WBC Joint Utility Seminar

Panelists

Pepco

Stephen J. Park, P.E.

Verizon

Dave Gray

Washington Gas

Quinton Lewis-Diggs

DC Water & Sewer Authority

Chris Sandt, P.E.

Moderator – *Bob Freas*, Exponent

Presentation **9:00 to 11:00 a.m.**

April 9, 2015

Washington Building Congress

Seminar Sponsors

Program Agenda

- 9:00 Welcome & Introductions
  Washington Gas Opening Remarks
- 9:15 Pepco Presentation and Q&A
- 9:40 Verizon Presentation and Q&A
- 10:05 Washington Gas Presentation and Q&A
- 10:30 DC WASA Presentation and Q&A
- 10:55 Closing Remarks

Electric Service Connection Process

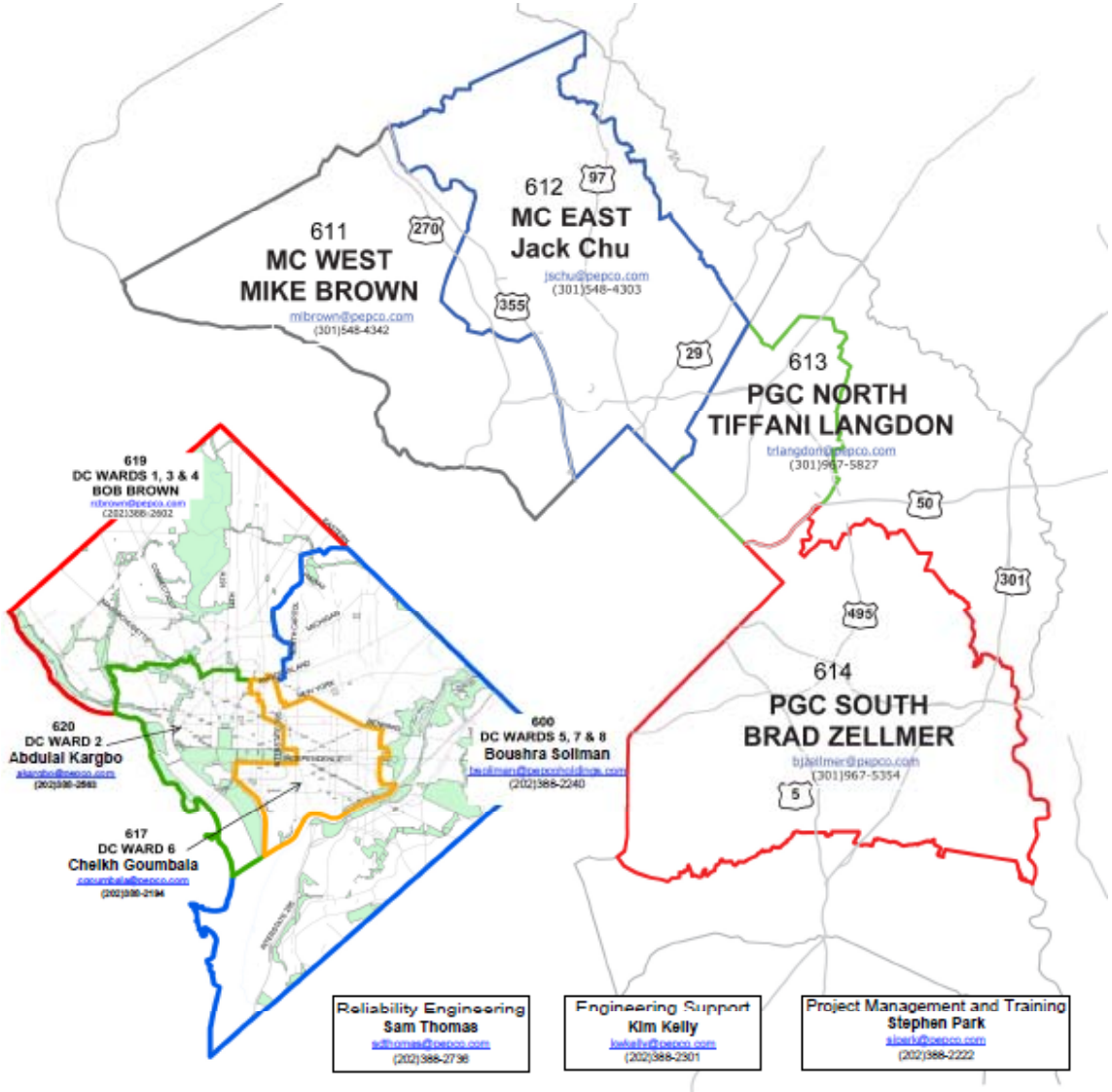
WBC Joint Utility Seminar 2015

Presented by: Stephen J. Park, PE
April 9, 2015

Program Agenda

- Pepco Service Boundary
- Typical process for a new large commercial service connection within Pepco:
  - On-line application process for new and upgraded electric service connections
  - Developer's Manual and Standards availability on Pepco's website
  - Approved Switchgear List
  - Typical Design & Construction Duration
- Impact of DDOT Public Realm Design Manual
- Option for Customer to Build Pepco Structural Facilities in Public Space

Pepco Service Boundary



Typical Process for a New Commercial Service Connection Project

I. Initiation

II. Design

III. Pre-Construction Inspections

IV. Construction

Typical Process for a New Commercial Service Connection Project

I. Initiation:

- Customer submits on-line Application for Electric Service Form

  https://www.pepco.com/pages/mybusiness/servicerequest/newupgradeservice.aspx

- Or Visit

  WWW.PEPCO.COM

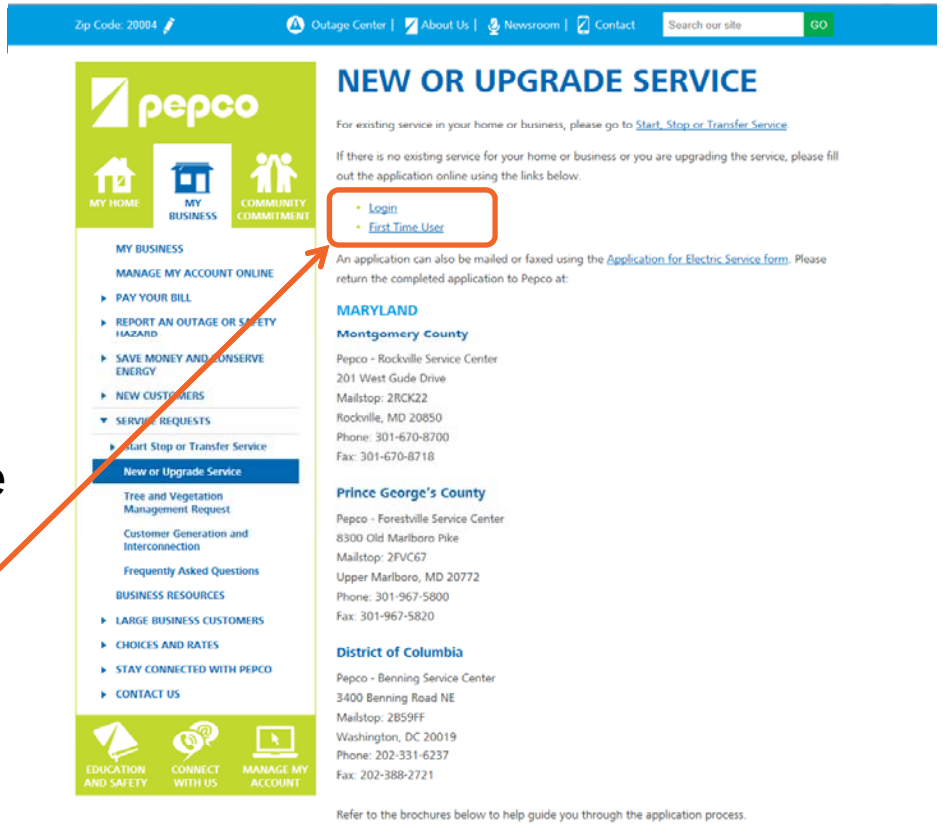
  CONNECT WITH US

  DOING BUSINESS WITH US

  Builders and Inspectors

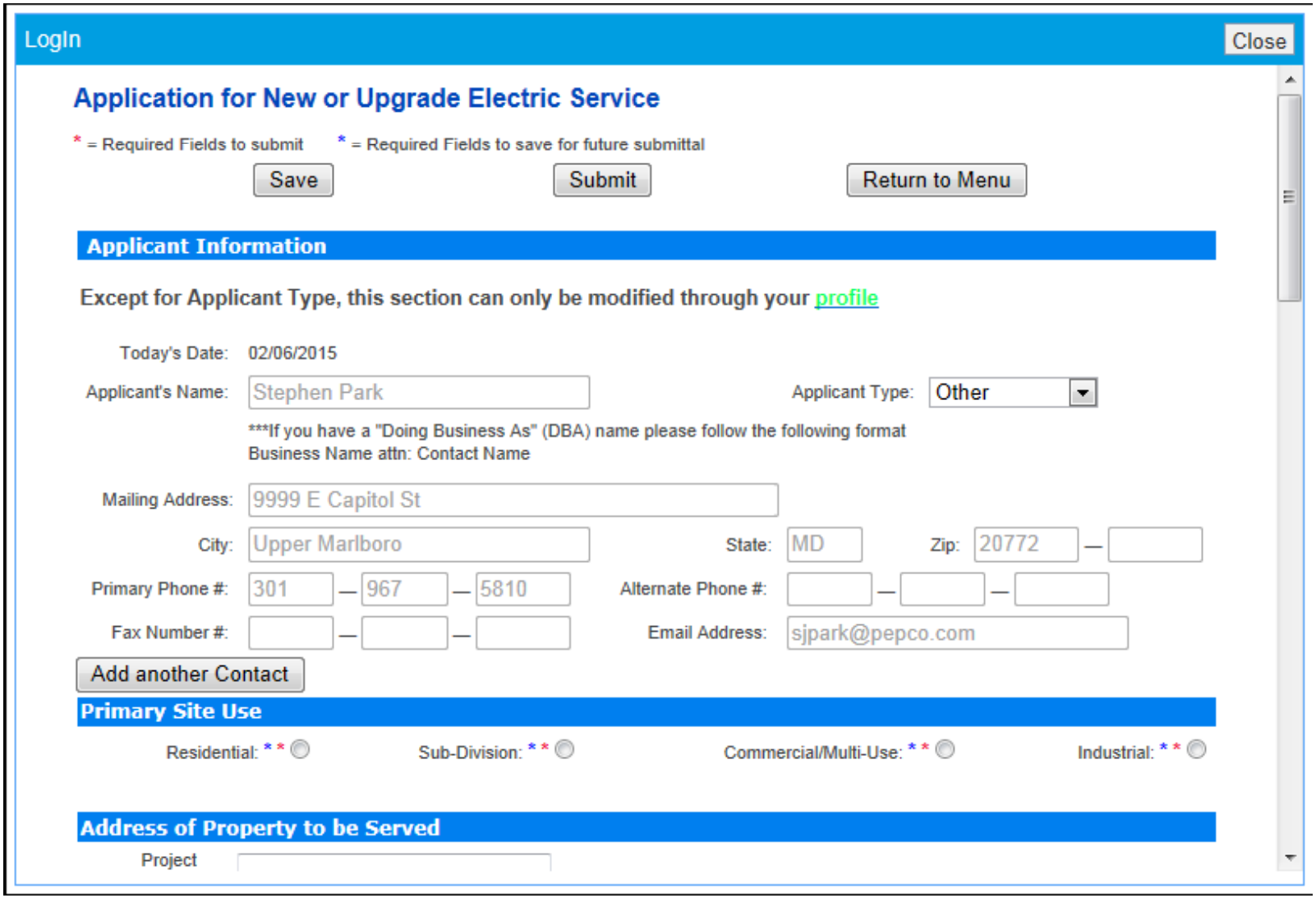
  New or Upgrade Service

Login or First Time User

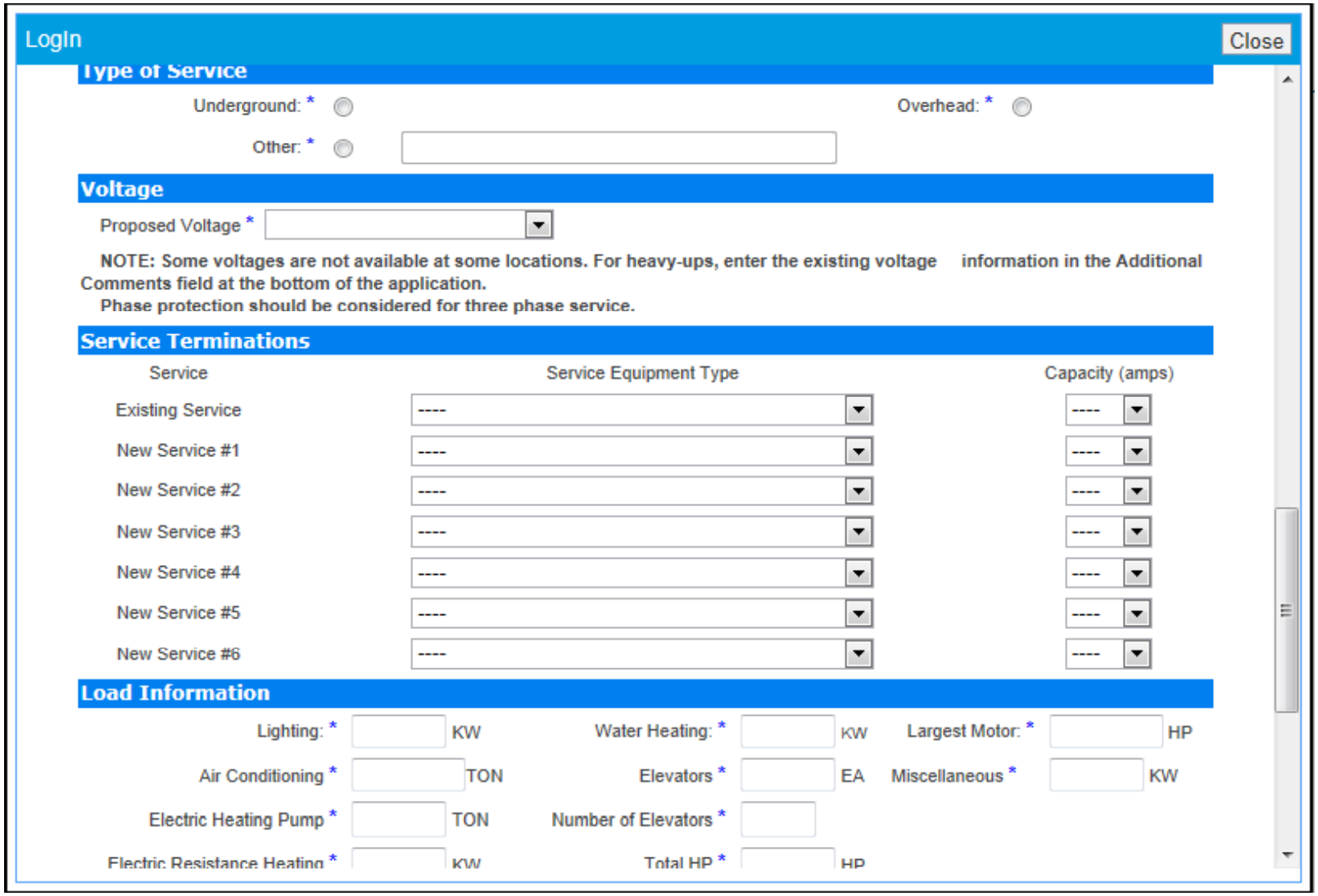


Typical Process for a New Commercial Service Connection Project - Initiation

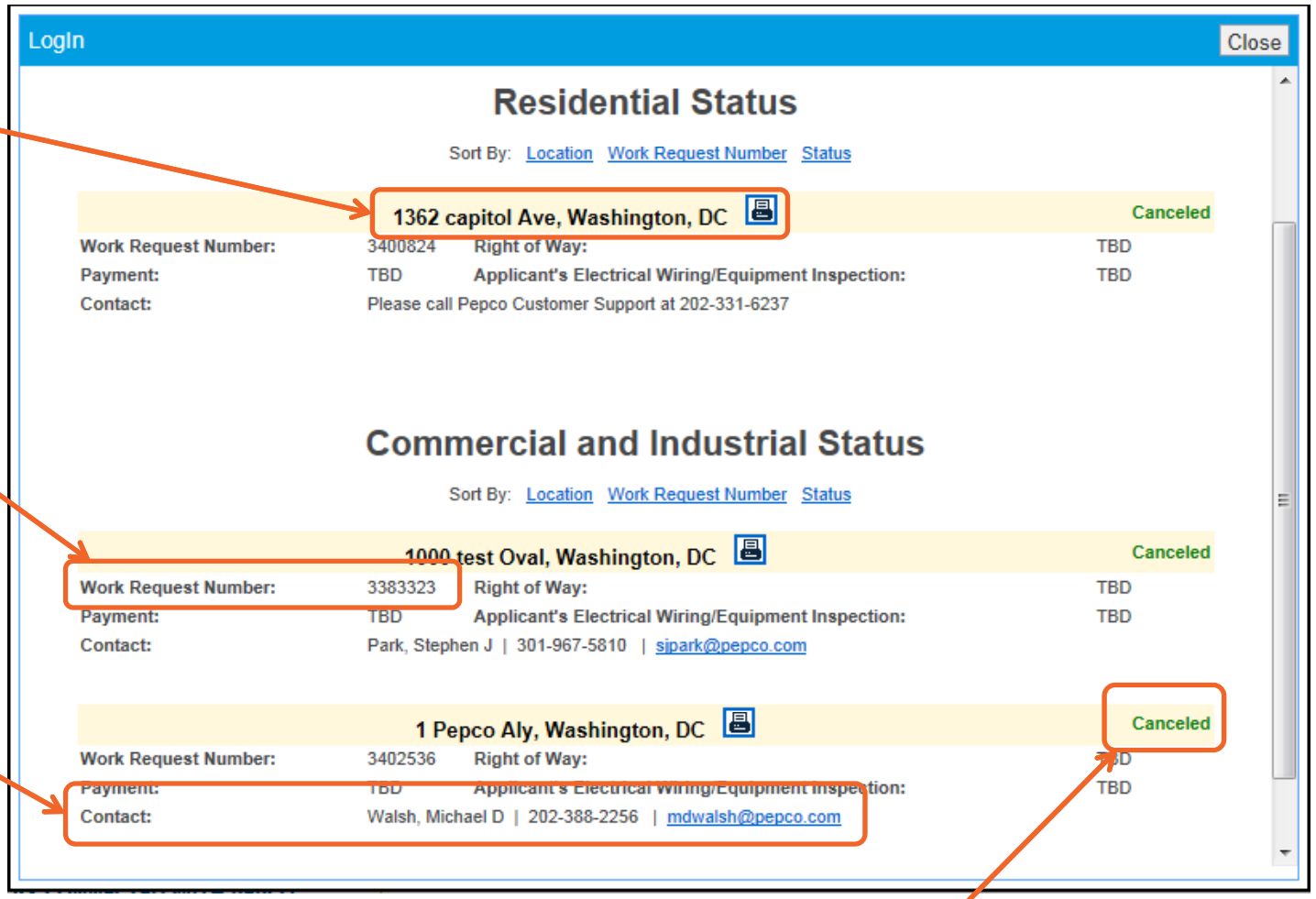
Typical Process for a New Commercial Service Connection Project - Initiation - Application Sample Page 1



Typical Process for a New Commercial Service Connection Project - Initiation - Application Sample Page 2



Typical Process for a New Commercial Service Connection Project - Initiation - Status Screen



Project Address

WR Number

Contact Info

Job Status

Typical Process for a New Commercial Service Connection Project - Initiation

- Application for Electric Service must contain:
  - Project Location and Contact Information
  - Conditioned Space & Type of Use – Square Feet and/or Number of Units
  - Service Equipment Information – Type, Size & Voltage
  - Connected Load Information – Including Largest Motor
  - In-Service Date, Construction Start and Completion Date
- Some Required Information will vary with Type of Application
  - Example: Heavy up and New Service has different required information.

Typical Process for a New Commercial Service Connection Project - Initiation

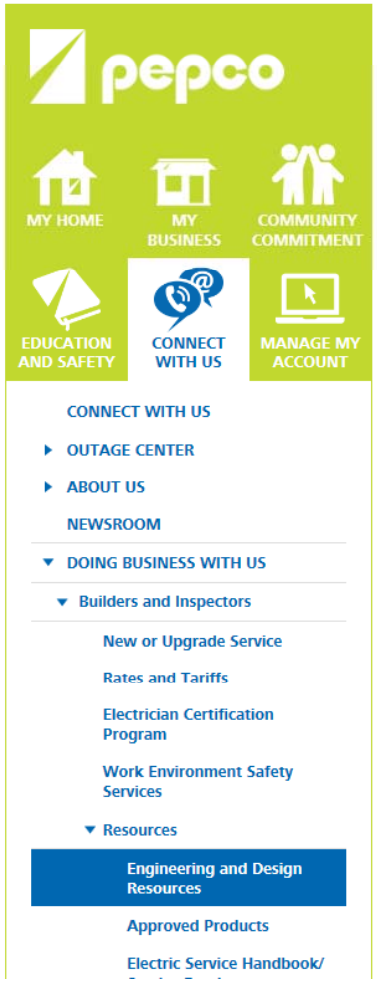
- Pepco to send Response to Proposed Class of Service
  (Typically Within 3 Weeks)
  - Class of Service – e.g. 265/460V, 3 Phase, 4 Wire, 60 hertz
  - Available Fault Current and Starting Current Limitation
  - Point of Service – Pepco's preferred service location
  - Customer owned structural facility requirements
  - Service cable to be provided and installed by Pepco
  - Specifies appropriate Pepco Standards and Conditions
- After receiving the Proposed Class of Service from Pepco, a meeting with Pepco's design staff is highly recommended.

Typical Process for a New Commercial Service Connection Project - Initiation

- Customer submissions
  - Structural drawings for customer-built facilities located on private property
  - Building plans (site and utility, and 2nd basement through 2nd floor)
  - Pepco's approval of customer's structural drawings will be in writing and include:
    - Required Pepco inspection information including contact information for obtaining structural facility inspections
    - List of Stock Materials available for purchase from Pepco
  - **Pepco design of the service connection will <u>not</u> start until the required drawings are received <u>and</u> approved.**

Typical Process for a New Commercial Service Connection Project - Initiation

- See Commercial Design Manual and Standard Drawings on Pepco Website: http://www.pepco.com/library/templates/interior.aspx?pageid=6442452649



ENGINEERING AND DESIGN RESOURCES

DISTRICT OF COLUMBIA AND MARYLAND

- District of Columbia General Terms and Conditions for Furnishing Electric Service
- Maryland General Terms and Conditions for Furnishing Electric Service

Design and Construction Manuals

Click here to view the Commercial Developer Manual

Click here to view the Requirements and Specifications for High Voltage Customer Built Facilities Manual

Customer Design Drawings

Drawing Number	Title
CD.001	DUCT LINE CONFIGURATIONS, DIMENSIONS, AND NOTES
CD.002	TYPICAL 3000 AMPERE SWITCHGEAR (SERVICE ENTRANCE) DRAWING TO BE PREPARED BY CUSTOMER
CD.003	METER INSTALLATION FOR 265/460 VOLT 200 AMPERE OR LESS
CD.004	DIMENSIONS & MOUNTING FOR NEUTRAL BUS IN TROUGH FOR MULTIPLE METERING
CD.005	CLEARANCES FOR CABLE TERMINATIONS IN MULTI-METER BANKS
CD.006	PAD MOUNT TRANSFORMER MAXIMUM DIMENSIONS, GUIDE FOR LOCATING TRANSFORMER AND PROTECTIVE SCREEN INFORMATION
CD.007	CONDUIT BENDS UNDER PAD
CD.008	INSTALLATION OF SPLICE BOX AND DIMENSIONS
CD.009	PROPOSED OVERHEAD AND UNDERGROUND TEMPORARY SERVICE CONNECTION FROM EXISTING SECONDARY OR TRANSFORMER FOR 200 AMPERE (MAX) SINGLE PHASE, 200A (MAX) THREE PHASE
CD.010	INSTALLATION AND SEALING OF RIGID GALVANIZED PIPE FOR HAZARDOUS LOCATION

Typical Process for a New Commercial Service Connection Project – Design

II. Design Phases:

- Preliminary Engineering
- Field Investigation
- Final Engineering
  - For services over 1200 amps, the customer must submit plan and profile views of the electric room for Pepco's review and approval.
  - Use Pepco's pre-approved switchgear, presented on Pepco's web-site: http://www.pepco.com/connect-with-us/doing-business-with-us/builders-and-inspectors/resources/approved-products/
  - For projects with multiple service terminations, the customers must submit a load breakdown per termination.
- Estimating
  - The customer is notified of the Service Connection Fee
- Permits
- Final Assembly of Construction Package

Total Project Design Duration – Typically 2 to 4 months

Typical Process for a New Commercial Service Connection Project – Pre-Construction Inspection

III. Pre-Construction Inspections:

Prior to scheduling Construction, the job site is inspected by Pepco to verify:

- Approved switchgear is mounted securely, including meter sockets and meter panels
- Structural facilities for electric service (i.e., manholes, conduit, transformer pads, poles, etc.) are properly installed on private property and/or in public space by agreement with Pepco
- Job site is cleared of debris and building material for Pepco access

All customer built conduit, transformer pads, manholes, and customer installed poles must be inspected by Pepco prior to any backfilling and/or pouring concrete.

Pepco requires a 48-hour notification to schedule inspection in DC, 1 week notification in Maryland.

Typical Process for a New Commercial Service Connection Project - Construction

IV. Construction:

- Pepco crews are scheduled upon:
  - Certification of customer built facilities
  - Payment of Service Connection Fee
  - Availability of appropriate permits

- Pepco construction time is dependent upon the scope of work, such as:
  - Number of transformers
  - Number of manholes
  - Distance and quantity of underground cable to be installed

The new service will not be energized until Pepco has received approval from the appropriate electrical inspectors' office and the service connection fee is paid.

Total Construction Duration – Typically 2 to 3 Months

Impact of DDOT Public Realm Design Manual (Downtown Streetscape Regulations)

- **5.4.2.2 Placement and Covers Rule**

  "Vaults shall be located on private property whenever possible. If, for some compelling reason, a vault may not be located on private property a permit for placing a vault in public space may be granted if:

  1. The vault is located adjacent to ground floor retail in a commercial building and has a solid cover that is flush with the surrounding surface and matches the adjacent paving material
  2. The vault is located in the public parking zone adjacent to a residential building and is concealed on all sides facing the right-of-way by a landscaped buffer
  3. The vault is located in an alley and complies with building code requirements"

- As a part of obtaining preliminary streetscape review approval, DDOT may prohibit use of grated vaults in public space.

- Pepco's standard transformer installations rely on natural convection venting/cooling through manhole grates.

Impact of DDOT Public Realm Design Manual (Downtown Streetscape Regulations)

Pepco provides the following transformer installation options with prior approval from Engineering to cope with DDOT's regulation :

- **Company Plan:**

  Pepco equipment in private property closest to Pepco's available source

- **Preferred Options:**

  1. Pepco equipment in alternate location within the property
  2. Pepco equipment in non-vehicle accessible Public Space (DC Public Parking Area, Sidewalk, or Planting area) adjacent to property with grates
  3. Pepco equipment in public alleyway with grates

- **Other Options Available for Discussion & Approval:**

  4. Pepco equipment in public roadway with grates
  5. Pepco equipment in non-vehicle accessible Public Space (DC Public Parking Area, Sidewalk, or Planting area) adjacent to property with **forced ventilation thru parking garage**
  6. Pepco equipment in non-vehicle accessible Public Space (DC Public Parking Area, Sidewalk, or Planting area) adjacent to property with **air conditioning units**

Options 1 thru 6 will be subject to additional Company vs. Customer plan in the service cost.

Example of a Grated Manhole Roof with Customer Installed Brick Pavers

Option for Customer to Build Pepco Conduit Facilities in Public Space

Customers may request to build Pepco's service connection structural facilities in public space.

- **Benefits:**
  - Reduces Service Connection Fees
  - Improves Coordination of Work

- **Pepco Procedure Requirements:**
  - Execute formal Agreement with Pepco
  - Use approved Pepco contractor. Customer must identify contractor and obtain approval prior to executing Agreement.
  - Participate in Pre-Construction meeting 2 weeks prior to starting work.
  - Build facilities per Pepco drawing under Pepco's permit.
  - Permanent roadway resurfacing is typically excluded

Pepco Electric Service Connection Process

Key Message:

- Typical Pepco connection process: 4 to 7 months pending scope of work and type of service
- Start early in the project life cycle to work with Pepco on planning electric service connections for large commercial projects.

Verizon Communications

New Construction & Service Connection Planning

Agenda

- Preliminary Communication
- Planning Process
- Minimum Point of Entry / Rate Demarcation Point
- Structure / Diverse Entrances
- Telephone Room and Power Requirements
- Summary
- Verizon Contacts

Preliminary Communication

- Contact Verizon early during site design
- Provide to Verizon preliminary site plan showing proposed area of construction
- Verizon will provide approximate location of existing communications structures and cables in order to identify conflicts with proposed construction
- Special Construction Charges may apply in the event that existing Utilities must be relocated

Planning Process

- Requirements
  - Approved site plan
  - Specific location and addresses
  - Total number and types of units
  - Architectural drawings
  - Proposed construction start date
  - Planned completion and occupancy dates by phase
  - Contact names and numbers

Minimum Point of Entry/Rate Demarcation Point

- Applicable to non-FiOS installations
- Single Buildings
  - The RDP will be located at the minimum point of entry (MPOE) of the building, regardless of whether the building is single or multi-tenant
- Multi-Building, Single Tenant Campuses
  - The RDP for all service on the campus will be the MPOE of one building on the property as determined by Verizon.

Minimum Point of Entry/Rate Demarcation Point (cont.)

- Multi-Building, Multi-Tenant Campuses
  - Property owners will be offered three options
    - Verizon will install and maintain network cabling at the MPOE of the property or one building on the property as determined by Verizon. The property owner then builds, owns and maintains the cabling beyond the established RDP
    - Verizon will install and maintain network cabling to a single point of interface at the MPOE of the property or one building on the property (regulated). The property owner then contracts with Verizon to design and install non-regulated cabling beyond the RDP (non-regulated). The property owner then owns and maintains the cabling beyond the RDP.

Minimum Point of Entry/Rate Demarcation Point (cont.)

- Multi-Building, Multi-Tenant Campuses (cont.)
  - Verizon will install and maintain network cabling (regulated) to the MPOE of each building on the property. The property owner then owns and maintains cabling beyond the MPOE of each building.
    - The property owner is required to provide structure throughout the campus.

Structure Requirements

- Owner/Developer to provide structure from the telephone room to the property line to meet Verizon facilities
- Conduit requirements vary from 2 – 4” conduits to as many as 4 – 4” conduits
- Verizon will review the proposed service requirements to determine the number of conduits needed and the optimum connection point

Diverse Entrance Facilities

- Developers may opt to construct multiple, diverse entrance conduit into a building or campus
- Provides structure to support diverse fiber facilities feeding Hi-Capacity Services (ie. DS-3, OC-12 etc.)
- Diversified, redundant fibers provide increased survivability in the event of damage to either the main or protect fibers
- Equipment at Verizon's central office and the customer premise will continue to provide service on the non-damaged facility

Telephone Room and Power Requirements

- Verizon will determine the space and power requirements within the building to support their equipment
- The telephone room must be accessible, secure, lighted, climate controlled and kept free of debris
- The telephone room must be equipped with ¾” , fire retardant plywood on at least one wall

Telephone Room and Power Requirements (cont.)

- A 6 AWG ground must be provided within the room connected to the building's electrical service ground, a buss bar is preferred
- A minimum of 1 – 110 volt duplex grounded outlet is required. Often, multiple 30 amp circuits are required to support electronics
- Commercial power supplied to support communication facilities should be wired to the buildings uninterruptible power supply (UPS) if available.

Typical FiOS Requirements

- Premise Access License required to allow Verizon to install fiber cabling and equipment beyond MPOE within each building
- Owner/Developer provided structure from the main telephone room to the property line to meet Verizon facilities
- Conduit requirements vary from 2 – 4” conduits to as many as 4 – 4” conduits
- Builder provided vertical pathway within each building

FiOS Requirements Cont'd

- Adequate space provided on each floor and within each living unit to allow for placement of terminal, optical network terminal (ONT) and battery back-up.
- Electrical outlet available within each unit to power the ONT.

New Construction

Structured Wiring Interface

Structured Wiring Cabinet
(Bldr Provided)

Chase
inside
wall for
x-conn

Suttle Interface
Cabinet
(VZ Provided,
Bldr Installed)

Microduct & Fiber
Drop

110V Circuit
(Bldr Provided)

Summary

- Early communication and coordination between the Designer, Builder and the Utilities is key to providing timely, quality service
- Allow for realistic utility construction intervals within the overall project timeline

Verizon Contacts

MD: VZ-Builder-Info-MD@verizon.com

DC: VZ-Builder-Info-DC@verizon.com

Washington Gas™
A WGL Company

ONE COMPANY. ONE TEAM.

NAVIGATING WASHINGTON GAS

UNDERSTANDING THE NEW BUSINESS SUBMITTAL PROCESS

QUINTON LEWIS-DIGGS / APRIL 9, 2015

The Navigation – Today's Presentation

- WHO – your "go to" Washington Gas new business teams
- WHAT – the clients services, information and submittals needed
- WHY – the importance of everything in the process
- HOW – understand the process; create efficiency in it
- RESULTS – natural gas energy provided, with ease

Sales Engineering Staff

- Jennifer Eugene, Manager, 28 years
  - Sales, Design and Construction, Equipment
  - (703) 750-4844 jeugene@washgas.com

- Robert Postell, Sr. Engineer, 26 years
  - Sales Design and Construction
  - (703) 750-4880 rpostell@washgas.com

- Heath Kalmanson, Sr. Engineer, 14 years
  - Sales, Design and Certified Energy Manager
  - (703) 750-4855 hkalmanson@washgas.com

- Quinton Lewis-Diggs, Engineer, 1 year
  - Sales, Design and Equipment
  - (703) 750-5694 qlewis@washgas.com

Mission – to Provide Your Energy Answers. Ask Us.

- Liaison for design and construction community
  - -Engineering and Architect Professionals
  - - Owners, Developers, General Contractors, Management Companies

- We are technical experts
  - -Mechanical Engineers
  - -Equipment, Design and Construction, Energy Management Experience

http://www.washingtongasliving.com/for-builders/plan-your-project

NAVIGATING THE PROCESS

Call an Engineering Sales Team Member

- Assist You with Planning your Project
  - -All jurisdictions – MD, DC, VA
  - -Assist you with your design of natural gas facilities
  - -Equipment Suggestions, Energy Discussions

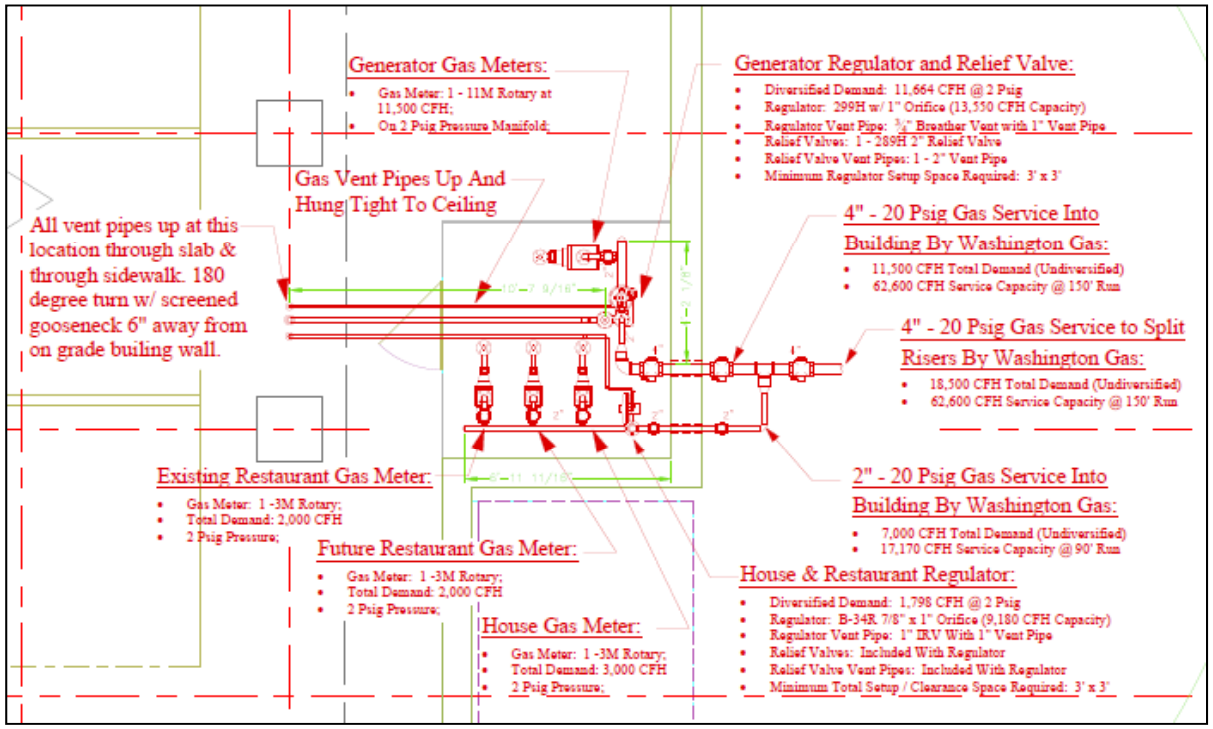
- Initiate Your Request for Natural Gas Service
  - -Complete all the submittals and enter project in system
  - -Gather needed supporting documents

- Monitor the Progress of Your Project
  - -Maintain contact and answer follow-up questions

http://www.washingtongasliving.com/for-builders/plan-your-project

Planning Your Project

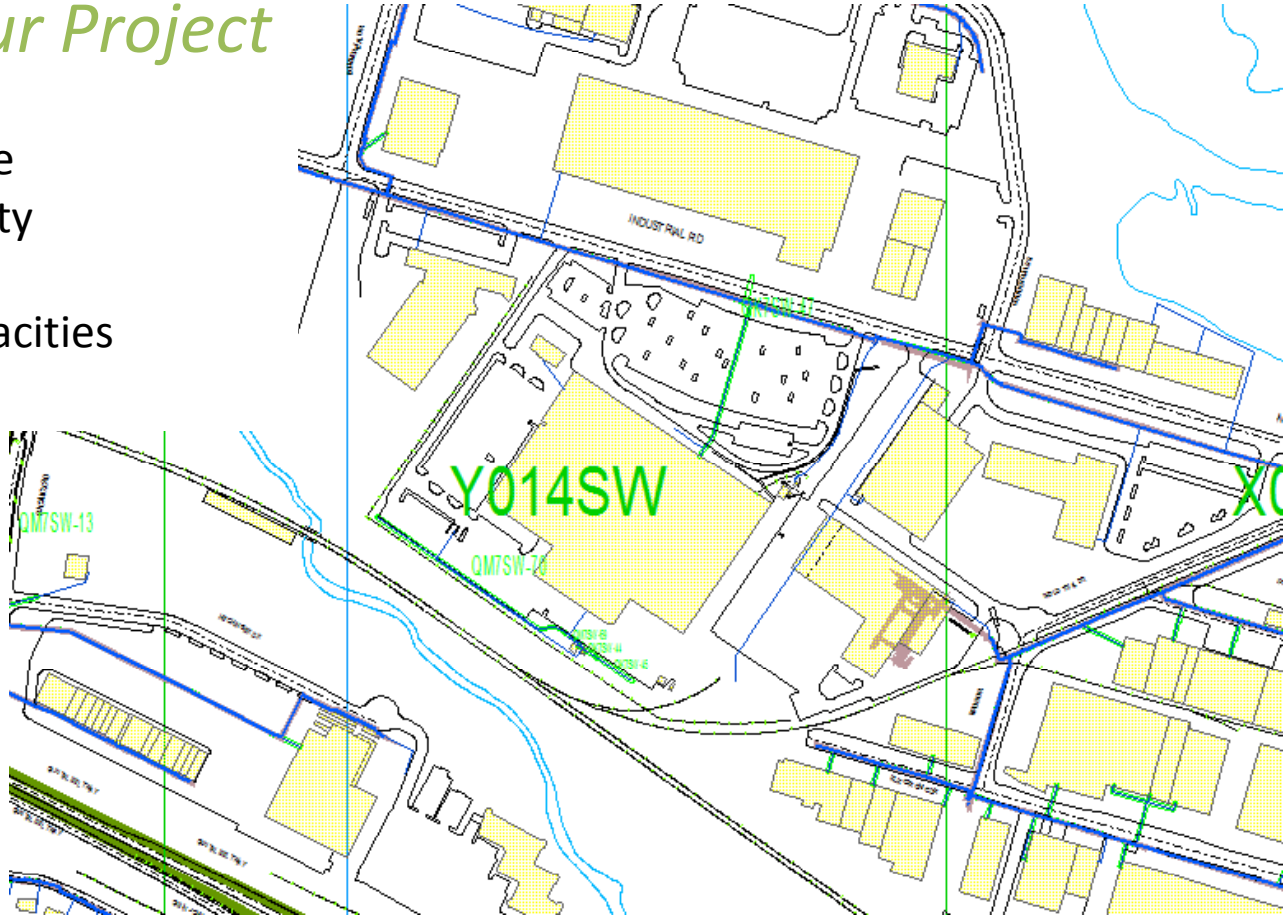
- Design Meter Room Layout
- Meter Location Options
- Required Submittals
- Gas Loads
- Gas Use, including Construction Heat Plans
- Gas Rates



Washington Gas
A WGL Company

Planning Your Project

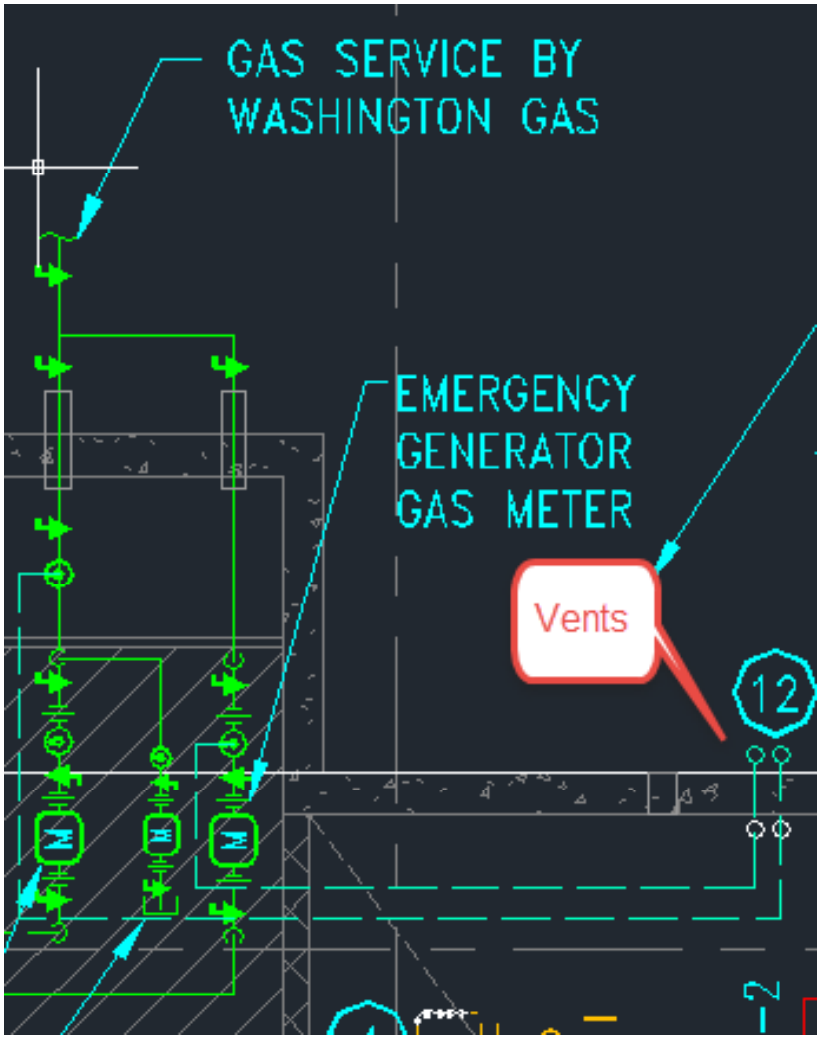
- Locate Project Site
  - -Gas Availability
  - -Gas Pressure
  - -Facilities Capacities



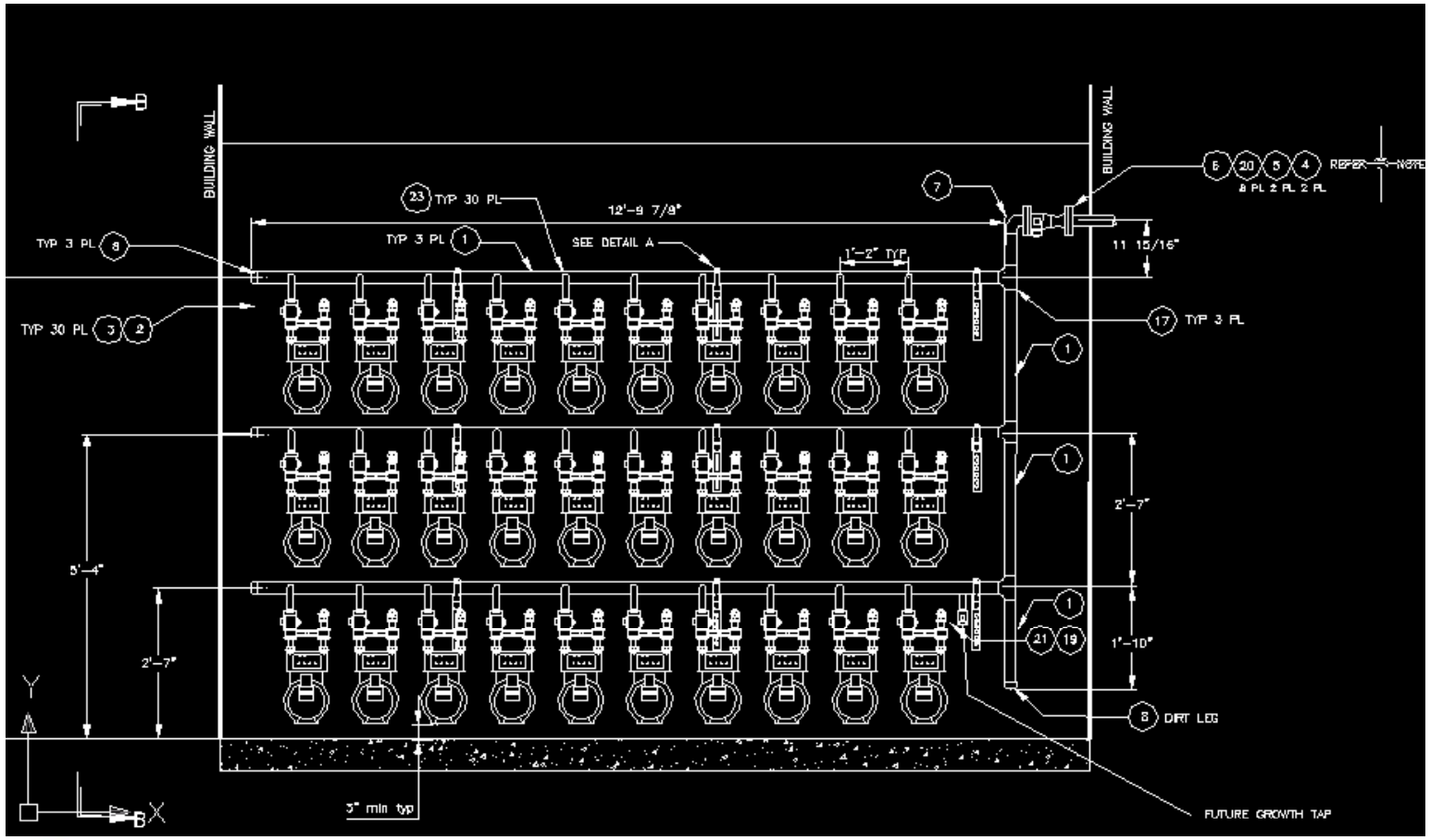
Washington Gas
A WGL Company

Design Meter Location

- Design Services
  - -Service Location
  - -Meter Room Layout
  - -Meter Locations
  - -Size Inside Gas Pipe and Layout to Meters
  - -Meter Bank Design
  - -Regulator Vent Pipe(s) Routes
  - -Regulator Termination Location (pipe 12” above grade with screen and 90° turn downward)



Typical 30 Ct. Meter Bank



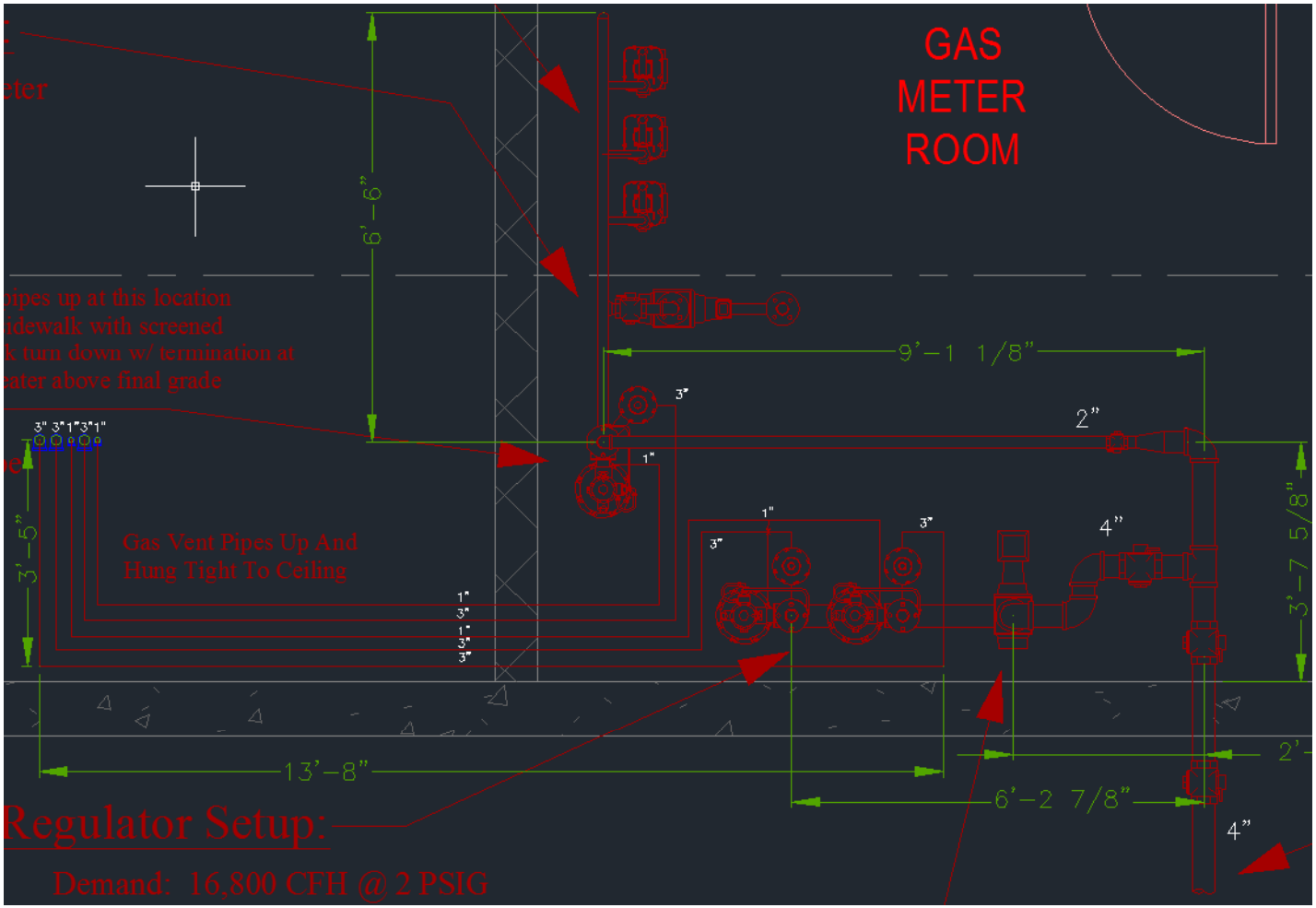
Planning Your Meter Location

- Gas Meter Location Options
  - -DMR: Distributed Meter Rooms
    - •Residential High Rise (≥5 story)
    - •Central Stacked Closet(s) per floor
    - •Individual gas meter per unit
  - -Other Residential or Commercial Building
    - •Outside
    - •Just inside building into meter room/area
    - •In a underground parking garage
    - •In an above ground parking garage at grade level

Gas Regulator and Vents

- Typical Gas Regulator and Vent Design
  - -Regulator Placement
  - -Vent pipe size, routing and building exit point
  - -Required Pad Size
- Typical Pad Size
  - -1.5M Rotary Meter (1,700 CFH Capacity) 24 in x 30 in
  - -11M Rotary Meter (12,300 CFH Capacity) 30 in x 36 in
  - -16M Rotary Meter (21,200 CFH Capacity) 48 in x 48 in*
  - * Dual Regulators
- Vent Termination
  - -Maintain 3-Feet from any operable door or window
  - -Maintain 10-Feet from any fan-induced ventilation air intakes

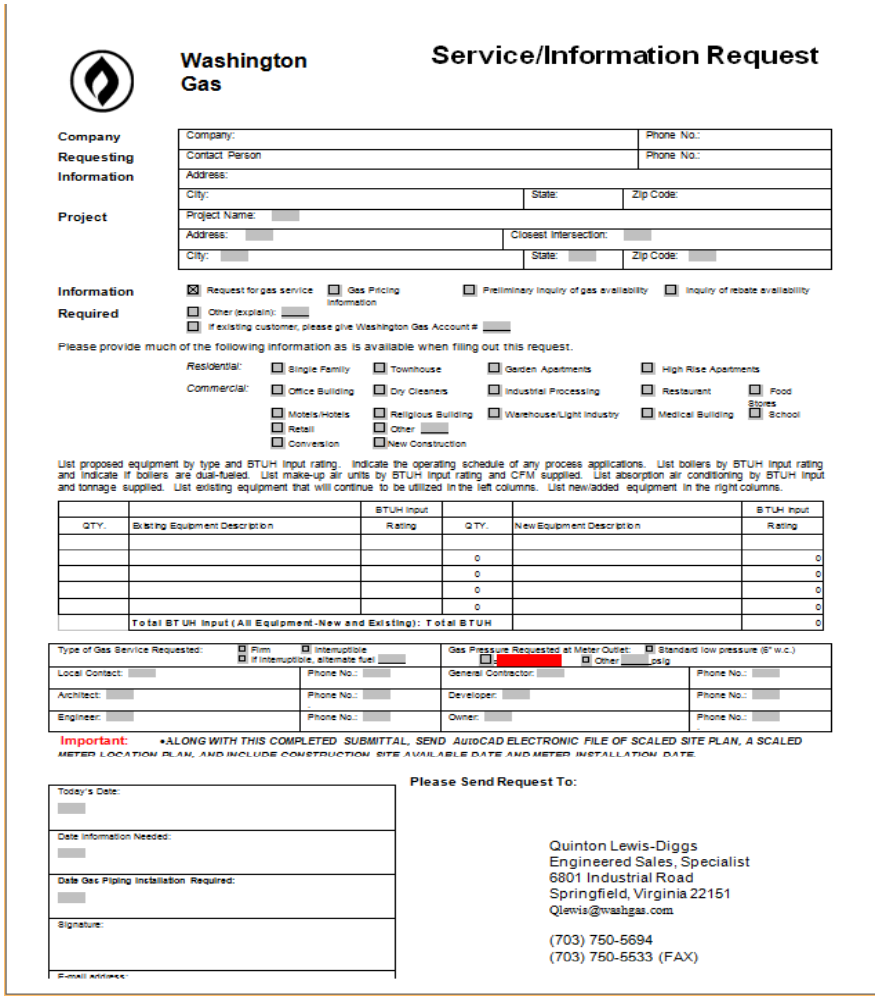
NEW BUSINESS – SALES ENGINEERING AND TECHNICAL



NEW BUSINESS – SALES ENGINEERING AND TECHNICAL

Required Project Submittals

- Service Information Request Form (SIR)
- Site Plan (electronic .dwg files)
- Building Plan for inside meter location(s) (electronic .dwg files)
- Sales Engineered WG Pipe Design Created
- Gas Riser Diagram (DMR)
- Secure FTP option



Washington Gas

Service/Information Request

Company Requesting Information

Company:		Phone No.:
Contact Person		Phone No.:
Address:		
City:	State:	Zip Code:

Project

Project Name:		
Address:	Closest Intersection:	
City:	State:	Zip Code:

Information Required

☒ Request for gas service ☐ Gas Pricing information ☐ Preliminary inquiry of gas availability ☐ Inquiry of rebate availability
☐ Other (explain):
☐ If existing customer, please give Washington Gas Account #

Please provide much of the following information as is available when filling out this request.

Residential: ☐ Single Family ☐ Townhouse ☐ Garden Apartments ☐ High Rise Apartments

Commercial: ☐ Office Building ☐ Dry Cleaners ☐ Industrial Processing ☐ Restaurant ☐ Food Stores ☐ Motels/Hotels ☐ Religious Building ☐ Warehouse/Light Industry ☐ Medical Building ☐ School ☐ Retail ☐ Other ☐ Conversion ☐ New Construction

List proposed equipment by type and BTUH input rating. Indicate the operating schedule of any process applications. List boilers by BTUH input rating and indicate if boilers are dual-fueled. List make-up air units by BTUH input rating and CFM supplied. List absorption air conditioning by BTUH input and tonnage supplied. List existing equipment that will continue to be utilized in the left columns. List new/added equipment in the right columns.

QTY.	Existing Equipment Description	BTUH Input Rating	QTY.	New Equipment Description	BTUH Input Rating
			0		0
			0		0
			0		0
			0		0
	Total BTUH Input (All Equipment-New and Existing): Total BTUH				0

Type of Gas Service Requested: ☐ Firm ☐ Interruptible ☐ If interruptible, alternate fuel		Gas Pressure Requested at Meter Outlet: ☐ Standard low pressure (8" w.c.) ☐ [redacted] ☐ Other psig	
Local Contact:	Phone No.:	General Contractor:	Phone No.:
Architect:	Phone No.:	Developer:	Phone No.:
Engineer:	Phone No.:	Owner:	Phone No.:

Important: *•ALONG WITH THIS COMPLETED SUBMITTAL, SEND AutoCAD ELECTRONIC FILE OF SCALED SITE PLAN, A SCALED METER LOCATION PLAN, AND INCLUDE CONSTRUCTION SITE AVAILABLE DATE AND METER INSTALLATION DATE.*

Today's Date:
Date Information Needed:
Date Gas Piping Installation Required:
Signature:
E-mail address:

Please Send Request To:

Quinton Lewis-Diggs
Engineered Sales, Specialist
6801 Industrial Road
Springfield, Virginia 22151
Qlewis@washgas.com

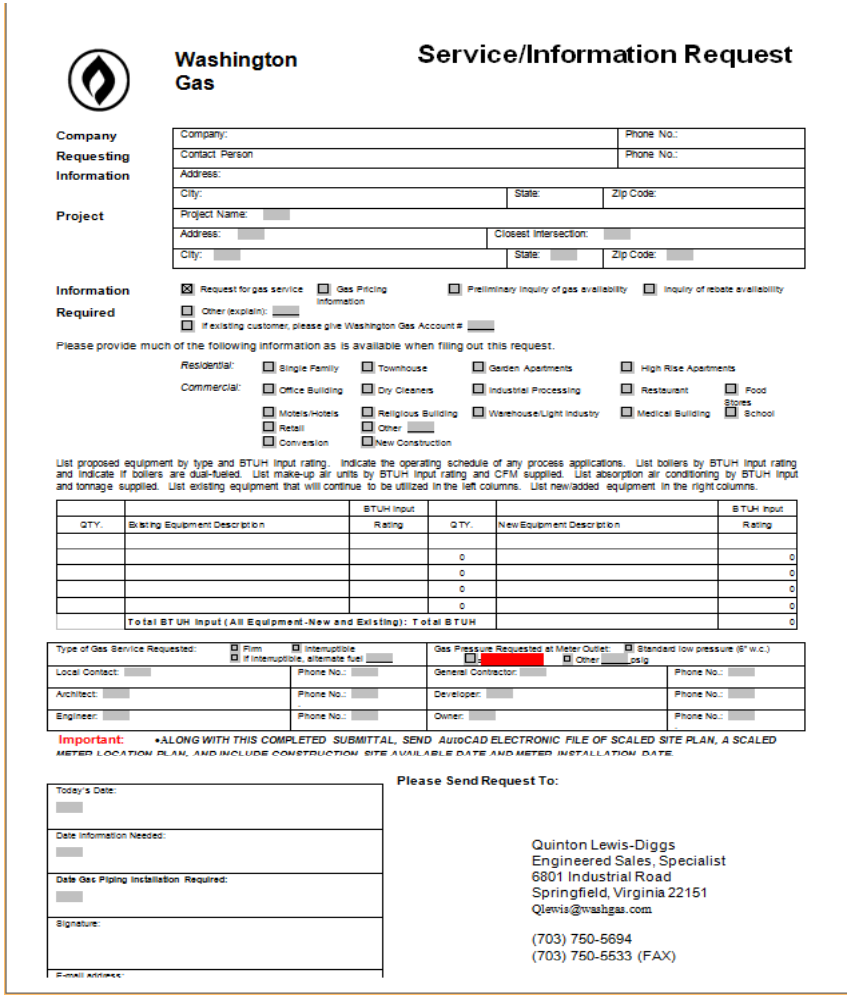
(703) 750-5694
(703) 750-5533 (FAX)

Washington Gas™
A WGL Company

NEW BUSINESS – SALES ENGINEERING AND TECHNICAL

Required Project Submittals

- Service Information Request Form
  - -Address is Required
  - -New or Existing Building Site/Customer
  - -New Equipment Rating/Pressure
  - -Existing Equipment Rating/Pressure
  - -Site Ready Date
  - -Meter Installation Date



Washington Gas

Service/Information Request

Company Requesting Information

Company:		Phone No.:
Contact Person		Phone No.:
Address:		
City:	State:	Zip Code:

Project

Project Name:		
Address:	Closest Intersection:	
City:	State:	Zip Code:

Information Required

☒ Request for gas service ☐ Gas Pricing information ☐ Preliminary inquiry of gas availability ☐ Inquiry of rebate availability

☐ Other (explain):

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QTY.	Existing Equipment Description	BTUH Input Rating	QTY.	New Equipment Description	BTUH Input Rating
			0		0
			0		0
			0		0
			0		0
	Total BTUH Input (All Equipment-New and Existing): Total BTUH				0

Type of Gas Service Requested: ☐ Firm ☐ Interruptible ☐ If interruptible, alternate fuel		Gas Pressure Requested at Meter Outlet: ☐ Standard low pressure (6" w.c.) ☐ [redacted] ☐ Other psig	
Local Contact:	Phone No.:	General Contractor:	Phone No.:
Architect:	Phone No.:	Developer:	Phone No.:
Engineer:	Phone No.:	Owner:	Phone No.:

Important: *•ALONG WITH THIS COMPLETED SUBMITTAL, SEND AutoCAD ELECTRONIC FILE OF SCALED SITE PLAN, A SCALED METER LOCATION PLAN, AND INCLUDE CONSTRUCTION SITE AVAILABLE DATE AND METER INSTALLATION DATE*

Today's Date:
Date Information Needed:
Date Gas Piping Installation Required:
Signature:
E-mail Address:

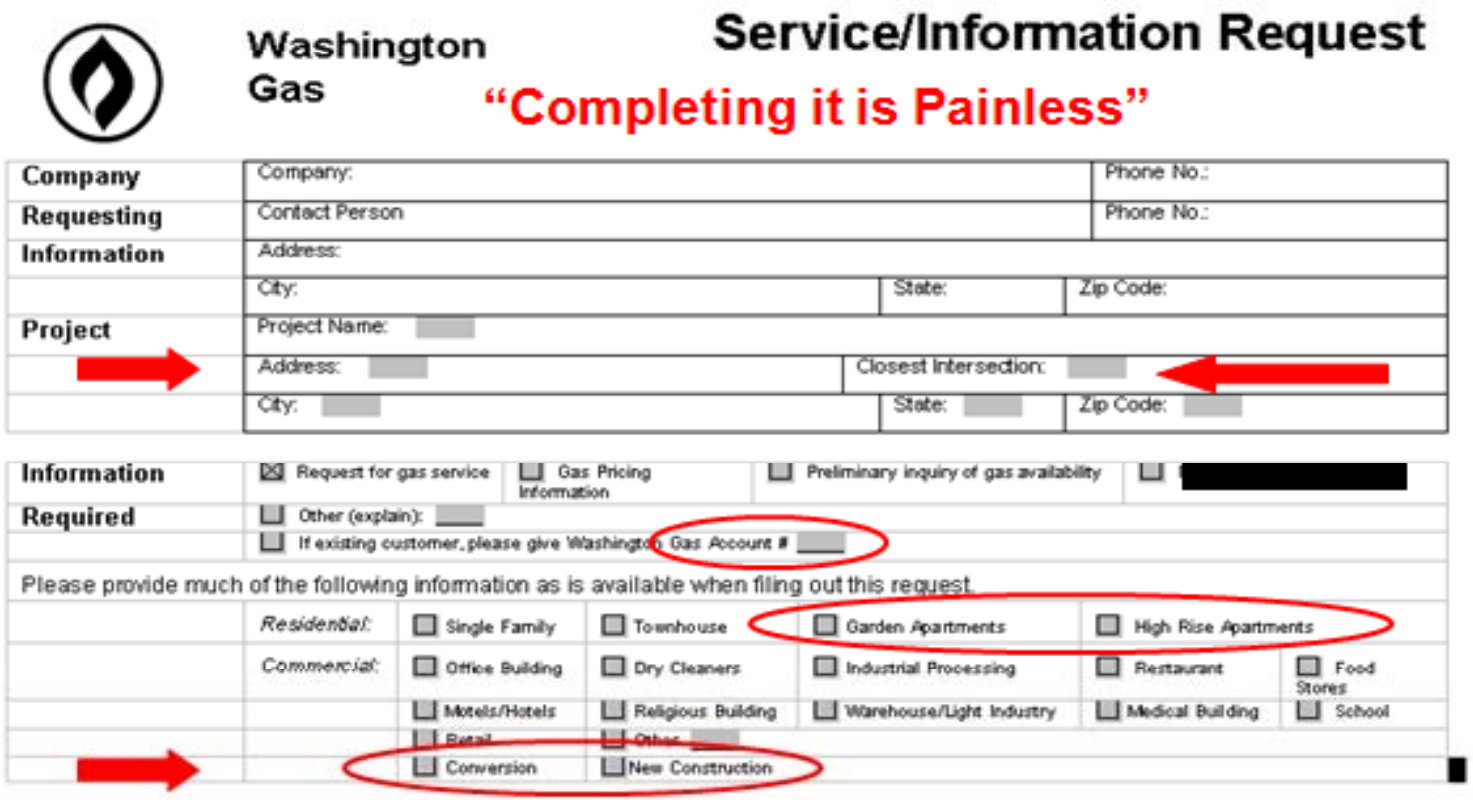
Please Send Request To:

Quinton Lewis-Diggs
Engineered Sales, Specialist
6801 Industrial Road
Springfield, Virginia 22151
Qlewis@washgas.com

(703) 750-5694
(703) 750-5533 (FAX)

Washington Gas™
A WGL Company

NEW BUSINESS – SALES ENGINEERING AND TECHNICAL



Washington Gas

Service/Information Request

"Completing it is Painless"

Company Requesting Information	Company:		Phone No.:
	Contact Person		Phone No.:
	Address:		
	City:	State:	Zip Code:
Project	Project Name:		
	Address:	Closest Intersection:	
	City:	State:	Zip Code:

Information Required	☒ Request for gas service	☐ Gas Pricing Information	☐ Preliminary inquiry of gas availability	☐ [redacted]	
	☐ Other (explain):				
	☐ If existing customer, please give Washington Gas Account #				
Please provide much of the following information as is available when filing out this request.					
	Residential:	☐ Single Family	☐ Townhouse	☐ Garden Apartments	☐ High Rise Apartments
	Commercial:	☐ Office Building	☐ Dry Cleaners	☐ Industrial Processing	☐ Restaurant ☐ Food Stores
		☐ Motels/Hotels	☐ Religious Building	☐ Warehouse/Light Industry	☐ Medical Building ☐ School
		☐ Retail	☐ Other		
		☐ Conversion	☐ New Construction		

NEW BUSINESS – SALES ENGINEERING AND TECHNICAL

List proposed equipment by type and BTUH input rating. Indicate the operating schedule of any process applications. List boilers by BTUH input rating and indicate if boilers are dual-fueled. List make-up air units by BTUH input rating and CFM supplied. List absorption air conditioning by BTUH input and tonnage supplied. List existing equipment that will continue to be utilized in the left columns. List new/added equipment in the right columns.

QTY.	Existing Equipment Description	BTUH Input Rating	QTY.	New Equipment Description	BTUH Input Rating
1	RTU	700,000	3	Boilers (ea.)	2,000,000
0			0		0
0			0		0
0			0		0
	Total BTUH Input (All Equipment-New and Existing): Total BTUH				2,700,000

Type of Gas Service Requested: ☐ Firm ☐ Interruptible ☐ If interruptible, alternate fuel

Gas Pressure Requested at Meter Outlet: ☐ Standard low pressure (8" w.c.) ☐ 2 psig ☐ Other psig (specify reason if greater than 2)

Local Contact:	Phone No.:	General Contractor:	Phone No.:
Architect:	Phone No.:	Developer:	Phone No.:
Engineer:	Phone No.:	Owner:	Phone No.:

Important: ***Please include AutoCAD file of site plan and AutoCAD file of mechanical drawings showing location of water, sewer, and other underground utilities, and desired location of gas service line and meters. If meter(s) are located in underground parking garage or meter room, submit AutoCAD files that show dimensions of area.***

Today's Date:
Date Information Needed:
Date Gas Piping Installation Required:
Signature:
E-mail address:

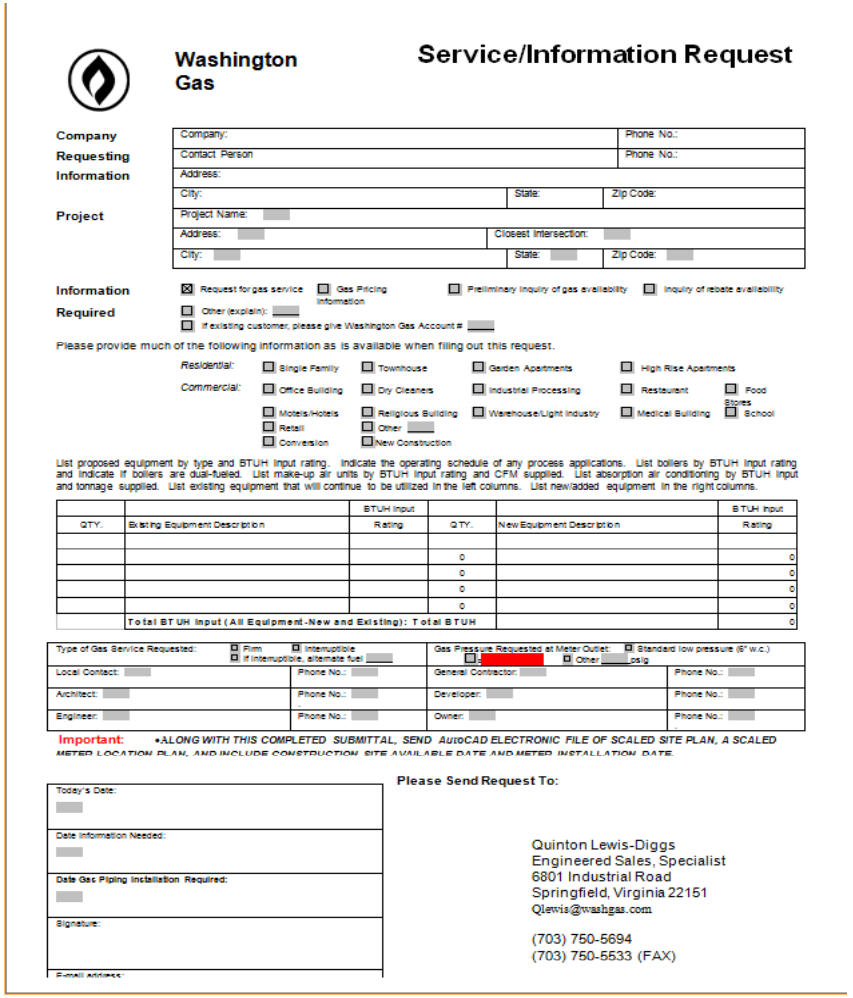
Send Request to:

Jennifer Eugene, Sr. Mech. Eng, Engineered Sales
6801 Industrial Road
Springfield, Virginia 22151
Jeugene@washgas.com
(703) 750-4844 Office
(703) 750-5533 Fax
(703) 408-3758 Cell

- ***ALONG WITH THIS COMPLETED SUBMITTAL, SEND AutoCAD ELECTRONIC FILE OF SCALED SITE PLAN, A SCALED METER LOCATION PLAN, AND INCLUDE CONSTRUCTION SITE AVAILABLE DATE AND METER INSTALLATION DATE.***

Understanding Submittals

- Be Prepared to Discuss
  - -Multiple Boiler Operations
  - -Are any boilers used for back up?
  - -Requested Metering Pressure, why if greater than 2 psig
  - -New or Existing Building
  - -New or Existing Equipment
  - -Generators
- Construction Heat



Washington Gas

Service/Information Request

Company Requesting Information

Company: | Phone No.:
Contact Person | Phone No.:
Address:
City: | State: | Zip Code:

Project

Project Name:
Address: | Closest Intersection:
City: | State: | Zip Code:

Information Required

☒ Request for gas service ☐ Gas Pricing information ☐ Preliminary inquiry of gas availability ☐ Inquiry of rebate availability
☐ Other (explain):
☐ If existing customer, please give Washington Gas Account #

Please provide much of the following information as is available when filing out this request.

Residential: ☐ Single Family ☐ Townhouse ☐ Garden Apartments ☐ High Rise Apartments

Commercial: ☐ Office Building ☐ Dry Cleaners ☐ Industrial Processing ☐ Restaurant ☐ Food Stores ☐ Motels/Hotels ☐ Religious Building ☐ Warehouse/Light Industry ☐ Medical Building ☐ School ☐ Retail ☐ Other ☐ Conversion ☐ New Construction

List proposed equipment by type and BTUH input rating. Indicate the operating schedule of any process applications. List boilers by BTUH input rating and indicate if boilers are dual-fueled. List make-up air units by BTUH input rating and CFM supplied. List absorption air conditioning by BTUH input and tonnage supplied. List existing equipment that will continue to be utilized in the left columns. List new/added equipment in the right columns.

QTY.	Existing Equipment Description	BTUH Input Rating	QTY.	New Equipment Description	BTUH Input Rating
			0		0
			0		0
			0		0
			0		0
	Total BTUH Input (All Equipment-New and Existing): Total BTUH				0

Type of Gas Service Requested: ☐ Firm ☐ Interruptible ☐ If interruptible, alternate fuel
Gas Pressure Requested at Meter Outlet: ☐ Standard low pressure (6" w.c.) ☐ [redacted] ☐ Other psig

Local Contact: | Phone No.: | General Contractor: | Phone No.:
Architect: | Phone No.: | Developer: | Phone No.:
Engineer: | Phone No.: | Owner: | Phone No.:

Important: *•ALONG WITH THIS COMPLETED SUBMITTAL, SEND AutoCAD ELECTRONIC FILE OF SCALED SITE PLAN, A SCALED METER LOCATION PLAN, AND INCLUDE CONSTRUCTION SITE AVAILABLE DATE AND METER INSTALLATION DATE*

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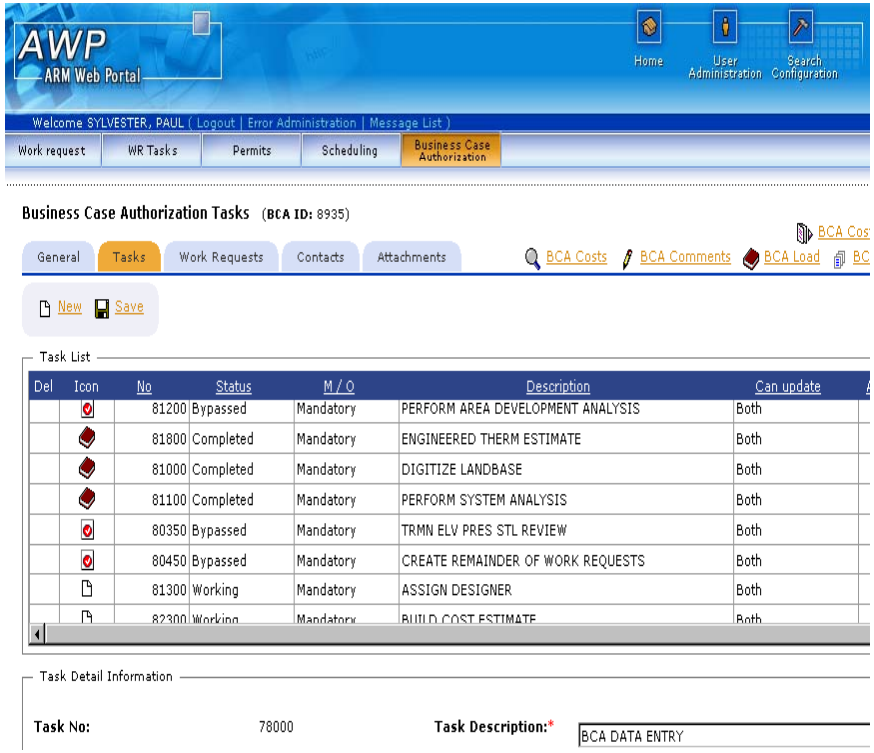
(703) 750-5694
(703) 750-5533 (FAX)

Washington Gas™ A WGL Company

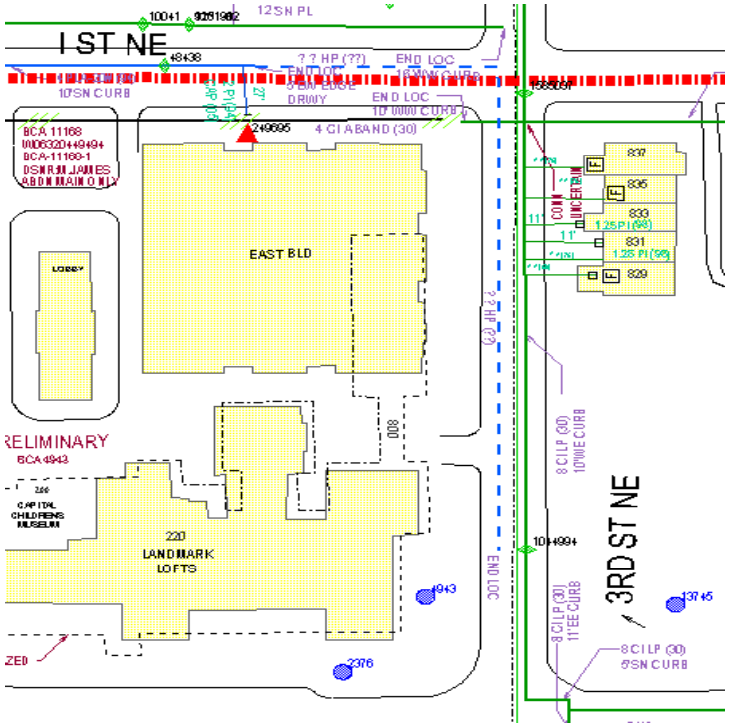
Project WMIS (Manages Tasks)

- Work Management System
  - -All projects issued BCA#
  - -Load is modeled in system
  - -Tasks driven with status
  - -Complete costs evaluation
  - -Approval status generated
  - -WG Contractors tied into Web Portal
  - -In Sales Support Groups
  - -The Process – estimated 15-20 tasks



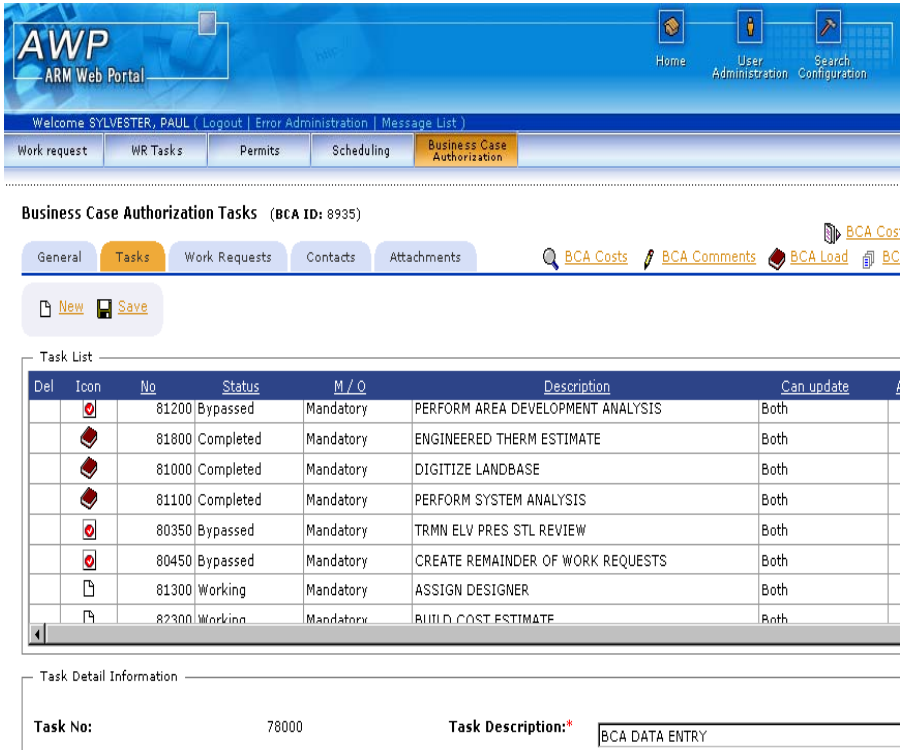
Key Considerations

- Main Extensions
  - -Pressure/ gas not immediately available
  - -Involves more planning, costs, construction
- Service Installation
  - -Washington Gas Contractors and Washington Gas coordination
- Inside Pipe
  - -Engineered Sales design
  - -Washington Gas Contractor installed



Key Considerations

- Final sign-off of design and permit completed after receipt of payment
- 1000's of jobs in system
- Approval status needed
- Time to receive agency permits (3-4 months)
- Washington Gas Contractor scheduling



Key Considerations

- Service Information Request
  - -Project Dates for phases, Meter Install Dates
  - -Multi-Family
    - ❑ Number of Units, Boiler Use, Number of Meters, Heat Pump
    - ❑ Construction Heat Plans

- AutoCAD Scaled Site and Building Plans; Gas Riser Diagram
  - -Streets and Building Identified
  - -Service Entry Point
  - -Meter Location, Dimensions
  - -Vent and Regulator Locations

Sales Engineering Staff

- Jennifer Eugene
  - (703) 750-4844 jeugene@washgas.com
- Robert Postell
  -(703) 750-4880 rpostell@washgas.com
- Heath Kalmanson
  -(703) 750-4855 hkalmanson@washgas.com
- Quinton Lewis-Diggs
  -(703) 750-5694 qlewis@washgas.com

http://www.washingtongasliving.com/for-builders/plan-your-project

NEW BUSINESS – SALES SUPPORT AREA MANAGERS

Territories

- Pat Estrada-Palma – Virginia Territory
  - (703) 750-5657 PatEstrada-Palma@washgas.com
- Vera Fontana – NE, SE, SW District of Columbia
  - (703) 750-4317 VeraFontana@washgas.com
- Ann Kern – NW District of Columbia
  - (703) 750-4445 Akern@washgas.com
- Jack Higgins – Northern Maryland
  - (703) 750-7908 Ehiggins@washgas.com
- Michael Goffus – Southern Maryland
  - (703) 750-4881 MichaelGoffus@washgas.com
- Rick Gehr – Telesales – 703-941-Heat
  - (703) 750-4743 RichardGehr@washgas.com

Questions?

Connection Processes for Large Commercial Projects in the District of Columbia

Presented to:

Washington Building Congress (WBC)

April 9, 2015

Christopher J. Sandt, P.E.

Supervisor – Developer Engineering Review
DC Water Permit Operations Department
1100 4th Street SW, Suite 310
Washington, D.C. 20024

202-646-8623 (direct)
christopher.sandt@dcwater.com

water is life

Presentation Goals

- What is DC Water? What does DC Water do?
- Construction in the District: How does DC Water integrate with other agencies?
- What is a large commercial service connection?
- What, where, and how do I submit plans to DC Water?
- What are the fees and time frames associated with the DC Water plan approval and construction processes?
- What is needed for (streamlined) DC Water approval of new large commercial service connections?

Water Infrastructure

- 44,000+ valves
- 9,500+ fire hydrants

- 1,350 miles of pipe (average age = 77 years)
- 4 pumping stations, 5 storage reservoirs, 3 ESTs
- Pumping supply average of 110+ MGD
- approx. 95 million gallons of treated water storage

Sewer Infrastructure

- Blue Plains Advanced Wastewater Treatment Plant – largest facility of its kind in the world (150 acres)
- 370 MGD treatment capacity (1 BGD peak)

- 1,900 miles of sanitary and combined sewers
- 9 off-site pumping stations
- 22 flow meter stations

The District is Busy!

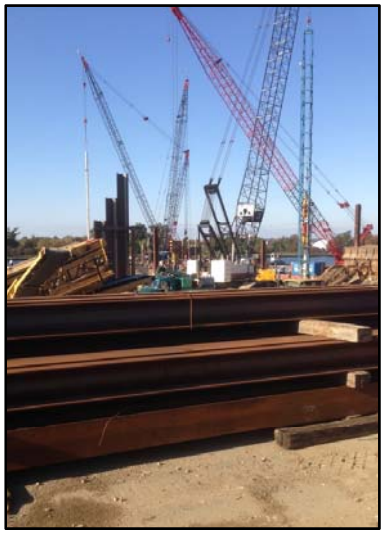
12,000 …new housing units currently under construction.

1.8 million …SF of office space currently under construction.

28 …new grocery stores built since 2000.

- Washington, DC Economic Partnership (12/9/14)

c/o The Washington Post Express, December 10, 2014



Primary Agencies - Construction Permitting

DCRA – Dept. of Consumer and Regulatory Affairs

- New construction & renovations
- Private property

DDOE – Dept. of Environment

- EC & SWM
- Private property and public space

DDOT – Dept. of Transportation

- Construction in and occupancy of public space

DC Water (plan approval only – no permits issued)

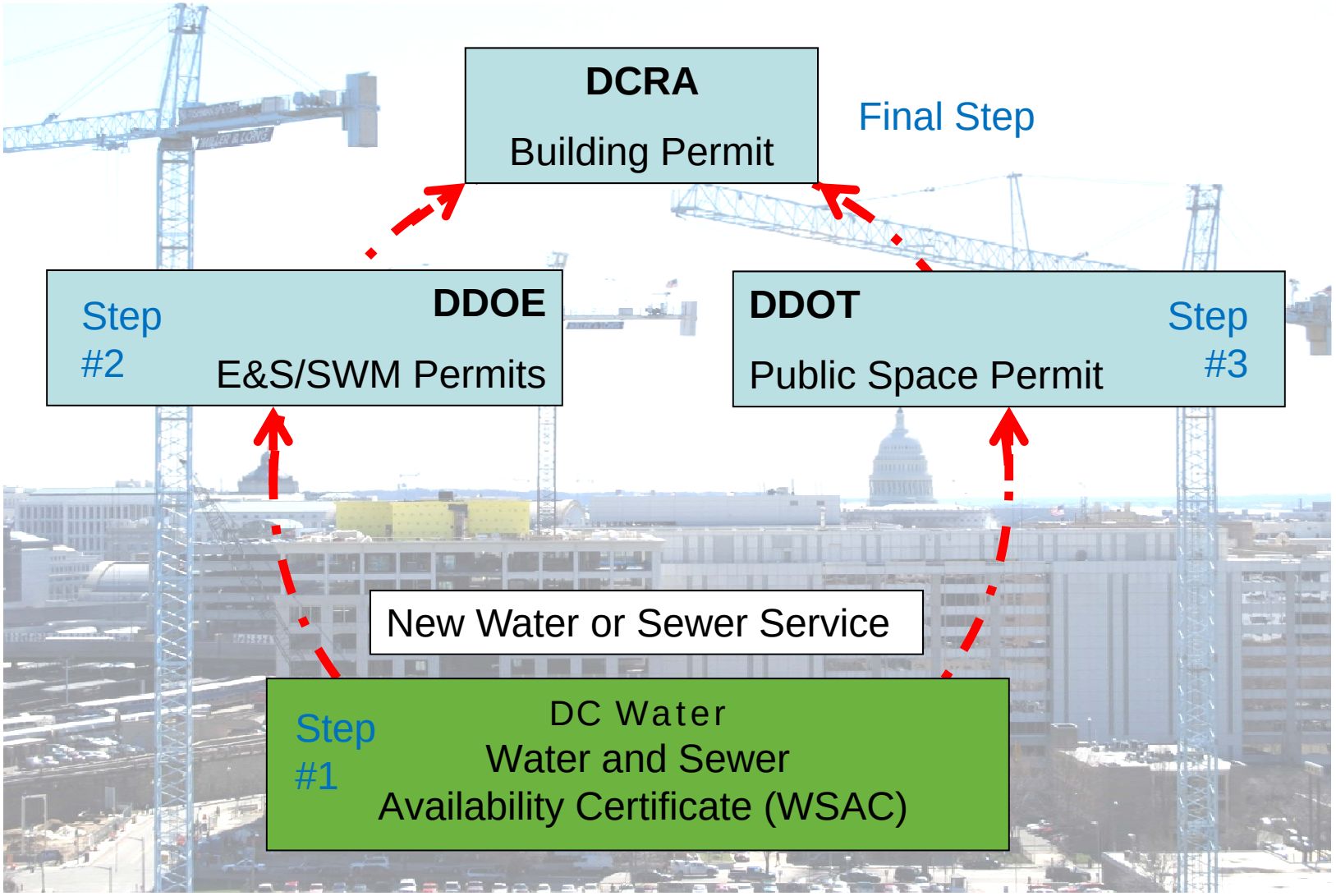
- Water and sewer infrastructure in public space

dc water is life

What Permits are Needed?

- Raze Permit (DCRA)
- Erosion & Sediment Control and SWM Permit (DDOE)
- Support of Excavation (Sheeting and Shoring) Permit (DDOT)
- Public Space Excavation Permit (DDOT)
- Building Permit (DCRA)

Symbiotic Relationships



Symbiotic Processes

Site Prep
(RAZE, EC, SWM)

Excavation
(SHEET, PUBLIC SPACE)

Building Construction
(BUILDING PERMITS, UTILITIES)

Where Else Might I Encounter DC Water?

- Street Closing
- EISF Review
- Easements and Covenants (Mr. Kevin Harney)
- Information Requests
- Hydrant Flow Tests
- Test Shuts (water/sewer)

Water and Sewer - Who Owns What?

Water Main: District (DC Water maintains)

Water Meter and Strainer: District (DC Water maintains)

Water Service Line: Property Owner

Meter Vault: Property Owner

Service Line Valves: Property Owner

Sewer Line and Manholes: District (DC Water maintains)

Catch Basins: District (DC Water maintains)

Sewer Service Line: Property Owner

Sewer Cleanout: Property Owner

SWM Structures: Property Owner

dc water is life

What is a Service Connection?

- A privately owned line running from the PUBLIC water or sewer main to a PRIVATE lot
- Perpendicular to the property line
- Straight line from the main to the building, if possible
- Includes a shut-off valve or clean-out in public space
- Includes a meter in public place (water)

Service Connections

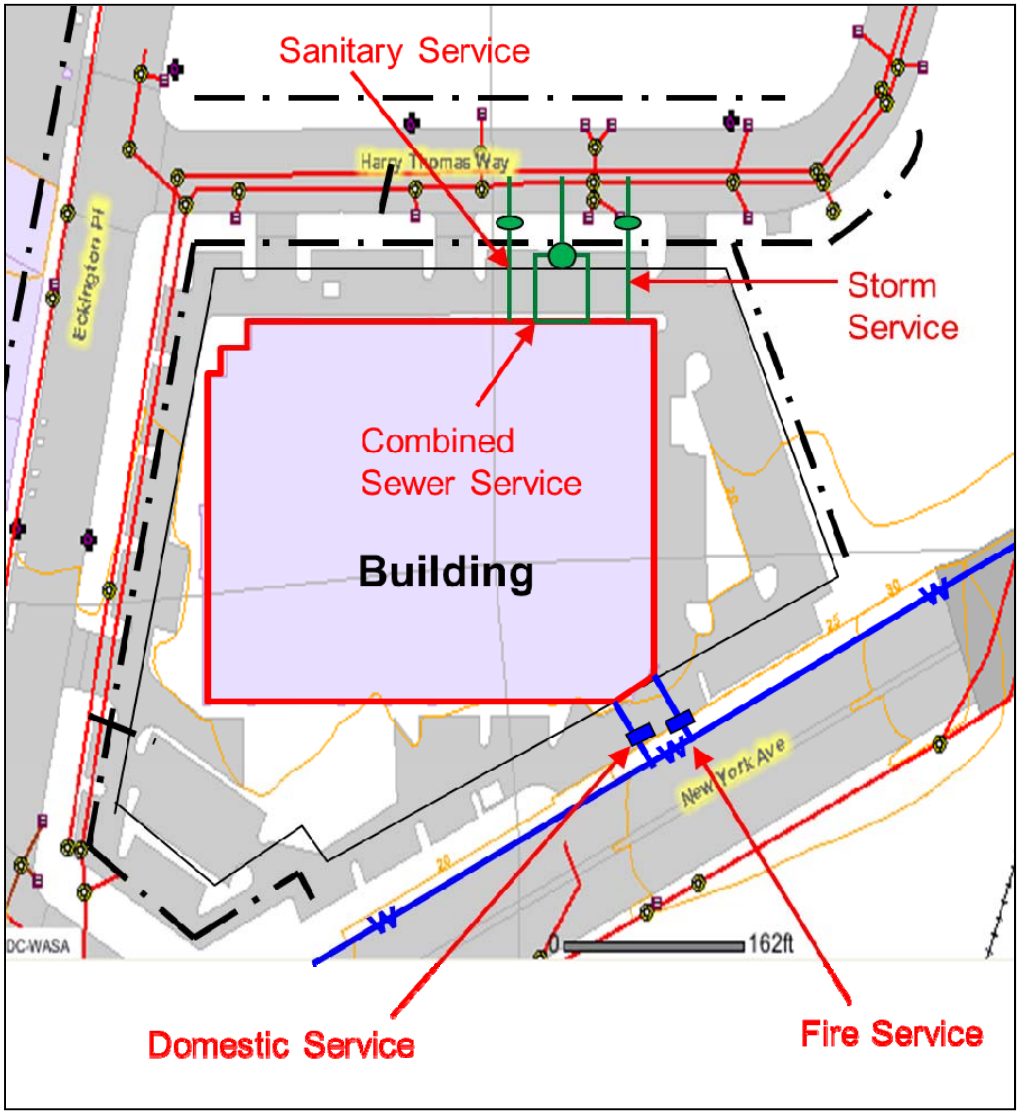
Water Service Lateral (Type K copper or DIP)

- Domestic Service (sized to # of fixture units)
- Fire Service (sized to NFPA Code)
- Combined Fire and Domestic (no longer done for >2”)

Sewer Service Lateral (PVC or RCP)

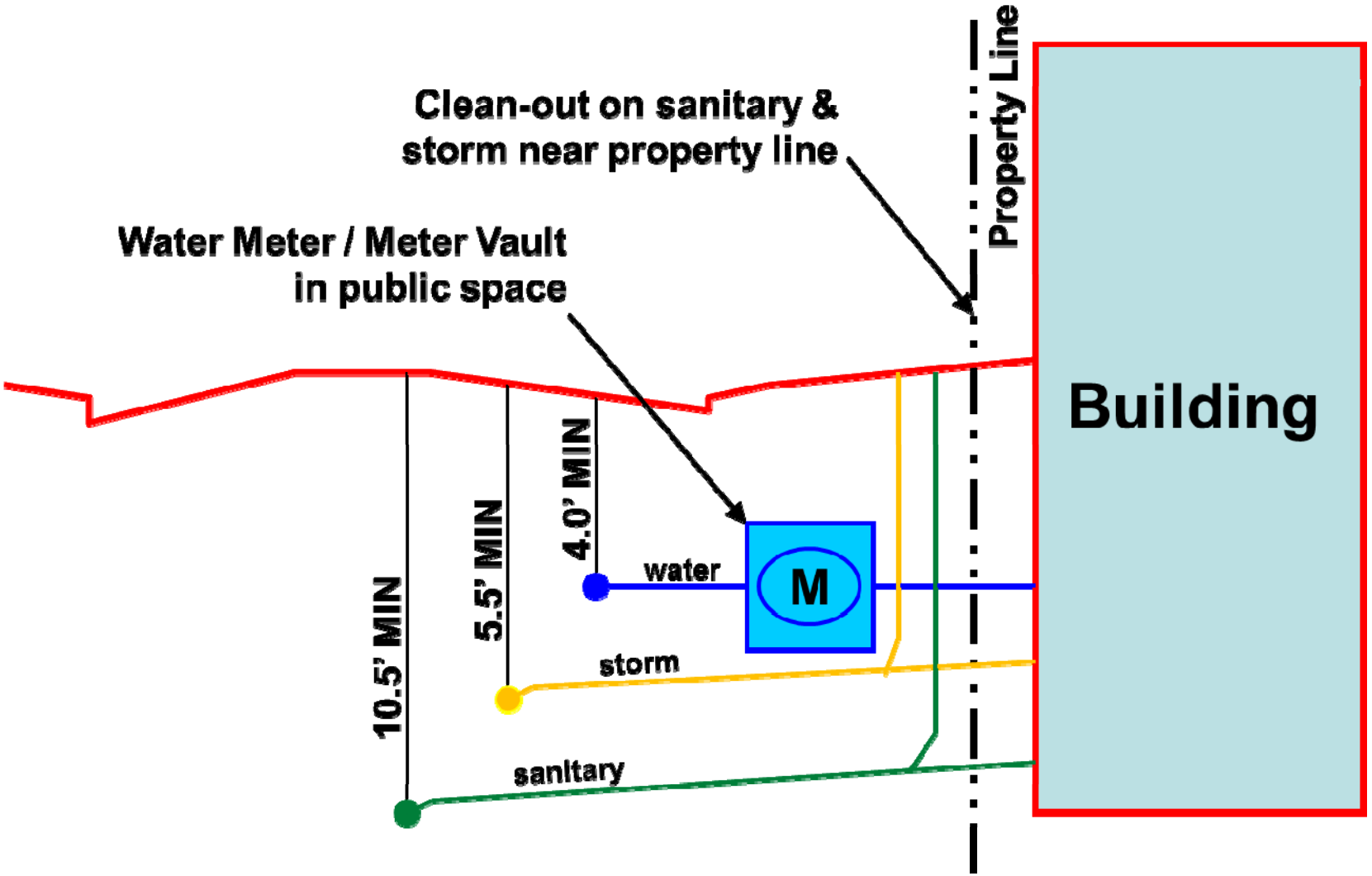
- Sanitary (sized to # of fixture units)
- Storm (sized to 15-year storm)
- Combined (sized to 15-year storm & sanitary)

Service Connections



- Storm to storm
- Sanitary to sanitary
- Clean-outs (4” & 6”)
- Clean-out MHs (>6”)
- Separate dom. & fire
- No combined water services > 2”

Service Connections



Service Connections - Who Does What?

DC Water maintains the service laterals in public space but does NOT own them

- If it breaks in public space, we fix it
- If you break or neglect it, you fix it
- If you build new or rehab, you install or replace it
- If you clog sewer, you clear using reasonable force
- If reasonable force does not clear it, we'll clear it
- If it's a sewer main or catch basin, we clean it

What is a “Large Commercial” Project?

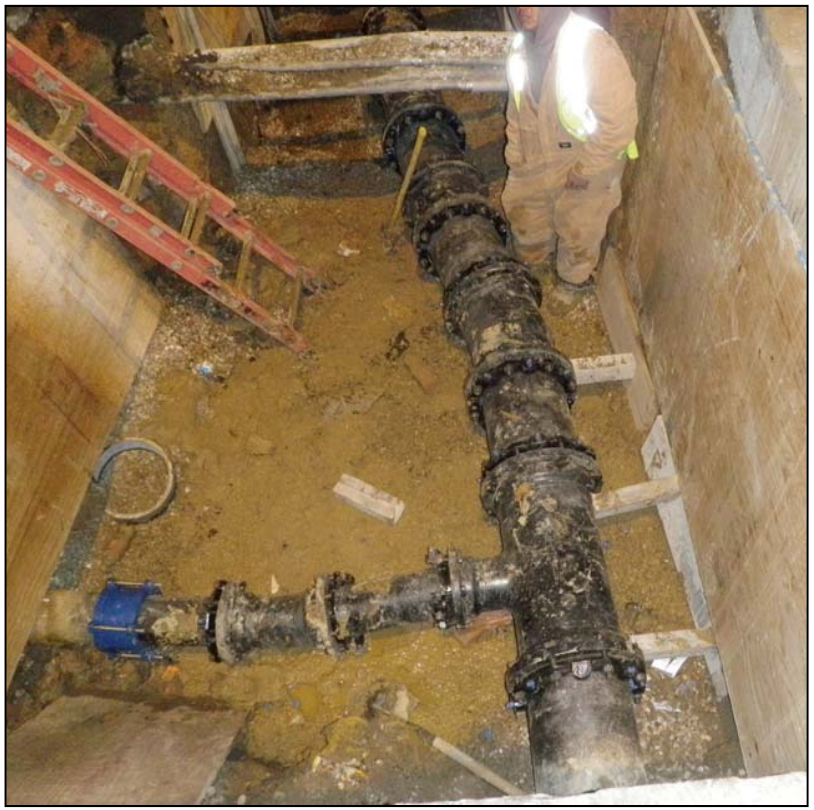
- Domestic or fire service line over 2” diameter
- Tee connection, ductile iron pipe w/ restrained MJ fittings
- Water meter is in concrete vault (6’x6’) rather than a crock
- Minimum 6” water connection size at main (6” tee and 6” GV)
- Fire service line includes a BFPA w/ detector check meter

Water Service Abandonment

Before

After

New Large Water Service



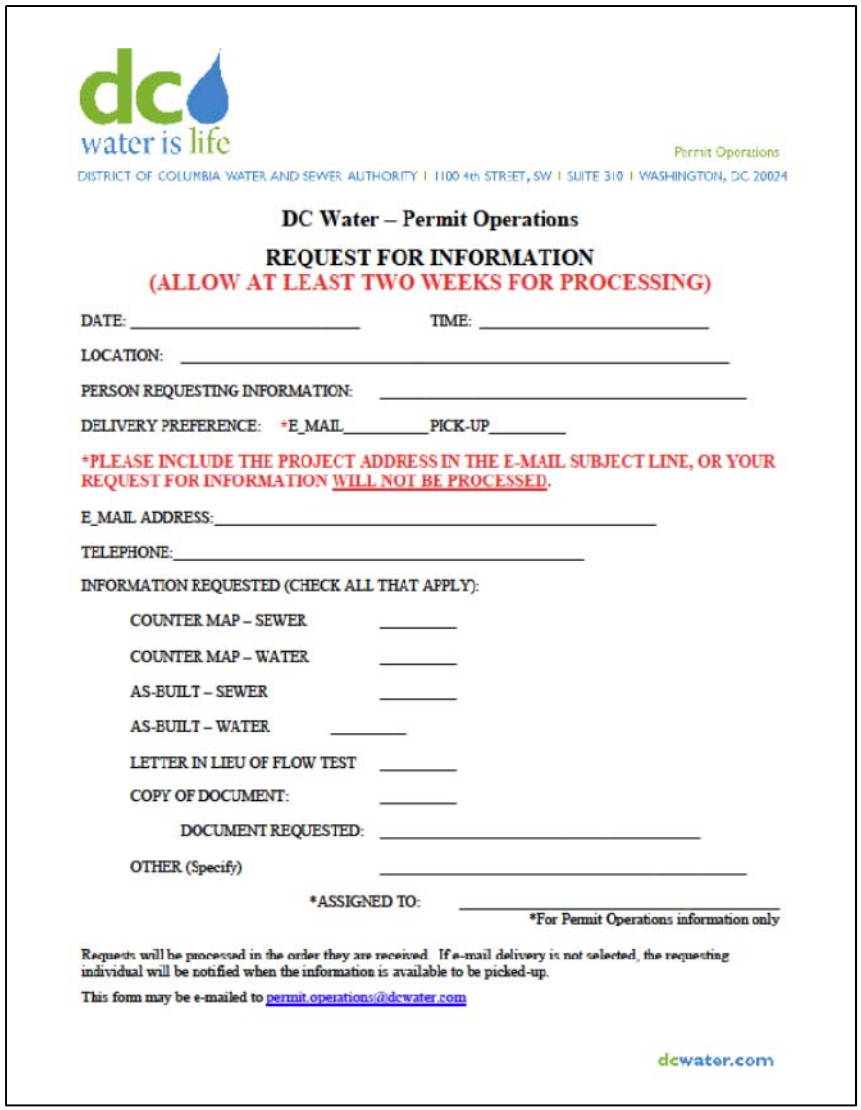
Large Service

Main Offset

Where can I Find Water/Sewer Info?

- **www.dcwater.com**
  - Customer Care & Operations
  - Permits
- DC Water Project Design Manual (website)
  - Volume 3 – Infrastructure Design
- DC Water Standard Details & Design Guidelines (website)
- DC Water Counter Maps and Record Drawings (RFI)
- DCMR 12 & International Plumbing Codes

Request for Information



water is life

Permit Operations

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY | 1100 4th STREET, SW | SUITE 310 | WASHINGTON, DC 20024

DC Water – Permit Operations

REQUEST FOR INFORMATION
(ALLOW AT LEAST TWO WEEKS FOR PROCESSING)

DATE: _____ TIME: _____

LOCATION: _____

PERSON REQUESTING INFORMATION: _____

DELIVERY PREFERENCE: *E_MAIL_____PICK-UP_____

*PLEASE INCLUDE THE PROJECT ADDRESS IN THE E-MAIL SUBJECT LINE, OR YOUR REQUEST FOR INFORMATION WILL NOT BE PROCESSED.

E_MAIL ADDRESS:_____

TELEPHONE:_____

INFORMATION REQUESTED (CHECK ALL THAT APPLY):

COUNTER MAP – SEWER _____
COUNTER MAP – WATER _____
AS-BUILT – SEWER _____
AS-BUILT – WATER _____
LETTER IN LIEU OF FLOW TEST _____
COPY OF DOCUMENT: _____
DOCUMENT REQUESTED: _____
OTHER (Specify) _____

*ASSIGNED TO: _____
*For Permit Operations information only

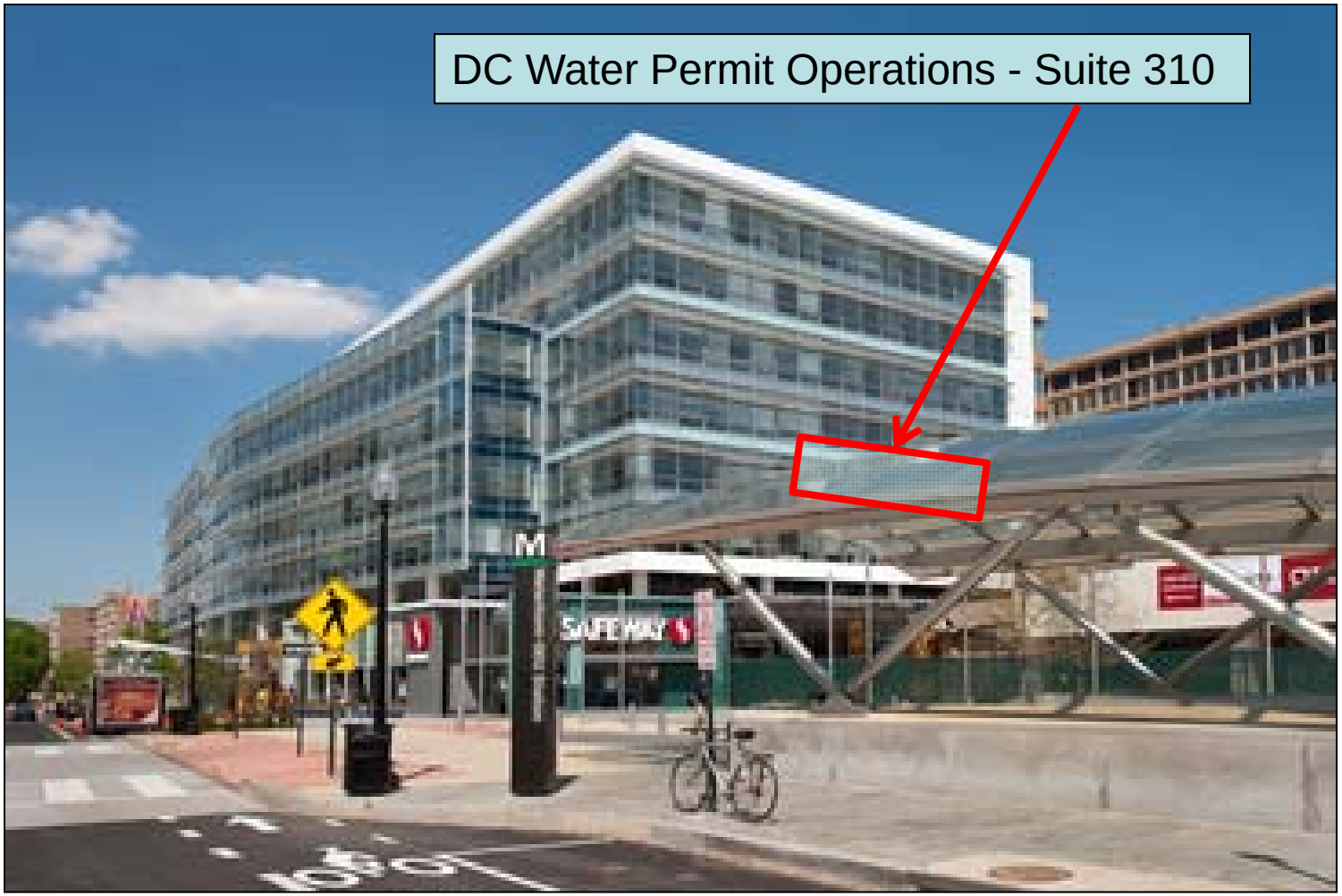
Requests will be processed in the order they are received. If e-mail delivery is not selected, the requesting individual will be notified when the information is available to be picked-up.

This form may be e-mailed to permit.operations@dcwater.com

dcwater.com

- Free service
- Form available on website
- Submit by e-mail or in person
- Counter maps
- Record drawings
- GIS records
- Letters in lieu of flow test
- General info
- Two (2) week turn-around

Permit Operations



1100 4th Street SW, Washington, DC 20024 (Waterfront METRO)

What does Permit Operations do?

Customer service, technical review and support

- How does it affect our system? Do we have capacity?
- Can we meter it, sewer it, can it be built?
- Track and schedule in Maximo, store copies of plans

↓

Estimate and collect fees for DC Water inspection

- Inspection of water and sewer in public space
- Document pre and post construction conditions
- Deposits against potential damages

↓

Validate customer info, set up work orders and schedule work

- Obtain correct billing information
- Create new accounts (premises)
- Enter work orders into Maximo

Permit Operations Review Process

OPTIONAL

Conceptual

(CPR)

Let's sit down and talk about it

Preliminary

(RAZE, HOME, SHEET, PPRS, PPRL)

Now that you have plans suitable for review, let's see if it meets DC Water design standards. Need all DC Water forms.

Final

(WSAC, WSAL)

Now that you have all necessary items on plans – payment of inspection fees and DDOE approvals – DC Water issues a Water and Sewer Availability Certificate (WSAC).

Why a Preliminary & Final Review?

- Preliminary Review gets plans ready
  - Inspection fees estimated

- Final Review sets up the work
  - Inspection fees are collected
  - DDOE approvals confirmed
  - Water and sewer accounts closed or initiated
  - Meter sets/removals are initiated
  - Work orders are issued

CERTIFICATES ARE ISSUED

Water and Sewer Availability Certificate (WSAC)

- Document that certifies your plans meet DC Water design requirements, that review and inspection fees have been paid and that the application can now be signed
  - Take the WSAC to DDOT and DCRA for permit approvals
  - Get DC Water rep to sign off on permit application

BUILDING PERMIT APPLICATION GETS SIGNED

Raze Permits

- Before DC Water will sign off on the Raze Permit application, the following things are needed:
  - Water and sewer bills paid
  - RAZE plans reviewed and approved by DC Water
    - Existing water meter to be removed/returned to DC Water
    - Existing services will be abandoned at the public main

RAZE APPLICATION GETS SIGNED

Public Space Permits

- Before DC Water will sign off on Public Space Permit applications, the following things are needed:
  - Permit is applied for at DCRA/DDOT and copy provided
  - Plans reviewed and approved by DC Water
  - Fees and deposits are calculated and collected
  - All DC Water forms are executed (e.g., covenants, esmts)

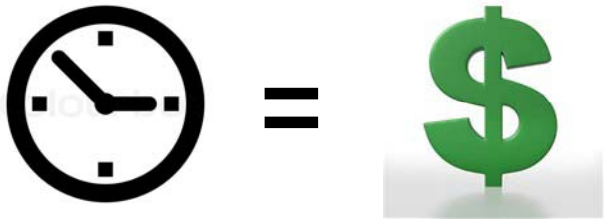
PUBLIC SPACE PERMIT GETS APPROVED ONLINE

What will it Cost?

The fees paid to DC Water cover the following items:

- Flat fees for reviews
- Flat fees for certain services (hydrant flow test, etc.)
- Anticipated inspection cost – balance is refundable
- 40% deposit on damages that DC Water would need to repair – balance is refundable
- See DC Water website for fee schedule

How Long will it Take?



- Conceptual review – schedule meetings as needed
- Preliminary review – 2 to 4 weeks for DC Water comments (per plan package submission)
- Final approval – 3 to 6 months+

– *It's really up to you!*

Why Does Plan Review Take So Long?

- Number of applications X types of applications
- Limited staff
- Quality of submittal
- Time to develop re-submittals*
- Unusual conditions (non-conforming) and waiver requests

**Frequent changes made during the review period as the design evolves…*

How can I Speed up the Process?

- Get a review at the concept phase (CPR)
- Use the current counter maps and GIS records (RFI)
- Follow the DC Water project design manual (website)
- Use the DC Water standard details & forms (website)
- Use complete/correct address and contact info on all correspondence – don't change mid-process
- GOOD DRAFTING – CLEAR AND LEGIBLE

What is Important to Design Review?

- Availability and Local Hydraulic Capacity
- Don’t build on top of DC Water utilities
- Separate fire and domestic water services
- Separate sanitary and storm services (unless combined)
- Domestic water services need meter in a public space
- Inside meter settings need sufficient room
- Straight services into a building or lot
- If the proposed building impacts DC Water utilities, plan to relocate the utility or the building
- Flows in excess of 100 GPM need to taken off a water main at least 8” diameter
- Fire pumps have to be tested at 150% of demand

LIDs and DC Water Utilities

DC Water Concerns:

- Sewer infiltration caused by LIDs (saturated soils);
- Promotion of root growth zones over water/sewer;
- Clearances (horizontal and vertical);
- Underdrain connections to sewers and/or catch basins;
- Restoration/repair of LIDs on top of water/sewer mains;
- Restoration/repair of LIDs for service connections

dc water is life

Thank you

Washington Building Congress

The Washington Building Congress is a professional trade association made up of over 1,000 companies and individuals from a variety of disciplines, all with an active interest or involvement in the Washington metropolitan area real estate, design and construction community.

The WBC was established in 1937 as an "*umbrella organization*" to represent the collective interests of the industry, provide education and networking opportunities, and promote the professional advancement of our members.