CITY OF KIRKLAND
123 FIFTH AVENUE ● KIRKLAND, WASHINGTON 98033-6189 ● (425) 587-3800

DEPARTMENT OF PUBLIC WORKS
PRE-APPROVED PLANS POLICY

Policy G-8: PUBLIC WORKS DEVELOPMENT REVIEW CHECKLIST

The Development Review Checklist was developed to help applicants submit more complete plans which should help to reduce permit review times. The checklist covers a wide range of issues reviewed and inspected by the Public Works Department.

The Development Review Checklist can be provided at the Pre-Application Meeting to developers and engineers of Commercial, Multi-family or 5 Lot and larger Land Surface Modification permits; and is also available at the Public Works front counter and the City's web site as a resource for developers and engineers.

DEVELOPMENT REVIEW

CHECKLIST

Revised: 01/2020

CITY OF KIRKLAND
PUBLIC WORKS DEPARTMENT

Table of Contents

General Requirements

Plan Format 3
Pre-Approved Plans and Notes 4
Seattle City Light Easement 4

Water System

Plumbing Fixture Count 4
Water Pressure 4
Meters & Services 4
Existing Water System 5
Water Easements 5
Northshore Utility District 6
Water Latecomer Reimbursement Agreements 6
New Water Main 6
Fire Systems 8

Sewer System

Side Sewer 8
Septic and Well Abandonment 9
Mutli-Family Projects - Car Wash Areas 9
Parking Garage Drainage 9
Easements 9
Sanitary Sewer in Northshore Utility District (NUD) 9
Sewer Main Extensions-King County Department of Natural Resources Review 10
Existing Sewer Main 10
New Sewer Main 10
Sewer Latecomer Reimbursement Agreements 12

Street Improvements

Cross Section 12
Horizontal, Vertical, Slope and Radii Design 13
Driveways 14
Street Lights 14
Temporarily Dead-Ended Streets 14
Utility Poles 14
Street Widening Tapers 15
Asphalt Ramps at the End of Sidewalks 15
Wheelchair Ramps 15
Street Trees 15
Side Slopes, Rockeries, and Handrails 15
Signing 15
Misc Design 16

Storm System

Project Characteristics 16
Stormwater LID 17
Flow Control 17
Water Quality 17
Structure Specifics 18
Right of Way Storm Drainage 18
Private Storm Drainage 19
Fuel Islands 20
Miscellaneous Information 21
Drainage from Impervious and Pervious Areas 21

General Requirements

For City Use

- Yes
- No
- N/A

PLAN FORMAT

Are your plan, profile and detail on 24" x 36" sheets and contain the follow information:

a. Title: Project name and City of Kirkland file number.
b. Table of contents (if more than three pages).
c. Vicinity map.
d. Legal description.
e. Name and phone number of utility field contacts and One-Call number (811).
f. Name and phone number of surveyor.
g. Name and phone number of owner/agent.
h. Name and phone number of applicant.
i. Name and phone number of engineering firm preparing plans (company logos acceptable).
j. City of Kirkland's pre-construction notification requirements.
k. City of Kirkland Public Works inspection request line phone number,
425-587-3805.
l. A title block shall be provided on each plan sheet. The title block shall list at a minimum the development title, the name, address, and phone number of the firm or individual preparing the plan, a revision block, date, page (of pages) numbering, and sheet title (e.g. Road and Drainage, Grading, Erosion/Sedimentation Control).
m. All plan sheets must have a NORTH arrow and must indicate the drawing scale. Acceptable plan scales are 1"=10' and 1"=20'. For profiles, the vertical scale shall be 1'=5'.
n. All plans shall use the King County Datum (NAVD 88 vertical, NAD 83/91 horizontal) and shall indicate the temporary or permanent benchmark used in the survey.
o. Wetlands and Native Growth Protection Easements shall be indicated on the plans as required by the Department of Planning and Community Development.
p. Existing features shall be shown with dashed lines, and/or half-toned (screened), in order to clearly distinguish existing features from proposed improvements.
q. Plan sheets shall indicate all property lines, right-of-way lines and easements.
r. Existing and proposed contours must be shown on all plan views. Contours shall be shown at 2-foot intervals (5-foot intervals for slopes >15%; 10-foot intervals for slopes > 40%). Contours shall be field verified for roadway and stream centerlines, floodplains and for conveyance systems. Contours shall extend 50 feet beyond property lines to resolve questions of setback, cut and fill slopes, drainage swales, ditches, and access or drainage to adjacent property.

For City Use

- Yes
- No
- N/A

PRE-APPROVED PLANS AND NOTES

Are all the pre-approved details, which apply to this design, shown on the plans? *Referencing the pre-approved details is not enough. Pre-approved details may be obtained at the City of Kirkland, Public Works front desk or downloaded from the City of Kirkland web site, http://www.ci.kirkland.wa.us/depart/pw/gis/standard.htm.*

For City Use

- Yes
- No
- N/A

SEATTLE CITY LIGHT EASEMENT

Properties in for development which have a Seattle City Light (SCL) easement must provide a letter of approval from SCL if development requires construction of structures (e.g. rock wall, parking lot, etc.) in the easement.

Water System

For City Use

- Yes
- No
- N/A

PLUMBING FIXTURE COUNT

Have you included all existing and new fixtures on the Building Permit application*? The Public Works Department requires the Building Permit application fixture count be completed for not only the additional new fixtures, but the existing fixtures count as well. The total fixture count helps determine if the water service needs to be upgraded or a larger size installed.*

For City Use

- Yes
- No
- N/A

WATER PRESSURE

The static pressure in the street, at the nearest fire hydrant from uphill which the project will be served, must be on the application and plans. *Pressure information is available from the Public Works Department.*

For City Use

- Yes
- No
- N/A

METERS & SERVICES

1. Does your project require a new domestic service and/or meter? If yes, what is the quantity and size(s) of the meter(s)? *All water services require a minimum 1" service line from the main to the meter. Most single family homes can be serviced by a 5/8" x 3/4" meter; however, length of service, pressure zones, and number of plumbing fixtures can affect the meter size required. The latest version of the UPC or the Building Department can answer questions on sizing the meter.*

For City Use	
▪ Yes ▪ No ▪ N/A	2. Is your project a mixed use with both commercial and residential? A separate meter for each use is required.

For City Use	
▪ Yes ▪ No ▪ N/A	3. Does your project need an irrigation meter? If yes, how many and what meter size(s)? *All domestic and irrigation water meters must be located within the public right-of-way per Pre-Approved Plan CK-W.17. Single family residences can not have irrigation meters.*

For City Use	
▪ Yes ▪ No ▪ N/A	4. Will you be abandoning an existing water service? If yes, provide note on plans. *All abandoned water services need to be disconnected at the water main.*

For City Use	**EXISTING WATER SYSTEM** Do the plans reflect the following information about the existing water system: 1. Pipe size and type?
▪ Yes ▪ No ▪ N/A	

For City Use	
▪ Yes ▪ No ▪ N/A	2. Location of existing hydrants and water services?

For City Use	
▪ Yes ▪ No ▪ N/A	3. Location of the existing water main in relation to the center of the right-of-way and any possible conflicts with the construction of new utilities?

For City Use

- Yes
- No
- N/A

4. Is there an existing hydrant near the project? *If yes, it shall have 3 ports with one 5-1/4" storz fitting or shall be required to be up graded.*

For City Use

- Yes
- No
- N/A

WATER EASEMENTS

1. Is a water main easement required*? A 15' easement is required for water facilities maintained by the City of Kirkland and must be shown on the plans.*

For City Use

- Yes
- No
- N/A

2. Are there existing water easements and, if so, are they shown on the plans?

For City Use

- Yes
- No
- N/A

NORTHSHORE UTILITY DISTRICT

1. Northshore Utility District (NUD) provides water service to the area of Kirkland generally north of NE 116th Street. If your project is in this area, have you obtained and enclosed a copy of your Water Availability Certificate from NUD?

For City Use

- Yes
- No
- N/A

2. If you are within NUD boundaries, do your plans show the planned water system improvements? *A letter of approval must be submitted to the City prior to issuance of the permit.*

For City Use

- Yes
- No
- N/A

WATER LATECOMER REIMBURSEMENT AGREEMENTS

Are you planning to file a Water Latecomer Agreement for your water main extension? *If yes, your agreement and construction estimate must be filed with the City prior to construction.*

For City Use ▪ Yes ▪ No ▪ N/A	**NEW WATER MAIN** 1. Is there an existing main which runs the entire length of the right-of-way abutting your project? *If not, a new water main shall be required.*
For City Use ▪ Yes ▪ No ▪ N/A	2. If the project has gone through a Land Use permit process, does the water system design reflect all of the requirements of the Land Use permit?
For City Use ▪ Yes ▪ No ▪ N/A	3. If the water main is to be extended, what is the size, type of pipe, and distance from centerline?
For City Use ▪ Yes ▪ No ▪ N/A	4. Is blocking shown? *Blocking is required at all vertical and horizontal bends.*
For City Use ▪ Yes ▪ No ▪ N/A	5. Is there a 5' horizontal separation between proposed water main and other utilities running parallel? Is there a 10' horizontal separation between the proposed water main and existing or proposed sanitary sewer?
For City Use ▪ Yes ▪ No ▪ N/A	6. Are all fittings and valves shown and listed for the contractor?
For City Use ▪ Yes ▪ No ▪ N/A	7. How is the connection to the existing system made (i.e. wet tap or cut in tee)?

For City Use ▪ Yes ▪ No ▪ N/A	8. Is a blow-off assembly necessary? *A blow-off is required at the end of any water main to prevent water from becoming stagnant. A fire hydrant may be utilized as a blow-off if it is at the end of the main (please see City of Kirkland Pre-Approved Plan No. CK-W.11).*
For City Use ▪ Yes ▪ No ▪ N/A	9. Is an air and vacuum release valve necessary? *An air and vacuum release valve is necessary when a high point occurs in the water main and serves two purposes: to release air and to prevent the pipe from collapsing when negative pressures occur. Air accumulates at the high point in a pipe, and the trapped air impedes the water flow. With an air and vacuum release valve, the trapped air is automatically released, thus allowing the water to flow more efficiently.*
For City Use ▪ Yes ▪ No ▪ N/A	10. Are additional fire hydrants required to provide fire protection? *Contact Fire/Building Department for requirements.*
For City Use ▪ Yes ▪ No ▪ N/A	11. Is a water main profile shown on the plans? *The water main should have a minimum 36" cover or a 60" maximum cover.*
For City Use ▪ Yes ▪ No ▪ N/A	**FIRE SYSTEMS** 1. Are fire lines required, and if so, what size? *All fire lines are required to have a gate valve at the connection to the main. Fire lines require fire inspection and must have PVC labeled.*
For City Use ▪ Yes ▪ No ▪ N/A	2. Are 5-1/4" storz fittings shown for hydrants (new and existing)? *Existing hydrants must be upgraded.*

For City Use	
▪ Yes ▪ No ▪ N/A	3. Are the following located on private property? a. Double check valve? b. PIV? c. Siamese connection?

Sewer System

For City Use	**SIDE SEWER**
▪ Yes ▪ No ▪ N/A	1. Given the design finished floor elevation, can the side sewer pipe slope requirements be met? *The Public Works Department requires the side sewer slope be a minimum of 2% for 4" pipe and 1% for 6" pipe and have 18" of _____ foundation.*

For City Use	
▪ Yes ▪ No ▪ N/A	2. Does the side sewer have an adequate amount of cover? *There must be a minimum 6′ of cover at the property line (unless the sewer main is less than 6′ deep) and a minimum 18" of cover within the property.*

For City Use	
▪ Yes ▪ No ▪ N/A	3. Does the side sewer lie too close to a structure? *The sewer lateral cannot lie within the load-bearing zone of a foundation wall, pier blocks, or rockery. A 3′ distance must be maintained between the bottom of the rockery or wall and the crown of the sewer pipe, otherwise, ductile iron pipe will be required.*

For City Use	
▪ Yes ▪ No ▪ N/A	4. Are adequate clean-outs provided in the design? *Clean-outs must be located at every 100′ of pipe and/or at every bend greater than 22½ degrees for a 6" and at every accumulated 90-degree bend for a 4".*

For City Use	**SEPTIC AND WELL ABANDONMENT**
▪ Yes ▪ No ▪ N/A	Does your site contain a septic tank or well? If it does, the plans must note that they be abandoned. *Abandonment of septic tanks is inspected by the City. Abandonment of wells is inspected by the Department of Ecology (DOE). Please contact DOE at 425.649.7278 for well abandonment permitting and inspection requirements.*

For City Use

- Yes
- No
- N/A

MULTI-FAMILY & COMMERCIAL PROJECTS - CAR WASH AREAS

Is your car wash area covered, drained to the sanitary sewer, and the hose bib supplied by the domestic water meter (not the irrigation meter)? Does the catch basin draining the wash area include an oil/water separator, include sizing calculations?

For City Use

- Yes
- No
- N/A

PARKING GARAGE DRAINAGE

Are the floor drains in the parking garage connected to the sanitary sewer, and do the catch basins include an oil/water separator, include sizing?

For City Use

- Yes
- No
- N/A

EASEMENTS

Are sewer easements required? If yes, are they shown, and do they meet the minimum requirements outlined in the Pre-Approved Plans, General Policy G-1 Easement Width Policy?

For City Use

- Yes
- No
- N/A

SANITARY SEWER IN NORTHSHORE UTILITY DISTRICT (NUD)

1. If the project is in the NUD, have you obtained and enclosed a copy of your Sewer Availability certificate from NUD?

For City Use

- Yes
- No
- N/A

2. Do your plans include a copy of the proposed sewer system? *Please note, a NUD approved copy of the sewer plan must be submitted to the City prior to issuance of your permit.*

For City Use

- Yes
- No
- N/A

SEWER MAIN EXTENSIONS-KING COUNTY DEPARTMENT OF NATURAL RESOURCES REVIEW (FORMERLY METRO)

Has the applicant sent the sewer extension design to King County Department of Natural Resources (DNR) (formally Metro) for review? If not, add a condition to the permit. *All sewer main extensions must be submitted to DNR for review prior to issuance of the permit. The contact person is:*

Todd Keithahn, Wastewater Treatment Capital Improvement Programs
King County Department of Natural Resources,
821 Second Avenue, MS 117
Seattle, Washington 98104-1598.

For City Use

- Yes
- No
- N/A

EXISTING SEWER MAIN

Do the plans reflect the following information about the existing sewer system:

- Pipe size, type, and slope, including any existing sewer stubs to the property?
- Location of existing manholes and/or clean-outs?
- Location of the existing sewer main in relation to the center of the right of way and any possible conflicts with the construction of new utilities, including street improvements?

For City Use

- Yes
- No
- N/A

NEW SEWER MAIN

1. Is there an existing main which runs the entire length of the right-of-way abutting your project*? If not, a new sewer main may be required.*

For City Use

- Yes
- No
- N/A

2. If the project has gone through a Land Use Permit process, does this project address all of the requirements of the permit with respect to the sewer system? What is the Land Use Permit No.?

For City Use

- Yes
- No
- N/A

3. If the sewer main is to be extended, does the plan view show the size, type of pipe, slope, and distance from centerline?

For City Use

- Yes
- No
- N/A

4. Is there a 0.1′ drop from invert of the inlet and laterals out of each manhole? *Drop manholes are not allowed.*

For City Use

- Yes
- No
- N/A

5. Is there a 5′ horizontal separation between proposed sewer main & other utilities running parallel to the main? Is there a 10′ horizontal separation between the proposed sanitary sewer and the water main?

For City Use ▪ Yes ▪ No ▪ N/A	6.	Is the type of pipe-manhole connection called out on the plans? *Pipe connections into new & existing concrete manholes shall be made using Kor-n-seal boots or approved equal.*
For City Use ▪ Yes ▪ No ▪ N/A	7.	Is the connection for all side sewers shown with a wye and 6" stub to the property line?
For City Use ▪ Yes ▪ No ▪ N/A	8.	Is a manhole shown at the end of the main*? A manhole is required at the end of any sewer main. A clean-out may be installed at the end of the main, if the main to be extended is 200' or less and the design to the next manhole is submitted for review and approval.*
For City Use ▪ Yes ▪ No ▪ N/A	9.	Is the sanitary sewer main profile shown on the plans?
For City Use ▪ Yes ▪ No ▪ N/A	10.	Are the manholes spaced 400' or less? *Maximum allowed distance between manholes is 400'.*
For City Use ▪ Yes ▪ No ▪ N/A		**SEWER LATECOMER REIMBURSEMENT AGREEMENTS** Are you planning to file a Sewer Latecomer Reimbursement Agreement for the sewer extension*? If so, an executed Agreement with a construction estimate and a drawing with the benefit area detailed must be submitted prior to issuance of the permit. The estimated costs can not be exceeded for reimbursement.*

Street Improvements

For City Use ▪ Yes ▪ No ▪ N/A	**CROSS SECTION** 1. Are all ROW widths denoted on the plans?
For City Use ▪ Yes ▪ No ▪ N/A	2. Are all street widths denoted on the plans?
For City Use ▪ Yes ▪ No ▪ N/A	3. All new or replaced curb in the ROW must match City of Kirkland plan no. CK-R.17.
For City Use ▪ Yes ▪ No ▪ N/A	4. All new or replaced sidewalk in the ROW must match City of Kirkland plan no. CK-R.23 unless otherwise noted by Development Engineer.
For City Use ▪ Yes ▪ No ▪ N/A	5. Do your plans show the existing sidewalk that will need to be replaced?
For City Use ▪ Yes ▪ No ▪ N/A	6. A 4.5′ wide planter strip is required between the back of curb and the sidewalk, unless otherwise directed by the Development Engineer.
For City Use ▪ Yes ▪ No ▪ N/A	7. All pavement in the ROW must have 2″ of Class B asphalt on top of 4″ of ATB and a minimum of 4″ of crushed rock.

For City Use ▪ Yes ▪ No ▪ N/A	8. All saw cut lines parallel to the centerline must be outside the wheel path. Otherwise, a half-street overlay shall be required.
For City Use ▪ Yes ▪ No ▪ N/A	9. Are all the patching and paving widths shown on the plans?
For City Use ▪ Yes ▪ No ▪ N/A	**HORIZONTAL, VERTICAL, SLOPE, AND RADII DESIGN** 1. Has the road been designed in such a manner that it can be staked in the field? Are all stationing, initial point of horizontal curves (PCs), final point of horizontal curves (PTs), point of tangent intersections (PIs) and curve data included?
For City Use ▪ Yes ▪ No ▪ N/A	2. Are all initial point of vertical curves (PVCs), final point of vertical curves (PVTs), point of tangent intersections (PVIs), curve lengths, and tangent lengths included? Is the existing grade at the proposed profile accurately represented?
For City Use ▪ Yes ▪ No ▪ N/A	3. Are all geometric features for the construction of roads and driveways depicted with dimensions and numerical data?
For City Use ▪ Yes ▪ No ▪ N/A	4. Are the proposed cut and fill slopes accurately depicted on the plans?
For City Use ▪ Yes ▪ No ▪ N/A	5. All proposed radii for intersections must be depicted on the plans.

For City Use

- Yes
- No
- N/A

DRIVEWAYS

Do your plans show the location of driveways including the width?

(Commercial – 20' wide for one-way, 24' wide for two-way)
(Single Family – 10' minimum width, 20' maximum width)

For City Use

- Yes
- No
- N/A

STREET LIGHTS

Are street lights required for your project and have you shown the location of new lights to be installed per Puget Sound Energy's design and City of Kirkland approval?

For City Use

- Yes
- No
- N/A

TEMPORARILY DEAD-ENDED STREETS

If your project has a dead-ended street have you shown the proper signage and/or barricades per the Manual on Uniform Traffic Control Devices?

For City Use

- Yes
- No
- N/A

UTILITY POLES

1. Do the plans show all existing utility poles within the project limits?

For City Use

- Yes
- No
- N/A

2. Do the plans show all utility pole relocates? *Utility poles must be relocated if they conflict with street or utility improvements.*

For City Use

- Yes
- No
- N/A

STREET WIDENING TAPERS

Do the plans depict a minimum 5:1 approach taper and a 10:1 exit taper at the end points of any street widening? *The City may require additional taper length per the Manual on Uniform Traffic Control Devices.*

For City Use

- Yes
- No
- N/A

ASPHALT RAMPS AT THE END OF SIDEWALKS

Do the plans depict an asphalt ramp at the temporary end of a sidewalk? *An asphalt ramp is necessary to allow for pedestrians to travel back to the street or shoulder.*

For City Use

- Yes
- No
- N/A

WHEELCHAIR RAMPS

Are the wheelchair ramps shown on the plans? *Wheelchair ramps are required at an intersection or at a pedestrian crossing.*

For City Use

- Yes
- No
- N/A

STREET TREES

Are street trees shown 30' on-center in the planter strip? *Street trees must be located 50' from an intersection.*

For City Use

- Yes
- No
- N/A

SIDE SLOPES, ROCKERIES, AND HANDRAILS

1. Are 3:1 side slopes shown from the improvements to the existing ground, or are rockeries needed? *A separate Building Permit is required for rockeries over 4' in height.*

For City Use

- Yes
- No
- N/A

2. Is a handrail needed along the sidewalk? *See Pre-approved Detail CK-R.50.*

For City Use

- Yes
- No
- N/A

SIGNING

Do the plans show No Parking, Dead-end, Stop, or Street Designation signs?

For City Use

- Yes
- No
- N/A

MISC DESIGN

1. Are all existing and new survey monuments shown? *New monuments are required at all street centerline intersections, permanent street ends (cul-de-sacs and hammerheads), and points of tangency along centerline radii.*

For City Use

- Yes
- No
- N/A

2. Is new street stripping/marking required and if so, do the plans depict the new stripping?

For City Use	
▪ Yes ▪ No ▪ N/A	3. Are street improvement easements required and have they been shown on the plans? *Also, any existing easements should be depicted including the recording number.*

For City Use	
▪ Yes ▪ No ▪ N/A	4. Do the plans show the proposed mailbox location(s) and has the location been approved by the Kirkland Postmaster? *Postmaster approval is required prior to issuance of the Building or Grading Permit.*

Storm System

For City Use	
▪ Yes ▪ No ▪ N/A	**PROJECT CHARACTERISTICS** 1. What is the area of your site in acres*? If the project site is 1 acre or larger, then the applicant is required to obtain a Construction Stormwater Permit from the Dept. of Ecology.*

For City Use	
▪ Yes ▪ No ▪ N/A	2. What is the area of existing and new impervious and pervious surfaces? *Impervious surface means a hard surface area which either prevents or retards the entry of water into the soil mantle under natural conditions, and/or a hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of surface and storm water runoff. Use the 2016 King County Surface Water Design Manual and Policy D-10, COK Addendum to determine Flow Control and Water Quality Treatment requirements to include in your Storm Water Technical Information Report (TIR)/Drainage Report. The TIR is to be submitted to the City for review during the permitting process.*

For City Use	
▪ Yes ▪ No ▪ N/A	**STORMWATER LOW IMPACT DEVELOPMENT (LID)** Applicant is required to design LID to the maximum extent feasible per Core Requirement 9 in the 2016 King County Surface Water Design Manual. *Has a geotechnical report been completed per Policy D-8? Is LID feasible? What LID elements are proposed?*

For City Use	
▪ Yes ▪ No ▪ N/A	**FLOW CONTROL** 1. Which Flow Control Area is the project in – Level 1/Potential Discharge or Level 2 (Conservation Flow Control)? *Look at the Flow Control Map to determine level.*

For City Use	
▪ Yes ▪ No ▪ N/A	2. How is detention provided? What is the volume required, and the volume provided? *Typical methods are tank, vault, or infiltration. All vaults will require a separate Building Permit.*

For City Use	
▪ Yes ▪ No ▪ N/A	**WATER QUALITY** 1. Is this project subject to Basic or Enhanced Treatment? *Commercial & Multi-family projects, residential subdivisions with a density of single family units equal to or greater than 8 units per acre of developed area, and a road with an expected ADT count of 2,000 or more vehicles is required to provide enhanced treatment.*

For City Use	
▪ Yes ▪ No ▪ N/A	2. How is treatment provided, and what is the volume treated? *Some options are biofiltration swale, wetpond, wetvault, filterra, rain gardens, or other approved method. Biofiltration swales are discouraged in locations where plant establishment and survival may be problematic or where excessive ground water, erosion potential, or other conditions may reduce the effectiveness of these facilities.*

For City Use	
▪ Yes ▪ No ▪ N/A	**STRUCTURE SPECIFICS** 1. Provide profile for the control structure showing orifice sizes and elevations. *Orifice sizes and elevations should match the TIR. Orifice sizes less than 1/4" in diameter are not allowed. 12" minimum clearance over the top of the control structure is required from the bottom of the flattop, and 80% of the overflow pipe must be visible from the access opening.*

For City Use ▪ Yes ▪ No ▪ N/A	2. Has the required access into the detention and/or water quality structure been met? *An opening must be provided at a distance every 50′ minus the depth of the structure. The opening must be 48″ in diameter continuous from top to bottom for all riser sections greater than 18″ in height, otherwise a 24″ opening is satisfactory.*
For City Use ▪ Yes ▪ No ▪ N/A	3. Is a paved road provided to each point of access? *Whether the structure is maintained privately or by the City a paved access with a minimum of 4″ of ATB and 2″ of Class B is required.*
For City Use ▪ Yes ▪ No ▪ N/A	4. All concrete detention and/or water quality structures shall have a V-bottom with 1% longitudinal slope and 5% side slopes? *The V-bottom should drain to a 2′x2′ sump, 18″ deep with a recessed fiberglass reinforced grating (FRP) and removable with a stainless steel chain at an access directly above.*
For City Use ▪ Yes ▪ No ▪ N/A	5. No galvanized materials are allowed in direct contact with the storm water. *Material of construction may include stainless steel, fiberglass reinforced plastic, aluminum or galvanized materials with treatment 1 or better.*
For City Use ▪ Yes ▪ No ▪ N/A	**RIGHT OF WAY STORM DRAINAGE** 1. Are the storm main lines shown with a minimum pipe size of 12″?
For City Use ▪ Yes ▪ No ▪ N/A	2. Do the plans show the discharge location?

For City Use ▪ Yes ▪ No ▪ N/A	3. Do the plans include a profile of the storm system?
For City Use ▪ Yes ▪ No ▪ N/A	4. Does your design allow capacity for future development? *Check depth and pipe size to ensure capacity for conveyance of storm water from upstream drainage basin, identify basin to be served.*
For City Use ▪ Yes ▪ No ▪ N/A	5. Are all catch basins accessible by a paved access? *Where paved access cannot be provided, the catch basin shall be channeled and pedestrian access must be maintained, i.e., fences shall have gates, etc.*
For City Use ▪ Yes ▪ No ▪ N/A	6. Are any catch basins greater than 14' from a paved access and/or otherwise inaccessible? *If so, the basin shall not have a sump and shall be channeled, Type I basins only. In cases where a channeled catch basin is utilized there must be a standard catch basin with paved access at least 200 ft. upstream, and the pipe slope downstream of the of the standard catch basin shall be 2% minimum to aide in cleaning.*
For City Use ▪ Yes ▪ No ▪ N/A	**PRIVATE STORM DRAINAGE** 1. Is there a discharge or connection point available for the drainage? *The Public Works Department requires all storm drainage be connected to the City's storm drainage system, if available, on all new buildings or remodels with a net increase of 400 S.F. and greater unless handling storm drainage through approved LID BMPs with no overflow. If not, the system shall be extended where feasible.*
For City Use ▪ Yes ▪ No ▪ N/A	2. If the City's storm drainage system or natural drainage course is not available, has an infiltration system been designed for the site? *In cases where connection to the City's storm drainage system is not possible, an infiltration system can be installed if the proper soil conditions exist, and the type and size of trench has been designed by an engineer or drywell designer. Refer to Policy D-8 for geotechnical requirements.*

For City Use		
▪ Yes ▪ No ▪ N/A	3.	Will more than one dwelling share the same storm drainage stub? Have private easements and joint maintenance agreements been provided? *Multiple houses will be allowed to share the same line and must meet or exceed the pipe material specifications. The City will require the sizing of pipe based upon the area contributing to the drainage system.*
▪ Yes ▪ No ▪ N/A	4.	Do the storm lines have the minimum required slope? *The Public Works Department requires 2% for 4″ and 6″, 1% for 8″ and 0.5% for 12″ and greater.*
▪ Yes ▪ No ▪ N/A	5.	Do the storm lines have an adequate amount of cover? *The minimum cover shall be 18″.*
▪ Yes ▪ No ▪ N/A	6.	Do the storm lines lie too close to a structure? *The sewer lateral cannot lie within the load-bearing zone of a foundation wall, pier blocks, or rockery. A 3′ distance must be maintained between the bottom of the rockery or wall and the crown of the storm pipe, otherwise, ductile iron pipe will be required.*
▪ Yes ▪ No ▪ N/A	7.	Are adequate clean-outs provided in the design? *Clean-outs must be located at every 100′ of pipe and/or at every bend greater than a 22½ degrees for a 6″ and at every accumulated 90-degree bend for a 4″.*

For City Use		
	FUEL ISLANDS	
▪ Yes ▪ No ▪ N/A	1.	Are fuel islands covered?
▪ Yes ▪ No ▪ N/A	2.	Does the drainage for the fuel islands drain to the sanitary sewer?

For City Use ▪ Yes ▪ No ▪ N/A	3. Is an oil/water separator vault shown?
For City Use ▪ Yes ▪ No ▪ N/A	4. Is the location for the emergency shutoff valve and valve key shown?
For City Use ▪ Yes ▪ No ▪ N/A	**MISCELLANEOUS INFORMATION** 1. Are storm easements required? If yes, are they shown, and do they meet the minimum requirements outlined in (Pre-Approved Plan, policy section no. 2, Easement Width Policy)?
For City Use ▪ Yes ▪ No ▪ N/A	2. Have you shown all required Pre-Approved standard details?
For City Use ▪ Yes ▪ No ▪ N/A	3. Have the set back requirements been met*? Five feet from easements, tracts or property lines, ten feet from any structures.*
For City Use ▪ Yes ▪ No ▪ N/A	**DRAINAGE FROM IMPERVIOUS AND PERVIOUS AREAS** Is the surface runoff from paved areas conveyed to an appropriate collection point, catch basin, yard drain, strip drain, etc.? Is the drainage for areas that are graded, or landscaped, collected and conveyed off-site? *Any runoff or ground water that would normally leave the site must be conveyed to the City storm system in an approved method. The method of collection and conveyance may include structures, drains, exfiltration trenches, or other structures so designed for such purposes. The Public Works Department must approve all methods.*