

1. ALL WATER LINE WORK SHALL BE IN ACCORDANCE WITH FAC 62-555, "PERMITTING AND CONSTRUCTION OF PUBLIC WATER SYSTEMS". ALL PRODUCTS SHALL BE CERTIFIED AS SUITABLE FOR CONTACT WITH DRINKING WATER BY AN ACCREDITED CERTIFICATION ORGANIZATION IN ACCORDANCE WITH ANSI/NSF STANDARD 61, DRINKING WATER SYSTEMS COMPONENTS HEALTH EFFECTS, AND SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE AWMA STANDARDS AND/OR THE MANUFACTURERS' RECOMMENDATIONS. PVC PIPING SHALL BE INSTALLED IN ACCORDANCE WITH AWMA C800; DUCTILE IRON PIPING SHALL BE INSTALLED IN ACCORDANCE WITH AWMA C900.
2. PIPING SHALL BE DISINFECTED IN ACCORDANCE WITH AWMA C651 AND SHALL NOT BE PLACED INTO SERVICE UNTIL REGULATORY CLEARANCE IS RECEIVED.
3. MAINTAIN SEPARATION BETWEEN UTILITIES IN ACCORDANCE WITH RULE 62-555.314 FAC.
4. ALL COMMERCIAL WATER SERVICES SHALL HAVE A CITY APPROVED BACKFLOW DEVICE ASSEMBLY AT EACH CONNECTION POINT TO THE CITY WATER DISTRIBUTION SYSTEM. BACKFLOW DEVICES SHALL MEET THE REQUIREMENTS OF FAC 62 555.560 AND AWMA MANUAL M14, "RECOMMENDED PRACTICE FOR BACKFLOW PREVENTION AND GROSS CONNECTION CONTROL".
5. IF REPAIRS TO NEW WATER LINES ARE REQUIRED IN ORDER TO PASS A SPECIFIED PRESSURE TEST, NUMBER OF JOINT CONNECTIONS SHALL NOT EXCEED ONE PER PRESSURE TEST AFTER THE 10% JOINT REPAIRS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
6. ALL MAINS AND SERVICE PIPING SHALL BE HYDROSTATICALLY TESTED AT 150 PSI FOR A TWO HOUR PERIOD. NO INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE IS GREATER THAN THAT ALLOWED BY AWMA C605, OR BY AWMA C600, WHICHEVER IS APPLICABLE, OR IF THERE IS ANY VISIBLE LEAK REGARDLESS OF AMOUNT.
7. A FIRE HYDRANT METER IS REQUIRED FOR ANY WATER USAGE IN A PROJECT. THE CITY WILL PROVIDE THE HYDRANT METER FOR A NON-REFUNDABLE CHARGE OF \$2500 PLUS A \$1,000.00 REFUNDABLE SECURITY DEPOSIT. BILLING FOR WATER ONLY CITY EMPLOYEES ARE PERMITTED TO OPEN OR CLOSE ANY VALVES OR FIRE HYDRANTS OWNED BY OR CONNECTED TO THE CITY WATER SYSTEM.
9. THRUST BLOCKS ARE NOT ALLOWED. CITY APPROVED RESTRAINING DEVICES SHALL BE USED FOR PIPE RESTRAINT.
10. VALVES AND FIRE HYDRANTS SHALL BE SPACED NO MORE THAN 500' APART IN COMMERCIAL AND HIGH-DENSITY AREAS, AND 800' APART IN OTHER AREA, ON DISTRIBUTIONS SYSTEMS. FOR TRANSMISSION MAINS VALVES SHALL BE SPACED A MAXIMUM OF 1200'.
11. PROVIDE GATE VALVES AT ALL TEES AND CROSSINGS. A VALVE SHALL BE PROVIDED ON EACH BRANCH OF A GROSS OR TEI.
12. WATER MAIN DEPTH SHALL BE A MINIMUM OF 36" BELOW FINAL GRADE.
13. DEPTH OF CURB STOPS, IN METER BOXES, SHALL BE 8" BELOW FINISHED GRADES.
14. WARNING TAPE SIZE 2" LABELED "WATER LINE BELOW" SHALL BE PLACED 8" TO 12" BELOW FINISHED GRADES ABOVE WATER MAINS, LATERALS, AND PIPING. TESTS OF NON-METALLIC PIPE WITH DUCT TAPE: ON EACH PIPE LENGTH AT ALL BELLS AND AT LEAST FOUR ADDITIONAL EQUALLY SPACED LOCATIONS. THE TRACER SHALL BE ATTACHED TO ALL LATERALS AND EXTENDED TO THE TOP OF EACH VALVE BOX ON THE INSIDE SO THAT PIPE LOCATOR CAN BE ATTACHED.

15. ALL SERVICE LATERALS SHALL BE A UNIFORM DISTANCE BETWEEN CURB AND SIDEWALK, AND SHALL BE LOCATED ON PROPERTY LOT LINE.
16. NO SPLICES IN SERVICE PIPING WILL BE ALLOWED BETWEEN THE WATER MAIN AND THE CURB STOP.
17. ALL WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON, EXCEPT DIRECTIONAL BORES WHICH MAY BE SDR-11 HDPE.
18. A CONTINUITY TEST SHALL BE SUCCESSFULLY COMPLETED BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE OF NON-METALLIC PIPES BY THE CITY. "BOGGING" MATERIALS & NON-OPERABLE PIPING SHALL BE REMOVED AND REPAIRED.
20. ALL SERVICE PIPING SHALL BE INSTALLED TO THE CITY STANDARD SPECIFICATIONS TO THE CONTRACTOR DRAWING ("AS-BUILT") PLANS. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL FURNISH RECORD DRAWINGS AND THREE BLUE-LINE COPIES AS WELL AS ON A SET OF REPRODUCIBLE DRAWINGS AND THREE BLUE-LINE COPIES. RECORD DRAWINGS SHALL BE PREPARED BY A STATE OF FLORIDA LICENSED SURVEYOR AND SHALL BE REVIEWED, SIGN AND SEALED BY THE ENGINEER OF RECORD.
22. BLUE REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN THE CENTER OF THE DRIVING LANE ADJACENT TO FIRE HYDRANTS.
23. THE CONTRACTOR SHALL BE REQUIRED TO STOP ALL CONSTRUCTION ACTIVITY, INCLUDING REPAIRS, UNTIL APPROVED BY THE CITY ENGINEER.
24. THE CITY PUBLIC WORKS DIRECTOR MUST APPROVE ANY ITEM OR CHANGE NOT MENTIONED OR COVERED IN THE CITY STANDARD SPECIFICATIONS OR DETAILS.
25. ANY PROPOSED TAPS TO EXISTING CITY MAINS SHALL BE SCHEDULED AND COORDINATED WITH THE PUBLIC WORKS DIRECTOR. A MINIMUM 48 HOURS NOTICE MUST BE PROVIDED.

MATERIAL	MANUFACTURER
PIPE	4-INCHES THRU 12-INCHES: PVC - AWMA G900-97, DR 18 DUCTILE IRON - AWMA C900-01, PRESSURE CLASS 350 GENERIC 14-INCHES AND LARGER: PVC - AWMA G905-97 CAST-IRON-PIPE-EQUIPMENT OUTSIDE DIAMETER, PRESSURE RATING 165 PSI DI - AWMA C151-02, PRESSURE CLASS 150 OR GREATER, CEMENT MORTAR LINED AWMA 0901-02, PE 3408, DR 9, PRESSURE CLASS 200
TUBING	¾-INCH THRU 1½-INCH NOMINAL SIZE, WITH STAINLESS STEEL INSRTS, ERROR OR ENDOT Endopore
GATE VALVES	2-INCHES AND SMALLER: MUELLER A-2260-8, OR AMERICAN AVK, THREADED ENDS LARGER: MECHANICAL JOINT ENDS, AWMA C509-01 MUELLER A-2260 OR AMERICAN AVK, OR AWMA C515-01, AMERICAN FLOW CONTROL, SERIES 2500 LARGER THAN 12" AWMA C504, RESILIENT SEATED MUELLER LINESAL 111 M.L. KENNEDY B.V., FIG. 30
BUTTERFLY VALVES	TYLER 461-S 18" - 24" TYLER 562-S 24" - 36" CAST IRON, RESILIENT SEAT, AWMA C508 AMERICAN FLOW 505C MUELLER MA-2602-6-01-LW MUELLER MA-2602-6-01-LW KENNEDY B.V., FIG. 30
VALVE BOXES	TYLER 461-S 18" - 24" TYLER 562-S 24" - 36" CAST IRON, RESILIENT SEAT, AWMA C508 AMERICAN FLOW 505C MUELLER MA-2602-6-01-LW MUELLER MA-2602-6-01-LW KENNEDY B.V., FIG. 30
CHECK VALVE	SIZE C502, DRY-BARREL, 5¼" MAIN VALVE MUELLER A-423 KENNEDY K-81-A AMERICAN FLOW B-84-B AMERICAN AVK
FIRE HYDRANT	4-INCHES AND LARGER: AWMA C153-00 OR C110-03, MECHANICAL JOINT TYPE, CEMENT-MORTAR LINED
FITTINGS	PVC PIPE EBAA IRON MEGA-LUG 200DPV, 1600, 2800 FORD UNIFLANGE 1500, 1300, 1350, 1390 DUCTILE IRON EBAA IRON MEGA-LUG 1100, 1700, 1100SD APCO ARV, MODEL 200--WATER AND RECLAIMED WATER ONLY VALMATIC, MODEL 45--WATER AND RECLAIMED WATER ONLY CRISPIN, MODEL PL20--WATER AND RECLAIMED WATER ONLY A.R.I. FLOW CONTROL, MODEL D-02S SHORT VERSION--WASTEWATER ONLY
RESTRAINING DEVICES	2" AIR RELEASE VALVE

MATERIAL	MANUFACTURER
TAPPING VALVE	MUELLER T-2260 AMERICAN FLOW CONTROL SERIES 2500
TAPPING SLEEVE	AWMA C223-02, TYPE 304 STAINLESS STEEL PER ASTM A240 WITH OUTLET FLANGE PER MSS SP-60; STAINLESS STEEL BOLTING WITH ANTI-SIZE MUELLER H-304 MUELLER H-304
SERVICE SADDLES	OUTLET TAPPED WITH I.P. THREAD (F.I.P.1), DOUBLE STRAP, DUCTILE IRON BODY, MUELLER DR25, JCM 402, OR FORD F202.
CORPORATION STOP	AWMA C800, INLET WITH MALE IRON PIPE THREAD, OUTLET FOR CONNECTION TO COPPER TUBE SIZE O.D., POLYETHYLENE TUBING; MUELLER H-15028 OR FORD F1100-4, 1-INCH SIZE FOR SINGLE SERVICE; MUELLER H-15023 OR FORD F91100-6, 1½-INCH SIZE FOR DOUBLE SERVICE
CURB STOP (METER VALVE)	FOR SINGLE SERVICE: 1-INCH INLET FOR COPPER TUBE SIZE POLYETHYLENE TUBING BY METER SWWEL NUT OUTLET FOR EITHER ¾" X ¾-INCH OR ¾-INCH METER; MUELLER B-24258 OR B-24350 OR FORD B43-342W OR KV43-342W U BRANCH FOR DOUBLE SERVICE: 1½-INCH INLET FOR COPPER TUBE SIZE POLYETHYLENE TUBING WITH ¾-INCH MALE IRON PIPE THREAD OUTLETS; MUELLER H-153631234712 WITH B-24265 ANGLE METER VALVES HAVING ¾-INCH FEMALE IRON PIPE INLET AND METER SWWEL NUT OUTLETS OR FORD UV43-62W
DOUBLE METER BOX	BROOKS SERIES #37 CONCRETE BOX, 12" X 20" X 12", SOLID CONCRETE COVER WITH SINGLE TOUCH READ HOLES, RHINO #AB-18 BLACK DUAL METER BOX & COVER WITH DUAL TOUCH READ HOLE
SINGLE METER BOX	BROOKS SERIES #37 CONCRETE BOX, 12" X 20" X 12", SOLID CONCRETE COVER WITH SINGLE TOUCH READ HOLES, RHINO #AB-18 BLACK METER BOX & COVER WITH SINGLE TOUCH READ HOLE

CITY OF GROVELAND STANDARD DETAILS: WATER

GENERAL WATER NOTES	DATE: JULY 7, 2008 SCALE: N.T.S. W-1A
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CITY OF GROVELAND STANDARD DETAILS: WATER

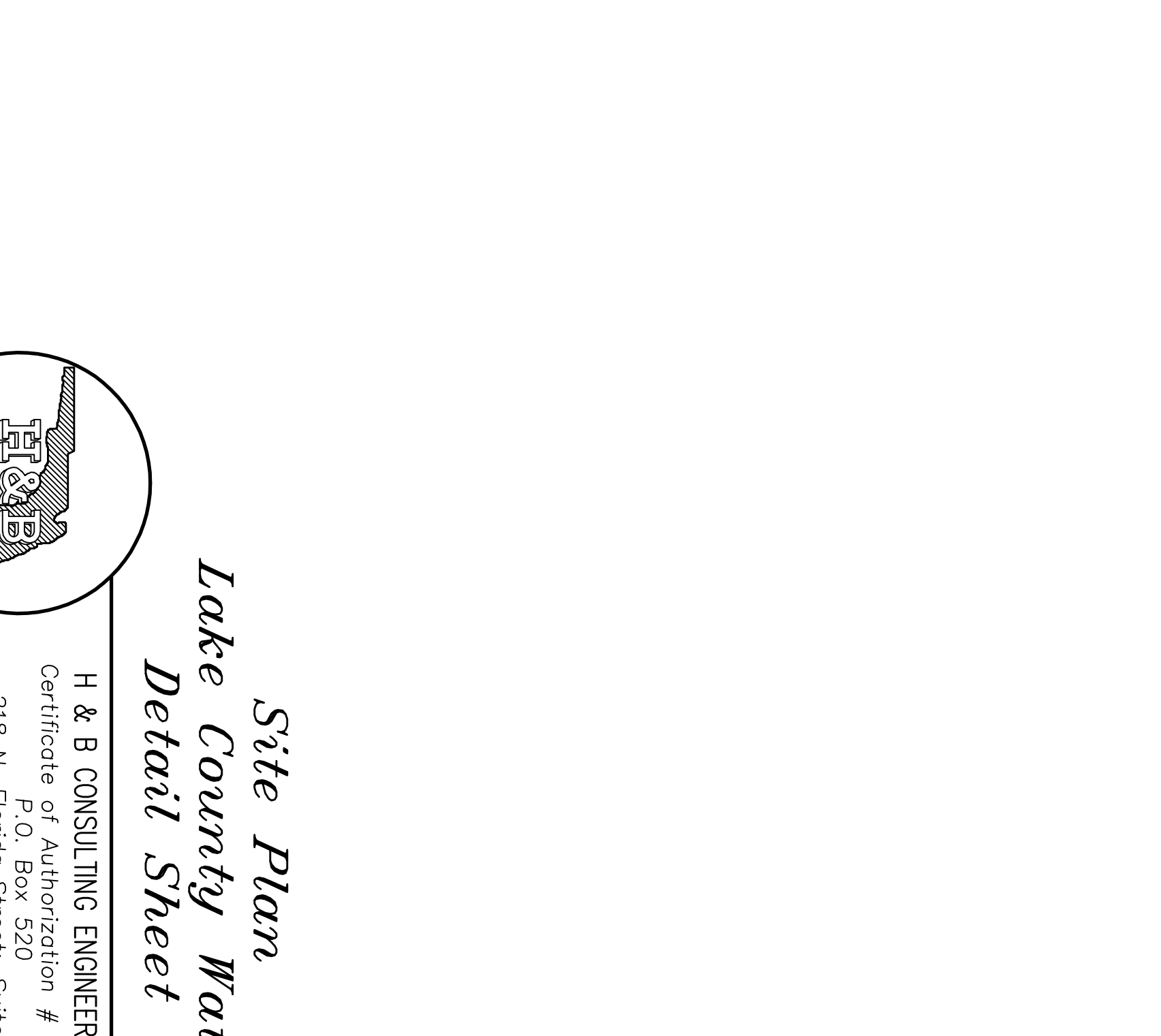
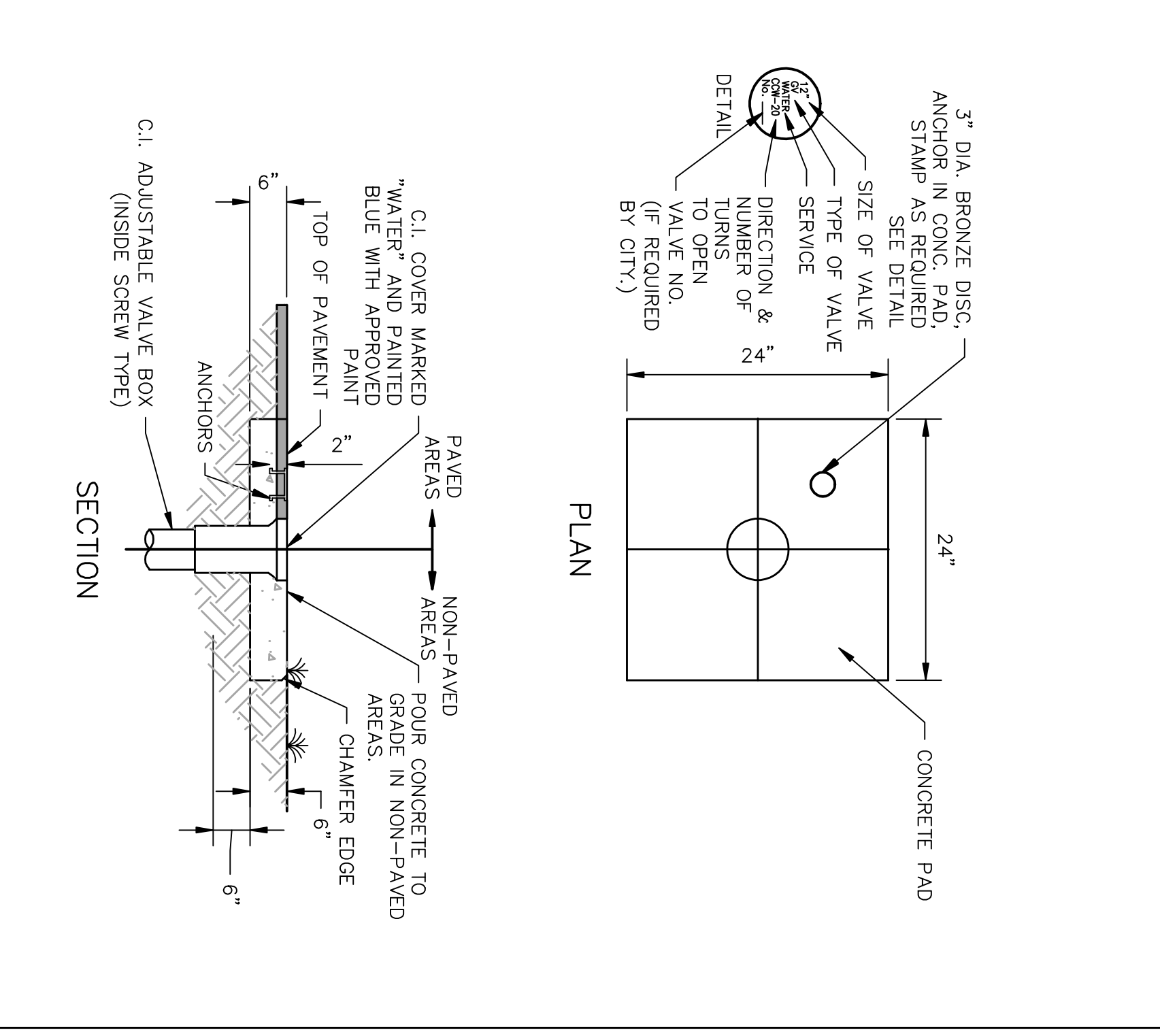
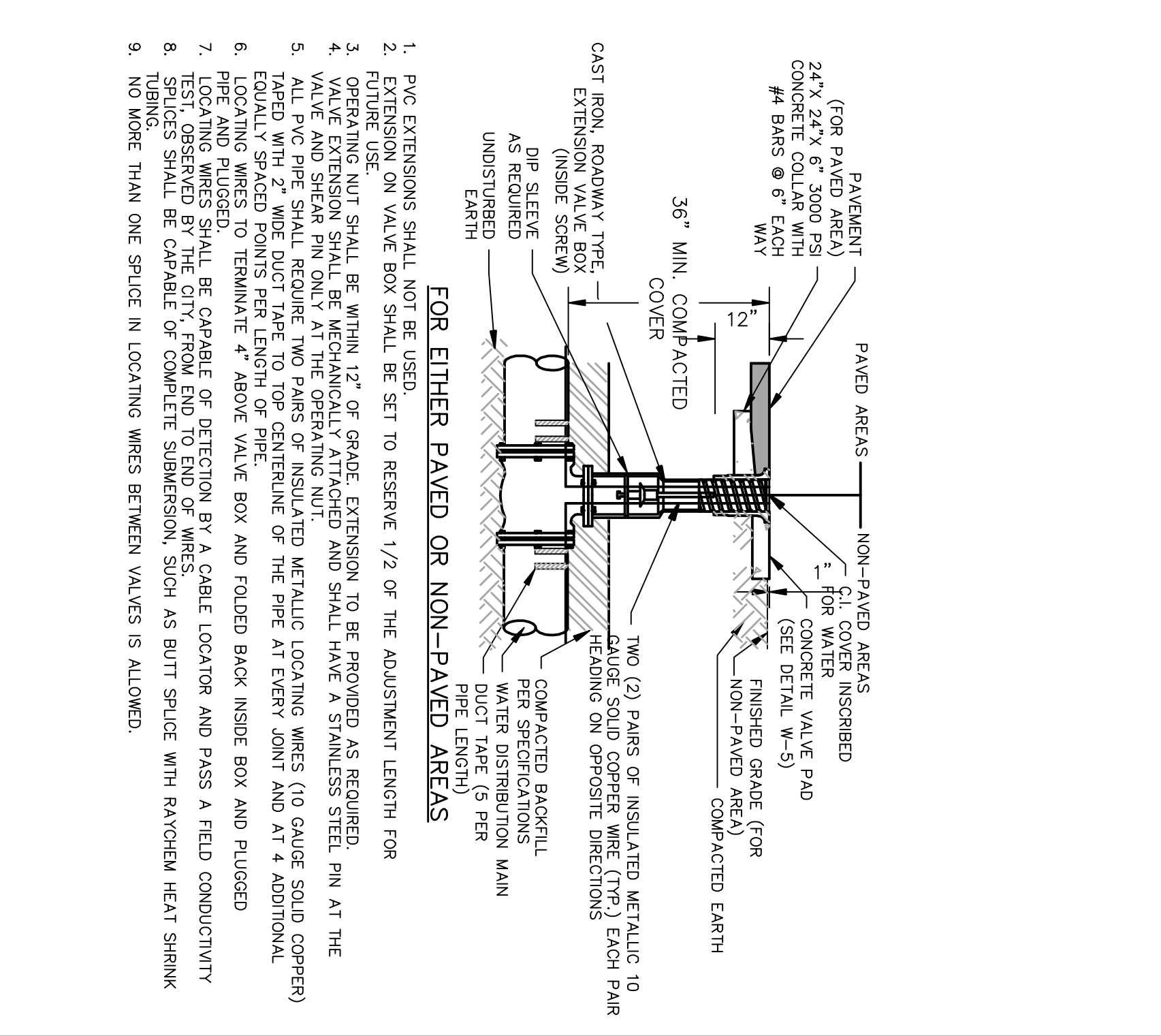
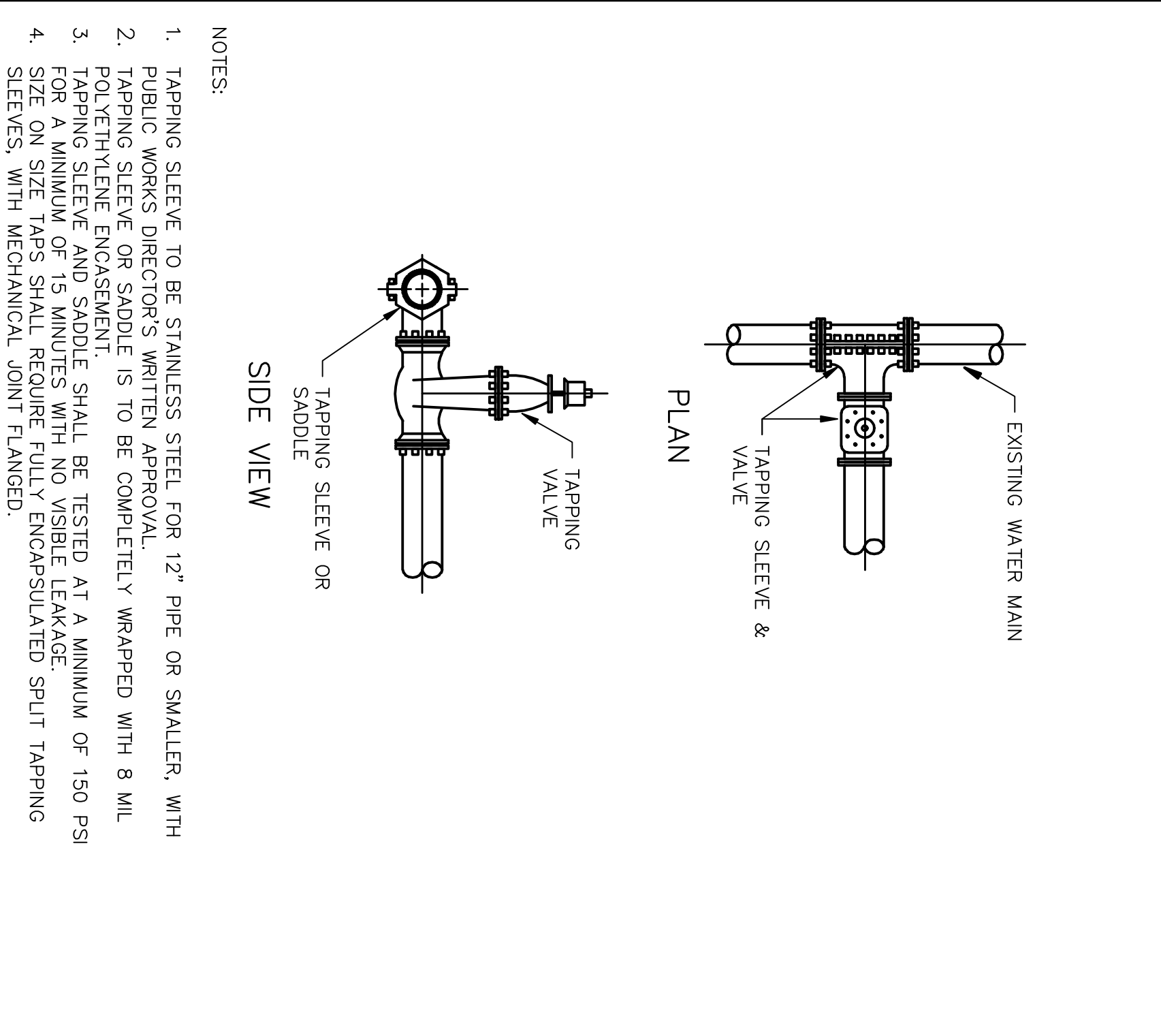
GENERAL WATER NOTES	DATE: JULY 7, 2008 SCALE: N.T.S. W-1B
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CITY OF GROVELAND STANDARD DETAILS: WATER

APPROVED MATERIALS AND PRODUCTS	DATE: JULY 7, 2008 SCALE: N.T.S. W-2A
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CITY OF GROVELAND STANDARD DETAILS: WATER

APPROVED MATERIALS AND PRODUCTS	DATE: JULY 7, 2008 SCALE: N.T.S. W-2B
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CITY OF GROVELAND STANDARD DETAILS: WATER

TAPPING SLEEVE/SADDLE DETAIL	DATE: JULY 7, 2008 SCALE: N.T.S. W-3
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CITY OF GROVELAND STANDARD DETAILS: WATER

RESILIENT SEATED GATE VALVE DETAIL	DATE: JULY 7, 2008 SCALE: N.T.S. W-4
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CITY OF GROVELAND STANDARD DETAILS: WATER

VALVE PAD DETAIL	DATE: JULY 7, 2008 SCALE: N.T.S. W-5
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NOTES:
1. TAPPING SLEEVE TO BE STAINLESS STEEL FOR 12" PIPE OR SMALLER, WITH PUBLIC WORKS DIRECTOR'S WRITTEN APPROVAL.
2. TAPPING SLEEVE OR SADDLE IS TO BE COMPLETELY WRAPPED WITH 8 MIL POLYETHYLENE ENCASMENT.
3. TAPPING SLEEVE AND SADDLE SHALL BE TESTED AT A MINIMUM OF 150 PSI FOR A MINIMUM OF 15 MINUTES WITH NO VISIBLE LEAKAGE.
4. SIZE ON SIZE TAPS SHALL REQUIRE FULLY ENCAPSULATED SPLIT TAPPING SLEEVES, WITH MECHANICAL JOINT FLANGED.

Working Date: 4/21/15
2007/2008

Site Plan
Lake County Water
Detail Sheet

H & B CONSULTING ENGINEERS, INC.
Certificate of Authorization # 4829
218 N. Florida Street, Suite 3
Bushnell, Florida 33513
Phone : (352) 793-2113

Lake Minneola Landings
C.R. 561A
Groveland, FL 34711

Drawn: TFW
Checked: MZB
Date: 8/15
Scale: noted
Sheet 7 of 7