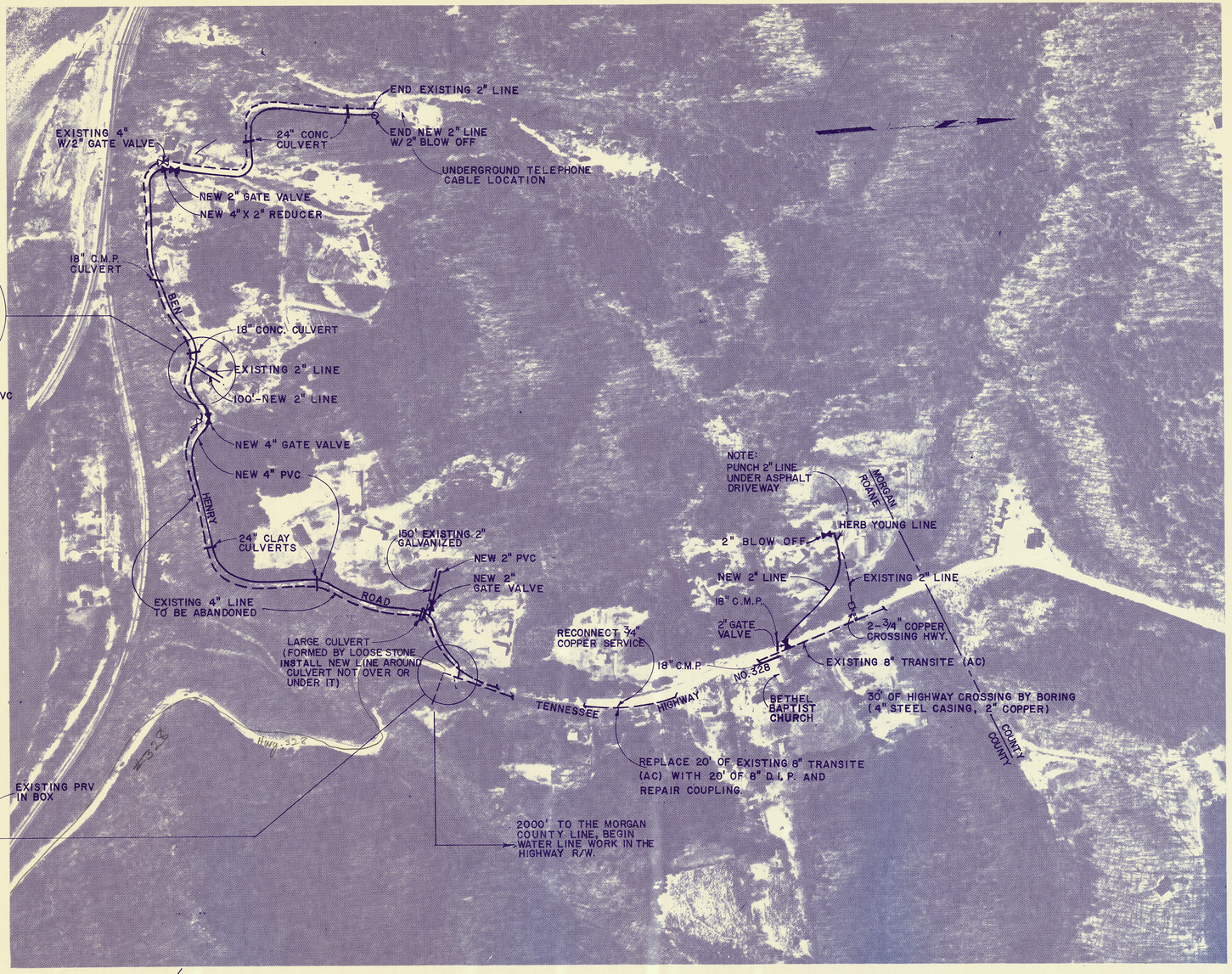
CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

DSGN: DH 9/91
DRWN:
CHK'D:
APPR:

OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS

GENERAL PLAN

DRAWING NO. 91017-3-2.1



SCALE 1" = 200'

NOTE:
CONTRACTOR SHALL BE responsible FOR DAMAGE TO T.D.O.T. PAVING.

LEGEND

	NEW	EXISTING
NEW WATER LINES		
EXISTING WATER LINES		
GATE VALVE		
AIR RELEASE VALVE		
PRESSURE REDUCING VALVE		
REDUCER		

JEROME D. HIGHTOWER REGISTERED ENGINEER No. 11411 STATE OF TENNESSEE

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
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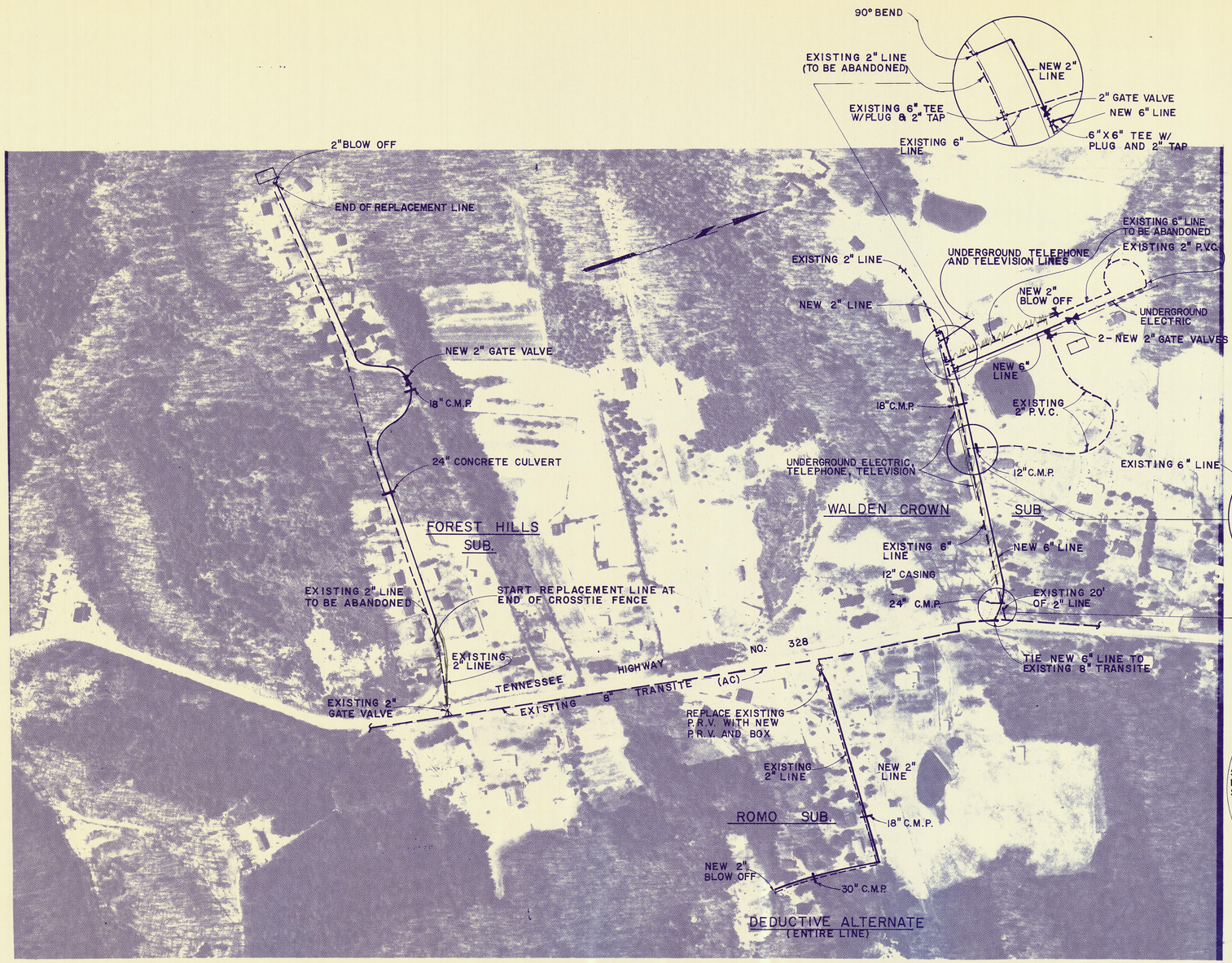
CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

DSGN: JDH 5/81
DRWN:
CHK'D:
APPR:

OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS PHASE 3

BEN HENRY ROAD
TENNESSEE HIGHWAY NO. 328
HERB YOUNG LINE

DRAWING NO. 9101 3 - S



SCALE: 1" = 200'

LEGEND

	NEW	EXISTING
NEW WATER LINES		
EXISTING WATER LINES		
GATE VALVE		
AIR RELEASE VALVE		
PRESSURE REDUCING VALVE		
REDUCER		

JEROME D. HIGHTOWER — REGISTERED ENGINEER — STATE OF TENNESSEE

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
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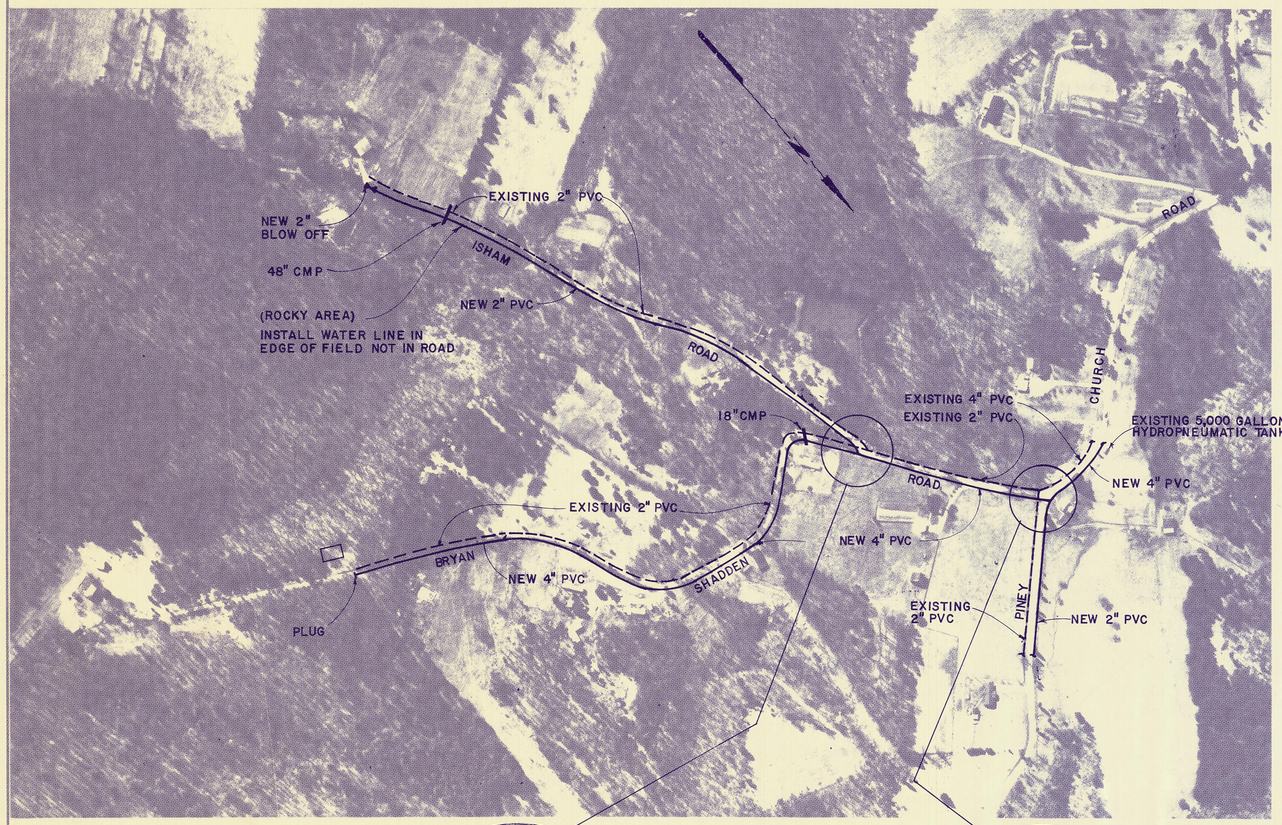
CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

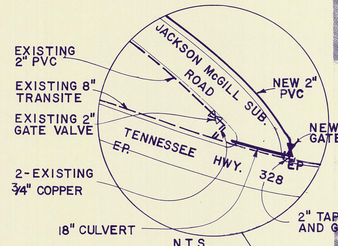
DSGN:	JDH	5-81
DRWN:		
CHK'D:		
APPR:		

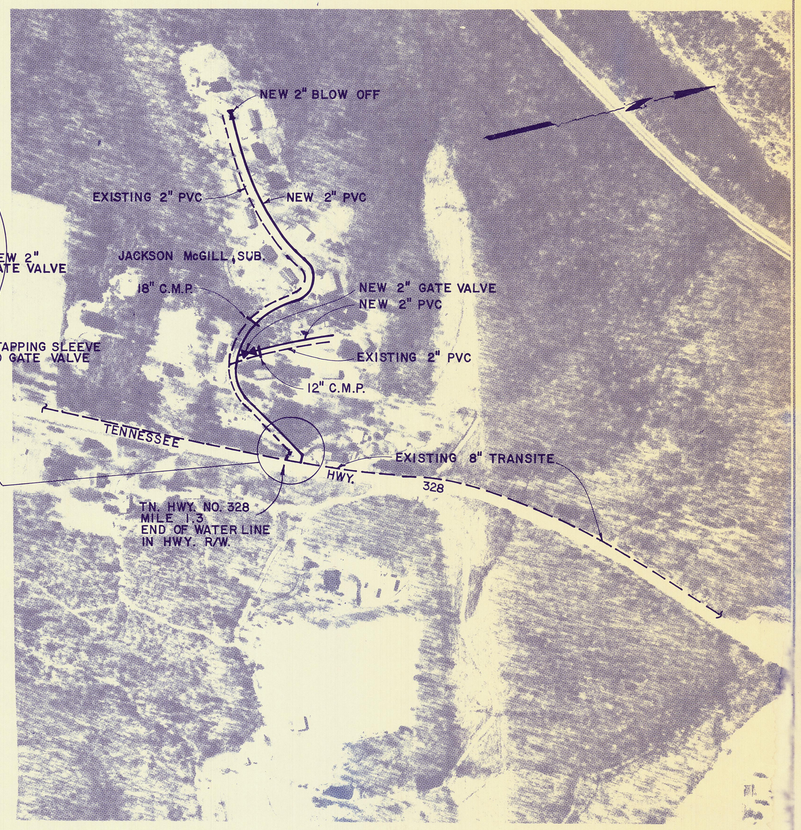
OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS PHASE 3

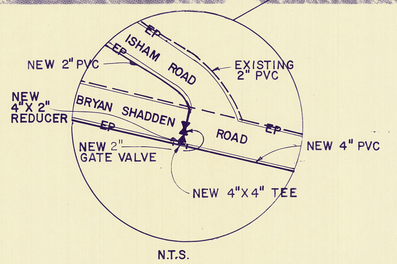
WALDEN CROWN SUB.
FORREST HILLS SUB.
ROMO SUBDIVISION ROAD

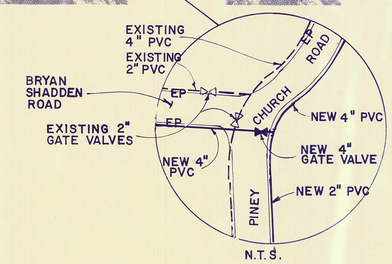
DWG. NO. 9017-S-4.1











SCALE: 1" = 200'

LEGEND

- NEW WATER LINES
- EXISTING WATER LINES
- GATE VALVE (NEW / EXISTING)
- AIR RELEASE VALVE
- PRESSURE REDUCING VALVE
- REDUCER

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
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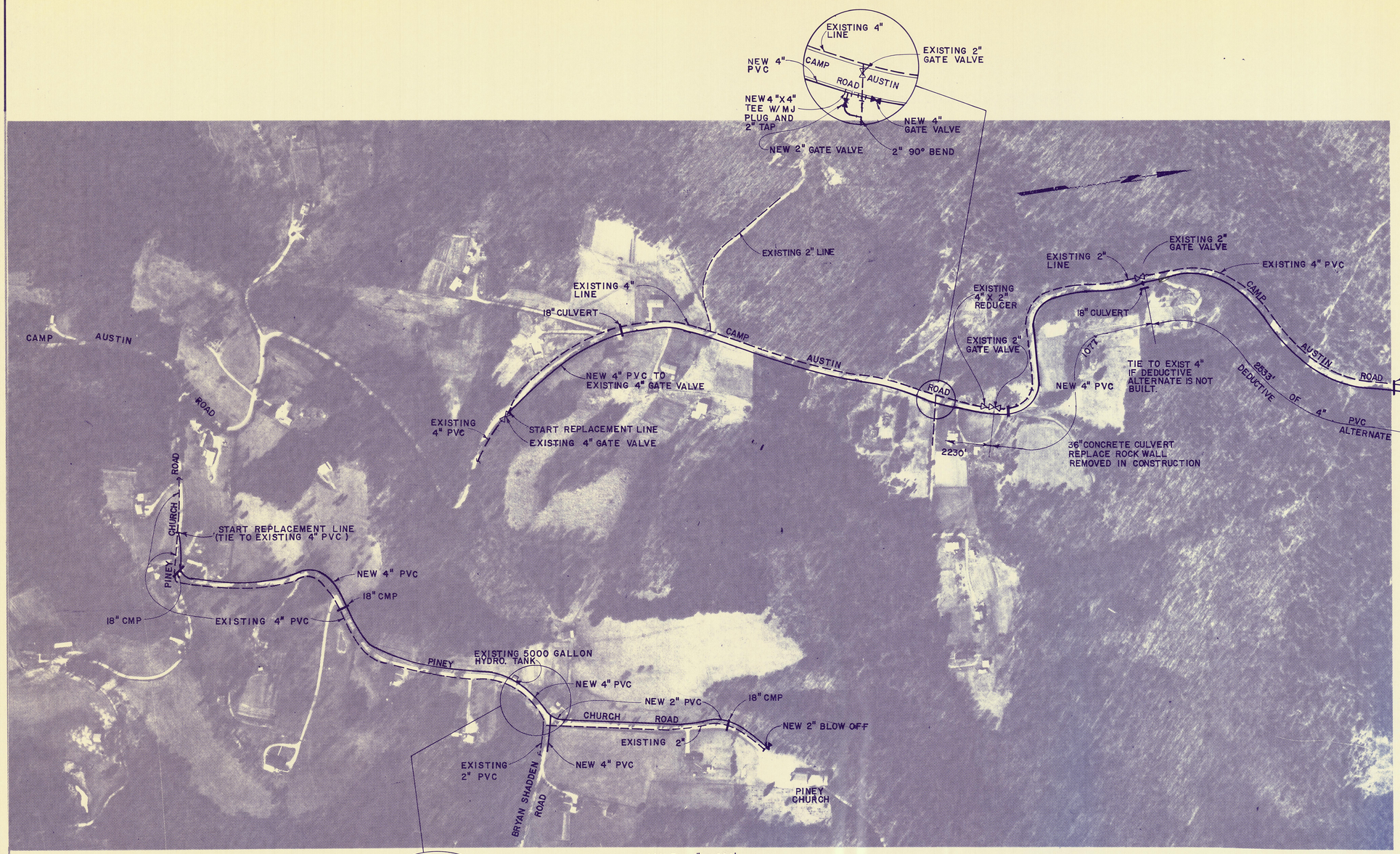
CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

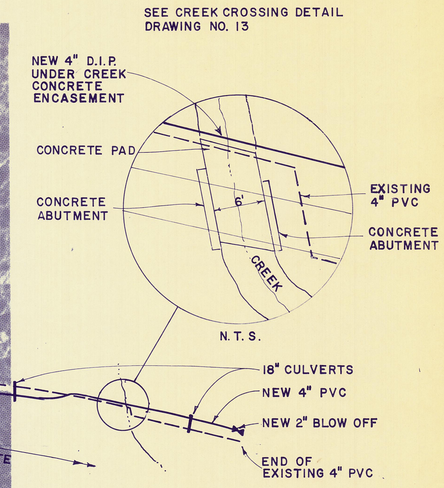
DSGN:	JDH	5-87
DRWN:		
CHK'D:		
APPR:		

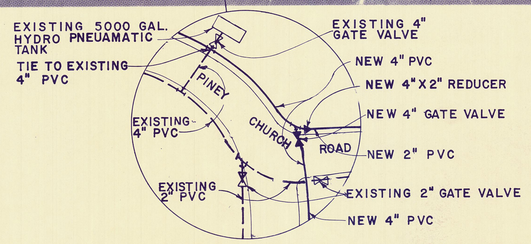
OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS PHASE 3

JACKSON McGILL SUBDIVISION
BRYAN SHADDEN ROAD

DRAWING NO. 91017-3-5.1







SCALE: 1" = 200'

JEROME D. HIGHTOWER
REGISTERED ENGINEER
No. 11411
STATE OF TENNESSEE

LEGEND

NEW WATER LINES	
EXISTING WATER LINES	
GATE VALVE	NEW / EXISTING
AIR RELEASE VALVE	
PRESSURE REDUCING VALVE	
REDUCER	

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
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CTI CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

DSGN:	JDH	9/91
DRWN:		
CHK'D:		
APPR:		

OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS PHASE 3

CAMP AUSTIN ROAD
NEW PINEY TANK TO CHURCH

DRAWING NO. 91017-3-6.1

HIGHWAY ENCROACHMENT NOTE

LINE IS TO BE INSTALLED APPROXIMATELY 4' FROM EDGE OF PAVEMENT. CONTRACTOR IS RESPONSIBLE FOR:

1. PROTECTION OF PAVEMENT FROM ANY DAMAGE.
2. ADEQUATE TRAFFIC CONTROL, SIGNAGE AND FLAGMEN IN ACCORDANCE WITH TDOT REGULATIONS.
3. NOTIFICATION OF TDOT AND OTHER AUTHORITIES 2 DAYS PRIOR TO START OF THIS WORK.

LEGEND

	NEW	EXISTING
NEW WATER LINES		
EXISTING WATER LINES		
GATE VALVE		
AIR RELEASE VALVE		
PRESSURE REDUCING VALVE		
REDUCER		

JEROME D. HIGHTOWER REGISTERED ENGINEER No. 17411 STATE OF TENNESSEE

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
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CONSOLIDATED TECHNOLOGIES, INC. ENGINEERS IN WATER AND EARTH SCIENCES CHATTANOOGA, TENNESSEE

DSGN:	J.D.H.	9/91
DRWN:	BRD/GR-CCF	9/91
CHK'D:		
APPR:		

OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS PHASE 3

CRAB ORCHARD PUMP STATION
POWERS LOOP ROAD

DRAWING NO. 91017-3-7.1

POWERS LOOP ROAD

NEW 2" PVC

CRAB ORCHARD CEMETERY ROAD

EXISTING 2" GATE VALVE

SEXTON LOOP

CRAB ORCHARD PUMP STATION

EXISTING 2" PVC

EXISTING 4" PVC

NEW 2" PVC

TN. HWY. 299

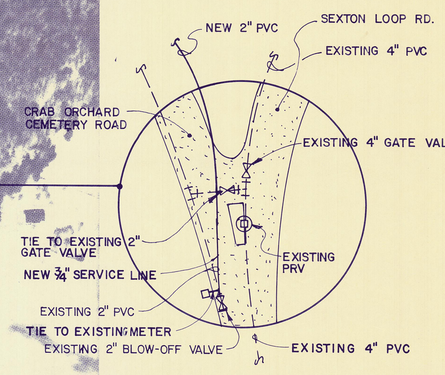
NEW 6" PVC (SEE DWG. NO. 7)

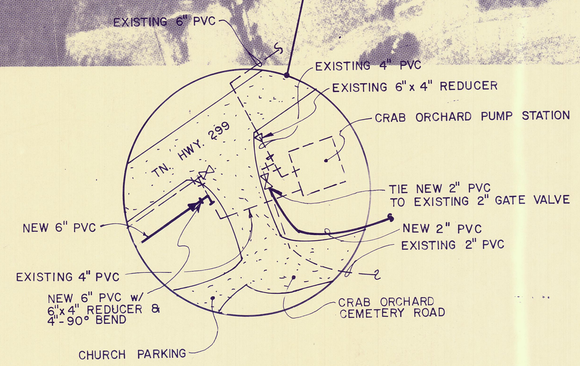
SEXTON LOOP

TIE TO EXISTING 2" PVC @ EXISTING GATE VALVE

EXISTING 2" PVC & GATE VALVE

EXISTING 4" PVC





SCALE: 1" = 200'

JEROME D. HIGHTOWER — REGISTERED ENGINEER — No. 11441 — STATE OF TENNESSEE

LEGEND

	NEW	EXISTING
NEW WATER LINES		
EXISTING WATER LINES		
GATE VALVE		
AIR RELEASE VALVE		
PRESSURE REDUCING VALVE		
REDUCER		

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
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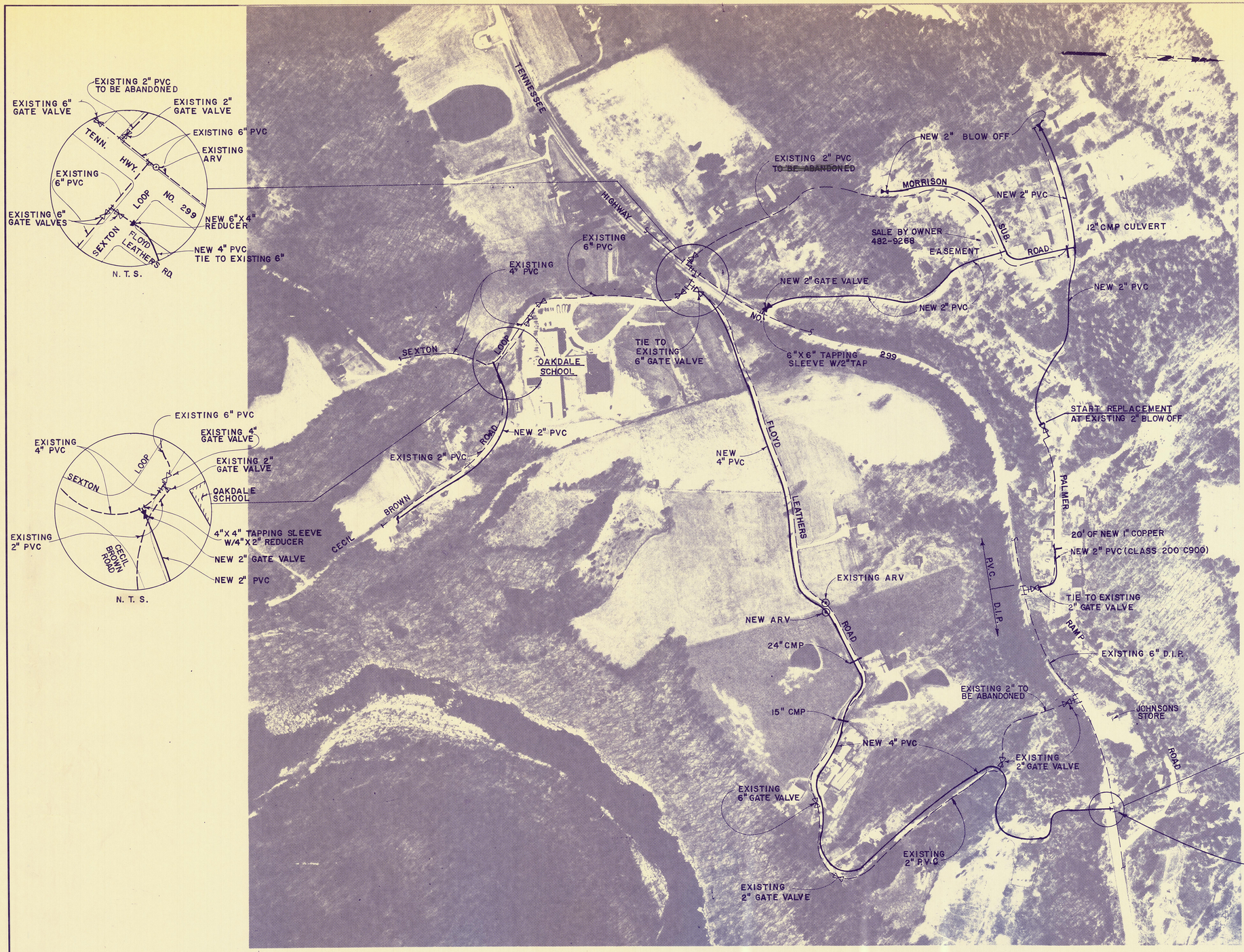
CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

DSGN:	J.D.H.	9/91
DRWN:	BRD/GR-COE	9/91
CHK'D:		
APPR:		

OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS PHASE 3

CRAB ORCHARD CEMETERY ROAD
ALBERT RAMSEY LINE

DRAWING NO. 91017-3-8.1



SCALE- 1" = 200'

JEROME D. HIGHTOWER REGISTERED ENGINEER No. 17371 STATE OF TENNESSEE

LEGEND

	NEW	EXISTING
NEW WATER LINES		
EXISTING WATER LINES		
GATE VALVE		
AIR RELEASE VALVE		
PRESSURE REDUCING VALVE		
REDUCER		

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
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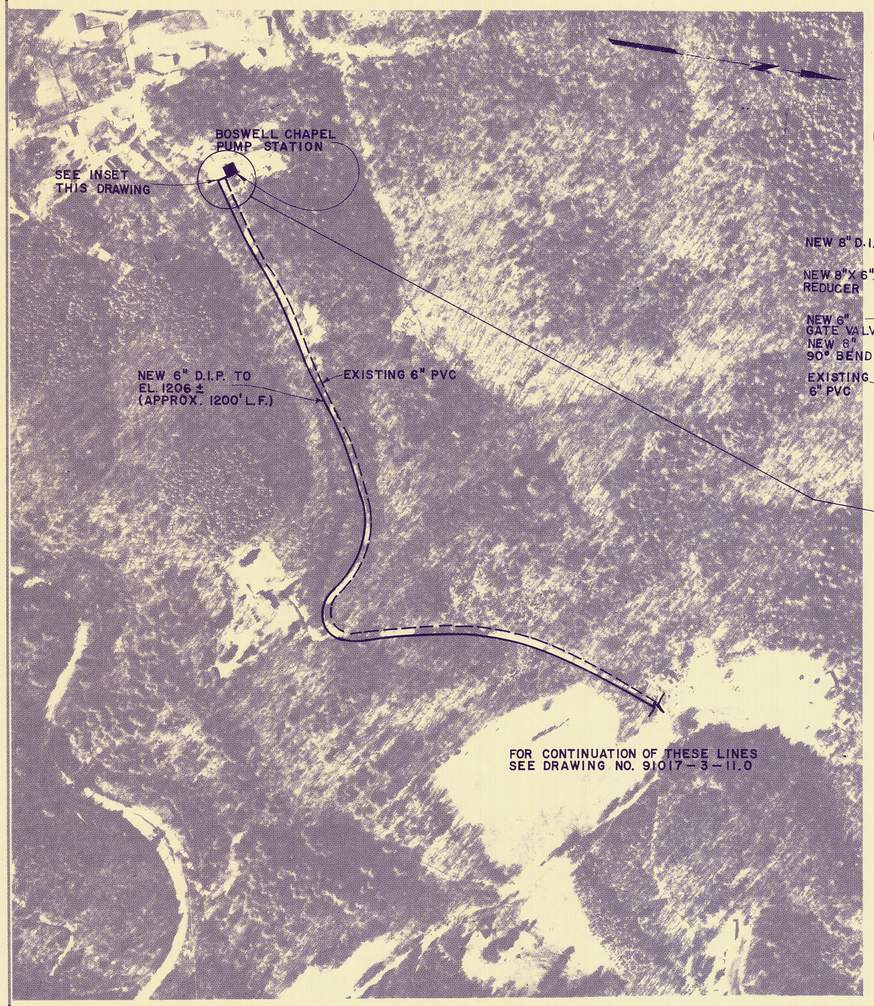
CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

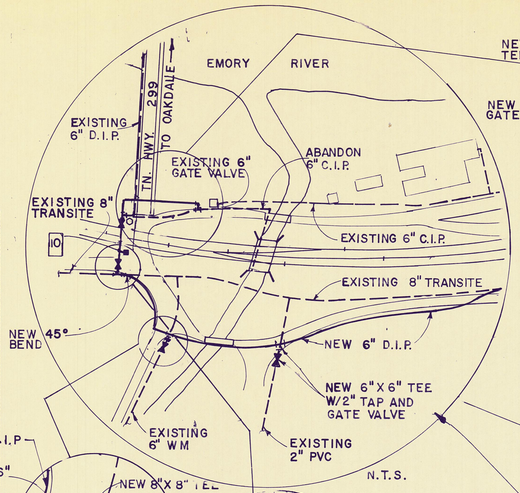
DSGN: DSI
DRWN:
CHK'D:
APPR:

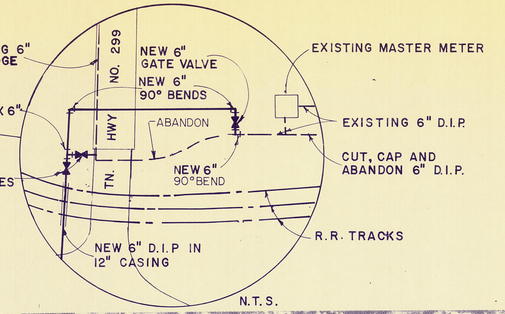
OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS PHASE 3

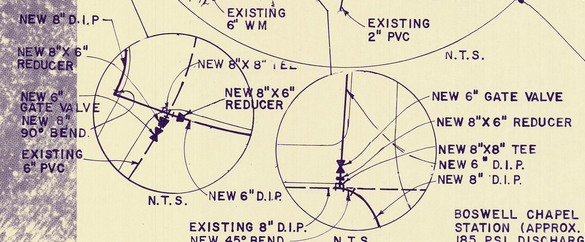
FOOTBALL FIELD- JOHNSONS STORE
PALMER RAMP ROAD, MORRISON SUB. ROAD
CECIL BROWN ROAD

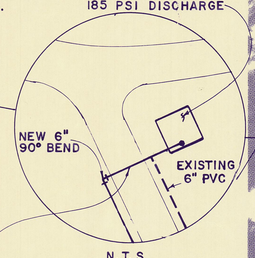
DRAWING NO. 91017-3-9.1

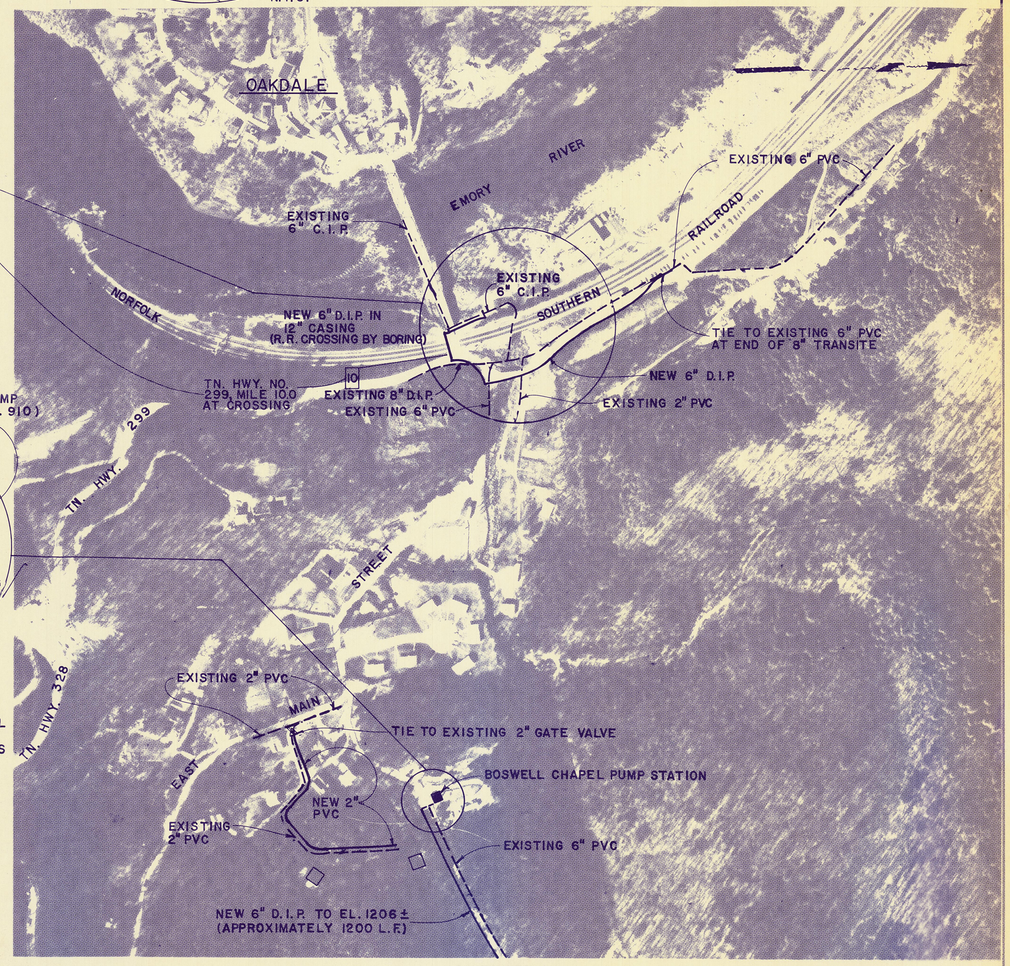












SCALE: 1" = 200'

JEROME D. HIGHTOWER REGISTERED ENGINEER No. 11431 STATE OF TENNESSEE

LEGEND

- NEW WATER LINES
- EXISTING WATER LINES
- GATE VALVE (NEW / EXISTING)
- AIR RELEASE VALVE
- PRESSURE REDUCING VALVE
- REDUCER

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
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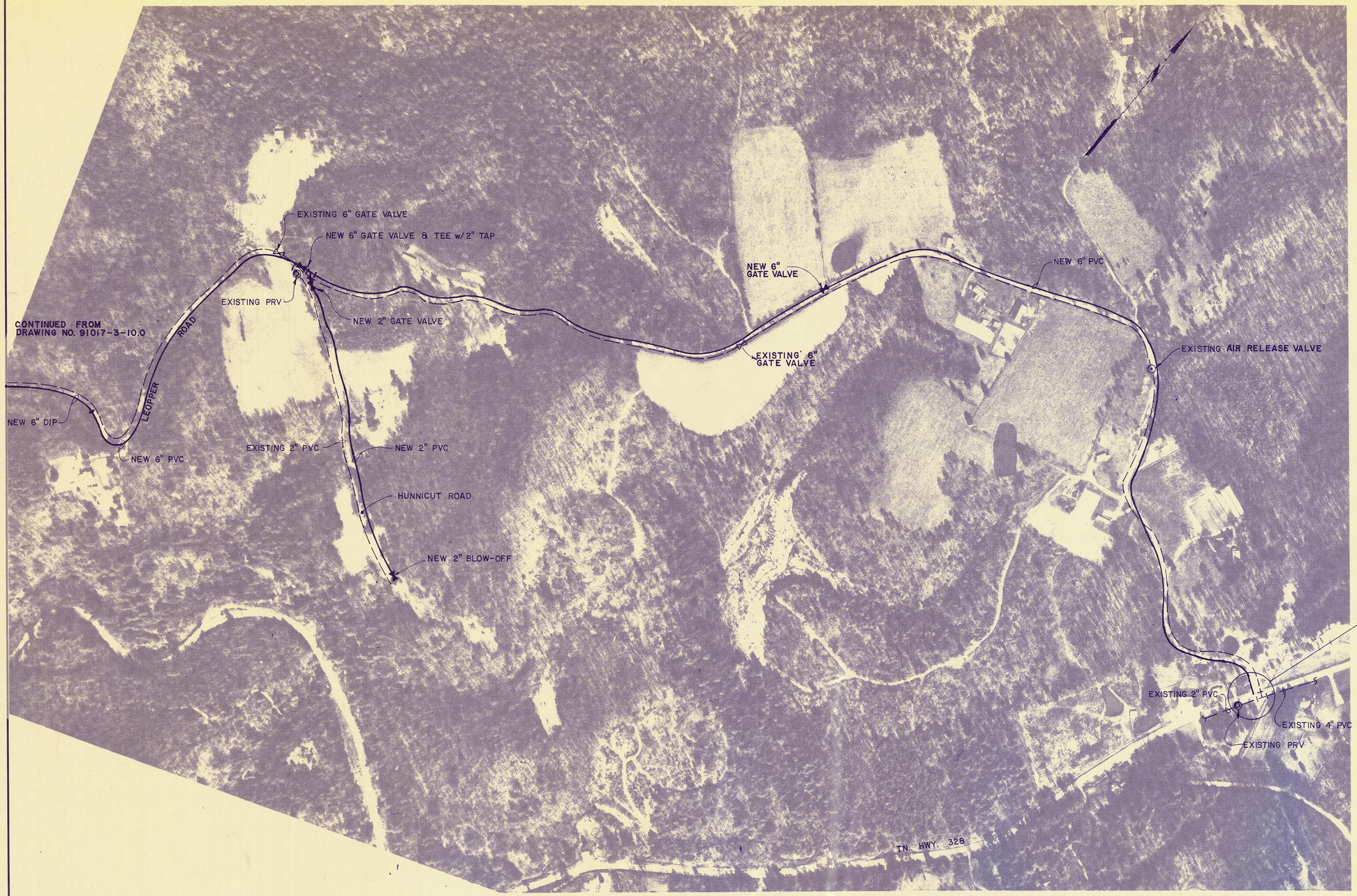
CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

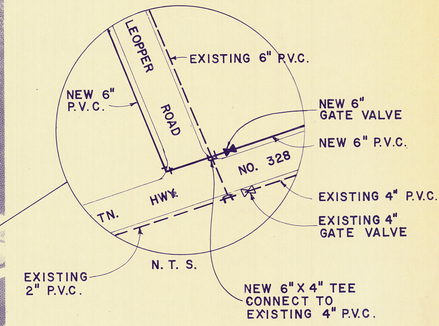
DSGN:	JDH	2-81
DRWN:		
CHK'D:		
APPR:		

OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS PHASE 3

RAILROAD AND CREEK CROSSING
OLD GOLDSTONE HOUSE ROAD

DRAWING NO. 91017-3-10.1





SCALE 1" = 200

JEROME D. HIGHTOWER REGISTERED ENGINEER No. 11411 STATE OF TENNESSEE

LEGEND

- NEW WATER LINES
- EXISTING WATER LINES
- GATE VALVE (NEW / EXISTING)
- AIR RELEASE VALVE
- PRESSURE REDUCING VALVE
- REDUCER

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
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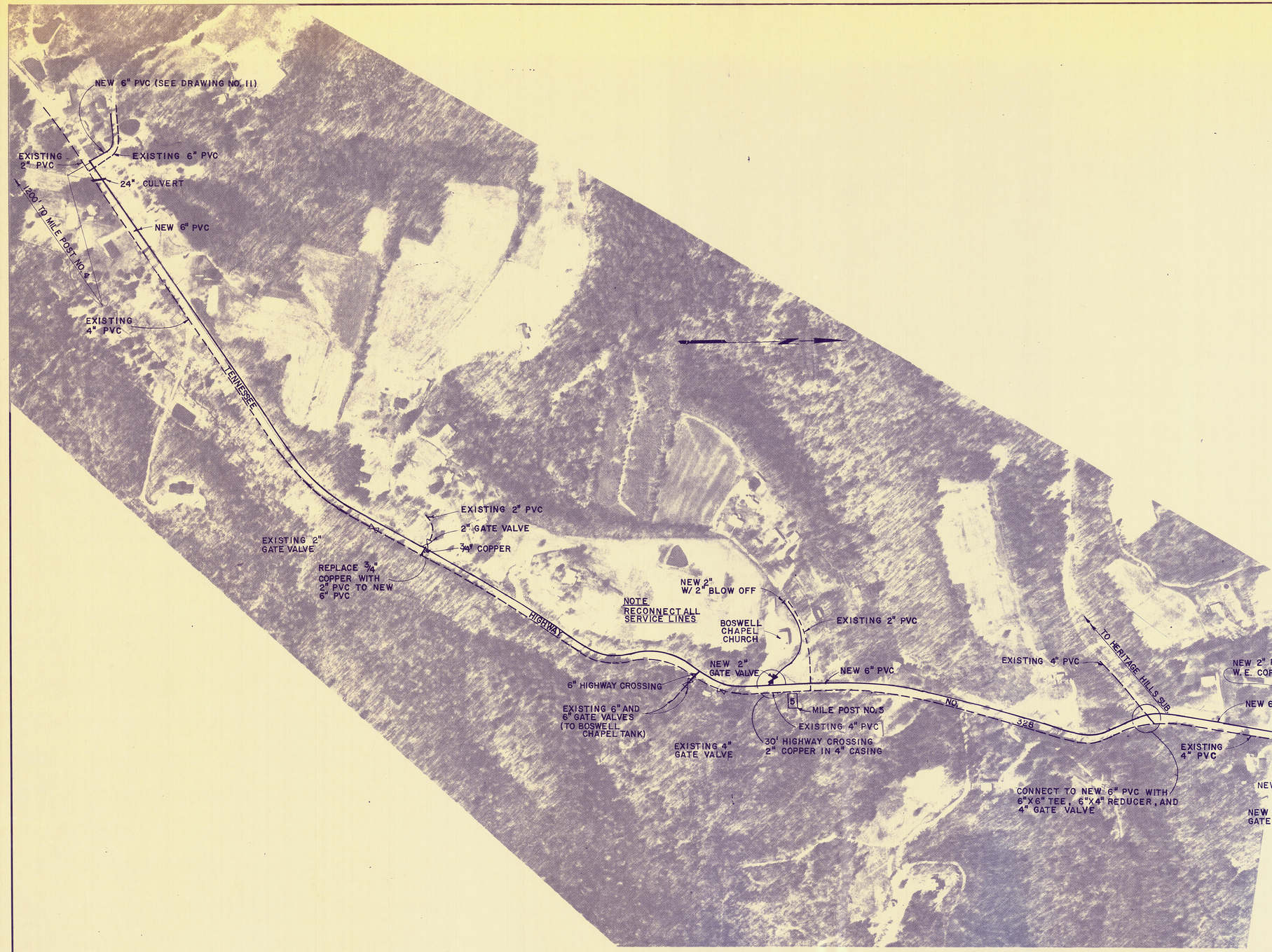
CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

DSGN:	J.D.H.	9/91
DRWN:	BRD/GR-OCF	9/91
CHK'D:		
APPR:		

OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS PHASE 3

LEOPPER ROAD
HUNNICUT ROAD

DRAWING NO. 91017-3-11.1



HIGHWAY ENCROACHMENT NOTE

LINE IS TO BE INSTALLED APPROXIMATELY 4' FROM EDGE OF PAVEMENT. CONTRACTOR IS RESPONSIBLE FOR:

1. PROTECTION OF PAVEMENT FROM ANY DAMAGE.
2. ADEQUATE TRAFFIC CONTROL, SIGNAGE AND FLAGMEN IN ACCORDANCE WITH TDOT REGULATIONS.
3. NOTIFICATION OF TDOT AND OTHER AUTHORITIES 2 DAYS PRIOR TO START OF THIS WORK.

JEROME D. HIGHTOWER REGISTERED ENGINEER No. 11211 STATE OF TENNESSEE

LEGEND

	NEW	EXISTING
NEW WATER LINES		
EXISTING WATER LINES		
GATE VALVE		
AIR RELEASE VALVE		
PRESSURE REDUCING VALVE		
REDUCER		

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
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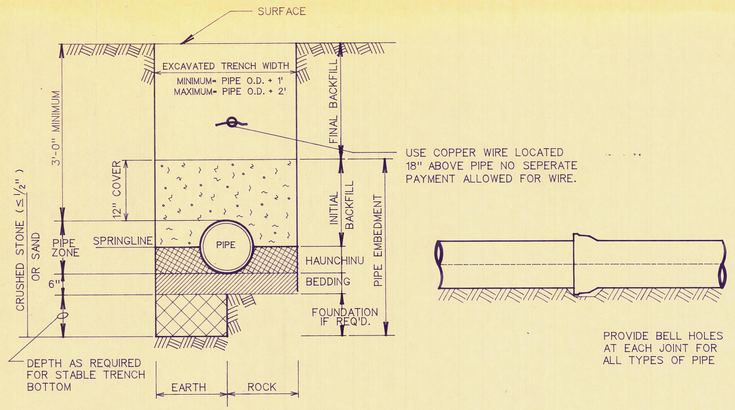
CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

DSGN: [illegible]
DRWN:
CHK'D:
APPR:

OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS PHASE 3

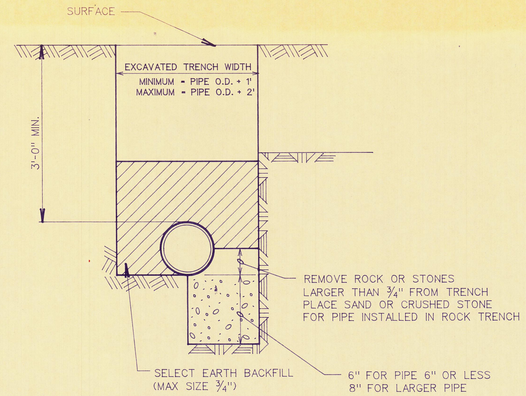
TENNESSEE HIGHWAY NO. 328
BOSWELL CHAPEL CHURCH, BOSWELL CHAPEL TANK ROAD, W.E. COFFMAN LINE

DRAWING NO. 91017-3-12.1



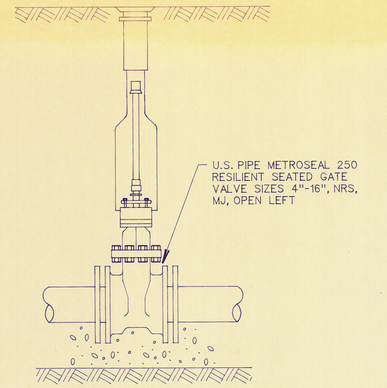
PVC PIPE INSTALLATION DETAIL

NOT TO SCALE



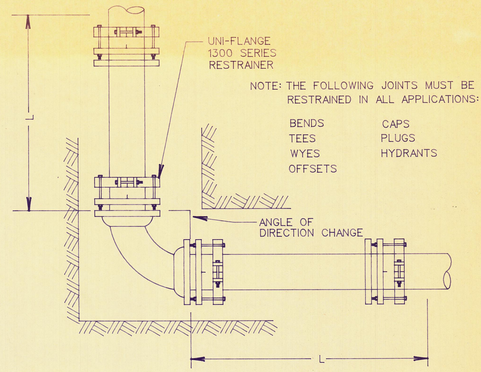
DUCTILE IRON PIPE INSTALLATION DETAIL

SURFACE



GATE VALVE INSTALLATION DETAIL

NOT TO SCALE

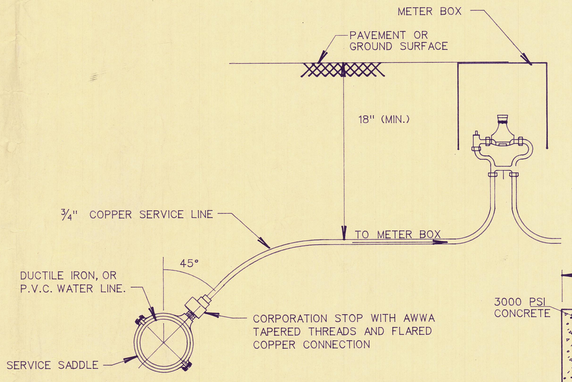


PLAN RESTRAINED JOINT DETAIL

NOT TO SCALE

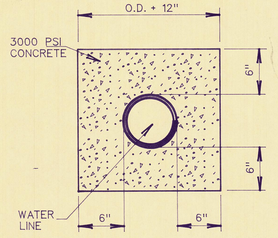
NOM. PIPE SIZE	L= MINIMUM LENGTH TO BE RESTRAINED ON EACH SIDE OF FITTING (FT.) ×																	
	CLAY					COHESIVE GRANULAR MAT.					SAND					SILT, MUCK, PEAT				
	ELBOWS (DEG.)				VALVES TEES DEAD ENDS	ELBOWS (DEG.)				VALVES TEES DEAD ENDS	ELBOWS (DEG.)				VALVES TEES DEAD ENDS	ELBOWS (DEG.)				VALVES TEES DEAD ENDS
	11¼	22½	45	90		11¼	22½	45	90		11¼	22½	45	90		11¼	22½	45	90	
2	1	2	3	5	4	2	3	4	7	6	2	3	5	8	6	2	4	6	11	9
3	2	2	4	7	5	3	4	5	9	7	3	4	7	10	8	3	5	8	13	10
4	2	3	5	8	6	3	5	7	11	8	3	5	8	12	9	4	6	11	17	13
6	3	4	6	9	7	4	6	9	14	10	4	6	10	15	11	4	6	10	15	11
8	3	5	7	10	8	4	7	11	19	13	4	7	13	20	14	5	10	16	26	18
10	4	6	9	13	11	5	10	15	22	15	5	9	15	25	18	6	11	20	32	22
12	4	8	11	15	13	6	11	17	26	18	6	10	17	29	21	7	14	24	39	27

× RESTRAIN JOINT BEYOUND MINIMUM LENGTH.



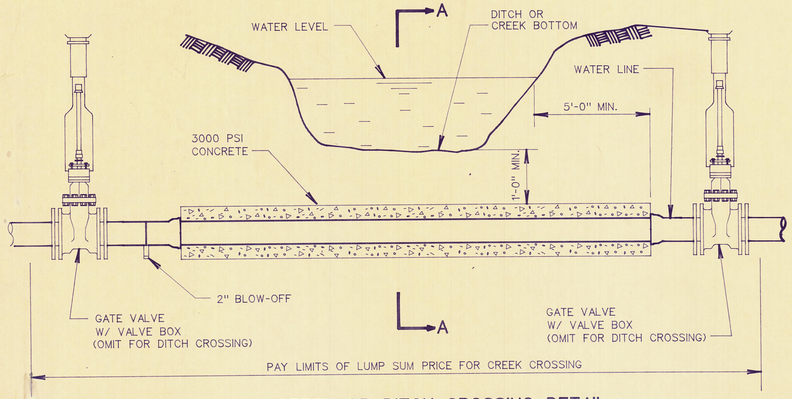
SERVICE INSTALLATION DETAIL (METERS 1" AND SMALLER)

NOT TO SCALE



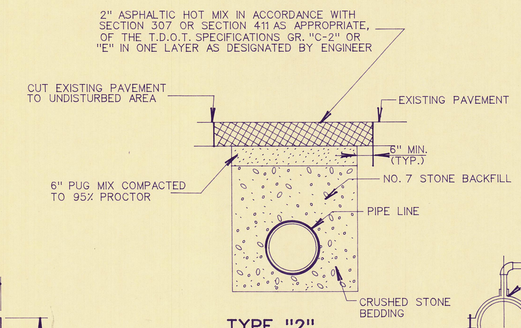
SECTION A-A

NOT TO SCALE



CREEK OR DITCH CROSSING DETAIL

NOT TO SCALE

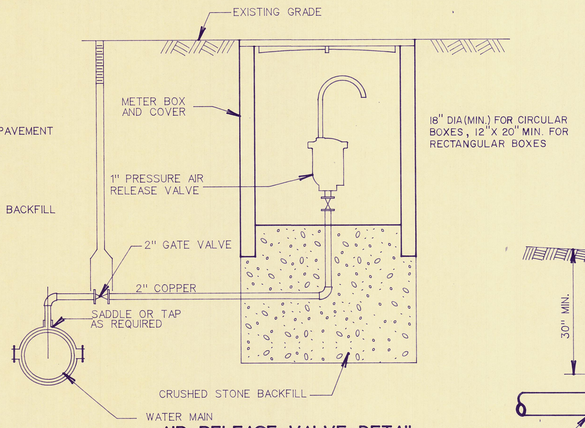


TYPE "2"

TO BE USED ON HOT MIX PAVED ROADS AND ELSEWHERE AS DESIGNATED BY THE ENGINEER. COST OF SAW CUTTING, COMPACTING, PUG MIX, HOT MIX, ETC. TO BE INCLUDED IN THE UNIT, PRICE FOR HOT MIX PAVEMENT IN THE BID SCHEDULE, AND SHALL BE PAID FOR ON A LINEAR FOOT BASIS, COMPLETE IN PLACE.

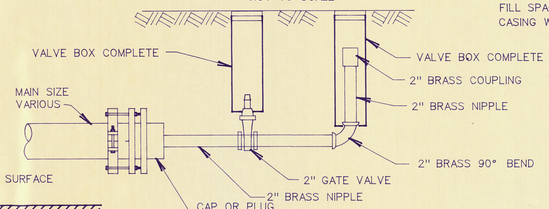
PAVEMENT REPLACEMENT DETAIL

NOT TO SCALE



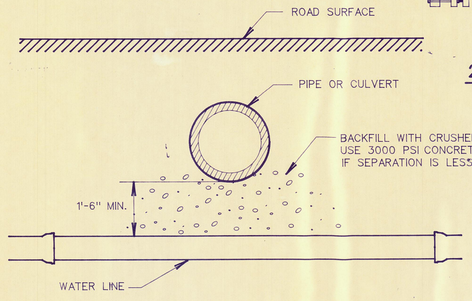
AIR RELEASE VALVE DETAIL

NOT TO SCALE



2" BLOW OFF DETAIL

NOT TO SCALE



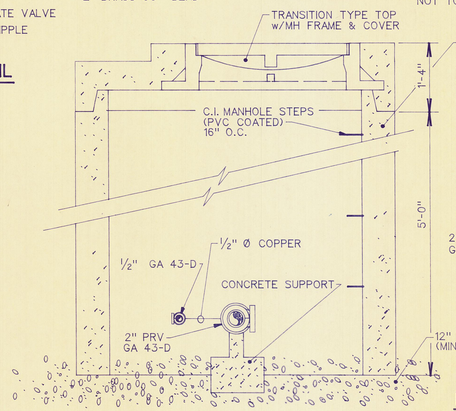
DETAIL OF INSTALLATION UNDER PIPE OR CULVERT

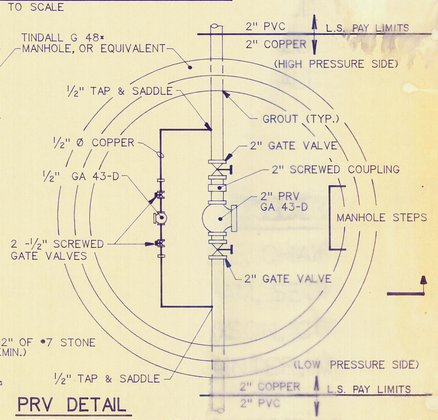
NOT TO SCALE

RAILROAD OR HIGHWAY CROSSING DETAIL

NOT TO SCALE

CARRIER SIZE	SPIRAL WELDED STEEL	
	CASING SIZE	WALL THICKNESS OF CASING PIPE
2"	4"	¼"
4"	8"	¼"
6"	12"	¼"
8"	16"	¼"





PRV DETAIL

NOT TO SCALE

× USE 60" Ø MANHOLE FOR 4" PRV's & LARGER
USE 48" Ø MANHOLE FOR 2" PRV's

REV.NO.	RELEASED BY:	DESCRIPTION OF REVISION
3		
2		
1		

CONSOLIDATED TECHNOLOGIES, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
CHATTANOOGA, TENNESSEE

DSGN:	J.D.H.	9/91
DRWN:	M.W.D./CADD	9/91
CHK'D:		
APPR:		

OAKDALE/WOLFE BRANCH UTILITY DISTRICT
WATER LINE REPLACEMENTS

WATER LINE PIPING DETAILS

DRAWING NO. 91017-13.1