



King County Water District No. 90

Development Extension Guide and Standards

**Water System Extensions, Developer Improvements,
Climate Resilience, and Cost Recovery Policy**

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Use of this Guide

This Development Guide and Standards (Guide) is the District's front-end policy document for developers, property owners, consulting engineers, contractors, and District staff. Compliance with this Guide is a condition of District review, connection approval, construction authorization, acceptance of water system improvements, and issuance or release of water service where District facilities are affected.

This Guide does not replace the KCWD90 Technical Specifications, KCWD90 Standard Details, KCWD90 Approved Materials List, adopted Schedule of Charges, Developer Extension Agreement forms, easement forms, or Board-adopted resolutions. Those documents remain controlling for the subjects they address. Where conflicts exist, the order of precedence in Section 1.4 applies, and the District Engineer will make the final technical interpretation, subject to Board policy and District counsel review where required.

This Development Guide incorporates the District's updated Climate Resilience Element and Sustainability Policy concepts, including exposure and vulnerability screening, protection of critical and backbone assets, emergency service reliability, and integration of resilience actions with capital and financial planning. It also clarifies the District's special-purpose cost recovery tools for developer extensions, system upsizing, General Facilities Charges, project-specific System Improvement Charges, reimbursement or latecomer mechanisms, and Board-authorized recovery of District-funded backbone improvements. The Guide does not create any new charge that has not been adopted by the Board.

Contents

Section	Title
1	General Requirements and Authority
2	Development Review and Developer Extension Process
3	Design Policies and Minimum Criteria
4	Construction, Inspection, Testing, and Acceptance
5	Cost Responsibility and System Improvement Cost Recovery
6	District Implementation Procedures
Appendix A	Developer Submittal Checklist
Appendix B	Construction Drawing Notes for Developer Extensions
Appendix C	Materials and Standard Details Summary
Appendix D	Acceptance Checklist
Appendix E	Backbone Cost Recovery Account Tracking Record Worksheet
Appendix F	Climate Resilience Screening Checklist
Appendix G	Reference Documents and Policy Maintenance

1. General Requirements and Authority

1.1 Purpose

The purpose of this Guide is to establish King County Water District No. 90 (District or KCWD90) requirements for water system improvements constructed by or for outside parties, including developers, property owners, consulting engineers, contractors, and individual customers. These requirements are intended to protect public health, preserve District system reliability, support fire protection and redundancy, maintain water quality, establish uniform construction standards, and allocate development-related costs to the developments that create, trigger, or benefit from those costs.

The Guide establishes policies for water availability review, minimum water main size, approved materials, mandatory looping where feasible, system upsizing, developer extensions, easements, plan review, inspection, testing, acceptance, climate-resilience screening, cost responsibility, and recovery of District-funded backbone improvements such as transmission mains, large distribution mains, pump stations, valve facilities, pressure-reducing facilities, interties, and storage facilities.

1.2 Applicability

This Guide applies to all proposed projects, properties, lots, developments, redevelopments, subdivisions, short plats, boundary line adjustments, commercial, industrial, multifamily, mixed-use, institutional, accessory dwelling unit, fire service, irrigation service, main extension, service upgrade, facility relocation, facility abandonment, or other work that modifies, connects to, relocates, abandons, crosses, or otherwise affects the District water system.

- No person may extend, connect to, alter, abandon, relocate, obstruct, or operate District water facilities without District review and written approval.
- Privately constructed extensions are not permitted to connect to the District system unless designed, constructed, inspected, tested, accepted, and conveyed in accordance with this Guide and the District documents incorporated by reference.
- The District may impose requirements more stringent than the minimum requirements in this Guide when necessary for public health, fire protection, water quality, reliability, operations, maintenance, resiliency, future growth, cost recovery, or consistency with the Water System Plan.
- District approval of a plan, variance, material, method, or condition on one project does not establish precedent for another project.

1.3 Authority and Legal Basis

KCWD90 is a water-sewer district organized under Title 57 RCW and has authority to own, operate, maintain, improve, regulate, and charge for water system facilities. This Guide is adopted under the District's utility-service authority and applies to facilities and services within the District's jurisdiction. It is not intended to function as a city-style land-use impact fee program.

The principal legal and policy tools supporting this Guide include the following:

Authority / Tool	Use in this Guide
Title 57 RCW and RCW 57.08.005	District powers to acquire, construct, own, operate, maintain, and regulate water system facilities and property needed for District purposes.
RCW 57.08.081	District authority to establish rates and charges, including connection or capacity charges that recover a proportionate share of existing facilities, planned facilities in an adopted comprehensive plan, and directly attributable District costs, subject to statutory limitations.
RCW 57.22	Developer extension and reimbursement/latecomer authority for District-approved extensions constructed at an owner's sole cost where required as a prerequisite to development, with conditions required by District-adopted policies and standards.
Chapter 57.16 RCW	Comprehensive plan, and utility local improvement district tools where the Board determines that an assessment-based funding method is appropriate and legally available.

Authority / Tool	Use in this Guide
Chapter 246-290 WAC	Group A public water system planning, design, water quality, and operating requirements.
RCW 43.20.310	Climate Resilience Element requirements for applicable water system plans initiated after June 30, 2025.
Board resolutions, Rules and Regulations, Schedule of Charges, and adopted policies	District-specific implementation requirements, fees, charges, cost recovery methods, connection conditions, and administrative procedures.

1.4 Order of Precedence

The following order of precedence applies unless the District Engineer determines otherwise in writing or the Board adopts a more specific project condition:

1. Federal and state law, including Chapter 246-290 WAC and other requirements for Group A public water supplies.
2. District resolutions, Rules and Regulations, Schedule of Charges, Developer Extension Agreement terms, and Board-adopted policies.
3. This Development Guide and Standards.
4. KCWD90 Technical Specifications.
5. KCWD90 Standard Details.
6. KCWD90 Approved Materials List and manufacturer requirements.
7. Approved construction drawings, permits, and project-specific District conditions.
8. Local roadway agency, fire authority, and other agency requirements, as applicable.

1.5 Incorporated Documents

The following documents are incorporated into this Guide by reference and shall be followed by developers, owners, design engineers, contractors, and District staff when applicable:

Document	Use in the Development Guide
KCWD90 Technical Specifications	Construction materials, installation methods, trenching, shoring, dewatering, paving, pressure testing, flushing, disinfection, valves, hydrants, vaults, and other technical requirements.
KCWD90 Standard Details	Required installation configurations for trench sections, thrust restraint, services, meters, valves, hydrants, blow-offs, air/vac assemblies, PRVs, backflow assemblies, FDCs, pipe anchors, and special crossings.
KCWD90 Approved Materials List	Approved manufacturers, products, and materials. Products not listed require written District approval before procurement or installation.
KCWD90 Accessory Dwelling Unit Policy	Metering, service, connection charge, title notice, billing, and owner responsibility requirements for attached and detached ADUs.
KCWD90 Complete Utility Locating System Specification	Tracer wire, access points, grounding, connectors, prohibited products, and locating/testing requirements.
District Climate Resilience Element and Sustainability Policy	Hazard identification, exposure and vulnerability screening, critical asset protection, resilience project prioritization, and capital/financial integration.
District Schedule of Charges	Water availability fees, Developer Extension deposits, connection charges, meter charges, inspection fees, GFCs, reimbursement charges, and other Board-adopted fees.
Developer Extension Agreement and District forms	Project-specific contractual conditions for design, construction, bonding, insurance, easements, inspection, testing, conveyance, warranty, cost recovery, and acceptance.

1.6 Definitions

Term	Definition
Applicant	The owner, developer, or authorized agent requesting water availability, water service, plan review, or approval of water system improvements.
Backbone Improvement	A transmission main, large distribution main, pump station, storage facility, pressure-zone facility, major valve facility, intertie, source facility, or other capital improvement that provides capacity, reliability, fire flow, pressure, emergency service, or operational benefit beyond a single parcel.
Benefit Area	The properties, parcels, pressure zone, subarea, hydraulic service area, frontage area, or development area determined by the District to benefit from a system improvement and therefore subject to a reimbursement, recovery, or capital charge.
Climate Resilience Screening	A project-level review to identify whether a proposed project or affected asset is exposed to climate-related or related all-hazards risks and whether additional design, operational, access, redundancy, or cost-recovery measures are needed.
Contractor	The person or entity retained by the Developer or District to construct water system improvements.
Critical Asset	A District facility, asset, operational function, supply dependency, or supporting system necessary to sustain public health, emergency response, fire flow, water quality, system recovery, or continuity of operations.
Developer	A developer, property owner, customer, applicant, or legally responsible entity requesting water service, water availability, construction of District water system improvements, or other work that extends, modifies, relocates, abandons, or affects District facilities. For purposes of this Guide, a single property owner extending or modifying the system is treated as a Developer when applicable.
Developer Extension	A water main, appurtenance, service, or related public water improvement constructed to serve development and intended for District ownership, maintenance, or operation after acceptance.
District Engineer	The District Manager, District Engineer, or authorized representative responsible for technical interpretation and approval.
General Facilities Charge (GFC)	A District-imposed, Board-adopted connection or capacity charge, also referred to in some District documents as a General Facility Charge, collected as a condition of new service, increased service, meter installation, meter upsizing, additional dwelling unit service, changed use, or other added demand on the District water system. The GFC recovers a proportional share of the cost of existing and planned District water system facilities and capacity.
Record Drawings	Final drawings prepared by the Developer or Design Engineer showing actual constructed locations, elevations, materials, appurtenances, easements, and other District-required information.
Potential Board-Adopted Project-Specific Cost Recovery Charge	A potential Board-adopted, project-specific charge or cost-recovery mechanism that may be considered only after District counsel, rate/finance, and Board review. This Guide does not establish such a charge unless adopted separately by the Board and documented in the Schedule of Charges, resolution, or project-specific agreement.
WUI Conditions	Wildland-Urban Interface conditions where District facilities or proposed development are adjacent to or intermixed with undeveloped vegetation or wildfire fuels, creating increased exposure to wildfire, smoke, emergency access constraints, fire flow demand, power disruption, or potential facility damage.

1.7 District Engineer Authority and Variances

The District Engineer has authority to interpret this Guide, require additional information, impose project-specific conditions, require more stringent standards, approve or reject materials, require upsizing or looping, require climate-resilience screening, require additional easements or access, and approve or reject construction deviations. Deviations from this Guide must be requested in writing by the Design Engineer and approved in writing before construction.

- A variance will not be approved solely for convenience, cost savings, or schedule acceleration.
- The Developer bears the burden of demonstrating that a proposed variance provides an equivalent or better level of public health protection, reliability, maintainability, water quality, fire protection, climate resilience, and future service capability.
- A variance that affects policy, cost recovery, system capacity, future service, or Board-adopted standards may require review by the General Manager, District counsel, rate consultant, or Board.
- District approval of a variance on one project does not establish precedent for another project.

1.8 Developer, Design Engineer, and Contractor Responsibility

The Developer is responsible for planning, design, permitting, construction, inspection support, testing, record drawings, conveyance, warranty, and all costs required to provide water service to the project, property, lot, or development in accordance with this Guide. District plan review, approval, modeling, inspection, or acceptance does not relieve the Developer, Design Engineer, or Contractor of responsibility for design accuracy, constructability, compliance, utility conflicts, safety, correction of defects, or damage caused by the work.

1.9 Climate Resilience and Sustainability Integration

Climate resilience is part of the District's development review, design, construction, and cost-recovery framework. Projects that affect critical assets, backbone facilities, emergency service, fire flow, pressure-zone operation, supply redundancy, access, repairability, or long-term capacity may be required to complete climate-resilience screening and incorporate risk-reduction measures. Screening is intended to be practical and proportional to project scale; routine service work may require no additional analysis, while major extensions or backbone facilities may require a more detailed exposure, vulnerability, and risk review.

Climate-resilience measures may include looping, upsizing, seismic restraint, special crossings, erosion protection, vault drainage, flood-proofing, slope stabilization, standby power provisions, redundant isolation valves, emergency bypass capability, improved access, enhanced materials, defensible space, or other measures determined by the District. When such measures provide capacity, reliability, or resilience benefits to future growth or a defined benefit area, eligible costs may be considered in District cost recovery under Section 5.

1.10 Safety and Utility Protection

The Contractor is solely responsible for site safety, trench safety, traffic control, work-zone protection, protection of existing utilities, protection of the public, and compliance with applicable law and permits. The Contractor shall comply with Chapter 19.122 RCW underground utility locating requirements, applicable WAC trench safety requirements, road agency requirements, environmental permits, and all project conditions. District representatives do not serve as the Contractor's competent person.

2. Development Review and Developer Extension Process

2.1 Process Overview

The District will generally administer development review using the following process. The District may combine, reorder, expand, or waive steps based on project size, risk, complexity, urgency, facility criticality, and potential consequences to the District system.

Step	Primary Action	Responsible Party	Required Before Next Step
1	Applicant submits District Water Availability Certificate (WAC) Application including project intake information, or other District-approved intake materials, as requested.	Applicant	District screening and preliminary response.
2	District reviews service area, pressure zone, existing mains, modeled capacity, fire flow, deficiencies, backbone facilities, climate/hazard flags, preliminary conditions, and potential fees or charges.	District	Water Availability Certificate/response with preliminary conditions.

Step	Primary Action	Responsible Party	Required Before Next Step
3	Pre-design meeting when required to confirm main extensions, looping, upsizing, easement needs, permitting, required submittals, climate screening, DE deposit, and cost responsibilities.	District and Developer	First plan submittal.
4	Developer submits DE Contract Agreement, including the information sheet and required submittals. Submittals include, but are not limited to, sealed plans, calculations, fire authority information, permits, material information, preliminary easement information when known, and any District-requested calculations.	Developer and Design Engineer	District technical review.
5	Developer and District execute agreements, Developer pays the required DE deposit, obtains required permits, provides required security and insurance, and documents easement status or construction access rights when required.	Developer	Preconstruction conference and construction authorization.
6	District reviews plans and submittals for conformance and issues comments or approval conditions.	District	Final plan approval or resubmittal.
7	Contractor constructs improvements under District inspection and approved plans.	Contractor and Developer	Testing and acceptance.
8	Contractor completes flushing, disinfection, pressure testing, bacteriological testing, tracer wire locating, backflow testing, and punch list corrections.	Contractor with District inspection	Closeout submittals.
9	Developer submits record drawings, GIS/asset data, Bill of Sale, easements, Certificate of Cost, contractor/subcontractor releases, service address list, and other closeout documents. District calculates Maintenance Guarantee.	Developer, District, and Design Engineer	District final acceptance.
10	District accepts improvements, updates records, authorizes meter release/service activation as applicable, and begins the warranty period.	District	End of project.

2.2 Water Availability and Pre-Design Review

Before submitting construction plans, the Applicant shall submit a Water Availability Application to initiate a District water availability review. The District may issue a Water Availability Certificate (WAC) or other written response describing available pressure, modeled fire flow, known constraints, required improvements, preliminary cost-recovery obligations, and conditions for continued review. Any water availability statement is based on information submitted by the Applicant and does not constitute final plan approval or guarantee capacity if project assumptions change.

- The Applicant shall provide project location, parcel numbers, proposed land use, number and type of units, expected meter sizes, irrigation demand, fire flow requirements, proposed fire protection systems, grading information, phasing, and ADU status when applicable.
- For projects requiring hydrants or fire flow analysis, the Applicant shall obtain preliminary fire flow and hydrant requirements from the fire authority having jurisdiction before District modeling when practical. Hydraulic modeling required prior to the execution of a DE agreement will be billed directly to the Developer plus 20% overhead. Unpaid invoices can stop projects from moving forward.
- The District may require a pre-design meeting for subdivisions, multifamily projects, commercial or industrial projects, major redevelopments, projects requiring offsite improvements, projects affecting more than one pressure zone, projects affecting backbone facilities, or projects located within known hazard areas.

2.3 Climate Resilience and Hazard Screening

Project review will include climate-resilience screening when a proposed project may affect critical or backbone facilities; is located within or near a known hazard area; changes system redundancy, fire flow, emergency service, pressure-zone operation, isolation capability, or long-term access; requires major offsite improvements; or may affect the District's ability to access, operate, repair, or restore facilities after an emergency.

Screening will be scaled to project size, location, facility criticality, and potential consequence. Routine service work and minor maintenance may require no additional climate analysis beyond standard District review. Projects involving transmission or backbone mains, stream crossings, steep-slope areas, pump stations, storage facilities, PRV or pressure-zone facilities, critical valves, WUI conditions, single-feed areas, and major developer extensions may require a more detailed exposure, vulnerability, and risk review. Required measures shall be documented in review comments, plan conditions, Developer Extension Agreements, CIP scopes, construction notes, inspection checklists, and closeout records.

Screening item	Use in project review
Exposure	Identify whether the project area, affected asset, or connected service area is exposed to flooding, erosion, landslide or steep-slope instability, wildfire or smoke, extreme heat, extended power outage, drought-related demand stress, access limitations, or other hazards identified by the WSP Climate Resilience Element.
Vulnerability and risk	Evaluate condition, age, material, hydraulic role, redundancy, isolation capability, access, repair difficulty, water quality sensitivity, customer consequence, fire-flow consequence, and expected outage duration if the asset fails or becomes inaccessible.
Critical asset / backbone status	Flag transmission and backbone mains, storage facilities, pump stations, PRV and pressure-zone facilities, interties, major valve facilities, critical crossings, single-feed areas, and facilities serving high-consequence customers or emergency service areas.
Design response	Determine whether looping, upsizing, redundant valves, standby power provisions, floodproofing, vault drainage, erosion protection, slope stabilization, special crossing design, pipe restraint, enhanced materials, improved access, or emergency bypass provisions are needed.
Implementation and documentation	Document required measures in review comments, conditions of approval, Developer Extension Agreements, design memoranda, project files, CIP scopes, construction notes, inspection checklists, testing records, record drawings, and cost-recovery account tracking records when applicable.

2.4 Developer Extension Agreement

A Developer Extension Agreement is required for any public water main extension, public water facility relocation, system improvement, offsite improvement, or other water system improvement that will be accepted by the District or that affects District facilities. The agreement, and related attachments, shall identify the Developer, project, scope of work, required improvements, cost responsibilities, bonding, insurance, easements, inspection, testing, acceptance, warranty, conveyance, cost recovery obligations, and any project-specific resilience or backbone requirements.

The Developer must generally be the property owner or a legal entity with authority to bind the owner and dedicate or convey facilities and easements. The District may require title information, corporate authority documentation, right-of-entry, easements, legal descriptions, cost-recovery acknowledgement, and property owner signatures before agreement execution.

2.5 Deposits, Fees, and Charges

The Developer shall pay the DE deposit required by the District and all District costs associated with the project. The DE deposit is held until closeout unless the District directs otherwise. Ongoing District staff, engineering, legal, inspection, permitting, administrative, and other project costs will be invoiced monthly to the Developer. Delinquent invoices, generally over 60 days, may result in suspension of review, inspection, construction authorization, connection, meter release, or final acceptance. At closeout, the District may apply the DE deposit to the Maintenance Guarantee and/or outstanding invoices and refund any remaining balance consistent with the Developer Extension Agreement and Schedule of Charges.

Cost Category	Developer Responsibility
District staff time	Review, meetings, administration, inspection, testing coordination, accounting, closeout, and cost-recovery administration attributable to the project.
Engineering consultant costs	Hydraulic modeling, plan review, specialty review, construction inspection, climate/hazard screening, and technical support.
Legal costs	Developer Extension Agreement, easements, reimbursement agreement, title review, notices, recorded documents, and cost recovery review.
Permits and agency fees	Developer is responsible for all city, county, state, franchise, environmental, or right-of-way permits and agency fees required for the extension.
Testing and sampling	Pressure testing, flushing, water quality sampling, laboratory costs, backflow testing, tracer-wire tests, retests, and water loss.
Re-inspection and corrections	All costs caused by deficient work, failed tests, missed inspections, unauthorized work, redesign, re-review, warranty repairs, or delayed schedules.
Connection and capacity charges	GFC, meter charge, SPU Facility Charge, latecomer/reimbursement charge, potential Board-adopted project-specific charges, and any other Board-adopted charge.

2.6 Engineering Plan Submittal

All water system improvement plans shall be prepared and sealed by a Professional Engineer licensed in the State of Washington and competent in public water utility design. Plans shall be submitted in PDF format unless the District requests paper copies, CAD files, GIS files, or other electronic files. The District may reject incomplete or poor-quality submittals without detailed review.

At a minimum, the first plan submittal shall include the following items when applicable:

- Executed DE Contract, including project name, owner/developer contact, Design Engineer contact, project location, vicinity map, parcel numbers, and plan index.
- Full civil plan set including water, sewer, storm, grading, paving, franchise utilities, landscaping, irrigation, erosion control, and fire access information.
- Dedicated water plan and profile sheets showing proposed and existing water facilities, stationing, materials, size, fittings, valves, hydrants, services, meter boxes, blow-offs, air/vac assemblies, PRVs, vaults, tracer wire, easements, and abandonments.
- Horizontal and vertical alignment, utility crossings, pothole information, trench restoration, and separation from sewer and other utilities.
- Hydraulic calculations, fire flow assumptions, meter sizing, special demand assumptions, and other calculations requested by the District.
- Fire authority hydrant location approval, fire flow requirements, FDC/backflow information, and fire service sizing where applicable.
- Preliminary easement exhibits, title reports, legal descriptions, and right-of-entry documents where facilities are outside public right-of-way or public utility easements.
- Climate-resilience screening information when required by Section 2.3 or Appendix F.
- Landscape and irrigation plans showing conflicts with District facilities and backflow devices.
- Applicable KCWD90 Standard Details and Developer Extension general notes from Appendix B.

2.7 Review Basis and Approval

The District will review plans for consistency with this Guide, the District Water System Plan, the District Climate Resilience Element, KCWD90 Technical Specifications, Standard Details, Approved Materials List, operations and maintenance needs, fire protection, water quality, reliability, future system needs, cost recovery conditions, and applicable laws and permits. District approval is required before construction begins.

- Plan approval may be conditioned on execution of agreements, payment of required deposits and outstanding invoices, posting of required security, agency permits, completion of climate screening, and revisions to the plans. Easement needs should be identified early; final permanent easements are typically delivered or recorded before closeout or final acceptance, unless offsite construction rights, right-of-entry, plat requirements, or District ownership needs require earlier completion.
- Plan approval expires 12 months after the approval date unless extended in writing by the District. The District may require resubmittal under current standards after expiration or if project conditions materially change.
- Any change to approved plans, materials, alignment, grade, construction method, service location, appurtenance location, phasing, or cost recovery assumptions must be approved by the District before the change is constructed.

2.8 Easements and Property Rights

Water mains and appurtenances shall be located in public right-of-way or a dedicated public utility easement whenever practical. Where District facilities are located outside public right-of-way, the Developer shall provide easements on District-approved forms at no cost to the District.

Facility or Condition	Minimum Easement Requirement
Water main with reliable vehicular access	15 feet wide minimum, centered on the pipe, unless the District requires additional width.
Water main without reliable vehicular access	20 feet wide minimum, centered on the pipe, plus an access easement from public right-of-way.
Water main between buildings or constrained structures	20 feet wide minimum and additional conditions as required by the District. Water mains shall not be located under buildings.
Vaults, PRVs, meters larger than 2 inches, backflow facilities, hydrants, blow-offs, air/vac assemblies, and special facilities	Easement shall extend at least 5 feet beyond the outside edge of the structure or appurtenance, or as required for access, operation, maintenance, replacement, drainage, and emergency repair.
Temporary construction access	Temporary easement or right-of-entry as required for construction, inspection, testing, and restoration.

Easements shall allow access, construction, operation, maintenance, replacement, reconstruction, removal, vegetation trimming/removal, removal of obstructions, temporary bypass service, and emergency response. Easements shall be recorded before final acceptance, and offsite easements may be required before plan approval.

2.9 Bonding, Insurance, and Security

Before construction can begin, the Developer shall provide performance security, insurance, and indemnity documents in the form and amount required by the Developer Extension Agreement and District policies. Performance security is generally 100 percent of the District-approved estimated construction cost for public water improvements; the District may require a higher amount, such as 150 percent, for offsite work, special facilities, high-risk work, incomplete work, deferred restoration, or projects where restoration, safety, or service risk is higher. At acceptance or closeout, the Developer shall provide the required Maintenance Guarantee for the warranty period, generally withheld from the DE deposit when sufficient funds are available. The Maintenance Guarantee amount shall match the Developer Extension Agreement, Schedule of Charges, or Board policy; the current DEA template identifies the greater of the District-adopted percentage of water construction cost or \$3,000, currently understood to be 2 percent of total project cost, unless changed by the Board or Schedule of Charges. If the deposit is insufficient, the Developer shall provide additional funds or security before acceptance, meter release, or service activation.

2.10 Preconstruction Conference

A preconstruction conference is required before any field work affecting District facilities. The Developer, Contractor, Design Engineer, District Inspector, affected agencies, and other parties requested by the District shall attend unless waived by the District. The Contractor shall provide schedule, material submittals, traffic control plan, erosion control plan, safety plan, emergency contacts, proposed shutdown plan, flushing and testing plan, climate-resilience measures, and potholing information before construction authorization.

2.11 Construction Inspection

The District shall have access to the project at all times for inspection. No water improvements shall be covered, buried, connected, or placed in service until inspected and approved by the District. The District may require the Developer to uncover or expose uninspected work at the Developer's sole expense. Inspections are scheduled during normal District business hours Monday through Thursday; no inspections are scheduled on Fridays unless expressly approved by the District in advance. Any approved after-hours, special, or additional inspections will be charged to the Developer.

- The Contractor shall notify the District at least 48 hours before work requiring inspection unless a longer notice period is specified for a particular activity.
- Connections to the existing system require advance coordination. Developer Extension standard notes require the Contractor to notify the District at least 7 days before connecting to the existing water system.
- Water shutdowns require at least 72 hours' notice to affected connections and must be approved by the District.
- Work outside normal District hours requires prior approval and may require payment of overtime inspection costs.

2.12 Record Drawings and Closeout

The Developer shall submit record drawings and GIS-compatible asset information prepared by the Design Engineer after construction. Record drawings shall show actual installed horizontal and vertical locations, pipe materials, sizes, fittings, valves, hydrants, blow-offs, air/vac assemblies, PRVs, vaults, services, meters, tracer wire access points, easements, abandoned facilities, and other District-required information. Unless waived, record drawings shall be submitted in PDF, editable CAD format, and any GIS layer or asset-data format requested by the District.

2.13 Acceptance and Conveyance

The District may issue a substantial completion letter for limited purposes when major water facilities are installed, tested, connected, and available for fire protection or other District-approved use. Final acceptance is not complete until all required testing has passed, all punch list items are complete, all required closeout documents are submitted, all costs and charges are paid, all easements and conveyance documents are delivered or recorded, contractor payment certifications or releases are provided when required, the Maintenance Guarantee is established, and the District completes its acceptance process, including Board acceptance by resolution. Public water improvements shall be conveyed to the District, in exchange for a \$10.00 fee, to the District upon acceptance, free of liens and encumbrances.

2.14 Warranty and Maintenance Period

Unless the Developer Extension Agreement requires a longer period, the Developer shall warrant the improvements for a minimum of two years after District acceptance. During the warranty period, the Developer shall correct defects, settlement, pavement failure caused by trenching, valve box settlement, meter box settlement, leaks, failed tracer wire, defective materials, unsafe or inadequately maintained work areas, or other nonconforming work at no cost to the District. If the Developer is unresponsive or if delay could affect public health, service reliability, public or site safety, emergency access, or District facilities, the District may perform or contract with a third party for corrective work, temporary restoration, site-safety maintenance, or emergency repairs after notice when practical. Unless emergency action is required, the District will generally provide 30-day notice to the Developer to complete the required work. The District may use the Maintenance Guarantee, deposit, or security, or may invoice the Developer for all costs exceeding available security.

3. Design Policies and Minimum Criteria

3.1 General Design Standard

Water system improvements shall be designed to provide safe, reliable, resilient, maintainable, and looped public water service for the proposed development and the District's planned future system. The Design Engineer shall consider domestic demand, irrigation demand, fire flow, pressure-zone limits, water quality, flushing, maintenance access, emergency access, future extensions, climate and geologic risks, constructability, operations, and consistency with the District Water System Plan.

3.2 Climate Resilience Design Standard

Projects that affect critical assets, backbone facilities, emergency service, fire flow, single-feed areas, pressure-zone boundaries, special crossings, WUI areas, or hazard-prone locations shall incorporate resilience measures appropriate to the project's risk profile. The District may require additional information, alternative alignments, special materials, pipe restraint, bypass provisions, access improvements, redundant valves, standby power provisions, drainage improvements, flood protection, slope stabilization, erosion protection, wildfire mitigation, or other measures needed to reduce risks to operations and service reliability.

Climate-resilience requirements may also be imposed as development conditions when the project creates new exposure, increases demand on a vulnerable facility, removes redundancy, constrains access or repairability, affects fire flow or emergency service, or relies on District-funded backbone improvements that were constructed in advance of development.

3.3 Hydraulic and Pressure Criteria

Design condition	District minimum / criterion
Normal operating conditions	The District practice is to maintain a minimum service pressure of 30 psi where feasible. The District may require individual or system PRVs where static pressure exceeds 80 psi.
Peak Hour Demand (PHD)	New distribution facilities shall be capable of delivering PHD while maintaining at least 30 psi at all existing and proposed service connections, unless a more stringent District condition applies.
Maximum Day Demand plus fire flow	Where fire flow is provided, facilities shall be capable of delivering MDD plus required fire flow while maintaining not less than 20 psi throughout the distribution system and at the operating hydrant, subject to applicable WAC/DOH and fire authority requirements.
Fire flow and emergency service	Fire flow requirements shall be coordinated with the fire authority having jurisdiction and the District hydraulic model. Development shall construct improvements needed to satisfy fire protection and District reliability standards.
Pressure zone impacts	Developments crossing or affecting pressure zones may be required to construct PRV stations, pressure relief facilities, check valves, isolation valves, telemetry, or other facilities determined by the District.

3.4 Water Main Extension and Looping

Developments shall extend water mains in a manner that supports the District's current and future system. The District may require mains on one, more than one, or all sides of a property; mains through all internal streets; stubs to adjoining properties; offsite mains; and looping to existing or planned mains.

- Water mains shall be extended to the far side of the property or to the point determined by the District to serve future development, complete looping, or eliminate dead ends.
- Developer extensions shall be designed as looped networks whenever feasible to improve reliability, water quality, pressure, and fire flow.
- Dead-end mains are discouraged and may only be allowed when approved by the District. Approved dead-end mains shall include a blow-off, hydrant, or other flushing facility and any required air/vac assembly.

- A future extension stub shall terminate at a location that can be safely accessed and extended without removing substantial improvements.
- Private water mains intended to serve multiple lots are discouraged. Public mains shall be extended to serve lots unless the District approves an alternative in writing.
- Looping, offsite mains, and pressure-zone improvements required to serve a development, meet fire flow, protect water quality, or improve redundancy due to development impacts are the Developer's responsibility unless the Board approves a separate District participation or recovery mechanism.

3.5 Minimum Water Main Size

Condition	Minimum Requirement
Standard distribution main	8-inch diameter minimum. Larger diameter may be required by hydraulic analysis, fire flow, future service, backbone needs, or the District Water System Plan.
Fire hydrant connection	Hydrants shall not be connected to mains smaller than 8 inches, except for a 6-inch hydrant lead from an 8-inch or larger main as allowed by Standard Detail. Hydrant branches over 50 feet shall be 8 inches in diameter.
4-inch main exception	Only by written District approval when all conditions are met: no fire hydrant is required, no future extension is possible or anticipated, the run is short, no more than 4 services are connected, water quality can be maintained, and the main will not impair future looping. The maximum standard exception length is 200 feet unless the District approves otherwise.
14-inch main	Not allowed for standard distribution mains unless specifically approved by the District Engineer. Use 8-inch, 10-inch, 12-inch, 16-inch, or larger standard sizes as directed.
Transmission, backbone, or critical main	Size, material, corrosion protection, valving, casing, restraint, seismic design, special crossing design, and climate-resilience requirements shall be determined by the District. A specialty design report may be required.

3.6 District Upsizing and Oversizing

The District may require water mains, valves, vaults, services, PRV facilities, or other improvements to be larger or more robust than the minimum needed for the proposed project when necessary for future growth, looping, fire flow, pressure-zone management, reliability, water quality, climate resilience, or the District Water System Plan. The Developer is responsible for the base facility required to serve the project, comply with District standards, meet fire flow, provide required looping, mitigate project impacts, and install standard District facilities. If the District requires capacity or features beyond the project-required base facility primarily for future system benefit, any District participation should be limited to the documented incremental cost of the District-directed betterment and must be approved by the Board as a separate written agreement. Credits or reimbursement mechanisms are not the default method unless expressly approved by the Board or applicable District policy.

- Developer-required size: The Developer shall pay the full cost of facilities required to serve the development, meet fire flow, satisfy frontage and looping requirements, mitigate development impacts, maintain water quality, provide required access, or replace substandard facilities affected by the project.
- District upsizing: When the District requires capacity or facility features materially beyond the development's required improvement and the additional capacity or feature is primarily for future system benefit, the District may participate in the incremental cost and establish a reimbursement or recovery mechanism.
- No betterment credit is owed for upsizing, looping, offsite work, or facility improvements that are required to serve the development, comply with this Guide, meet fire flow, eliminate a deficiency caused or triggered by the development, support resilience for the development, or install a standard District main size.

3.7 Approved Materials

Only District-approved materials shall be used. Materials shall be new, compatible with the District system, listed in the KCWD90 Approved Materials List, or approved in writing before installation. Materials and components in contact with potable water shall meet NSF/ANSI 61 and applicable lead-free requirements. Substitutions require District approval before procurement or installation.

Component	District Policy
HDPE pipe	Preferred where shown on approved plans or approved by the District. Minimum DR 11 for mains unless otherwise required; fusion by qualified personnel; complete tracer wire system required.
Ductile iron pipe	Permitted where specified. Underground pressure pipe shall meet District Technical Specifications. Ductile iron shall be cement mortar lined and restrained as required.
PVC/PVCO pressure pipe	May be allowed only when specified or approved by the District. Restrained joints, tracer wire, and bedding for flexible pipe are required.
Fittings and restraints	Ductile iron fittings, mechanical joint restraints, restrained gaskets, and related components shall match pipe material and be approved by the District. All public main joints shall be restrained unless the District approves otherwise.
Valves	Gate valves, butterfly valves, PRVs, air/vac valves, and valve boxes shall comply with Technical Specifications and Approved Materials List. Valves shall open counterclockwise unless otherwise directed.
Hydrants	Hydrants shall be from District-approved manufacturers, include required Storz adapter and thread pattern, and be painted District-approved yellow.
Services and meters	Service piping, saddles, corporation stops, meter setters, boxes, fittings, and meter appurtenances shall match KCWD90 Standard Details and Approved Materials List.
Tracer wire system	Copperhead or District-approved complete locating system, with required wire, connectors, ground rods, access points, and locating tests.

3.8 Pipe Location, Cover, and Separation

Item	Minimum Requirement
Cover	36 inches minimum cover over water mains unless otherwise approved. Additional depth may be required for crossings, grading, frost, traffic, future improvements, or resilience purposes.
Water/sewer horizontal separation	10 feet minimum edge-to-edge separation unless District and regulatory requirements allow otherwise.
Water/sewer vertical separation	18 inches minimum between outside walls when crossing, with water above sewer where practical. KCWD90 developer notes require additional separation for perpendicular or oblique crossings as shown on approved details and agency criteria.
Other utilities	12 inches minimum vertical clearance and 5 feet horizontal clearance where practical, or as approved by the District.
Buildings and structures	Water mains shall not be installed under buildings. Additional clearance, casing, easement width, or special protection may be required near walls, rockeries, vaults, parking structures, steep slopes, or other constraints.
Potholing	Existing facilities shall be potholed during design when their location may affect alignment, depth, crossing, utility separation, or constructability.

3.9 Valves

- Valves shall be placed to allow isolation of facilities with minimal service disruption and to protect public health, fire protection, emergency service, and critical facilities.
- Valves shall generally be installed on each branch of tees and crosses unless the District approves otherwise.
- Maximum spacing between line valves shall generally not exceed 500 feet in single-family residential areas and may be reduced to 300 feet or less for commercial, multifamily, industrial, transmission, high-risk, high-consequence, or critical areas.
- Valves shall be installed on each side of critical crossings such as bridges, culverts, streams, railroads, major roads, pressure zone boundaries, or other locations required by the District.
- Valve boxes and collars shall conform to KCWD90 Standard Details and be adjusted flush with final surface. Valves outside pavement require marker posts unless waived.

3.10 Fire Hydrants

- Hydrant locations and fire flow shall be approved by the fire authority having jurisdiction and by the District.
- Hydrants shall generally be located at intersections or lot lines, outside travel lanes, and with unobstructed access.
- A minimum 3-foot radius unobstructed working area shall be maintained around hydrants unless the applicable Standard Detail or fire authority requires greater clearance.
- Hydrants shall be installed on 6-inch fully restrained leads not exceeding 50 feet unless the District requires an 8-inch branch. Hydrant branches over 50 feet shall be 8 inches in diameter.
- No domestic, irrigation, or fire sprinkler service shall be connected to a hydrant lead unless the District approves a special condition in writing.
- Hydrants not in service shall be bagged or otherwise identified as unavailable until accepted by the District.

3.11 Water Services, Meters, and Meter Sizing

The District will determine meter installation requirements and system compatibility. The Developer, Design Engineer, property owner, and fire authority are responsible for determining building, fire sprinkler, irrigation, private plumbing, and service demands and for requesting the appropriate meter and service sizes. The District reviews requested sizes for system capacity, pressure, meter standards, and compatibility with District facilities. The District generally maintains records for District-owned facilities and the service from the main to the meter, but does not maintain as-built records for customer-side service piping beyond the meter.

- Standard residential service size is 1 inch unless a larger size is required by District policy, fire sprinklers, fixture-unit demand, ADU requirements, or hydraulic calculations.
- Meters larger than 2 inches shall be installed in vaults designed for safe access, drainage, clearance, and meter reading.
- The District supplies meters unless otherwise stated. Customer-side piping from the meter to the building is the property owner's responsibility and must comply with current plumbing codes, District service requirements, and any applicable service-line material documentation requirements.
- New services, relocations, reconnects, and abandonments on the active water system shall be performed by District crews unless specifically authorized by the District.

3.12 Accessory Dwelling Units

ADUs shall comply with the KCWD90 Accessory Dwelling Unit Policy. For new ADUs, service through a separate District meter and service connection is the preferred approach where permitted by the applicable land-use authority and feasible under District standards. Shared service through the existing meter may be allowed when approved by the District and consistent with the ADU Policy, including service sizing, billing, connection charge, and title-notice requirements. Every ADU created after the effective date of the ADU Policy must be served by at least a 1-inch service line and 1-inch meter when sharing service with the primary residence, unless a larger service or meter is required to serve the ADU adequately.

- Customers serving an ADU through an existing meter are subject to the applicable double-use rate or other District-adopted billing classification.
- A separate service and meter is recommended for ADUs built after April 2023 due to potential future separate conveyance, subject to local land-use approval.
- If an ADU does not have a separate service connection, the District may require a recorded title notice stating that a separate service connection is required before separate sale or conveyance.
- ADUs shall pay applicable GFC, meter installation, SPU Facility Charge as applicable, and other adopted charges in accordance with the Schedule of Charges and ADU Policy.

3.13 Cross-Connection Control and Backflow Prevention

Backflow prevention shall be provided where required by law, District policy, the District Cross Connection Control Specialist, or the District Engineer. Irrigation systems, fire systems, commercial/industrial uses, multifamily uses, auxiliary water supplies, chemical systems, boilers, and other hazards may require premises isolation or fixture-level

protection. Devices shall be approved for use in Washington, installed per Standard Details, annually tested by a certified tester, and maintained by the owner.

3.14 Tracer Wire and Utility Locating

All new water mains, service lines, hydrant leads, nonconductive pipe, critical mains, deep mains, and other facilities required by the District shall include a complete utility locating system. KCWD90 Standard Details require Copperhead tracer wire for open cut installations; KCWD90 Technical Specifications and the District's Complete Utility Locating System Specification require continuous installation, approved connectors, access points, grounding, and successful locating before acceptance.

- Tracer wire shall be continuous except at approved connectors. Loops, coils, taped splices, uninsulated wire, stainless steel wire, brass or copper ground rods, and wire wrapped around the pipe are prohibited.
- Mainline tracer wires shall be interconnected at tees and crosses with approved connectors and shall include service lateral connections without cutting the mainline wire.
- Access points shall be provided at hydrants, dead ends, services, long runs, and other locations required by the District.
- The tracer wire system shall be tested by actual locating using low-frequency equipment after rough grading and again before final acceptance. Continuity testing alone is not acceptable unless specifically approved by the District.

3.15 Pressure Reducing, Pumping, Storage, and Other Special Facilities

PRV stations, pump stations, storage tanks, valve stations, transmission mains, interties, telemetry, electrical improvements, emergency facilities, and other backbone or special facilities require project-specific District review. Unless otherwise agreed, these facilities may be designed by the District or under District direction, with costs allocated according to Section 5 and any applicable Developer Extension Agreement, reimbursement agreement, Board-approved cost allocation, or Board resolution.

3.16 Abandonment, Relocation, and Existing Facility Upgrades

Existing District facilities affected by development shall be protected, relocated, upgraded, or abandoned at the Developer's expense as determined by the District. Existing services not reused shall be properly abandoned at the main. Existing facilities impacted by grading, paving, frontage improvements, utility conflicts, access constraints, new structures, or development improvements shall be brought to current District standards when required by the District.

4. Construction, Inspection, Testing, and Acceptance

4.1 Construction Staking and Survey Control

The Developer shall provide survey control and staking for mains, services, meters, valves, hydrants, easements, vaults, special facilities, and appurtenances before construction. Staking shall be performed by or under the supervision of a professional land surveyor or engineer authorized to perform the work in Washington. Incorrect location of facilities shall be corrected at the Developer's expense.

4.2 Trenching, Bedding, Backfill, and Restoration

Trench excavation, pipe bedding, pipe zone material, backfill, compaction, pavement restoration, and surface restoration shall comply with KCWD90 Technical Specifications, Standard Detail 1, road agency permits, and any project-specific geotechnical or resilience requirements. The most stringent requirement shall apply.

- Minimum cover is 36 inches unless approved otherwise.
- Pipe bedding and pipe zone material shall provide firm and uniform support. Flexible pipe shall be bedded and compacted to protect the pipe shape and prevent deflection.
- Backfill in roadways shall be compacted to the density required by the District and road agency. Native material may be used only when allowed by the District and supported by testing if required.

- Pavement cuts shall be sawcut, restored in accordance with road agency requirements, and maintained throughout the warranty period.
- Settlement or pavement failure within the warranty period will be presumed to result from improper backfill, compaction, or restoration unless the Developer demonstrates otherwise to the District's satisfaction.

4.3 Materials Delivery, Storage, and Submittals

Materials shall not be installed until the District has accepted required submittals. The Contractor shall provide manufacturer certifications, product data, approved materials information, fusion certifications for HDPE, coating/lining certifications, vault shop drawings, valve and hydrant data, backflow assembly information, tracer-wire materials, and any other information requested by the District. Damaged, contaminated, unapproved, or previously used materials will be rejected.

4.4 Valve Operation and Existing System Protection

Only District personnel may operate valves on the active District water system unless the District expressly authorizes otherwise in writing. The Contractor shall not open, close, throttle, isolate, fill, drain, flush, or otherwise operate any part of the active water system without District authorization.

- Accidental damage to District facilities shall be reported immediately to the District.
- The responsible party shall pay all costs to repair damage and restore service.
- The District may perform repairs with District forces or contractors and bill the responsible party.
- No connection to the existing system may be made until testing and bacteriological requirements for the new work are complete and accepted by the District.

4.5 Connections to Existing Water Mains

Connections to existing mains shall be made only with District approval and District inspection. The Contractor shall submit a connection plan showing excavation, shoring, dewatering, valve sequencing, traffic control, materials, disinfection, pressure testing, temporary blow-off, and schedule. Tapped connections require District approval and shall use approved tapping sleeves, valves, thrust restraint, and disinfection measures. Cut-ins and connections shall be completed continuously once started and shall not leave customers without service outside the approved shutdown window.

4.6 Pressure Testing, Flushing, Disinfection, and Bacteriological Testing

All new mains, services, hydrant leads, and appurtenances intended to carry potable water shall be flushed, disinfected, hydrostatically tested, bacteriologically tested, and accepted before connection to the active system or placement in service. Testing shall comply with KCWD90 Technical Specifications, AWWA standards, and District instructions.

Test or Procedure	Minimum Requirement
Pressure test	Perform hydrostatic testing in accordance with KCWD90 Technical Specifications. The District may require 150 psi minimum, 1.5 times static pressure, 100 psi above operating pressure, or another project-specific value based on pipe material and pressure zone.
Flushing	Develop at least 2.5 fps flushing velocity where practical, flush each section independently, dechlorinate discharge, and protect property and drainage systems.
Disinfection	Disinfect in accordance with AWWA C651 and KCWD90 Technical Specifications. Closure pieces shall be swabbed with strong chlorine solution.
Bacteriological sampling	Samples shall be collected and accepted as directed by the District before placing the line in service. Failed samples require re-flushing, re-disinfection, and retesting at the Developer's expense.
Tracer wire locating	Actual line tracing shall be performed and witnessed as required by the District before acceptance. Failed tracing shall be corrected at the Developer's expense.
Backflow assemblies	Assemblies shall be installed, tested, certified, and accepted before meter release or service activation where required.

4.7 Inspection Hold Points

The Contractor shall not proceed beyond the following hold points without District inspection or written approval:

- Materials delivery inspection and submittal acceptance.
- Trench bottom, bedding, pipe zone, and trench foundation approval.
- Pipe, fittings, thrust restraint, tracer wire, appurtenances, and service taps before backfill.
- Tapping sleeve installation and pressure testing before tapping.
- Connection to active system and all shutdown activities.
- Hydrostatic testing, flushing, disinfection, sampling, backflow testing, and tracer wire testing.
- Final walk-through and punch list verification.

4.8 Construction Certification and DOH Records

The District shall maintain project records demonstrating that public water improvements were constructed in accordance with District standards and applicable WAC requirements. For projects requiring DOH review, the District will submit completion documentation required by DOH. For distribution main projects reviewed under any approved WAC 246-290-125 submittal exception, the District shall maintain the applicable construction completion report and supporting project file in accordance with the current WSP and DOH requirements. Project records may include latecomer/reimbursement documentation, GFC or capacity-charge documentation, cost certifications, Board-approved project-specific cost-recovery records, and other records required for construction certification or District accounting.

Construction and closeout records shall be maintained in the project file and shall include, as applicable, approved plans, District review comments, permits, easements and right-of-entry documents, inspection notes, pressure and leakage test results, flushing and disinfection records, bacteriological sample results, tracer-wire locating results, backflow test reports, record drawings, Bill of Sale, total project costs, release documents, project-specific cost-recovery or cost-sharing account tracking records, Maintenance Guarantee and warranty documents, and asset/GIS updates.

4.9 Punch List, Substantial Completion, and Final Acceptance

When construction is substantially complete, the Contractor shall request a final walk-through with the District. The District will prepare a punch list of deficiencies, incomplete work, documentation needs, and closeout items. The Contractor shall correct all deficiencies and request final inspection.

The District may issue a Substantial Completion letter when the water system improvements are substantially installed, tested, connected, accessible, and suitable for limited use, fire protection coordination, plat recording, or other agency release, as determined by the District. A Substantial Completion letter does not constitute Final Acceptance, does not transfer ownership to the District, does not authorize meter purchases, does not release the Developer from remaining obligations, and does not start the warranty period unless expressly stated by the District.

Final Acceptance will not be granted until the District determines that all work is complete, all punch list items have been resolved, all required testing has been accepted, all easements and closeout documents have been provided, all District costs and applicable charges have been paid, the Bill of Sale and Maintenance Guarantee have been provided, and all administrative requirements are satisfied. For public water improvements conveyed to the District under a Developer Extension Agreement, Final Acceptance shall be completed through the District's required acceptance process, including Board acceptance by resolution.

4.10 Meter Release and Service Activation

Meters may be withheld until final acceptance, payment of all applicable fees, charges, and outstanding invoices, and compliance with backflow, easement, cost-recovery, and warranty requirements. District billing or charges begin when a meter is installed or placed into service, consistent with District practice. The District may authorize one limited early service connection before final closeout for construction use, model home use, or another time-sensitive need if all safety, testing, billing, payment, security, and District conditions are satisfied.

5. Cost Responsibility and System Improvement Cost Recovery

5.1 Policy Framework

New service, redevelopment, additional capacity, changed use, and developer-initiated improvements should pay a fair, proportionate, and legally authorized share of the water system facilities, extensions, replacements, redundancy, reliability, fire protection, and resilience measures the project creates, triggers, or benefits from. Cost recovery shall be implemented through existing District tools such as General Facilities Charges, Developer Extension actual-cost reimbursement, reimbursement or latecomer agreements, LID/ULID procedures when legally established, and other Board-adopted charges or project-specific agreements. This Guide does not create any new fee that has not been adopted by the Board.

Cost recovery must be documented, reasonable, non-duplicative, tied to benefit or capacity where applicable, and approved through the appropriate Board action, agreement, Schedule of Charges, reimbursement, assessment, or statutory process.

5.2 Special-District Cost Recovery Tools

KCWD90 is a special-purpose utility district, not a general-purpose city. Cities often combine land-use permitting, development impact fees, SEPA mitigation, frontage conditions, latecomer agreements, and utility connection charges. By contrast, a water-sewer district's recovery tools are tied primarily to the utility service it provides and the water facilities needed to serve District customers. This Guide therefore uses utility-based cost recovery tools rather than a broad land-use impact fee framework.

Tool	Typical District Use
Developer Extension Agreement	Requires developer design, construction, inspection, testing, security, insurance, conveyance, and payment of District costs for improvements needed to serve the project or mitigate its impacts.
General Facilities Charge / connection charge	Recovers a new or expanded customer's proportionate share of existing and planned District system capacity and related capital facilities, subject to statutory limitations and Board-adopted methodology.
Reimbursement / latecomer agreement	Allows recovery from future benefited properties when an owner constructs District-approved extensions at the owner's sole cost and statutory conditions are satisfied.
Potential Board-adopted project-specific charge	May be considered only after District counsel, financial review and Board review. It must be documented by resolution, cost basis, benefit area, allocation method, collection trigger, credit policy, and account tracking record.
LID / ULID	Assessment-based financing for improvements that specially benefit a defined area when authorized by the Board and applicable statutory procedures.
Rates, reserves, grants, and debt	May fund District-wide public benefit, resilience, replacement, or regulatory projects that are not assigned to a specific development or benefit area.

5.3 General Cost Responsibility

The Developer, Applicant, Property Owner, or Customer, as applicable, shall pay the full cost of facilities required to serve the project, meet fire flow, satisfy frontage and looping requirements, mitigate project impacts, replace or relocate substandard facilities affected by the project, obtain permits and easements, restore paving and other improvements, complete closeout, and reimburse District actual costs. If a project becomes a shared District/developer project, District participation shall be addressed in a separate written agreement, Board-approved cost allocation, or project-specific condition.

5.4 Categories of Improvements

Category	Description	Default Cost Responsibility
Direct service improvements	Mains, services, hydrants, meters, valves, and appurtenances needed to serve the project.	Developer pays 100 percent.
Frontage and extension improvements	Mains along the property frontage, through internal streets, to the far side of property, and to logical connection points.	Developer pays 100 percent unless a separate District-directed upsizing component is approved.
Impact mitigation improvements	Improvements required to maintain pressure, fire flow, water quality, redundancy, emergency access, or reliability due to project impacts.	Developer pays 100 percent.
Climate resilience requirements for development	Protective measures needed because a project creates or relies on exposed facilities, reduces redundancy, affects critical assets, or increases hazard consequence.	Developer pays 100 percent unless the Board identifies a separate District-wide or future-benefit component.
District upsizing	Additional diameter, capacity, redundancy, resilience, or special facility beyond the project-required improvement and primarily for planned future system benefit.	Developer pays the base facility; District participation, if any, is limited to the documented incremental betterment and requires Board approval and written agreement.
Backbone improvements	Transmission mains, large distribution mains, pump stations, storage tanks, valve/PRV stations, interties, and other facilities benefiting multiple properties or pressure zones.	Recovered through GFC, reimbursement, LID/ULID, direct contribution, rates, grants, Board-approved cost allocation, or other lawful method approved by the Board.

5.5 Connection Charges and General Facilities Charge

All new connections, upgraded connections, additional dwelling units, additional capacity, and changed uses shall pay applicable connection charges, including GFC, meter installation charges, SPU Facility Charge or other wholesale supply charge if applicable, inspection fees, reimbursement or latecomer charges where applicable, and other Board-adopted charges. Charges are based on the adopted Schedule of Charges in effect when payment is made unless a written agreement provides otherwise.

- All applicable fees, charges, and outstanding invoices will be required before meter release or service activation. The District may require earlier payment of deposits or specific charges as part of plan approval, permit support, final plat clearance, building permit clearance, or final acceptance.
- Existing active meter or ERU credits may be considered only as authorized by District practice, SPU contract requirements, the Schedule of Charges, or a project-specific District determination. A service that has been disconnected without an active meter for more than two years shall be treated as new service.
- Reimbursement agreements shall not reduce inspection, legal, engineering, administrative, meter installation, special project, reimbursement, or actual-cost charges unless expressly authorized by the Board or a written District agreement.
- GFC methodology and amounts should be periodically reviewed by the District, engineering, and counsel to ensure consistency with the Water System Plan, capital program, statutory requirements, grant requirements, and current system costs. At the discretion of the Board, a rate consultant may be included in the GFC review.

5.6 Potential Project-Specific Board-Adopted Cost Recovery Charges

The District may consider, on a project-specific basis, Board-adopted cost recovery charges or conditions to recover eligible costs of District-funded or District-front-loaded water system improvements that provide capacity, reliability, fire flow, pressure, resilience, emergency service, or direct benefit to a defined development area, pressure zone, hydraulic service area, or benefited group of properties. These improvements may include transmission mains, large distribution mains, pump stations, pressure-reducing facilities, pressure-zone facilities, major valve facilities, interties, storage facilities, source or wholesale supply-related improvements, or other water system improvements constructed in advance of, or in support of, future development.

This Guide does not create a new charge by itself and is not intended to establish a city-style land-use impact fee program. The District will not impose a project-specific cost recovery charge unless the charge or condition is adopted, approved, or implemented through appropriate District action. Appropriate District action may include a Board resolution, Schedule of Charges update, project-specific cost allocation, Special Conditions Letter, Developer Extension Agreement, General Facilities Charge methodology, LID/ULID process, or other lawful mechanism approved by the District. Before implementation, the proposed charge or condition shall be reviewed by District counsel and, where appropriate, the District Engineer and rate/finance advisor.

A project-specific Board-adopted cost recovery charge may be considered when the District funds, advances, or accelerates a water system improvement before all benefiting development occurs; constructs a backbone facility that provides capacity, reliability, pressure, fire flow, emergency service, or resilience to future development; funds an emergency or resilience improvement that enables continued or expanded service; or constructs system capacity that would otherwise have been required incrementally as development occurs.

The implementation record should identify the legal authority, eligible improvement, documented cost basis, excluded costs, benefit area, allocation method, collection trigger, credit or prior-payment policy, term or review period, and cost-recovery account tracking record. The cost-recovery account tracking record should identify total project cost, grant-funded or donated portions excluded from recovery, District-funded portion eligible for recovery, benefited properties or service area, allocation units, collections, credits, adjustments, and remaining unrecovered amount.

Connection or capacity-related cost recovery should be structured consistent with RCW 57.08.005, including documentation that connecting properties bear an equitable share of the cost of the District system and that recoverable costs are based on the pro rata share of existing facilities, planned facilities in an adopted comprehensive plan, and directly attributable District costs. Donated or grant-funded portions of facilities shall not be included in the recoverable cost basis unless otherwise allowed by law and approved by District counsel.

Project-specific Board-adopted cost recovery charges are separate from RCW 57.22 latecomer or reimbursement agreements. Latecomer or reimbursement agreements apply when an owner constructs District-approved facilities at the owner's sole cost and later benefited properties reimburse a proportionate share under the statutory framework. District-funded improvement recovery applies when the District has funded, advanced, or front-loaded an improvement and seeks to recover an equitable share from properties or developments that benefit from or use that improvement.

If the Developer elects to recover costs through a Utility Local Improvement District, the Developer and the District shall follow the applicable Chapter 57.16 RCW procedures, including Board action, notice, hearing, assessment, and other statutory requirements.

Before applying any project-specific cost recovery charge or condition, the District shall confirm that the cost has not already been recovered through General Facilities Charges, direct developer construction, District participation, reimbursement/latecomer agreements, LID/ULID assessments, grants, donated funds, rates, or other prior payments. The District shall maintain records sufficient to document the cost basis, benefit area, allocation method, collections, credits, and remaining unrecovered amount.

5.7 District Upsizing Cost Allocation

When the District requires upsizing beyond the project-required improvement, the District Engineer may prepare a cost allocation memorandum after coordination with the Developer. The memorandum should identify the base improvement required for the project, the District-directed upsized or betterment component, the incremental cost of that component, and the recommended allocation. Any District participation or betterment allocation must be approved by the Board in a written agreement or documented in Board minute. Direct reimbursement by District payment is preferred for approved District participation; credits or offsets should be used only when expressly authorized by the Board or Schedule of Charges.

Cost Allocation Step	Policy
Define base facility	Determine the minimum facility required for the project under this Guide, fire flow, hydraulic analysis, looping, resilience requirements caused by the project, and mitigation requirements.
Define upsized facility	Determine the District-required facility needed for future service, additional looping, reliability, resilience, transmission, storage, or other Water System Plan purpose.
Estimate incremental cost	Compare engineer's estimates, bid schedules, or unit costs for the base facility versus the District-directed betterment. Include materials, fittings, valves, pavement, traffic control, design, inspection, and financing when affected by upsizing.
Assign costs	Developer pays the base facility and all project-required costs. District participation, if approved, is limited to the documented incremental cost not needed for the project.
Document decision	Cost allocation shall be documented in the Developer Extension Agreement attachment, Special Conditions Letter, project conditions, Board resolution, written agreement, or project file.

5.8 Reimbursement and Latecomer Agreements

When a Developer constructs improvements that benefit other properties, the District may approve a reimbursement agreement consistent with RCW 57.22 and District policy. Reimbursement is not automatic. The Developer must request reimbursement within one year of project close-out, provide complete cost documentation, identify benefited properties, execute the required agreement, and satisfy District and statutory requirements before District acceptance unless the District grants a written extension for good cause.

- The reimbursement area shall be based on properties, projects, or developments that would require similar improvements upon development or that benefit from the constructed facilities. Where one connection serves or benefits multiple lots or units, the District may treat the entire benefited development as subject to the applicable reimbursement obligation, subject to counsel review and the recorded agreement.
- Reimbursement may include a pro rata share of eligible design, engineering, installation, restoration, and contract administration costs as allowed by law and District policy.
- The reimbursement period shall not exceed the period allowed by law, subject to any lawful extension, tolling, moratorium, or similar provision approved by District counsel and included in the recorded agreement or Bill of Sale documents.
- The reimbursement contract shall be recorded with the county auditor after final execution, and future benefiting property owners shall pay applicable reimbursement charges before connection or use of the reimbursable facilities.
- The Developer shall provide cost records, contractor invoices, lien releases, record drawings, proof of payment, and ownership/contact information required by the District.

5.9 District-Funded Backbone Cost Recovery Framework

The District may front-load construction of backbone improvements before all benefiting development occurs. Any cost recovery for District-funded backbone improvements should be implemented only through Board-approved policy, methodology, project-specific agreement, Schedule of Charges, GFC methodology, reimbursement agreement, LID/ULID, rates, grants, or another lawful mechanism approved by District counsel. This Guide provides a framework for future use; it does not independently authorize a new charge without Board action.

5.9.1 Eligible Facilities

- Transmission mains and large distribution mains that provide capacity, looping, redundancy, fire flow, or emergency service to a defined growth or benefit area.
- Pump stations, booster stations, pressure-zone improvements, PRV stations, valve facilities, telemetry, and electrical improvements needed to serve new development or improve system resilience for a defined benefit area.
- Storage tanks or storage upgrades providing equalizing, fire, emergency, operational, or resiliency storage for new growth or benefited service areas.
- Interties, source improvements, wholesale supply improvements, emergency supply facilities, and other capital facilities that create capacity, reliability, redundancy, or resilience for future service where legally and contractually appropriate.
- Land, easements, design, permitting, legal, construction management, inspection, financing, and administrative costs directly attributable to the eligible facility, subject to grant, funding, and statutory limitations.

5.9.2 Cost Recovery Account Tracking Record

If the Board authorizes cost recovery for a District-funded or District-front-loaded backbone improvement, the District should maintain a cost-recovery project account tracking record for that improvement. The record should be established when the facility is placed in service, accepted by the District, or when the Board adopts the cost recovery method, whichever occurs first.

The project summary report should include; the account tracking record, the authorized recovery method, eligible cost basis, benefit area, allocation method, collection trigger, credits, review cycle, term, and closeout or end date. The purpose of the record is to provide a clear administrative basis for applying charges consistently, tracking payments and credits, avoiding double recovery, and determining when the recovery obligation has been satisfied or should be retired.

Account Tracking Record Field	Description
Project name and facility ID	Unique identifier used in District accounting, GIS, asset management, and capital improvement program.
Board action / authorization	Board resolution, motion, written agreement, Special Conditions Letter, Schedule of Charges reference, or other authority authorizing the improvement, District participation, cost recovery method, benefit area, allocation method, and recovery term.
In-service or acceptance date	Date the facility became available for service, was accepted by the District, or was otherwise approved for inclusion in the cost recovery program.
Eligible cost basis	Documented cost eligible for recovery, excluding costs funded by grants, donations, developer contributions, or prior collections unless repayment or match recovery is required.
Benefit area	Map, parcel list, pressure zone, frontage area, hydraulic service area, or other defined area receiving capacity, reliability, fire flow, pressure, resilience, or direct service benefit from the improvement.
Allocation units	ERUs, meter-equivalent units, fire-flow units, acreage, frontage, hydraulic demand, parcel count, or other proportional units approved by the District for allocating recoverable costs.

Charge calculation	Formula, rate per unit, indexing, credits, payment trigger, review period, and sunset provisions.
Collections and credits	Board-defined amounts collected, parcels paid, credits issued, remaining unrecovered balance, and sunset period.
Review cycle	Frequency or milestone for reviewing the account tracking record, such as during WSP updates, Schedule of Charges updates, CIP updates, rate reviews, or Board-directed review periods.
Closeout / end condition	Event that ends or retires the recovery record, such as full recovery of eligible costs, expiration of the Board-approved term, Board action to close the recovery program, or determination that the charge is no longer applicable.

5.9.3 Cost Allocation Methods

If authorized by the Board, the District may allocate eligible backbone improvement costs using one or more documented, reasonable, and consistently applied methods, such as ERUs, meter-equivalent units, acreage, fire-flow demand, hydraulic benefit, resilience benefit, or a hybrid allocation when a single method would not reasonably reflect benefit, demand, or capacity.

5.9.4 Charge Timing and Collection

Project-specific cost recovery charges or conditions, when authorized, should be identified as early as practical during the District's water availability or project intake review and refined during pre-design, plan review, and project closeout as project information becomes available. The District should confirm the applicable charge, cost basis, benefit area, allocation method, collection trigger, and payment milestone through the Schedule of Charges, Special Conditions Letter, Developer Extension Agreement, Board action, or other District-approved documentation.

Unless otherwise approved in writing by the District, applicable project-specific recovery charges shall be paid before the District provides the related approval, release, or service milestone. Depending on the nature of the charge, this may include plan approval, construction authorization, permit clearance, building permit clearance, final plat approval, final acceptance, meter installation, or service activation.

When the charge is tied to new or expanded water service, meter installation or service activation should be treated as the final release point. The District should not release meters or activate service until the applicable charges, invoices, deposits, cost-sharing obligations, and required closeout items have been paid or otherwise resolved in writing.

5.9.5 Credits and Double-Charge Prevention

The District shall avoid charging a property twice for the same capacity or improvement. Prior payment credit means District-verified, current, applicable payment for the same facility or capacity under an adopted District policy, recorded agreement, or specific Board determination. Old historical buy-in receipts or inactive service records shall not automatically create modern credits unless the District expressly recognizes them. Existing active meter or ERU credits may be handled consistent with current District practice, SPU contract requirements, and the Schedule of Charges.

5.9.6 Grants, Donated Facilities, and Nonrecoverable Costs

Grant-funded, donated, or otherwise nonrecoverable portions should be addressed primarily for District-funded projects and District cost recovery. For developer-constructed facilities conveyed to the District, the District generally records the certified value or cost of the asset for acceptance and capitalization and does not normally adjust the accepted value based on how the Developer financed the work unless District funds, grant restrictions, or project-specific conditions apply.

5.9.7 Periodic Review

The District should review cost-recovery charges and account tracking records after major projects, during Schedule of Charges updates, during WSP/CIP updates, or when development activity, cost assumptions, financing, grant limitations, or legal requirements materially change. Charges shall be updated by Board action when adjustments are required.

5.10 District Participation in Developer Projects

The District may join in financing a developer project when the Board determines that participation serves a District purpose, such as planned upsizing, accelerated construction of a capital improvement, climate-resilience benefit, emergency service, or correction of an existing deficiency. The Developer shall not assume District participation unless the Board approves participation in writing. District participation should generally be reimbursed by District payment after documentation and approval rather than by informal credits or offsets.

5.11 Appeals and Disputes

A Developer may request reconsideration of a District interpretation, required improvement, cost allocation, or charge calculation by submitting a written request with supporting engineering and cost information. The District Engineer, General Manager, District legal counsel, rate consultant, or Board may review the request depending on the issue. Filing a request does not authorize construction, connection, meter release, service activation, or delay in payment unless the District approves otherwise in writing.

6. District Implementation Procedures

6.1 Internal Intake Procedure

District intake is tied to the District Water Availability Certificate (WAC) application process and/or the Developer Extension Agreement. The project file should include the project name, parcel numbers, applicant contacts, proposed use, required fire flow, preliminary ERUs or meter assumptions, pressure zone, current mains, known deficiencies, climate/hazard flags, prior charges, and any existing reimbursement or recovery areas when applicable.

6.2 Water Availability Certificate / Response

District staff should issue a Water Availability Certificate or other written District response using the District terminology and forms in effect at the time of review. The response should identify required improvements, assumed meter sizes/ERUs, fire-flow assumptions, required submittals, DE deposit, preliminary charges, climate screening requirements, expiration date, and disclaimers regarding final plan review and changing conditions. Any fees, costs, fire-flow assumptions, meter sizes, improvement requirements, or District conditions identified in the Water Availability Certificate or response are preliminary and subject to change as project information, plans, costs, permits, meter sizing, and District requirements are refined.

6.3 Plan Review Workflow

- District Staff confirm the DE Agreement is complete and signed by all parties, insurance and bond documents are received and that the required DE deposit has been paid.
- Screen for completeness using Appendix A. If incomplete, return without detailed review and identify missing items.
- Review for consistency with this Guide, Standard Details, Technical Specifications, easement requirements, hydraulic needs, climate-resilience requirements, fire authority comments, and cost-recovery requirements applicable to the project.
- Prepare consolidated District comments that distinguish required revisions from advisory comments.
- Require resubmittal with a written response when requested by the District.
- Before final plan approval, verify DEA status, permit requirements, easement status or easement grantor coordination, DE deposit, outstanding invoices, applicable charges, cost-recovery conditions, climate screening, and approval block language.

- Save approved plans, comments, calculations, screening documentation, correspondence, and approvals in the District project file.

6.4 Climate Resilience Screening Workflow

- Determine whether the project triggers screening under Section 2.3 or Appendix F.
- Identify affected assets, pressure zone, service area, customer consequence, emergency service role, and connection to backbone facilities.
- Screen for locally significant hazards such as flooding, landslide, erosion, wildfire/WUI, extreme heat, drought demand stress, extended power outage, seismic/cascading risk, or access constraints.
- Identify vulnerabilities, including asset age, material, condition, single-feed condition, lack of isolation valves, lack of access, repair difficulty, or water quality sensitivity.
- Determine the required design response and document it in review comments, plan conditions, and the project file.
- Identify any capital or cost-recovery implications and coordinate with the CIP, financial program, and cost-recovery account tracking record when applicable.

6.5 Construction Administration Workflow

- Hold a preconstruction conference and confirm approved plans, inspection contacts, schedule, materials, testing plan, climate-resilience measures, paving and restoration requirements, and required notices.
- Track inspection time, consultant costs, staff time, and other project costs and bill them monthly to the Developer. The District will not pay ongoing project bills out of the DE deposit unless Board direction provides otherwise.
- Confirm approved materials before installation.
- Document daily inspection observations, field changes, tests, failed tests, punch list items, and corrective actions.
- Require written District approval for field changes before work proceeds.
- Obtain test results and confirm passing pressure, disinfection, bacteriological, backflow, and tracer wire results.
- Conduct final inspection and create punch list.
- Prior to Board approval of final acceptance, District staff shall confirm completion of all required project closeout items, including final payment, Maintenance Guarantee, contractor and engineer releases (as applicable), total project cost certification, Bill of Sale, easements, final service address and meter lists, cost-recovery documentation, and all other required closeout documents.

6.6 Cost Recovery Administration

- Project-specific cost recovery should be implemented only when the District has a Board-adopted policy, project-specific condition, executed agreement, Schedule of Charges authority, reimbursement agreement, LID/ULID procedure, or other lawful basis confirmed by District counsel. The following framework should be treated as an internal policy-development checklist until the Board adopts a specific method:
- Identify the recoverable improvement and confirm that it provides capacity, reliability, resilience, fire flow, or direct benefit to future development or a defined benefit area.
- Compile eligible cost documentation and identify grant-funded, donated, developer-paid, already-funded, or otherwise non-recoverable costs when relevant to a District-funded project.
- Prepare a benefit area map and parcel list when a project-specific charge or reimbursement area is being considered.
- Select allocation units and calculate the proposed charge using a documented, reasonable method.
- Identify District-recognized credits, prior payments, existing active meter capacity, and parcels exempt from the charge.
- Prepare Board resolution, Schedule of Charges amendment, project-specific agreement, or other implementation document with legal and rate/finance review.

- Record the charge in the cost-recovery account tracking record and District GIS/accounting systems when authorized.
- Notify affected applicants during water availability review and plan review.
- Collect the charge at the designated District milestone and update the account tracking record.

6.7 Records, GIS, Asset Management, and WSP Coordination

Prior to final acceptance, District staff and/or consultants should update GIS, asset management records, valve and hydrant maps, service records, meter records, easement files, climate/resilience screening records, cost-recovery account tracking records when applicable, and Maintenance Guarantee tracking. Record drawings, test results, completion forms, cost certifications, and cost-recovery records shall be retained in the District project file. GIS updates, asset records, closeout review, cost-recovery documentation, warranty tracking, and related District staff/consultant time are charged to the Developer as actual District costs when attributable to the DEA project.

Development review and cost recovery decisions should remain coordinated with the Water System Plan, hydraulic model, Capital Improvement Program, Financial Program, Schedule of Charges, Climate Resilience Element, Emergency Response Plan, Hazard Mitigation Plan, and asset management program.

6.8 Periodic Guide Updates

The District should review this Guide periodically, or as required by changes in law, WAC requirements, the Water System Plan, Climate Resilience Element, standard details, approved materials, fire authority standards, cost recovery methodology, grant requirements, or operating experience. Updates should be adopted by the Board and posted for use by outside parties.

Appendix A - Developer Submittal Checklist

Item	Required?	Notes
Water Availability Application	Yes	Include parcel numbers, land use, units, meter sizes, fire flow, phasing, ADU status, and owner authorization.
Developer Extension Agreement	Yes	Required DE Contract, including project information and signed by the Developer and the District.
Developer Extension deposit & Insurance Certificate	Yes	Required DE deposit per District Schedule of Charges or project-specific requirement.
Sealed civil plans	Yes	Full civil plan set, including utilities, grading, paving, storm, sewer, franchise utilities, erosion control, and landscaping.
Dedicated water plans and profiles	Yes	Show existing/proposed water system, crossings, appurtenances, services, easements, and Standard Details.
Hydraulic calculations	As required	Required for fire flow, pressure, long services, large meters, PRVs, pressure-zone changes, pump/storage/special facilities, or special uses.
Climate resilience screening	As required	Required for critical/backbone facilities, hazard areas, redundancy changes, major offsite work, access/repairability concerns, pressure-zone impacts, and major extensions.
Fire authority approval	Yes	Hydrant locations, fire flow, fire service, FDC, and fire access requirements.
Easements and title report	As required	Legal descriptions, exhibits, title report, and right-of-entry for offsite or private property facilities.
Material submittals	Before construction	Pipe, fittings, valves, hydrants, meters, vaults, tracer wire, backflow assemblies, coatings, and special materials.
Traffic control and permits	Before construction	Road agency, right-of-way, franchise, grading, environmental, and other permits.
Construction schedule and contacts	Before preconstruction	Include emergency contact and 24-hour Contractor contact.
Shutdown and connection plan	Before connection	Required for all work on or near the active system.
Testing plan	Before testing	Pressure, disinfection, flushing, bacteriological, tracer wire, and backflow testing.
Record drawings	Closeout	PDF and CAD, stamped by Design Engineer, showing actual installed conditions.
Bill of Sale/conveyance/Easements	Closeout	Convey public water facilities to District free of liens.
Maintenance Guarantee/warranty	Closeout	Amount and period per Developer Extension Agreement, Schedule of Charges, or Board policy.
Contractor/subcontractor releases and proof of payment	Closeout	Required when requested by District and before final acceptance or Bill of Sale processing.
Final service address and meter list	Closeout	Required for customer setup, GIS, billing, and service records.

Appendix B - Construction Drawing Notes for Developer Extensions

The following notes are adapted for KCWD90 developer extension plans. The District may require additional notes or project-specific notes.

1. All construction shall conform to King County Water District No. 90 requirements, KCWD90 Technical Specifications, KCWD90 Standard Details, approved plans, applicable permits, and the requirements of the local road agency.
2. The location of existing utilities shown on the drawings is approximate. The Contractor shall comply with Chapter 19.122 RCW and call 811 before excavation. The Contractor is responsible for protecting existing utilities and verifying locations by potholing where necessary.
3. The Developer shall acquire all required easements, agreements, and permits before final acceptance/closeout, and before construction when the easement, agreement, permit, or right-of-entry is required to perform the work.
4. A preconstruction meeting is required. Call KCWD90 at (425) 255-9600 before performing work.
5. The Contractor shall notify the District at least 7 days before connecting to the existing water system and shall coordinate all shutdowns with the District.
6. Water shutoffs require a minimum of 72 hours prior notice to affected connections and shall not occur without District approval.
7. Only District personnel may operate valves on the active District water system unless the District authorizes otherwise in writing.
8. No connection to the existing system is allowed until pressure testing, disinfection, flushing, bacteriological testing, tracer wire testing, and District approvals are complete.
9. All pipe, fittings, valves, hydrants, meters, boxes, tracer wire components, and appurtenances shall be District-approved materials.
10. All water mains and appurtenances shall have a minimum 36 inches of cover unless otherwise approved by the District.
11. Minimum separation between water and sanitary sewer shall be 10 feet horizontally and 18 inches vertically, with water above sewer where practical. Lesser separation requires District and regulatory approval and special construction.
12. The Contractor shall not backfill water facilities until inspected by the District.
13. All public water mains and fittings shall be restrained unless otherwise approved by the District.
14. Tracer wire and access points shall be installed and tested in accordance with KCWD90 requirements.
15. The Contractor shall provide temporary blow-offs, flushing assemblies, disinfection taps, sampling taps, and appurtenances required for testing and acceptance.
16. The Contractor shall repair all damage to existing facilities, pavement, landscaping, drainage, survey monuments, and private improvements caused by construction.
17. Record drawings shall be submitted before final acceptance.

Appendix C - Materials and Standard Details Summary

This appendix summarizes key KCWD90 materials and details for convenience only. It does not replace the Approved Materials List, Technical Specifications, or Standard Details.

Topic	Summary
Trench section	Standard Detail 1; 36-inch minimum cover; crushed rock and compaction per roadway/unimproved-area requirements; tracer wire shown on main.
Thrust blocking	Standard Detail 2; concrete blocking against firm undisturbed earth; blocking for gasketed pipe fittings as required.
Residential services	Standard Details 3A and 3B; separate details for DI and HDPE water mains; 1-inch service lines; no service line splices; tracer wire connection and grounding.
Residential meter	Standard Detail 4; meter box and setter requirements; District supplies meter; service marker post for undeveloped parcels.
1-1/2 inch and 2-inch services	Standard Detail 5; 2-inch materials from saddle through discharge tailpiece; District supplies meter/adapters as applicable.
Large meters	Standard Details 6 and 7; vault sizing, bypass piping, valves, supports, drain, and shop drawing requirements.
Developer extension notes	Standard Detail 10; required plan notes addressing District standards, utility locate law, easements, preconstruction meeting, shutdown notification, and trench safety.
Connections	Standard Detail 11; connection requirements, temporary blow-off, cut-in connection, trench preparation, and tapped connection notes.
Valve box	Standard Detail 12; valve box, lid, collar, nut extension, and adjustment requirements.
Marker and bollard posts	Standard Detail 13; marker post and hydrant bollard requirements.
Fire hydrants	Standard Detail 14; hydrant location, 6-inch lead, gate valve, tracer wire access, concrete apron/pad, Storz adapter, and District paint.
Blow-offs	Standard Details 15A and 15B; DI and HDPE main variants; blow-off hydrant and tracer wire requirements.
Pipe anchors	Standard Details 17 and 30; special restraint for slopes and deadman pipe anchors where required.
Air/vac assemblies	Standard Details 18A and 18B; DI and HDPE variants; combination air valve requirements.
PRV and backflow	Standard Details 20, 21, 22, 23A, 23B, and 28; individual PRV, DCVA, RPBA, DCDA, and FDC requirements.
AC crossing replacement	Standard Detail 31; AC water main replacement at sanitary sewer crossings and related backfill and disposal requirements.

Appendix D - Acceptance Checklist

Acceptance Item	Complete?
All public water improvements installed per approved plans and inspected before backfill.	
All field changes approved in writing by District.	
Pressure test passed and District accepted results.	
Disinfection completed and bacteriological samples passed.	
Flushing completed; dechlorination and discharge acceptable.	
Tracer wire locating test passed after rough grading and before final acceptance.	
Backflow assemblies installed, tested, certified, and accepted.	
Valve boxes, meter boxes, hydrants, blow-offs, air/vac boxes, markers, and collars set to grade.	
Climate-resilience measures required by approved plans installed and documented.	
Pavement, curb, sidewalk, landscaping, drainage, and surface restoration complete.	
Punch list complete and verified.	
Record drawings submitted in PDF and CAD format.	
Bill of Sale/conveyance, lien releases, cost documentation, and warranties submitted.	
Easements and rights-of-way recorded or accepted.	
All District fees, charges, deposits, reimbursement charges, monthly invoices, and cost-recovery obligations paid or secured.	
Maintenance Guarantee provided in accordance with the Developer Extension Agreement and Schedule of Charges.	
District written acceptance issued.	
Contractor payment certification/release and engineer payment certification/release provided when required.	
Final list of service addresses, meter sizes, and billing/meter setup information provided when applicable.	

Appendix E - Backbone Cost Recovery Account Tracking Record Worksheet

Account Tracking Record Field	Entry
Project name / Account number	Account number per Accounting and/or work order system
Facility type	Transmission main / pump station / storage / PRV / valve facility / intertie / source / other
Pressure zone or service area	
Climate resilience / emergency service benefit	Yes / No; describe protected assets, hazard reduction, redundancy, or emergency service benefit
Board authorization	Resolution number / date
In-service date	Date of Substantial Completion Letter
Total project cost	Design + land/easement + construction + inspection + legal + administration + financing
Less grants, donated facilities, or nonrecoverable funds	
Eligible recoverable cost	
Benefit area description	Parcel list, map, pressure zone, frontage, hydraulic service area, or growth area
Allocation method	ERU / meter equivalent / acreage / hydraulic demand / fire flow / resilience benefit / hybrid
Total capacity units in benefit area	
Cost per capacity unit	Eligible recoverable cost divided by capacity units
Credits or exemptions	Existing capacity, prior payments, developer construction, Board-approved exemptions
Annual indexing	Index and update method, if any
Collection trigger	Water availability / plan approval / permit signoff / meter purchase / service activation / final plat / building permit clearance
Sunset or review date	
Accounting fund	Capital fund / project reimbursement fund / other
GIS/accounting/account tracking record complete	Yes / No

Appendix F - Climate Resilience Screening Checklist

Screening Question	Yes / No / N/A	Notes / Required Action
Does the project affect a critical asset or backbone facility?		Identify affected facility and role in operations.
Is the project located within or near a known flood, erosion, landslide, steep-slope, seismic, WUI, wildfire, or other hazard area?		Attach map or source of hazard information if required.
Does the project create or remove redundancy, looping, isolation capability, or emergency service capacity?		Identify proposed risk-reduction measures.
Does the project affect fire flow, emergency access, pressure-zone operation, or single-feed service areas?		Coordinate with fire authority and District hydraulic review.
Does the project require major offsite improvements or connect to District-funded backbone improvements?		Coordinate with Section 5 cost recovery.
Could the project affect long-term access, repairability, bypass service, or restoration after an event?		Identify easement, access, or design changes.
Are enhanced design measures needed, such as looping, upsizing, redundant valves, flood protection, vault drainage, slope stabilization, restraint, special crossings, or enhanced materials?		List measures and show on plans.
Should the project be added to the CIP, cost-recovery account tracking record, asset management records, or emergency response planning records?		Assign follow-up responsibility.

Appendix G - Reference Documents and Policy Maintenance

G.1 Reference Documents

- King County Water District No. 90 Technical Specifications.
- King County Water District No. 90 Standard Details, April/June 2025 revisions.
- King County Water District No. 90 Approved Materials List.
- King County Water District No. 90 Accessory Dwelling Unit Policy, November 2023.
- King County Water District No. 90 Complete Utility Locating System Specification.
- King County Water District No. 90 Climate Resilience Element and Sustainability Policy, 2026 WSP update.
- King County Water District No. 90 Water System Plan, Capital Improvement Program, Financial Program, Hazard Mitigation Plan Annex, Emergency Response Plan, Risk and Resilience Assessment, and Asset Management Program.
- RCW 57.08.005, Water-sewer district powers.
- RCW 57.08.081, Rates and charges.
- RCW 57.16, Comprehensive plan, local improvement districts, and utility local improvement districts.
- RCW 57.22, Contracts for system extensions.
- RCW 43.20.310, Water system plans - Climate resilience element.
- Chapter 246-290 WAC, Group A Public Water Supplies, including water system planning, design, and operating requirements.
- Washington State Department of Health Water System Design Manual and Water System Plan Climate Resilience Element Workbook 331-778.
- AWWA standards referenced by the KCWD90 Technical Specifications and approved plans.

G.2 Policy Implementation and Maintenance

The following District policy settings are established in this Guide and shall be carried forward in Developer Extension Agreements, plan review letters, cost-recovery account tracking records, and the Schedule of Charges unless amended by Board action or District policy:

- Developer-constructed public water improvements are subject to a minimum two-year warranty and Maintenance Guarantee as required by the Developer Extension Agreement.
- A 4-inch main is allowed only by written District approval; the maximum length for the standard exception is 200 feet.
- Typical valve spacing is 800 feet in single-family residential areas and 500 feet or less in commercial, multifamily, industrial, transmission, high-risk, or critical areas, subject to District Engineer discretion.
- Project-specific capital recovery charges should not be treated as active charges unless adopted by the Board through a resolution, Schedule of Charges update, project-specific agreement, or other counsel-reviewed mechanism.
- The District shall maintain GFC methodology, any Board-adopted project-specific cost-recovery procedures, and cost-recovery account tracking records with engineering, finance, rate consultant, and legal support as needed.
- Development review shall include climate-resilience screening when triggered by Section 2.3 or Appendix F.
- Plan submittals are accepted electronically in PDF format unless the District requests paper copies, CAD files, GIS files, or other supporting information.
- Standard forms for Developer Extension Agreements, easements, bonds, insurance, bills of sale, and closeout documents may be maintained separately from this Guide and updated administratively when consistent with Board policy.