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BOARD OF DIRECTORS

## AMERICAN SOCIETY OF SANITARY ENGINEERING ILLINOIS CHAPTER

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# **Flood Control and Drainage**

The Chicago area is topographically dominated by the glacial Lake Chicago plain. This plain encompasses the Chicago River, Des Plaines River, and the Calumet River. Early explorers discovered the Chicago Portage, an area within Mud Lake that was only 15 feet above the level of Lake Michigan and on the watershed divide between the Mississippi River basin and the Great Lakes basin. The Chicago area experienced many early drainage challenges. The natural condition was swampy. Chicago streets were poorly drained and muddy. The level of Lake Michigan was only two feet below the river banks, making subsurface drainage ineffective. In 1834, the first attempt to solve the sanitation problem of Chicago River. Later, the city of Chicago raised streets, then buildings, 8 to 10 feet above natural ground level. This helped to drain the streets and to get the sewage to the river more efficiently, but the river could not cleanse itself of the sewage due to the high level of Lake Michigan. The Illinois & Michigan Canal, completed in 1848, flowed from present-day Summit to LaSalle. From 1861 through 1870, the city of Chicago paid to operate the Bridgeport pumps an additional 45 days per year to flush sewage from the Chicago River and away from the lake.

The 1872 flood diverted almost all the Des Plaines River flows into the Chicago River through the Ogden-Wentworth Ditch, causing significant pollution within the Chicago River when the sewage could no longer be sent downstream. A dam was constructed across Ogden-Wentworth Ditch to prevent future diversions of Des Plaines River flows.

In 1885, a large rainfall washed sewage and refuse out of Chicago and the Chicago River into Lake Michigan, polluting the city's water supply. The Illinois General Assembly authorized the establishment of the Sanitary District of Chicago in 1889 to implement the construction of the Sanitary and Ship Canal to carry away waste from the city and to dilute it as it flowed downstream. Construction began in 1892, and flow through the canal began January 17, 1900. The North Shore Channel enlargement, begun in 1907 and completed in 1910, diverted more lake water to aid in dilution, and the Chicago River was enlarged in 1912. Construction of the Cal-Sag Channel began in 1911 and was completed in 1922, reversing the flow of the Calumet River away from Lake Michigan. A Supreme Court decree in 1933 ordered the construction of the Chicago River lock and controlling works, which was completed in 1938.

Areas outside the city of Chicago experienced many drainage alterations as well. The Illinois Farm Drainage Act of 1879 established the authority to create drainage districts, marking the beginning of a period of significant drainage modifications in agricultural areas. By 1929, 88 drainage districts covered 177,595 acres of the Chicago River, Little Calumet River, Des Plaines River, DuPage River, and Fox River basins. By 1971, 180 drainage districts were listed in an "Inventory of Drainage and Levee Districts" within Cook, DuPage, Lake, McHenry, Kane, and Will Counties. As more land became developed with housing, streets and shopping areas, a greater amount of runoff from this developed ground ran to the sewers. The stormwater runoff mixed with sanitary sewage and became combined sewage. Suburban communities developed after World War II realized the value of separate sewer systems to handle sanitary sewage and stormwater runoff. Suburban communities have installed countless miles of storm sewers to accommodate modern drainage needs, replacing the earlier systems provided by drainage districts.

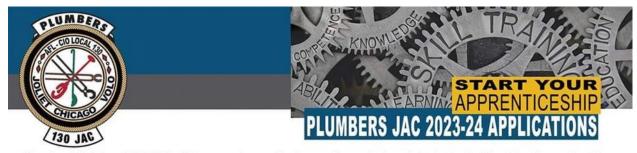
Studies in the late 1960s recommended the Tunnel and Reservoir Plan (TARP), known as "Deep Tunnel," as a means to solve this problem. TARP tunnels include the Mainstem, Calumet, Des Plaines, and Upper Des Plaines systems, totaling 109 miles of tunnels. These tunnels capture sewer overflows that had been discharging into rivers and streams. TARP's three reservoirs, when completed, will provide significant flood control.

Flooding of rivers in the Chicago area is a natural phenomenon. Agricultural areas flood along with natural wetlands. The magnitude of these floods and the effects upon humans grew as the metropolitan area developed. Flood events of historical significance have occurred across the region during 1849, 1855, 1885, 1938, 1952, 1954, 1957, 1961, 1973, 1979, 1986, 1987, and 1996. Most record-setting flood stages and discharges in the region have been recorded since 1948.

Flood control and watershed planning in the Chicago region is managed by a group of federal, state, and local agencies. These include the U.S. Army Corps of Engineers, the U.S. Department of Agriculture, Natural Resource Conservation Service, the U.S. Environmental Protection Agency, the Illinois Department of Natural Resources, the Illinois Office of Water Resources, the Metropolitan Water Reclamation District of Greater Chicago, and storm water management agencies in each of the region's counties.

By the early 1980s several watershed plans were developed to address flood problems along the North Branch Chicago River, Upper Des Plaines River, Lower Des Plaines Tributaries, Poplar Creek, Upper Salt Creek, and the Little Calumet River. These plans will eventually implement 43.9 miles of channel modifications and 41,128 acre-feet (13.4 billion gallons) of floodwater storage facilities, including the Tunnel and Reservoir Plan. Flooding remains a serious problem along the main channel of the Des Plaines River and the Little Calumet River and many smaller streams. A 1998 estimate puts annual flood damages at \$41,459,000 in the Chicago area, affecting nearly 20,000 homes and businesses. Local, state, and federal agencies and individuals have become increasingly aware of the unmitigated impacts of urbanization on drainage and flooding. The Metropolitan Water Reclamation District implemented the first stormwater detention ordinance in 1972. This ordinance required new developments to detain a portion of the increased runoff and to restrict the outlet capacity of the detention basin to a predevelopment discharge. It has now become standard practice to provide stormwater detention within new subdivisions to control the rate of runoff to predevelopment rates.

The 1986 flood was triggered by widespread regional rainfall with varying intensity and duration, which had been preceded by two weeks of nearly continuous rain falling across northern regions of the Des Plaines, North Branch Chicago, and Fox River watersheds. Flooding in rivers and streams across Lake, McHenry, northern Cook, northern DuPage, and northern Kane Counties resulted. The 1987 flood was generated by localized high-intensity and shorter duration rainfall which dropped up to 13 inches of rainfall in less than 24 hours, largely in Cook and DuPage counties. The 1986 and 1987 floods generated enough public awareness of the continued problems of drainage and flooding for the Illinois General Assembly to pass legislation authorizing the formation of countywide stormwater management programs



Plumbers' JAC Local 130, UA will be accepting applications online only for admission to the Plumbing Apprenticeship Program starting November 13, 2023 through February 16, 2024 <u>OR</u> the first 2,000 submissions, whichever occurs first.

Application available at: <u>www.apply.jac130.org</u> For Questions: (312)421-1028

REGISTRATION FEE: \$50.00 NON-REFUNDABLE Methods of Payment:

1. MasterCard, Visa, Discover or AMEX (only)

Optional: If you wish to purchase the Test Taking Tip Book for \$20.00 following submission of your application online you will have access to a link to purchase and download a digital copy of the Test Taking Tips from a Third-Party Vendor.

### REQUIREMENTS: You must have the following items to successfully submit your online application:

- Completed Application
- Upload a copy of your valid driver's license
- Upload a copy of your Birth Certificate or Valid U.S. Passport
- Upload proof of Completion of High School in <u>ONE</u> of these formats:
  - High School Diploma\* OR High School Transcripts\* that include your graduation date OR
    - o GED Certificate
    - o Veterans DD214
- \$50.00 non-refundable application fee

### - Uploads must be in .pdf format

#### QUALIFICATIONS:

- 1. Must read, write and speak the English language
- 2. Must have a High School Diploma\* or GED equivalent
- 3. Pass an aptitude test
- 4. Pass a drug screen
- 5. Pass a physical exam
- 6. Pass an agility test
- 7. Applicants must always possess a valid driver's license
- Must be at least 18 years of age (Applicants who are 17 years of age may apply provided he or she will be 18 years of age prior to being registered by the JAC)
- 9. \*High School Seniors may apply but must submit a letter from their High School stating they are on track to graduate and including transcripts to date.

THERE ARE NO EXCEPTIONS TO THESE REQUIREMENTS AND QUALIFICATIONS BUT THEY ARE SUBJECT TO CHANGE.

#### PLEDGE OF EQUAL OPPORTUNITY IN APPRENTICESHIP

The Trust Fund for Apprentice and Journeyman Education and Training, Local 130 UA will not discriminate against apprenticeship applicants or apprentices based on race, color, religion, national origin, sex (including pregnancy and gender identity), sexual orientation, genetic information, o because they are an individual with a disability or a person 40 years old or older. The Trust Fund for Apprentice and Journeyman Education and Training, Local 130 UA will take affirmative action to provide equal opportunity in apprenticeship and will operate the apprenticeship program required under Title 29 of the Code of Federal Regulations, part 30.











## <u>Some Codes An Illinois Plumber/Plumbing Inspector Has To</u> <u>Know, Among others</u>

United Access Board (ADA)

DEPARTMENT OF JUSTICE Office of the Attorney General 28 CFR Part 38 [Order No. 2042 - 96 ] ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD 36 CFR Part 1191 [Docket No. 94-2] RIN 3014-AA17 Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities; Children's Facilities AGENCIES: Architectural and Transportation Barriers Compliance Board and Department of Justice.

ANSI/AWWA C651-14 (Revision of ANSI/AWWA C651-05)

Guidelines for Environmental Infection Control in Health-Care Facilities

Emergency Management Strategies: High Volume Patient Decontamination

Illinois Energy Conservation Code (20 ILCS 3125/15)

Chapter I: Department of Public Health Subchapter m: Food, Drug and Cosmetics Part 750 Food Code

SUBCHAPTER r: WATER AND SEWAGE PART 920 WATER WELL CONSTRUCTION CODE SECTION 920.90 CONSTRUCTION MATERIALS AND OTHER REQUIREMENTS

Food Code ; 2017 Recommendations of the United States Public Health Service Food and Drug Administration

SUBCHAPTER q: MOBILE HOMES PART 860 MANUFACTURED HOME COMMUNITY CODE

SUBCHAPTER r: WATER AND SEWAGE PART 925 ILLINOIS WATER WELL PUMP INSTALLATION CODE SECTION 925.40 PUMP INSTALLATION

NUCLEAR SAFETY (420 ILCS 46/) Illinois Radon Awareness Act.

SUBCHAPTER r: WATER AND SEWAGE PART 910 FIELD SANITATION CODE SECTION 910.40 DRINKING WATER FACILITIES

SUBCHAPTER S: MIGRANT LABOR PART 935 MIGRANT LABOR CAMP CODE SECTION 935.65 REQUIRED SANITARY FACILITIES

SUBCHAPTER r: WATER AND SEWAGE PART 925 ILLINOIS WATER WELL PUMP INSTALLATION CODE

SUBCHAPTER r: WATER AND SEWAGE PART 915 WATER WELL AND PUMP INSTALLATION CONTRACTOR'S LICENSE CODE SECTION 915.40 SUPERVISION

SUBCHAPTER n: RECREATIONAL FACILITIES PART 800 RECREATIONAL AREA CODE

SUBCHAPTER n: RECREATIONAL FACILITIES PART 810 YOUTH CAMP CODE

SUBCHAPTER b: HOSPITAL AND AMBULATORY CARE FACILITIES PART 205 AMBULATORY SURGICAL TREATMENT CENTER LICENSING REQUIREMENTS

PART 830 STRUCTURAL PEST CONTROL CODE SECTION 830.1100 PROTECTION OF POTABLE WATER SUPPLIES

SUBCHAPTER n: RECREATIONAL FACILITIES PART 820 SWIMMING FACILITY CODE

Part 518 - FREESTANDING EMERGENCY CENTER Code

SUBCHAPTER r: WATER AND SEWAGE PART 905 PRIVATE SEWAGE DISPOSAL CODE SECTION 905.60 SUBSURFACE SEEPAGE SYSTEM CONSTRUCTION REQUIREMENTS

SUBCHAPTER f: EMERGENCY SERVICES AND HIGHWAY SAFETY PART 518 FREESTANDING EMERGENCY CENTER CODE

HEALTH FACILITIES AND REGULATION (210 ILCS 85/) Hospital Licensing Act.

(410 ILCS 650/) Sanitary Food Preparation Act

SCHOOLS (105 ILCS 5/) School Code. (105 ILCS 5/Art. 14 heading) ARTICLE 14. CHILDREN WITH DISABILITIES

SUBCHAPTER q: MOBILE HOMES PART 870 MANUFACTURED HOME INSTALLATION CODE

HEALTH FACILITIES AND REGULATION (210 ILCS 117/) Abandoned Mobile Home Act

SUBCHAPTER q: MOBILE HOMES PART 860 MANUFACTURED HOME COMMUNITY CODE

PUBLIC SAFETY (430 ILCS 115/) Illinois Modular Dwelling and Mobile Structure Safety Act.

HEALTH FACILITIES AND REGULATION (210 ILCS 115/) Mobile Home Park Act.

Regulation of Factory Built Structures in Illinois

SUBCHAPTER r: WATER AND SEWAGE PART 900 DRINKING WATER SYSTEMS CODE SECTION 900.20 GENERAL REQUIREMENTS

PART 892 LAWN IRRIGATION CONTRACTOR AND LAWN SPRINKLER SYSTEM REGISTRATION CODE SECTION 892.25 PROVIDERS OF LAWN SPRINKLER DESIGN AND INSTALLATION COURSES

SUBCHAPTER r: WATER AND SEWAGE PART 895 PUBLIC AREA SANITARY PRACTICE CODE

FEMA Design and Construction Guidance for Community Safe Rooms

Environmental Barriers Act and the Illinois Accessibility Code covers:

State of Illinois Food and Sanitation Code

Subchapter b: hospitals and ambulatory care facilities Part 250 hospital licensing requirements United States Environmental Protection Agency Drinking Water Requirements for States and Public Water Systems Lead in Drinking Water in Schools and Childcare Facilities

SUBCHAPTER C: LONG-TERM CARE FACILITIES PART 340 ILLINOIS VETERANS' HOMES CODE

SUBCHAPTER b: ACCESSIBILITY STANDARDS PART 400 ILLINOIS ACCESSIBILITY CODE SECTION 400.APPENDIX A ILLINOIS ACCESSIBILITY CODE

Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines

SUBCHAPTER C: LONG-TERM CARE FACILITIES PART 300 SKILLED NURSING AND INTERMEDIATE CARE FACILITIES CODE

American Water Works Association ANSI/AWWA C651-14 Disinfecting Water Mains

SUBCHAPTER r: WATER AND SEWAGE PART 905 PRIVATE SEWAGE DISPOSAL CODE SECTION 905.60 SUBSURFACE SEEPAGE SYSTEM CONSTRUCTION REQUIREMENTS

(410 ILCS 35/) Equitable Restrooms Act

SUBCHAPTER c: LONG-TERM CARE FACILITIES PART 295 ASSISTED LIVING AND SHARED HOUSING ESTABLISHMENT CODE

(410 ILCS 655/) Safe Bottled Water Act.

SUBCHAPTER p: HAZARDOUS AND POISONOUS SUBSTANCES PART 845 LEAD POISONING PREVENTION CODE

SUBCHAPTER r: WATER AND SEWAGE PART 920 WATER WELL CONSTRUCTION CODE SECTION 920.100 FINISHING AND TESTING

SUBCHAPTER m: FOOD, DRUGS AND COSMETICS PART 730 MANUFACTURING, PROCESSING, PACKING OR HOLDING OF FOOD CODE SUBCHAPTER r: WATER AND SEWAGE PART 892 LAWN IRRIGATION CONTRACTOR AND LAWN SPRINKLER SYSTEM REGISTRATION CODE SECTION 892.30 LICENSED PLUMBERS RESPONSIBLE FOR INSTALLATION OF LAWN SPRINKLER SYSTEM

SUBCHAPTER m: FOOD, DRUGS AND COSMETICS PART 785 MANUFACTURED DAIRY PRODUCTS

SUBCHAPTER r: WATER AND SEWAGE PART 900 DRINKING WATER SYSTEMS CODE







The Illinois Chapter of the American Society of Sanitary Engineering "Works Well With Others". Local Inspectors, State Inspectors, City of Chicago Inspectors, Contractors, Architects, Engineers. ASSE Illinois Chapter wishes to thank all of our sponsors for advertising in the monthly newsletter, which is sent to all the International Chapters of IAPMO/ASSE. We appreciate each and every one of you.



## **Additional Information:**

- 3 different models
  - o 120V, 15A | 120V, 20A | 208/240V, 15A
- System status indicators and audible alarm
- Dry contact alerts for power loss, oil in pit and high water level
- Built in HOA selector and alarm silence button
- Combination oil probe/off float simplifies installation
- Can be integrated into three prepackaged models
- Can be custom designed for specific applications by utilizing the IntelliOil's circuitry



# WALL UNITS

Designed to be our commercial "workhorses," our wall hung units are ideal for highly variable applications using potable hot water. Each is engineered with minimal components to maximize durability.



# **DROP IN READY**



When space and cost are important deciding factors, you can count on our Neuron Series units for superior performance and reliability. Ideal for commercial applications, our tankless water heaters provide 94% thermal efficiency and are constructed for maximum durability

# **FLOOR-STANDING UNITS**

Our iQ Series floor-standing units deliver the highest capacity in the industry – up to 3 million BTUs – with no storage tanks required. Designed for very large volume, commercial applications, these highinput units slash capital costs by up to 50%, and decrease operational costs by up to 40%, when compared to traditional tank-type systems.





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In the spirit of friendship and cooperation, the Illinois Chapter of the American Society of Sanitary Engineering (ASSE) and the Plumbing Contractors Association of Greater Chicago (PCA) are both proud to represent and serve the skilled and dedicated professionals in our industry. To make up for a few advertisements that were missed in recent issues due to an unintentional oversight, our ASSE Chapter is pleased to run this expanded version of the PCA's ad.



### **PCA of Greater Chicago** Advocacy and support you can count on.

The *Plumbing Contractors Association* (PCA) represents and serves UA Local 130 signatory plumbing contractors in Chicago and Northern Illinois (17 counties) with quality resources, education, advocacy, safety, networking, and much more – led by a dedicated volunteer contractor board and a full-time staff.

The PCA (and *Plumbing Council*) provides our members with an array of practical services and benefits, so contractors can focus on best serving their customers. Since 1882, the PCA has shown that "none of us is as strong as all of us." As the only local plumbing contractors' association affiliated with and active in the National and State PHCC; MCAA; IMSCA; CISCO; and UAC, the PCA is a united voice for our industry.

Contactors and consumers (for "Find a Plumber" referrals) may visit: <u>www.pcaofchicago.com</u>; phone 312-563-9526; or email: <u>si@pcaofchicago.com</u>. PCA: 603 Rogers Street, Suite 2, Downers Grove IL 60515



affiliatedsteam.com

If any member wishes to have anything published in the newsletter please forward it to me <u>ilchapterasse@gmail.com</u> with exception of an ad, if you wish to have an ad please contact Joe Sowa at <u>retaw130@aol.com</u>.

We would be happy to print your story in our newsletter, whether it be about your Military, family member attending college, anniversary, accomplishments, projects you are or have worked on, etc. pictures are always welcome.



The PCA Greater Chicago represents and promotes UA Local 130 signatory plumbing contractor in Northern IL. (17 counties) with top quality service, education, advocacy, safety and peer to peer networking second to none. The PCA is the only local plumbing contractor association affiliated with the MCAA, PHCC, CISCO, & IMSCA. To find and hire one of our reputable contractors for 24 hr. emergency service or for residential, commercial, municipal and industrial jobs, call 1-800-76-VALVE or visit *pcaofgreaterchicago.org or plumbing council.org 603 Roger St. Ste. 2 Downers Grove IL 60515 312-503-9526* 



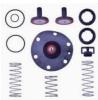












RK 34-975XLC

Repair Kit for ¾"-1" 975XL

**Kit Includes:** (2) Check Poppet, 1<sup>st</sup> Check Spring, 2<sup>nd</sup> Check Spring, Relief Valve Spring, (2) Check Seat, (2) Check Seat O-Ring, Relieve Valve Seat, Relief Valve Seat O-Ring, Lube

**Ames: 7010046 –** 2 ½"-10" Total Relief Valve Kit for a C/M 400/C500



**Kit Includes:** Complete RV with 36" Hose, RV O-Ring and Lube



Ames 7010097 – First Check Assembly 2 ½"-4" for Ames 2000/3000SS

**Kit Includes:** 1<sup>st</sup> Check Assembly, O-Ring and Lube

Ames 7010114 – Relief Valve Kit 2 ½" -10" for 4000SS RP and 5000SS RPDA

Kit Includes: Complete Relief Valve Assembly, Relief Valve O-Ring, Lube

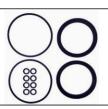




Watts: 0794090 – Complete Total Rubber Kit 4" for 909 RP; \*Lead Free\* (Previously 0887751)

**Kit Includes:** Check Disc, Cover O-Ring, Sleeve O-Ring, Piston O-Ring, RV Disc Assembly, Diaphragm, Piston

**RK 4-350** 4" 350AST, 4" 375AST



**Kit Includes:** (2) Check Disc Rubber, (2) Cover O-Ring, (8) Bolt O-Ring, Lube

> Apollo-Conbraco: 40-004-A1 – ¾"-1" Major Repair Kit for 40-200 RP



Kit Includes: RV Bushing, RV Stem, Diaphragm Plate, (2) Poppet, RV Diaphragm, RV Seat Disc, (2) Check Seat Disc, Stem O-Ring, Bushing O-Ring, (2) Check Cap O-Ring, RV Spring, (2) Screw, (2) Retaining washier, (2) Check Seat, (2) O-Rings, RV Seat, RV O-Ring **TEST GAUGE INC.** Backflow Made Easy\* @ SHOPBACKFLOW.COM/il **Test Gauge, Inc.** has Backflow Parts in stock for Same Day Pickup or Next Day Delivery!





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