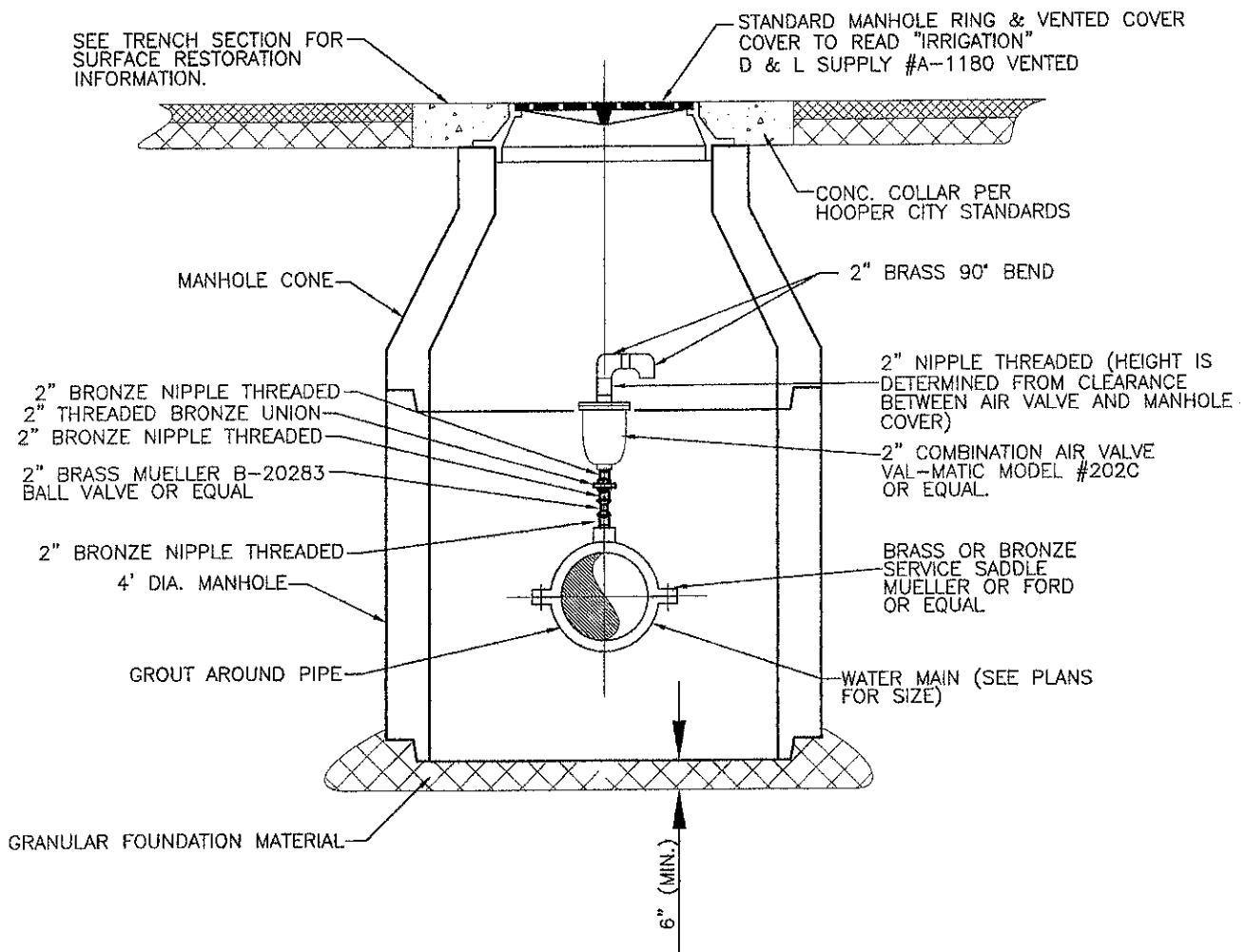


HOOPER IRRIGATION COMPANY

PRESSURE IRRIGATION STANDARDS AND SPECIFICATIONS

JULY 2003





COMBINATION AIR-VAC DETAIL

N.T.S.

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NO.	DESCRIPTION	BY	APR.	DATE
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3				
4				

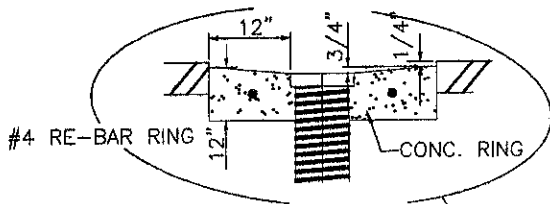


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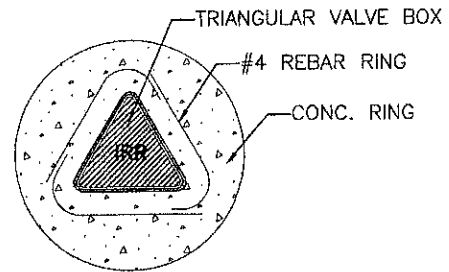
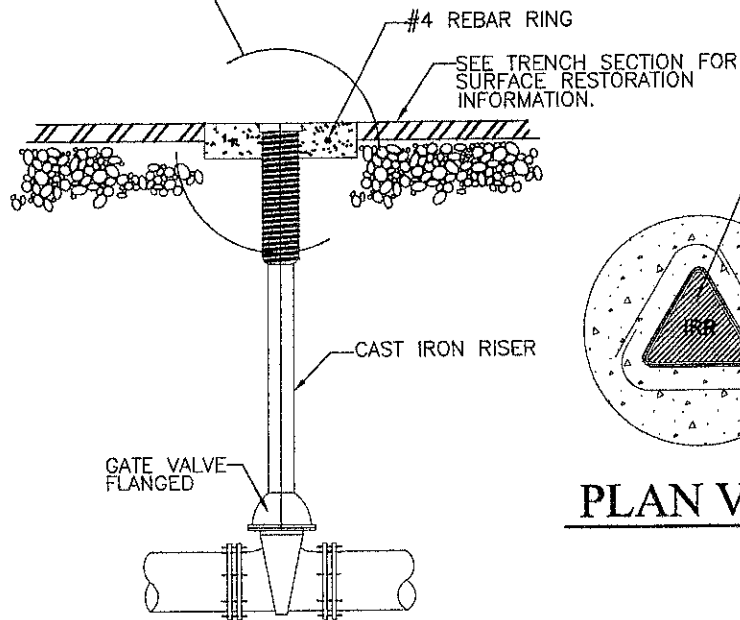
Hooper Irrigation Company
Pressure Irrigation Standards

COMBINATION AIR-VAC DETAIL

SHEET	PI-1
CAD DWG:	detail01.dwg
PLOT SCALE:	N/A
DATE:	MAY 2003
DRAWN BY:	D. STEELE
DESIGN BY:	D. STEELE
CHECKED BY:	TLA
SCALE:	-



NOTE: LID FOR SECONDARY WATER TO BE D&L SUPPLY M-9009, (OR EQUAL) STAMPED "IRR" OR "IRRIGATION"



PLAN VIEW

VALVE BOX CONCRETE COLLAR DETAIL

N.T.S.

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1			
2			
3			

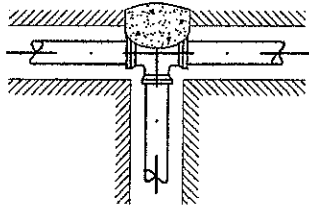


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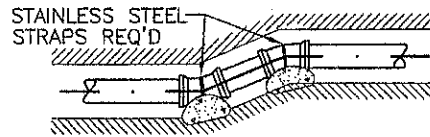
Hooper Irrigation Company
Pressure Irrigation Standards

VALVE BOX CONCRETE COLLAR

SHEET **PI-2**
 CAD DWG: detail01.dwg
 PLOT SCALE: N/A
 DATE: MAY 2003
 DRAWN BY: D. STEELE
 DESIGN BY: D. STEELE
 CHECKED BY: TLA
 SCALE:



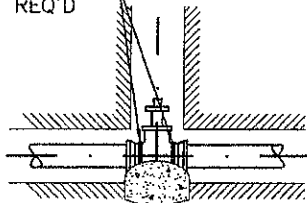
TEE



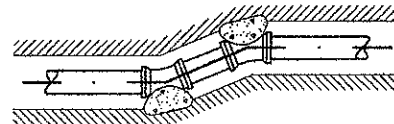
VERTICAL APPLICATION

45°, 22 1/2°, OR
11 1/4° BEND

STAINLESS STEEL
STRAPS REQ'D

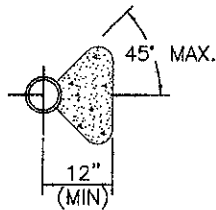


VALVE ANCHORS REQ'D
FOR VALVES 12" OR LARGER

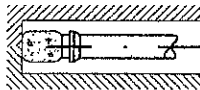


HORIZONTAL APPLICATION

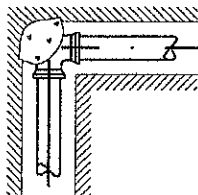
45°, 22 1/2°, OR
11 1/4° BEND



TYPICAL SECTION
THRU THRUST BLOCK



DEAD END



90° BEND

DIMENSION TABLE

THRUST BLOCK BEARING AREA IN SQ. FT. (SEE CONDITIONS BELOW)			
PIPE SIZE	CONDITION		
	90° BEND	OTHER BENDS	VALVES, TEES, DEAD ENDS
4	1.8	1.0	1.3
6	4.0	2.2	2.8
8	7.1	3.8	5.0
10	11.1	6.0	7.9
12	16.0	8.7	11.3
14	21.8	11.8	15.4
16	28.4	15.4	20.1
18	36.0	19.5	25.4
20	44.4	24.0	31.4
24	64.0	34.6	45.2
27	81.0	43.8	57.3
30	100.0	54.1	70.7
42	195.9	106.0	138.5
48	255.9	138.5	181.0

CONDITIONS:

LINE PRESSURE - 120 PSI

SOIL BEARING CAPACITY - 1500 PSF

NOTE: ALL FITTINGS SHALL BE WRAPPED
WITH 12 MIL POLYETHYLENE PRIOR TO
POURING THE CONCRETE THRUST BLOCK.

THRUST BLOCKING

N.T.S.

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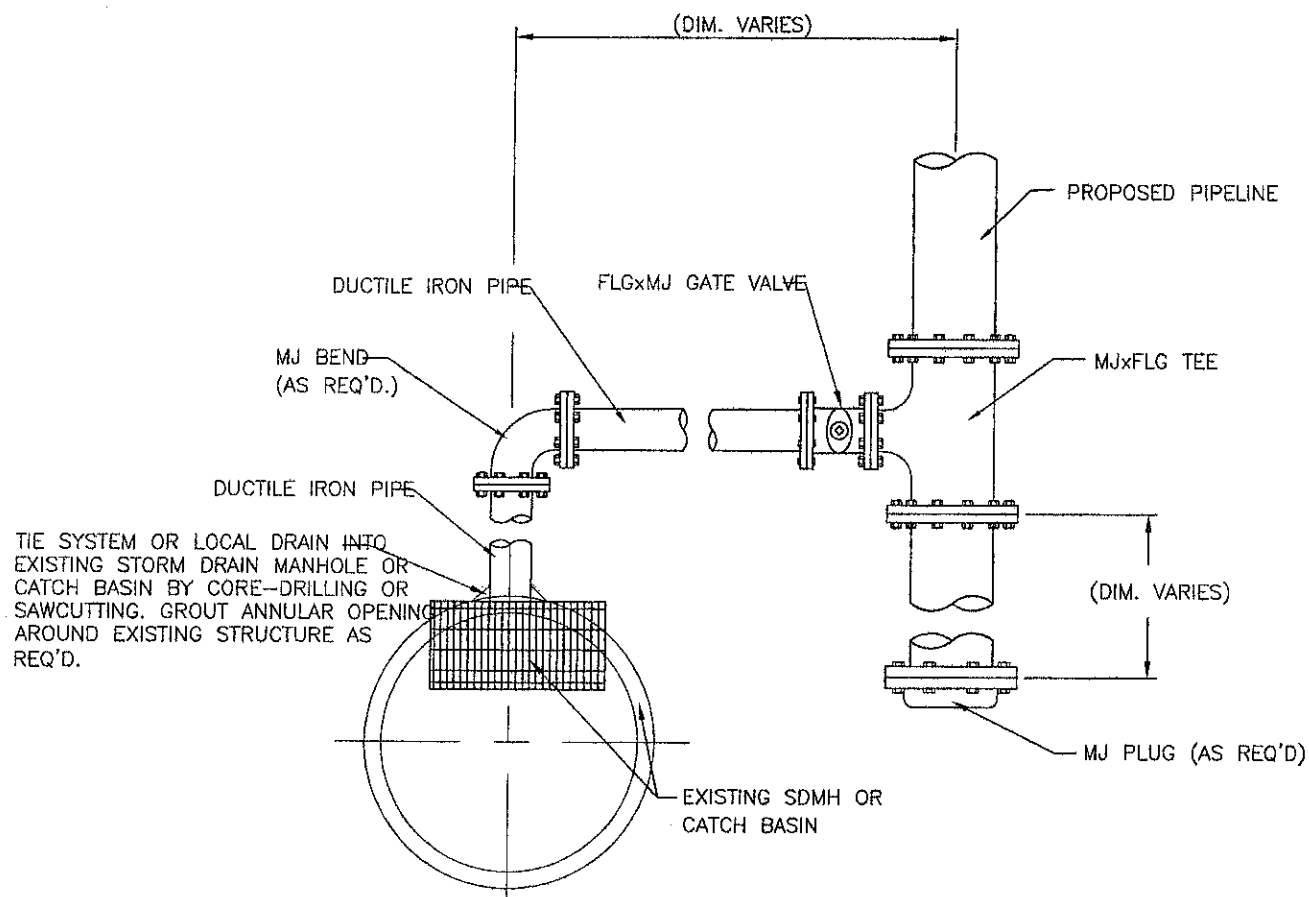


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Pressure Irrigation Standards

THRUST BLOCKING DETAILS

SHEET	PI-3
CAD DWG:	detail01.dwg
PLOT SCALE:	N/A
DATE:	MAY 2003
DRAWN BY:	D. STEELE
DESIGN BY:	D. STEELE
CHECKED BY:	TIA
SCALE:	-



NOTE:
DRAIN SIZE TO BE APPROVED
BY COMPANY ENGINEER.

LOCAL / SYSTEM DRAIN DETAIL

N.T.S.

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3				



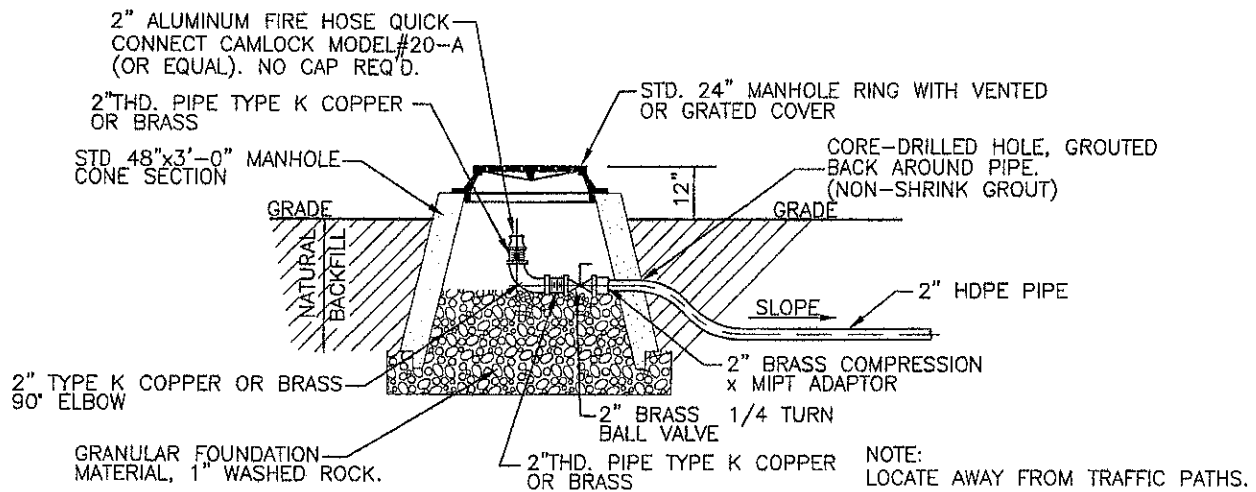
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Pressure Irrigation Standards

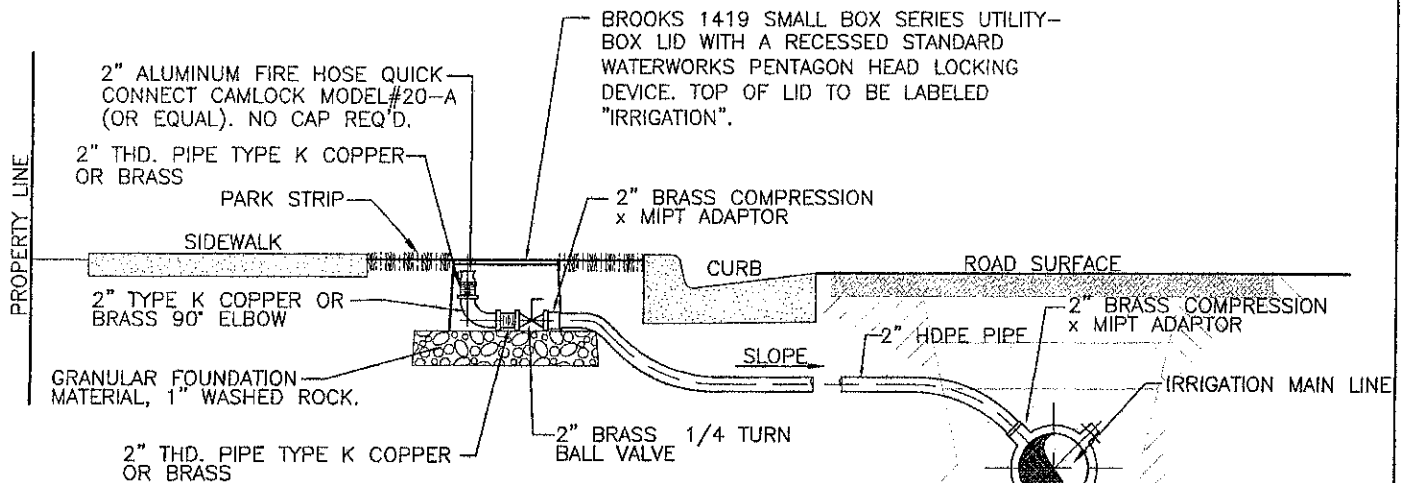
LOCAL/SYSTEM DRAIN DETAIL

SHEET **PI-4**

CAD DWG: detail01.dwg
PLOT SCALE: N/A
DATE: MAY 2003
DRAWN BY: D.STEELE
DESIGN BY: D.STEELE
CHECKED BY: TLA
SCALE: -



NO CURB & GUTTER



SIDEWALK, CURB & GUTTER

- CONNECTION TO C900 PVC MAIN (4" THRU 10")
- 2" SERVICE SADDLE, MUELLER BOLTED 2 PC. BRONZE SERIES #H-13490 OR FORD BOLTED #S-90
- 2" CONNECTION TO DUCTILE IRON MAIN (12" & LARGER)
- 2" SERVICE SADDLE REQ'D., DOUBLE STRAP BRONZE MUELLER SERIES #BR2B OR BRASS FORD #202B

NOTE:
STAINLESS STEEL PIPE STIFFENERS
ARE REQUIRED TO BE USED ON ALL
CONNECTIONS ON POLY PIPE.

AIR INLET & REMOVAL FACILITY

N.T.S.

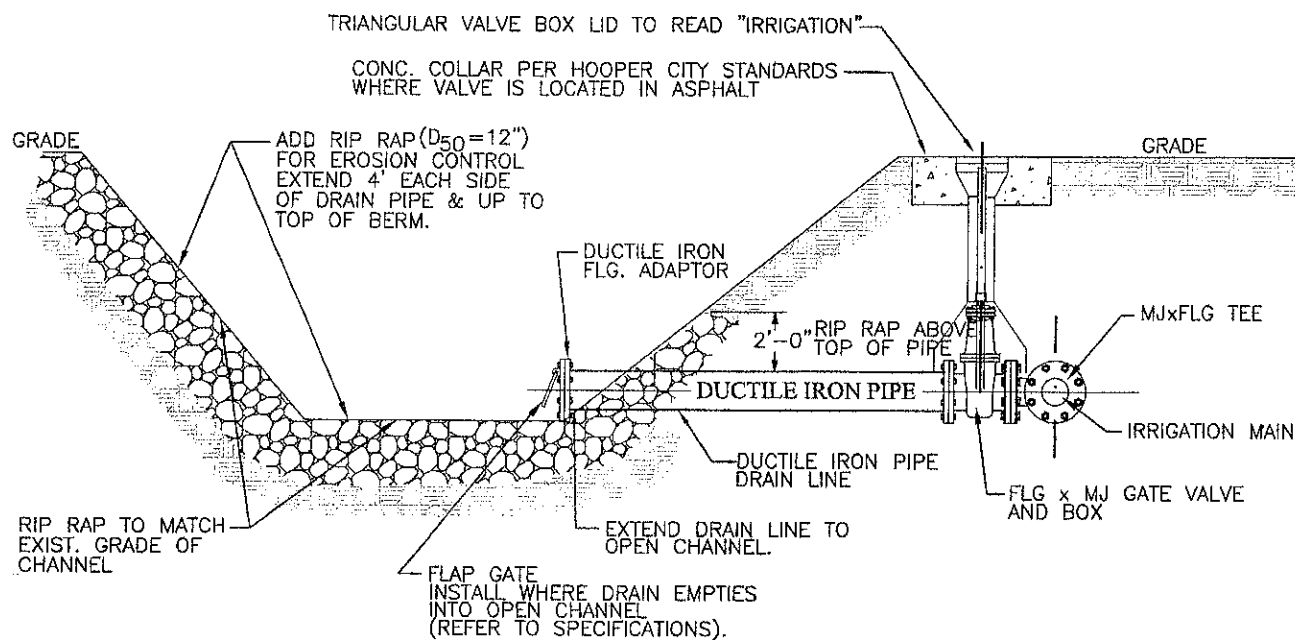
REUSE OF DRAWINGS			
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NO.	DESCRIPTION	BY	DATE
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3			
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Hooper Irrigation Company
Pressure Irrigation Standards

AIR INLET & REMOVAL FACILITY

SHEET	PI-5
CAD DWG: detail01.dwg	
PLOT SCALE:	N/A
DATE:	MAY 2003
DRAWN BY:	D. STEELE
DESIGN BY:	D. STEELE
CHECKED BY:	TLA
SCALE:	



NOTE:
DRAIN SIZE TO BE APPROVED
BY COMPANY ENGINEER.

OPEN CHANNEL DRAIN

N.T.S.

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NO.	DESCRIPTION	BY	APR.	DATE

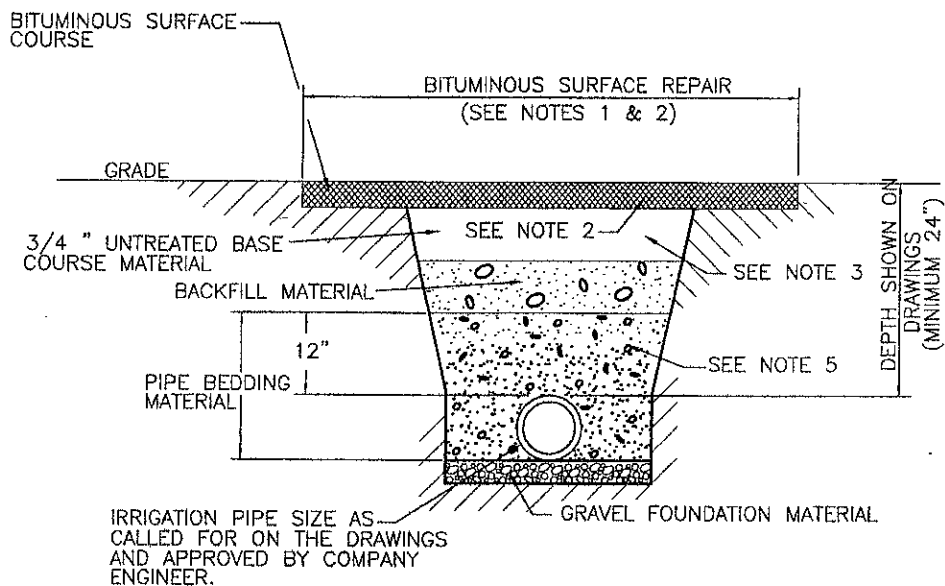


Hooper Irrigation Company
Pressure Irrigation Standards

OPEN CHANNEL DRAIN

SHEET **PI-6**

CAD DWG: detail01.dwg
PLOT SCALE: N/A
DATE: MAY 2003
DRAWN BY: D. STEELE
DESIGN BY: D. STEELE
CHECKED BY: TLA
SCALE: -



NOTES:

1. SAW CUT BITUMINOUS ASPHALT SURFACE 0.5' WIDER THAN TRENCH ON EACH SIDE FOR FINAL TRENCH REPAIR WHERE BITUMINOUS SURFACE EXISTS.
2. BITUMINOUS SURFACE IS TO BE 6" OR TO MATCH EXISTING THICKNESS, WHICHEVER IS GREATER FOR STATE ROADS & 4" FOR ALL OTHER ROADS.
3. 3/4" UNTREATED BASE COURSE MATERIAL IS TO BE 12" OR TO MATCH EXISTING THICKNESS, WHICHEVER IS GREATER.
4. SLOPE TRENCH SIDES TO MEET OSHA SAFETY REQUIREMENTS, (LATEST REV.)
5. SEE SPECIFICATIONS FOR GRADATION & COMPACTION REQUIREMENTS.
6. REFER TO U.D.O.T. STANDARDS FOR TRENCH SECTION DETAIL.

BITUMINOUS SURFACE TRENCH SECTION

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NO.	DESCRIPTION	BY	DATE

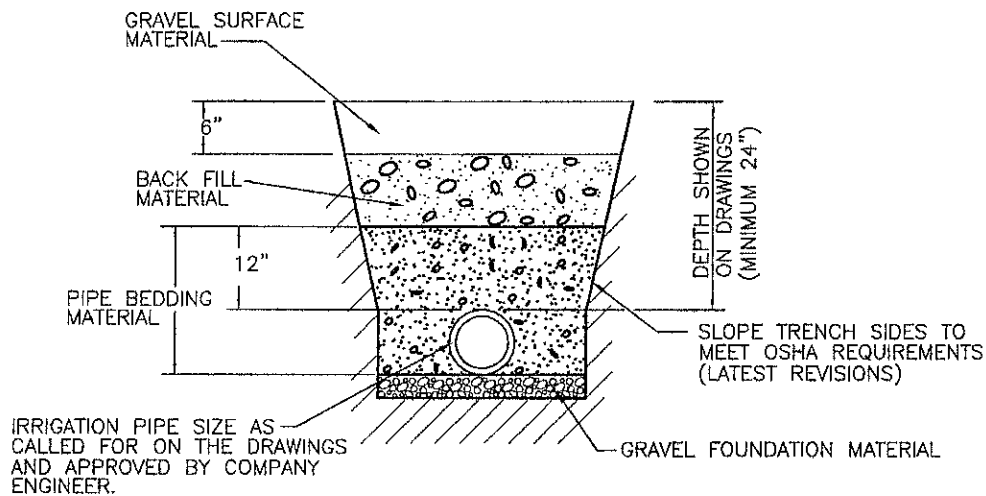


**Hooper Irrigation Company
Pressure Irrigation Standards**

**BITUMINOUS SURFACE
TRENCH SECTION**

SHEET PI-7

CAD DWG: detail01.dwg
PLOT SCALE: N/A
DATE: MAY 2003
DRAWN BY: D. STEELE
DESIGN BY: D. STEELE
CHECKED BY: TLA
SCALE: -



NOTES:

SEE SPECIFICATIONS FOR GRADATION
& COMPACTION REQUIREMENTS.

GRAVEL SURFACE TRENCH SECTION

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NO.	DESCRIPTION	BY	APR.	DATE

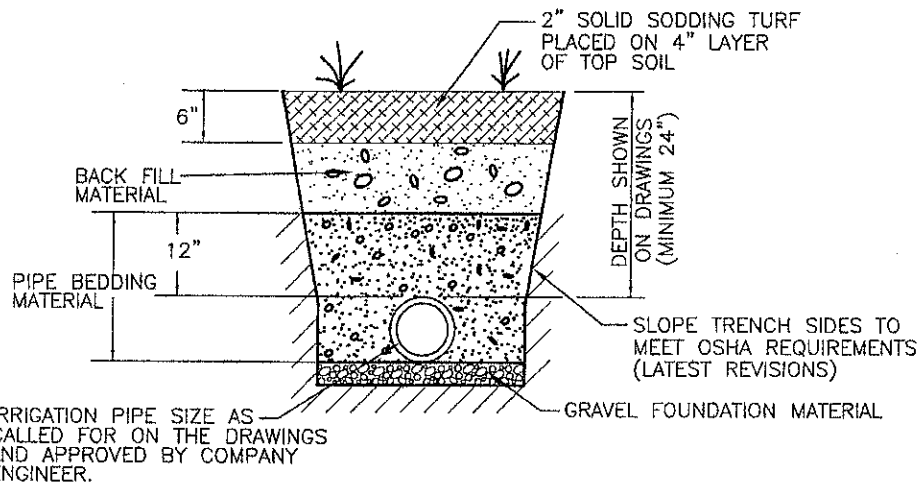


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GRAVEL SURFACE TRENCH SECTION

SHEET	PI-8
CAD DWG:	detail01.dwg
PLOT SCALE:	N/A
DATE:	MAY 2003
DRAWN BY:	D. STEELE
DESIGN BY:	D. STEELE
CHECKED BY:	TLA
SCALE:	-



NOTES:

SEE SPECIFICATIONS FOR GRADATION
& COMPACTION REQUIREMENTS.

TURF SURFACE TRENCH SECTION

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NO.	DESCRIPTION	BY	DATE

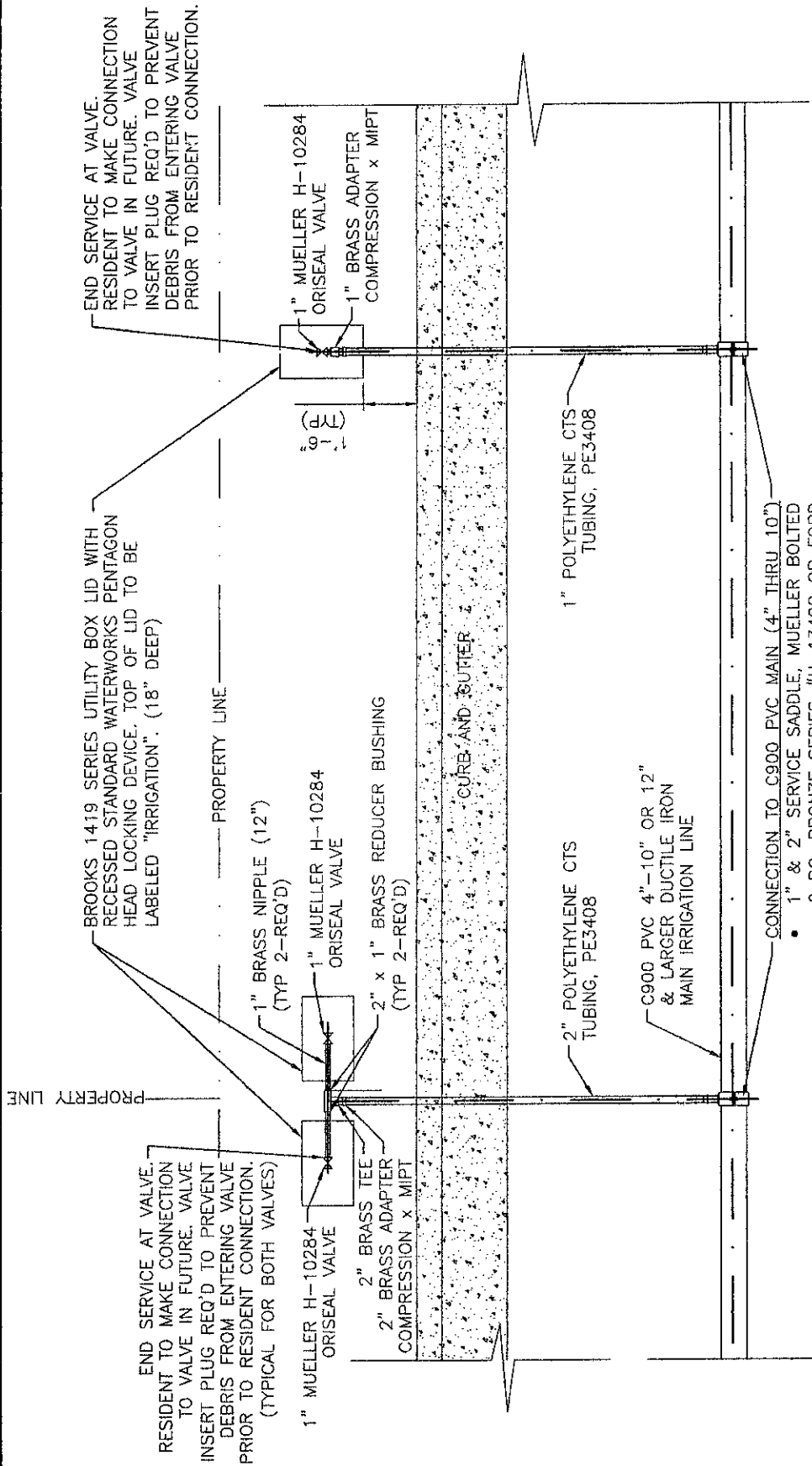


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TURF SURFACE TRENCH SECTION

SHEET	PI-9
CAD DWG:	detail01.dwg
PLOT SCALE:	N/A
DATE:	MAY 2003
DRAWN BY:	D. STEELE
DESIGN BY:	D. STEELE
CHECKED BY:	TLA
SCALE:	-



SINGLE SERVICE

DOUBLE SERVICE

NOTE:
STAINLESS STEEL PIPE STIFFENERS
ARE REQUIRED TO BE USED ON
ALL CONNECTIONS ON POLY PIPE.

- CONNECTION TO C900 PVC MAIN (4" THRU 10")
 - 1" & 2" SERVICE SADDLE, MUELLER BOLTED
 - 2 PC. BRONZE SERIES #H-13490 OR FORD BOLTED #S-90
- 1" DIRECT TAP CONNECTION TO DUCTILE IRON MAIN (12" & LARGER)
 - 1" CORPORATION STOPS SHALL BE USED TO CONNECT TO MAIN. ALL CORPORATION STOPS SHALL BE A BRASS ALLOY MUELLER 1500 SERIES OR A FORD #F1000-Q W/ CTS COMPRESSION OUTLET.
- 2" CONNECTION TO DUCTILE IRON MAIN (12" & LARGER)
 - 2" SERVICE SADDLE REQ'D., DOUBLE STRAP BRONZE MUELLER SERIES #BR2B OR BRASS FORD #202B

TYPICAL SERVICE CONNECTIONS

N.T.S.

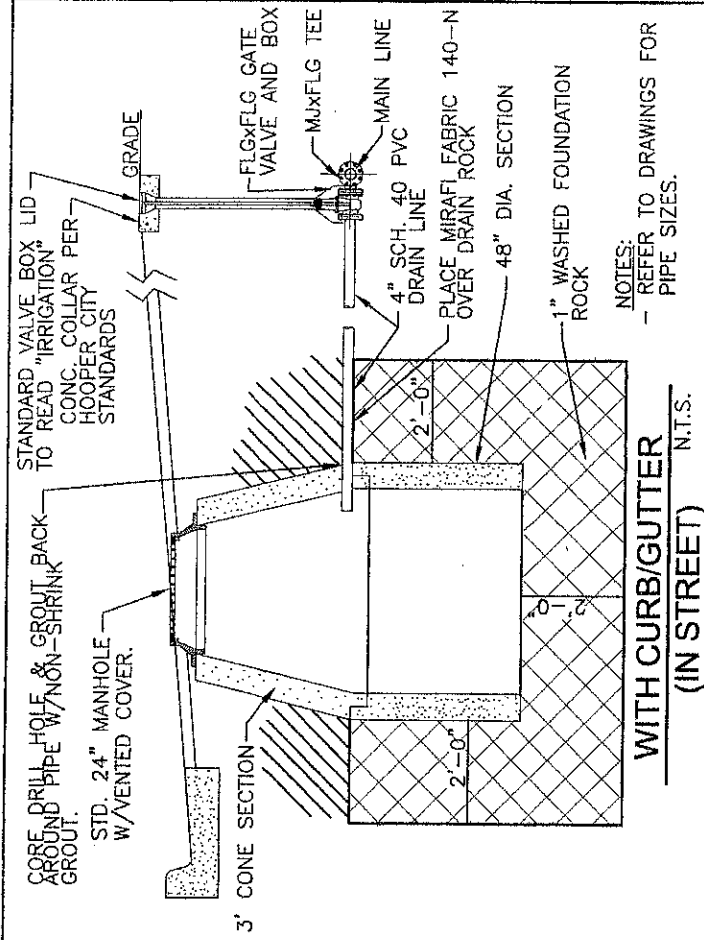
REVISION				
NO.	DESCRIPTION	BY	APR.	DATE
1	REV. DRAWING TO ADD CURB & GUTTER & CALLOUTS	DBS	TLA	12-15-0
2	REV. DRAWING TO ADD TWO BOXES ON DOUBLE SERVICE	JUN	GLS	5-15-14



Hooper Irrigation Company
Pressure Irrigation Standards

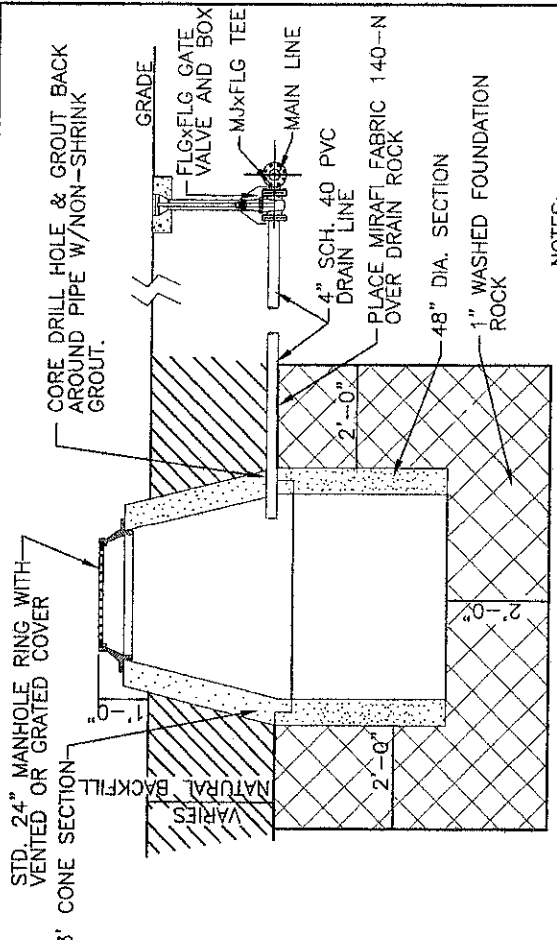
TYPICAL SERVICE
CONNECTION DETAIL

SHEET	PI-10
CAD DWG:	detail01.dwg
PLOT SCALE:	N/A
DATE:	DECEMBER 2004
DRAWN BY:	D. STEELE
CHECKED BY:	TLA
SCALE:	-



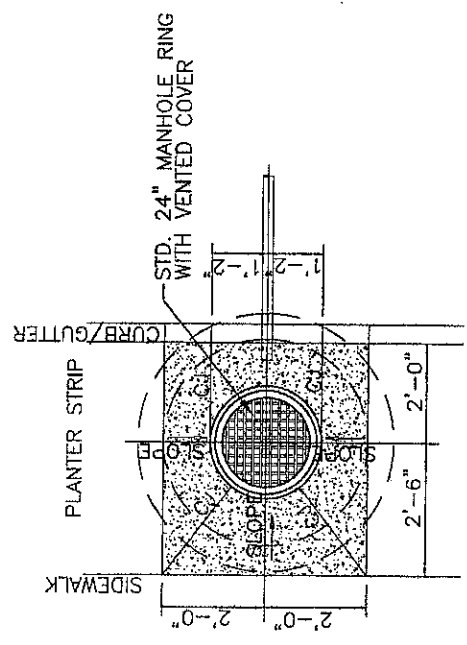
NOTES:
- REFER TO DRAWINGS FOR PIPE SIZES.

**WITH CURB/GUTTER
(IN STREET)**
N.T.S.

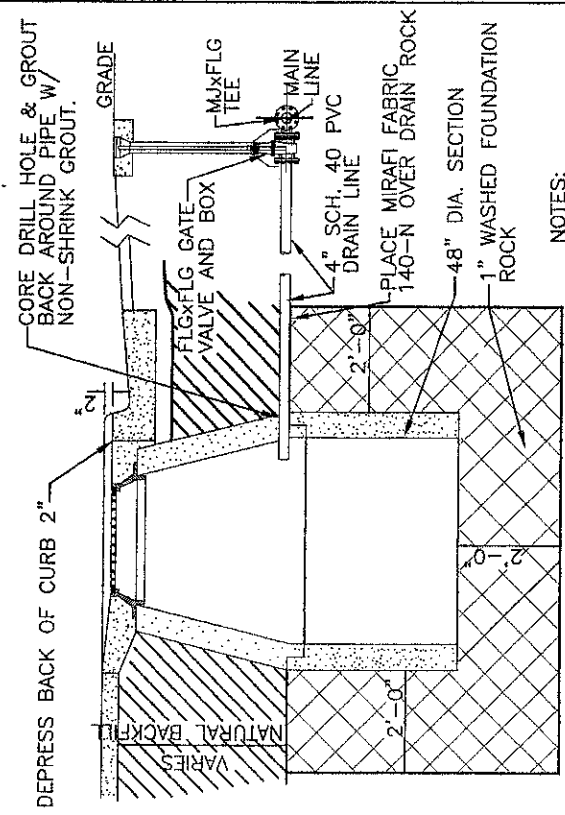


NOTES:
- REFER TO DRAWINGS FOR PIPE SIZES.

WITHOUT CURB/GUTTER
N.T.S.



PLAN VIEW
N.T.S.



NOTES:
- REFER TO DRAWINGS FOR PIPE SIZES.

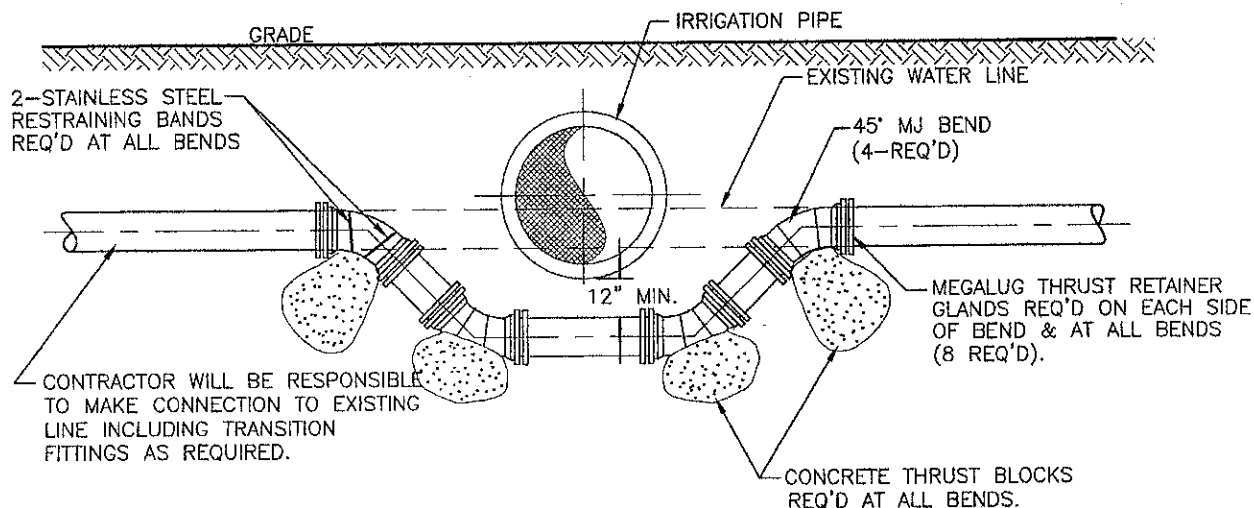
**WITH CURB/GUTTER
(BEHIND CURB)**
N.T.S.

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NO.	DESCRIPTION	BY	DATE



Hooper Irrigation Company
Pressure Irrigation Standards
TYPICAL LOCAL DRAIN
W/SUMP DETAILS

SHEET	PI-11
CAD DWG:	detail01.dwg
PLOT SCALE:	N/A
DATE:	MAY 2003
DRAWN BY:	D. STEELE
DESIGN BY:	DETAILS
CHECKED BY:	TIA
SCALE:	-



NOTES:

BEFORE RELOCATING AN EXISTING WATERLINE THE CONTRACTOR SHALL NOTIFY ALL AFFECTED BUSINESSES AND RESIDENTS 24 HOURS BEFORE CONSTRUCTION. THE CONTRACTOR MUST DEMONSTRATE TO THE CITY THAT ALL OF THE MATERIALS ARE ON HAND THAT MAY BE NEEDED BEFORE RELOCATING ANY WATERLINES. RELOCATION OF WATERLINES WILL NOT BE STARTED AFTER 10:00 A.M. THE CITY SHALL OPERATE ALL MAINLINE WATER VALVES AND THE CONTRACTOR MUST CONTACT THE CITY IF SERVICE IS REQUIRED.

WATER LINE RELOCATION DETAIL

N.T.S.

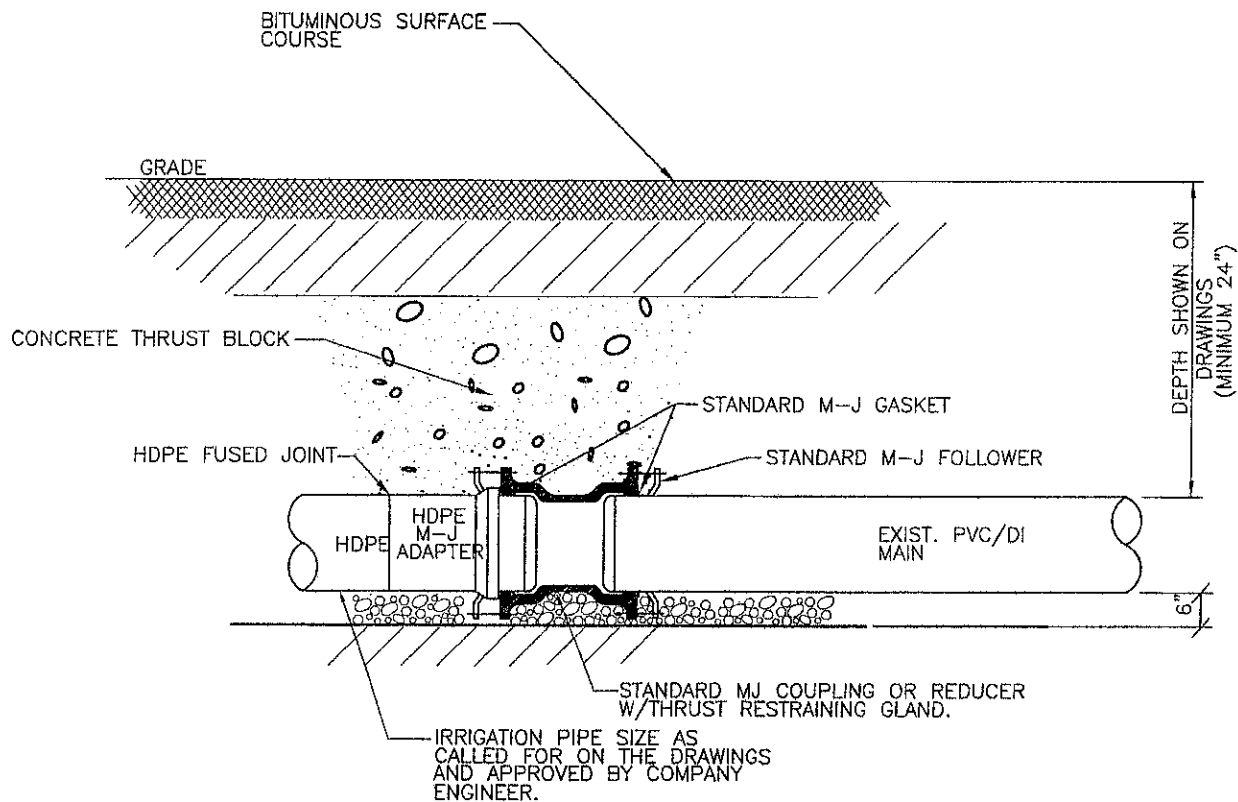
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REVISION			
NO.	DESCRIPTION	BY	DATE
1			
2			
3			



**Hooper Irrigation Company
Pressure Irrigation Standards**

**WATERLINE
RELOCATION DETAIL**

SHEET	PI-12
CAD DWG:	detail01.dwg
PLOT SCALE:	N/A
DATE:	MAY 2003
DRAWN BY:	D. STEELE
DESIGN BY:	D. STEELE
CHECKED BY:	TLA
SCALE:	-



NOTE:

1. REFER TO SHEET # PI-7, 8 & 9
TRENCH DETAILS FOR BEDDING MATERIAL
ETC...
2. ALL FITTINGS SHALL BE WRAPPED
WITH 12 MIL POLYETHYLENE PRIOR TO
POURING THE CONCRETE THRUST BLOCK.

HDPE CONNECTION DETAIL

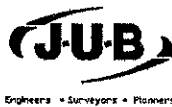
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NO.	DESCRIPTION	BY	APP.	DATE

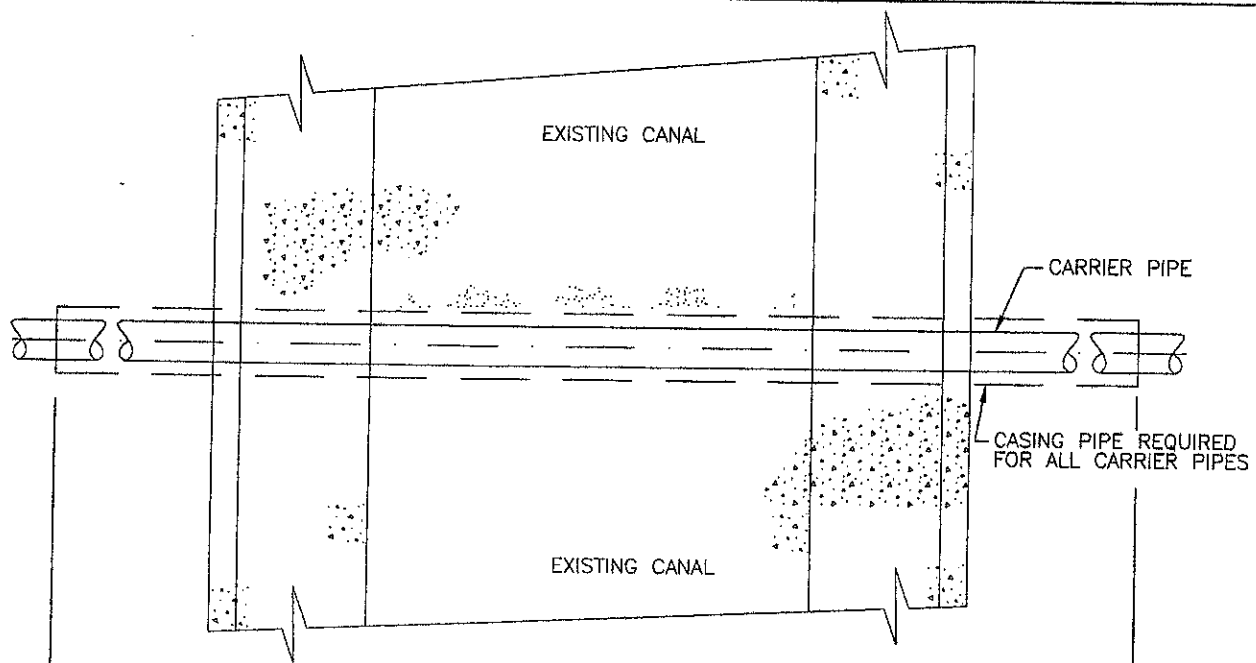


**Hooper Irrigation Company
Pressure Irrigation Standards**

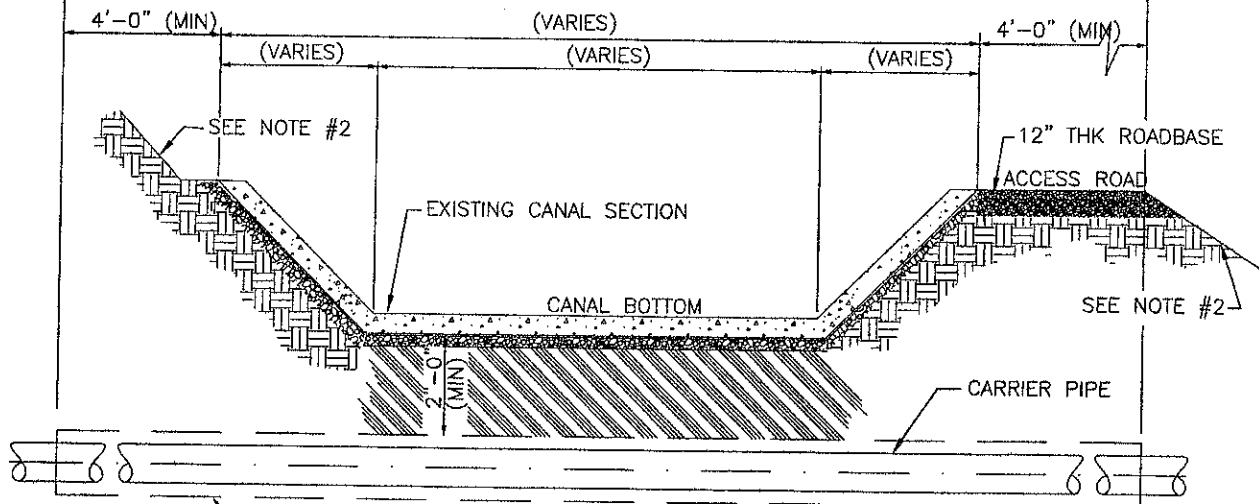
**HDPE
CONNECTION DETAIL**

SHEET PI-13

CAD DWG: detail01.dwg
PLOT SCALE: N/A
DATE: MAY 2003
DRAWN BY: D. STEELE
DESIGN BY: D. STEELE
CHECKED BY: TLA
SCALE: -



PLAN VIEW



**OPEN CONCRETE-LINED CHANNEL
ELEVATION VIEW**

CASING PIPE: SIZE IS TO BE
DETERMINED BASED ON
CARRIER PIPE.
MAT'L. TYPE:
STEEL WELDED
PIPE CASING (SEE DETAIL PI-17)

NOTES:

- 1) BEFORE CROSSING THE CANAL WITH A UTILITY THE CONTRACTOR SHALL OBTAIN WRITTEN AUTHORIZATION FROM HOOPER IRRIGATION COMPANY. THE CONTRACTOR MUST DEMONSTRATE TO HOOPER IRRIGATION COMPANY THAT ALL OF THE MATERIALS ARE ON HAND THAT MAY BE NEEDED BEFORE STARTING CONSTRUCTION ON IRRIGATION COMPANY PROPERTY OR EASEMENTS.
- 2) CONTRACTOR SHALL BE RESPONSIBLE FOR TOTAL RESTORATION OF THE CONSTRUCTION AREA, INCLUDING REVEGETATION & RESTORATION OF ACCESS ROADWAY

TYPICAL CANAL CROSSING

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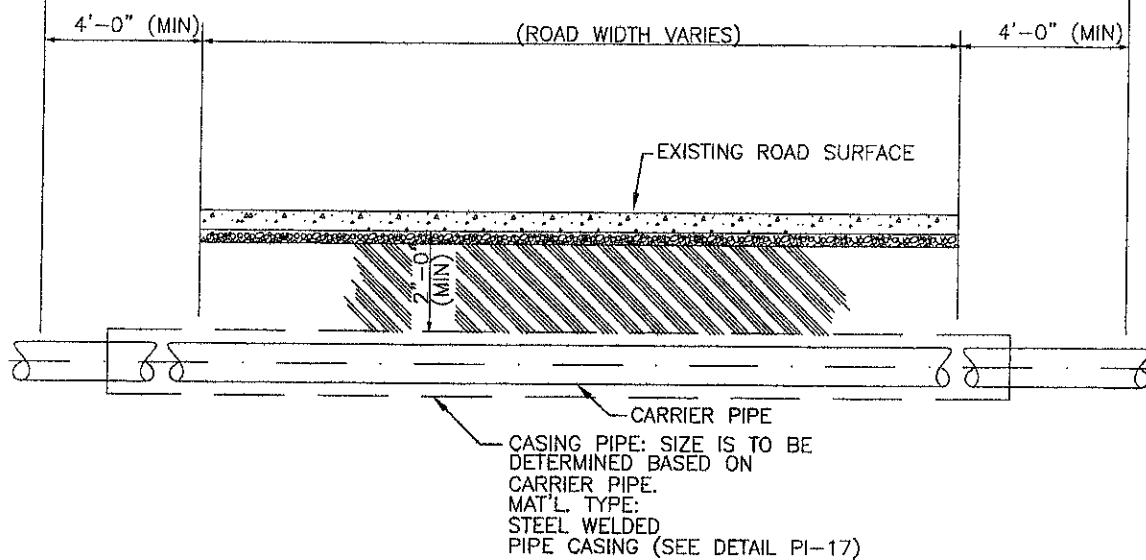
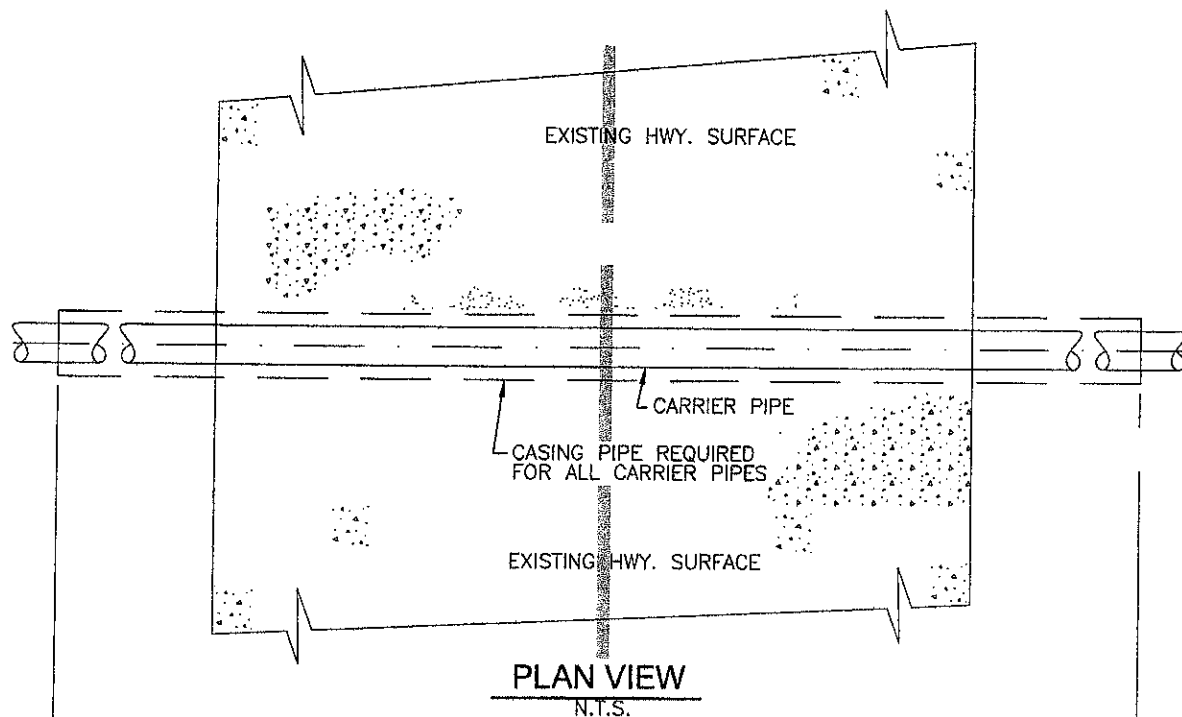
**Hooper Irrigation Company
Pressure Irrigation Standards**

**TYPICAL CANAL
CROSSING DETAIL**

SHEET PI-14

CAD DWG: detail01.dwg
PLOT SCALE: N/A
DATE: JUNE 2003
DRAWN BY: D. STEELE
DESIGN BY: D. STEELE
CHECKED BY: TLA
SCALE: -

NO.	DESCRIPTION	BY	APR. DATE



NOTES:

- 1) WORK TO BE PERFORMED WITHIN UDOT RIGHT-OF-WAYS SHALL BE DONE IN ACCORDANCE WITH DIVISION 19 OF SPECIFICATIONS.
- 2) CONTRACTOR SHALL BE RESPONSIBLE FOR TOTAL RESTORATION OF THE CONSTRUCTION AREA, INCLUDING REVEGETATION & RESTORATION OF ACCESS ROADWAY

TYPICAL UDOT HWY. CROSSING

N.T.S.

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NO.	DESCRIPTION	BY	DATE



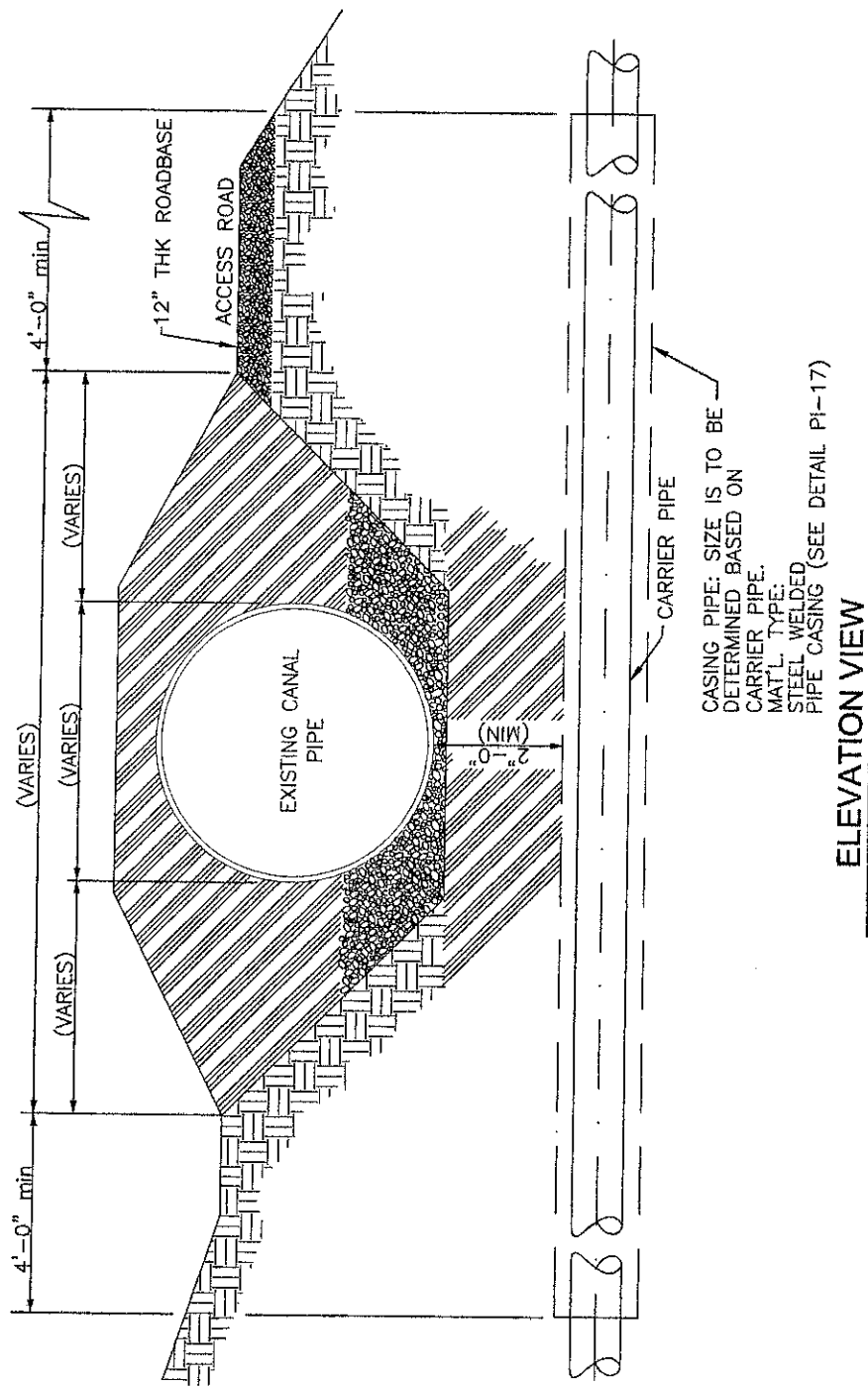
Engineers • Surveyors • Planners

Hooper Irrigation Company Pressure Irrigation Standards

TYPICAL UDOT HWY. CROSSING DETAIL

SHEET PI-15

CAD DWG: detail01.dwg
PLOT SCALE: N/A
DATE: JUNE 2003
DRAWN BY: D. STEELE
DESIGN BY: D. STEELE
CHECKED BY: TLA
SCALE: -



TYPICAL PIPED CANAL CROSSING N.T.S.

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REVISION

NO.	DESCRIPTION	BY	APR.	DATE
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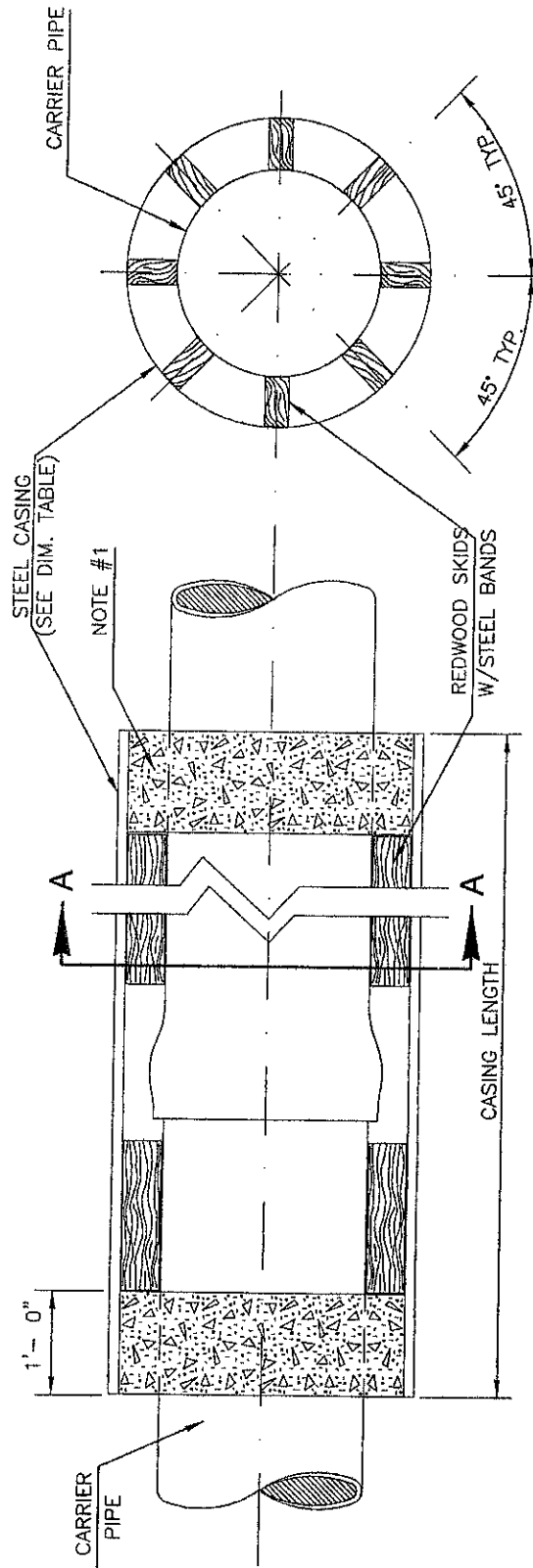
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Hooper Irrigation Company
Pressure Irrigation Standards

TYPICAL PIPED CANAL
CROSSING DETAIL

SHEET **PI-16**

CAD DWG: detail01.dwg
PLOT SCALE: N/A
DATE: JUNE 2003
DRAWN BY: D. STEELE
DESIGN BY: DETAILS
CHECKED BY: TLA
SCALE: --



SECTION A-A

N.T.S.

NOTES:

1. ANNULAR SPACE AT ENDS OF STEEL CASING SHALL BE CONCRETE GROUTED.
2. STEEL PIPE TO HAVE A MINIMUM YIELD STRENGTH OF 42,000 PSI.

DIMENSION TABLE

CARRIER PIPE		CASING STEEL PIPE	
DIAMETER (INCHES)	DIAMETER (INCHES)	MIN. WALL THK. W/PROTECTIVE COATING	MIN. WALL THK. W/OUT PROTECTIVE COATING
4" & UNDER	12" & UNDER	0.188"	0.188"
6" & 8"	14" & 16"	0.219"	0.312"
10"	18"	0.250"	0.312"
12"	20"	0.281"	0.375"
14"	22"	0.312"	0.375"
16"	24"	0.344"	0.438"
18"	26"	0.375"	0.438"
20" & 21"	28" & 30"	0.406"	0.500"
24"	32"	0.438"	0.500"
27"	34" & 36"	0.469"	0.562"
30"	38" & 40" & 42"	0.500"	0.562"

PIPE CASING DETAIL

N.T.S.

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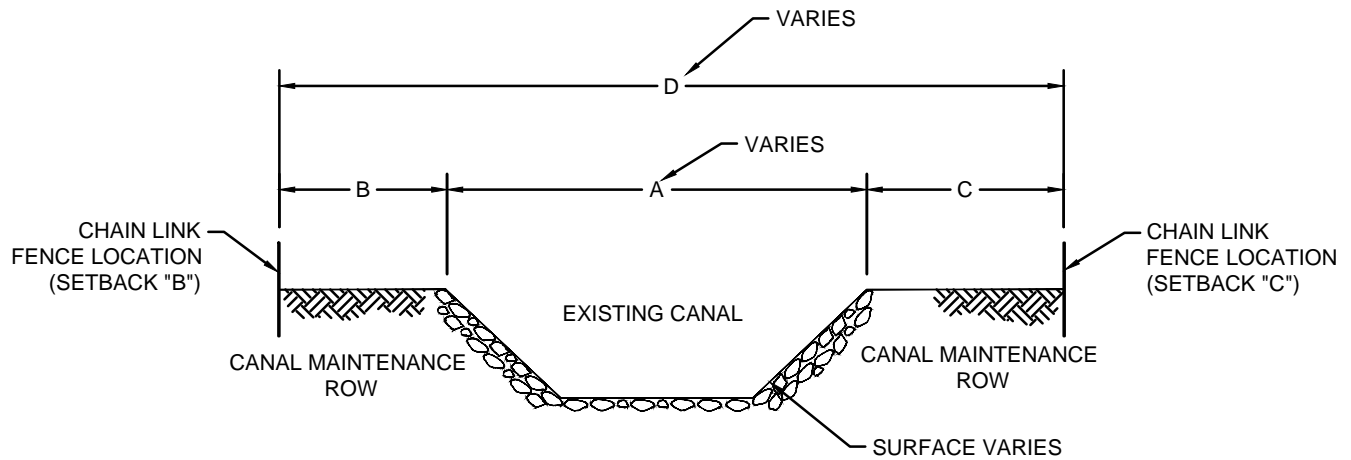
Hooper Irrigation Company Pressure Irrigation Standards

TYPICAL PIPE CASING DETAIL

SHEET **PI-17**

CAD DWG: detail01.dwg
PLOT SCALE: N/A
DATE: JUNE 2003
DRAWN BY: D. STEELE
DESIGN BY: DETAILS
CHECKED BY: TLA
SCALE:

HOOPER IRRIGATION COMPANY (H.I.C.) CANAL R.O.W. DETAIL

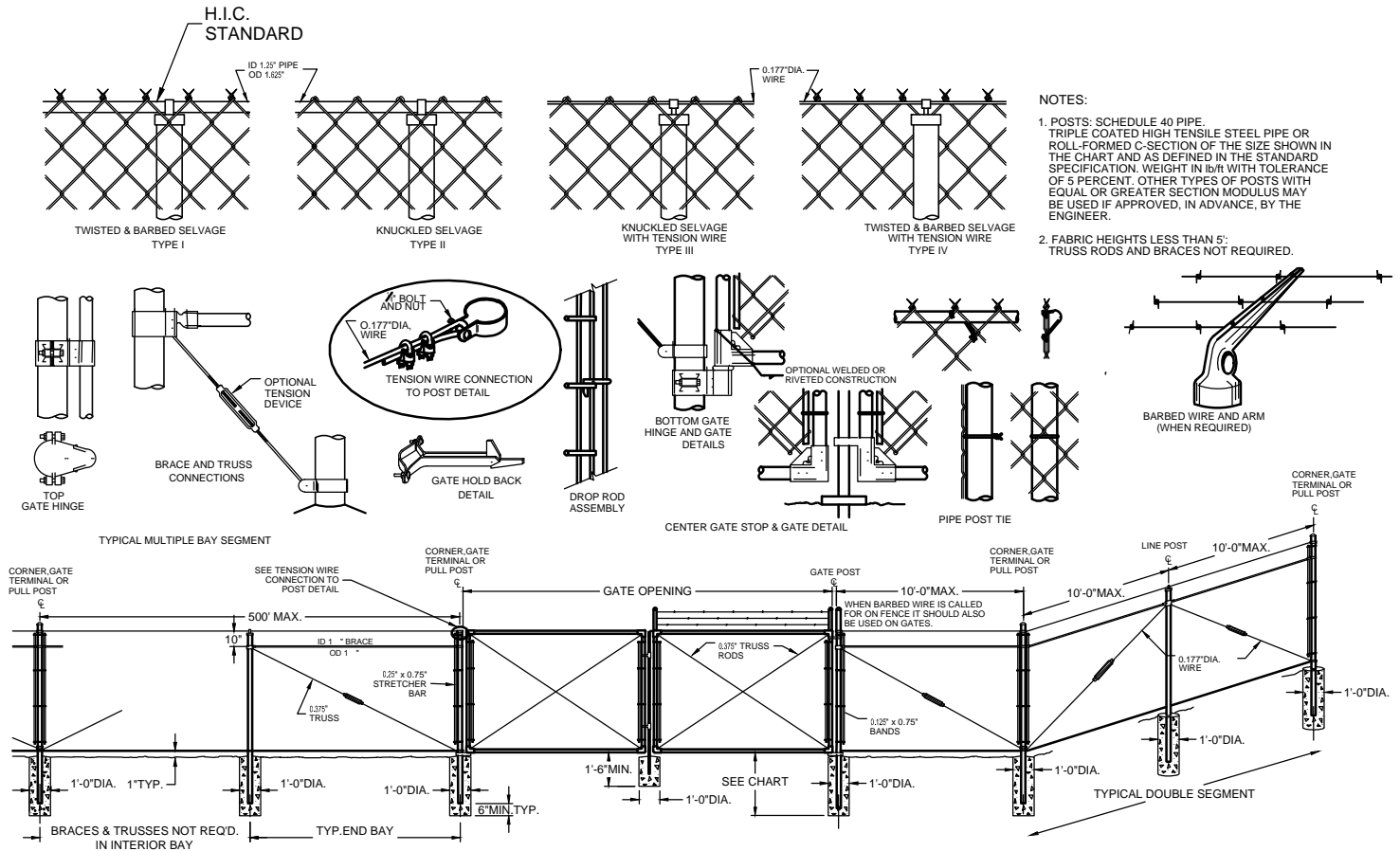


CANAL	A	B	C	D
DIMENSIONS	VARIES	12'	22'	VARIES

NOTE:

1. RIGHT OF WAY (R.O.W.) ESTABLISHED BY HISTORIC PRESCRIPTIVE USE.
2. ANY IMPROVEMENTS TO PROPERTIES LOCATED WITHIN H.I.C. R.O.W. SHALL CONFORM TO CURRENT STANDARD .
3. FENCES SHALL BE BUILT AT THE SETBACKS FOR "C" AND "B".

HOOPER IRRIGATION COMPANY (H.I.C.) FENCE DETAIL



HEIGHT OF FABRIC	DEPTH OF POSTS	LENGTH OF END CORNER OR PULL POSTS	LENGTH OF LINE POSTS	SIZE OF POSTS									
				END, CORNER & PULL POSTS				LINE POST MIN. SIZE					
				NOM. SIZE	OUTSIDE DIA.	PIPE WEIGHT		NOM. SIZE	OUTSIDE DIA.	PIPE WEIGHT		OUTSIDE DIMENSIONS C-SECTION	WT/FT
						ASTM A 120	TRIPLE COAT			ASTM A 120	TRIPLE COAT		
7'	3'	10'	9'-8"	2"	2.875"	5.79	4.64	2"	2.375"	3.65	3.11	1.875 x 1.625	2.28
6'	3'	9'	8'-8"	2"	2.375"	3.65	3.11	1"	1.900"	2.72	2.23	1.875 x 1.625	1.85
5'	3'	8'	7'-8"	2"	2.375"	3.65	3.11	1"	1.900"	2.72	2.23	1.875 x 1.625	1.85
4'	2'	6'	5'-8"	2"	2.375"	3.65	3.11	1"	1.900"	2.72	2.23	1.875 x 1.625	1.85
3'	2'	5'	4'-8"	2"	2.375"	3.65	3.11	1"	1.900"	2.72	2.23	1.875 x 1.625	1.85

HEIGHT	GATE OPENING	GATE POST	GATE FRAME
UNDER 6'	SINGLE TO 6' OR DOUBLE TO 12'	2"	1"
	SINGLE OVER 6' TO 8' OR DOUBLE OVER 12' TO 16'	2"	1"
	SINGLE OVER 8' TO 12' OR DOUBLE 16' TO 24'	3"	
6' AND OVER	SINGLE TO 6' OR DOUBLE TO 12'	2"	1"
	SINGLE OVER 6' TO 13' OR DOUBLE OVER 12' TO 24'	3"	
	SINGLE OVER 13' TO 18' OR DOUBLE OVER 24' TO 36'	6"	
	SINGLE OVER 18' OR DOUBLE OVER 36'	8"	

* GATES OVER 6' IN HEIGHT AND WIDER THAN 12' WILL REQUIRE 3 INDUSTRIAL PRESSED STEEL HINGES.

NOTES

SUMMARY

DIVISION 15

SERVICE CONNECTION

15.01 GENERAL:

This section covers the installation of service connection and components to homeowner's property line.

15.02 SERVICE SADDLE SPECIFICATIONS:

For service connections to C900 PVC main, all service saddles shall be of a "Full encirclement design," and shall be O.D. controlled, which design will eliminate the possibility of pipe crushing due to the over torquing of the nuts upon installation. All service saddles for connections to C900 PVC pipe sizes 4 inch to 10 inch diameter shall be Mueller Model H-13490 Series or Ford S-90.

15.03 CORPORATION STOP:

For service connections to Ductile Iron main on pipe sizes that are 12 inch diameter and larger, corporation stops shall be used to connect to the main. Corporation stops shall be manufactured and tested to ANSI/AWWA C800. The body is to be cast from 85-5-5-5 ASTM B62 brass alloy and be of a straight through design. All corporation stops shall be Mueller 1500 series (or approved equal), with CTS 110 compression outlet. Stainless steel pipe stiffeners are required to be used to eliminate cold flow of plastic pipe and compression fittings.

15.04 POLYETHYLENE TUBING:

Pipe for the transmission of irrigation water from main to utility box and from the utility box at property line shall be Polyethylene CTS tube. Polyethylene CTS tube shall be manufactured in accordance with the standard specification for Polyethylene (PEP plastic tubing as issued by the American Standard for Testing and Materials under ASTM D 2737 and AWWA C-901.

Material designation code: Polyethylene
PE 3408

Plastic Extrusion Compound: Type III, class C,
grade 34, as defined

DIVISION 15
SERVICE CONNECTION

in ASTM D 1248

The standard pipe dimension ratio is CTS (SDR) 9, which has a 200 psi pressure rating. All tubing for service lines shall be cut and installed in a neat and workmanlike manner by a method recommended by the manufacturer. No joints will be allowed between the main and the service valve. Tubing shall be WESTFLEX PE 3408 Gold Label or equivalent.

15.05 COMPRESSION CONNECTION:

MUELLER 110 COMPRESSION COUPLINGS AND FITTINGS OR FORD C84-44Q (1-INCH) OR FORD C84-77Q (2-INCH) COMPRESSION COUPLINGS ARE TO BE USED ON ALL P.E. PLASTIC PIPE INSTALLATIONS.

- (a) The interior surface of the coupling nut, including threads, shall have a baked on, fluorocarbon coating to reduce assembly friction and prevent the gasket from turning and twisting during tightening. The nut shall bottom on a cast or machined shoulder on the body when properly assembled. This design will provide a visual check to assure connection is properly assembled.
- (b) The sealing gasket shall be of molded synthetic rubber (ASTM D-2000) with molded in place bronze spring (ASTM A-134 Alloy #6) to eliminate the possible cold flow of the gasket between the pipe and fitting. A gripper band of hardened stainless steel (ANSI Type 401) shall be fitted into the gasket. When the gasket is compressed it will cause the gripper ring to distort the pipe giving the fitting a high resistance to pull out. The gripper band shall overlap itself to prevent cold flow of the gasket into the cavity under the band.
- (c) When compression fittings are used with P.E. Pipe, Stainless Steel pipe stiffeners are required to be used to eliminate cold flow of plastic pipe.
- (d) All fittings are to be for CTS Polyethylene pipe.
- (e) The Minimum pull out load for the fitting when used with PE plastic pipe shall be as follows for each given size:

DIVISION 15
SERVICE CONNECTION

<u>SIZE</u>	<u>MINIMUM PULL OUT (FT.LBS.)</u>
1"	400
1½"	500
2"	500

15.06 SERVICE FITTINGS:

All service fittings such as brass tees, and brass ells shall be Mueller 110 Compression Connections or Ford Q Fittings.

15.07 MARK II ORI-SEAL VALVE:

These valves shall be closed bottom design and sealed against external leakage at the top by means of a non-adjustable resilient pressure actuated seal, and shall be provided with a secondary resilient seal disposed above the pressure seal for added protection of the bearing surfaces against ground water infiltration. Shutoff shall be affected by a resilient pressure actuated seal so disposed in the key (or plug) as to completely enclose the inlet body port (flow way), in the closed position. All Curb valves shall be quarter turn valves and the fully open and closed positions shall be controlled by check lugs which are integral parts of the key and body. The maximum pressure rating shall be 175 PSI water at a maximum temperature of 180 degrees Fahrenheit.

All fittings are to be CTS Size, used on CTS (Copper Tube Size) Polyethylene pipe. No IPS polyethylene pipe or fittings are to be used.

Curb stops valves shall be MUELLER H-15172, 110 COMPRESSION by FIP, STOP AND WASTE CONFIGURATION. (no substitution is allowed)

A protective insert plug shall be placed on the open side of the valve (the side where the resident will connect into in the future) in order to prevent dirt and debris from entering the valve.

15.08 SERVICE BOX:

DIVISION 15
SERVICE CONNECTION

Service box shall be an 11 3/4-inch by 17-inch standard green fiberglass irrigation box with cover. Service Box shall be installed over the Ori-Seal valve. A sign shall be attached or embossed to or on the cover indicating as follows: "IRRIGATION" Box shall be Brooks 1419 series utility box with lid recessed and shall be provided with Waterworks Pentagon Head locking device or equivalent.

The location of the service box should be coordinated with each property owner. A double service near a shared property corner is encouraged in order to reduce construction and maintenance costs. Determination of service location shall be provided by Hooper Irrigation Company (Owner) and coordinated with the resident and the Contractor. The location shall be near the property line and away from traffic impact areas. The location shall be marked on the ground with a flag, stake, paint, or other methods chosen by the Owner. The Contractor must coordinate with the Owner and the resident when a service box location may provide conflicts with existing infrastructure or difficulties in construction. Note: Service box must be a minimum of 5'-0" away, either side of culinary water meter. Field notes of the actual installed location of the service box must be shown on the as-built drawings by the Contractor. Contractor shall be required to write in permanent ink Marker on the lid of the service box footage from service box to main. This will serve as another means of locating the main in the roadway and for dewatering pay quantities.

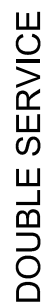
15.09 SERVICE BORE:

All services on the opposite side of the street from the main will be bored under the asphalt. No open trenching for services will be permitted unless approved by engineer. All approved open trenching for service installation will require a minimum of 1'-0" (one Foot) trench width in order to achieve the necessary compaction and asphalt replacement. Boring will also be required in areas where construction will cross existing sidewalk, and/or curb and gutter. Sidewalk and/or curb and gutter that is damaged or removed on this project shall be replaced in same or better condition (than before the damage or removal) at no additional cost to the Owner.

DIVISION 15
SERVICE CONNECTION

15.10 FLOW METERS:

As of March 12, 2018, flow meters shall be installed on all new secondary services per the Hooper Irrigation Company "Typical Service Connections" detail in the standard drawings. Meters shall be of type Sensus iPerl for all services 1" in size and smaller. For services larger than 1", the Hooper Irrigation Company engineer should be consulted for information about meter type and model. Meters shall be located behind the curb and gutter in the park strip area per the standard detail.



1. STAINLESS STEEL PIPE STIFFENERS ARE REQUIRED TO BE USED ON ALL CONNECTIONS ON POLY PIPE.
2. INSURE VALVE CONTROL NUT CAN BE SERVICED BY WRENCH WHEN POSITIONING UNDER ENCLOSURE LID

- N.T.S.

CAD DWG:	detail01.dwg
PLOT SCALE:	N/A
DATE:	DECEMBER 2004
DRAWN BY:	D.STEELE
DESIGN BY:	D.STEELE
CHECKED BY:	TLA
SCALE:	—