

VICINITY MAP

PARCEL # 409950-0430

LEGAL: LAKE VIEW PLACE EAST SEATTLE N 1/2 OF LOT 14 ALL OF LOTS 15 THRU 17
Plat Block: 4
Plat Lot: 14-17

SLOPE LESS THAN 15% ALLOWABLE: 40%
LOT SIZE: 10,500 SF
ALLOWABLE IMPERVIOUS AREA: 4,200 SF

1ST LEVEL: 2,120 SF
2ND LEVEL: 2,070 SF
TOTAL: 4,190 SF
GROSS FLOOR AREA: 4,190 SF
BASE HEIGHT 30'

TOTAL LOT AREA: 10,500 SF
PRO. BUILDING FOOTPRINT INCLUDING GARAGE: 2,184 SF
PRO. CONCRETE DRIVEWAY: 531.8 SF
PRO. WALKWAY/PAVER: 116.5 SF
TOTAL PROPOSED IMPERVIOUS: 2,832.3 SF
TOTAL% PROPOSED IMPERVIOUS COVERAGE = 27%

TOTAL NEW AND REPLACED IMPERVIOUS AREAS = 2,944.65 SF OR 28%

TOTAL LOT AREA: 10,500 SF
EX. FOOTING BUILDING: TBD (1,664 SF)
EX. PARKING CARPORT: TBD (360 SF)
EX. CONCRETE DRIVEWAY: TBD (517 SF)
EX. CONCRETE: TBD (28.33 SF)
EX. SHED: REMAINED (112.35 SF)
TOTAL EX. IMPERVIOUS: 2,681.68 SF
TOTAL% EX. IMPERVIOUS COVERAGE = 25.5%

TOTAL EX. IMPERVIOUS REPLACEMENT = 2,569.33 OR 24.5% COVERAGE
EX. DESKS: TBD (1,086.46 SF)
EX. BRICKS: TBD (407.94 SF)
EX. BRICKS: REMAINED (105.16 SF)

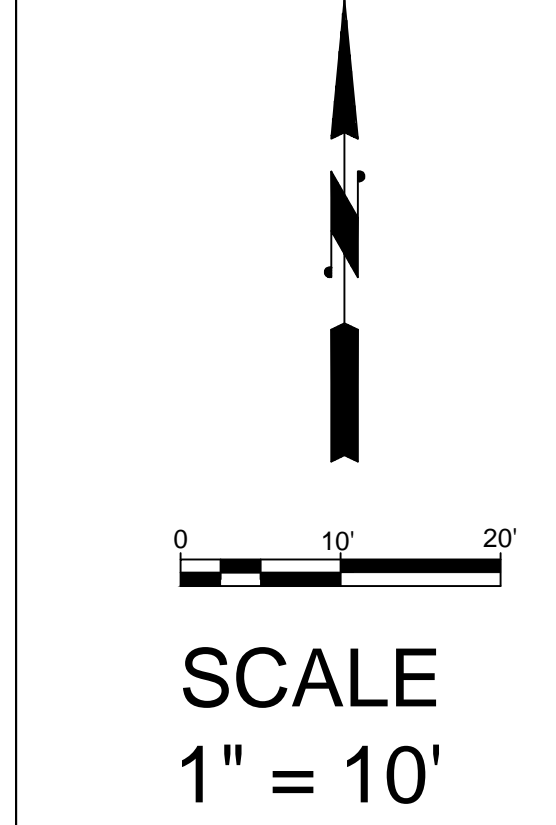
NOTE: SITE PLAN PROVIDED BY ATLAS ARCHITECT AND TOPO PROVIDED BY THOMAS-SITE SURVEYING, INC.

NOTE: THE UTILITY LOCATIONS MUST BE LOCATED BY THE CONTRACTOR BEFORE DIGGING. THE ENGINEER HAS NO RESPONSIBILITY FOR ANY UTILITIES HEREON GRAFTED ON THIS PLAN. CALL 811 BEFORE DIGGING.

THE LAWN AND LANDSCAPE AREAS ARE EXPECTED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP T5.13.

THE PROJECT CIVIL ENGINEER MUST PROVIDE A LETTER OF CERTIFICATION TO INSURE THAT THE LAWN AND LANDSCAPE AREAS ARE MEETING THE POST CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS SPECIFIED ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION OF THE PROJECT

- NOTES:
- SITE PLAN PROVIDED BY ATLAS ARCHITECTS
 - SURVEY PROVIDED BY SITE SURVEYING INC.
 - CALL 1-800-424-5555 BEFORE YOU DIG
 - CONTRACTOR TO FIELD VERIFY ELEVATIONS PRIOR TO CONSTRUCTION
 - RE-USE EXISTING SEWER SERVICE
 - CIVIL ENGINEER TO PROVIDE LETTER THAT POST-CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS ARE MET PER BMP T5.13
 - A TV INSPECTION OF THE SIDE SEWER WILL BE REQUIRED AND MUST BE ACCEPTED BY THE CITY OF MERCER ISLAND
 - THE EXISTING WATER SERVICE SHALL BE CAPPED AND ABANDONED AT THE WATER MAIN IF REPLACED
 - ALL EXISTING BUILDING AND PAVEMENT TO BE REMOVED
 - CONTRACTOR MUST POT-HOLE STREET TO LOCATE UTILITIES PRIOR TO CONSTRUCTION
 - PLAN MAY REQUIRE MODIFICATION AND REVIEW BY CITY AFTER POT-HOLING UTILITIES



NO	DATE	BY	APPR	REVISIONS
1	3/14/23	bpa	bpa	CHANGE End CBs TO 54 INCH RIM TO 114
2	4/12/23	bpa	bpa	2 FT WALL FOR PLANTER AROUND MANHOLES

ANSTEY ENGINEERING
ae 8627 NE 180th Street
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4/12/2023

Approved By

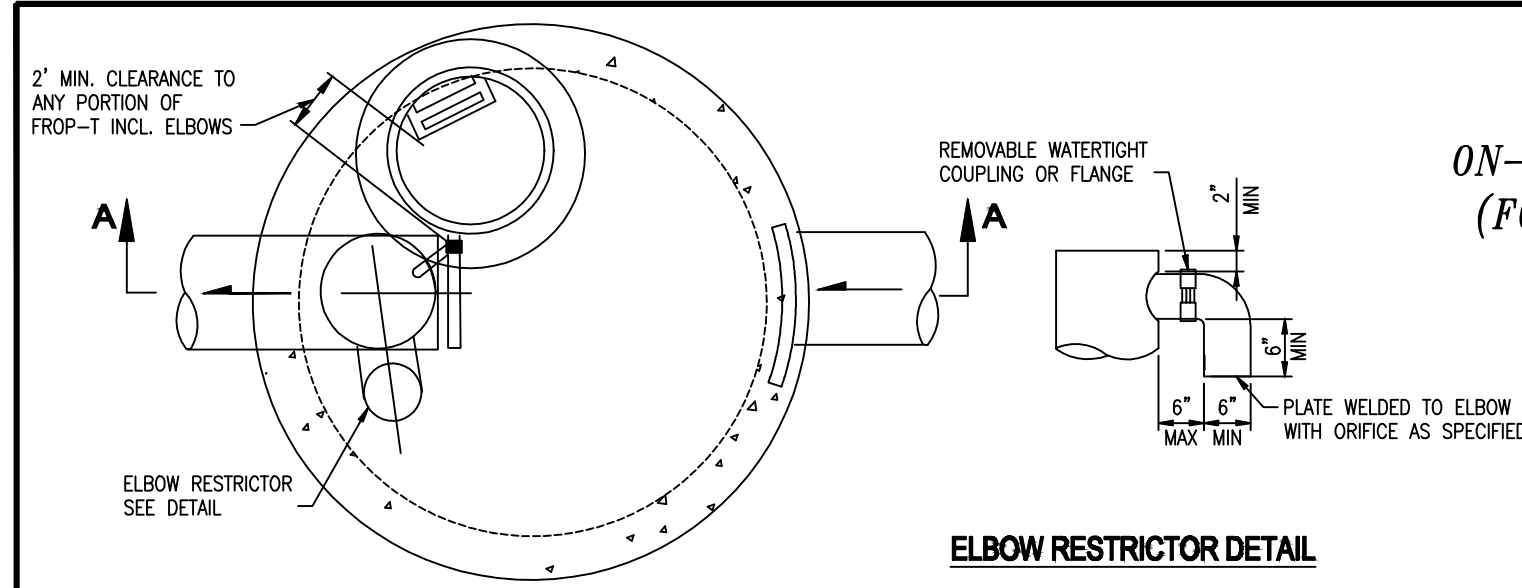
BPA 12/17/19
DESIGNED BY DATE
BPA 12/17/19
DRAWN BY DATE
CHECKED BY DATE

MINGQIN LI & SUN YONG
2423 63RD AVE SE
MERCER ISLAND, WA 98040

SITE & DRAINAGE PLAN

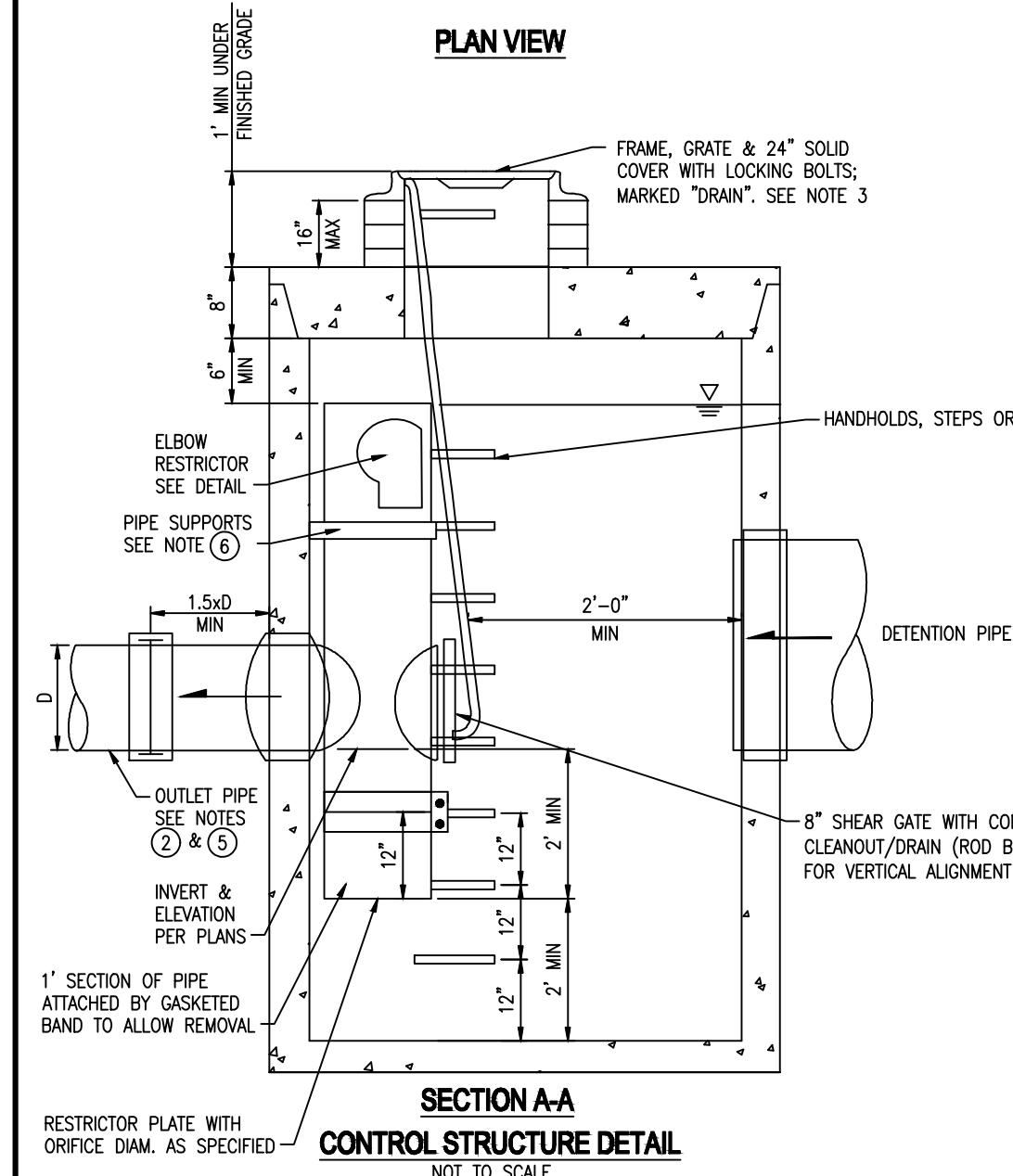
AE2019-84 SHT 1 OF 2

**ATTACHMENT 1
CITY OF MERCER ISLAND
ON-SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS
AREA OF 9,500 SF OR LESS)**

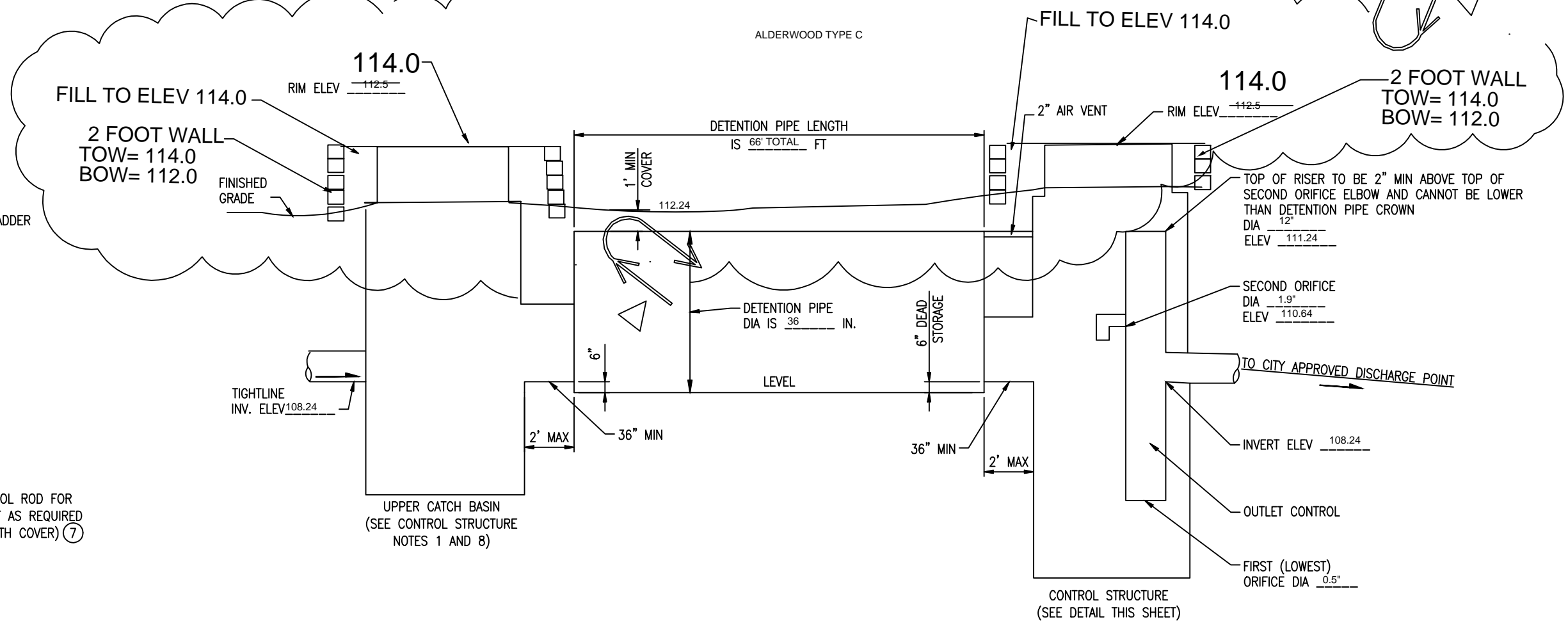


ELBOW RESTRICTOR DETAIL

OWNER: YONG ADDRESS: 2423 63RD AVE SE PREPARED BY: ANSTEY ENGINEERING
 PERMIT #: _____ MERCER ISLAND, WA PHONE: 206-303-7639
 DATE: 8-17-2020
 NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): _____ DETENTION PIPE DIA (INCH): 36" DETENTION PIPE LENGTH (FT): 66" ORIFICE #1 DIA 0.5" INCH, ELEV 108.24
 SOIL TYPE: ALDERWOOD TYPE C PIPE MATERIAL: LCPE ORIFICE #2 DIA 1.0" INCH, ELEV 110.64



**SECTION A-A
CONTROL STRUCTURE DETAIL
NOT TO SCALE**



**ON-SITE DETENTION SYSTEM
NOT TO SCALE (ENGINEER TO FILL IN BLANKS)**

CONTROL STRUCTURE NOTES:

- USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
- OUTLET PIPE: MIN. 6 INCH.
- METAL PARTS: CORROSION RESISTANT, NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
- FRAME AND LADDER OR STEPS OFFSET SO:
 - A. CLEANOUT GATE IS VISIBLE FROM TOP.
 - B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE.
 - C. FRAME IS CLEAR OF CURB.
- IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
- PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
- THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION Z632A, OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION). IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
- THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON-SITE DETENTION SYSTEM NOTES:

- CALL DEVELOPMENT SERVICES (206-275-7605) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
- RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE PIPE MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
- PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 9.05 OF THE WSDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION. LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING, LINED CORRUGATED POLYETHYLENE PIPE (LOPE), ALUMINIZED PIPE 2 CORRUGATED STEEL PIPE AND PIPE ARCH (MEETS AASHTO DESIGNATIONS M274 AND M36), CORRUGATED OR SPIRAL RIB ALUMINUM PIPE, OR REINFORCED CONCRETE PIPE. CORRUGATED STEEL PIPE IS NOT ALLOWED.
- FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

Table 1
ON-SITE DETENTION DESIGN FOR PROJECTS BETWEEN 500 SF AND 9,500 SF NEW PLUS REPLACED IMPERVIOUS SURFACE AREA

New and Replaced Impervious Surface Area (sf)	Detention Pipe Diameter (in)	Detention Pipe Length (ft)		Lowest Orifice Diameter (in) ⁽¹⁾		Distance from Outlet Invert to Second Orifice (ft)		Second Orifice Diameter (in)	
		B soils	C soils	B soils	C soils	B soils	C soils	B soils	C soils
500 to 1,000 sf	36"	30	22	0.5	0.5	2.2	2.0	0.5	0.8
	48"	18	11	0.5	0.5	3.3	3.2	0.9	0.8
	60"	11	7	0.5	0.5	4.2	3.4	0.5	0.6
1,001 to 2,000 sf	36"	66	43	0.5	0.5	2.2	2.3	0.9	1.4
	48"	34	23	0.5	0.5	3.2	3.6	0.9	1.2
	60"	22	14	0.5	0.5	4.3	3.6	0.9	0.9
2,001 to 3,000 sf	36"	90	66	0.5	0.5	2.2	2.4	0.9	1.9
	48"	48	36	0.5	0.5	3.1	2.8	0.9	1.5
	60"	30	20	0.5	0.5	4.2	3.7	0.9	1.1
3,001 to 4,000 sf	36"	120	78	0.5	0.5	2.4	2.2	1.4	1.6
	48"	62	42	0.5	0.5	2.8	2.9	0.8	1.3
	60"	42	26	0.5	0.5	3.8	3.9	0.9	1.3
4,001 to 5,000 sf	36"	144	91	0.5	0.5	2.8	2.2	1.7	1.5
	48"	73	49	0.5	0.5	3.6	2.9	1.6	1.5
	60"	46	31	0.5	0.5	4.6	3.5	1.8	1.3
5,001 to 6,000 sf	36"	162	109	0.5	0.5	2.7	2.2	1.8	1.6
	48"	90	59	0.5	0.5	3.5	2.9	1.7	1.5
	60"	54	37	0.5	0.5	4.6	3.6	1.6	1.4
6,001 to 7,000 sf	36"	192	128	0.5	0.5	2.7	2.2	1.9	1.8
	48"	102	68	0.5	0.5	3.7	2.9	1.9	1.6
	60"	64	43	0.5	0.5	4.6	3.6	1.8	1.5
7,001 to 8,000 sf	36"	216	146	0.5	0.5	2.8	2.2	2.0	1.9
	48"	119	79	0.5	0.5	3.8	2.9	2.2	1.7
	60"	73	49	0.5	0.5	4.5	3.6	2.0	1.6
8,001 to 8,500 sf ⁽²⁾	36"	228	155	0.5	0.5	2.8	2.2	2.1	1.9
	48"	124	84	0.5	0.5	3.7	2.9	1.9	1.8
	60"	77	53	0.5	0.5	4.6	3.6	2.0	1.6
8,501 to 9,000 sf	36"	NA ⁽³⁾	164	0.5	0.5	NA ⁽³⁾	2.2	NA ⁽³⁾	1.9
	48"	NA ⁽³⁾	89	0.5	0.5	NA ⁽³⁾	2.9	NA ⁽³⁾	1.9
	60"	NA ⁽³⁾	55	0.5	0.5	NA ⁽³⁾	3.6	NA ⁽³⁾	1.7
9,001 to 9,500 sf ⁽²⁾	36"	NA ⁽³⁾	174	0.5	0.5	NA ⁽³⁾	2.2	NA ⁽³⁾	2.3
	48"	NA ⁽³⁾	94	0.5	0.5	NA ⁽³⁾	2.9	NA ⁽³⁾	2.0
	60"	NA ⁽³⁾	58	0.5	0.5	NA ⁽³⁾	3.7	NA ⁽³⁾	1.7

Notes:

- Minimum Requirement #7 (Flow Control) is required when the 100-year flow frequency causes a 0.15 cubic feet per second increase (when modeled in WWHM with a 15-minute timestep). Breakpoints shown in this table are based on a flat slope (0-5%). The 100-year flow frequency will need to be evaluated on a site-specific basis for projects on moderate (5-15%) or steep (>15%) slopes.
- Soil type to be determined by geotechnical analysis or soil map.
- Sizing includes a Volume Correction Factor of 120%.
- Upper bound contributing area used for sizing.

Basis of Sizing Assumptions:
 Sized per MRE's in the Stormwater Management Manual for Puget Sound Basin (1992 Ecology Manual) SBLM, Type 1A, 24-hour hydrograph
 2-year, 24-hour storm = 2 in; 10-year, 24-hour storm = 3 in; 100-year, 24-hour storm = 4 in
 Predeveloped = second growth forest (CN = 72 for Type B soils, CN = 81 for Type C soils)
 Developed = impervious (CN = 98)
 0.5 foot of sediment storage in detention pipe
 Overland slope = 5%

**Model # 864G
Internet #100187441
Store SKU #302950**

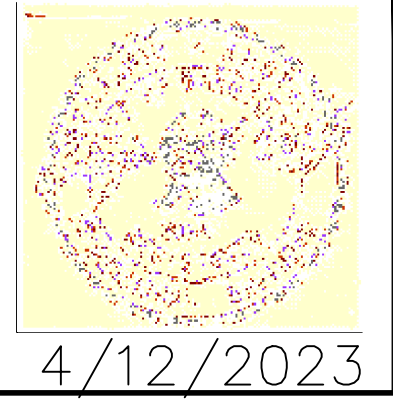


Pro Series 5 in. x 40 in. Channel and Grate Kit with End Outlet

- Pre-assembled channel drain decrease installation time.
- Modular design makes channel drain flexible for longer runs.
- Interlocking channel design eliminates the need for couplings. \$52.43 / each

NO	DATE	BY	APPR	REVISIONS
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2	4/12/23	bpa	bpa	2 FT WALL FOR PLANTER AROUND MANHOLES

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Approved By

BPA 12/17/19
DESIGNED BY DATE
BPA 12/17/19
DRAWN BY DATE
CHECKED BY DATE

MINGQIN LI & SUN YONG
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 MERCER ISLAND, WA 98040

**SITE & DRAINAGE
PLAN DETAILS**
 AE2019-84 SHT 2 OF 2