

TYPICAL 5/8" x 3/4" DOUBLE INSTALLATION

TYP. 5/8" x 3/4" AND 1" SINGLE INSTALLATION

TYPICAL WATER MAIN CONNECTION

NOTES:

- METER SHALL BE FURNISHED AND INSTALLED BY DISTRICT UPON PAYMENT OF ESTABLISHED METER CHARGES
- METER SETTER SHALL BE CENTERED WITHIN METER BOX, BOTH HORIZONTAL DIMENSIONS.
- WATER SERVICE CONNECTIONS AND CONFIGURATIONS SHALL BE INSTALLED WHERE SHOWN AND AS SHOWN ON THE PLANS, OR OTHERWISE DIRECTED BY THE DISTRICT.
- SERVICE LINES SHALL BE INSTALLED PERPENDICULAR TO WATER MAIN, IN THE PLAN VIEW, UNLESS OTHERWISE SHOWN ON THE PLANS.
- DEPTH OF COVER OVER SERVICE LINE SHALL MEET REQUIREMENTS OF SPECIFICATIONS.

STANDARD PLAN B-19g
LAKEHAVEN UTILITY DISTRICT
KING COUNTY WASHINGTON

WATER SERVICE CONNECTION (5/8" x 3/4" & 1")

DATE: 9-95
DRAWN: RSL
CHECKED: BLR
APPR: DRH

SCALE: NONE
SHEET 1 OF 2

MATERIAL LIST:

A METER SETTER
5/8" x 3/4" METER: FORD WHT-12WC OR MUELLER H-1404-2x12" WITH TWO H-14222 ENDS
1" METER: FORD WHT-4-12WC OR MUELLER H-1404-2x12" WITH TWO H-14222 ENDS
- DOUBLE PURPOSE INLET & OUTLET COUPLING (FEMALE)
- IRON PIPE UNION, SWIVELS OR FLARED COPPER)
- DRILLED PADLOCK WINGS ON METER STOP.
- SINGLE CHECK VALVE ON OUTLET.

B SERVICE LINE PIPE
1" CTS POLYETHYLENE TUBING, SDR 9

C SINGLE STRAP SERVICE SADDLE
ROMAC 101 OR 101S
- 1" CC (AWWA) TAP

D ADAPTER (USE PIPE INSERTS)
3/4" MIPT x 1" CTS COMPRESSION: MUELLER H-15428
OR FORD CB4-34G "GRIP JOINT", OR McDONALD 4753T
1" MIPT x 1" CTS COMPRESSION: MUELLER H-15428
OR FORD CB4-44G "GRIP JOINT", OR McDONALD 4753T

E METER BOX
5/8" x 3/4" METER: FOG TITE METER SEAL CO. NO. 1, OR METER BOX EQUIPMENT NO. 1; OR FOG TITE METER SEAL CO. NO. 1-D OR METER BOX EQUIPMENT NO. 1-D (WHERE SUBJECT TO TRAFFIC LOADING)
1" METER: FOG TITE METER SEAL CO. NO. 8-10 OR METER BOX EQUIPMENT NO. 68-S WITH CONG. COVER AND ALUMINUM METER READING LID; OR FOG TITE METER SEAL CO. NO. 8-10T WITH SOLID METAL COVER OR METER BOX EQUIPMENT NO. 68-ST WITH TRAFFIC COVER AND METAL READING LID (WHERE SUBJECT TO TRAFFIC LOADING).

F CORPORATION STOP (USE PIPE INSERTS)
1" INLET AWWA TAPER (CC) THREAD x 1" CTS COMPRESSION.
MUELLER H-1500B OR FORD F1000G "GRIP JOINT"

G BRASS NIPPLE
3/4" IPS x 8" LONG OR 1" IPS x 8" LONG.

H GALVANIZED MALLEABLE IRON CAP
3/4" IPS OR 1" IPS

I BRASS TEE
3/4" x 3/4" x 1" IPS BULLHEAD TEE

J BRASS NIPPLE
3/4" IPS x 8" LONG

K BRASS 3/4" OR 1" x 45° STREET ELL OR 3/4" OR 1" BRASS GLOBE NIPPLE & 3/4" OR 1" BRASS 45° ELL

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SHEET 2 OF 2

TEE

SINGLE PLUGGED CROSS

DOUBLE PLUGGED CROSS

UNBALANCED CROSS

GATE VALVE

PLUG OR CAP

HORIZONTAL & CONCAVE VERTICAL BENDS

BLOCKING TABLE

S	N	D
4"	2	1/2"
6"	2	1/2"
8"	2	1/2"
12"	2	1"
16"	2	1"
24"	2	1"

STANDARD PLAN B-22a
LAKEHAVEN UTILITY DISTRICT
KING COUNTY WASHINGTON

CONCRETE THRUST BLOCKING HORIZONTAL & CONCAVE VERTICAL BENDS

DATE: 9-95
DRAWN: RSL
CHECKED: BLR
APPR: DRH

SCALE: NONE
SHEET 1 OF 2

NOTES:

- Bearing areas of concrete thrust blocking are based on undisturbed soil pressure of 2000/(3000) pounds per square foot.
- Bearing areas must be adjusted for other soil pipe, pressures and soil conditions.
- Concrete blocking shall be cast in place, and have a minimum of 1/2 sq. ft. (72 sq. in.) bearing against the fitting.
- Use cement concrete Class 3000 which has a compressive strength of 3,000 psi.
- Contractor shall install blocking adequate to withstand full test pressures as well as to continuously withstand operating pressure under all conditions of service.
- The bearing areas given in the table are for horizontal thrusts when the depth of cover over the pipe exceeds 2 feet.
- SAFE BEARING LOAD LBS. PER SQ. FOOT

PIPE PRESSURE (PSI)	A	B	C	D	E	F
4"	200	2(1/1)	1/(NONE)	1/(NONE)	NONE	NONE
6"	300	2(2)	2(2)	2(2)	1(1)	NONE
8"	200	4(3)	3(2)	3(1)	1(1)	1/(NONE)
12"	200	7(5)	5(3)	4(3)	2(2)	1(1)
16"	200	11(2)	8(5)	6(4)	3(2)	2(1)
24"	200	18(11)	11(8)	9(6)	5(3)	3(2)
30"	250	24(18)	17(11)	12(9)	7(5)	4(3)
36"	200	28(19)	21(14)	16(11)	8(6)	5(3)
42"	225	33(18)	23(16)	17(12)	9(6)	5(3)
48"	200	44(15)	46(13)	35(12)	19(12)	13(10)

USE OF TABLE

- Select proper row based upon pipe/fitting size and specified test pressure.
- Select proper column based upon type of fitting to be restrained. (Refer to illustrations).
- Determine strength of soil encountered. Table provides for sand-type soil at 2,000 psi, or sand and gravel-type soil at 3,000 psi (in parenthesis). Refer to Note 6 to interpolate for other types of soil.
- Read minimum bearing area in square feet.

STANDARD PLAN B-22a
LAKEHAVEN UTILITY DISTRICT
KING COUNTY WASHINGTON

CONCRETE THRUST BLOCKING HORIZONTAL & CONCAVE VERTICAL BENDS

DATE: 9-95
DRAWN: RSL
CHECKED: BLR
APPR: DRH

SCALE: NONE
SHEET 2 OF 2

11-1/4" or 22-1/2" BENDS

45° BENDS

THRUST BLOCK TABLE

PIPE SIZE	BEND DEFLECTION	V	A	D	L
11-1/4"	8	2.0	3/4"	1.0	
22-1/2"	11	2.2	3/4"	2.0	
45°	30	3.1	3/4"	2.0	
11-1/4"	11	2.2	3/4"	2.0	
22-1/2"	25	2.9	3/4"	2.0	
45°	68	4.1	3/4"	2.0	
11-1/4"	16	2.5	3/4"	2.0	
22-1/2"	47	3.6	3/4"	2.5	
45°	123	5.0	3/4"	2.0	
11-1/4"	32	3.2	3/4"	2.0	
22-1/2"	86	4.5	7/8"	3.0	
45°	232	6.1	3/4"	2.5	
11-1/4"	70	4.1	7/8"	3.0	
22-1/2"	184	5.7	1-1/8"	4.0	
45°	478	7.8	1-1/8"	4.0	
11-1/4"	128	5.0	1"	3.5	
22-1/2"	300	6.8	1-3/8"	4.5	
45°	820	9.4	1-3/8"	4.5	

STANDARD PLAN B-22-R
LAKEHAVEN UTILITY DISTRICT
KING COUNTY WASHINGTON

CONCRETE THRUST BLOCKING CONVEX VERTICAL BENDS

DATE: 9-95
DRAWN: RSL
CHECKED: BLR
APPR: DRH

SCALE: NONE
SHEET 1 OF 2

PLAN @ MAIN

PLAN @ GRADE

ELEVATION

STANDARD PLAN B-21a-R
LAKEHAVEN UTILITY DISTRICT
KING COUNTY WASHINGTON

PERMANENT BLOWOFF ASSEMBLY (3" SIZE)

DATE: 9-95
DRAWN: RSL
CHECKED: BLR
APPR: DRH

SCALE: NONE
SHEET 1 OF 1

ELEVATION

PLAN

STANDARD PLAN B-19g-R
LAKEHAVEN UTILITY DISTRICT
KING COUNTY WASHINGTON

HYDRANT SETTING TYPE A

DATE: 3-94
DRAWN: RSL
CHECKED: BLR
APPR: BLR

SCALE: NONE
SHEET 1 OF 1

ELEVATION CUT

ELEVATION FILL

ELEVATION GUARD POST

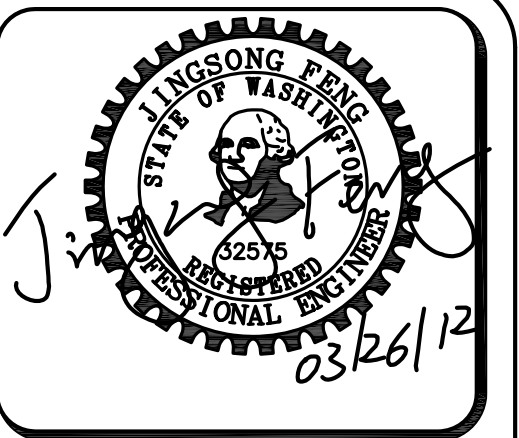
PLAN GUARD POST LOCATION

STANDARD PLAN B-19b
LAKEHAVEN UTILITY DISTRICT
KING COUNTY WASHINGTON

HYDRANT LOCATION IN CUT OR FILL HYDRANT GUARD POST

DATE: 3-94
DRAWN: RSL
CHECKED: BLR
APPR: BLR

SCALE: NONE
SHEET 1 OF 1



15445 53RD AVE. S.
SEATTLE, WA 98188
PHONE: (206) 431-7970
FAX: (206) 388-1648
WEB SITE: PACENG.COM

Pacific Engineering Design, LLC

Civil Engineering and Planning Consultants

LAKEHAVEN UTILITY DISTRICT PROJECT No. 6304025
KING COUNTY, WA.

FOR: HIGHLAND PACIFIC HOUSING GROUP I, LLC
1420 5TH AVE. SUITE 2200
SEATTLE, WA. 98101-5346
PHONE: (206) 521-5979 FAX: (206) 254-2880

PROJECT NO.: 05052
DRAWN BY: AA
ISSUE DATE: 07-31-07
SHEET REV.: 03-26-2012

WATER DETAILS

050520101-WA10.DWG
WA10