GENERAL NOTES

THESE DRAWINGS ARE THE PROPERTY OF THE ARCHITECT/DESIGNER AND MAY BE REPRODUCED ONLY WITH THE WRITTEN PERMISSION OF THE ARCHITECT/DESIGNER. AUTHORIZED REPRODUCTIONS MUST BEAR THE NAME OF THE ARCHITECT/DESIGNER, COPYRIGHT 2018 BY DME CONSTRUCTION. THESE DRAWINGS ARE FULLY PROTECTED BY FEDERAL AND STATE COPYRIGHT LAWS. ANY INFRINGEMENT WILL BE VIGOROUSLY PROSECUTED.

THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODES:
* 2018 INTERNATIONAL RESIDENTIAL CODE
* 2018 WASHINGTON STATE ENERGY CODE
* 2018 INTERNATIONAL MECHANICAL CODE
* 2018 INTERNATIONAL PLUMBING CODE
* 2018 INTERNATIONAL FIRE CODE

CONTRACTORS RESPONSIBILITY

CONTRACTOR TO VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBER SIZES PRIOR TO CONSTRUCTION.

CONTRACTOR TO INFORM ARCHITECT/DESIGNER OF ANY DISCREPANCIES IN THE DRAWINGS OR FROM THE CODES.

CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT/DESIGNER AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON THE DRAWINGS ONLY WILL NOT SATISFY THE REQUIREMENT.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED, ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNICAL, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

ALL STRUCTURAL SYSTEMS SUCH AS WOOD TRUSSES WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH THE INSTRUCTIONS PREPARED BY THE SUPPLIER.

THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ARCHITECT/DESIGNER IF UNUSUAL, UNFORESEEABLE, OR UNEXPECTED SUBSURFACE CONDITIONS ARE ENCOUNTERED.

DRAWINGS

GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH WORK. DO NOT SCALE DRAWINGS.

NOTIFY ARCHITECT CONCERNING QUESTIONS, CHANGES, CONFLICTS OR OMMISIONS. IN THE EVENT OF CONFLICTS OR CHANGES BETWEEN DETAILS OR BETWEEN THE PLANS AND SPECIFICATIONS, NOTIFY ARCHITECT IMMEDIATELY. OBTAIN CLARIFICATION BEFORE PROCEEDING.

FACE OF FRAMING IS TO BE FLUSH WITH FACE OF CONCRETE, UNLESS OTHERWISE INDICATED.

THE TYPICAL EXTERIOR DIMENSIONS ARE TO FACE OF CONCRETE AND/OR FACE OF FRAMING. INTERIOR DIMENSIONS ARE TO FACE OF FRAMING, UNLESS OTHERWISE INDICATED.

DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS
ARE NOT SPECIFICALLY INDICATED BUT ARE SIMILAR IN CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. REFER TO ARCHITECTURAL DRAWINGS FOR OPENINGS, ARCHITECTURAL REQUIREMENTS AND DIMENSIONS.

INFORMATION CONTAINED WITHIN THESE DRAWINGS WITH REGARD TO EXISTING CONDITIONS IS PROVIDED FOR THE CONVENIENCE OF THE GENERAL CONTRACTOR. ALL ATTEMPTS HAVE BEEN MADE TO ACCURATELY REPRESENT THE EXISTING BUILDING AND SURROUNDINGS VIA OWNER SUPPLIED AS-BUILTS AND FIELD VERIFICATION. THE GENERAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK TO AVOID UNREASONABLE DELAYS TO THE SCHEDULE.

ALL DRAWINGS OF EXISTING CONDITIONS ARE FOR REFERENCE ONLY, ALL EXISTING CONDITIONS SHALL BE FIELD VERIFIED.

SITE

N/A

SOILS

CONTRACTOR TO VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBER SIZES PRIOR TO CONSTRUCTION.

CONTRACTOR TO INFORM ARCHITECT/DESIGNER OF ANY DISCREPANCIES IN THE DRAWINGS OR FROM THE CODES.

CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT/DESIGNER AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON THE DRAWINGS ONLY WILL NOT SATISFY THE REQUIREMENT.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED, ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNICAL, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

ALL STRUCTURAL SYSTEMS SUCH AS WOOD TRUSSES WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH THE INSTRUCTIONS PREPARED BY THE SUPPLIER.

THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ARCHITECT/DESIGNER IF UNUSUAL, UNFORESEEABLE, OR UNEXPECTED SUBSURFACE CONDITIONS ARE ENCOUNTERED.

PERVIOUS PAVERS

N/A

MATERIALS / ASSEMBLIES

CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL WORK AND MATERIALS IN ACCORDANCE WITH ALL APPLICABLE COUNTY, LOCAL BUILDING AND FIRE CODES
AS REQUIRED.

ALL WOOD AND SONITUBE FORMS USED FOR CONCRETE IN THE GROUND OR BETWEEN FOUNDATION SILLS & THE GROUND SHALL BE REMOVED.

ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED WOOD OR ANY SPECIES OR FOUNDATION GRADE CEDAR OR REDWOOD. ALL MARKED BY AN APPROVED TESTING AGENCY.

PROVIDE 90# FELT BETWEEN POSTS & CONCRETE.

PROVIDE DRAFT STOPS, FIRE BLOCKING, AND FIRESTOPS AS REQUIRED BY CODE.

FLASHING AND COUNTER FLASHING TO BE MIN. 24 GAUGE OF CORROSION- RESISTANT METAL, AND SHALL BE INSTALLED IN COMPLIANCE WITH LOCAL BUILDING CODES AND MANUFACTURES RECOMMENDATIONS.

GENERAL CONTRACTOR SHALL PROVIDE BLOCKING FOR ALL WALL-MOUNTED HARDWARE, TOILET ACCESSORIES, TOWEL BARS, LIGHT FIXTURES, BUILT-INS, ETC.,. AS REQUIRED FOR SECURE AND PROPER INSTALLATION.

ALL INTERIOR WALLS & CEILINGS SHALL HAVE 5/8" TYPE 'C' GYP. BD. (FIRECODE C CORE).

PROVIDE AN APPLICATION OF JOHN MANVILLE IGNITION BARRIER COATING AS AN IGNITION BARRIER OVER OPEN AND CLOSED-CELL SPRAY FOAM INSULATION IN MAIN FLOOR CEILING AND FLOOR OVER OCCUPIED SPACE.

PROVIDE A UL RATED "CLASS A" FIRE RESISTANT ROOFING MEMBRANE WHERE APPLICABLE.

ALL EXTERIOR DECKS TO BE CONSTRUCTED WITH PRESSURE TREATED WOOD.

VAPOR BARRIER BELOW SLABS ON GRADE TO BE 6 MIL POLYETHYLENE, PER SPECIFICATIONS.

ALL COUNTERS TO BE 36" A.F.F. UNLESS OTHERWISE NOTED.

PROVIDE 1 HR. FIRE RATED ASSEMBLY BETWEEN GARAGE AND LIVING SPACE.

MINIMUM STAIRWAY REQUIREMENTS ARE AS FOLLOWS: 36" MIN. WIDTH, 6'-8" MIN. HEADROOM, 8" MAX. RISE AND 9" MIN. RUN FOR (4) OR MORE RISERS. PROVIDE A HANDRAIL 34"-38" A.F.F. HAND GRIP PORTION TO BE CONTINUOUS AND 1 1/4"-2" IN CROSS SECTION WITH BOTH ENDS RETURNED. THERE SHALL BE A SPACE OF NOT LESS THAN 1 1/2" BETWEEN THE WALL AND THE HANDRAIL. GUARD RAILS SHALL BE IN ACCORDANCE WITH 2018 IRC, SECTION R312.

BATHTUB, SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND SHOWER ENCLOSURES SHALL BE FINISHED WITH A NONABSORBENT SURFACE A MINIMUM OF 6' ABOVE THE FLOOR PER 2018 IRC, R307.2.

WALLS

INSULATED WITH R-21 BATT (FOR 2x6 WALLS) AND R-21 SPRAY (FOR 2X4 WALLS), UNLESS NOTED OTHERWISE.

FLOORS

PROVIDE R-30 BATT INSULATION OVER UNHEATED SPACE, UNLESS NOTED OTHERWISE.

ROOFS AND CEILINGS

INSULATED WITH R-49 BATT, UNLESS NOTED OTHERWISE. PROVIDE INSULATION IN CEILING WHERE POSSIBLE AND IN RAFTERS IF VAULTED CEILING USE R-38 BATT, IF CONDITION EXISTS. MAINTAIN A MIN. OF 1" CLEAR BETWEEN TOP OF INSULATION AND BOTTOM OF SHEATHING FOR VENTING. VENTING MUST OCCUR IN EACH JOIST SPACE. WHERE CONTINUOUS VENTING WITHIN A JOIST SPACE IS INTERUPTED BY A HEADER (I.E. SKYLIGHT OR AT HIP END), PROVIDE (2) H/2" VENTING HOLES AT THE TOP OF THE RAFTER AT THE HEADER TO ALLOW FOR CONTINUAL THROUGH VENTING INTO THE ADJACENT JOIST SPACE.

SLAB ON GRADE

PROVE EXTRUDED RIGID CLOSE CELL INSULATION R-10. INSULATION TO PROVIDE THERMAL BREAK BETWEEN SLAB AND FOOTING AND RUN FROM TOP OF SLAB TO THE BOTTOM OF FOOTING. INSULATION MAY BE INTERRUPTED FOR 6" EVERY 2'-0" TO ALLOW FOR DOWELING TO TIE SLAB AND FOOTING TOGETHER.

VAPOR BARRIER

AN APPROVED 10 MIL. VAPOR BARRIER SHALL BE INSTALLED AT EXTERIOR WALLS AND AT ROOF DECKS, BELOW ENCLOSED JOIST SPACES WHERE CEILING FINISHES ARE DIRECTLY INSTALLED TO JOIST, AND ANY OTHER WALL OR CEILING SURFACES WHICH RECEIVE INSULATION. THIS VAPOR BARRIER MAY BE A COMPONENT OF THE INSULATION MATERIAL. APPLICATION AND INSTALATIONS OF THE INSULATION AND VAPOR BARRIERS SHALL COMPLY WITH STAT OF WASHINGTON THERMAL UNSULATION STANDARDS (HB %)

ENERGY

ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE IRC 2018 AND THE WASHINGTON STATE ENERGY CODE, LATEST EDITION. VERIFY ALL CONDITIONS BEFORE PROCEEDING WITH WORK..

ALL WOOD AND SONITUBE FORMS USED FOR CONCRETE IN THE GROUND OR BETWEEN FOUNDATION SILLS & THE GROUND SHALL BE REMOVED.

ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED WOOD OR ANY SPECIES OR FOUNDATION GRADE CEDAR OR REDWOOD. ALL MARKED BY AN APPROVED TESTING AGENCY.

PROVIDE 90# FELT BETWEEN POSTS & CONCRETE.

PROVIDE DRAFT STOPS, FIRE BLOCKING, AND FIRESTOPS AS REQUIRED BY CODE.

FLASHING AND COUNTER FLASHING TO BE MIN. 24 GAUGE OF CORROSION- RESISTANT METAL, AND SHALL BE INSTALLED IN COMPLIANCE WITH LOCAL BUILDING CODES AND MANUFACTURES RECOMMENDATIONS.

GENERAL CONTRACTOR SHALL PROVIDE BLOCKING FOR ALL WALL-MOUNTED HARDWARE, TOILET ACCESSORIES, TOWEL BARS, LIGHT FIXTURES, BUILT-INS, ETC.,. AS REQUIRED FOR SECURE AND PROPER INSTALLATION.

ALL INTERIOR WALLS & CEILINGS SHALL HAVE 5/8" GYP. BD.

APPLICATION INSTALLATIONS OF INSULATION AND VAPOR BARRIERS SHALL COMPLY WITH STATE OF WASHINGTON THERMAL INSULATION STANDARDS (HB 98).

PROVIDE A UL RATED "CLASS A" FIRE RESISTANT ROOFING MEMBRANE WHERE APPLICABLE.

FLOOR INSULATION SHALL BE INSTALLED TO MAINTAIN PERMANENT CONTACT WITH THE UNDERSIDE OF THE SUBFLOOR DECKING. INSULATION SUPPORTS SHALL BE INSTALLED SO SPACING IS NO MORE THAN 24" O.C. FOUNDATION VENTS SHALL BE PLACED SO THAT THE TOP OF THE VENT IS BELOW THE LOWER SURFACE OF THE FLOOR INSULATION PER 2018 IRC, R402.2.7.

PROVIDE AN EAVE BAFFLE FOR AIR PERMEABLE INSULATION IN THE VENTED ATTIC MAINTAINING AN OPENING EQUAL OR GREATER THAN THE SIZE OF THE VENT EXTENDING OVER THE TOP OF THE INSULATION PER 2018 IRC, R402.2.3.

PROVIDE AND SPECIFY HIGH-EFFICIENCY FIXTURES FOR ALL OUTDOOR LIGHTING ATTACHED TO THE BUILDING OR PROVIDE PHOTO DAYLIGHT CONTROL AND A MOTION SENSOR PER 2018 IRC.

PROVIDE AND SPECIFY THAT 75% OF PERMANENTLY INSTALLED LAMPS IN LIGHTING FIXTURES SHALL BE HIGH-EFFICIENCY LAMPS PER 2018 IRC, R404.1.

SECTION R406
ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS
R406.1 SCOPE. THIS SECTION ESTABLISHES OPTIONS FOR ADDITIONAL CRITERIA TO BE MET FOR ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES, AS DEFINED IN SECTION 101.2 OF THE INTERNATIONAL RESIDENTIAL CODE TO DEMONSTRATE COMPLIANCE WITH THIS CODE.
R406.2 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS (MANDATORY). EACH DWELLING UNIT IN ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES, AS DEFINED IN SECTION 101.2 OF THE INTERNATIONAL RESIDENTIAL CODE SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 SO AS TO ACHIEVE THE FOLLOWING MINIMUM NUMBER OF CREDITS: 2018 WASHINGTON STATE ENERGY CODE R8-33

1. SMALL DWELLING UNIT; ..... 3 POINTS DWELLING UNITS LESS THAN 1500 SQUARE FEET IN CONDITIONED FLOOR AREA WITH LESS THAN 300 SQUARE FEET OF FENESTRATION AREA. ADDITIONS TO EXISTING BUILDING THAT ARE LESS THAN 730 SQUARE FEET OF HEATED FLOOR AREA.
2. MEDIUM DWELLING UNIT; ..... 4 POINTS ALL DWELLING UNITS THAT ARE NOT INCLUDED IN #1 OR #3.
3. LARGE DWELLING UNIT; ..... 7 POINTS DWELLING UNITS EXCEEDING 5000 SQUARE FEET OF CONDITIONED FLOOR AREA.
THE DRAWINGS INCLUDED WITH THE BUILDING PERMIT APPLICATION SHALL IDENTIFY WHICH OPTIONS HAVE BEEN SELECTED AND THE POINT VALUE OF EACH OPTION, REGARDLESS OF WHETHER SEPARATE MECHANICAL, PLUMBING, ELECTRICAL, OR OTHER PERMITS ARE UTILIZED FOR THE PROJECT.

TABLE 406.2 - ENERGY CREDITS (DEBITS) OPTION DESCRIPTION CREDIT(S)

1a - EFFICIENT BUILDING ENVELOPE 1a:
PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS
FENESTRATION U .= 0.28
FLOOR R-38
SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB
BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB
OR
COMPLIANCE BASED ON SECTION R402.1.4: REDUCE THE TOTAL UA BY 5%. 0.5

1b - EFFICIENT BUILDING ENVELOPE 1b:
PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS
FENESTRATION U .= 0.25
WALL R-21 PLUS R-4
FLOOR R-38
BASEMENT WALL R-21 INT PLUS R-5 CI SPRAY FOAM
SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB
BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB
OR
COMPLIANCE BASED ON SECTION R402.1.4: REDUCE THE TOTAL UA BY 15%. 1.0

1c EFFICIENT BUILDING ENVELOPE 1c:
PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS: FENESTRATION U .= 0.22
CEILING AND SINGLE-RAFTER OR JOIST-VAULTED R-49 ADVANCED
WOOD FRAME WALL R-21 INT PLUS R-12 CI
FLOOR R-38
BASEMENT WALL R-21 INT PLUS R-12 CI
SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB
BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB
OR
COMPLIANCE BASED ON SECTION R402.1.4: REDUCE THE TOTAL UA BY 30%. 2.0

2a - AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2a:
COMPLIANCE BASED ON R402.4.1.2: REDUCE THE TESTED AIR LEAKAGE TO 4.0 AIR CHANGES PER HOUR MAXIMUM
AND
ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE SHALL BE MET WITH A HIGH EFFICIENCY FAN (MAXIMUM 0.35 WATTS/CFM), NOT INTERLOCKED WITH THE FURNACE FAN. VENTILATION SYSTEMS USING A FURNACE INCLUDING AN ECM MOTOR ARE ALLOWED, PROVIDED THAT THEY ARE CONTROLLED TO OPERATE AT LOW SPEED IN VENTILATION ONLY MODE. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE MAXIMUM TESTED BUILDING AIR LEAKAGE AND SHALL SHOW THE HEAT RECOVERY VENTILATION SYSTEM.

3a - HIGH EFFICIENCY HVAC EQUIPMENT 3a:
GAS, PROPANE OR OIL-FIRED FURNACE WITH MINIMUM AFFUE OF 95% OR GAS, PROPANE OR OIL-FIRED BOILER WITH MINIMUM AFUE OF 92%.
TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE HEATING EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.

5b - EFFICIENT WATER HEATING 5b:
WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING: GAS, PROPANE OR OIL WATER HEATER WITH MINIMUM EF OF 0.82
OR
ELECTRIC HEAT PUMP WATER HEATER WITH A MINIMUM EF OF 2.0 AND MEETING THE STANDARDS OF NEEA'S NORTHERN CLIMATE SPECIFICATIONS FOR HEAT PUMP WATER HEATERS
OR
WATER HEATER HEATED BY GROUND SOURCE HEAT PUMP MEETING THE REQUIREMENTS OF OPTION 3c.
TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY AND, FOR SOLAR WATER HEATING SYSTEMS, THE CALCULATION OF THE MINIMUM ENERGY SAVINGS.

WINDOWS / DOORS

IN EACH SLEEPING ROOM AN EGRESS WINDOW OR DOOR SHALL BE PROVIDED THAT HAS 5.7 SF. OF CLEAR NET OPERABLE AREA. THE SMALLEST CLEAR MIN. DIMENSION SHALL NOT BE LESS THAN 20" IN WIDTH OR 24" IN HEIGHT. WINDOW SILLS IN SLEEPING ROOMS NOT TO EXCEED 44" ABOVE FLOOR PER 2018 IRC, R310 & 310.1.

ALL WINDOWS TO BE DOUBLE-GLAZED WITH A MINIMUM U-VALUE OF 0. 30 OR BETTER.

ALL GLAZING IN A DOOR OR WITHIN 12" OF DOOR, OR WITHIN 18" OF FLOOR OR WITHIN 60" OF TUB FLOOR, OR ANY OTHER HAZARDOUS AREA PER CODE. TO BE TEMPERED SAFETY GLASS.

20 MIN., SELF-CLOSING DOOR W/ WEATHER STRIPPING REQUIRED AT GARAGE ENTRANCE TO LIVING SPACE.

PROVIDE AT LEAST ONE EGRESS DOOR THAT IS SIDE HINGED WITH A MINIMUM CLEAR OPEN WIDTH OF 32" (.86" WIDE DOOR) AND MINIMUM CLEAR HEIGHT OF NOT LESS THAN 78" PER 2018 IRC, R311.2.

WINDOW SILLS - WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72" ABOVE FINISHED GRADE OR SURFACE BELOW, THE SILL SHALL BE A MINIMUM OF 24" ABOVE THE FINISHED FLOOR OF THE ROOM IT IS IN. OPERABLE SECTIONS OF WINDOWS SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF 4" DIAMETER SPHERE WHERE OPENINGS ARE WITHIN 24" OF THE FLOOR PER 2018 IRC, R312.2.1.

SKYLIGHT GLAZING MATERIAL TO MEET ALL REQUIREMENTS PER 2018 IRC, R308.6.2.

PROVIDE MINIMUM 4" CURB HEIGHT FOR SKYLIGHTS PER 2018 IRC, R308.6.8.

GLAZING

TO BE IN COMPLIANCE WITH IRC 2018, SECTION R308 AND WASHINGTON STATE SAFETY OR TEMPERED GLASS. EXCEPTIONS ARE AS OUTLINED IN IRC 2018, SECTION R308.4. HAZARDOUS LOCATIONS ARE:

1. GLAZING IN ALL FIXED AND PREAMBLE PANELS OF SWINGING, SLIDING AND BI-FOLD DOORS.
2. GLAZING IN ALL INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60" ABOVE THE FLOOR OR WALKING SURFACE.
3. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
   3.1 THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 S.F.
   3.2 THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18" ABOVE THE FLOOR.
   3.3 THE TOP EDGE OF THE GLAZING IS MORE THAN 36" ABOVE THE FLOOR..
   3.4 ONE OR MORE WALKING SURFACES ARE WITHIN 36", MEASURED HORIZONTALLY AND IN A STRAIGHT LINE OF THE GLAZING.
4. ALL GLAZING IN RAILINGS REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE. INCLUDED ARE STRUCTURAL BALUSTER PANELS AND NONSTRUCTURAL INFILL PANELS.
5. GLAZING IN ENCLOSURES FOR OR WALLS FACING HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM-ROOMS, BATHTUBS AND SHOWERS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE.

ATTIC

APPLY ROOFING IN ACCORDANCE WITH IRC 2018, SECTION R905. PROVIDE ATTIC VENTILATION AS INDICATED ON ROOF FRAMING PLANS/ROOF DETAILS.

ATTIC VENTILATION: THE TOTAL NET FREE VENTILATION AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT REDUCTION OF THE TOTAL AREA TO 1/300 IS PERMITTED PROVIDED THAT AT LEAST 50% AND NOT MORE THAN 80% OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE THE EAVE OR CORNICE VENTS. AS AN ALTERNATE, THE NET FREE CROSS VENTILATION AREA MAY BE REDUCED TO 1/300 WHEN A CLASS I OR II VAPOR BARRIER IS INSTALLED ON THE WARM-IN-WATER SIDE OF THE CEILING (IRC 2018, SECTION R806.2)

ATTIC ACCESS OPENING MUST BE PROVIDED FOR ALL ATTIC AREAS THAT EXCEED 30 SF. AND HAVE A VERTICAL HEIGHT OF 30" OR GREATER. ROUGH FRAMED OPENING MIN. 22"x30". ACCESS TO BE UNOBSTRUCTED AND READILY ACCESSIBLE. WHEN LOCATED IN A CEILING, MIN. 30" UNOBSTRUCTED HEADROOM AT SOME POINT ABOVE THE ACCESS MEASURED VERTICALLY FROM THE BOTTOM OF CEILING FRAMING MEMBERS (IRC 2018, SECTION R807.1)

PROVIDE 2" MIN. CONTINUOUS SCREEN VENT AT EACH END OF EACH RAFTER/ROOF TRUSS BAY.

VENTILATION

- PROVIDE PROPER ROOF & CRAWL SPACE VENTILATION PER 2018 IRC.
- VENT DRYER TO OUTSIDE PER MECHANICAL CODE.
- VENT ALL FANS TO OUTSIDE W/ 3' MIN. SEPARATION TO BUILDING OPENINGS.
- VENT HOT WATER TANK TO EXPANSION TANK.
- VENT DISHWASHER AT SINK.

EXHAUST MINIMUMS:
PROVIDE SOURCE SPECIFIC INTERMITTENT OPERATION EXHAUST FANS WITH THE FOLLOWING
MINIMUM STANDARDS:

BATHROOMS: 50 CFM
LAUNDRY ROOM: 190 CFM
KITCHEN HOODS & DOWNDRAFTS: 400 CFM

PROVIDE WHOLE HOUSE VENTILATION SYSTEM SO AS TO CONFORM WITH STATE VENTILATION AND INDOOR AIR CODE.
- CURRENT EDITION AND SHALL BE CAPABLE WITH THE FOLLOWING MINIMUM STANDARDS:
- BE SIZED ACCORDING TO TABLE 3-2 WSEC AT 0.25" W.G. & SOUND RATED AT 1.5 SONES MAX..
- BE CONTROLLED BY READILY ACCESSIBLE 24 HR. TIMER CAPABLE OF CONTINUOUS OPERATION WITH MANUAL & AUTOMATIC CONTROL
- INSULATED DUCTS SIZED TO MIN. R-4 & TERMINATED OUTSIDE BUILDING.

ALL UNITS WILL BE SEALED COMBUSTION DIRECT VENTS. THEY WILL HAVE TWO PVC VENTS OFF EACH UNIT, ONE EXHAUST AND ONE COMBUSTION.

DRYERS ON BOTH FLOORS WILL GO DOWN THROUGH THE FLOOR IN JOIST BAY AND OUT TO RIM. THEY WILL HAVE ONE ELBOW AND BE 12' LONG.

CRAWL VENTILATION:
TOTAL CUBIC FEET DIVIDED BY 15.124 CFM CONTINUOUSLY RUNNING.
TWO FANTECH FG-8 IN-LINE FANS, ONE INTAKE AND ONE EXHAUST.

MECHANICAL & ELECTRICAL

ALL WASTE LINES TO BE INSULATED WITH ACOUSTIC INSULATION. CAST IRON PIPING AT KEY LOCATIONS PER PLAN.

ELECTRICAL WIRING SHALL CONFORM TO THE 2018 WASHINGTON STATE ELECTRICAL CODE.

INSTALL OUTLETS AND SWITCHES AT HEIGHTS AND LOCATIONS REQUIRED BY 2018 IRC AND THE 2018 WASHINGTON STATE ELECTRICAL CODE.

LIGHTING WATTAGE SHALL MEET THE 2018 WASHINGTON STATE ELECTRICAL CODE.

PROVIDE SMOKE DETECTORS TO MEET THE 2018 IRC AND 2018 INTERNATIONAL FIRE CODE. SMOKE DETECTORS SHALL BE HARD WIRED AND EQUIPPED WITH BATTERY BACK UP. SMOKE DETECTORS SHALL SOUND AN ALARM THAT IS AUDIBLE THROUGH OUT THE BUILDING. SMOKE DETECTORS SHALL BE PLACES AT LEAST ON PER LEVEL, ONE IN EACH SLEEPING ROOM, ONE IN HALLWAY GIVING ACCESS TO THE SLEEPING ROOMS.

PROVIDE CARBON MONOXIDE DETECTORS AT ALL LEVEL PER 2018 IRC.

INSTALL A MONITORED NFPA 72 LOW VOLTAGE FIRE ALARM SYSTEM WITH HEAT SENSOR IN THE GARAGE. MONITORING COMPANY TO BE LICENSED AND BONDED.

INSTALL AN EXTERIOR SIREN CONNECTED INTO THE ALARM SYSTEM.

VERTICAL DISTANCE BETWEEN COOK TOP OF RANGE AND HOOD SHALL BE NO LESS THAN 30".

HOT WATER HEATER SHALL BE ANCHORED OR STRAPPED FOR EARTHQUAKE AND PLACED ON R-10 PAD IF LOCATED IN UNHEATED SPACE OR CONCRETE FLOOR.

PROVIDE COMBUSTION AIR FOR FURNACE PER CODE.

FURNACE AND WATER HEATER WITH IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN 18" PER IRC. M1307.

MECHANICAL EQUIPMENT (PER DIFFERRED SUBMITTAL):
NAVIEN TANKLESS WATER HEATER - MODEL# NPE-240A
AMERICAN STANDARD TWO STAGE FURNACE - MODEL # 896VA060
AMERICAN STANDARD 13 SEER AC UNIT - MODEL # RA1536

ELEVATOR (PER DEFERRED SUBMITTAL):

ELEVATOR TO BE INSTALLED PER CURRENT 2018 WASHINGTON ADMINISTRATIVE CODE (WAC) REQUIREMENTS. SEE SHOP DRAWINGS.

ELEVATOR SHALL COMPLY WITH ASME A17.1 AND B.321.

A SEPARATE PERMIT IS REQUIRED FOR ELEVATOR.

DIFFERRED SUBMITTALS:

FOUNDATION & SHORING WATERPROOFING PRODUCTS & METHODS. GAS FIREPLACES, MECHANICAL EQUIPMENT, FIRE SPRINKLERS, APPLIANCES & VENTING, EXTERIOR RAILING, WATERPROOF DECK / BISON PAVER SYSTEM & WATERPROOF MEMBRANE & FLASHING.

ENERGY DATA

ALL NEW GLAZING, DOOR U-VALUES AND INSULATION R-VALUES TO SATISFY PRESCRIPTIVE
PATH OF THE 2018 WASHINGTON STATE ENERGY CODE.

CONDITIONED FLOOR AREA: 8,168 SQ. FT.

COMPONENT PERFORMANCE PER 2018 WSEC:

	TARGET VALUE	DESIGN VALUE
NEW VERTICAL GLAZING:	U= 0.28	U= 0.28
NEW DOOR GLAZING:	U= 0.28	U= 0.28
FLAT CEILINGS:	U= 0.026(R-38)	U= 0.0135(R-75)
NEW WALLS ABOVE GRADE		
NEW 2x6 WALLS	R-21	R-21
SLAB ON GRADE:	R-10	R-10

DUCT LEAKAGE TEST RESULTS SHALL BE PROVIDED TO THE BUILDING INSPECTOR PRIOR TO AN APPROVED FINAL INSPECTION IF REQUESTED.

A RESIDENTIAL ENERGY COMPLIANCE CERTIFICATE COMPLYING WITH SEC 105.4 IS REQUIRED TO BE COMPLETED AND PERMANENTLY POSTED WITHIN 3' OF THE ELECTRICAL PANEL PRIOR TO FINAL INSPECTION, IF REQUIRED.

ALL NEW EXTERIOR WALL GLAZING SHALL BE DOUBLE GLAZED AND COMPLY WITH STATE OF WASHINGTON ENERGY CODE.

75% OF ALL LIGHT FIXTURES SHALL BE LED RECESSED
(HIGH EFFICIENCY), ALL CAN LIGHTS MUST MEET R402.4.4.

PROJECT TEAM

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ARBORIST
TOM QUIGLEY
OLYM

Window, Skylight and Door Schedule

Project Information	Contact Information
Murray Residence - Residence	Richard Flake
4803 forrest ave se	richard@rfarchitecture.com
Mercer Island, WA 98040	(253) 359-4039

	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)								0.0	0.00
Exempt Glazed Fenestration (15 sq. ft. max.)								0.0	0.00
Vertical Fenestration (Windows and doors)									
Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
2620		0.28	1	2	0	2	0	5.0	1.40
2620		0.28	1	2	0	2	0	5.0	1.40
5038		0.28	1	5	0	3	0	18.3	5.13
30110		0.28	1	3	0	11	0	33.0	9.24
18056		0.28	1	18	5	9	0	99.0	27.72
8050		0.28	1	8	0	5	0	40.0	11.20
5050		0.28	1	5	0	5	0	25.0	7.00
3056		0.28	1	3	0	5	6	16.5	4.62
3056		0.28	1	3	0	5	6	16.5	4.62
2620		0.28	1	2	0	2	0	5.0	1.40
2648		0.28	1	2	6	4	8	11.7	3.27
12040		0.28	1	12	0	4	0	48.0	13.44
5048		0.28	1	5	0	4	0	23.3	6.53
7090		0.28	1	7	0	9	0	63.0	17.64
2430		0.28	1	2	0	3	0	7.0	1.96
2038		0.28	1	2	0	3	0	7.3	2.05
2038		0.28	1	2	0	3	0	7.3	2.05
5056		0.28	1	5	0	5	0	27.5	7.70
3050		0.28	1	3	0	5	0	15.0	4.20
3050		0.28	1	3	0	5	0	15.0	4.20
8050		0.28	1	8	0	5	0	40.0	11.20
69120		0.28	1	6	0	12	0	81.0	22.68
4680		0.28	1	4	0	8	0	36.0	10.08
2630		0.28	1	2	0	3	0	7.5	2.10
5048		0.28	1	5	0	4	0	23.3	6.53
10060		0.28	1	10	0	6	0	60.0	16.80
4026		0.28	1	4	0	2	6	10.0	2.80
2026		0.28	1	2	0	2	6	5.0	1.40
10050		0.28	1	10	0	5	0	50.0	14.00
2640		0.28	1	2	0	4	0	10.0	2.80
15026		0.28	1	15	0	2	0	37.5	10.50
								0.0	0.00
3080		0.28	1	3	0	8	0	24.0	6.72
12680		0.28	1	12	0	8	0	100.0	28.00
15080		0.28	1	15	0	8	0	120.0	33.60
3880		0.28	1	3	6	8	0	29.3	8.21
15080		0.28	1	15	0	8	0	120.0	33.60
7680		0.28	1	7	0	8	0	60.0	16.80
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
Sum of Vertical Fenestration Area and UA								1302.2	364.61
Vertical Fenestration Area Weighted U = UA/Area									0.28

Overhead Glazing (Skylights)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
Sum of Overhead Glazing Area and UA								0.0	0.00
Overhead Glazing Area Weighted U = UA/Area									0.00
***Total Sum of Fenestration Area and UA** (for heating system sizing calculations)*								1302.2	364.61

Simple Heating System Size: Washington State

This heating system sizing calculator is based on the Prescriptive Requirements of the 2018 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This tool will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads.

Please complete the green drop-downs and boxes that are applicable to your project. As you make selections in the drop-downs for each section, some values will be calculated for you. If you do not see the selection you need in the drop-down options, please contact the WSU Energy Program at energycodes@energy.wsu.edu or (360) 956-2042 for assistance.

Project Information	Contact Information
Murray Residence - Residence	Richard Flake
4803 forrest ave se	richard@rfarchitecture.com
Mercer Island, WA 98040	(253) 359-4039

Heating System Type: ○ All Other Systems ● Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature
Instructions: Bellevue
Design Temperature Difference (∆T) 46
∆T = Indoor (70 degrees) - Outdoor Design Temp

Area of Building
Conditioned Floor Area
Instructions: Conditioned Floor Area (sq ft) 8,168
Average Ceiling Height
Instructions: Average Ceiling Height (ft) 9.3 Conditioned Volume 75,551

Glazing and Doors
Instructions: U-0.28 — U-Factor 0.280 × Area 1,470 = UA 411.54

Skylights
Instructions — U-Factor 0.50 × Area 0 = UA —

Insulation
Attic
Instructions: R-49 — U-Factor 0.026 × Area 2229.7 = UA
Single Rafter or Joist Vaulted Ceilings
Instructions: Select R-Value — U-Factor No selection × Area 0 = UA —
Above Grade Walls *(see Figure 1)*
Instructions: R-21 Intermediate — U-Factor 0.056 × Area 6,466 = UA 362.08
Floors
Instructions: Select R-Value — U-Factor No selection × Area 7,364 = UA —
Below Grade Walls *(see Figure 1)*
Instructions: R-21 Interior — U-Factor 0.042 × Area = UA —
Slab Below Grade *(see Figure 1)*
Instructions: No Slab Below Grade in this project. — F-Factor 0.303 × Length 260 = UA 118.17
Slab on Grade *(see Figure 1)*
Instructions: R-10 Fully Insulated — F-Factor 0.360 × Length 2,395 = UA 862.20

Duct Leakage Coefficient 1.00

Figure 1

Sum of UA	1754.00	
Envelope Heat Load	80,684	Btu / Hour
Sum of UA x ∆T		
Air Leakage Heat Load	37,534	Btu / Hour
Volume x 0.6 x ∆T x 0.018		
Building Design Heat Load	118,218	Btu / Hour
Air leakage + envelope heat loss		
Building and Duct Heat Load	118,218	Btu / Hour
Ducts in unconditioned space: sum of building heat loss x 1.10		
Ducts in conditioned space: sum of building heat loss x 1		
Maximum Heat Equipment Output	147,772	Btu / Hour
Building and duct heat loss x 1.40 for forced air furnace		
Building and duct heat loss x 1.25 for heat pump		

(8/09)(1/2)

2018 Residential Ventilation Compliance Summary

Applicant:_____Parcel:_____Permit Number:_____

A whole-house ventilation system is required by the building code (2018 IRC Section M1505.4) to promote healthy indoor air quality in homes and provide increased comfort for occupants. **This is required for new dwelling units, and additions to existing dwelling units over 500 square feet.**

WHOLE HOUSE VENTILATION SYSTEM TYPE (see descriptions next page)

Note: if the project has selected an Air Leakage Control and Efficient Ventilation Option from WSEC Table R406.3, the ventilation system type chosen must be consistent with that option's requirements.

- ☐ Exempt: addition less than 500 sq.ft. or remodel only
- ☐ Exhaust fan(s) only (IRC M1505.4.1.2)
- ☐ Supply fan(s) only (IRC M1505.4.1.3)
- ☐ Balanced system (IRC M1505.4.1.4)
- ☐ Furnace Integrated Supply (IRC M1505.4.1.5)

System will be distributed: ☐ Yes ☐ No (see definition next page)

Floor plans should indicate the location, type, and airflow rate of whole-house ventilation system.

WHOLE HOUSE VENTILATION SYSTEM AIRFLOW RATE

Step 1: Find airflow rate minimum from Table 1, circle applicable airflow.
Step 2: Multiply airflow rate by applicable multiplier from Table 2, type adjusted airflow in table.
Step 3: Multiply airflow rate by applicable multiplier from Table 3, type adjusted airflow in table.

Table 1. WHOLE-HOUSE SYSTEM MINIMUM VENTILATION RATES (circle)

Conditioned Floor Area of the Home in square feet	Number of Bedrooms in the Home: Studio & 1 bedroom	2 bedrooms	3 bedrooms	4 bedrooms	5 or more bedrooms
	Airflow in cubic feet per minute (CFM)				
< 500	30	30	35	45	50
501 - 1,000	30	30	40	50	55
1,001 - 1,500	30	40	45	55	60
1,501 - 2,000	35	45	50	60	65
2,001 - 2,500	40	50	55	65	70
2,501 - 3,000	45	55	60	70	75
3,001 - 3,500	50	60	65	75	80
3,501 - 4,000	55	65	70	80	85
4,001 - 4,500	60	70	75	85	90
4,501 - 5,000	65	75	80	90	95
> 5,001	(0.01 x Conditioned Floor Area of the Home in square feet) + (7.5 x [Number of Bedrooms in the Home + 1])				

Table 2. WHOLE-HOUSE VENTILATION QUALITY ADJUSTMENT (circle, type adjusted rate)

SYSTEM TYPE	DISTRIBUTED	NOT DISTRIBUTED	Min. adjusted fan size (CFM)
BALANCED	1.0	1.25	
NOT BALANCED	1.25	1.5	

Table 3. INTERMITTENT WHOLE-HOUSE VENTILATION RATE FACTORS (circle, type adjusted rate)

Run-time % in each 4-hour segment	Multiplier	Min. adjusted fan size (CFM)
50% (2 hrs every 4 hrs, 12 hrs /day)	2	
66% (2 hrs 40 min every 4 hrs, 16 hrs /day)	1.5	
75% (3 hrs every 4 hrs, 18 hrs /day)	1.3	
100% (continuously operating)	1.0	

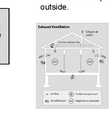
WHOLE HOUSE VENTILATION SYSTEM SUMMARY

Specify: Location of ventilation equipment: _____Airflow rate (CFM):_____Specify run-time:_____

WHOLE HOUSE VENTILATION SYSTEM TYPES

Balanced whole house ventilation is any combination of concurrently operating mechanical exhaust and mechanical supply whereby the total mechanical exhaust airflow rate is within10% or 5 cfm of the total mechanical supply airflow rate, whichever is greater.

Distributed whole house ventilation is when outdoor air is supplied directly (not transfer air) to each habitable space and the exhausts air from all kitchen and bathrooms is vented directly to the outside.



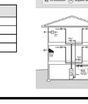
Exhaust fan(s) only (IRC M1505.4.1.2)
This type of system has one or more exhaust fans, such as in bathrooms and laundry rooms, that create suction to provide intermittent or continuous exhaust from the dwelling unit to remove stale, moist air. In this type of system there is no dedicated supply air to replace the exhausted air, so fresh air is brought into the home passively through openings such as windows, window vents, through-wall vents, or leakage in the home's air barrier. With recent air barrier construction requirements and techniques improving, homes are becoming tighter and provide less opportunities for air leakage.



Supply fan(s) only (IRC M1505.4.1.3)
This type of system has one or more supply fans that are provided with controls to provide intermittent or continuous fresh air into the dwelling unit. In this type of system there is no interconnected exhaust fans, so the system works to pressurize the home, pushing stale moist-air out of the building through openings such as windows, window vents, through-wall vents, or leakage in the home's air barrier. With recent air barrier construction requirements and techniques improving, homes are becoming tighter and provide less opportunities for air leakage.



Balanced system (IRC M1505.4.1.4)**, including HRVs**
This type of system has both supply and exhaust fans that are provided with controls to provide intermittent or continuous fresh air into the dwelling unit and exhaust from the dwelling unit to remove stale, moist air. When two fans and two duct systems are used, these must provide a balanced airflow rate to operate as designed. A balanced system can also include an energy (or heat) recovery ventilator (ERV/HRV), an appliance that provides both supply and exhaust air in one unit and captures the energy or heat from the exhaust air and transfers it to the supply air via a heat exchanger to minimize energy loss in the system.



Furnace Integrated Supply (IRC M1505.4.1.5)
Previous editions of the codes allowed fresh air to be introduced to the home from an outside air duct connected directly to a home's furnace. This is no longer permitted in the code outright, as the system uses excess energy when the fans in the heating/cooling equipment are required to operate to distribute the air. This type of system may only be used if the heating system air handler fan(s) have multi-speed or variable speed flow capability.

AIR BARRIER AND INSULATION INSTALLATION TABLE R402.4.1.1

COMPONENT	AIR BARRIER CRITERIA	INSULATION CRITERIA
Air barrier and thermal barrier	A continuous air barrier shall be installed in the building envelope. Exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.	Air permeable insulation shall not be used as a sealing material. Class I or II vapor retarders are required on the interior side of framed cavities.
Cavity insulation installation	All cavities in the thermal envelope shall be filled with insulation. The density of the insulation shall be at the manufacturers' product recommendation and said density shall be maintained for all volume of each cavity. Batt type insulation will show no voids or gaps and maintain an even density for the entire cavity. Batt insulation shall be installed in the recommended cavity depth. Batts in narrow cavities shall be cut to fit and installed to the correct density without any voids or gaps or compression. Narrow cavities shall be cut to fit the remaining depth of the cavity. Where the batt is cut around obstructions, loose fill insulation shall be placed to fill any surface or concealed voids, and at the manufacturers' specified density. Where faced batt is used, the installation tabs must be stapled to the face of the stud. There shall be no compression to the batt at the edges of the cavity due to inset stapling installation tabs. Insulation that upon installation readily conforms to available space shall be installed filling the entire cavity and within the manufacturers' density recommendation.	
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier sealed. Access openings, drop down stair or knee wall doors to unconditioned attic spaces shall be sealed.	Batt insulation installed in attic roof assemblies may be compressed at exterior wall lines to allow for required attic ventilation. The insulation in any dropped ceiling or soffit shall be aligned with the air barrier.
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within corners and headers shall be insulated by completing the cavity with a material having a minimum thermal resistance of R-3 per inch. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.
Windows, skylights and	Space between window/door jambs and framing and skylights and framing shall be sealed.	
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.
Floors (including above-garage and cantilevered)	The air barrier shall be installed at any exposed edge of insulation.	Installed to maintain permanent contact with underside of subfloor decking or permitted to be in contact with the topside of sheathing or continuous insulation installed on the underside of floor framing and extend from the bottom to the top of all perimeter floor
Crawl space walls	Soil in unvented crawl spaces shall be covered with Class I, black vapor retarder with joints lapped.	Where provided in lieu of floor insulation, insulation shall be permanently attached to the crawlspace walls.
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.	
Narrow cavities		Batts in narrow cavities shall be cut to fit and installed to the correct density without any voids or gaps or compression. Narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.	
Recessed lighting	Shall be sealed to the drywall.	Shall be air tight, and IC rated.
Plumbing and wiring		Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls. There shall be no voids or gaps or compression where batts are installed to fill the cavity. Insulation that readily conforms to available space shall extend behind piping and wiring.
Shower and/or tub	Installed at exterior walls adjacent to showers and tubs shall separate them from showers and tubs.	Exterior walls adjacent to showers or tubs shall be insulated
Electrical/phone	Barrier shall be installed behind electrical or communication boxes on exterior wall or install air sealed boxes.	
HVAC register boots	Boots that penetrate building thermal envelope shall be sealed to the subfloor or drywall.	
Concealed Sprinklers	When required to be sealed, fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.	

AIR INFILTRATION AND TESTING

The building shall be tested and verified as having an air leakage rate not exceeding 5.0 air changes per hour (ACH). Note, if the project has selected an Air Leakage Control and Efficient Ventilation Option from WSEC Table R406.3, the maximum air leakage allowed may be reduced.

Testing shall be conducted with a blower door at a pressure of 0.2 in. w.g. For this test only, the volume of the home shall be the square feet of conditioned floor area multiplied by 8.5 feet. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open, access hatches to conditioned crawl spaces and conditioned attics shall be open.
4. Exterior or interior terminations for continuous ventilation systems and heat recovery ventilators shall be sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

Exceptions:

1. Additions less than 500 square feet (46 m^2) of conditioned floor area.
2. Additions tested with the existing home having a combined maximum air leakage rate of 7 air changes per hour. To qualify for this exception, the date of construction of the existing house must be prior to the 2009 Washington State Energy Code.

Blower door test calculated flow: BLDG Volume _____ $ft.^3$ x 0.5 ACH / 60 min. = _____ cfm
OR Adjusted rate per Energy Credit Option 2 _____
Blower door test calculated flow: BLDG Volume _____ $ft.^3$ x __ ACH / 60 min. = _____ cfm

DUCT LEAKAGE AND TESTING

1. Ducts shall be leak tested in accordance with WSU RS-33, using the maximum 4 cfm per 100 square feet of conditioned floor area. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3 cfm per 100 square feet of conditioned floor area.

Total sq.ft. _____ sq. ft. / 100 sq.ft. X 4 cfm = _____ cfm

Exceptions:

1. The total leakage test or leakage to the outdoors is not required for ducts and air handlers located entirely within the building thermal envelope. For forced air ducts, a maximum of 10 linear feet of return ducts and 5 linear feet of supply ducts may be located outside the conditioned space. All metallic ducts located outside the conditioned space must have both transverse and longitudinal joints sealed with mastic. If flex ducts are used, they cannot contain splices.
   Flex duct connections must be made with nylon straps and installed using a plastic strapping tensioning tool. Ducts located in crawl spaces do not qualify for this exception.
2. A duct air leakage test shall not be required for ducts serving heat or energy recovery ventilators that are not integrated with ducts serving heating or cooling systems.

A written report of results must be signed by the party conducting the test and provided to the King County Building Inspector.

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones In Washington
Single Family – New & Additions (effective February 1, 2021) Version 1.2

These requirements apply to all IRC building types, including detached one- and two-family dwellings and multiple single-family dwellings (townhouses).

Project Information	Contact Information
MURRAY RESIDENCE - RESIDENCE	RICHARD FLAKE
4803 FORREST AVE SE, MERCER ISLAND, WA 98040	RICHARD@RFARCHITECTURE.COM

Instructions: This single-family project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

Authorized Representative _____ **Date** 4/27/23

All Climate Zones (Table R402.1.1)

	R-Value [a]	U-Factor [a]
Fenestration U-Factor [b]	n/a	0.30
Skylight U-Factor [b]	n/a	0.50
Glazed Fenestration SHGC [b,e]	n/a	n/a
Ceiling [d]	49	0.026
Wood Frame Wall [c,h]	21 int	0.056
Floor	30	0.029
Below Grade Wall [c,h]	10/15/21 int + TB	0.042
Slab [d] R-Value & Depth	10, 2 ft	n/a

R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity that is less than the label or design thickness of the insulation, the compressed R-value of the insulation from Appendix Table A101.4 shall not be less than the R-value specified in the table.

a. The fenestration *U-factor* column excludes skylights.
b. "10/15/21 +5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +5TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "5TB" means R-5 thermal break between floor slab and basement wall.
c. R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.
d. For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.
e. R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.
f. For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for *climate zone* 5 of ICC 400.
g. Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.
h. Framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones In Washington
Single Family – New & Additions (effective February 1, 2021)

Each dwelling unit ***in a residential building*** shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) to achieve the following minimum number of credits. To claim this credit, the building permit drawings shall specify the option selected and the maximum tested building air leakage, and show the qualifying ventilation system and its control sequence of operation.

1. **Small Dwelling Unit:** 3 credits
   Dwelling units less than 1,500 sf in conditioned floor area with less than 300 sf of fenestration area.
   Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.
2. **Medium Dwelling Units:** 2 credits
   All dwelling units that are not included in **#1 or #3**
3. **Large Dwelling Unit:** 7 credits
   Dwelling units exceeding 5,000 sf of conditioned floor area
4. **Additions less than 500 square feet:** 1.5 credits
   All other additions shall meet 1-3 above

Before selecting your credits on this Summary table, review the details in Table 406.3 (Single Family), on page 4.

Summary of Table R408.2 and 406.3

Heating Options	Fuel Normalization Descriptions	Credits - select ONE heating option		User Notes
1	Combustion heating minimum NAECA[b]	0.0	☐	
2	Heat pump[c]	1.0	■	
3	Electric resistance heat only - furnace or zonal	-1.0	☐	
4	DHP with zonal electric resistance per option 3.4	0.5	☐	
5	All other heating systems	-1.0	☐	
Energy Options	**Energy Credit Option Descriptions**	**Credits - select ONE energy option from each category [f]**		
1.1	Efficient Building Envelope	0.5	☐	
1.2	Efficient Building Envelope	1.0	☐	
1.3	Efficient Building Envelope	0.5	■	
1.4	Efficient Building Envelope	1.0	☐	
1.5	Efficient Building Envelope	2.0	☐	
1.6	Efficient Building Envelope	3.0	☐	
1.7	Efficient Building Envelope ☐	0.5	☐	
2.1	Air Leakage Control and Efficient Ventilation	0.5	☐	
2.2	Air Leakage Control and Efficient Ventilation	1.0	☐	
2.3	Air Leakage Control and Efficient Ventilation	1.5	☐	
2.4	Air Leakage Control and Efficient Ventilation ☐	2.0	■	
3.1[a]	High Efficiency HVAC	1.0	☐	
3.2	High Efficiency HVAC	1.0	■	
3.3[a]	High Efficiency HVAC	1.5	☐	
3.4	High Efficiency HVAC	1.5	☐	
3.5.1	High Efficiency HVAC	1.5	☐	
3.5.2	High Efficiency HVAC	1.5	☐	
3.6[a]	High Efficiency HVAC ☐	2.0	☐	
4.1	High Efficiency HVAC Distribution System	0.5	☐	
4.2	High Efficiency HVAC Distribution System ☐	1.0	■	

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones In Washington
Single Family – New & Additions (effective February 1, 2021)

Summary of Table R406.2 (cont.)

Energy Options	Energy Credit Option Descriptions (cont.)	Credits - select ONE energy option from each category [f]		User Notes
5.1[d]	Efficient Water Heating	0.5	☐	
5.2	Efficient Water Heating	0.5	☐	
5.3	Efficient Water Heating	1.0	☐	
5.4	Efficient Water Heating	1.5	■	
5.5	Efficient Water Heating	2.0	☐	
5.6	Efficient Water Heating ☐	2.5	☐	
6.1[e]	Renewable Electric Energy (3 credits max)	1.0	☐	
7.1	Appliance Package	0.5	☐	
	Total Credits		?	Calculate Total / Clear Form

a. An alternative heating source sized at a maximum of 0.5 W/sf (equivalent) of heated floor area or 500 W, whichever is bigger, may be installed in the dwelling unit.
b. Equipment listed in Table C403.3.2(4) or C403.3.2(5)
c. Equipment listed in Table C403.3.2(1) or C403.3.2(2)
d. You cannot select more than one option from any category EXCEPT in category 5. Option 5.1 may be combined with options 5.2 through 5.6. See Table 406.3.
e. 1.0 credit for each 1,200 kWh of electrical generation provided annually, up to 3 credits max.
See the complete Table R406.2 for all requirements and option descriptions.
f. Use the single radiobutton in the upper right of the second column to deselect radiobuttons in that group.

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones In Washington
Single Family – New & Additions (effective February 1, 2021)

Table 406.3 – Energy Credits (Single Family)

Option	Description	Credits: SF
1. EFFICIENT BUILDING ENVELOPE OPTIONS		
Only one option from Items 1.1 through 1.7 may be selected in this category.		
Compliance with the conductive UA targets is demonstrated using Section R402.1.4, Total UA alternative, where: [1-(Proposed UA/Target UA)] > the required %UA reduction.		
1.1	Prescriptive compliance is based on Table R402.1.1 with the following modifications: **Vertical fenestration U = 0.24**	0.5
1.2	Prescriptive compliance is based on Table R402.1.1 with the following modifications: **Vertical fenestration U = 0.20**	1.0
1.3	Prescriptive compliance is based on Table R402.1.1 with the following modifications: **Vertical fenestration U = 0.28** Floor R-38 Slab on grade R-10 perimeter and under entire slab below grade slab R-10 perimeter and under entire slab ***or*** Compliance based on Section R402.1.4: Reduce the Total conductive UA by 5%	0.5
1.4	Prescriptive compliance is based on Table R402.1.1 with the following modifications: **Vertical fenestration U = 0.25** Wall R-21 plus R-4 ci Floor R-38 Basement wall R-21 int plus R-5 ci Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab ***or*** Compliance based on Section R402.1.4: Reduce the Total conductive UA by 15%	1.0
1.5	Prescriptive compliance is based on Table R402.1.1 with the following modifications: **Vertical fenestration U = 0.22** Wood Framing Wall R-21 int plus R-12 ci Floor R-38 Basement wall R-21 int plus R-12 ci Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab ***or*** Compliance based on Section R402.1.4: Reduce the Total conductive UA by 30%	2.0
1.6	Prescriptive compliance is based on Table R402.1.1 with the following modifications: **Vertical fenestration U = 0.18** Ceiling and single-rafter or joist-vaulted R-60 advanced Wood frame wall R-21 int plus R-16 ci Floor R-48 Basement wall R-21 int plus R-16 ci Slab on grade R-20 perimeter and under entire slab Below grade slab R-20 perimeter and under entire slab ***or*** Compliance based on Section R402.1.4: Reduce the Total conductive UA by 40%.	3.0
1.7	Advanced framing and raised heel trusses or rafters Vertical Glazing U-0.28 R-49 Advanced (U-0.020) as listed in Section A102.2.1, *Ceilings below a vented attic* ***and*** R-49 vaulted ceilings with full height of uncompressed insulation extending over the wall top plate at the eaves.	0.5

2018 Washington State Energy Code – Residential
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Single Family – New & Additions (effective February 1, 2021)

Table 406.3 – Energy Credits (Single Family)

Option	Description	Credits: SF
2. AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION OPTIONS		
Only one option from Items 2.1 through 2.4 may be selected in this category.		
2.1	Compliance based on R402.4.1.2: Reduce the tested air leakage to **3.0 air changes per hour** maximum at 50 Pascals ***or*** For R-2 Occupancies, optional compliance based on Section R402.4.1.2: Reduce the tested air leakage to **0.3 cfm/sf maximum at 50 Pascals *and*** All whole house ventilation requirements as determined by Section M1507.3 of the *International Residential Code* or Section 403.8 of the *International Mechanical Code* shall be met with a high efficiency fan(s) **(maximum 0.35 watts/cfm)**, not interlocked with the furnace fan (if present). Ventilation systems using a furnace including an ECM motor are allowed, provided that they are controlled to operate at low speed in ventilation only mode. To qualify to claim this credit, the building permit drawings shall specify the option being selected and the maximum tested building air leakage, and shall show the qualifying ventilation system and its control sequence of operation.	0.5
2.2	Compliance based on Section R402.4.1.2: Reduce the tested air leakage to **2.0 air changes per hour maximum at 50 Pascals *or*** For R-2 Occupancies, optional compliance based on Section R402.4.1.2: Reduce the tested air leakage to **0.25 cfm/sf** maximum at 50 Pascals ***and*** All whole house ventilation requirements as determined by Section M1507.3 of the *International Residential Code* or Section 403.8 of the *International Mechanical Code* shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of **0.65**. [1]	1.0
2.3	Compliance based on Section R402.4.1.2: Reduce the tested air leakage to **1.5 air changes per hour** maximum at 50 Pascals ***or*** For R-2 Occupancies, optional compliance based on Section R402.4.1.2: Reduce the tested air leakage to **0.25 cfm/sf** maximum at 50 Pascals ***and*** All whole house ventilation requirements as determined by Section M1507.3 of the *International Residential Code* or Section 403.8 of the *International Mechanical Code* shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of **0.75**. [1]	1.5
2.4	Compliance based on Section R402.4.1.2: Reduce the tested air leakage to **0.6 air changes per hour** maximum at 50 Pascals ***or*** For R-2 Occupancies, optional compliance based on Section R402.4.1.2: Reduce the tested air leakage to **0.15 cfm/sf** maximum at 50 Pascals ***and*** All whole house ventilation requirements as determined by Section M1507.3 of the *International Residential Code* or Section 403.8 of the *International Mechanical Code* shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of **0.80. Duct Installation shall comply with Section R403.3.7.** [1]	2.0

[1] To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the heat recovery ventilation system.

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones In Washington
Single Family – New & Additions (effective February 1, 2021)

Table 406.3 – Energy Credits (Single Family)

Option	Description	Credits: SF
3. HIGH EFFICIENCY HVAC EQUIPMENT OPTIONS		
Only one option from Items 3.1 through 3.6 may be selected in this category.		
3.1 [2]	Energy Star rated (U.S. North) Gas or propane furnace with minimum AFUE of **95% *or*** Energy Star rated (U.S. North) Gas or propane boiler with minimum AFUE of 90%. [2]	1.0
3.2 [2]	Air-source centrally ducted heat pump with minimum HSPF of

Window, Skylight and Door Schedule

Project Information	*Contact Information*
Murray Residence - Loggia	Richard Flake
4803 forrest ave se	richard@rfarchitecture.com
Mercer Island, WA 98040	(253) 359-4039

	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)								0.0	0.00
Exempt Glazed Fenestration (15 sq. ft. max.)								0.0	0.00
Vertical Fenestration (Windows and doors)									
Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
2640		0.28	1	2	8	4	0	10.0	2.80
								0.0	0.00
15080		0.28						120.0	33.60
			1	15	8	8	0	0.0	0.00
								0.0	0.00
								0.0	0.00

Window, Skylight and Door Schedule

Project Information	Contact Information
Murray Residence - ADU	Richard Flake
4803 forrest ave se	richard@rfarchitecture.com
Mercer Island, WA 98040	(253) 359-4039

	Ref.	U-factor	Width Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)								0.0	0.00
Exempt Glazed Fenestration (15 sq. ft. max.)								0.0	0.00

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
10060		0.28	1	2	8	2	9	5.0	1.40
4026		0.28	1	4	8	2	9	10.0	2.80
2026		0.28	1	2	8	2	9	5.0	1.40
10050		0.28	1	10	8	5	9	50.0	14.00
		0.28						0.0	0.00
3068		0.28	1	3	8	6		20.0	5.60
								0.0	0.00
								0.0	0.00
								0.0	0.00

PLAN NOTES

1. PRIOR TO THE START OF ANY DEMOLITION ACTIVITIES, THE CONTRACTOR SHALL INSTALL FILTER FABRIC FENCE, INLET PROTECTION, STRAW WATTLES, AND TREE PROTECTION.
2. THE EXISTING UTILITY LOCATIONS SHOWN ARE TO BE USED AS APPROXIMATE LOCATIONS ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CONTACT UTILITIES UNDERGROUND LOCATION CENTER (811).
3. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE PUBLIC AND/OR PRIVATE UTILITIES AND SERVICES WHICH ARE NOT THE RESPONSIBILITY OF THE UNDERGROUND LOCATION CENTER.
4. CAUTION – EXTREME HAZARD – OVERHEAD ELECTRICAL SERVICE LINES ARE GENERALLY NOT SHOWN ON THE DRAWINGS. ELECTRICAL LINES, IF SHOWN, ARE LOCATED POINT–TO–POINT, POWER POLE–TO–POWER POLE CONNECTION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXTENT OF HAZARD CREATED BY OVERHEAD ELECTRICAL POWER IN ALL AREAS AND SHALL FOLLOW PROCEDURES DURING CONSTRUCTION AS REQUIRED BY LAW AND REGULATION. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL MEET WITH UTILITY OWNERS AND DETERMINE THE EXTENT OF HAZARD AND REMEDIAL MEASURES AND SHALL TAKE WHATEVER PRECAUTIONS MAY BE REQUIRED.
5. REMOVE EXISTING STRUCTURE.
6. THE CONTRACTOR AND OWNER SHALL COORDINATE ALL INSPECTIONS. ALL COSTS INCURRED SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
7. TREE PROTECTION. SEE DETAIL ON SHEET C3.2.
8. EXISTING TREE TO REMAIN.
9. REMOVE EXISTING CONCRETE DRIVEWAY. CONTRACTOR TO COORDINATE DRIVEWAY REMOVAL WITH NEW DRIVEWAY AND GRADING TO MAINTAIN A CONSTRUCTION ACCESS.
10. EXISTING CB TO REMAIN. DO NOT DISTURB.
11. EXISTING CB, REMOVE AND REPLACE (SEE SHEET C3.0).
12. EXISTING STORM CONVEYANCE TO REMAIN. DO NOT DISTURB.
13. REMOVE EXISTING ROCKERY.
14. SEE ARBORIST REPORT FOR TREE ANALYSIS.
15. REMOVE EXISTING FENCE.
16. EXSTING TREES TO BE REMOVED.
17. REMOVE EXISTING GREENHOUSE STRUCTURE. DO NOT DISTURB EXISTING STORM CONVEYANCE.
18. EXISTING DRIVEWAY TO BE USED AS THE CONSTRUCTION ACCESS.
19. ALL DEMOLISHED MATERIALS ARE TO BE LEGALLY DISPOSED OFFSITE.
20. CONTRACTOR TO NOTIFY AND COORDINATE WITH THE PROJECT ARBORIST PRIOR TO ANY TREE REMOVAL.
21. EXISTING CONVEYANCE TO BE REMOVED AND REPLACED (SEE SHEET C3.0).
22. SAWCUT DRIVEWAY TO PROVIDE A SMOOTH CONFORM.
23. CONTRACTOR TO COORDINATE WITH UTILITY PURVEYOR WHEN REMOVING EXISTING UTILITY CONNECTIONS.
24. REMOVE EXISTING DRAIN.
25. REMOVE EXISTING CONCRETE STAIRS.
26. END FILTER FABRIC FENCE FORM THE SOUTHWEST.
27. END FILTER FABRIC FENCE FROM THE SOUTH.

DEMOLITION LEGEND

- CL & FF — FILTER FABRIC FENCE AT CLEARING LIMITS , LIMITS OF EXCAVATION EXCEPT AS NOTED
- IP — INLET PROTECTION
- CE — CONSTRUCTION ENTRANCE
- EXISTING STRUCTURE, BUILDING, ROCKERY, PATIO, CONCRETE, ETC TO BE REMOVED
- SW — STRAW WATTLES
- TP — TREE PROTECTION
- TREES TO BE REMOVED

DEMOLITION NOTES

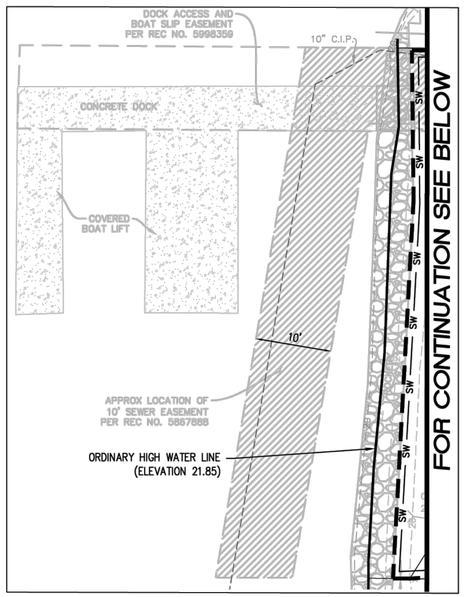
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HARD SURFACE REMOVAL:	4,265 SQ.FT.

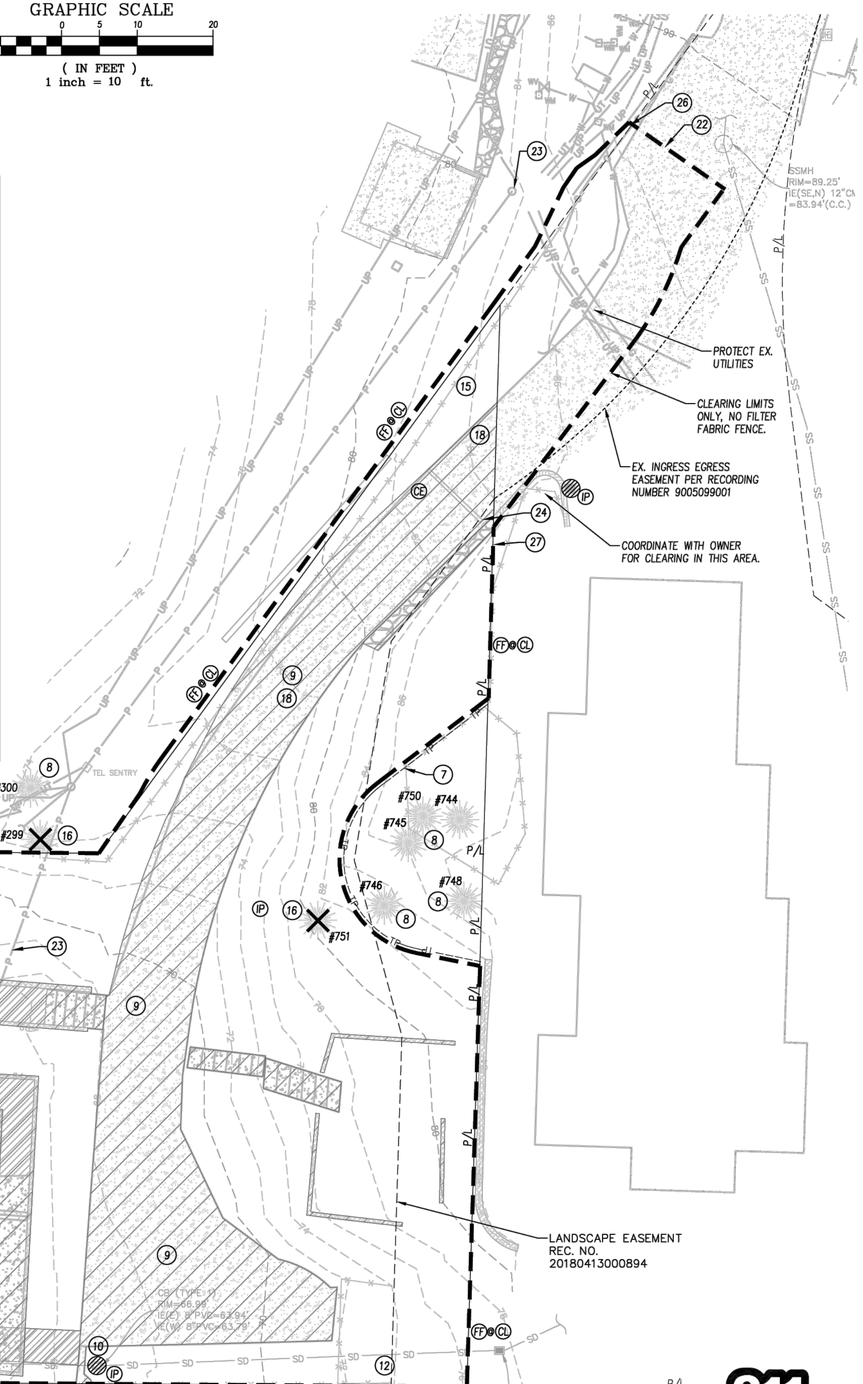
TREE REFERENCE

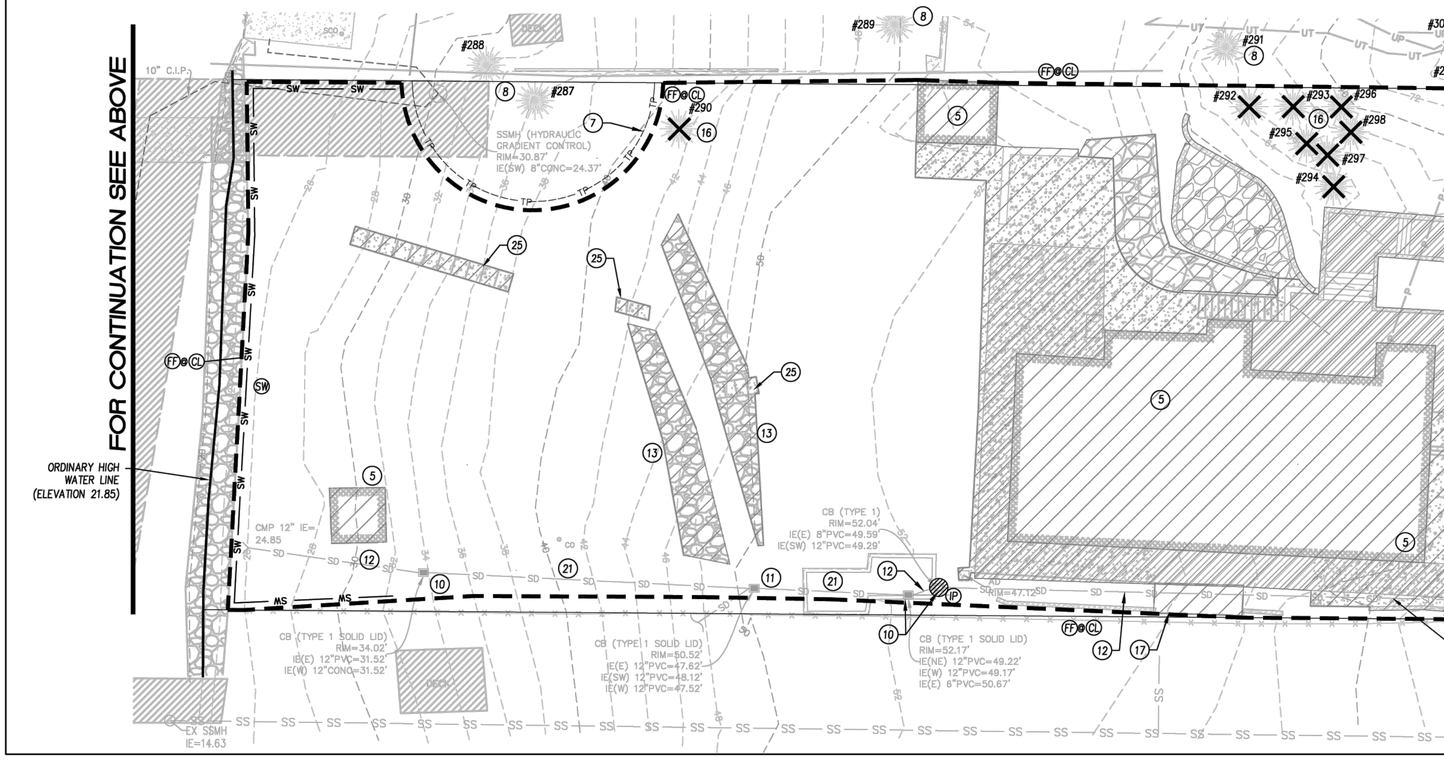
#287	TO REMAIN
#288	TO RETAIN
#289	TO RETAIN
#290	TO BE REMOVED
#291	TO RETAIN
#292	TO BE REMOVED
#293	TO BE REMOVED
#294	TO BE REMOVED
#295	TO BE REMOVED
#296	TO BE REMOVED
#297	TO BE REMOVED
#298	TO BE REMOVED
#299	TO BE REMOVED
#300	TO RETAIN
#744	TO RETAIN
#745	TO RETAIN
#746	TO RETAIN
#748	TO RETAIN
#750	TO RETAIN
#751	TO BE REMOVED

NORTH

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 inch = 10 ft.







811 Know what's below. Call before you dig.

RF ARCHITECTURE
7421 214TH AVENUE EAST
BONNEY LAKE, WA 98391
253–359–4039

MURRAY RESIDENCE
4803 FORECREST AVENUE SE
MERCER ISLAND, WA 98040

Apex Engineering
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Tacoma, Washington 98409–7699
(253) 472–4464 FAX: (253) 472–4599

04-17-2023

APRIL 17, 2023

SEC 13/24 T24N R04E

DEMOLITION PLAN

C1.0

APEX JOB NO. 34578

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NORTH
APEX
TACOMA, WA

GRAPHIC SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 ft.

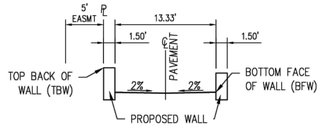
811
Know what's below.
Call before you dig.

NOTES

1. PERMANENT CUT AND FILL SLOPES TO BE 2.5H:1V OR FLATTER.
2. PER MICC 19.02.20(H)(2) NO STRUCTURES ARE PROPOSED IN EASEMENTS.

T.E.S.C. LEGEND

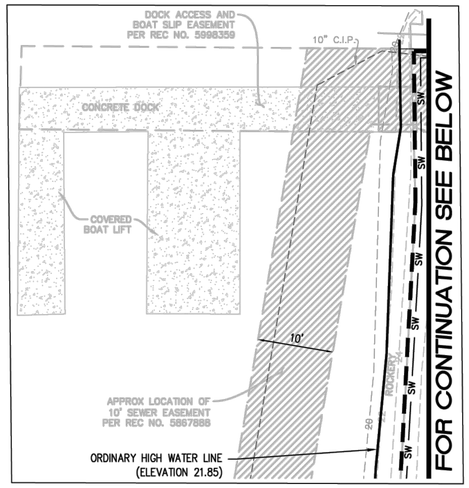
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- INLET PROTECTION — IP
- CONSTRUCTION ENTRANCE — CE
- HYDROSEED AND MULCH — ML
- STRAW WATTLES — SW
- TREE PROTECTION — TP

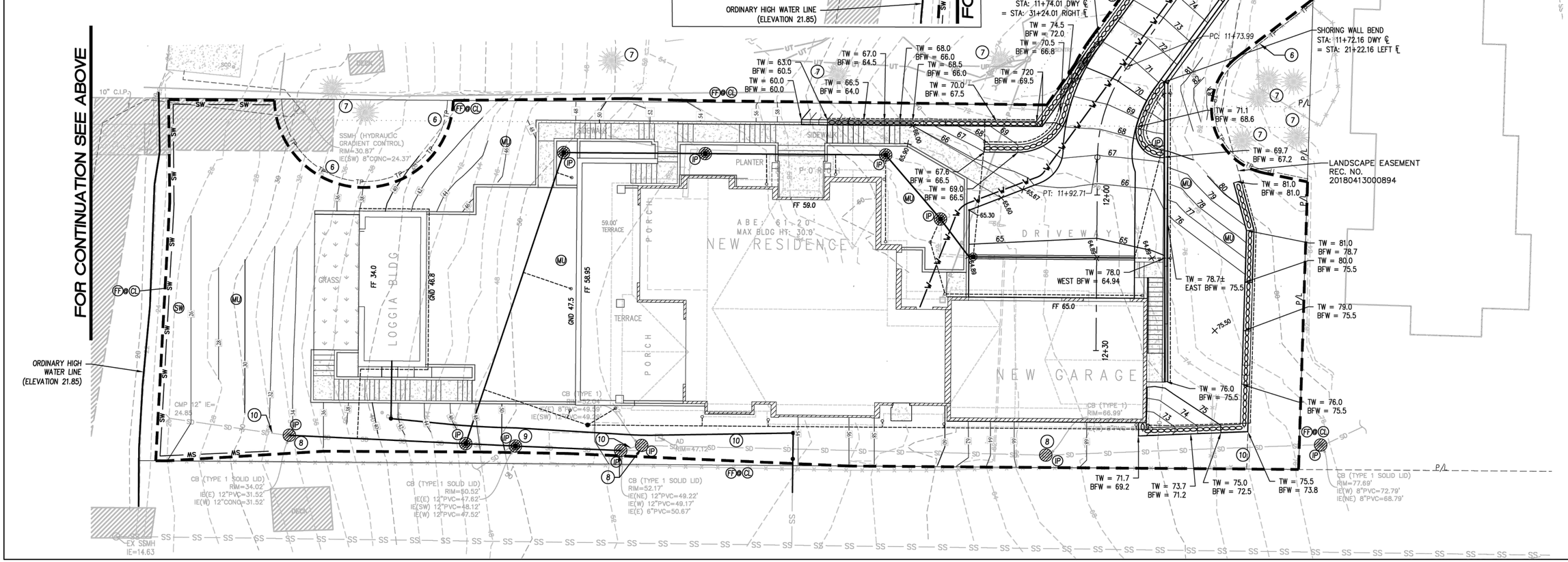


TYPICAL DRIVEWAY SECTION
(LOOKING NORTH)
N.T.S.

PLAN NOTES

1. THE EXISTING UTILITY LOCATIONS SHOWN ARE TO BE USED AS APPROXIMATE LOCATIONS ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CONTACT UTILITIES UNDERGROUND LOCATION CENTER (811).
2. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE PUBLIC AND/OR PRIVATE UTILITIES AND SERVICES WHICH ARE NOT THE RESPONSIBILITY OF THE UNDERGROUND LOCATION CENTER.
3. CAUTION – EXTREME HAZARD – OVERHEAD ELECTRICAL SERVICE LINES ARE GENERALLY NOT SHOWN ON THE DRAWINGS. ELECTRICAL LINES, IF SHOWN, ARE LOCATED POINT–TO–POINT, POWER POLE–TO–POWER POLE CONNECTION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXTENT OF HAZARD CREATED BY OVERHEAD ELECTRICAL POWER IN ALL AREAS AND SHALL FOLLOW PROCEDURES DURING CONSTRUCTION AS REQUIRED BY LAW AND REGULATION. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL MEET WITH UTILITY OWNERS AND DETERMINE THE EXTENT OF HAZARD AND REMEDIAL MEASURES AND SHALL TAKE WHATEVER PRECAUTIONS MAY BE REQUIRED.
4. REMOVE ALL E.S.C. ITEMS AND LEGALLY DISPOSE OF THEM OFFSITE AFTER THE SITE IS PERMANENTLY STABILIZED.
5. THE CONTRACTOR AND OWNER SHALL COORDINATE ALL INSPECTIONS. ALL COSTS INCURRED SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
6. TREE PROTECTION. SEE DETAIL ON SHEET C3.1.
7. EXISTING TREE TO REMAIN.
8. EXISTING CB TO REMAIN. DO NOT DISTURB.
9. EXISTING CB, REMOVE AND REPLACE (SEE SHEET C3.0).
10. EXISTING STORM CONVEYANCE TO REMAIN. DO NOT DISTURB.
11. SEE ARBORIST REPORT FOR TREE ANALYSIS.
12. REMOVE EXISTING FENCE.





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JEAN R. JACOBS
STATE OF WASHINGTON
12241
REGISTERED
PROFESSIONAL ENGINEER
04-17-2023

APRIL 17, 2023

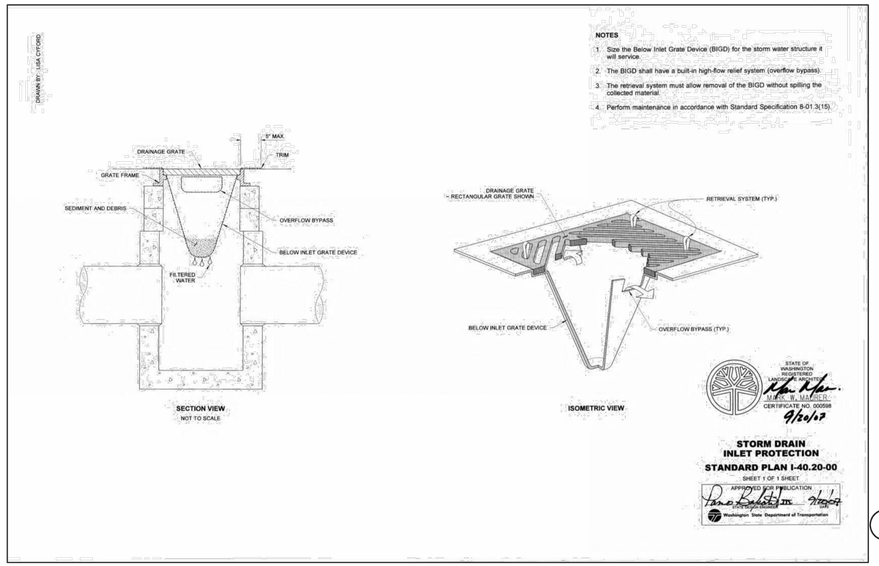
SEC 13/24 T24N R04E

TESC AND GRADING

C2.0

APEX JOB NO. 34578

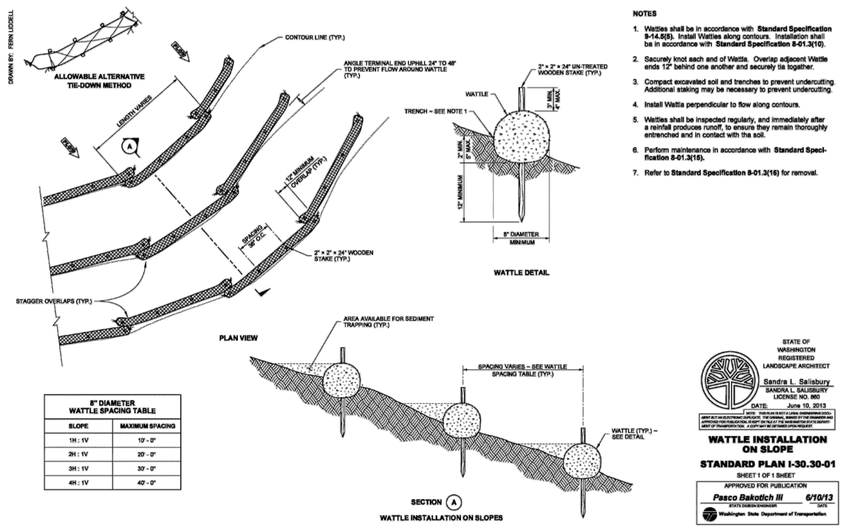
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IP

TESC NOTES

1. REMOVE EXCESS SOIL FROM THE SITE AS SOON AS POSSIBLE AFTER BACKFILLING.
2. STABILIZE DENUDED AREAS OF THE SITE BY MULCHING, SEEDING, PLANTING, OR SODDING.
3. ADJACENT PROPERTIES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION BY APPROPRIATE USE OF VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OR FILTERS, DIKES OR MULCHING, OR BY A COMBINATION OF THESE MEASURES AND OTHER APPROPRIATE BMPS.
4. CONSTRUCTION VEHICLE ACCESS SHALL BE, WHENEVER POSSIBLE, LIMITED TO ONE ROUTE AND SHALL USE THE CONSTRUCTION ACCESS. THIS MEASURE REQUIRES PERIODIC INSPECTION AND MAINTENANCE INCLUDING WASHING, TOP-DRESSING WITH ADDITIONAL STONE, REWORKING AND COMPACTION.
5. PROVIDE FOR PERIODIC STREET CLEANING TO REMOVE ANY SEDIMENT THAT MAY HAVE BEEN TRACKED OUT, OF THE PROJECT SITE. SEDIMENT SHOULD BE REMOVED BY SHOVELING OR SWEEPING AND CAREFULLY REMOVED TO A SUITABLE DISPOSAL AREA WHERE IT WILL NOT BE RE-ERODED.
6. REGULARLY INSPECT ALL EROSION AND SEDIMENT CONTROL BMPS INSTALLED, ESPECIALLY AFTER ANY LARGE STORMS. MAINTENANCE, INCLUDING REMOVAL AND PROPER DISPOSAL OF SEDIMENT SHOULD BE DONE AS NECESSARY (GENERALLY WHEN ONE-HALF OR MORE OF THE TOTAL CAPACITY OF THE SYSTEM IS FILLED WITH SEDIMENT).
7. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMPS ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.

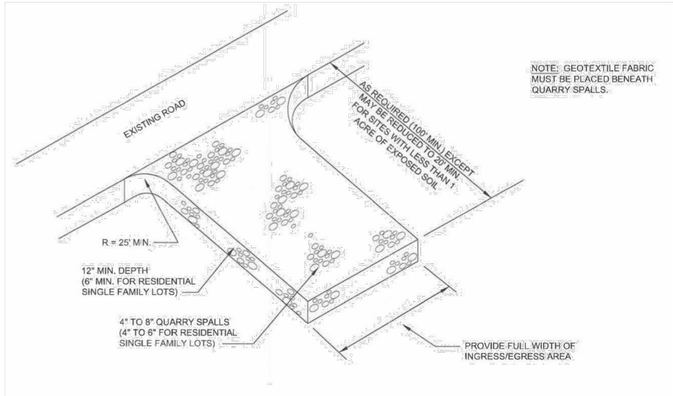


8" DIAMETER WATTLE SPACING TABLE	
SLOPE	MAXIMUM SPACING
1H : 1V	10' - 0"
2H : 1V	20' - 0"
3H : 1V	30' - 0"
4H : 1V	40' - 0"

NOTES
1. Wattles shall be in accordance with **Standard Specification 9-14.6(5)**. Install Wattles along contours. Installation shall be in accordance with **Standard Specification 8-01.3(10)**.
2. Securely knot each end of Wattle. Overlap adjacent Wattle ends 12" behind one another and securely tie together.
3. Compact excavated soil and trenches to prevent undercutting. Additional staking may be necessary to prevent undercutting.
4. Install Wattle perpendicular to flow along contours.
5. Wattles shall be inspected regularly, and immediately after a rainfall produces runoff, to ensure they remain thoroughly entrenched and in contact with the soil.
6. Perform maintenance in accordance with **Standard Specification 8-01.3(15)**.
7. Refer to **Standard Specification 8-01.3(16)** for removal.

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
SANDRA L. SALISBURY
LICENSE NO. 860
DATE: June 10, 2013
WATTLE INSTALLATION ON SLOPE
STANDARD PLAN I-30.30-01
SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Pasco Bakotich III 6/10/13
Washington State Department of Transportation

SW



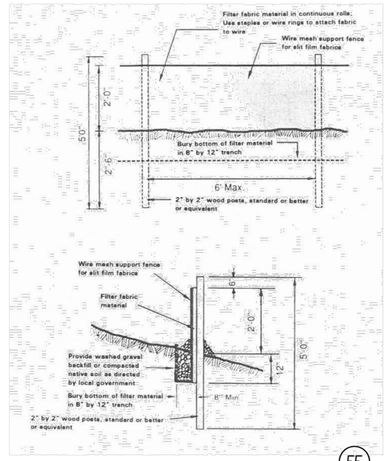
CONSTRUCTION ENTRANCE DETAIL

CE

NTS

SEED, FERTILIZE, AND MULCH NOTES:

1. TIME OF PLANTING – PLANTING SHOULD PREFERABLY BE DONE BETWEEN APRIL 1 AND JUNE 30, AND SEPTEMBER 1 THROUGH OCTOBER 31. IF PLANTING IS DONE IN THE MONTHS OF JULY AND AUGUST, IRRIGATION MAY BE REQUIRED. IF PLANTING IS DONE BETWEEN NOVEMBER 1 AND MARCH 31, MULCHING SHALL BE REQUIRED IMMEDIATELY AFTER PLANTING. IF SEEDING IS DONE DURING THE SUMMER MONTHS, IRRIGATION OF SOME SORT WILL PROBABLY BE NECESSARY.
2. SITE PREPARATION – BEFORE SEEDING, INSTALL NEEDED SURFACE RUNOFF CONTROL MEASURES SUCH AS GRADIENT TERRACES, INTERCEPTOR DIKE/SWALES, LEVEL SPREADERS, AND SEDIMENT BASINS.
3. SEEDBED PREPARATION – THE SEEDBED SHOULD BE FIRM WITH A FAIRLY FINE SURFACE. PERFORM ALL CULTURAL OPERATIONS ACROSS OR AT RIGHT ANGLES TO THE SLOPE. A MINIMUM OF 2-4 INCHES OF TILLED TOPSOIL IS REQUIRED.
4. FERTILIZATION – AS PER SUPPLIERS AND/OR SOIL CONSERVATION SERVICE RECOMMENDATIONS. DEVELOPEMENTS ADJACENT TO WATER BODIES MUST USE NON-PHOSPHORUS FERTILIZER.
5. "HYDRO-SEEDING" APPLICATIONS WITH APPROVED SEED-MULCH-FERTILIZER MIXTURES MAY ALSO BE USED.



FF

FILTER FABRIC FENCE DETAIL

NTS

FILTER FABRIC FENCE NOTES:

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST.
2. POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 30 INCHES (WHERE PHYSICALLY POSSIBLE).
3. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 8 INCHES WIDE AND 12 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER. THE TRENCH SHALL BE CONSTRUCTED TO FOLLOW THE CONTOUR.
4. WHEN SLIT FILM FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
5. SLIT FILM FILTER FABRIC SHALL BE WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL EXTEND INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES. OTHER TYPES OF FABRIC MAY BE STAPLED TO THE FENCE.
6. WHEN EXTRA-STRENGTH OR MONOFILAMENT FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF FILTER FABRIC NOTES APPLYING. EXTRA CARE SHOULD BE USED WHEN JOINING OR OVERLAPPING THESE FILTER FABRICS.
7. LOCAL GOVERNMENTS MAY SPECIFY THE USE OF PROPERLY COMPACTED NATIVE MATERIAL. IN MANY INSTANCES, THIS MAY BE THE PREFERRED ALTERNATIVE BECAUSE THE SOIL FORMS A MORE CONTINUOUS CONTACT WITH THE TRENCH BELOW, AND USE OF NATIVE MATERIALS CUTS DOWN ON THE NUMBER OF TRIPS THAT MUST BE MADE ON AND OFF-SITE. IF GRAVEL IS USED INSTEAD, THE TRENCH SHALL BE BACKFILLED WITH ¾-INCH MINIMUM DIAMETER WASHED GRAVEL. CARE MUST BE TAKEN WHEN USING GRAVEL TO ENSURE GOOD CONTACT BETWEEN THE FABRIC AND THE TRENCH BOTTOM TO PREVENT UNDERCUTTING.
8. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PROPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED. RETAINED SEDIMENT MUST BE REMOVED AND PROPERLY DISPOSED OF, OR MULCHED AND SEEDED.
9. INSPECT IMMEDIATELY AFTER EACH RAINFALL, AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIR AS NECESSARY.
10. SEDIMENT MUST BE REMOVED WHEN IT REACHES APPROXIMATELY ONE THIRD THE HEIGHT OF THE FENCE, ESPECIALLY IF HEAVY RAINS ARE EXPECTED.
11. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE FILTER FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

EROSION CONTROL SEEDING MIX:

1. SEEDING MIXTURE SHALL BE AS FOLLOWS AND SHALL BE APPLIED AT THE RATE OF 120 LBS/ACRE:

NAME	PROPORTIONS BY WEIGHT	PERCENT PURITY	PERCENT GERMINATION
REDTOP (AGROSTIS ALBA)	10	92	90
ANNUAL RYE (LOLIUM MULTIFLORUM)	40	98	90
CHEWINGS FESCUE (FESTUCA RUBRA COMMUTATA)	40	97	80
WHITE DUTCH CLOVER (TRIFOLIUM REPENS)	10	96	90

2. THE OPTIMUM SEEDING WINDOWS FOR WESTERN WASHINGTON ARE APRIL 1 THROUGH JUNE 30 AND SEPTEMBER 1 THROUGH OCTOBER 1.
3. SEEDING THAT OCCURS BETWEEN JULY 1 AND AUGUST 30 WILL REQUIRE IRRIGATION UNTIL 75% GRASS COVER IS ESTABLISHED. SEEDING THAT OCCURS BETWEEN OCTOBER 1 AND MARCH 30 WILL REQUIRE A MULCH OR PLASTIC COVER UNTIL 75% GRASS COVER IS ESTABLISHED.
4. BEFORE SEEDING, INSTALL NEEDED SURFACE RUNOFF CONTROL MEASURES SUCH AS GRADIENT TERRACES, INTERCEPTOR DIKES, SWALES, LEVEL SPREADERS AND SEDIMENT BASINS.
5. THE SEEDBED SHALL BE FIRM WITH A FAIRLY FINE SURFACE, FOLLOWING SURFACE ROUGHENING. PERFORM ALL OPERATIONS ACROSS OR AT RIGHT ANGLES TO THE SLOPE.
6. FERTILIZERS ARE TO BE USED ACCORDING TO SUPPLIERS RECOMMENDATIONS. AMOUNTS USED SHOULD BE MINIMIZED, ESPECIALLY ADJACENT TO WATER BODIES AND WETLANDS.

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APRIL 17, 2023

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TESC NOTES AND DETAILS

C2.1

APEX JOB NO. 34578

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CONSTRUCTION NOTES:

1. AIR EXCAVATION REQUIRED FOR CONSTRUCTION WITHIN THE EXISTING TREE DRIPLINE. TRAQ QUALIFIED ARBORIST TO BE PRESENT TO OBSERVE AND PROVIDE GUIDANCE DURING EXCAVATION OPERATIONS. SEE ALSO SHEET C1.0.
2. INSTALL ACO TRENCH DRAIN W/ INLINE CB PER DETAIL SHEET C3.1. GRATE ELEV = 64.89±, I.E. 6" (W) = 62.62±.
3. 9 LF 6" ø ADS-N12 @ 25.22%.
4. CB#1, INSTALL NYLOPLAST DRAIN BASIN (OR APPROVED EQUAL). RIM = 65.00±, IE = 60.35±.
5. 16 LF 6" ø ADS-N12 @ 12.75%.
6. CB#2, INSTALL NYLOPLAST DRAIN BASIN (OR APPROVED EQUAL). RIM = 64.00±, I.E. = 58.31±.
7. 35 LF 6" ø ADS-N12 @ 22.77%.
8. CB#3, INSTALL NYLOPLAST DRAIN BASIN (OR APPROVED EQUAL). RIM = 55.00±, I.E. = 50.34±.
9. 27 LF 6" ø ADS-N12 @ 20.70%.
10. CB#4, INSTALL NYLOPLAST DRAIN BASIN (OR APPROVED EQUAL). RIM = 47.50±, IE = 44.75±.
11. 59 LF 6" ø ADS-N12 @ 2.92%.
12. CONNECT WALL DRAIN TO PROPOSED ROOF DRAIN LINE.
13. CONNECT WALL DRAIN TO PROPOSED STORM SYSTEM.
14. EXISTING CB, REMOVE AND REPLACE WITH NYLOPLAST DRAIN BASIN (OR APPROVED EQUAL). RIM = 50.22±, I.E. 6" (N) = 44.77±, I.E. 12" (E,W) = 44.27±, I.E. 12" (SW) = 48.12±.
15. WATER SERVICE TO NEW STRUCTURE.
16. POWER CONNECTION FOR NEW STRUCTURE. COORDINATE FINAL LOCATION WITH ARCHITECT.
17. GAS CONNECTION FOR NEW STRUCTURE. COORDINATE FINAL LOCATION WITH ARCHITECT.
18. "DS" INDICATES DOWNSPOUT LOCATION. (SEE ARCHITECTURAL PLANS). DOWNSPOUT INVERT ELEVATIONS TO BE 1.5-FT BELOW FINISHED GRADE.
19. "RDP" INDICATES DOWNSPOUT PIPING. DOWNSPOUT PIPE TO BE 4" PVC SDR35 AT A MINIMUM SLOPE OF 1%.
20. EXISTING STORM PIPE TO REMAIN.
21. CONNECT RETAINING WALL SUBDRAIN TO THE PROPOSED CONVEYANCE SYSTEM WITH NON-PERFORATED PIPE. SEE DETAIL ON SHEET C3.1.
22. EXISTING CB TO REMAIN. DO NOT DISTURB.
23. EXISTING CB TO REMAIN. DO NOT DISTURB, EXCEPT TO MAKE NEW CONNECTION.
24. SEE SHEET C3.2 FOR POST-CONSTRUCTION SOIL QUALITY NOTES.
25. TV INSPECTION OF THE EXISTING STORM PIPE TO THE LAKE IS REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, REPLACEMENT OF THE EXISTING STORM PIPE IS REQUIRED.
26. SEE SHEET C1.0 FOR TREE REFERENCE.
27. SEE SHEET C3.1 FOR DRIVEWAY CENTERLINE PROFILE.
28. CONNECT RETAINING WALL SUBDRAIN TO THE PROPOSED TRENCH DRAIN WITH NON-PERORATED PIPE. SEE DETAIL ON SHEET C3.1.
29. REMOVE EXISTING PIPE AND REPLACE WITH 20 LF 12" ADS-N12 @ 24.50%.
30. REMOVE EXISTING PIPE AND REPLACE WITH 38 LF 12" ADS-N12 @ 28.97%.
31. INSTALL PIPE ANCHOR. SEE DETAIL ON SHEET C3.1.
32. 6 LF 12" ADS-N12 @ 28.98%.
33. CB#9, INSTALL NYLOPLAST DRAIN BASIN (OR APPROVED EQUAL). RIM = 46.20±, I.E.(E,W) = 42.53±, I.E.(N) = 43.03±.
34. COORDINATE GATE LOCATION/DETAILS WITH MERCER ISLAND FIRE DEPARTMENT.
35. PLANTER AREAS TO CONTAIN MINIMUM 2-FT SOIL DEPTH.

SIDE SEWER CONSTRUCTION NOTES:

(A) CONNECT PROPOSED SIDE SEWER TO EXISTING SIDE SEWER STUB. EXISTING I.E. = 45.07±

(B) 6 LF 6" PVC SDR-35 SIDE SEWER AT 2.0% MINIMUM SLOPE

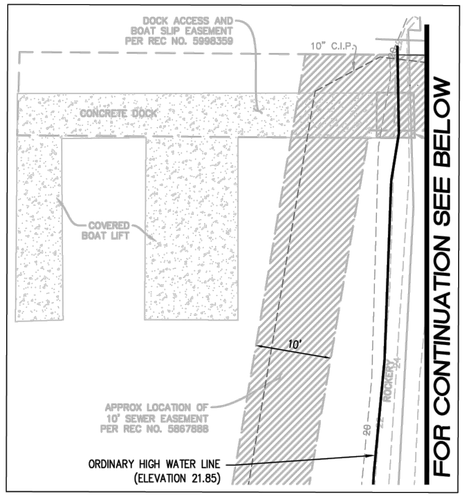
(C) INSTALL NDS 675P BACKWATER VALVE (OR APPROVED EQUAL) AND ASSOCIATED VALVE BOX PER MERCER ISLAND STANDARD DETAIL S-26

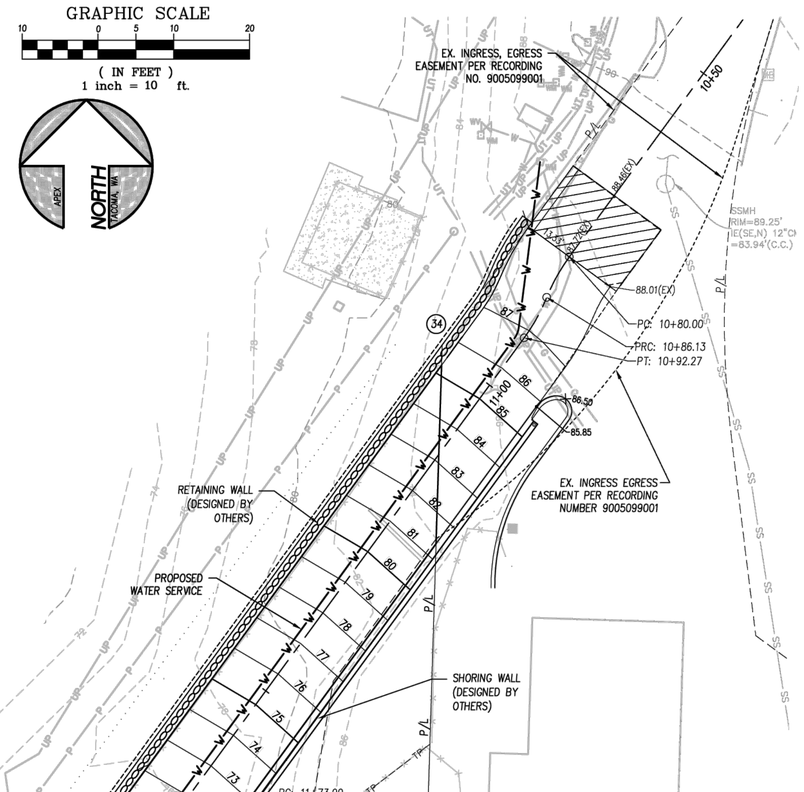
(D) 5 LF 6" PVC SDR-35 SIDE SEWER AT 2.0% MINIMUM SLOPE

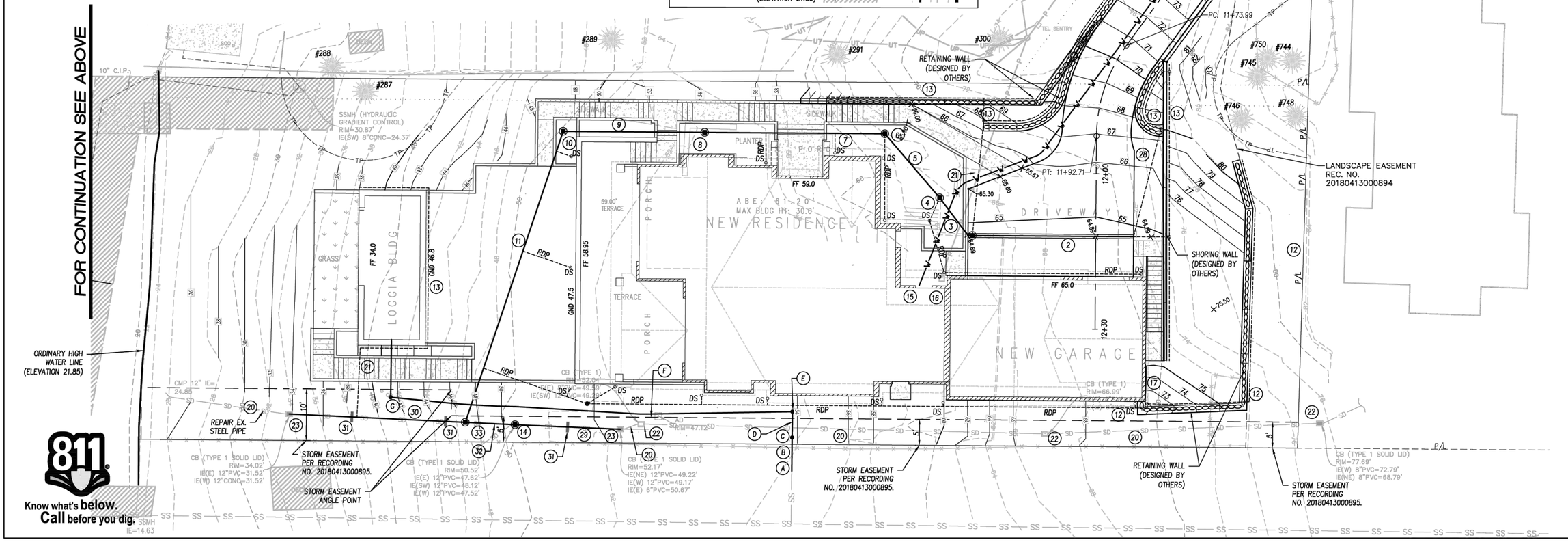
(E) INSTALL NEW SEWER CLEANOUT 3' FROM STRUCTURE. RIM = 53.90±, I.E.=45.30± WITH TEE (W) AND TAPPED CAP 2-IN X 6-IN MJ

(F) 78 LF 2" PVC SCHEDULE 40 PRESSURE PIPE

(G) INSTALL ZOELLER MODEL 211 GRINDER PUMP (OR APPROVED EQUAL) AND ASSOCIATED BASIN WITH RISERS AS NECESSARY TO BRING TO FINISHED GRADE. RIM = 40.80±, I.E. = 32.50±







811 Know what's below. Call before you dig.

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PETER R. JACOBS 22748 REGISTERED PROFESSIONAL ENGINEER
04-17-2023

APRIL 17, 2023

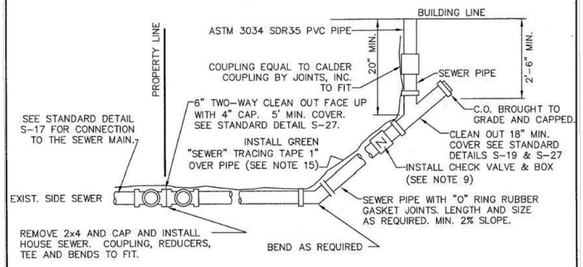
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DRAINAGE AND UTILITIES

C3.0

APEX JOB NO. 34578

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BUILDING CONNECTION

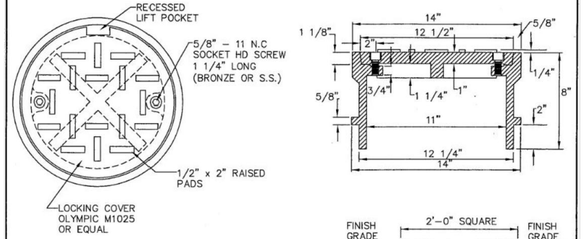
NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
4. 18" MINIMUM COVERAGE OVER PIPE.
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH ⅛ BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 4" SEWER PIPE MINIMUM SIZE ON PROPERTY. 2% MINIMUM GRADE.
7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SEWER ORDINANCES.
8. ALL CONSTRUCTION REQUIRES A PLAN SHOWING PROPERTY AND DIMENSIONS AND COMPLETION OF SIDE SEWER APPLICATION AND MAINTENANCE AGREEMENT, AS NEEDED.
9. BACK WATER VALVE (CHECK VALVE) IS REQUIRED:
   A. IF CONNECTED TO A SHARED SIDE SEWER.
   B. IF CONNECTION AT HOUSE IS LOWER THAN BOTH UPSTREAM AND DOWNSTREAM MANHOLE.
   C. SEE S-23 & S-24 FOR LAKE LINE REQUIREMENTS.
10. AS-BUILT DRAWING SHOWING LOCATION OF SIDE SEWER & ALL BENDS, C.O. ETC., IN RELATION TO THE HOUSE IS REQUIRED AFTER INSPECTION & INSTALLATION. SEE STANDARD DETAIL S-38 FOR A TYPICAL "AS BUILT".
11. THE MINIMUM PIPE SIZE FOR SIDE SEWERS SHALL BE:
    6" – WITHIN THE PUBLIC RIGHT-OF-WAY.
    4" – SINGLE FAMILY RESIDENCES.
    6" – 2 TO 6 SINGLE FAMILY RESIDENCES.
    6" – BUILDINGS OTHER THAN SINGLE FAMILY RESIDENCES.
12. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

HOUSE SEWER CONNECTION

REV DATE						6-5-2009	NO SCALE	S-18
								APPROVED



FOR PVC PIPE

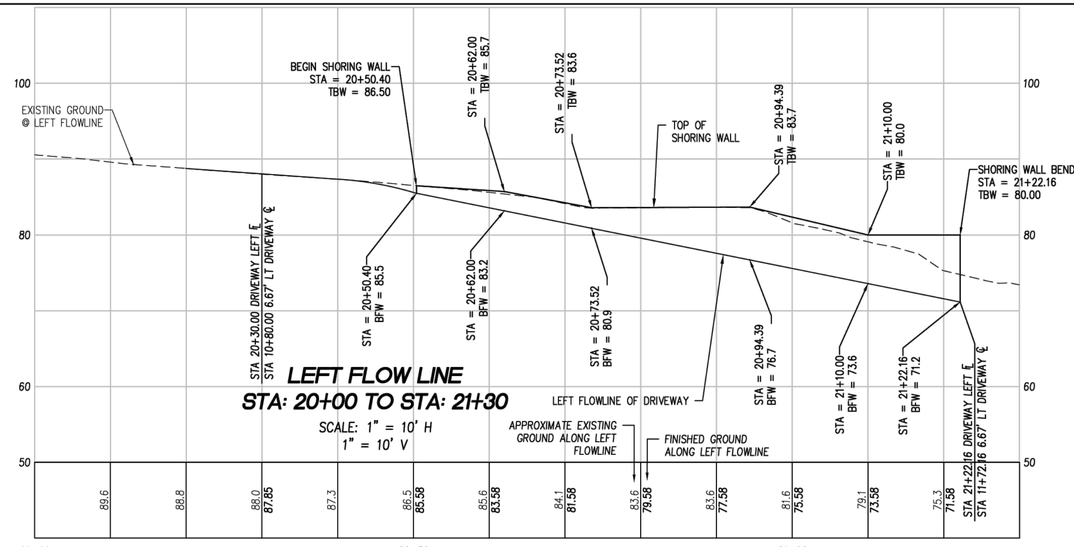
NOTES

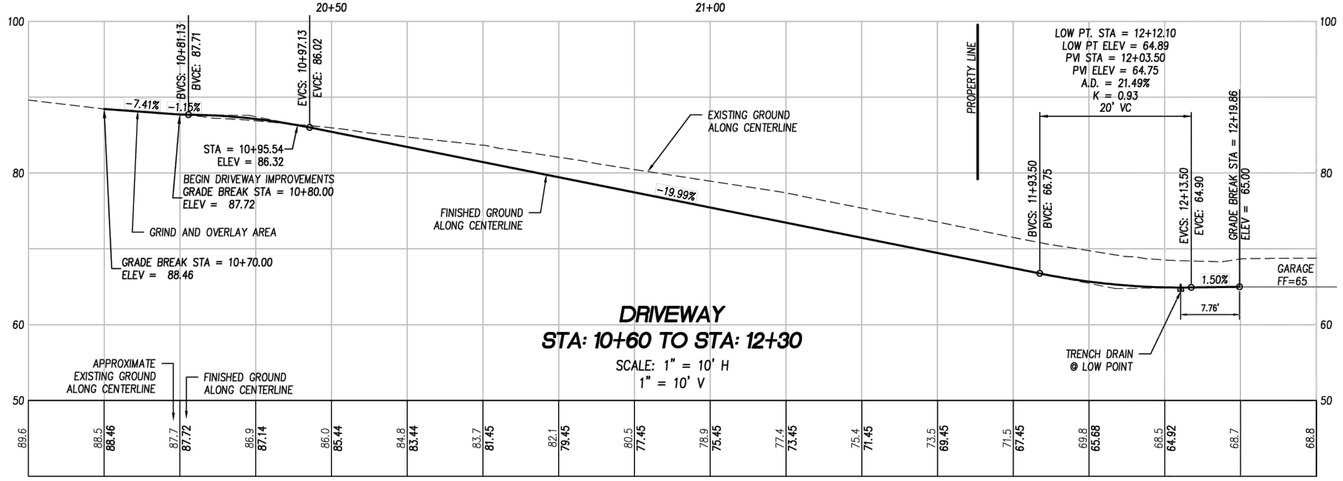
1. SEE S-27 FOR INSTALLATION DETAILS.

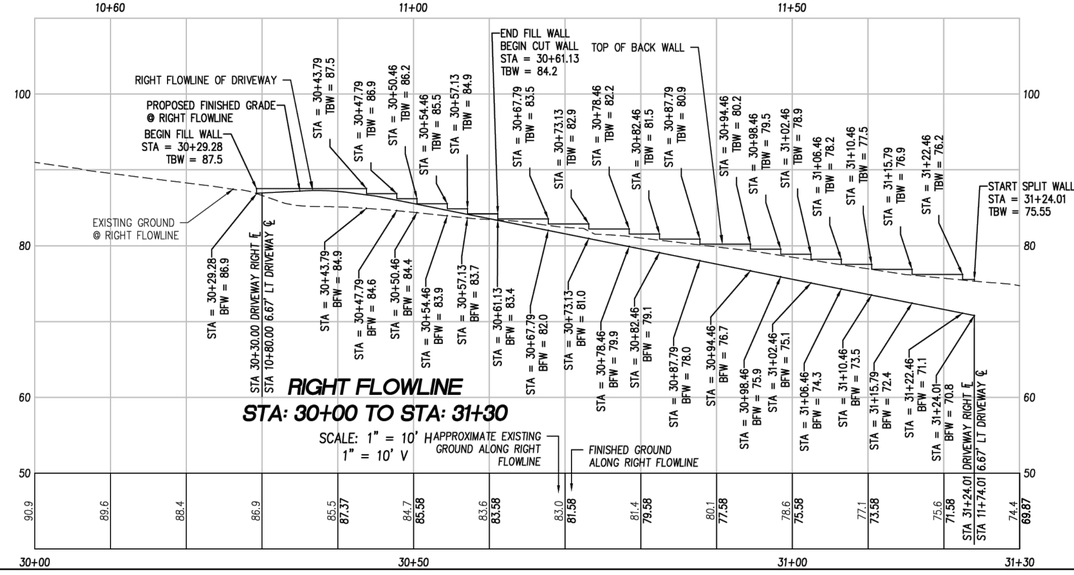
CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

CLEAN OUT DETAIL

REV DATE						6-5-2009	NO SCALE	S-19
								APPROVED







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BRIAN R. INGE — STATE OF WASHINGTON — 42241 — REGISTERED PROFESSIONAL ENGINEER
04-17-2023

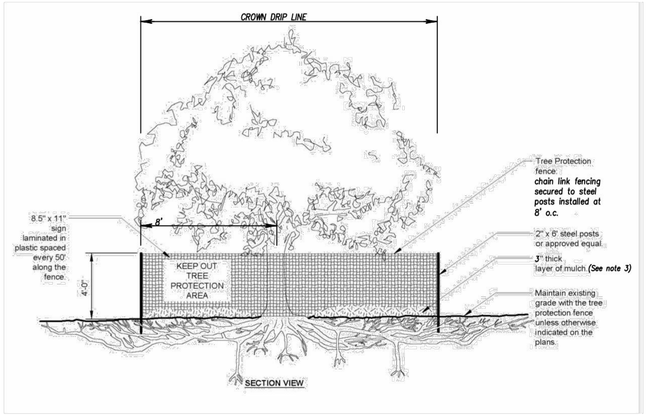
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NOTES AND DETAILS

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APEX JOB NO. 34578

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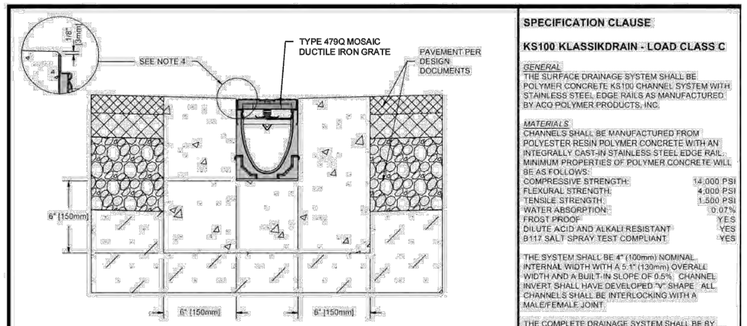


NOTES

1. *PROTECTIVE FENCING SHALL BE LOCATED WHERE SHOWN ON PLANS. AVOID DRIVING POSTS OR STAKING INTO MAJOR ROOTS. FENCE MUST REMAIN UP THROUGHOUT PROJECT.*
2. *NO STOCKPILING OF MATERIALS, GRADE CHANGES, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING. CONTACT ARBORIST FOR MITIGATION MEASURES IF FENCING MUST COME DOWN.*
3. *TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER 1" IN DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP WITH CONTINUOUS IRRIGATION, TO PREVENT DRYING. COVER WITH SOIL AS SOON AS POSSIBLE – 3" OF MOIST MULCH RECOMMENDED.*
4. *APPLY 6" OF ORGANIC MULCH OVER THE SURFACE INSIDE THE TREE PROTECTION AREA.*
5. *DURING THE DRY MONTHS OF JULY, AUGUST, AND SEPTEMBER, PROVIDE DEEP HYDRATION OF SOILS BY SPRINKLER OR DRIP IRRIGATION INSIDE THE TREE PROTECTION AREA.*

TREE PROTECTION DETAIL

NTS



NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" (3mm) ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

KS100 KLASSIKDRAIN - LOAD CLASS C

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE KS100 CHANNEL SYSTEM WITH STAINLESS STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN STAINLESS STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF:	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 5.1" (130mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

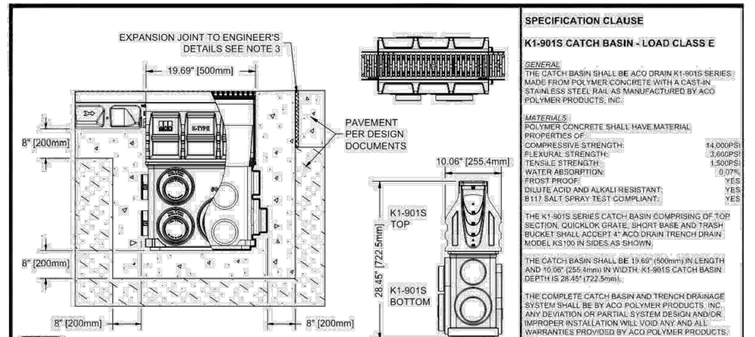
CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'QUICKLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

KS1-C-EAP
DATE: 08/25/15

KS100 - KLASSIKDRAIN - LOAD CLASS: C
Exposed Asphalt Pavement
INSTALLATION DRAWING - ACO DRAIN

ACO Polymer Products, Inc.
825 W. Beechcraft St. Casa Grande, AZ 85122 Tel: 520-421-9988 Fax: 520-421-9899
9470 Pinecone Dr. Mentor, OH 44060 Tel: 440-639-7230 Fax: 440-639-7235
4211 Pleasant Rd. Fort Mill, SC 29708 Tel: 440-639-7230 Fax: 803-802-1063

Arizona Tel: 888-490-9552 e-mail: sales@acousa.com Ohio Tel: 800-543-4764 www.acousa.com South Carolina Tel: 800-543-4764



NOTES:
1. IT IS NECESSARY TO ENSURE THE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR THE EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. A MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. THE CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CRACK CONTROL JOINTS ARE RECOMMENDED TO PROTECT THE CATCH BASIN AND THE CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" ABOVE THE TOP OF THE CATCH BASIN EDGE.
5. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.
6. CONCRETE BASE THICKNESS SHOULD MATCH THE SLAB THICKNESS.
7. REBAR OR STEEL MESH REINFORCEMENT MAY BE REQUIRED. *ENGINEERING ADVICE MAY BE REQUIRED.*

SPECIFICATION CLAUSE

K1-901S CATCH BASIN - LOAD CLASS E

GENERAL
THE CATCH BASIN SHALL BE ACO DRAIN K1-901S SERIES MADE FROM POLYMER CONCRETE WITH A CAST-IN STAINLESS STEEL RAIL AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
POLYMER CONCRETE SHALL HAVE MATERIAL PROPERTIES OF:

COMPRESSIVE STRENGTH:	14,000PSI
FLEXURAL STRENGTH:	3,600PSI
TENSILE STRENGTH:	1,500PSI
WATER ABSORPTION:	0.07%
FROST PROOF:	YES
DILUTE ACID AND ALKALI RESISTANT:	YES
B117 SALT SPRAY TEST COMPLIANT:	YES

THE K1-901S SERIES CATCH BASIN COMPRISING OF TOP SECTION, QUICKLOK GRATE, SHORT BASE AND TRASH BUCKET SHALL ACCEPT 4" ACO DRAIN TRENCH DRAIN MODEL KS100 IN SIDES AS SHOWN.

THE CATCH BASIN SHALL BE 19.69" (500mm) IN LENGTH AND 10.06" (255.4mm) IN WIDTH. K1-901S CATCH BASIN DEPTH IS 28.45" (722.5mm).

THE COMPLETE CATCH BASIN AND TRENCH DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

K1-901S SERIES CATCH BASIN SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE SHALL BE HELD IN PLACE WITH THE QUICKLOK SYSTEM. CATCH BASIN, TRENCH CHANNEL AND GRATE SHALL BE INDEPENDENTLY CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS.

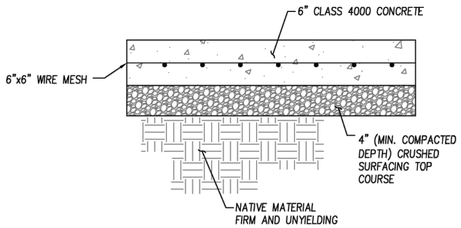
THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

K1901S-E-ECP
DATE: 08/24/15

K1-901S CATCH BASIN - LOAD CLASS: E
Exposed Concrete Pavement
INSTALLATION DRAWING - ACO DRAIN

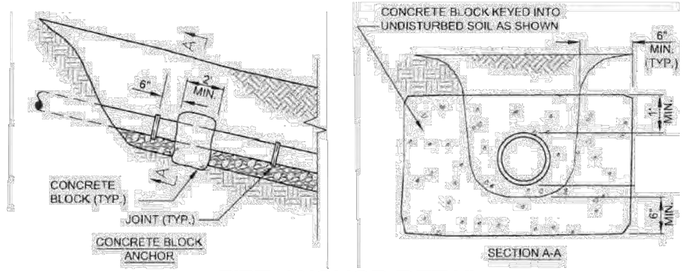
ACO Polymer Products, Inc.
825 W. Beechcraft St. Casa Grande, AZ 85122 Tel: 520-421-9988 Fax: 520-421-9899
9470 Pinecone Dr. Mentor, OH 44060 Tel: 440-639-7230 Fax: 440-639-7235
4211 Pleasant Rd. Fort Mill, SC 29708 Tel: 440-639-7230 Fax: 803-802-1063

Arizona Tel: 888-490-9552 e-mail: sales@acousa.com Ohio Tel: 800-543-4764 www.acousa.com South Carolina Tel: 800-543-4764



DRIVEWAY PAVEMENT SECTION

NO SCALE

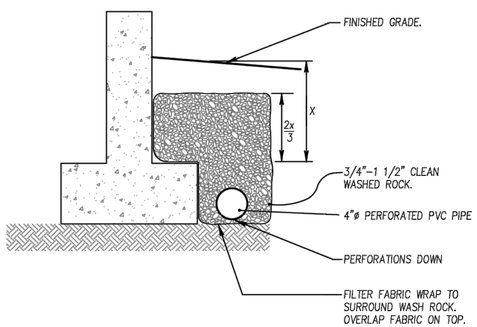


PIPE ANCHOR DETAIL

NTS

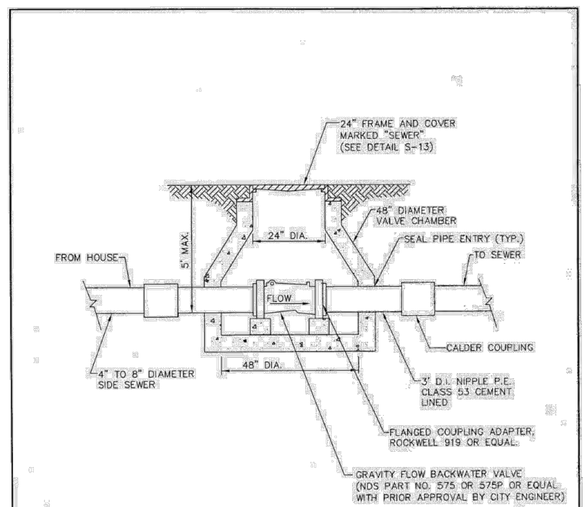
POST-CONSTRUCTION SOIL MANAGEMENT:

1. *RETAIN AND PROTECT NATIVE VEGETATION AND SOIL:*
   - 1.1. *IDENTIFY AREAS OF THE SITE THAT WILL NOT BE DISTURBED DURING CONSTRUCTION (CLEARED, GRADED, OR DRIVEN ON). FENCE THOSE AREAS TO PREVENT IMPACTS DURING CONSTRUCTION.*
2. *LOOSEN COMPACTED SUBSOIL (IF NEEDED) IN DISTURBED AREAS (COMPACTED BY CONSTRUCTION TRAFFIC):*
   - 2.1. *SCARIFY THE TOP 4 INCHES OF SUBSOIL*
   - 2.2. *USE A CAT-MOUNTED RIPPER, TRACTOR-MOUNTED DISC, OR TILLER TO MIX THE FIRST LIFT OF TOPSOIL INTO THE SUBSOIL*
   - 2.3. *USE THE EQUIPMENT LISTED ABOVE TO SCARIFY (TILL OR RIP) SOILS TO A DEPTH OF 12 INCHES BEFORE TILLING IN AT LEAST 8 INCHES OF COMPOST*
3. *RESTORE SOILS THAT ARE DISTURBED DURING CONSTRUCTION BY IMPLEMENTING ONE OF THE FOLLOWING:*
   - 3.1. *OPTION 1: TILL COMPOST (1.75 INCHES FOR TURF AREAS, 3 INCHES FOR PLANTING BEDS) INTO EXISTING SOIL*
   - 3.2. *OPTION 2: STOCKPILE AND REUSE EXISTING TOP SOIL (AMEND IF NEEDED TO MEET 5% ORGANIC MATTER CONTENT FOR TURF AREAS; 10% ORGANIC MATTER CONTENT FOR PLANTING BEDS)*
   - 3.3. *OPTION 3: IMPORT 6 INCHES OF COMPOST AMENDED TOPSOIL (25% COMPOST FOR TURF AREAS; 40% COMPOST FOR PLANTING BEDS) AND SCARIFY (TILL OR RIP) INTO EXISTING SOIL IN TWO 3-INCH LIFTS*
4. *ADD MULCH TO PLANTING BEDS:*
   - 4.1. *SPREAD MULCH (COARSE BARK OR WOOD CHIPS) IN THE SPRING OR FALL (AFTER PLANTING) TO CONTROL WEEDS, REDUCE THE NEED FOR IRRIGATION, AND PREVENT EROSION. APPLY 1 TO 2 INCHES OF MULCH ON PLANTING BEDS AND AROUND SHALLOW-ROOTED ANNUALS. APPLY 2 TO 4 INCHES OF MULCH AROUND TREES AND WOODY PERENNIALS, BUT MAKE SURE TO KEEP MULCH 2 TO 3 INCHES AWAY FROM TREE TRUNKS.*
5. *PROTECT RESTORED SOILS FROM EROSION AND RE-COMPACTION:*
   - 5.1. *PREVENT RUNOFF FROM ROADS OR OPEN SLOPES ONTO AMENDED SOIL AREAS. COMPOST BLANKETS ARE AN APPROVED EROSION CONTROL BEST MANAGEMENT PRACTICE (BMP) THAT CAN BE USED DURING CONSTRUCTION AND THEN TILLED INTO THE EXISTING SOIL AT THE END OF THE CONSTRUCTION PROCESS PRIOR TO PLANTING. ONCE SOILS HAVE BEEN AMENDED, VEHICLE TRAFFIC SHOULD BE PROHIBITED TO PREVENT RE-COMPACTION FROM OCCURRING.*



FOOTING DRAIN DETAIL

NO SCALE



CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
BACK WATER VALVE ASSEMBLY FOR JOINT USE SIDE SEWER (4" OR 6" DIAMETER)

6-5-2009	NO SCALE	S-26

REV. DATE | | | | | | APPROVED

1

RF ARCHITECTURE
7421 214TH AVENUE EAST
BONNEY LAKE, WA 98391
253-509-4039

MURRAY RESIDENCE
4803 FOREST AVENUE SE
MERCER ISLAND, WA 98040

Apex Engineering
2601 South 35th St., Suite 200
Tacoma, Washington 98409-7379
(253) 472-4464 FAX: (253) 472-4698

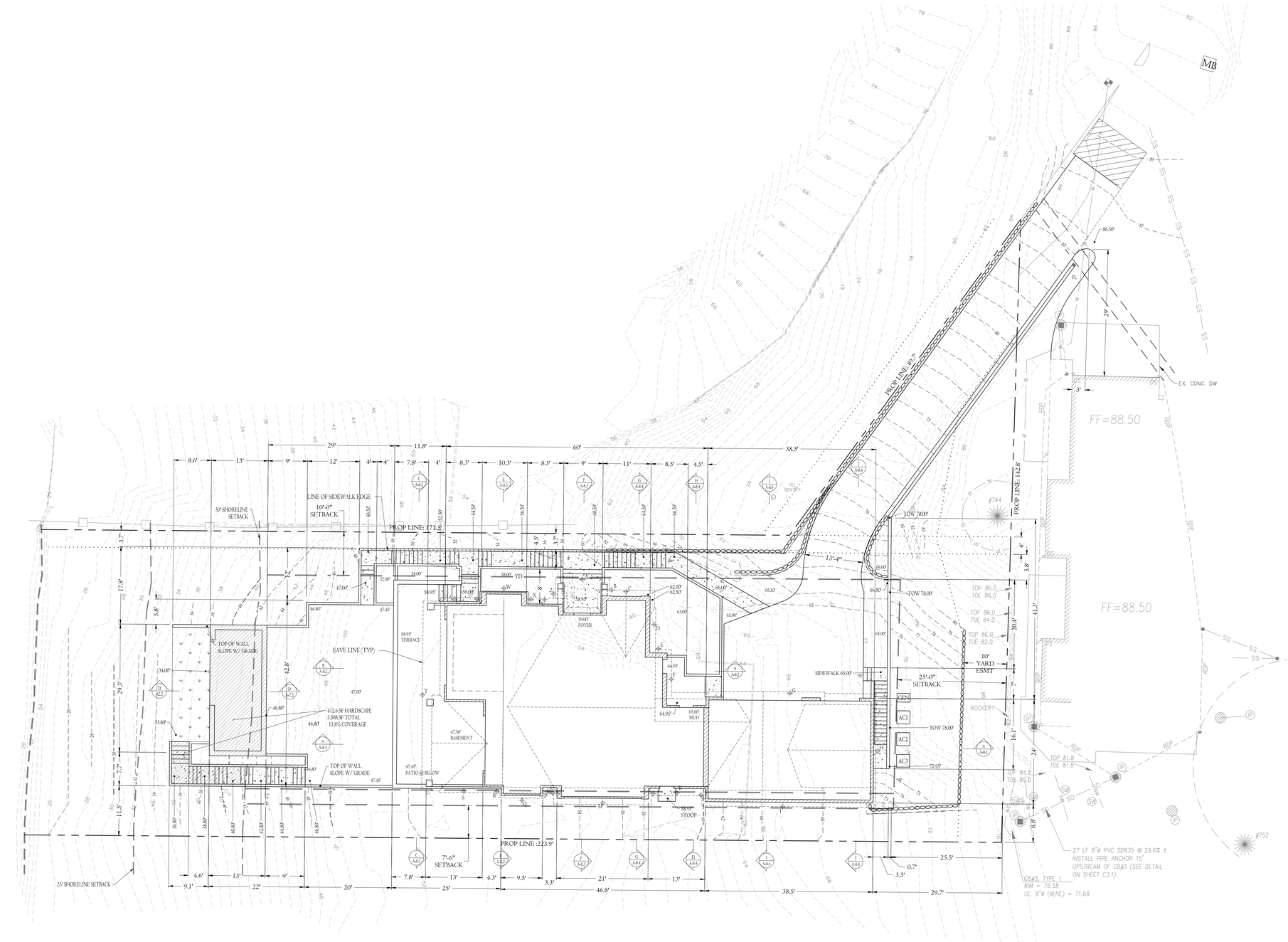
04-17-2023

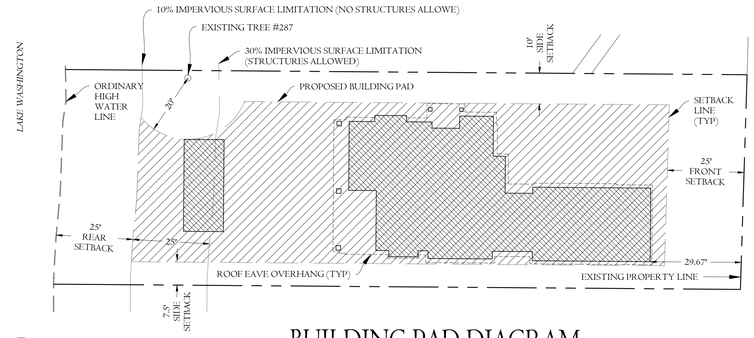
APRIL 17, 2023

SEC 13/24 T24N R04E

NOTES AND DETAILS

C3.2
APEX JOB NO. 34578
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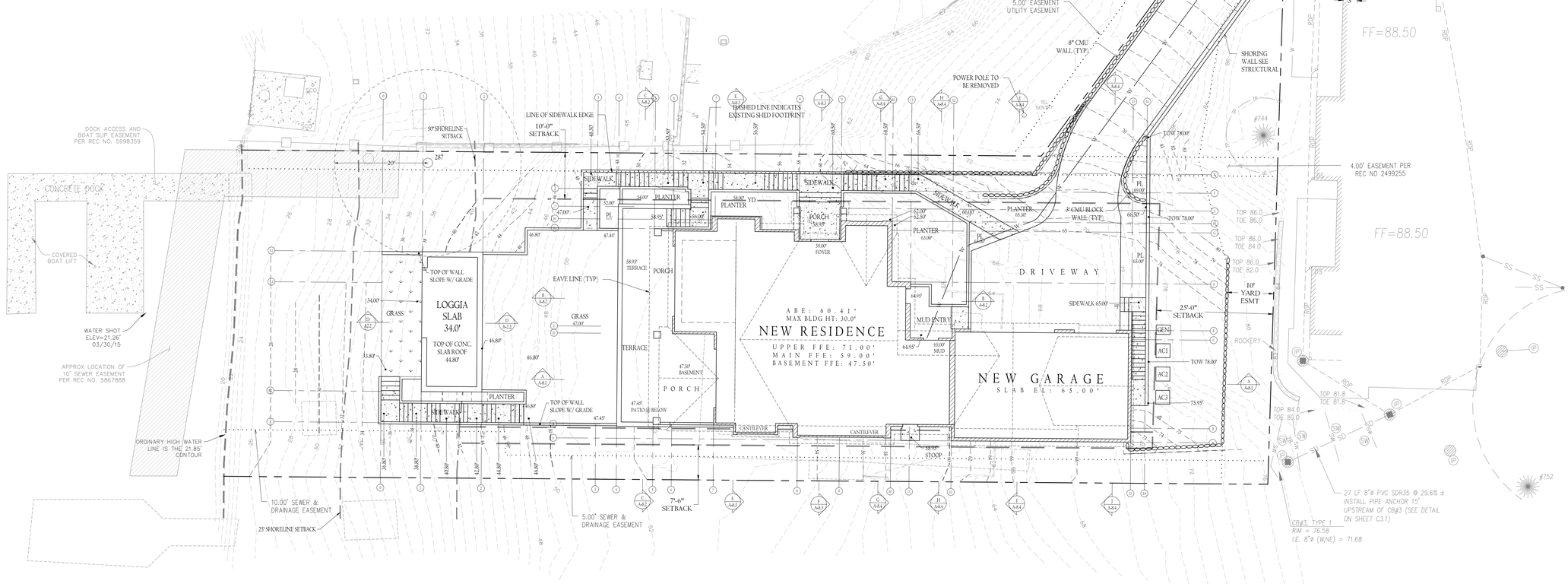

PROP LINE: 171.5'
PROP LINE: 223.9'
PROP LINE: 90.7'
PROP LINE: 142.8'
50' SHORELINE SETBACK
25' SHORELINE SETBACK
LINE OF SIDEWALK EDGE
10'-0" SETBACK
7'-6" SETBACK
25'-0" SETBACK
10' YARD ESMT
TOP OF WALL SLOPE W/ GRADE
EAVE LINE (TYP)
58.95' TERRACE
50.00' FOYER
47.45' BASEMENT
47.45' PATIO BELOW
412.6 SF HARDSCAPE
3,508 SF TOTAL
11.8% COVERAGE
SIDEWALK 65.00'
ROCKERY
TOW 78.00'
TOW 78.00'
TOW 78.00'



BUILDING PAD DIAGRAM

SCALE: 1" = 20'-0"

NORTH



NORTH

SITE PLAN

1" = 10.0'

0 5' 10' 20'

SCALE: 1" = 10'

NOTE:
IF THERE IS AT LEAST 2 FEET OF SOIL, PLANTERS DO NOT COUNT TOWARDS HARDSCAPE, JUST THE EXTERIOR RETAINING WALLS COUNT TOWARDS HARDSCAPE.

NOTE:
PER ARBORIST REPORT, DATED SEPTEMBER 20, 2022. SITE EXCAVATION TO BE MONITORED BY A TREE PROFESSIONAL. AS EXCAVATION APPROACHES THE TREE PROTECTION ZONES, TREE ROOTS ORIGINATING FROM TREES SLATED FOR RETENTION MAY BE EXPOSED. ROOTS THAT WILL LIKELY BE EXPOSED MAY NEED TO BE SEVERED OR REMOVED, WHICH COULD RESULT IN AN INCREASED LIKELIHOOD OF AN ASSOCIATED FAILURE SOMETIME IN THE FUTURE. FAILURE TO MONITOR THESE ROOT SYSTEM ENCOUNTERS MIGHT RESULT IN OVERLOOKING A POTENTIALLY SIGNIFICANT FUTURE RISK.

BUILDING HEIGHT

HIGHEST ELEVATION POINT ON LOT:	85.2'
LOWEST ELEVATION POINT ON LOT:	21.85'
ELEVATION DIFFERENCE:	63.35'
HORIZONTAL DISTANCE BETWEEN POINTS:	268'
LOT SLOPE:	23.6%

GROSS FLOOR AREA

UPPER FLOOR:	2,369'
MAIN FLOOR:	2,639'
GROSS BASEMENT:	2,851'
GARAGE:	924'
TOTAL FLOOR AREA:	8,783'
ACCESSORY DWELLING UNIT:	804'
DECKS:	325'
TOTAL BUILDING AREA:	10,302'
LOT AREA:	17,634
ZONE:	R-15
ALLOWED GROSS FLOOR AREA:	7,053.6 SF (40% OF LOT)
PROPOSED FLOOR AREA:	6,818 SF (38.7% OF LOT)

LOT COVERAGE

GROSS LOT AREA:	17,634 SF
NET LOT AREA:	17,634 SF
ALLOWED LOT COVERAGE AREA:	6,172 SF
ALLOWED LOT COVERAGE:	35% OF LOT
EXISTING LOT COVERAGE:	
1. MAIN STRUCTURE ROOF AREA:	1,494 SF
2. ACCESSORY BLDG ROOF AREA:	80 SF
3. VEHICULAR USE:	1,945 SF
4. COV'D PATIOS/DECKS:	234 SF
5. TOTAL EXISTING LOT COVERAGE:	3,753 SF
TOTAL EXISTING LOT AREA REMOVED:	3,753 SF
PROPOSED ADJUSTMENTS FOR FLAG LOT:	309 SF
TOTAL NEW LOT COVERAGE:	
1. MAIN STRUCTURE ROOF AREA:	3,114 SF
2. ACCESSORY STRUCTURE ROOF AREA:	390 SF
3. VEHICULAR USE:	1,833 SF
4. COV'D PATIOS/DECKS:	815 SF
5. TOTAL NEW LOT COVERAGE:	6,152 SF
TOTAL PROJECT LOT COVERAGE AREA:	6,152 SF
PROPOSED LOT COVERAGE AREA:	34.88%

HARDSCAPE

GROSS LOT AREA:	17,634 SF
NET LOT AREA:	17,634 SF
AREA BORROWED FROM LOT COVERAGE:	0 SF
ALLOWED HARDSCAPE AREA:	9% OF LOT
ALLOWED HARDSCAPE AREA:	1,587 SF
TOTAL EXISTING HARDSCAPE AREA:	
1. UNCOVERED DECKS:	734 SF
2. UNCOVERED PATIOS:	405 SF
3. WALKWAYS:	116 SF
4. STAIRS:	129 SF
5. ROCKERIES/RETAINING WALLS:	66 SF
6. TOTAL EXISTING HARDSCAPE AREA:	1,450 SF
TOTAL HARDSCAPE AREA REMOVED:	1,450 SF
TOTAL NEW HARDSCAPE AREA:	
1. UNCOVERED DECKS:	452 SF
2. UNCOVERED PATIOS:	61 SF
3. WALKWAYS:	528 SF
4. STAIRS:	245 SF
5. ROCKERIES/RETAINING WALLS:	80 SF
6. TOTAL NEW HARDSCAPE AREA:	1,366 SF
TOTAL PROJECT HARDSCAPE AREA:	1,366 SF
TOTAL PROJECT HARDSCAPE AREA:	7.7%

RF ARCHITECTURE
PH: (253)359-4039
RICHARD@RFARCHITECTURE.COM
7421 214TH AVE E BONNEYLAKE, WA 98391

6080 REGISTERED ARCHITECT RICHARD W. FLAKE STATE OF WASHINGTON

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MURRAY RESIDENCE
NEW SINGLE FAMILY RESIDENCE
9804 MERCER ISLAND, WA 98040

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
1 PER CITY REVIEW 10-22-2023
REVISIONS

APRIL 28, 2023

1 A-1.1

Name: Murray
project 4803 Forest
Ave SE

Assessment date: June 2019
Revised: December 15, 2020

Thomas QuigleyName: Murray project ISA certified arborist
PN0655A4803 Forest Ave SE

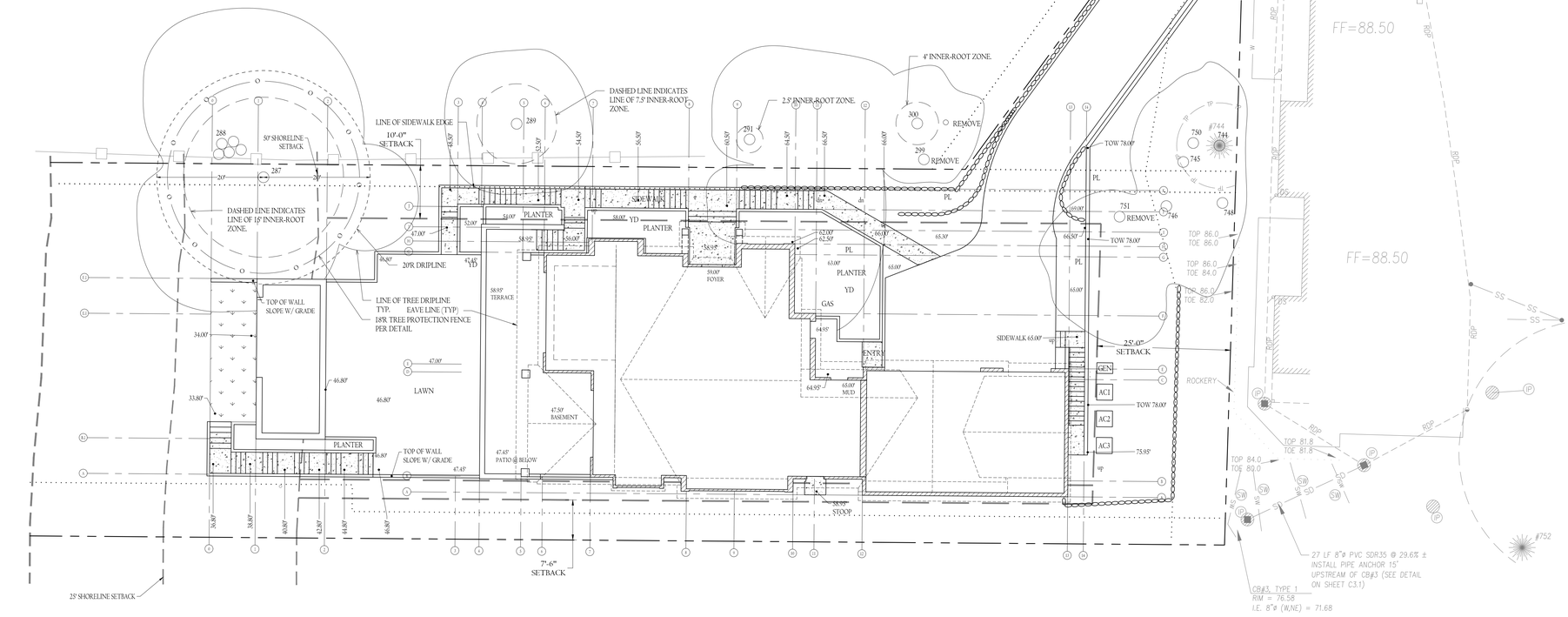
	Species	DBH"	Drpln rad'	Cndtn	Remarks	Designation	Rm	RTN	Mitigation
	On-site Trees								
287	Acer macrophyllum, Big leaf maple	34"	24' south	Good	Tree root collar is located 4-5' below existing/proposed grade	Exceptional		X	
290	Calocedrus decurrens. Incense cedar	16"	10' radius	Excellent	To be removed	Large	X		2
292	Acer macrophyllum, Big leaf maple	11"	12' south	Fair	Located 5' from BLM stump with Kretzmaria fungii. Leans 5% south.	Large	X		2
293	Acer macrophyllum, Big leaf maple	7"	5' south, 0' north	Good	4", 2", 5" equlas 6.7" DBH. Shared canopy. Leans 5% south	Non-reg			Non-reg
294	Acer macrophyllum, Big leaf maple	13"	18' south	Fair	Tree leans south so canopy is unusually heavy to the south.	Large	X		2
295	Acer macrophyllum, Big leaf maple	17"	0' south	Good	Shared canopy with other more dominant trees.	Large	X		2
296	Acer macrophyllum, Big leaf maple	15"	8' south	Fair	Dead stem and limbs, low vigor	Large	X		2
297	Acer macrophyllum, Big leaf maple	9"	18' south	Good	To be removed	Non-reg			Non-reg
298	Acer macrophyllum, Big leaf maple	12.5"	18' south	Good	no canopy coverage to the north, to be removed	Large	X		2
744	Acer macrophyllum, Big leaf maple	19"	15'	Excellent	Out of proposed construction area, tree protection from nearby, off-site construction	Large		X	
745	Thuja plicata, Western red cedar	19", 11"	15' south	Fair	Out of proposed construction area.	Large		X	
746	Acer macrophyllum, Big leaf maple	36"+	18' SW	Fair	Decay column. Out of proposed construction area.	Exceptional		X	
748	Acer macrophyllum, Big leaf maple	22"	0' north 20' south	Fair	Out of proposed construction area.	Large		X	
750	Prunus, plum?	7"	6'	Fair	under canopy of nearby Tree 744	Non-reg			Non-reg
751	Acer macrophyllum, Big leaf maple	36"+	` south 15' w	Fair	Canopy slightly overhangs construction area below. Decay, deadwood.	Exceptional	X		6
					Total tree onsite = 15, 3 Non-regulated. 30% of 12 is 3.6 or 4 trees. 5 trees retained.	**Total Replant**			**18**
	Off-site Trees								

Name: Murray
project 4803 Forest
Ave SE

Assessment date: June 2019
Revised: December 15, 2020

Thomas QuigleyName: Murray project ISA certified arborist
PN0655A4803 Forest Ave SE

								RTN X	Mitigation
288	Acer macrophyllum, Big leaf maple	est 48" +	6' south	Good	Off-site tree with canopy dominated by Tree #287	Exceptional			
289	Acer macrophyllum, Big leaf maple	est 30"	15' radius	Good	Off-site tree with hornet nest in ground at root collar.	Exceptional		X	
291	Acer macrophyllum, Big leaf maple	2 x 18"	5' south	Fair	Was 3-stem, center stem cut at 10', deadwood, narrow.	Exceptional		X	
299	Acer macrophyllum, Big leaf maple	21"	3' south	Fair	Off-site tree, large decay column, good response growth.	Large	X		
300	Acer macrophyllum, Big leaf maple	15", 20.5"	8' south	Fair	Off-site, located just 8' from power pole with transformer.	Large		X	



NOTE:
PER ARBORIST REPORT, DATED SEPTEMBER 20, 2022, SITE EXCAVATION TO BE MONITORED BY A TREE PROFESSIONAL, AS EXCAVATION APPROACHES THE TREE PROTECTION ZONES. TREE ROOTS ORIGINATING FROM TREES SLATED FOR RETENTION MAY BE EXPOSED. ROOTS THAT WILL LIKELY BE EXPOSED MAY NEED TO BE SEVERED OR REMOVED, WHICH COULD RESULT IN AN INCREASED LIKELIHOOD OF AN ASSOCIATED FAILURE SOMETIME IN THE FUTURE. FAILURE TO MONITOR THESE ROOT SYSTEM ENCOUNTERS MIGHT RESULT IN OVERLOOKING A POTENTIALLY SIGNIFICANT FUTURE RISK.

NOTE: COORDINATE WITH SHEET LA-1.0

NORTH

TREE PLAN

1" = 10.0'

0 5' 10' 20'

SCALE: 1" = 10'

RF ARCHITECTURE
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RICHARD@RFARCHITECTURE.COM
7421 214TH AVE E BONNEYLAKE, WA 98391

6080 REGISTERED ARCHITECT RICHARD W. FLAKE STATE OF WASHINGTON

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Richard Flake Architect

MURRAY RESIDENCE

NEW SINGLE FAMILY RESIDENCE
METRO FOR ISLAND, WA 98040

DESIGN: RWF
DRAWN:
HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:

PER CITY REVIEW
10.22.2021
REVISIONS

APRIL 28, 2023

A-I.2

CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org
Inspection Requests: Online: www.mybuildingpermit.com VM: 206.275.7730

SITE DEVELOPMENT INFORMATION

Worksheet for single family residential development

PROJECT INFORMATION

Permit Number:	2012-069	Parcel Number:	257730-0021
Site Address:	4803 Forrest Ave SE	Phone Number:	(253)359-4039
Owner Name:	Ross Murray	Date:	4-24-23

Signature & phone number of Individual who completed this worksheet:

R Flake — (253)359-4039
Signature — Phone Number

GENERAL INFORMATION

Will any large trees be removed as a result of this development activity? Yes ☑ No ☐ Tree # 751
Large tree- trees with diameter of greater than or equal to 10 inches.

Do you have an Accessory Dwelling Unit? New ADU ☑ Existing ADU ☐ No ☐

Will you be adding air conditioning to the proposed development? Yes ☑ No ☐

What is the total square footage of all proposed decks (covered and uncovered)on the property? 886 Square Feet

This is a worksheet and is not a substitute for the Mercer Island Development Regulations. Please consult the Mercer Island City Code. The City may require additional information to be supplies to document compliance with regulations.

LOT SLOPE

According to the Mercer Island City Code, slope is a measurement of the average incline of the lot or other piece of land calculated by subtracting the lowest elevation of the property from the highest elevation and dividing the resulting number by the shortest horizontal distance between these two points. The resulting product is multiplied by 100.

LOT SLOPE CALCULATIONS

Highest Elevation Point of Lot:	85.2	Feet
Lowest Elevation Point of Lot:	21.85	Feet
Elevation Difference:	63.35	Feet
Horizontal Distance Between High and Low Points:	268	Feet
Lot Slope*	23.6	%

**Lot slope is the elevation difference divided by horizontal distance multiplied by 100.*

Lot slope calculations shown on Sheet # A-1.1

LOT COVERAGE

For single family residential development, "lot coverage" is the area of a lot that may be covered by a combination of the buildings and vehicular driving surfaces. Lot coverage is based on "net lot area". Net lot area is the size of the lot minus the area within any access easements on the property that do not provide access to the home on the subject lot. The maximum lot coverage for a specific lot is based upon the lots slope (see above). The area of the lot that cannot be used for lot coverage is "required landscaping area"; the landscaping area is typically improved with either hardscape (see below) or softscape.
Please note: *Lot coverage is not the same as impervious surface calculations used for drainage review.*

Lot Slope	Maximum Lot Coverage (House, driving surfaces, and accessory buildings)	Required Landscaping Area
Less than 15%	40%	60%
15% to less than 30%	35%	65%
30% to 50%	30%	70%
Greater than 50% slope	20%	80%

ADJUSTMENTS

A one-time reduction in the required landscaping area and an increase in the allowed maximum lot coverage is allowed if:

A. The total reduction in required landscaping area shall not exceed 5%, and the total increase in maximum lot coverage shall not exceed 5%; and
B. The reduction in required landscaping area is associated with:
   1. A development proposal that will result in a single-story dwelling with wheelchair accessible entry, and may also include a single-story accessory building; or
   2. A development proposal on a flag lot that, after optimizing driveway routing and minimizing driveway width, requires a driveway that is more than the 25% of the allowed lot coverage. The allowed reduction in the required landscaping area and increase in the maximum lot coverage shall not exceed 5% or the area of the driveway in excess of 25% of the lot coverage, whichever is less. For example, a development proposal with a driveway that occupies 27% of the allowed lot coverage, may increase the total lot coverage by 2%
C. A recorded notice on title, covenant, easement, or other documentation in a form approved by the city, shall be required. The notice on title or other documentation shall describe the basis for the reduced landscaping area an increase in lot coverage.

Does this project include a proposed adjustment? Yes ☐ No ☐

LOT COVERAGE CALCULATIONS

A. Gross Lot Area	17,634	Square Feet
B. Net Lot Area	17,634	Square Feet
C. Allowed Lot Coverage Area	6,172	Square Feet
D. Allowed Lot Coverage	35	% of Lot
E. Existing Lot Coverage:		
1. Main Structure Roof Area	1,494	Square Feet
2. Accessory Building Roof Area	80	Square Feet
3. Vehicular Use (driveway, paved access easements [portion used by the lot for access], parking	1,945	Square Feet
4. Covered Patios and Covered Decks	234	Square Feet

5. Total Existing Lot Coverage Area (E1+E2+E3+E4)	3,753	Square Feet
F. (Total Lot Coverage Area Removed)	3,753	Square Feet
G. Proposed Adjustment for Single Story (Area)		Square Feet
H. Proposed Adjustment for Flag Lot	309	Square Feet
I. Total New Lot Coverage Area:		
1. Main Structure Roof Area	3,114	Square Feet
2. Accessory Structure Roof Area	390	Square Feet
3. Vehicular Use (driveway, paved access easement [portion used by the lot for access], parking)	1,833	Square Feet
4. Covered Patios and Covered Decks	815	Square Feet
5. Total New Lot Coverage Area (I1 + I2 + I3 + I4)	6,152	
J. Total Project Lot Coverage Area = (E5 - F) + I5	6,152	Square Feet
K. Proposed Lot Coverage Area = (J/B) x 100	34.88	% of Lot

Lot coverage calculations shown on Plan Sheet # A-1.1

HARDSCAPE

Up to 9% of the net lot area may consist of hardscape areas. For single family residential development, hardscape is the solid, hard, elements or structures that are incorporated into landscaping. The hardscape includes, but is not limited to, structures, paved areas, stairs, walkways, decks, patios, rockeries and retaining walls, and similar constructed elements that do not have a roof. The hardscape within the landscaping area consists of materials such as wood, stone, concrete, gravel, permeable pavements or pavers, and similar materials. Hardscape does not include solid, hard elements or structures that are covered by a minimum of two feet of soil intended for softscape (for example, a septic tank covered with at least two feet of soil and planted shrubs is not hardscape). The hardscape does not include driving surfaces or buildings.
In addition, unused lot coverage may also be improved with hardscape.

HARDSCAPE CALCULATIONS

A. Gross Lot Area	17,634	Square Feet
B. Net Lot Area	17,634	Square Feet
C. Area Borrowed from Lot Coverage	0	Square Feet
D. Allowed Hardscape Area = 9% of lot area + C	9	% of Lot
E. Allowed Hardscape Area	1,587	Square Feet
F. Total Existing Hardscape Area:		
1. Uncovered Decks	734	Square Feet
2. Uncovered Patios	405	Square Feet
3. Walkways	116	Square Feet
4. Stairs	129	Square Feet
5. Rockeries and Retaining Walls	66	Square Feet
6. Other _____		Square Feet
7. Total Existing Hardscape Area (F1+F2+F3+F4+F5+F6)	1,450	Square Feet
G. (Total Hardscape Area Removed)	1,450	Square Feet
H. Total New Hardscape Area:		
1. Uncovered Decks	452	Square Feet
2. Uncovered Patios	61	Square Feet
3. Walkways	528	Square Feet
4. Stairs	245	Square Feet
5. Rockeries and Retaining Walls	80	Square Feet

6. Other _____		Square Feet
7. Total New Hardscape Area (H1+H2+H3+H4+H5+H6)	1,366	Square Feet
I. Total Project Hardscape Area = (F7 - G) + H7	1,366	Square Feet
J. Total Project Hardscape Area = (I/B)x100	7.7	% of Lot

Hardscape calculations shown on Plan Sheet # A-1.1

GROSS FLOOR AREA (GFA)

For single family residential development, GFA is the total square footage of floor area, bounded by the exterior faces of the building(s). The GFA includes the floor area of the main building, accessory buildings, garages, attached roofed decks on the second or third story of a single family home, staircases, etc. The GFA does not include second- or third-story uncovered decks or uncovered rooftop decks.
The GFA includes the floor area of the main building, accessory buildings, garages, attached roofed decks on the second or third story of a single family home, staircases, etc. The GFA does not include second- or third-story uncovered decks or uncovered rooftop decks. GFA does not include any portion of a building that is below ground (refer to page 6).

Allowed GFA

A. R-8.4: 5,000 square feet or 40% of the lot area, whichever is less.
B. R-9.6: 8,000 square feet or 40% of the lot area, whichever is less.
C. R-12: 10,000 square feet or 40% of the lot area, whichever is less.
D. R-15: 12,000 square feet or 40% of the lot area, whichever is less.
E. All zones: Lots with a lot area of 7,500 square feet or less, the lesser of 3,000 square feet or 45% of the lot area.
F. All zones: If an accessory dwelling unit is proposed, the 40% allowed GFA may be increased by the lesser of 5 percentile points, or the floor area of the accessory dwelling unit. Provided, this allowance shall not result in a GFA of more than 4,500 square feet or 45% of the lot area, whichever is less.

GFA Modifiers

The GFA calculation for a floor with a ceiling height of 12 to 16 feet, is 150% of the area of the floor.
The GFA calculation for a floor with a ceiling height of more than 16 feet, is 200% of the area of the floor.
The GFA calculation for a stair case shall be counted as a single floor for the first two stories accessed by the stair case. For each additional story above two stories, the stair case shall count as a single floor area.
**Floor plans shall identify rooms with a ceiling height of more than 12 feet and rooms with a ceiling height of more than 16 feet.*
All building areas must be identified and labeled on the site plan. Please distinguish all new construction from existing areas on both your drawing and in the calculations you complete below.

Will you be excluding a portion of the basement floor area? Yes ☐ No ☐
If yes, you must provide basement floor area calculations, with your building permit application, that show how you determined what portion of the basement will be excluded. Refer to page 6.

GROSS FLOOR AREA CALCULATIONS

Building Area	Existing Area	Removed Area	New/Addition Area	Total
Upper Floor	_____ Sq. Ft.	_____ Sq. Ft.	2,369 Sq. Ft.	_____ Sq. Ft.
Main Floor	_____ Sq. Ft.	_____ Sq. Ft.	2,639 Sq. Ft.	_____ Sq. Ft. (INCLUDES 438 SF PORCH)
Gross Basement Area	_____ Sq. Ft.	_____ Sq. Ft.	2,851 Sq. Ft.	_____ Sq. Ft. (INCLUDES 456 SF PORCH)
Garage/ Carport	_____ Sq. Ft.	_____ Sq. Ft.	924 Sq. Ft.	_____ Sq. Ft.
Total Floor Area	_____ Sq. Ft.	_____ Sq. Ft.	8,783 Sq. Ft.	_____ Sq. Ft.
Accessory Buildings	_____ Sq. Ft.	_____ Sq. Ft.	390 Sq. Ft.	_____ Sq. Ft.

Accessory Dwelling Unit	_____ Sq. Ft.	_____ Sq. Ft.	804 Sq. Ft.	_____ Sq. Ft.
2nd & 3rd Story Roofed Decks	_____ Sq. Ft.	_____ Sq. Ft.	325 Sq. Ft.	_____ Sq. Ft.
Basement Area Excluded	_____ Sq. Ft.	_____ Sq. Ft.	_____ Sq. Ft.	_____ Sq. Ft.
150% GFA Modifier* (main and upper floor x2)	_____ Sq. Ft.	_____ Sq. Ft.	_____ Sq. Ft.	_____ Sq. Ft.
200% GFA Modifier* (main and upper floor x2)	_____ Sq. Ft.	_____ Sq. Ft.	_____ Sq. Ft.	_____ Sq. Ft.
Staircase GFA Modifier* (x2 for a three story staircase, x3 for a four story staircase)	_____ Sq. Ft.	_____ Sq. Ft.	_____ Sq. Ft.	_____ Sq. Ft.
TOTAL Building Area	_____ Sq. Ft.	_____ Sq. Ft.	10,302 Sq. Ft.	_____ Sq. Ft.

**Enter the actual room area*

A. Lot Area	17,634	Square Feet
B. Zone R-8.4 ☐ R-9.6 ☐ R-12 ☐ R-15 ☑	4	
C. Allowed Gross Floor Area (refer to "allowed GFA")	7,053.6	Square Feet
D. Allowed Gross Floor Area	40	% of Lot
E. Proposed Gross Floor Area	6,818	Square Feet
F. Proposed Gross Floor Area	38.7	% of Lot

Gross floor area calculations found on Plan Sheet # A-1.1

Basement exclusion calculations found on Plan Sheet # N/A

BUILDING HEIGHT

All building height measurements must be taken from existing grade or finished grade, whichever is lower. Existing grade refers to ground surface as it exists at the proposed building perimeter before grading or other alterations take place. Finished grade refers to the ground surface as it exists at the building perimeter after grading or other alterations take place.

Single family new construction and additions are limited to a maximum height of 30 ft. above the Average Building Elevation (ABE) – see section on next pages. The height is measured to the top of the structure. On the downhill side of a sloping lot, the wall façade height is also limited to a height of 30 feet measured from existing or finished grade (whichever is lower) to the top of the exterior wall facade supporting the roof framing, rafters, trusses, etc.

A topographic survey is required at permit application when the proposed building height is within 2 ft. of the allowable building height. The survey must include a statement that attests the average contour elevation within the vicinity of the building footprint to be accurate within 6 inches vertically and horizontally from actual elevations.

BUILDING HEIGHT CALCULATIONS

A. Average Building Elevation (ABE) calculations located on sheet #:	A1.0	
B. Allowable Building Height (ABE + 30 ft.)	90.41	Feet
C. Proposed Building Height	90.24	Feet
D. Benchmark Elevation*	SSMH 89.25	Feet
E. Describe Benchmark Location (must be undisturbed throughout project)	Manhole in access easement east of power transformer	

F. Sloping lot (Downhill side)- maximum height of top of exterior wall façade above lowest existing grade (30-ft max)	28'	Feet
G. ABE and Allowable Building Height Shown on elevations plan sheet #	A-7.1, 7.2, 7.3	
H. Topo-survey Accuracy Attested on Plan Sheet #	A-1.3 AND A-1.4	

Note: survey must attest to accuracy when proposed building height is within 2 feet of the allowable building height. Please see page 8 for more information on calculating Average Building Elevation (ABE)
*The benchmark elevation is a fixed elevation point on or off site that will not be disturbed during development activity and is used to verify the final building height.

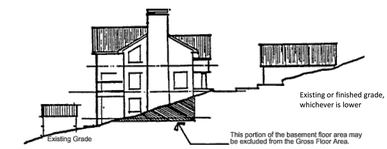
BASEMENT FLOOR AREA CALCULATION

The Mercer Island Development Code allows for the portion of the basement floor area which is below grade to be excluded from the Gross Floor Area. That portion of the basement which will be excluded is calculated as shown:
Portion of Excluded Basement Floor Area = Total Basement Area x

$$\frac{\Sigma \text{ (Wall Segment Coverage x Wall Segment Length)}}{\text{Total of all Wall Segment lengths}}$$

Where the terms are defined as follows:

Total Basement Area: The total amount of all basement floor area.
Wall Segment Coverage: The portion of an exterior wall below existing or finished grade, whichever is lower. It is expressed as a percentage. Refer to example below.
Wall Segment Length: The horizontal length of each exterior wall in feet.

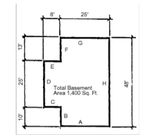


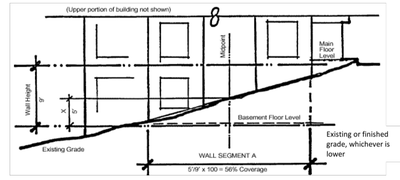
EXAMPLE OF BASEMENT FLOOR AREA CALCULATION

This example illustrates how a portion of the basement floor area may be excluded from the Gross Floor Area. In order to complete this example, the following information is needed:
a. A topographic map of the existing (e) grades and showing proposed finished (f) grades.
b. Building plans showing dimensions of all exterior wall segments and floor areas.
c. Building elevations showing the location of existing and finished grades in relation to basement level.

Step One
Determine the number and lengths of the Wall Segments.

Step Two
Determine the Wall Segment Coverage (in %) for each Wall Segment. In most cases this will be readily apparent, for example a downhill elevation which is entirely above existing and finished grade. In other cases, where the existing contours are complex, an averaging system shall be used. Refer to illustration.





Step Three
Multiply each Wall Segment Length by the percentage of each Wall Segment Coverage and add these results together. Divide that number by the sum of all Wall Segment Lengths. This calculation will result in a percentage of basement wall which is below grade. (This calculation is most easily completed by compiling a table of the information as illustrated below.)

Wall Segment	Length x	Coverage=	Result
A	25'	56%	14%
B	10'	0%	0%
B	8'	0%	0%
D	25'	0%	0%
E	8'	0%	0%
F	13'	0%	0%
G	25'	60%	15%
H	48'	100%	48%
Totals	**162'**	**NA**	**77%**

Step Four
Multiply the Total Basement Floor Area by the above percentage to determine the Excluded Basement Floor Area. Portion of Excluded Basement Floor Area Calculation below

1,400 Sq. Ft.x $\frac{(25' \times 56\% + 10' \times 0\% \ldots 25' \times 60\% + 48' \times 100\%)}{162'}$
= 1,400 Sq. Ft. x 47.53%
= 665.42 Sq. Ft. Excluded from the Gross Floor Area

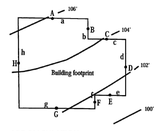
CALCULATING AVERAGE BUILDING ELEVATION (ABE)

No part of a structure may exceed 30 feet in height above the "Average Building Elevation" to the top of the structure, except that on the downhill side of a sloping lot the structure shall not extend to a height greater than 30 feet measured from existing or finished grade to the top plate of the roof; provided the roof ridge does not exceed 30 feet in height above the "Average Building Elevation." ABE is defined as: The elevation established by averaging the elevation at existing or finished grade, whichever is lower, at the center of all exterior walls of the completed building.

NOTE:
INCOMPLETE AVERAGE BUILDING ELEVATION INFORMATION COULD SUBSTANTIALLY DELAY THE PROCESSING OF YOUR APPLICATION

AVERAGE BUILDING ELEVATION FORMULA:
(Mid-point Elevation of Individual Wall Segment) x (Length of Individual Wall Segment)
(Total Length of Wall Segments)
—OR—
$\frac{(Axa)+(Bxb)+(Cxc)+(Dxd)+(Exe)+(Dxd)+(Exe)+(Fxf)+(Gxg)+(Hxh)}{a+b+c+d+e+f+g+h}$

WHERE: A,B,C,D... = Lower of Finished or Existing Ground Elevation at Midpoint of Wall Segment
AND: a,b,c,d... = Length of Wall Segment Measured on Outside Wall



MIDPOINT ELEVATION	WALL SEGMENT LENGTH
A = 105.9 feet	a = 30 feet
B = 104.7 feet	b = 9 feet
C = 103.7 feet	c = 17 feet
D = 102.7 feet	d = 25 feet
E = 101.6 feet	e = 13 feet
F = 101.7 feet	f = 6 feet
G = 102.2 feet	g = 34 feet
H = 104.5 feet	h = 40 feet

ABE CALCULATION:

$$\frac{(105.9)(30)+(104.7)(9)+(103.7)(17)+(102.2)(25)+(101.6)(13)+(101.7)(6)+(102.2)(34)+(104.5)(40)}{30+9+17+25+13+6+34+40}$$

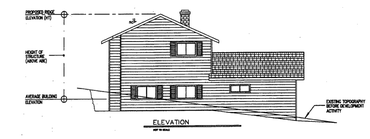
$\frac{18023'}{174'}$ **= 103.6' Average Building Elevation (ABE)**

NOTE: This example is not to scale. Site plans submitted to the building department must be to scale.

BEFORE SUBMITTING YOUR CONSTRUCTION DRAWINGS, CHECK TO SEE THAT YOU HAVE PROVIDED THE INFORMATION BELOW.

☐ The site plan and the elevation drawings must be drawn to scale, for example 1" = 20', and based on a survey.
☐ Clearly show existing topography on your site plan. Topography should be shown in 2' increments.
☐ Submit (with the site plan) your average building elevation calculations using the formula provided on page 8.
☐ Indicate on an elevation drawing where the average building elevation strikes the building and the proposed ridge elevation (see below for example).
☐ Elevation drawings for all sides of the building.
☐ Indicate on the site plan the elevation of the finished floor or garage slab.
☐ Indicate the elevation and location of a fixed point (benchmark) within the ADJACENT RIGHT-OF-WAY or other point approved by the Building Official. The benchmark elevation and location must be provided and cannot be a part of the proposed structure. Note: Benchmark must be established, verified by a licensed surveyor and remain during construction so height can be verified when completed.
☐ For additions, you must provide an average building elevation calculation for the entire structure.
☐ If a portion of the basement floor area will be excluded from the gross floor area, provide the exclusion calculations with your site plan. The formula for basement area exclusions is shown on page 6.
☐ Indicate ceiling heights greater than 12' and greater than 16' on floor plans.

CROSS-SECTION REPRESENTATION OF ABE



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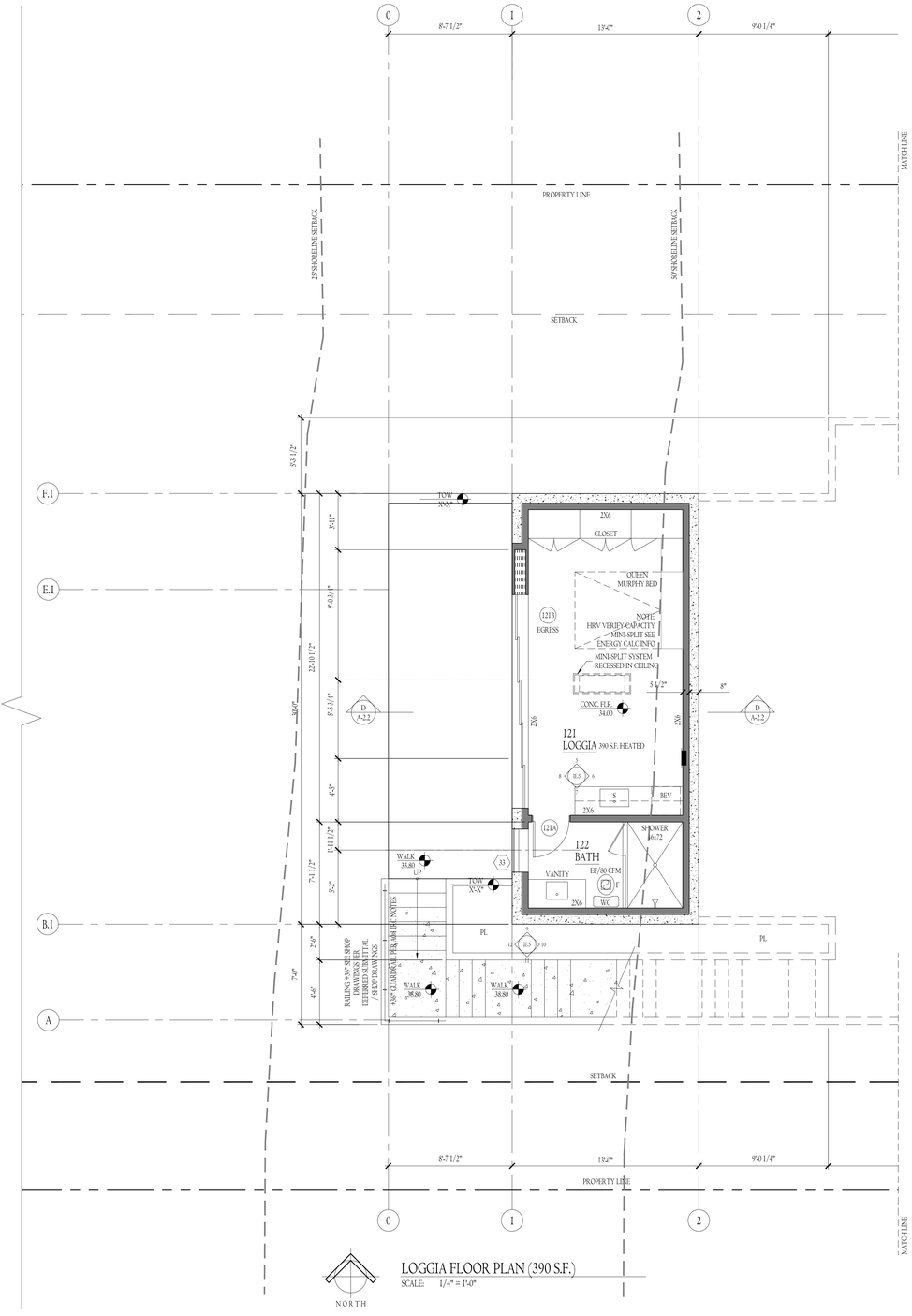
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MURRAY RESIDENCE
NEW SINGLE FAMILY RESIDENCE
9804 MERCER WAY
MERCER ISLAND, WA

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
1 PER CITY REVIEW 10-21-2021
REVISIONS

APRIL 28, 2023

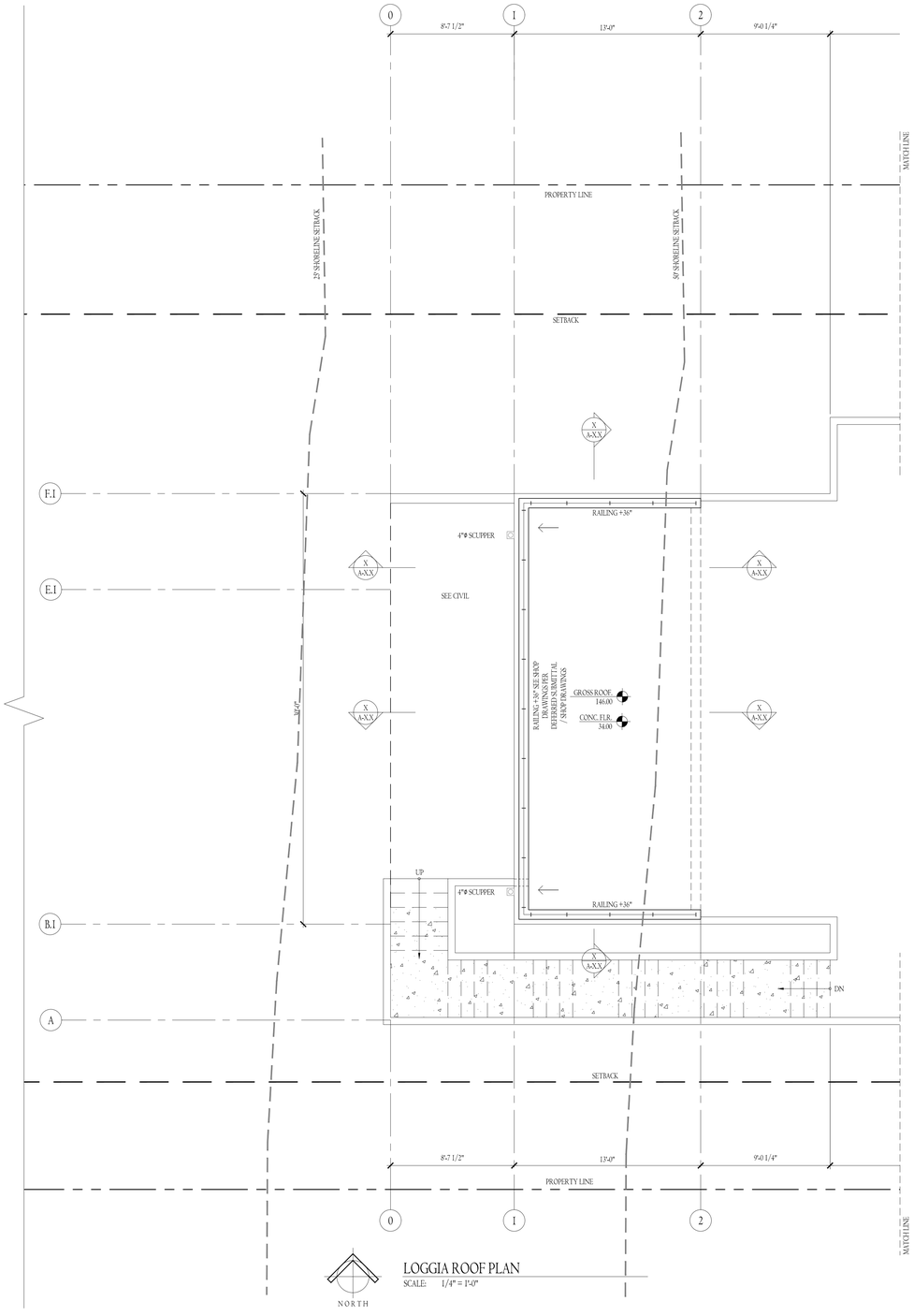
A-I.5



LOGGIA FLOOR PLAN (390 S.F.)

SCALE: 1/4" = 1'-0"

NORTH



LOGGIA ROOF PLAN

SCALE: 1/4" = 1'-0"

NORTH

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SIDENCE

MURRAY RESIDENCE
NEW SINGLE FAMILY
4808 SE 57TH ST.
MERCER ISLAND, WA 98040

DESIGN:
RWF
DRAWN:
HAVILAND CONSULTING
CHECKED:
RWF
REVISIONS:
1 PER CITY REVIEW 10-23-2023
REVISIONS

APRIL 28, 2023

A-2.1

ROOF
50-YEAR COMP. SHINGLE ROOFING
2X8 CEDAR FASCIA / 2X10 CEDAR RAKE W/ 2-1/4" BRICK MOULD W/ PRE-FINISHED ALUMINUM DRIP METAL
1/2X4 CEDAR SOFFIT W/ 2" CONT. SCREENED SOFFIT VENT

WALL (PER EACH EXTERIOR ELEVATION)
#1 PRE-STAINED SAWN CEDAR SHINGLES W/ MAXIMUM 6" EXPOSURE O/ MESH RAIN SCREEN O/ VAPROSHIELD BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD.

COORDINATE ALL SILLS, WALL SKIRT WEEP FLASHING & COLUMN SKIRT FLASHING TERMINATIONS W/ APPROVED PRE-FINISHED PAN & BASE FLASHING DETAILS PER SHOP DRAWINGS

PER EXTERIOR ELEVATIONS & WALL SECTIONS, SEE CONSTRUCTION DETAILS OF SWOOPED SUINGLE WALLS. SWOOPS TO BE CONSTRUCTED OF 2X JT #SPPED STUDS AT 16" O/C MAX & THE CELLS FILLED SOLID W/ SPRAY FOAM W/ 3/8" PT CDX PLYWOOD. SOLID BLOCK AT BOTTOM W/ PRE-FINISHED ALUMINUM SKIRT FLASHING.

BRICK VENEER INSTALLED PER IRC & MANUF. RECOMMENDATIONS O/ AIR SPACE/MESH RAIN SCREEN W/ WEEPS+ AND DRIP METAL AT BOTTOM. TO BE INSTALLED O/ BREATHABLE VAPROSHIELD WATERPROOF MEMBRANE O/ PRESSURE TREATED 1 1/2" CDX PLYWOOD (REFER TO COORDINATION W/ WATERPROOFING DETAILS PER SHEET A-1.1)

KOLBE.....ULTRA SERIES CLAD DOORS & WINDOWS W/ FACTORY SUPPLIED PRE-FINISHED ALUMINUM BACKBAND TRIM. COORDINATE W/ SIDING FOR WATERPROOFING DETAILS & FLASHING AT HEAD REQUIREMENTS. SEQUENCING CRITICAL AT HEADS & W/ COORDINATION AT DOOR PAN INSTALLATIONS.

WOOD SILL CAPS AT COVERED PORCHES TO BE 2X PRE-FINISHED CEDAR, O/ WATERPROOF MEMBRANE W/ 1X CEDAR PRE-FINISHED APRON TRIM (TYPICAL AT ALL SIMILAR CONDITIONS)

FRONT PORCH COLUMNS
PRE-FINISHED METAL PAN - 4 EDGES AT TOP O/ 3X PRE- FINISHED CEDAR WOOD CAP O/ PRE-FINISHED COVE MOULD (DIMENSIONS PER SUBMITTALS) O/ PRE-FINISHED WOOD COLUMN WRAPS W/ MITERED OR BISCUITED EDGE CORNERS O/ MESH RAIN SCREEN O/ VAPROSHIELD WATERPROOF BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD O/ WOOD FRAMING PER STRUCTURAL.

MAIN FLOOR TERRACE CONSTRUCTION
TEMPERED 3/8" THICK GLASS PANEL & PRE-FINISHED ALUMINUM STANCHIONS - CAPLESS GUARDRAIL PER APPROVED SHOP DRAWINGS O/ PRE-CAST CONCRETE SILL/ WALL CAP PER ELEVATIONS & SHOP DRAWINGS. (COORDINATE W/ DETAILS AT SLOPED WATERPROOF DECK & PRE-CAST - STONE VENEER PAVER SYSTEM O/ BISON ADJUSTABLE STANDS PER APPROVED SHOP DRAWINGS (COORDINATE W/ WATERPROOF DECK SHOP DRAWINGS & APPROVED DECK - DRAIN LOCATIONS. ALSO COORDINATE LOCATIONS PER CIVIL DRAWINGS)

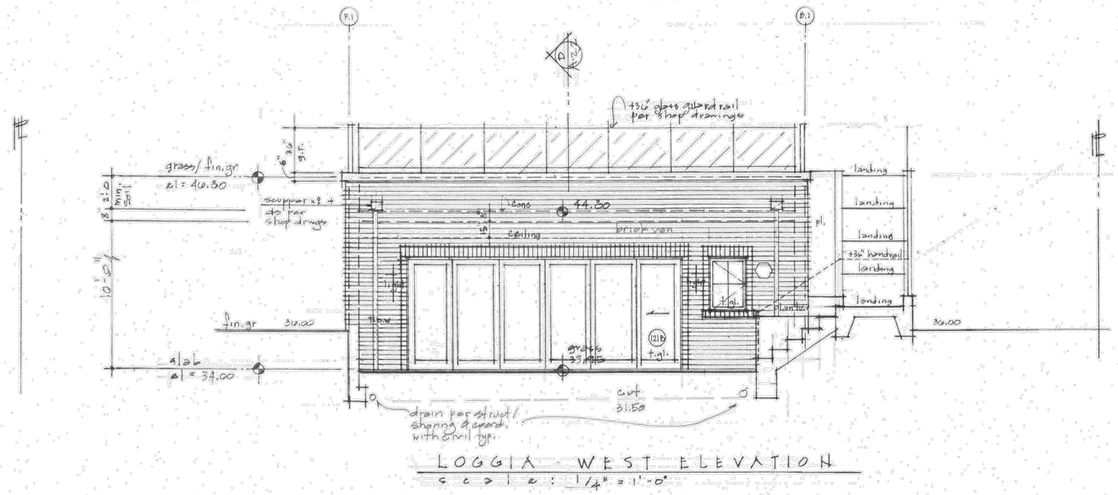
CHIMNEY CAPS
PRE-FINISHED CHIMNEY CAPS & RANGE HOOD BLOWER CAPS - SEE APPROVED SHOP DRAWINGS FOR WATERPROOF PANS / FLUES / CAP INSTALLATION REQUIREMENTS TO ENSURE WATERPROOFING INTEGRITY.

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ VAPROSHIELD WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASSY PER SHEET A-0.2
5/8" SHEETROCK

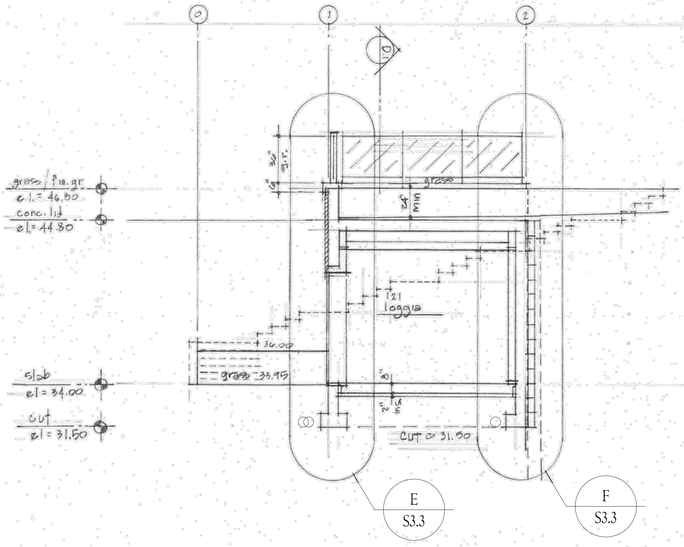
ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR.
WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY. NONVENTED
SEE SHEETS A-0.2 FOR ENERGY

ROOF ASSEMBLY 2
COMPOSITION SHINGLE - 50 YR.
WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY. NONVENTED
SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

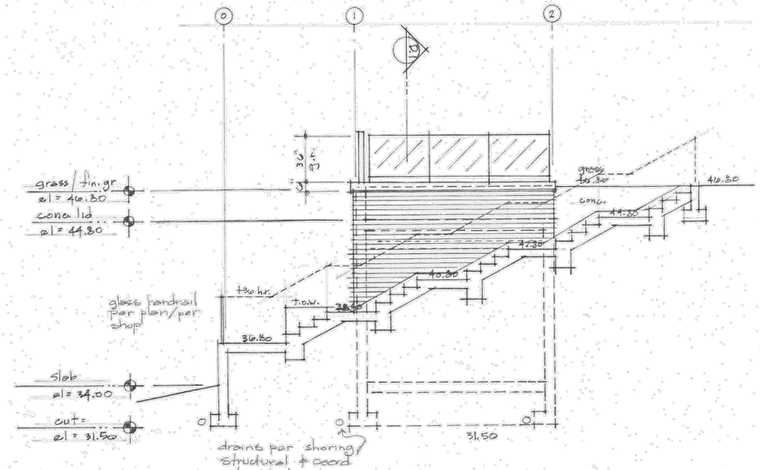
FLOOR ASSEMBLY 3 (OVER GARAGE)
1-1/2" GYPCRETE W/ RADIANT TUBE
1-1/8" T&G PLYWOOD PER STRUCT.
TJI'S PER STRUCT.
FLOOR INSULATOR: R-38
5/8" GWB



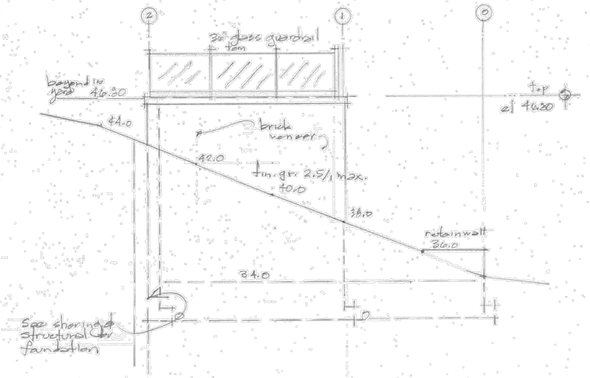
LOGGIA WEST ELEVATION
scale: 1/4" = 1'-0"



BUILDING SECTION
scale: 1/4" = 1'-0"



SOUTH ELEVATION
scale



NORTH ELEVATION

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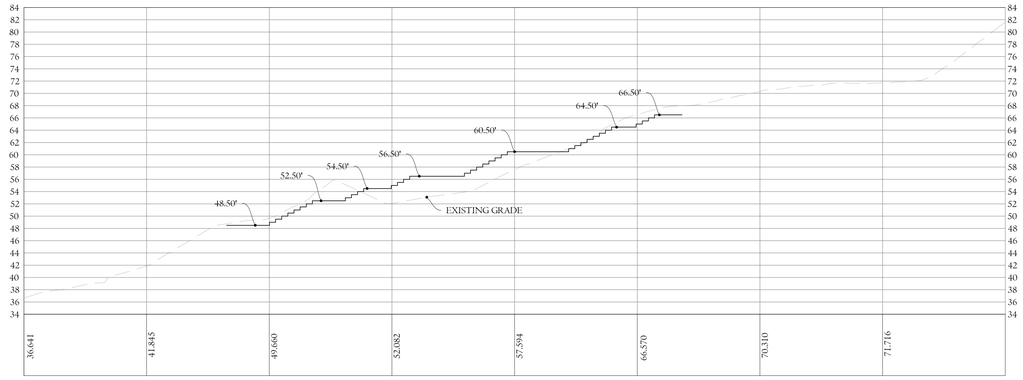
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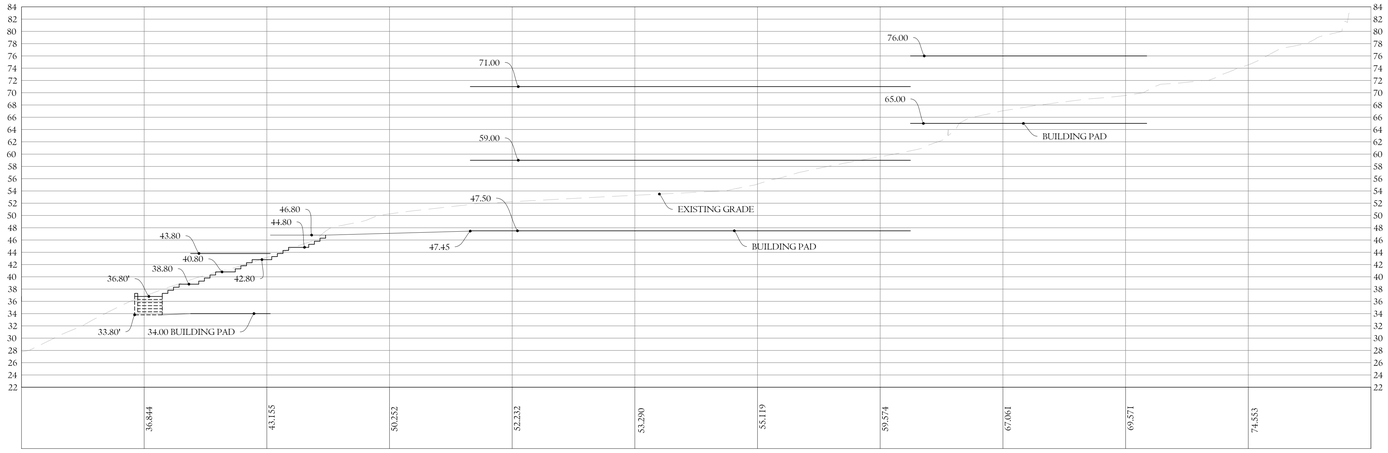
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MURRAY RESIDENCE
NEW SINGLE FAMILY RESIDENCE
4808 40TH AVE S.
MERCER ISLAND, WA 98040

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
1 PER CITY REVIEW 10.23.2023
REVISIONS

APRIL 28, 2023
1 A-2.2





NORTH

WALKWAY PROFILES

1" = 10.0'

0 5' 10' 20'

SCALE: 1" = 10'

RF ARCHITECTURE
PH: (253) 359-4039
RICHARD@RFARCHITECTURE.COM
7421 214TH AVE E BONNEYLAKE, WA 98391

6080
REGISTERED ARCHITECT
RICHARD W. FLAKE
STATE OF WASHINGTON

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MURRAY RESIDENCE

NEW SINGLE FAMILY RESIDENCE
3804 MERCER ISLAND DR.
WA 98040

DESIGN:
RWF

DRAWN:
HAVILAND CONSULTING

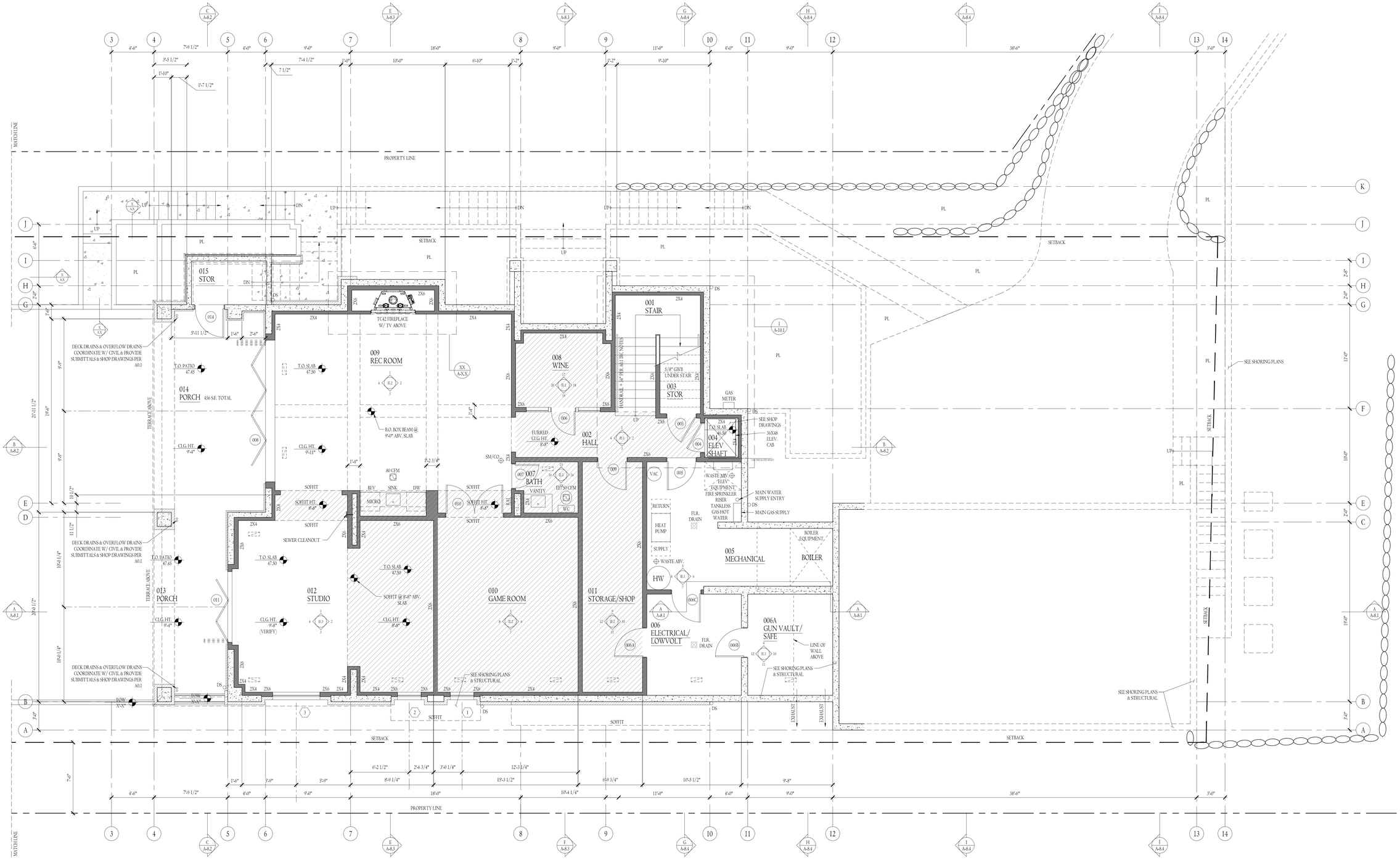
CHECKED:
RWF

REVISIONS:

1 PER CITY REVIEW
10-22-2021
REVISIONS

APRIL 28, 2023

1 A-2.3



NORTH

BASEMENT PLAN (2,395 S.F.)

SCALE: 1/4" = 1'-0"

LEGEND

- 2X WALL
- CONCRETE
- BRICK
- SOFFIT
- TILE
- PROPERTY LINE
- ROCKERY
- SETBACK LINE
- SOFFIT
- DOOR NUMBER
- WINDOW NUMBER
- VENT FAN
- DETAIL TARGET
- INTERIOR ELEV.
- SECTION TARGET

RF ARCHITECTURE
PH: (2 5 3) 3 5 9 - 4 0 3 9
RICHARD@RFARCHITECTURE.COM
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IDENCE
RESIDENCE
WA 98040

MURRAY RESIDENCE
NEW SINGLE FAMILY RESIDENCE
MERCER ISLAND, WA

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
PER CITY REVIEW 6-21-2023
REVISIONS

APRIL 28, 2023

A-3.1

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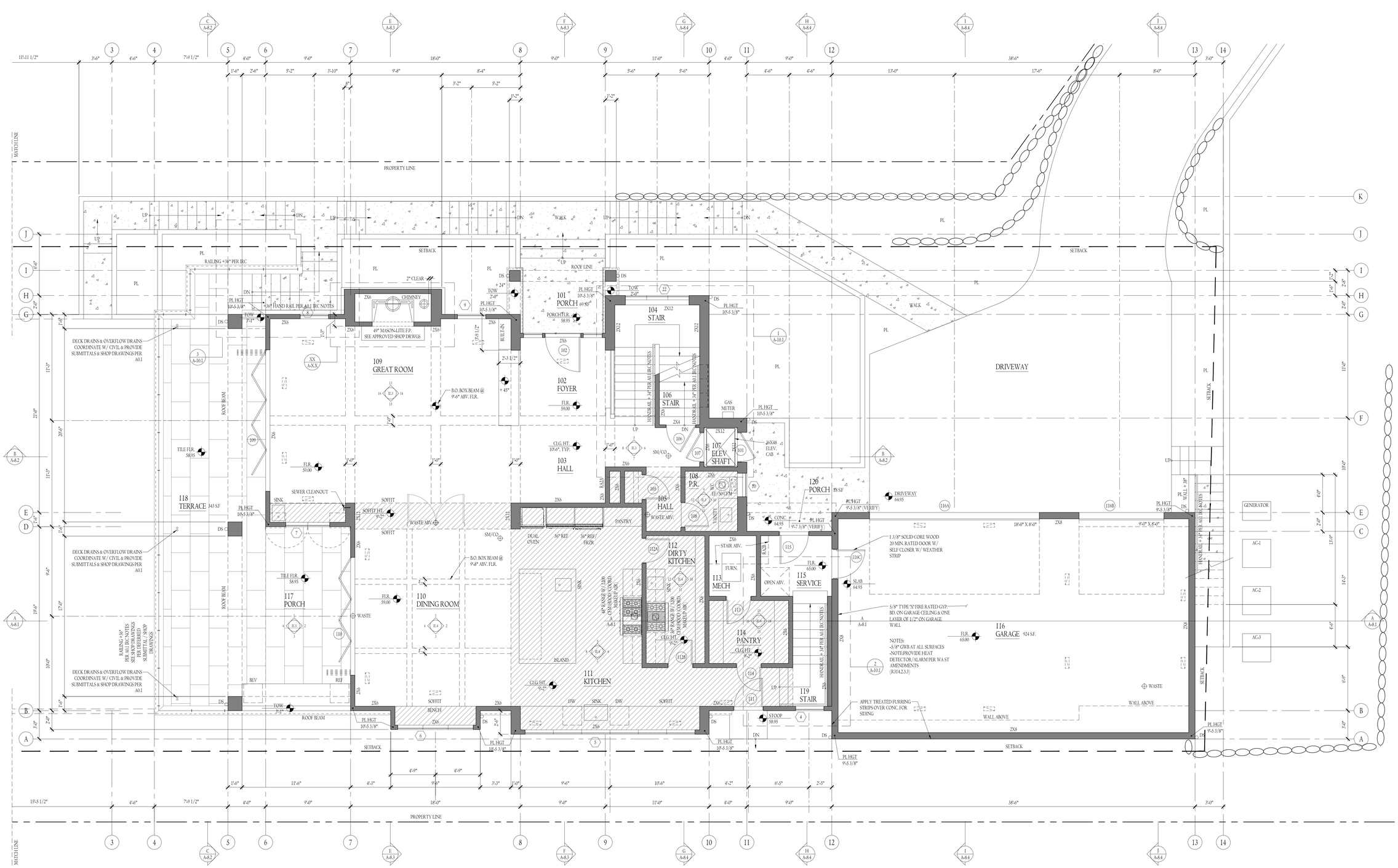
6080
REGISTERED ARCHITECT
RICHARD W. FLAKE
STATE OF WASHINGTON

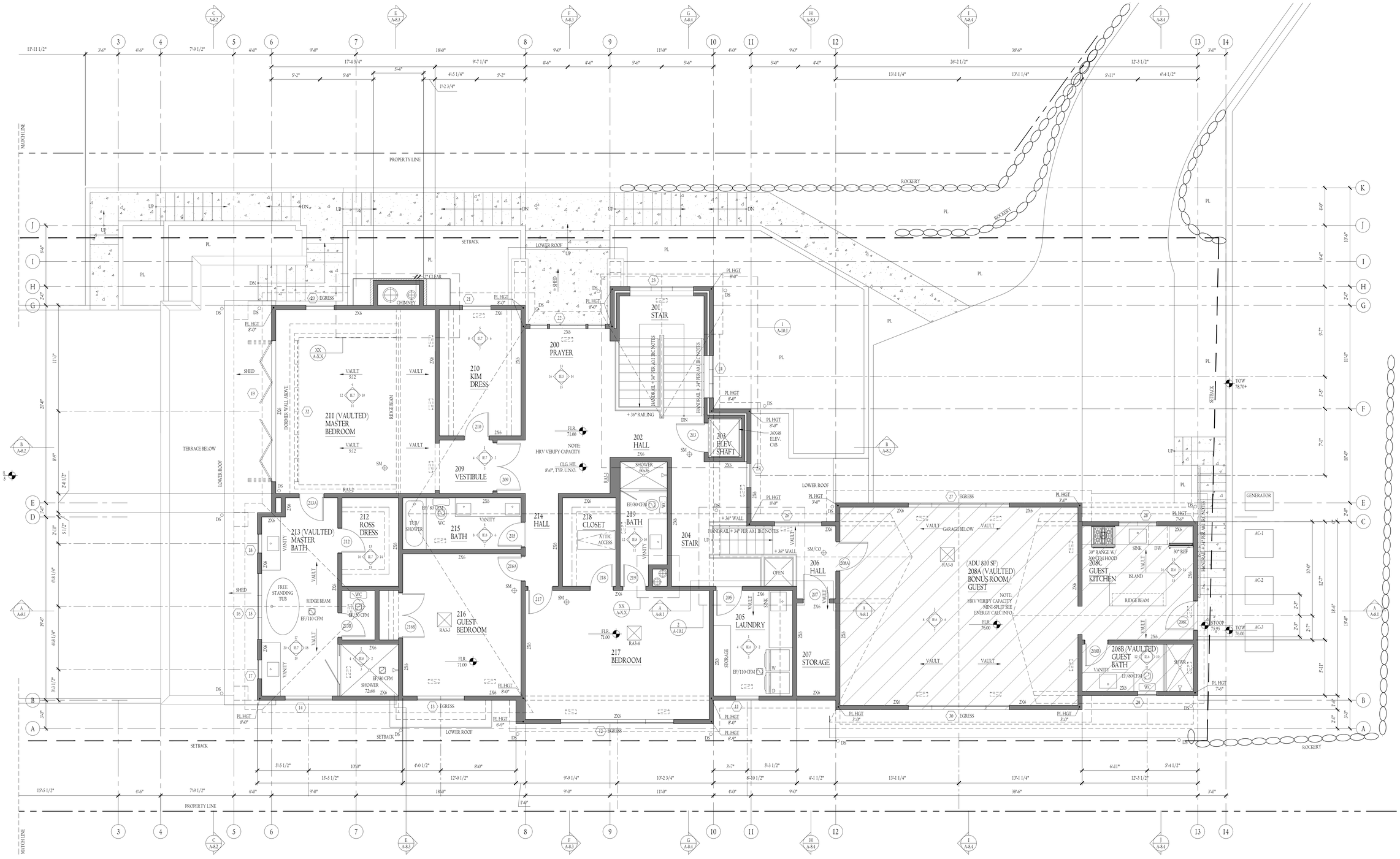
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MURRAY RESIDENCE

NEW SINGLE FAMILY RESIDENCE
7480 MERCER ISLAND, WA 98040


MATCH LINE
PROPERTY LINE
SETBACK
DRIVEWAY
101 PORCH 69 SF
102 FOYER
103 HALL
104 STAIR
105 HALL
106 STAIR
107 ELEV. SHAFT
108 P.R.
109 GREAT ROOM
110 DINING ROOM
111 KITCHEN
112 DIRTY KITCHEN
113 MECH
114 PANTRY
115 SERVICE
116 GARAGE 924 S.F.
117 PORCH
118 TERRACE 343 SF
119 STAIR
120 PORCH 98 SF
RAILING +36" PER IRC
DECK DRAINS & OVERFLOW DRAINS COORDINATE W/ CIVIL & PROVIDE SUBMITTALS & SHOP DRAWINGS PER A0.1
2" CLEAR
CHIMNEY
60" MASON-LITE F.P. SEE APPROVED SHOP DRWGS
B.O. BOX BEAM @ 9'-6" ABV. FLR.
ROOF BEAM
SEWER CLEANOUT
SINK
SOFFIT
WASTE ABV.
DUAL OVEN
36" REF
36" REF/FRZR
PANTRY
48" RANGE W/ 1200 CFM HOOD COORD. MAKEUP AIR
ISLAND
DW
RENCH
STAIR ABV.
FURN.
OPEN ABV.
CONC. 64.95
SLAB 64.95
DRIVEWAY 64.95
STOOP 58.95
TILE FLR. 58.95
FLR. 59.00
FLR. 65.00
CLG HT. 10'-6", TYP.
CLG HT. 9'-2"
TOW 3'-1"
TOW 2'-0"
PL HGT 10'-5 3/8"
PL HGT 9'-5 3/8" (VERIFY)
PL HGT 9'-3 3/8" (VERIFY)
PL HGT 9'-5 3/8"
PL HGT 10'-5 3/8"
PL HGT 9'-5 3/8"
PL HGT 10'-5 3/8"
PL HGT 10'-5 3/8"
PL HGT 10'-5 3/8"
PL HGT 10'-5 3/8"
PL HGT 9



UPPER FLOOR PLAN (2,369.7 S.F.)

SCALE: 1/4" = 1'-0"

NORTH

LEGEND

- 2X WALL
- CONCRETE
- BRICK
- SOFFIT
- TILE
- PROPERTY LINE
- ROCKERY
- SETBACK LINE
- SOFFIT
- 007 DOOR NUMBER
- 2 WINDOW NUMBER
- VENT FAN
- 1 / A-1.0 DETAIL TARGET
- 4 / B1.1 / 2 INTERIOR ELEV.
- A / A-1.0 SECTION TARGET

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MURRAY RESIDENCE

NEW SINGLE FAMILY RESIDENCE
4806 CERCER ISLAND, WA
MERCER ISLAND, WA 98040

DESIGN: RWF

DRAWN: HAVILAND CONSULTING

CHECKED: RWF

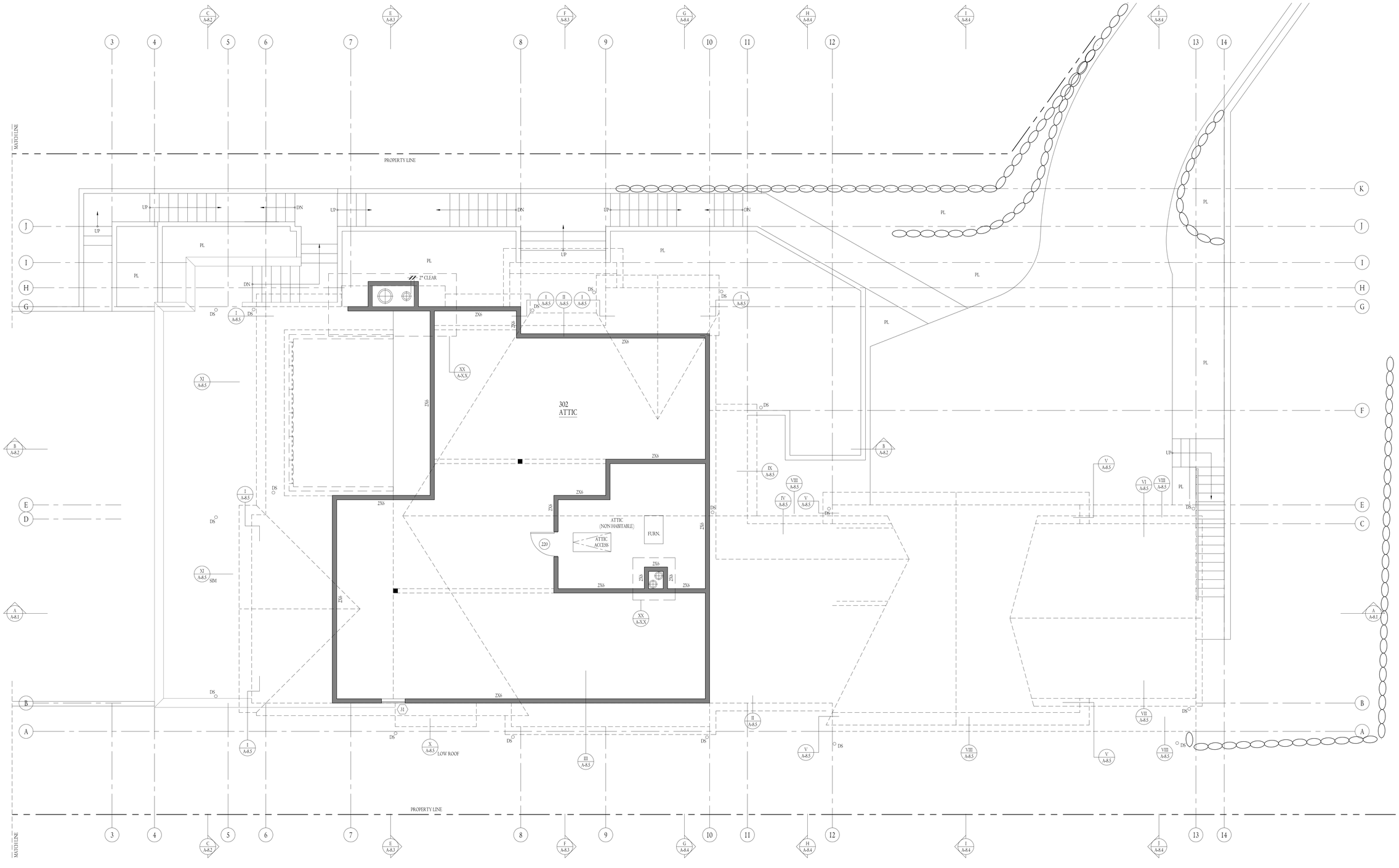
REVISIONS:

1 PER CITY REVIEW 10-22-2021

REVISIONS

APRIL 28, 2023

A-5.1



NORTH

ATTIC PLAN

SCALE: 1/4" = 1'-0"

LEGEND

- 2X WALL
- CONCRETE
- BRICK
- SOFFIT
- TILE
- PROPERTY LINE
- ROCKERY
- SETBACK LINE
- SOFFIT
- DOOR NUMBER
- WINDOW NUMBER
- VENT FAN
- DETAIL TARGET
- INTERIOR ELEV.
- SECTION TARGET

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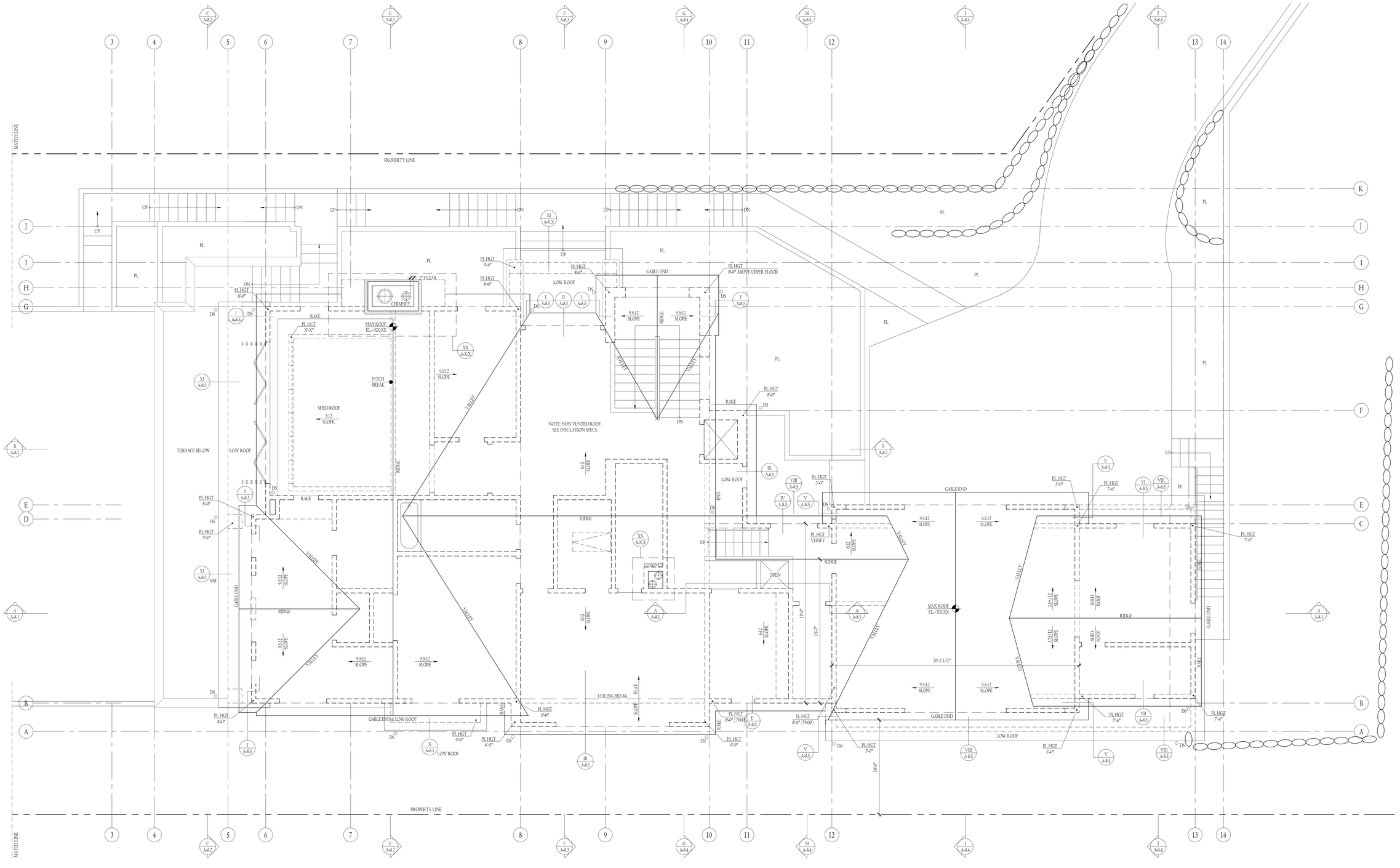
NEW SINGLE FAMILY RESIDENCE
14806 MERCER ISLAND DR. SE
MERCER ISLAND, WA 98040

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:

PER CITY REVIEW
10.22.2021
REVISIONS

APRIL 28, 2023

A-6.1



ROOF PLAN (X S.F.)

SCALE: 1/4" = 1'-0"

NORTH

LEGEND

- 2X WALL
- CONCRETE
- BRICK
- SOFFIT
- TILE
- PROPERTY LINE
- ROCKERY
- SETBACK LINE
- SOFFIT
- DOOR NUMBER
- WINDOW NUMBER
- VENT FAN
- DETAIL TARGET
- INTERIOR ELEV.
- SECTION TARGET

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NEW SINGLE FAMILY RESIDENCE
4+8 RECREATIONAL ISLAND, WA 98040

DESIGN: RWF

DRAWN: HAVILAND CONSULTING

CHECKED: RWF

REVISIONS:

PER CITY REVIEW
10.22.2021
REVISIONS

APRIL 28, 2023

A-6.2



TYPICAL MATLS & ASSEMBLIES

ROOF
30YEAR COMP. SHINGLE ROOFING
2X8 CEDAR FASCIA / 2X10 CEDAR RAKE W/ 2-1/4" BRICK MOULD W/
PRE-FINISHED ALUMINUM DRIP METAL
1/2X4 CEDAR SOFFIT W/ 2" CONT. SCREENED SOFFIT VENT.

WALL (PER EACH EXTERIOR ELEVATION)
#1 PRE-STAINED SAWN CEDAR SHINGLES W/ MAXIMUM 6" EXPOSURE O/ MESH RAIN SCREEN O/ VAPOR SHIELD BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD

COORDINATE ALL SILLS, WALL SKIRT, WEEP FLASHING & COLUMN SKIRT FLASHING TERMINATIONS W/ ASPECIFIED PRE-FINISHED PAN & BASE FLASHING DETAILS PER SHOP DRAWINGS

PER EXTERIOR ELEVATIONS & WALL SECTIONS, SEE CONSTRUCTION DETAILS OF SWOOPED SHINGLE WALLS. SWOOPS TO BE CONSTRUCTED OF 2X PT RIPPED STUDS AT 16" O/C MAX & TILE CELLS FILLED SOLID W/ SPRAY FOAM W/ 3/8" PT CDX PLYWOOD SOLID BLOCK AT BOTTOM W/ PRE-FINISHED ALUMINUM SKIRT FLASHING.

BRICK VENEER INSTALLED PER IRC & MANUF. RECOMMENDATIONS O/ AIR SPACE / MESH RAIN SCREEN W/ WEEPS - AND DRIP METAL AT BOTTOM. TO BE INSTALLED O/ BREATHABLE VAPOR SHIELD WATERPROOF MEMBRANE O/ PRESSURE TREATED 1/2" CDX PLYWOOD. (REFER TO COORDINATION W/ WATERPROOFING DETAILS PER SHEET A-11.1

KOLBE——ULTRA SERIES CLAD DOORS & WINDOWS W/ FACTORY SUPPLIED PRE-FINISHED ALUMINUM BACKBAND TRIM. COORDINATE W/ SIDING FOR WATERPROOFING DETAILS & FLASHING AT HEAD REQUIREMENTS. SEQUENCING CRITICAL AT HEADS & W/ COORDINATION AT DOOR PAN INSTALLATIONS.

WOOD SILL CAPS AT COVERED PORCHES TO BE 2X PRE-FINISHED CEDAR O/ WATERPROOF MEMBRANE W/ 1X CEDAR PRE-FINISHED APRON TRIM (TYPICAL AT

FRONT PORCH COLUMNS
PRE-FINISHED METAL PAN - 4 EDGES AT TOP O/ 3X PRE- FINISHED CEDAR WOOD CAP O/ PRE-FINISHED COVE MOULD (DIMENSIONS PER SUBMITTALS) O/ PRE-FINISHED WOOD COLUMN WRAPS W/ MITERED OR BISCUITED EDGE - CORNERS O/ MESH RAIN SCREEN O/ VAPOR SHIELD WATERPROOF BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD O/ WOOD FRAMING PER STRUCTURAL -

MAIN FLOOR TERRACE CONSTRUCTION
TEMPERED 3/8" THICK GLASS PANEL & PRE-FINISHED ALUMINUM STANCHIONS - CAPLESS GUARDRAIL PER APPROVED SHOP DRAWINGS O/ PRE-CAST CONCRETE SILL WALL CAP PER ELEVATIONS & SHOP DRAWINGS - COORDINATE W/ DETAILS AT SLOPED WATERPROOF DECK & PRE-CAST - STONE VENEER PAVERS SYSTEM O/ NON-ADJUSTABLE STANDS PER APPROVED SHOP DRAWINGS (COORDINATE W/ WATERPROOF DECK SHOP DRAWINGS & APPROVED DECK DRAIN LOCATIONS. ALSO COORDINATE LOCATIONS PER CIVIL DRAWINGS)

CHIMNEY CAPS
PRE-FINISHED CHIMNEY CAPS & RANGE HOOD BLOWER CAPS - SEE APPROVED SHOP DRAWINGS FOR WATERPROOF PANS / FLUES / CAP INSTALLATION REQUIREMENTS TO ENSURE WATERPROOFING INTEGRITY.

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAIN SCREEN MESH O / VAPOR SHIELD WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP. U.N.O.
R-23 INSULATION ASSY PER SHEET A-0.2
5/8" SHEETROCK

ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR.
WEATHER PROOFING MEMBRANE
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY'S NON-VENTED
SEE SHEETS A-0.2 FOR ENERGY

ROOF ASSEMBLY 2
COMPOSITION SHINGLE - 50 YR.
WEATHER PROOFING MEMBRANE
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY'S NON-VENTED
SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEETROCK

FLOOR ASSEMBLY 3 (OVER GARAGE)
1-1/2" GYPCRETE W/ RADIANT TUBE
1-1/8" T&G PLYWOOD PER STRUCT.
TJI'S PER STRUCT.
FLOOR INSULATOR R-38
5/8" GWB

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6080 REGISTERED ARCHITECT RICHARD W. FLAKE STATE OF WASHINGTON

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NEW SINGLE FAMILY RESIDENCE
MURRAY RESIDENCE
3 MERCER ISLAND, WA 98040

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
1 PER CITY REVIEW 10.22.2021
REVISIONS

APRIL 28, 2023

A-7.1



TYPICAL MATERIALS & ASS'Y

ROOF:
30 YEAR COMP. SHINGLE ROOFING
2X6 CEDAR FASCIA - 2X10 CEDAR RAKE W/ 2-1/4" BRICK MOULD W/ PRE-FINISHED ALUMINUM DRIP METAL
1/2X4 CEDAR SOFFIT W/ 2" CONT. SCREENED SOFFIT VENT

WALL: PER EACH EXTERIOR ELEVATION:
#1 PRE-STAINED SAWN CEDAR SHINGLES W/ MAXIMUM 5" EXPOSURE O/ MESH RAIN SCREEN O/ VAPROSHIELD BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD

COORDINATE ALL SILLS, WALL SKIRT W/EIFS FLASHING & COLUMN SKIRT FLASHING TERMINATION W/ APPROVED PRE-FINISHED PAN & BASE FLASHING DETAILS PER SHOP DRAWINGS

PER EXTERIOR ELEVATIONS & WALL SECTIONS, SEE CONSTRUCTION DETAILS OF SWOOPED SINGLE WALLS: SWOOPS TO BE CONSTRUCTED OF 2X PT RIPPED STUDS AT 16" O.C. MAX & THE CELLS FILLED SOLID W/ SPRAY FOAM W/ 3/16" PT CDX PLYWOOD SOLID BLOCK AT BOTTOM, W/ PRE-FINISHED ALUMINUM SKIRT FLASHING

BRICK VENEER INSTALLED PER IRC & MANUF. RECOMMENDATIONS O/ AIR SPACE/ MESH RAIN SCREEN W/ WEEPS AND DRIP METAL AT BOTTOM, TO BE INSTALLED O/ BREATHABLE VAPROSHIELD WATERPROOF MEMBRANE O/ PRESSURE TREATED 1/2" CDX PLYWOOD REFER TO COORDINATION W/ WATERPROOFING DETAILS PER SHEET A-11.1

KOLBE "ULTRA SERIES CLAD DOORS & WINDOWS W/ FACTORY SUPPLIED PRE-FINISHED ALUMINUM BACKAND-TRIM, COORDINATE W/ SIDING FOR WATERPROOFING DETAILS & Z-FLASHING AT HEAD REQUIREMENTS. SEQUENCING CRITICAL AT HEADS & W/ COORDINATION AT DOOR PAN INSTALLATIONS.

WOOD SILL CAPS AT COVERED PORCHES TO BE 2X PRE-FINISHED CEDAR O/ WATERPROOF MEMBRANE W/ 1X CEDAR PRE-FINISHED APRON TRIM. (TYPICAL AT ALL SIMILAR CONDITIONS)

FRONT PORCH COLUMNS:
PRE-FINISHED METAL PAN - 4 EDGES AT TOP O/ 3X PRE-FINISHED CEDAR WOOD CAP O/ PRE-FINISHED COVE MOULD (DIMENSIONS PER SUBMITTALS) O/ PRE-FINISHED WOOD COLUMN WRAPS W/ MITERED OR RESULTED EDGE CORNERS O/ MESH RAIN SCREEN O/ VAPROSHIELD WATERPROOF BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD O/ WOOD FRAMING PER STRUCTURAL.

MAIN FLOOR TERRACE CONSTRUCTION:
TEMPERED 3/8" THICK GLASS PANEL & PRE-FINISHED ALUMINUM STANCHIONS - CAPLESS GUARDRAIL PER APPROVED SHOP DRAWINGS O/ PRE-CAST CONCRETE SILL/WALL CAP PER ELEVATIONS & SHOP DRAWINGS. (COORDINATE W/ DETAILS AT SLOPED WATERPROOF DECK & PRE-CAST + STONE VENEER PAVER SYSTEM O/ BISON ADJUSTABLE STANDS PER APPROVED SHOP DRAWINGS (COORDINATE W/ WATERPROOF DECK SHOP DRAWINGS & APPROVED DECK DRAIN LOCATIONS. ALSO COORDINATE LOCATIONS PER CIVIL DRAWINGS)

CHIMNEY CAPS:
PRE-FINISHED CHIMNEY CAP W/ RANGE HOOD BLOWER CAPS - SEE APPROVED SHOP DRAWINGS FOR WATERPROOF PANS / FLUES / CAP INSTALLATION REQUIREMENTS TO ENSURE WATERPROOFING INTEGRITY.

TYPICAL EXTERIOR WALL SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST:
RAIN SCREEN MESH O/ VAPROSHIELD WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK

ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR.
WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY

ROOF ASSEMBLY 2
COMPOSITION SHINGLE - 50 YR.
WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

FLOOR ASSEMBLY 5 OVER GARAGE
1-1/2" GYPCRETE W/ RADIANT TUBE
1-1/8" T&G PLYWOOD PER STRUCT. - TYP. PER STRUCT.
FLOOR INSULATOR: R-38
5/8" GWB

RF ARCHITECTURE
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RICHARD@RFARCHITECTURE.COM
7421 214TH AVE E BONNEYLAKE, WA 98391

4080 REGISTERED ARCHITECT RICHARD W. FLAKE STATE OF WASHINGTON

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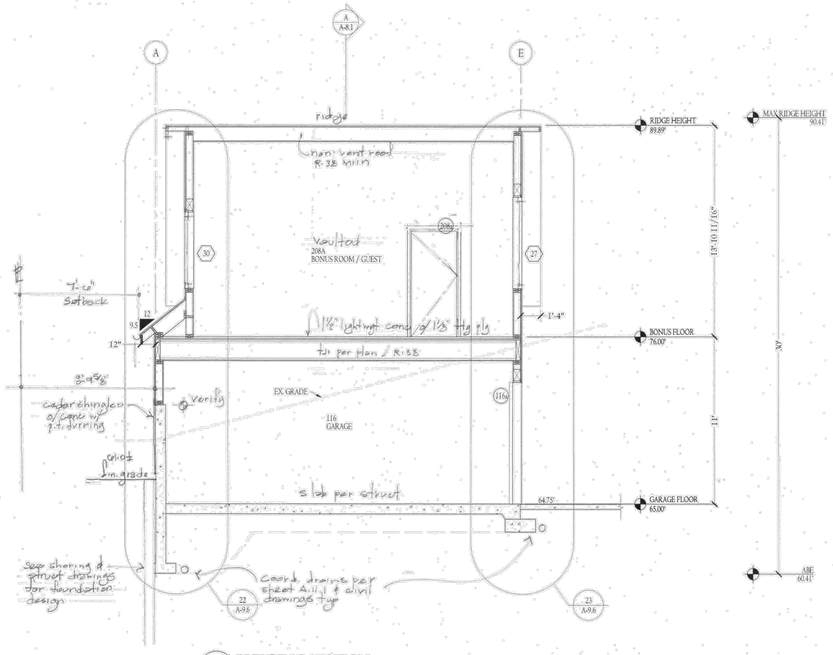
MURRAY RESIDENCE

NEW SINGLE FAMILY RESIDENCE
4508 MERCER ISLAND BLVD. SE
MERCER ISLAND, WA 98040

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
1 PER CITY REVIEW 10-22-2021
REVISIONS

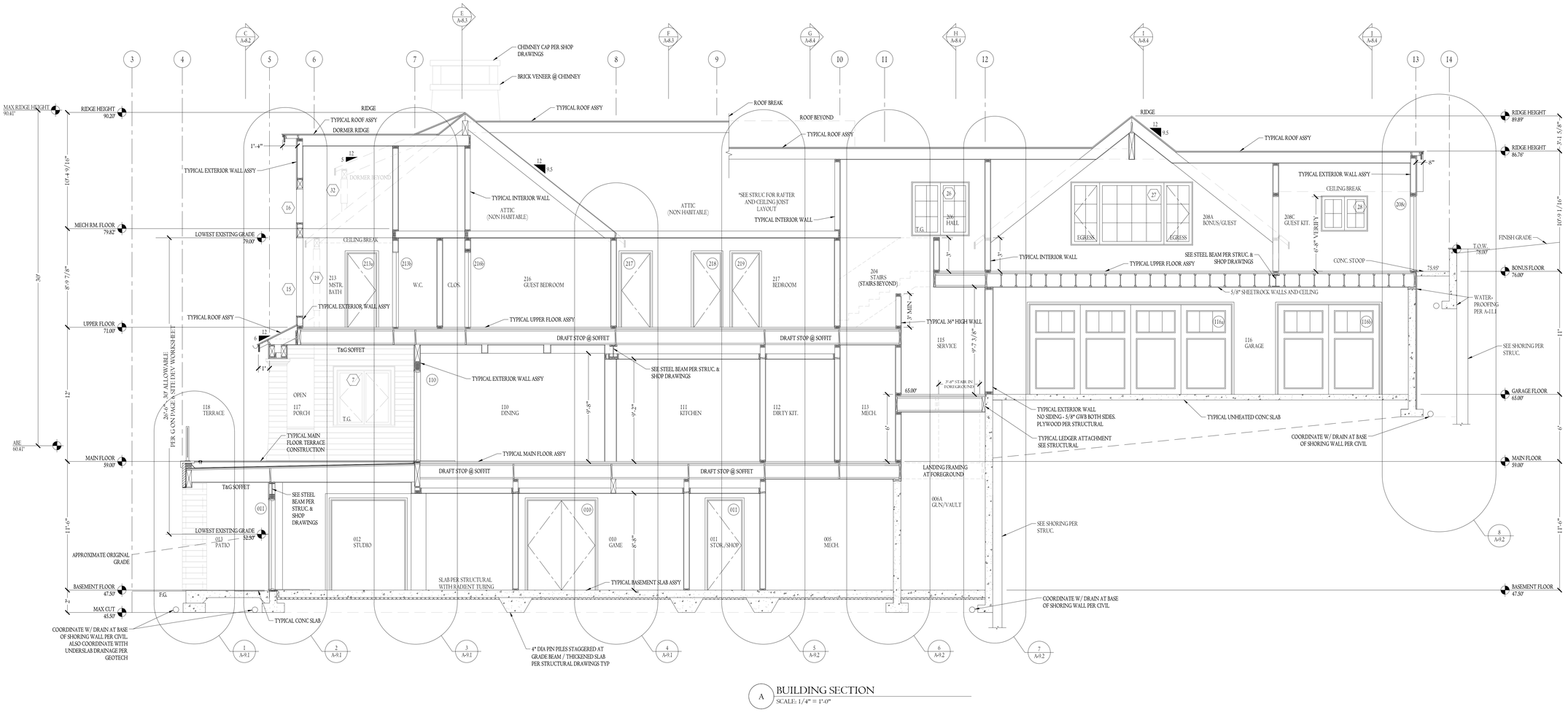
APRIL 28, 2023

A-7.2



1 BUILDING SECTION
SCALE: 1/4" = 1'-0"


K
J
I
H
G
B
A
chimney cap
See strct drawings
el= 90.41 t.g.
Mech. roof
camp roof
brick veneer
cedar shingle
plate
7'-0"
Setback
brick mould
pre-fin trim
flat roof
el= 71.10
plate
camp roof
12
9.5
10'-0"
Setback
open
open
open
tdl
tdl
tdl



A BUILDING SECTION
SCALE: 1/4" = 1'-0"

ROOF
50-YEAR COMP. SHINGLE ROOFING
2X8 CEDAR FASCIA / 2X10 CEDAR RAKE W/ 2-1/4" BRICK MOULD W/ PRE-FINISHED ALUMINUM DRIP METAL
1/2X4 CEDAR SOFFIT W/ 2" CONT. SCREENED SOFFIT VENT

WALL (PER EACH EXTERIOR ELEVATION)
#1 PRE-STAINED SAWN CEDAR SHINGLES W/ MAXIMUM 6" EXPOSURE O/ MESH RAIN SCREEN O/ VAPROSHIELD BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD

COORDINATE ALL SILLS, WALL SKIRT WEEP FLASHING & COLUMN SKIRT FLASHING TERMINATIONS W/ APPROVED PRE-FINISHED PAN & BASE FLASHING DETAILS PER SHOP DRAWINGS

PER EXTERIOR ELEVATIONS & WALL SECTIONS, SEE CONSTRUCTION DETAILS OF SWOOPED SHINGLE WALLS. SWOOPS TO BE CONSTRUCTED OF 2X PT RIPPED STUDS AT 16" O.C. MAX & THE CELLS FILLED SOLID W/ SPRAY FOAM W/ 3/8" PT CDX PLYWOOD. SOLID BLOCK AT BOTTOM W/ PRE-FINISHED ALUMINUM SKIRT FLASHING.

BRICK VENEER INSTALLED PER BRC & MANUF. RECOMMENDATIONS O/ AIR SPACE/MESH RAIN SCREEN W/ WEEPS - AND DRIP METAL AT BOTTOM. TO BE INSTALLED O/BREATHABLE VAPROSHIELD WATERPROOF MEMBRANE O/ PRESSURE TREATED 1/2" CDX PLYWOOD (REFER TO COORDINATION W/ WATERPROOFING DETAILS PER SHEET A-11.1

KOLBE——ULTRA SERIES CLAD DOORS & WINDOWS W/ FACTORY SUPPLIED PRE-FINISHED ALUMINUM BACKBAND TRIM. COORDINATE W/ SIDING FOR WATERPROOFING DETAILS & Z-FLASHING AT HEAD REQUIREMENTS. SEQUENCING CRITICAL AT HEADS & W/ COORDINATION AT DOOR PAN INSTALLATIONS.

WOOD SILL CAPS AT COVERED PORCHES TO BE 2X PRE-FINISHED CEDAR O/ WATERPROOF MEMBRANE W/ 1X CEDAR PRE-FINISHED APRON TRIM (TYPICAL AT ALL SIMILAR CONDITIONS)

FRONT PORCH COLUMNS
PRE-FINISHED METAL PAN - 4 EDGES AT TOP O/ 3X PRE- FINISHED CEDAR WOOD CAP O/ PRE-FINISHED COVE MOULD (DIMENSIONS PER SUBMITTALS) O/ PRE-FINISHED WOOD COLUMN WRAPS W/ MITERED OR BISCUITED EDGE CORNERS O/ MESH RAIN SCREEN O/ VAPROSHIELD WATERPROOF BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD O/ WOOD FRAMING PER STRUCTURAL.

MAIN FLOOR TERRACE CONSTRUCTION
TEMPERED 3/8" THICK GLASS PANEL & PRE-FINISHED ALUMINUM STANCHIONS - CAPLESS GUARDRAIL PER APPROVED SHOP DRAWINGS O/ PRE-CAST CONCRETE SILL/WALL CAP PER ELEVATIONS & SHOP DRAWINGS (COORDINATE W/ DETAILS AT SLOPED WATERPROOF DECK & PRE-CAST - STONE VENEER PAVER SYSTEM O/ BISON ADJUSTABLE STANDS PER APPROVED SHOP DRAWINGS (COORDINATE W/ WATERPROOF DECK SHOP DRAWINGS & APPROVED DECK DRAIN LOCATIONS. ALSO COORDINATE LOCATIONS PER CIVIL DRAWINGS)

CHIMNEY CAPS
PRE-FINISHED CHIMNEY CAPS & RANGE HOOD BLOWER CAPS - SEE APPROVED SHOP DRAWINGS FOR WATERPROOF PANS / FLUES / CAP INSTALLATION REQUIREMENTS TO ENSURE WATERPROOFING INTEGRITY.

TYPICAL INTERIOR WALL
5/8" GWB @ EACH SIDE
1/2" CDX PLYWOOD PER STRUC. PLANS
2X6/2X4 STUDS @ 16" O.C. TYP U.N.O. PER STRC
SOUND INSULATION
2-2X PT SILL W/ A BOLTS PER STRUC & VERIFY HOLD DOWNS @ EACH END OF REQUIRED
*VERIFY LOAD BEARING

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ VAPROSHIELD WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASSY PER SHEET A-0.2
5/8" SHEETROCK

ROOF ASSEMBLY 1 (NON VENTED ROOF)
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY NON-VENTED SEE SHEETS A-0.2 FOR ENERGY

ROOF ASSEMBLY 2 (NON VENTED ROOF)
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK (VERIFY LOCATION)

TYPICAL FLOOR ASSEMBLY
1-1/2" GYPCRETE W/ RADIANT TUBE
1-1/8" T&G PLYWOOD PER STRUCT.
TJI'S PER STRUCT.
FLOOR INSULATOR: R-38
5/8" GWB

TYPICAL BASEMENT SLAB
8" THICK CONC W/ RADIANT TUBE
BOILER HEATING SYSTEM / TIED TO STRUCTURAL REBAR. SEE STRUCTURAL FOR DIAMETER REBAR & SPACING O/
R-10 RIGID INSULATION @ ALL O/ 10 MIL VAPOR BARRIER O/ COMPACT GRANULAR FILL O/ SUB-SLAB DRAINAGE SYSTEM.
PER GEOTECH DETAILS & NOTES. COORDINATE W/ CIVIL

RF ARCHITECTURE
PH: (253)359-4039
RICHARD@RFARCHITECTURE.COM
7421 214TH AVE E BONNEYLAKE, WA 98391

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REGISTERED ARCHITECT
RICHARD W. FLAKE
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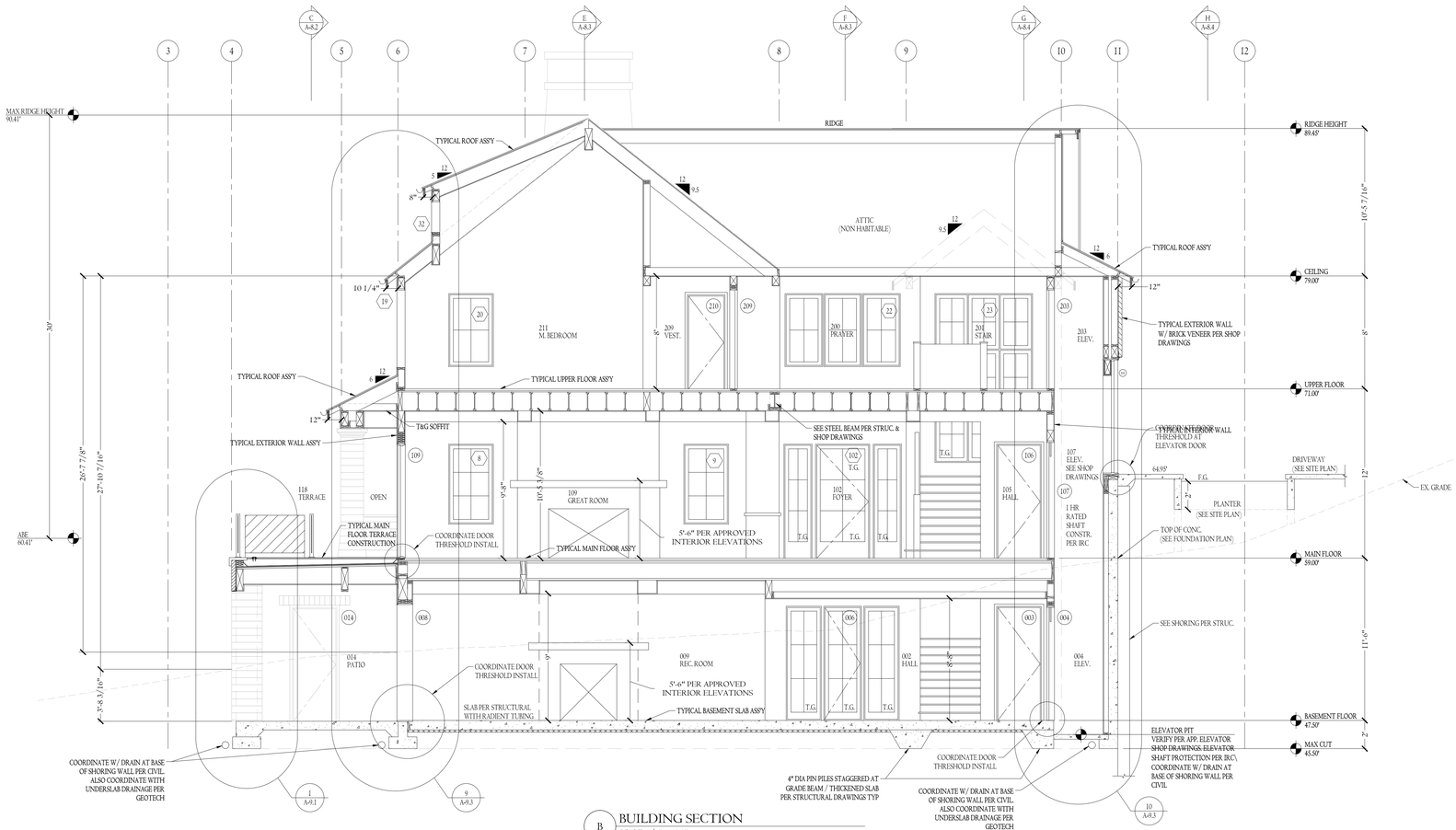
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MURRAY RESIDENCE
NEW SINGLE FAMILY RESIDENCE
SILVER LAKE
SNO. WA 98040

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
PER CITY REVIEW 10.22.2021
REVISIONS

APRIL 28, 2023

A-8.1



B BUILDING SECTION
SCALE: 1/4" = 1'-0"

NOT ISSUED YET:
BUILDING SECTION C TO BE ISSUED
WITH WATERPROOF DECK DRAWINGS

C BUILDING SECTION
SCALE: 1/4" = 1'-0"

ROOF
50-YEAR COMP. SHINGLE ROOFING
2X8 CEDAR FASCIA / 2X10 CEDAR RAKE
W/ 2-1/4" BRICK MOULD W/
PRE-FINISHED ALUMINUM DRIP METAL
1/2X4 CEDAR SOFFIT W/ 2" CONT.
SCREENED SOFFIT VENT

WALL (PER EACH EXTERIOR ELEVATION)
#1 PRE-STAINED SAWN CEDAR SHINGLES
W/ MAXIMUM 6" EXPOSURE O/ MESH
RAIN SCREEN O/ VAPROSHIELD
BREATHABLE MEMBRANE O/ 1/2" CDX
PLYWOOD

COORDINATE ALL SILLS, WALL SKIRT
WEEP FLASHING & COLUMN SKIRT
FLASHING TERMINATIONS W/ APPROVED
PRE-FINISHED PAN & BASE FLASHING
DETAILS PER SHOP DRAWINGS

PER EXTERIOR ELEVATIONS & WALL
SECTIONS, SEE CONSTRUCTION DETAILS
OF SWOOPED SHINGLE WALLS. SWOOPS
TO BE CONSTRUCTED OF 2X PT RIPPED
STUDS AT 16" O.C. MAX & THE CELLS
FILLED SOLID W/ SPRAY FOAM W/ 3/8" PT
CDX PLYWOOD. SOLID BLOCK AT BOTTOM
W/ PRE-FINISHED ALUMINUM SKIRT
FLASHING.

BRICK VENEER INSTALLED PER IRC &
MANUF. RECOMMENDATIONS O/ AIR
SPACE/MESH RAIN SCREEN W/ WEEPS -
AND DRIP METAL AT BOTTOM. TO BE
INSTALLED O/BREATHABLE VAPROSHIELD
WATERPROOF MEMBRANE O/ PRESSURE
TREATED 1/2" CDX PLYWOOD (REFER TO
COORDINATION W/ WATERPROOFING
DETAILS PER SHEET A-11.1

KOLBE——ULTRA SERIES CLAD DOORS &
WINDOWS W/ FACTORY SUPPLIED
PRE-FINISHED ALUMINUM BACKBAND
TRIM. COORDINATE W/ SIDING FOR
WATERPROOFING DETAILS & Z-FLASHING
AT HEAD REQUIREMENTS. SEQUENCING
CRITICAL AT HEADS & W/ COORDINATION
AT DOOR PAN INSTALLATIONS.

WOOD SILL CAPS AT COVERED PORCHES
TO BE 2X PRE-FINISHED CEDAR O/
WATERPROOF MEMBRANE W/ 1X CEDAR
PRE-FINISHED APRON TRIM (TYPICAL AT
ALL SIMILAR CONDITIONS)

FRONT PORCH COLUMNS
PRE-FINISHED METAL PAN - 4 EDGES AT
TOP O/ 3X PRE- FINISHED CEDAR WOOD
CAP O/ PRE-FINISHED COVE MOULD
(DIMENSIONS PER SUBMITTALS) O/
PRE-FINISHED WOOD COLUMN WRAPS
W/ MITERED OR BISCUITED EDGE
CORNERS O/ MESH RAIN SCREEN O/
VAPROSHIELD WATERPROOF
BREATHABLE MEMBRANE O/ 1/2" CDX
PLYWOOD O/ WOOD FRAMING PER
STRUCTURAL.

MAIN FLOOR TERRACE CONSTRUCTION
TEMPERED 3/8" THICK GLASS PANEL &
PRE-FINISHED ALUMINUM STANCHIONS
- CAPLESS GUARDRAIL PER APPROVED
SHOP DRAWINGS O/ PRE-CAST
CONCRETE SILL/WALL CAP PER
ELEVATIONS & SHOP DRAWINGS.
(COORDINATE W/ DETAILS AT SLOPED
WATERPROOF DECK & PRE-CAST -
STONE VENEER PAVER SYSTEM O/
BISON ADJUSTABLE STANDS PER
APPROVED SHOP DRAWINGS
(COORDINATE W/ WATERPROOF DECK,
SHOP DRAWINGS & APPROVED DECK
DRAIN LOCATIONS. ALSO COORDINATE
LOCATIONS PER CIVIL DRAWINGS)

CHIMNEY CAPS
PRE-FINISHED CHIMNEY CAPS & RANGE
HOOD BLOWER CAPS - SEE APPROVED
SHOP DRAWINGS FOR WATERPROOF
PANS / FLUES / CAP INSTALLATION
REQUIREMENTS TO ENSURE
WATERPROOFING INTEGRITY.

TYPICAL INTERIOR WALL
5/8" GWB @ EACH SIDE
1/2" CDX PLYWOOD PER STRUC. PLANS
2X6/2X4 STUDS @ 16" O.C. TYP U.N.O.
PER STRC
SOUND INSULATION
2-2X PT SILL W/ A BOLTS PER STRUC &
VERIFY HOLD DOWNS @ EACH END OF
REQUIRED
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TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS &
EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ VAPROSHIELD
WEATHERPROOF BREATHABLE
MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK

ROOF ASSEMBLY 1 (NON VENTED ROOF)
COMPOSITION SHINGLE - 50 YR
WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED
SEE SHEETS A-0.2 FOR ENERGY

ROOF ASSEMBLY 2 (NON VENTED ROOF)
COMPOSITION SHINGLE - 50 YR
WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED
SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK (VERIFY LOCATION)

TYPICAL FLOOR ASSEMBLY
1-1/2" GYPCRETE W/ RADIANT TUBE
1-1/8" T&G PLYWOOD PER STRUCT.
TJI'S PER STRUCT.
FLOOR INSULATOR: R-38
5/8" GWB

TYPICAL BASEMENT SLAB
8" THICK CONC W/ RADIANT TUBE
BOILER HEATING SYSTEM / TIED TO
STRUCTURAL REBAR. SEE STRUCTURAL
FOR DIAMETER REBAR & SPACING O/
R-10 RIGID INSULATION @ ALL O/ 10
MIL VAPOR BARRIER O/ COMPACT
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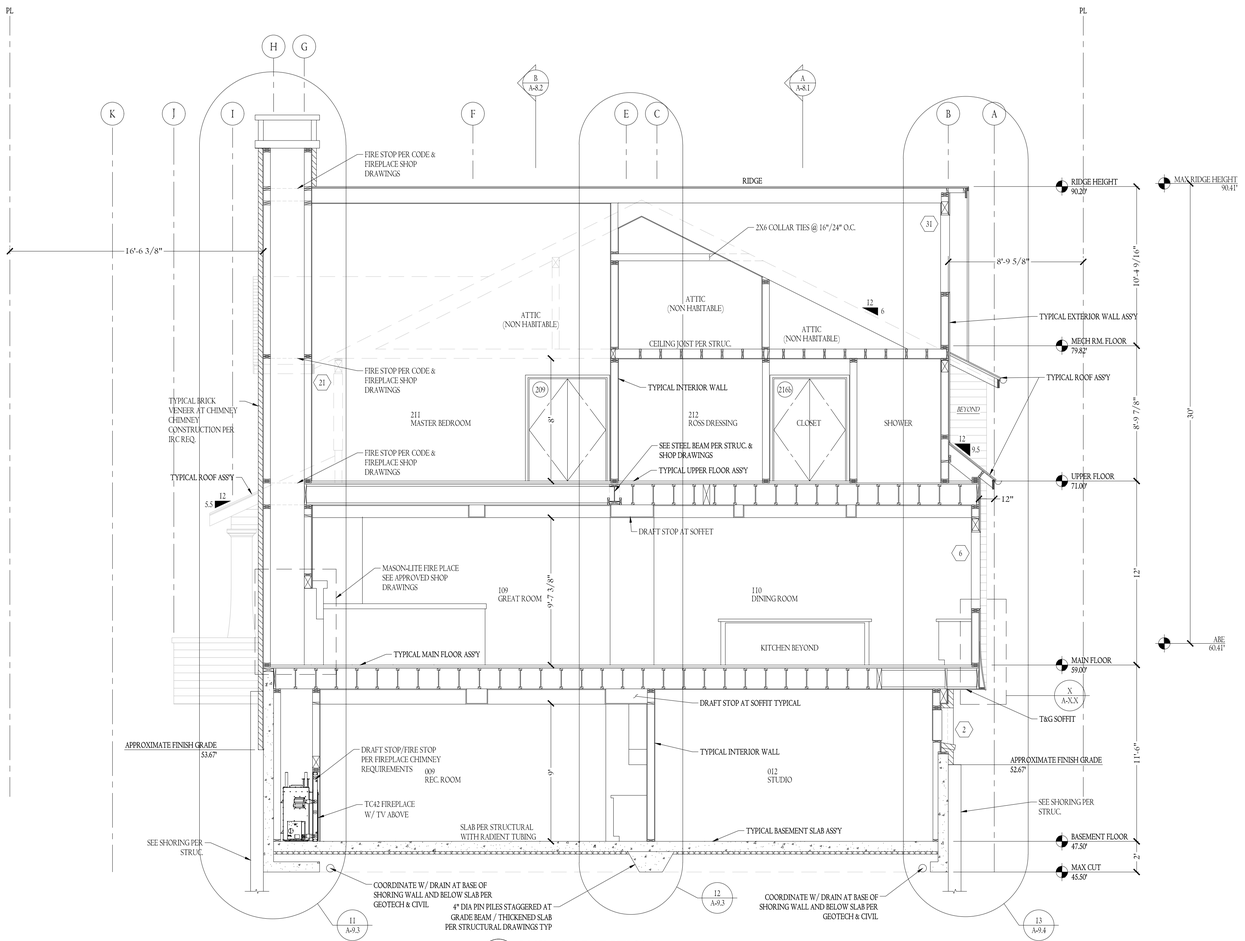
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MURRAY RESIDENCE
NEW SINGLE FAMILY RESIDENCE
MERCER ISLAND, WA

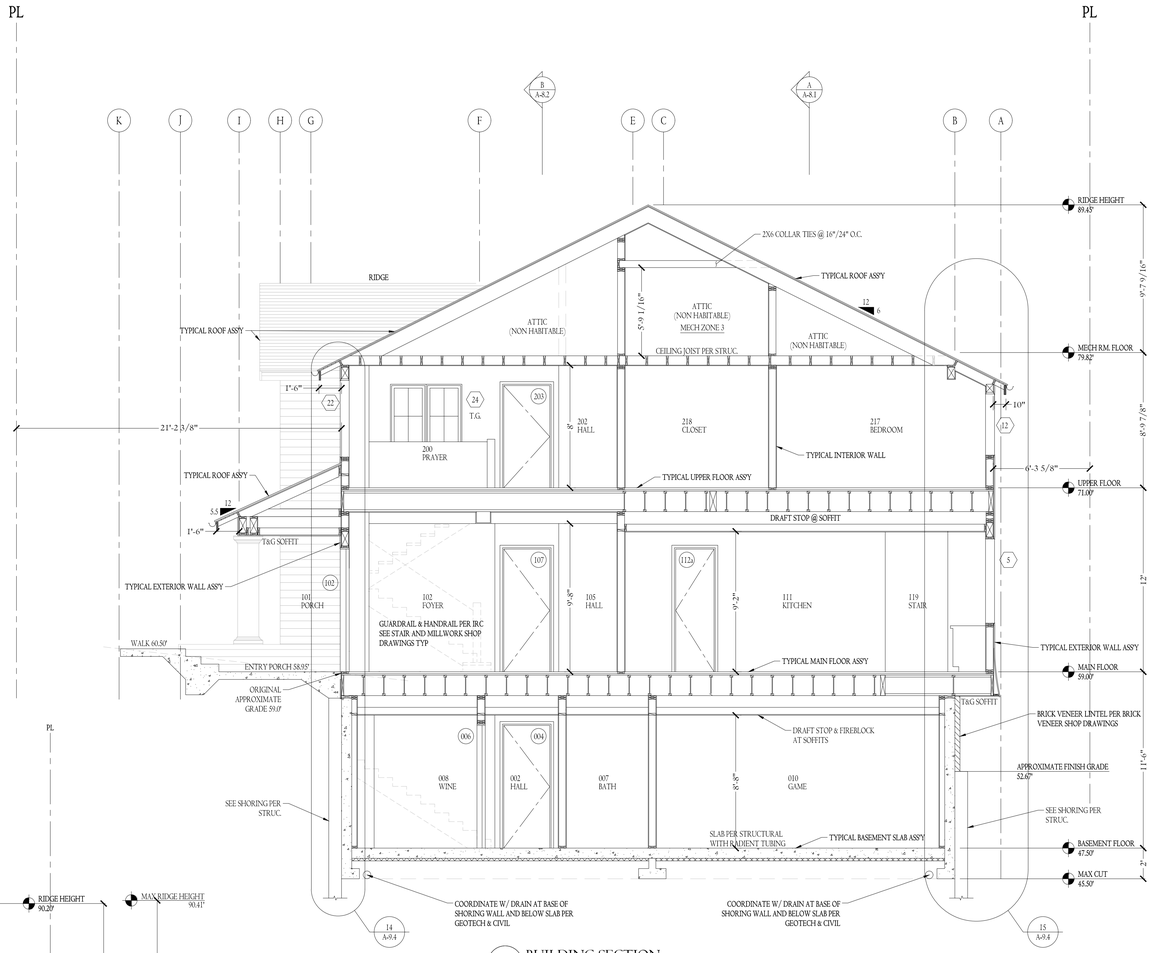
DESIGN:
RWF
DRAWN:
HAVILAND CONSULTING
CHECKED:
RWF
REVISIONS:
1 PER CITY REVIEW
10-22-2021
REVISIONS

APRIL 28, 2023

A-8.2



E BUILDING SECTION
SCALE: 1/4" = 1'-0"



F BUILDING SECTION
SCALE: 1/4" = 1'-0"

ROOF
SX-YEAR COMP. SHINGLE ROOFING
2X8 CEDAR FASCIA / 2X10 CEDAR RAKE W/ 2-1/4" BRICK MOULD W/ PRE-FINISHED ALUMINUM DRIP METAL
1/2X4 CEDAR SOFFIT W/ 2" CONT. SCREENED SOFFIT VENT

WALL (PER EACH EXTERIOR ELEVATION)
#1 PRE-STAINED SAWN CEDAR SHINGLES W/ MAXIMUM 6" EXPOSURE O/ MESH RAIN SCREEN O/ VAPROSHIELD BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD

COORDINATE ALL SILLS, WALL SKIRT WEEP FLASHING & COLUMN SKIRT FLASHING TERMINATIONS W/ APPROVED PRE-FINISHED PAN & BASE FLASHING DETAILS PER SHOP DRAWINGS

PER EXTERIOR ELEVATIONS & WALL SECTIONS, SEE CONSTRUCTION DETAILS OF SWOOPED SHINGLE WALLS. SWOOPS TO BE CONSTRUCTED OF 2X PT RIPPED STUDS AT 16" O.C. MAX & THE CELLS FILLED SOLID W/ SPRAY FOAM W/ 3/8" PT CDX PLYWOOD, SOLID BLOCK AT BOTTOM W/ PRE-FINISHED ALUMINUM SKIRT FLASHING.

BRICK VENEER INSTALLED PER IRC & MANUF. RECOMMENDATIONS O/ AIR SPACE/MESH RAIN SCREEN W/ WEEPS - AND DRIP METAL AT BOTTOM. TO BE INSTALLED O/BREATHABLE VAPROSHIELD WATERPROOF MEMBRANE O/ PRESSURE TREATED 1/2" CDX PLYWOOD (REFER TO COORDINATION W/ WATERPROOFING DETAILS PER SHEET A-11.1

KOLBE——ULTRA SERIES CLAD DOORS & WINDOWS W/ FACTORY SUPPLIED PRE-FINISHED ALUMINUM BACKBAND TRIM. COORDINATE W/ SIDING FOR WATERPROOFING DETAILS & Z-FLASHING AT HEAD REQUIREMENTS. SEQUENCING CRITICAL AT HEADS & W/ COORDINATION AT DOOR PAN INSTALLATIONS.

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FRONT PORCH COLUMNS
PRE-FINISHED METAL PAN - 4 EDGES AT TOP O/ 3X PRE- FINISHED CEDAR WOOD CAP O/ PRE-FINISHED COVE MOULD (DIMENSIONS PER SUBMITTALS) O/ PRE-FINISHED WOOD COLUMN WRAPS W/ MITERED OR BISCUITED EDGE CORNERS O/ MESH RAIN SCREEN O/ VAPROSHIELD WATERPROOF BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD O/ WOOD FRAMING PER STRUCTURAL.

MAIN FLOOR TERRACE CONSTRUCTION
TEMPERED 3/8" THICK GLASS PANEL & PRE-FINISHED ALUMINUM STANCHIONS - CAPLESS GUARDRAIL PER APPROVED SHOP DRAWINGS O/ PRE-CAST CONCRETE SILL/WALL CAP PER ELEVATIONS & SHOP DRAWINGS. (COORDINATE W/ DETAILS AT SLOPED WATERPROOF DECK & PRE-CAST - STONE VENEER PAVER SYSTEM O/ BISON ADJUSTABLE STANDS PER APPROVED SHOP DRAWINGS (COORDINATE W/ WATERPROOF DECK, SHOP DRAWINGS & APPROVED DECK DRAIN LOCATIONS. ALSO COORDINATE LOCATIONS PER CIVIL DRAWINGS)

CHIMNEY CAPS
PRE-FINISHED CHIMNEY CAPS & RANGE HOOD BLOWER CAPS - SEE APPROVED SHOP DRAWINGS FOR WATERPROOF PANS / FLUES / CAP INSTALLATION REQUIREMENTS TO ENSURE WATERPROOFING INTEGRITY.

TYPICAL INTERIOR WALL
5/8" GWB @ EACH SIDE
1/2" CDX PLYWOOD PER STRUC. PLANS
2X6/2X4 STUDS @ 16" O.C. TYP U.N.O. PER STRC
SOUND INSULATION
2-2X PT SILL W/ 4 BOLTS PER STRUC & VERIFY HOLD DOWNS @ EACH END OF REQUIRED
*VERIFY LOAD BEARING

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ VAPROSHIELD WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASSY PER SHEET A-0.2
5/8" SHEETROCK

ROOF ASSEMBLY 1 (NON VENTED ROOF)
COMPOSITION SHINGLE - 50 YR
WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY NON-VENTED
SEE SHEETS A-0.2 FOR ENERGY

ROOF ASSEMBLY 2 (NON VENTED ROOF)
COMPOSITION SHINGLE - 50 YR
WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY NON-VENTED
SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK (VERIFY LOCATION)

TYPICAL FLOOR ASSEMBLY
1-1/2" GYPCRETE W/ RADIANT TUBE
1-1/8" T&G PLYWOOD PER STRUCT.
TJI'S PER STRUCT.
FLOOR INSULATOR: R-38
5/8" GWB

TYPICAL BASEMENT SLAB
8" THICK CONC W/ RADIANT TUBE
BOILER HEATING SYSTEM / TIED TO STRUCTURAL REBAR. SEE STRUCTURAL FOR DIAMETER REBAR & SPACING O/
R-10 RIGID INSULATION @ ALL O/ 10 MIL VAPOR BARRIER O/ COMPACT GRANULAR FILL O/ SUB-SLAB DRAINAGE SYSTEM.
PER GEOTECH DETAILS & NOTES.
COORDINATE W/ CIVIL

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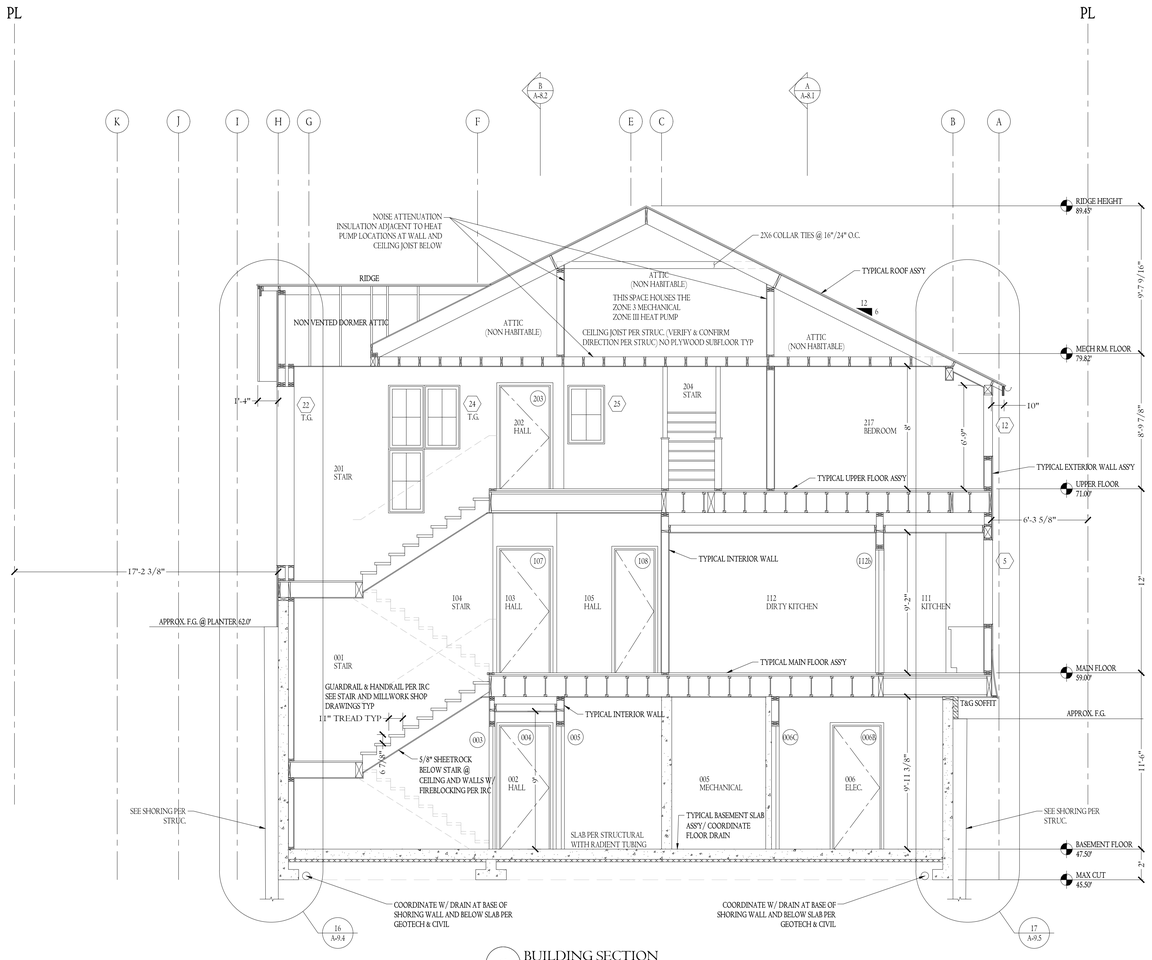
SIDENCE

MURRAY RESIDENCE
NEW 3 OF 3 SINGLE FAMILY RESIDENCE
WATERFRONT.

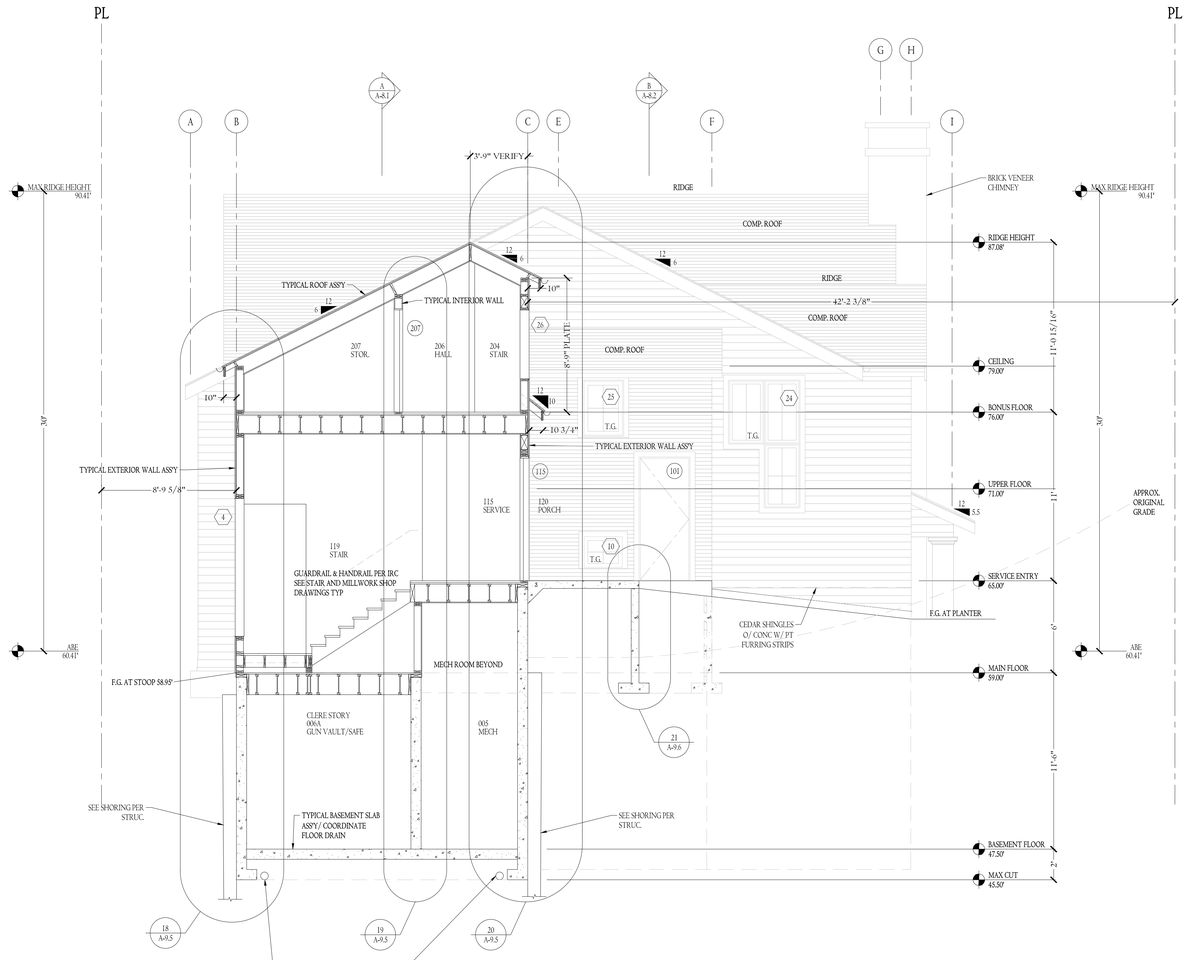
DESIGN: RWF
DRAWN:
HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
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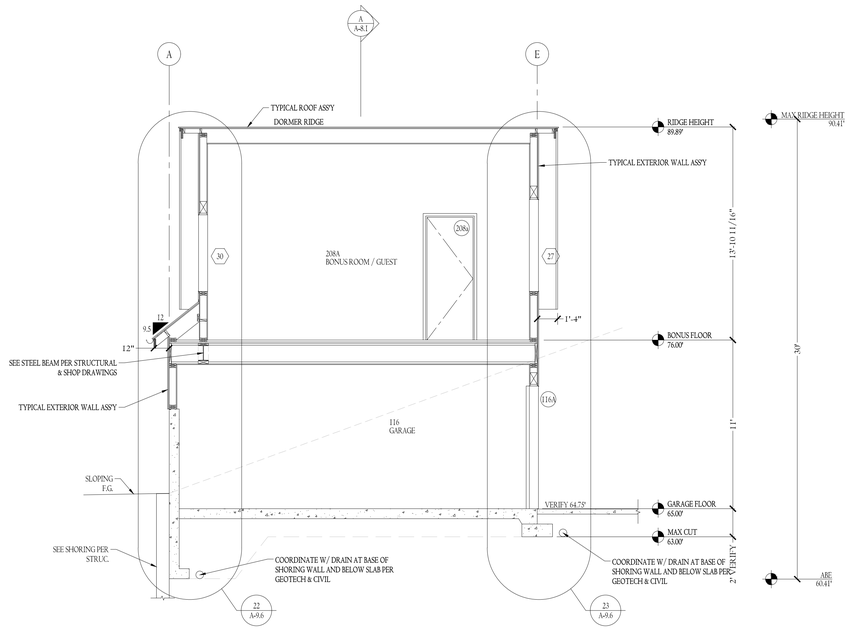
A-8.3



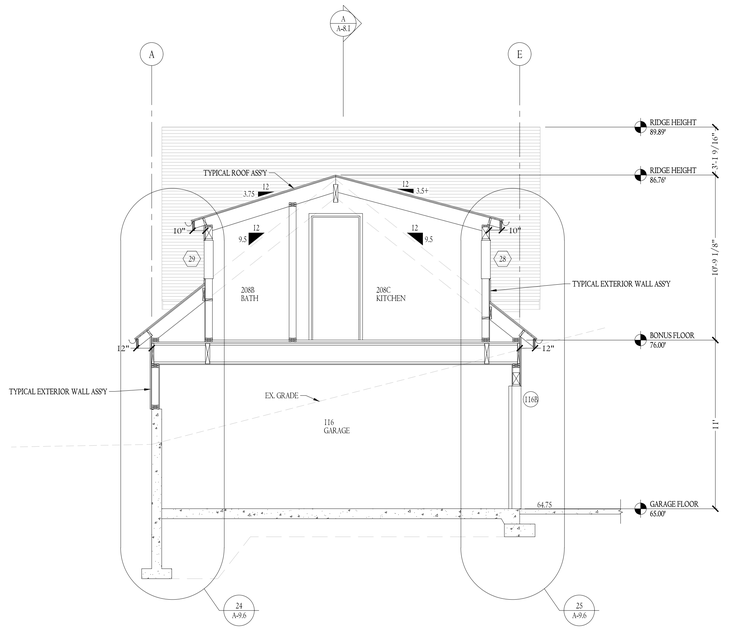
G BUILDING SECTION
SCALE: 1/4" = 1'-0"



H BUILDING SECTION
SCALE: 1/4" = 1'-0"



I BUILDING SECTION
SCALE: 1/4" = 1'-0"



J BUILDING SECTION
SCALE: 1/4" = 1'-0"

ROOF
50-YEAR COMP. SHINGLE ROOFING
2X8 CEDAR FASCIA / 2X10 CEDAR RAKE W/ 2-1/4" BRICK MOULD W/ PRE-FINISHED ALUMINUM DRIP METAL
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PRE-FINISHED METAL PAN - 4 EDGES AT TOP O/ 3X PRE- FINISHED CEDAR WOOD CAP O/ PRE-FINISHED COVE MOULD (DIMENSIONS PER SUBMITTALS) O/ PRE-FINISHED WOOD COLUMN WRAPS W/ MITERED OR BISCUITED EDGE CORNERS O/ MESH RAIN SCREEN O/ VAPROSHIELD WATERPROOF BREATHABLE MEMBRANE O/ 1/2" CDX PLYWOOD O/ WOOD FRAMING PER STRUCTURAL.

MAIN FLOOR TERRACE CONSTRUCTION
TEMPERED 3/8" THICK GLASS PANEL & PRE-FINISHED ALUMINUM STANCHIONS - CAPLESS GUARDRAIL PER APPROVED SHOP DRAWINGS O/ PRE-CAST CONCRETE SILL/WALL CAP PER ELEVATIONS & SHOP DRAWINGS. (COORDINATE W/ DETAILS AT SLOPED WATERPROOF DECK & PRE-CAST - STONE VENEER PAVER SYSTEM O/ BISON ADJUSTABLE STANDS PER APPROVED SHOP DRAWINGS (COORDINATE W/ WATERPROOF DECK SHOP DRAWINGS & APPROVED DECK DRAIN LOCATIONS. ALSO COORDINATE LOCATIONS PER CIVIL DRAWINGS)

CHIMNEY CAPS
PRE-FINISHED CHIMNEY CAPS & RANGE HOOD BLOWER CAPS - SEE APPROVED SHOP DRAWINGS FOR WATERPROOF PANS / FLUES / CAP INSTALLATION REQUIREMENTS TO ENSURE WATERPROOFING INTEGRITY.

TYPICAL INTERIOR WALL
5/8" GWB @ EACH SIDE
1/2" CDX PLYWOOD PER STRUC. PLANS
2X6/2X4 STUDS @ 16" O.C. TYP U.N.O. PER STRC
SOUND INSULATION
2-2X PT SILL W/ A BOLTS PER STRUC & VERIFY HOLD DOWNS @ EACH END OF REQUIRED
*VERIFY LOAD BEARING

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ VAPROSHIELD WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK

ROOF ASSEMBLY 1 (NON VENTED ROOF)
COMPOSITION SHINGLE - 50 YR
WEATHER PROOFING MEMBRANE
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY

ROOF ASSEMBLY 2 (NON VENTED ROOF)
COMPOSITION SHINGLE - 50 YR
WEATHER PROOFING MEMBRANE
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK. (VERIFY LOCATION)

TYPICAL FLOOR ASSEMBLY
1-1/2" GYPCRETE W/ RADIANT TUBE
1-3/8" T&G PLYWOOD PER STRUCT.
TJI'S PER STRUCT.
FLOOR INSULATOR: R-38
5/8" GWB

TYPICAL BASEMENT SLAB
8" THICK CONC. W/ RADIANT TUBE
BOILER HEATING SYSTEM / TIED TO STRUCTURAL REBAR. SEE STRUCTURAL FOR DIAMETER REBAR & SPACING O/
R-10 RIGID INSULATION @ ALL O/ 10 MIL VAPOR BARRIER O/ COMPACT GRANULAR FILL O/ SUB-SLAB DRAINAGE SYSTEM.
PER GEOTECH DETAILS & NOTES. COORDINATE W/ CIVIL

RF ARCHITECTURE
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RICHARD@RFARCHITECTURE.COM
7421 214TH AVE E BONNEYLAKE, WA 98391

6080 REGISTERED ARCHITECT RICHARD W. FLAKE STATE OF WASHINGTON

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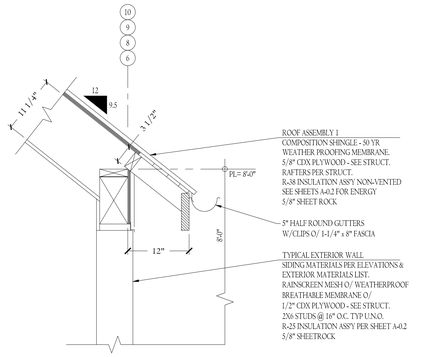
MURRAY RESIDENCE

NEW SINGLE FAMILY RESIDENCE
4 MERCER ISLAND, WA 98040

DESIGN: RWF
DRAWN:
HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
1 PER CITY REVIEW 10-22-2023
REVISIONS

APRIL 28, 2023

A-8.4

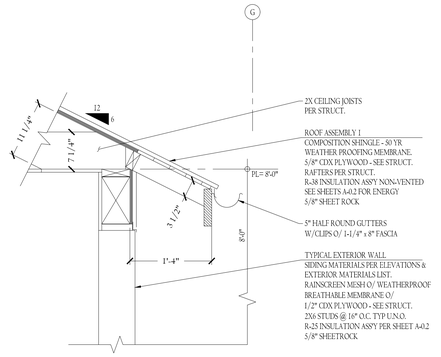


ROOF EVE DETAIL
I" = I'-0"

ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK

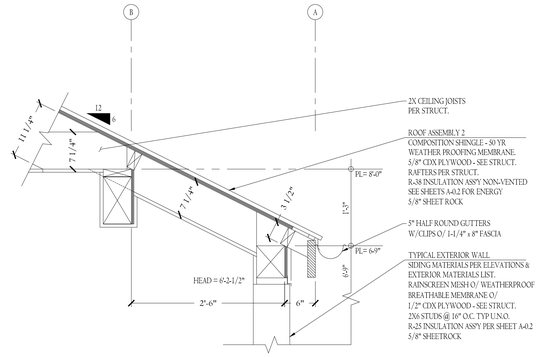


2X CEILING JOISTS PER STRUCT.

ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK



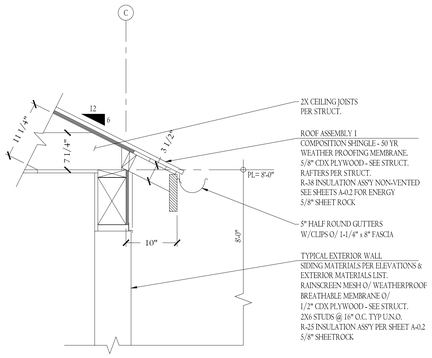
2X CEILING JOISTS PER STRUCT.

ROOF ASSEMBLY 2
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK

DETAIL
I" = I'-0"

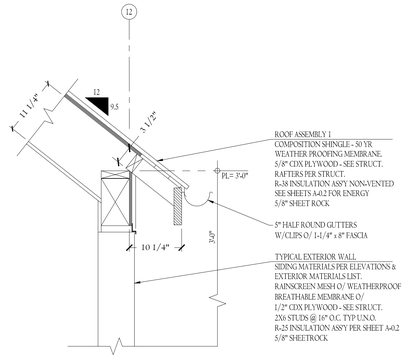


2X CEILING JOISTS PER STRUCT.

ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK.

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

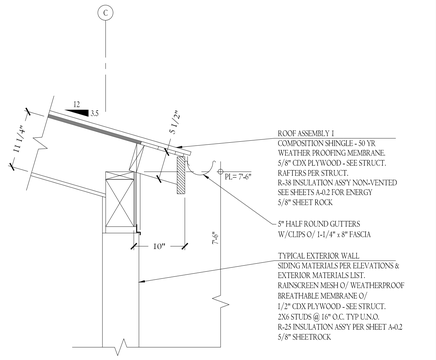
TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK



ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

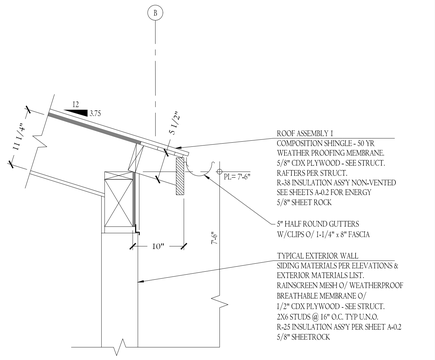
TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK



ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK

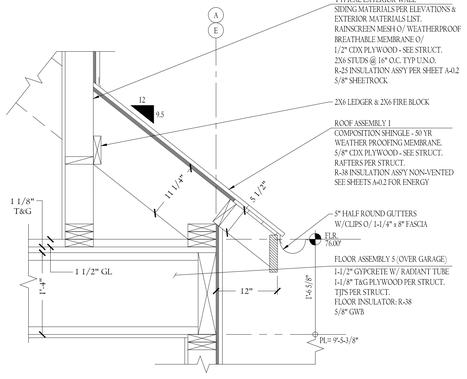


ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK

DETAIL
I" = I'-0"



TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK.

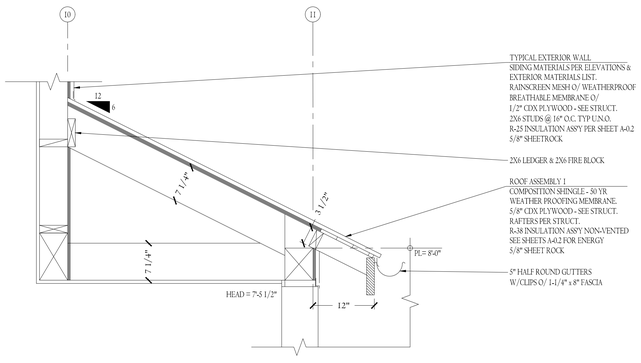
2X6 LEDGER & 2X6 FIRE BLOCK

ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

FLR.
5x8/0"

FLOOR ASSEMBLY 5 (OVER GARAGE)
1-1/2" GYPCRETE W/ RADIANT TUBE
1-1/8" T&G PLYWOOD PER STRUCT.
TJI'S PER STRUCT.
FLOOR INSULATOR: R-38
5/8" GWB



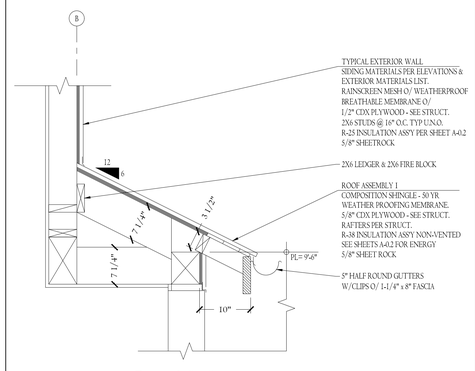
TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK

2X6 LEDGER & 2X6 FIRE BLOCK

ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

DETAIL
I" = I'-0"



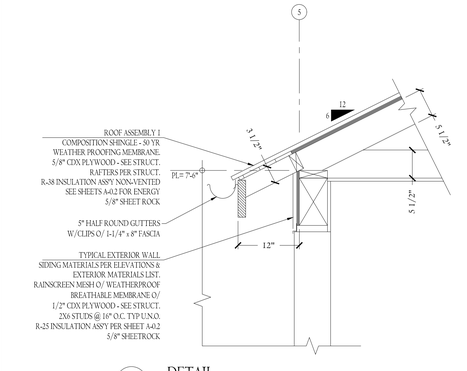
TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK.

2X6 LEDGER & 2X6 FIRE BLOCK

ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

DETAIL
I" = I'-0"



ROOF ASSEMBLY 1
COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE.
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASS'Y NON-VENTED SEE SHEETS A-0.2 FOR ENERGY
5/8" SHEET ROCK

5" HALF ROUND GUTTERS W/CLIPS O/ 1-1/4" x 8" FASCIA

TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST.
RAINSCREEN MESH O/ WEATHERPROOF BREATHABLE MEMBRANE O/
1/2" CDX PLYWOOD - SEE STRUCT.
2X6 STUDS @ 16" O.C. TYP U.N.O.
R-25 INSULATION ASS'Y PER SHEET A-0.2
5/8" SHEETROCK

DETAIL
I" = I'-0"

RF ARCHITECTURE
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6080
REGISTERED ARCHITECT
RICHARD W. FLAKE
STATE OF WASHINGTON

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IDENCE
RESIDENCE
AVE SE 98040
WA

MURRAY RESIDENCE
NEW SINGLE FAMILY RESIDENCE
MERCER ISLAND, WA

DESIGN:
RWF

DRAWN:
HAVILAND CONSULTING

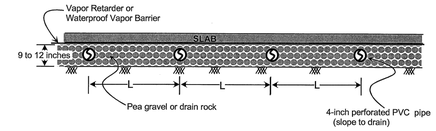
CHECKED:
RWF

REVISIONS:

1 PER CITY REVIEW
10.23.2023
REVISIONS

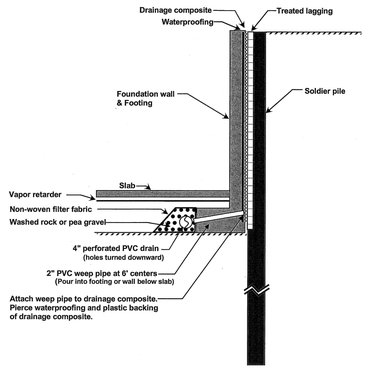
APRIL 28, 2023

1 A-8.5

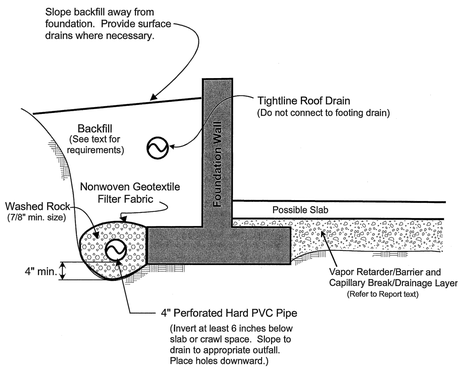


NOTES:

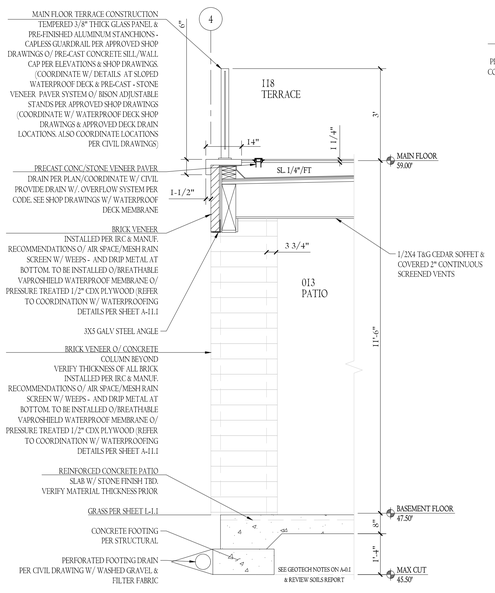
(1) Refer to the report text for additional drainage and waterproofing considerations.
(2) The typical maximum underslab drain separation (L) is 15 to 20 feet.
(3) No filter fabric is necessary beneath the pipes as long as a minimum thickness of 4 inches of rock is maintained beneath the pipes.
(4) The underslab drains and foundation drains should discharge to a suitable outfall.



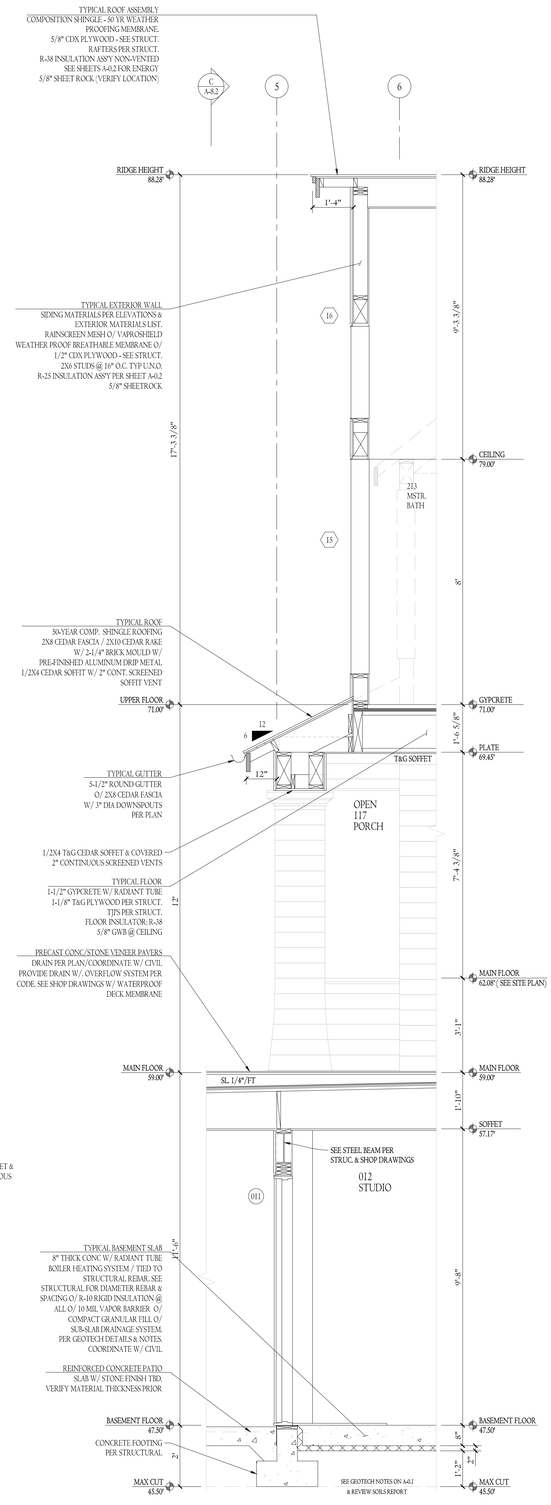
Note - Refer to the report for additional considerations related to drainage and waterproofing.



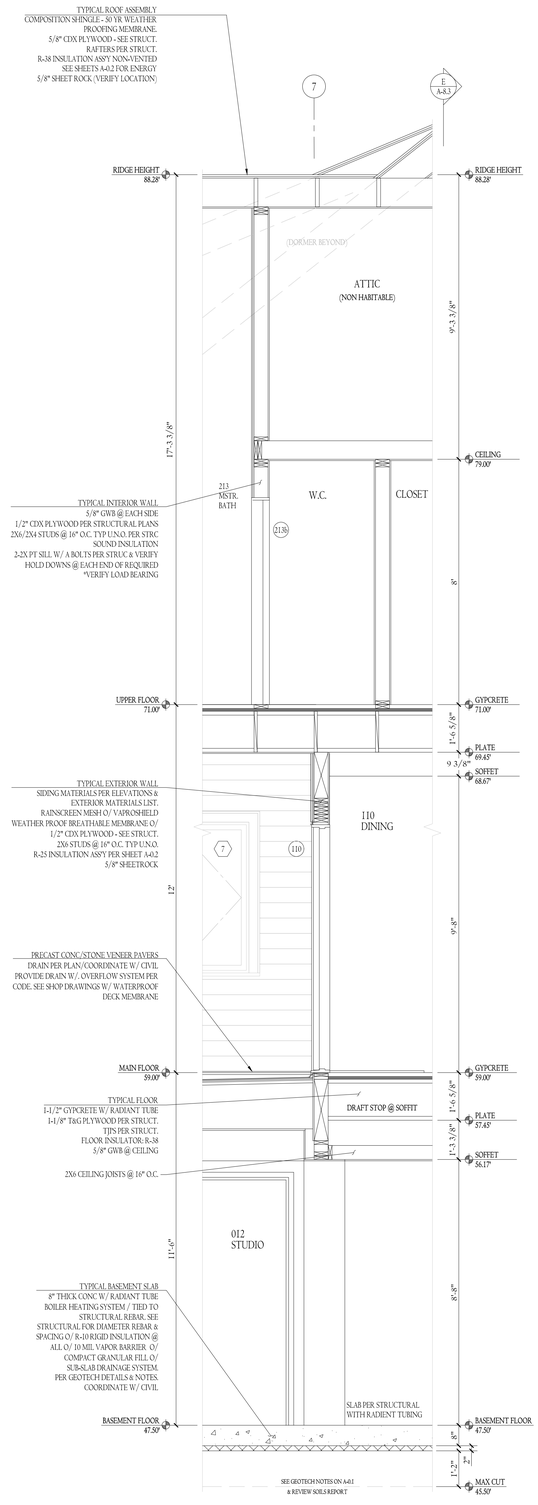
NOTES:
(1) In crawl spaces, provide an outlet drain to prevent buildup of water that bypasses the perimeter footing drains.
(2) Refer to report text for additional drainage, waterproofing, and slab considerations.



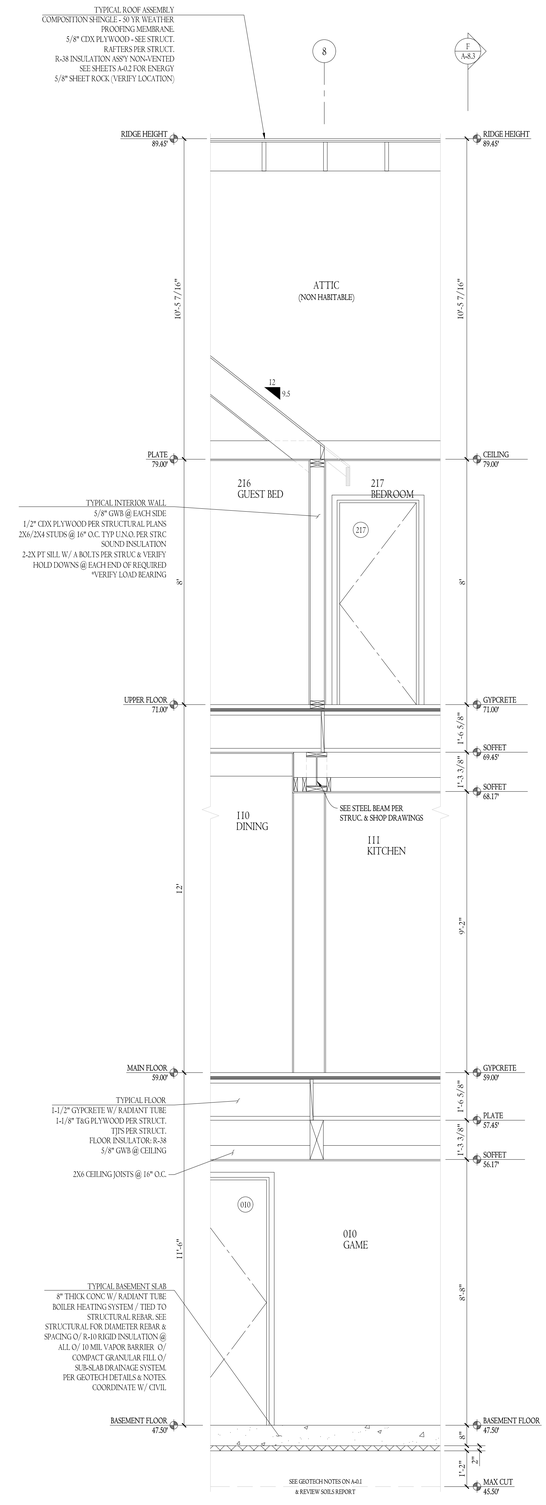
1 WALL SECTION
SCALE: 1/2" = 1'-0"



2 WALL SECTION
SCALE: 1/2" = 1'-0"



3 WALL SECTION
SCALE: 1/2" = 1'-0"



4 WALL SECTION
SCALE: 1/2" = 1'-0"

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6080
REGISTERED
ARCHITECT
RICHARD W. FLAKE
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WASHINGTON

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MURRAY RESIDENCE

NEW SINGLE FAMILY RESIDENCE
+ MERCER ISLAND, WA

DESIGN:
RWF
DRAWN:
HAVILAND CONSULTING
CHECKED:
RWF
REVISIONS:
1 PER CITY REVIEW
10-22-2021
REVISIONS

APRIL 28, 2023

A-9.1

MURRAY RESIDENCE

NEW SINGLE FAMILY RESIDENCE FOR THE MURRAY FAMILY,

WAVE 9804 0

RF ARCHITECTURE

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RICHARD@RFARCHITECTURE.COM

7421 214TH AVE E BONNEY LAKE, WA 98391

REGISTERED ARCHITECT RICHARD W. FLEMING STATE OF WASHINGTON 6080

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Richard Fleming Architecture

DESIGN: RWF

DRAWN: HAVALAND CONSULTING

CHECKED: RWF

REVISIONS:

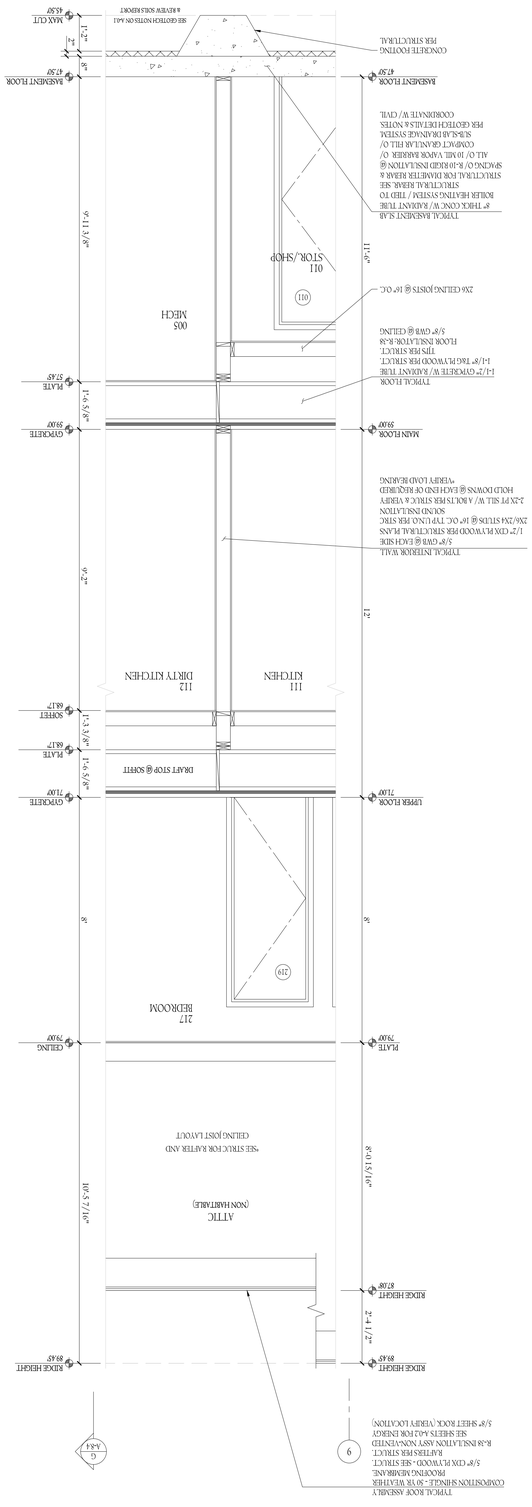
△ PER CITY REVIEW 10.22.2021

REVISIONS

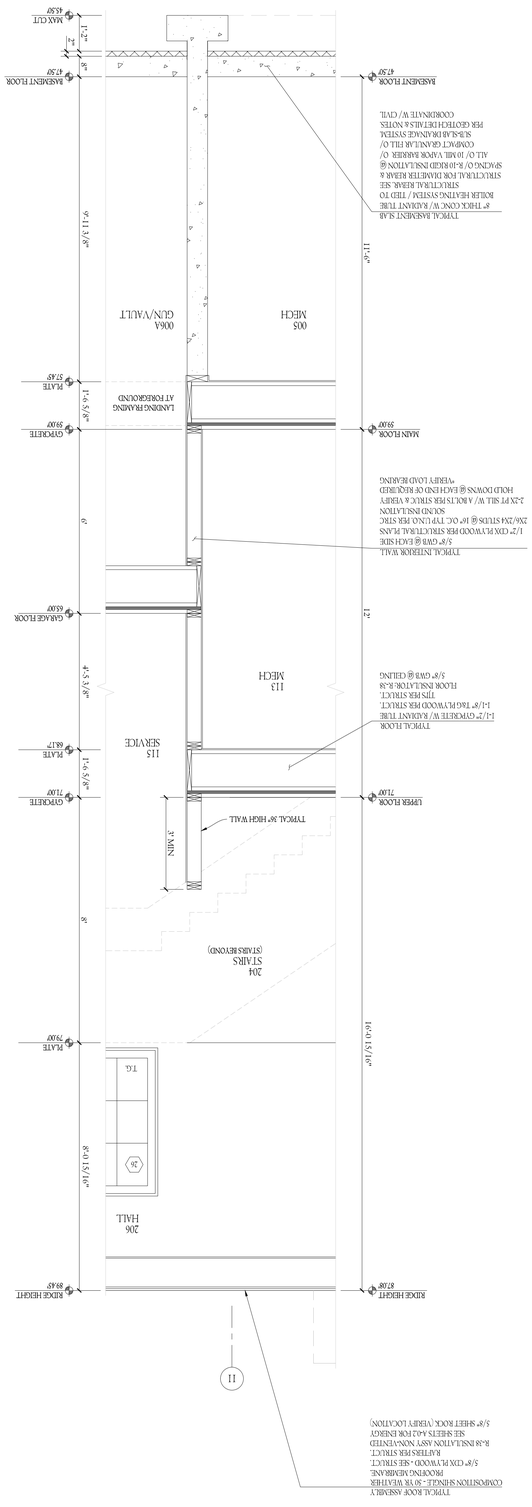
APRIL 28, 2023

A-9.2

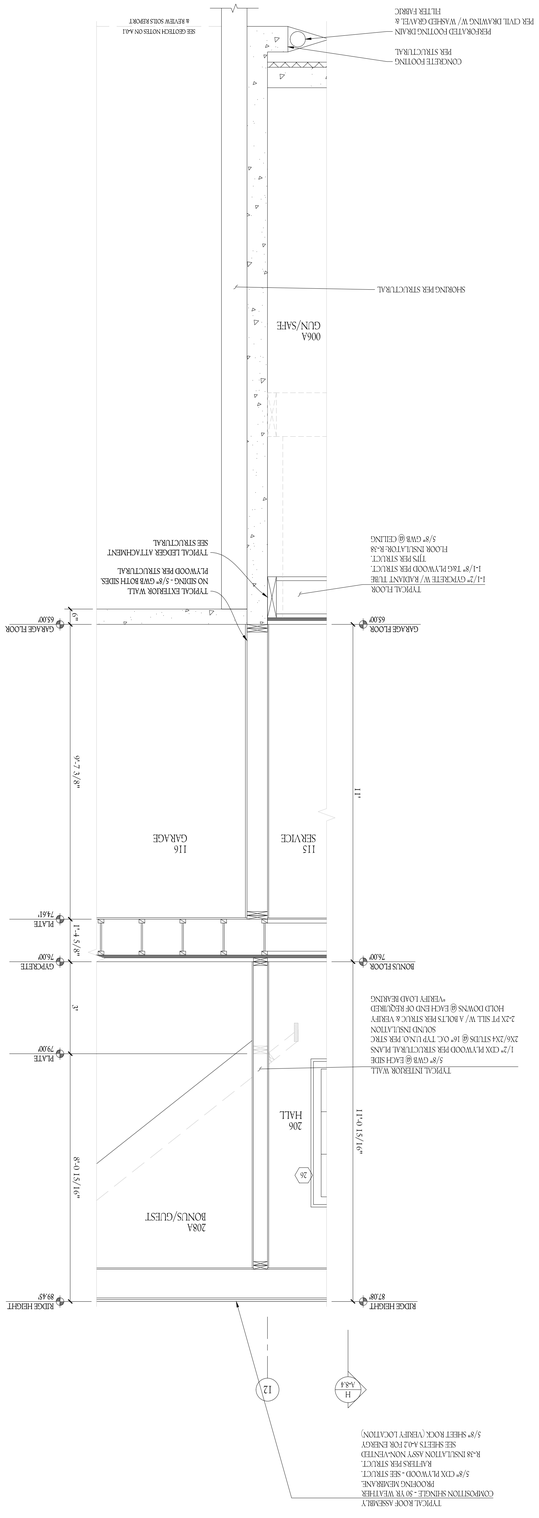
5 WALL SECTION
SCALE: 1/2" = 1'-0"



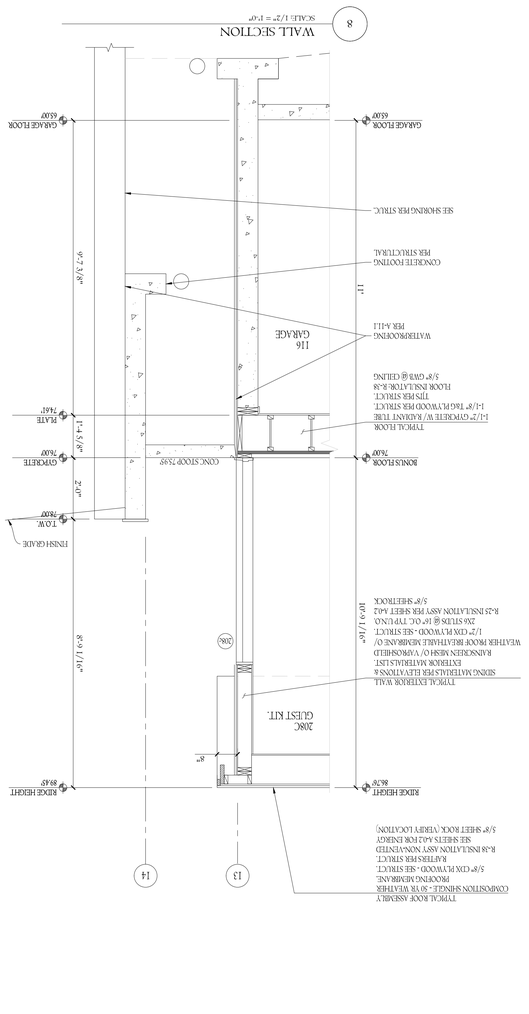
6 WALL SECTION
SCALE: 1/2" = 1'-0"



7 WALL SECTION
SCALE: 1/2" = 1'-0"



8 WALL SECTION
SCALE: 1/2" = 1'-0"



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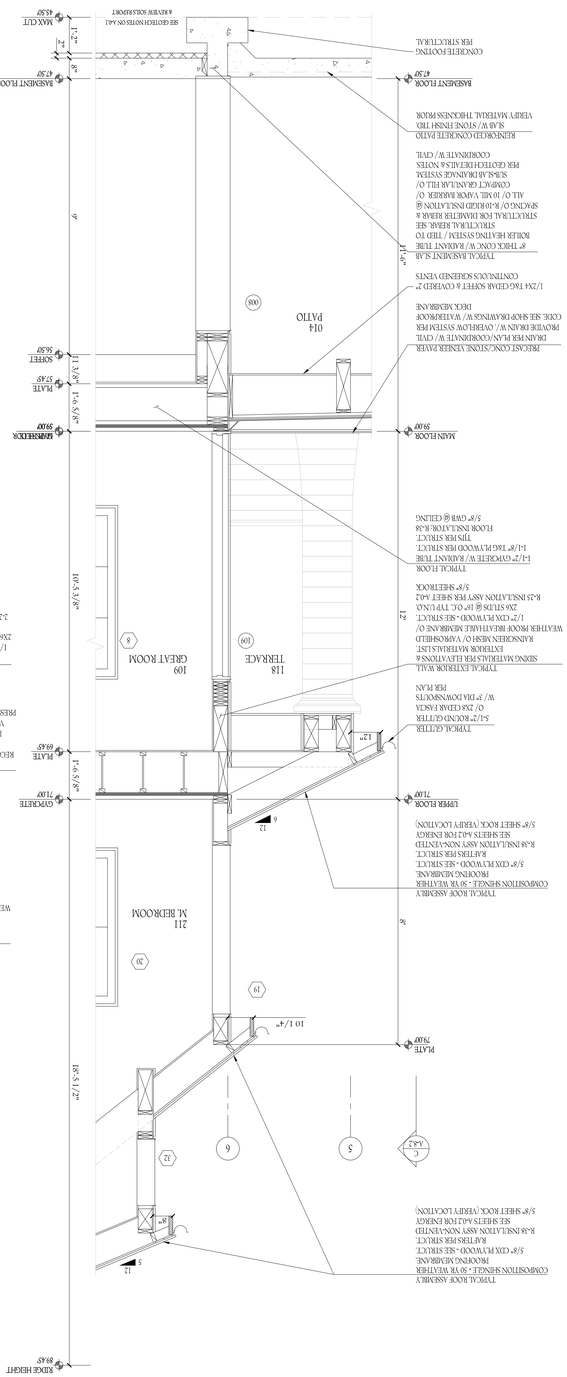
DESIGN: RWF
DRAWN:

REVISIONS:
CHECKED: RWF
1 9 . 2 2 . 2 0 2 1 PER CITY REVIEW

APRIL 28, 2023

A-9.3

9 WALL SECTION
SCALE: 1/2" = 1'-0"


SEE GEOTECH NOTES ON A4.1
& HEAVY SOILS SHOWT
MAX CUT
47'-0"
BASEMENT FLOOR
CONCRETE FOOTING
PER STRUCTURAL
BASEMENT FLOOR
8"
1'-2"
TYPICAL BASEMENT SLAB
8" THICK CONC W/ RADIANT TUBE
BOILER HEATING SYSTEM / TIED TO
STRUCTURAL FOR DIAMETER REBAR &
SPACING O/ 18-10 HOOPED INSULATIONS @
ALL O/ 10 MIL VAPOR BARRIER O/
COMPACT GRANULAR FILL O/
SLAB AS DRAINAGE SYSTEM
PER GEOTECH DETAILS & NOTES
COORDINATE W/ CIVIL
MAIN FLOOR
9'-0"
CONCRETE
9'-11 3/8"
PLATE
1'-9 5/8"
SOFFET
11'-3/8"
TYPICAL FLOOR
1+1/2" GYPCRETE W/ RADIANT TUBE
1+1/8" T&G PLYWOOD PER STRUCT.
TJI'S PER STRUCT.
FLOOR INSULATOR R-38
5/8" GWB @ CEILING
TYPICAL INTERIOR WALL
2x6 STUDS @ 16" O.C. TYP U.N.O. PER STRUCT.
1/2" GWB @ EACH SIDE
UPPER FLOOR
9'-0"
7'-0"
GYPCRETE
7'-1 3/8"
PLATE
1'-9 5/8"
SOFFET
11'-3/8"
TYPICAL ROOF ASSEMBLY
COMPOSITION SHINGLE - 30 YR WEATHER
PROOFING MEMBRANE
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY NON-VENTED
SEE SHEETS A4.2 FOR ENERGY
5/8" SHEET ROCK. (VERIFY LOCATION)
RIDGE HEIGHT
98'-5 1/2"
TYPICAL GUTTER
5+1/2" ROUND GUTTER
O/ 2X6 CEDAR FASCIA
W/ 3" DIA DOWNSPOUTS
PER PLAN
TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS &
EXTERIOR MATERIALS LIST
RAINSCREEN MEMBRANE O/ VAPOR PERMEABLE
WEATHER PROOF BREATHABLE MEMBRANE O/
2x6 STUDS @ 16" O.C. TYP U.N.O.
1/2" CDX PLYWOOD - SEE STRUCT.
R-23 INSULATION ASSY PER SHEET A4.2
5/8" SHEETROCK
TYPICAL INTERIOR WALL
1/2" CDX PLYWOOD PER STRUCTURAL PLANS
2x6/2x4 STUDS @ 16" O.C. TYP U.N.O. PER STRUC
SOUND INSULATION
5/8" GWB @ EACH SIDE
2x12 PT SILL W/ A BOLTS PER STRUC.& VERIFY
HOLD DOWNS @ EACH END OR REQUIRED
*HEAVY LOAD BEARING
TYPICAL FLOOR
1+1/2" GYPCRETE W/ RADIANT TUBE
1+1/8" T&G PLYWOOD PER STRUCT.
TJI'S PER STRUCT.
FLOOR INSULATOR R-38
5/8" GWB @ CEILING
2x6 CEILING JOISTS @ 16" O.C.
SHORING PER STRUCTURAL
TYPICAL FLOOR
1+1/2" GYPCRETE W/ RADIANT TUBE
1+1/8" T&G PLYWOOD PER STRUCT.
TJI'S PER STRUCT.
FLOOR INSULATOR R-38
5/8" GWB @ CEILING
BRICK VENEER
INSTALLED PER IRC & MANUF.
RECOMMENDATIONS O/ AIR SPACE/MEMBRANE
SCREEN W/ WEEPS - AND DRIP/FLASHING AT
BOTTOM TO BE INSTALLED O/ BREATHABLE
VAPOR-PERMEABLE WATERPROOF MEMBRANE O/
PRESSURE TREATED 1/2" CDX PLYWOOD (SEIHER
TO COORDINATION W/ WATERPROOFING
DETAILS PER SHEET A1.1
TYPICAL ROOF ASSEMBLY
COMPOSITION SHINGLE - 30 YR WEATHER
ROOFING MEMBRANE
5/8" CDX PLYWOOD - SEE STRUCT.
R-38 INSULATION ASSY NON-VENTED
SEE SHEETS A4.2 FOR ENERGY
5/8" SHEET ROCK. (VERIFY LOCATION)
RIDGE HEIGHT
89'-5"
TYPICAL ROOF ASSEMBLY
COMPOSITION SHINGLE - 30 YR WEATHER
PROOFING MEMBRANE
R-38 INSULATION ASSY NON-VENTED
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY NON-VENTED
SEE SHEETS A4.2 FOR ENERGY
5/8" SHEET ROCK. (VERIFY LOCATION)
HARDIEBOARD CONCRETE PATIO
SLAB W/ STONE FINISH TBD.
VISERY MATERIAL THICKNESS PRIOR
TYPICAL GUTTER
5+1/2" ROUND GUTTER
O/ 2X6 CEDAR FASCIA
W/ 3" DIA DOWNSPOUTS
PER PLAN
TYPICAL EXTERIOR WALL
SIDING MATERIALS PER ELEVATIONS &
EXTERIOR MATERIALS LIST
RAINSCREEN MEMBRANE O/ VAPOR PERMEABLE
WEATHER PROOF BREATHABLE MEMBRANE O/
2x6 STUDS @ 16" O.C. TYP U.N.O.
1/2" CDX PLYWOOD - SEE STRUCT.
ROOFING MEMBRANE
5/8" CDX PLYWOOD - SEE STRUCT.
RAFTERS PER STRUCT.
R-38 INSULATION ASSY NON-VENTED
SEE SHEETS A4.2 FOR ENERGY
5/8" SHEET ROCK. (VERIFY LOCATION)
TYPICAL ROOF ASSEMBLY
COMPOSITION SHINGLE - 30 YR WEATHER
PROOFING MEMBRANE
R-38 INSULATION ASSY NON-VENTED
SEE SHEETS A4.2 FOR ENERGY
5/8" SHEET ROCK. (VERIFY LOCATION)
RIDGE HEIGHT
98'-5 1/2"
TYPICAL ROOF ASSEMBLY
COMPOSITION SHINGLE - 30 YR WEATHER
PROOFING MEMBRANE
R-38 INSULATION ASSY NON-VENTED
SEE SHEETS A4.2 FOR ENERGY
5/8" SHEET ROCK. (VERIFY LOCATION)
MASONRY
9'-0"
MAIN FLOOR
9'-0"
GYPCRETE
9'-11 3/8"
PLATE
1'-9 5/8"
SOFFET
11'-3/8"
UPPER FLOOR
9'-0"
7'-0"
GYPCRETE
7'-1 3/8"
PLATE
1'-9 5/8"
SOFFET
11'-3/8"
RIDGE HEIGHT
98'-5 1/2"
001 HALL
004
002 HALL
105
107 ELEV.
101
106
201 STAIR
203 ELEV.
201
109 GREAT ROOM
6
118 TERRACE
008 PATIO
014
211 M. BEDROOM
211
10 1/4"
19
21
20
A-8.1
A-8.2
A-8.3
5
6
12
8"
9
12"
6
12
6
12
6
12

MURRAY RESIDENCE

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CHECKED: RWF

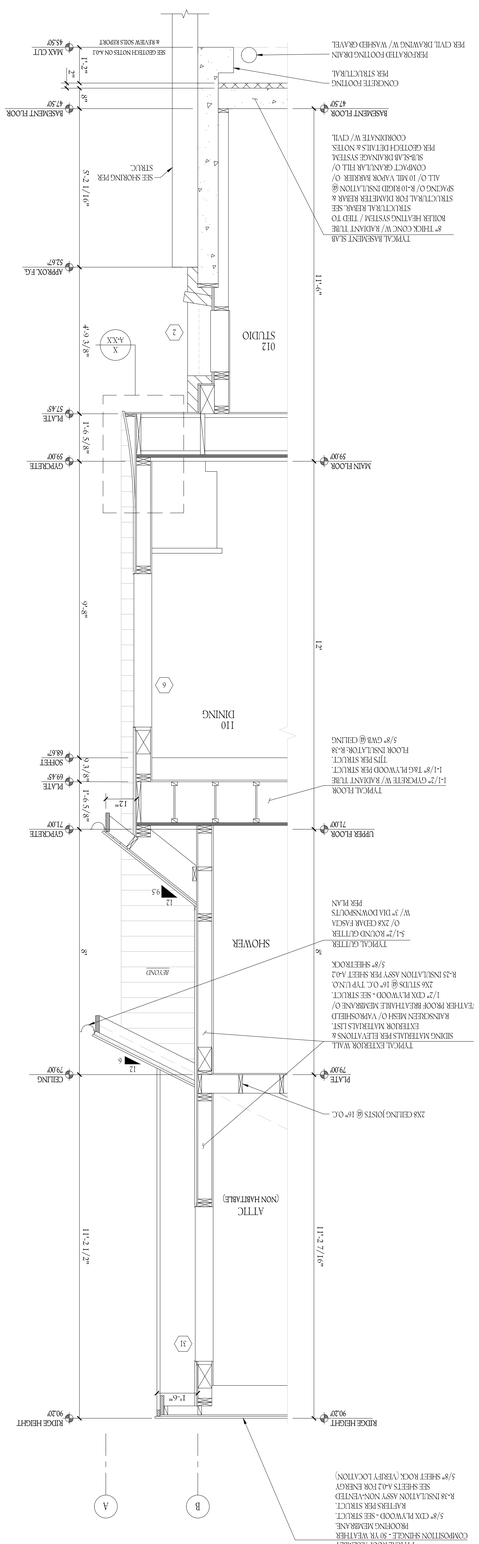
REVISIONS:

#	REVISIONS	DATE
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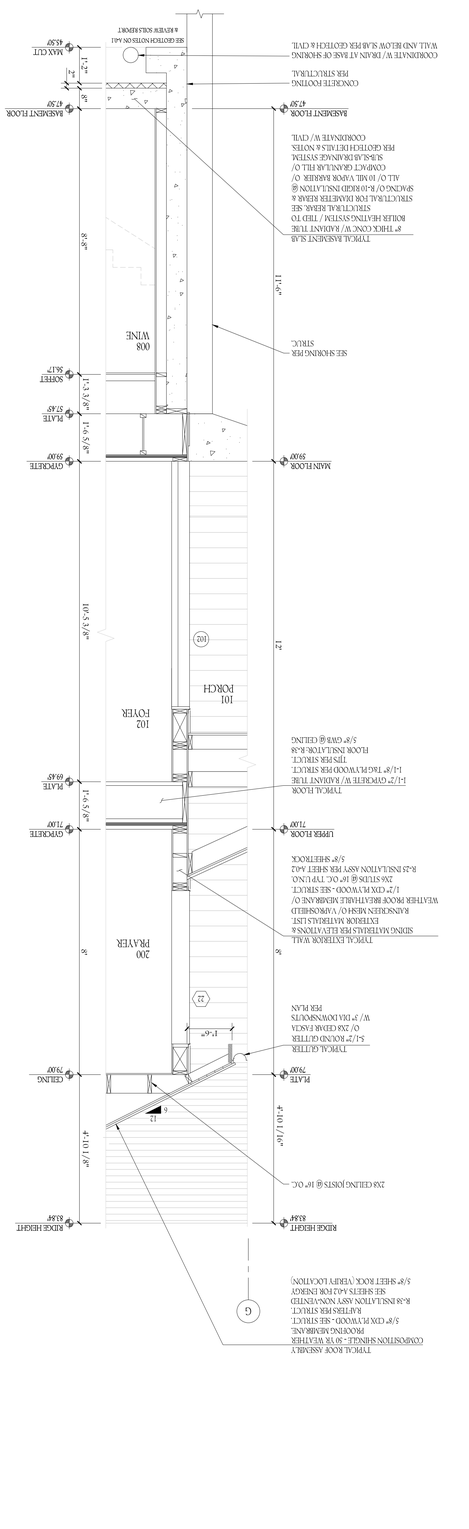
APRIL 28, 2023

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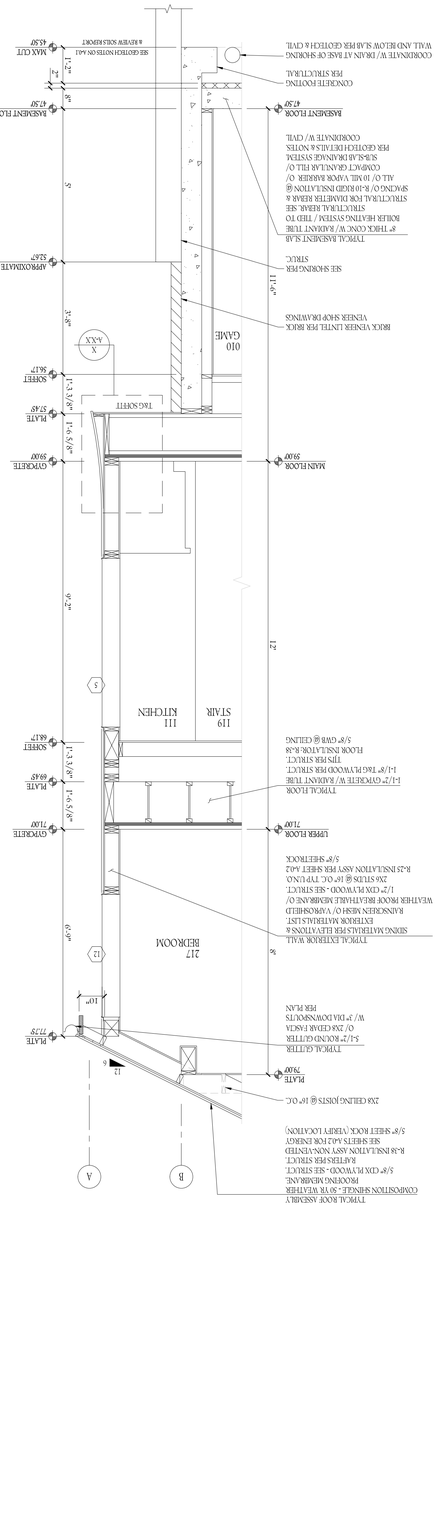
13 WALL SECTION
SCALE: 1/2" = 1'-0"


CONCRETE FOOTING PER STRUCTURAL
PERF. DRAIN PIPE DRAINING TO DAYLIGHT OR TO DRYWELL PER CIVIL DRAWINGS W/ WASHED GRAVEL
SEE GEOTECH NOTES ON A4.1 & BEFORE SOILS SHOWN
MAX CUT 45.50°
BASEMENT FLOOR 47.50'
TYPICAL BASEMENT SLAB 8" THICK CONC W/ BOTTOM TRIM ROLLER HEATING SYSTEM / TIED TO STRUCTURAL FOR DIAMETER REBAR & SPACING O/ 5'-0 HOLED PENETRATIONS @ ALL O/ 10 MIL VAPOR BARRIER O/ SLAB DRAINAGE SYSTEM PER GEOTECH DETAILS & NOTES COORDINATE W/ CIVIL
SEE SHORING PER STRUC.
A998 OXIDATE FINISH GRADE 52.67'
MAIN FLOOR 59.00'
CONCRETE 59.00'
PLATE 57.49'
1'-3 3/8"
SOFFET 56.17'
9'-6 5/8"
LOWER FLOOR 71.00'
PLATE 69.49'
SOFFET 68.17'
1'-6 5/8"
CONCRETE 71.00'
PLATE 71.75'
1'-2"
MAX CUT 45.50'
BASEMENT FLOOR 47.50'
12'-11 15/16"
LANDING 53.25'
LANDING 63.00'
APPROX F.G. @ PLANTER 62.0'
001 STAIR
SEE SHORING PER STRUC.
MAIN FLOOR 59.00'
12'-0"
UPPER FLOOR 71.00'
201 STAIR
1'-4"
22
TYPICAL EXTERIOR WALL SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST RAINSCREEN MESH O/ VAPROSHIELD WEATHER RESISTANT BARRIER @ SHEATHING O/ 6 MIL VAPOR BARRIER @ INTERIOR WALLS O/ 5/8" GYP. BD. FINISH
2X6 STUDS @ 16" O.C. TYP.U.N.O. R-25 INSULATION ASSY PER SHEET A4.02
5/8" SHEETROCK
TYPICAL ROOF ASSEMBLY COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE 5/8" CDX PLYWOOD - SEE STRUCT. RAFTERS PER STRUCT. R-38 INSULATION ASSY NON-VENTED SEE SHEETS A4.2 FOR ENERGY 5/8" SHEET ROCK (VERIFY LOCATION)
RIDGE HEIGHT 83.84'
RIDGE
NON VENTED DORMER ATTIC
CEILING 79.00'
PLATE 78.00'
4'-10 1/8"
4'-10 1/16"
2X6 CEILING JOISTS @ 16" O.C.
5-1/2" ROUND GUTTER O/ 2X8 FASCIA W/ 3" DIA DOWNSPOUTS PER PLANS
TYPICAL GUTTER
G
H

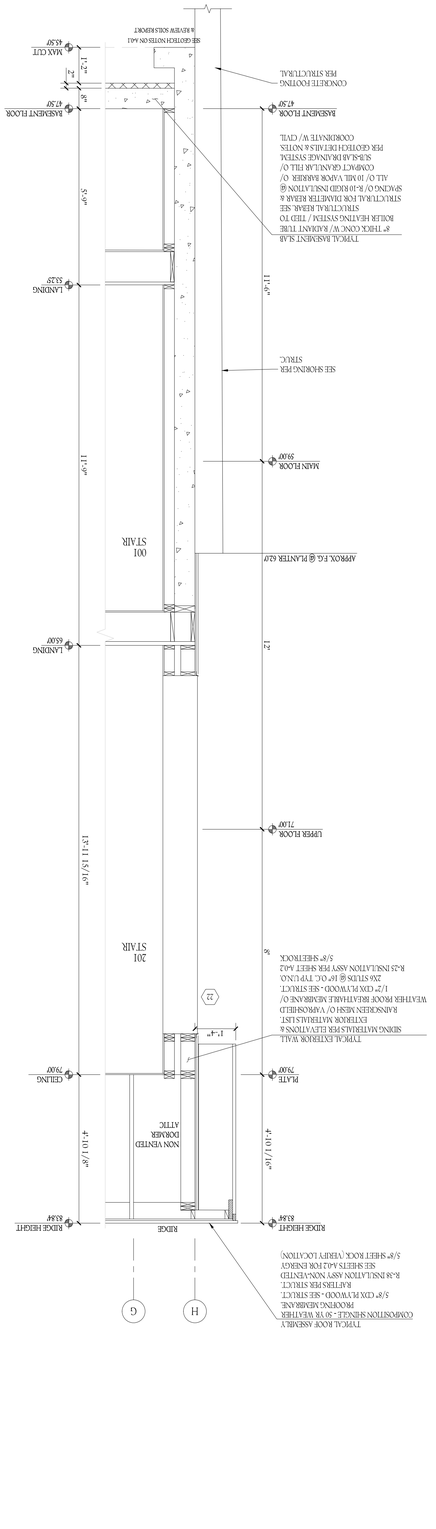
14 WALL SECTION
SCALE: 1/2" = 1'-0"


CONCRETE FOOTING PER STRUCTURAL
COORDINATE W/ DRAIN AT BASE OF SHORING WALL AND BELOW SLAB PER GEOTECH & CIVIL
SEE GEOTECH NOTES ON A4.1 & BEFORE SOILS SHOWN
MAX CUT 45.50°
BASEMENT FLOOR 47.50'
TYPICAL BASEMENT SLAB 8" THICK CONC W/ BOTTOM TRIM ROLLER HEATING SYSTEM / TIED TO STRUCTURAL FOR DIAMETER REBAR & SPACING O/ 5'-0 HOLED PENETRATIONS @ ALL O/ 10 MIL VAPOR BARRIER O/ SLAB DRAINAGE SYSTEM PER GEOTECH DETAILS & NOTES COORDINATE W/ CIVIL
SEE SHORING PER STRUC.
MAIN FLOOR 59.00'
CONCRETE 59.00'
PLATE 57.49'
1'-3 3/8"
SOFFET 56.17'
9'-6 5/8"
LOWER FLOOR 71.00'
PLATE 69.49'
SOFFET 68.17'
1'-6 5/8"
CONCRETE 71.00'
PLATE 71.75'
1'-2"
MAX CUT 45.50'
BASEMENT FLOOR 47.50'
10'-5 3/8"
102 FOYER
101 PORCH
008 WINE
TYPICAL FLOOR 1+1/2" GYPCRETE W/ RADIANT TUBE TYPS PER STRUCT. 1+1/8" T&G PLYWOOD PER STRUCT. 5/8" GWB @ CEILING
TYPICAL EXTERIOR WALL SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST RAINSCREEN MESH O/ VAPROSHIELD WEATHER RESISTANT BARRIER @ SHEATHING O/ 6 MIL VAPOR BARRIER @ INTERIOR WALLS O/ 5/8" GYP. BD. FINISH
2X6 STUDS @ 16" O.C. TYP.U.N.O. R-25 INSULATION ASSY PER SHEET A4.02
5/8" SHEETROCK
TYPICAL GUTTER 5-1/2" ROUND GUTTER O/ 2X8 FASCIA W/ 3" DIA DOWNSPOUTS PER PLANS
2X6 CEILING JOISTS @ 16" O.C.
4'-10 1/16"
CEILING 79.00'
PLATE 78.00'
1'-6"
12
6
TYPICAL ROOF ASSEMBLY COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE 5/8" CDX PLYWOOD - SEE STRUCT. RAFTERS PER STRUCT. R-38 INSULATION ASSY NON-VENTED SEE SHEETS A4.2 FOR ENERGY 5/8" SHEET ROCK (VERIFY LOCATION)
RIDGE HEIGHT 83.84'
G

15 WALL SECTION
SCALE: 1/2" = 1'-0"


CONCRETE FOOTING PER STRUCTURAL
COORDINATE W/ DRAIN AT BASE OF SHORING WALL AND BELOW SLAB PER GEOTECH & CIVIL
SEE GEOTECH NOTES ON A4.1 & BEFORE SOILS SHOWN
MAX CUT 45.50'
BASEMENT FLOOR 47.50'
TYPICAL BASEMENT SLAB 8" THICK CONC W/ BOTTOM TRIM ROLLER HEATING SYSTEM / TIED TO STRUCTURAL FOR DIAMETER REBAR & SPACING O/ 5'-0 HOLED PENETRATIONS @ ALL O/ 10 MIL VAPOR BARRIER O/ SLAB DRAINAGE SYSTEM PER GEOTECH DETAILS & NOTES COORDINATE W/ CIVIL
SEE SHORING PER STRUC.
A998 OXIDATE FINISH GRADE 52.67'
BRICK VENEER LINTEL PER BRICK VENEER SHOP DRAWINGS
MAIN FLOOR 59.00'
CONCRETE 59.00'
PLATE 57.49'
1'-3 3/8"
SOFFET 56.17'
9'-6 5/8"
LOWER FLOOR 71.00'
PLATE 69.49'
SOFFET 68.17'
1'-6 5/8"
CONCRETE 71.00'
PLATE 71.75'
1'-2"
MAX CUT 45.50'
BASEMENT FLOOR 47.50'
8'
119 STAIR
111 KITCHEN
010 GAME
217 BEDROOM
TAG SOFFIT
TYPICAL FLOOR 1+1/2" GYPCRETE W/ RADIANT TUBE TYPS PER STRUCT. 1+1/8" T&G PLYWOOD PER STRUCT. 5/8" GWB @ CEILING
TYPICAL EXTERIOR WALL SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST RAINSCREEN MESH O/ VAPROSHIELD WEATHER RESISTANT BARRIER @ SHEATHING O/ 6 MIL VAPOR BARRIER @ INTERIOR WALLS O/ 5/8" GYP. BD. FINISH
2X6 STUDS @ 16" O.C. TYP.U.N.O. R-25 INSULATION ASSY PER SHEET A4.02
5/8" SHEETROCK
5-1/2" ROUND GUTTER O/ 2X8 FASCIA W/ 3" DIA DOWNSPOUTS PER PLANS
TYPICAL GUTTER
2X6 CEILING JOISTS @ 16" O.C.
4'-10 1/16"
CEILING 79.00'
PLATE 78.00'
1'-6"
10"
12
6
TYPICAL ROOF ASSEMBLY COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE 5/8" CDX PLYWOOD - SEE STRUCT. RAFTERS PER STRUCT. R-38 INSULATION ASSY NON-VENTED SEE SHEETS A4.2 FOR ENERGY 5/8" SHEET ROCK (VERIFY LOCATION)
RIDGE HEIGHT 83.84'
A
B

16 WALL SECTION
SCALE: 1/2" = 1'-0"


CONCRETE FOOTING PER STRUCTURAL
COORDINATE W/ DRAIN AT BASE OF SHORING WALL AND BELOW SLAB PER GEOTECH & CIVIL
SEE GEOTECH NOTES ON A4.1 & BEFORE SOILS SHOWN
MAX CUT 45.50'
BASEMENT FLOOR 47.50'
TYPICAL BASEMENT SLAB 8" THICK CONC W/ BOTTOM TRIM ROLLER HEATING SYSTEM / TIED TO STRUCTURAL FOR DIAMETER REBAR & SPACING O/ 5'-0 HOLED PENETRATIONS @ ALL O/ 10 MIL VAPOR BARRIER O/ SLAB DRAINAGE SYSTEM PER GEOTECH DETAILS & NOTES COORDINATE W/ CIVIL
SEE SHORING PER STRUC.
MAIN FLOOR 59.00'
CONCRETE 59.00'
PLATE 57.49'
1'-3 3/8"
SOFFET 56.17'
9'-6 5/8"
LOWER FLOOR 71.00'
PLATE 69.49'
SOFFET 68.17'
1'-6 5/8"
CONCRETE 71.00'
PLATE 71.75'
1'-2"
MAX CUT 45.50'
BASEMENT FLOOR 47.50'
12'-11 15/16"
LANDING 53.25'
LANDING 63.00'
APPROX F.G. @ PLANTER 62.0'
001 STAIR
201 STAIR
1'-4"
22
TYPICAL EXTERIOR WALL SIDING MATERIALS PER ELEVATIONS & EXTERIOR MATERIALS LIST RAINSCREEN MESH O/ VAPROSHIELD WEATHER RESISTANT BARRIER @ SHEATHING O/ 6 MIL VAPOR BARRIER @ INTERIOR WALLS O/ 5/8" GYP. BD. FINISH
2X6 STUDS @ 16" O.C. TYP.U.N.O. R-25 INSULATION ASSY PER SHEET A4.02
5/8" SHEETROCK
TYPICAL ROOF ASSEMBLY COMPOSITION SHINGLE - 50 YR WEATHER PROOFING MEMBRANE 5/8" CDX PLYWOOD - SEE STRUCT. RAFTERS PER STRUCT. R-38 INSULATION ASSY NON-VENTED SEE SHEETS A4.2 FOR ENERGY 5/8" SHEET ROCK (VERIFY LOCATION)
RIDGE HEIGHT 83.84'
RIDGE
NON VENTED DORMER ATTIC
CEILING 79.00'
PLATE 78.00'
4'-10 1/8"
4'-10 1/16"
G
H

MURRAY RESIDENCE

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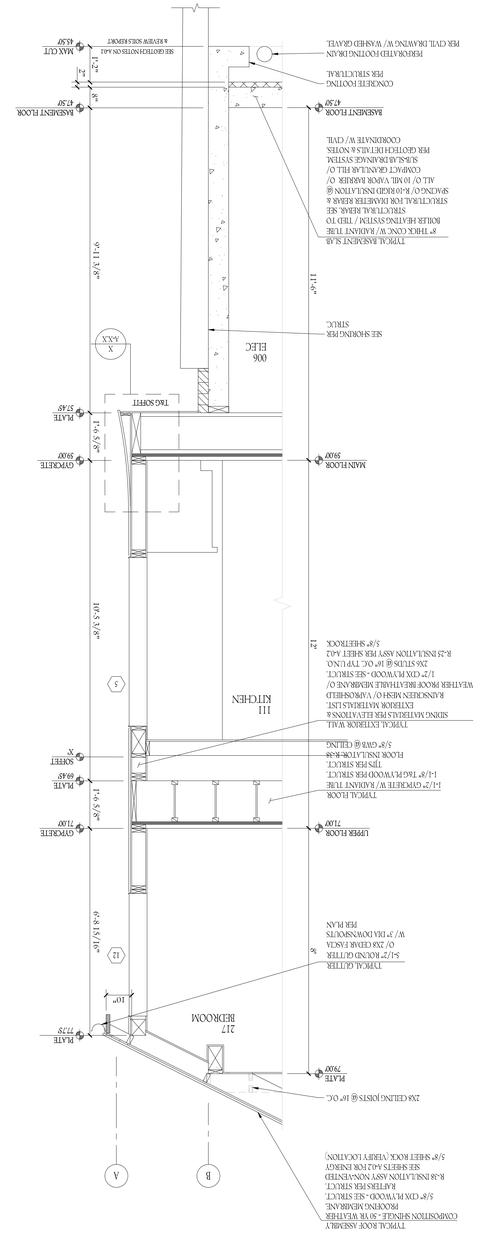
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DRAWN: HAVALAND CONSULTING
CHECKED: RWF

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REVISIONS

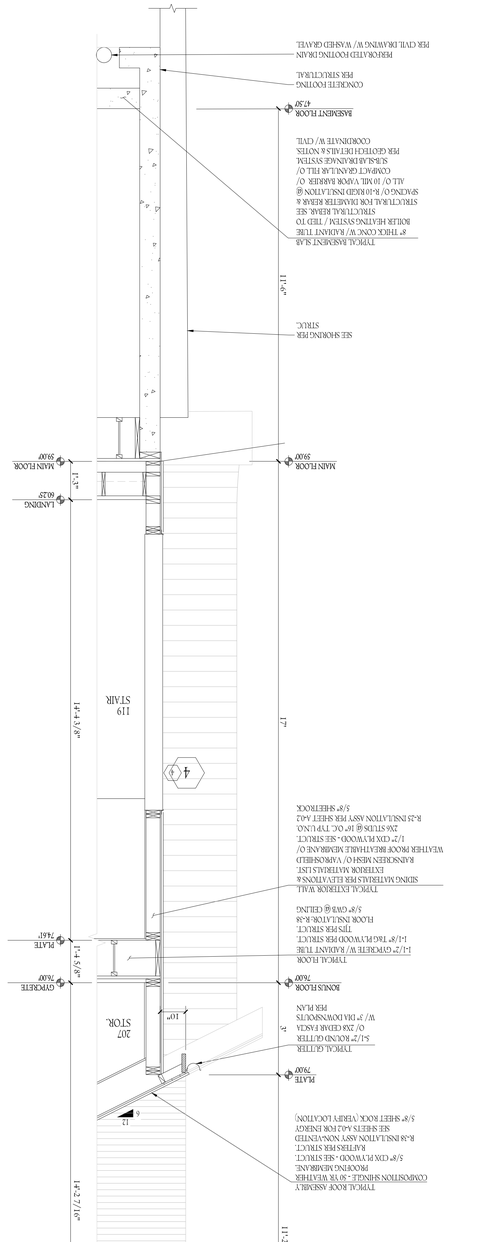
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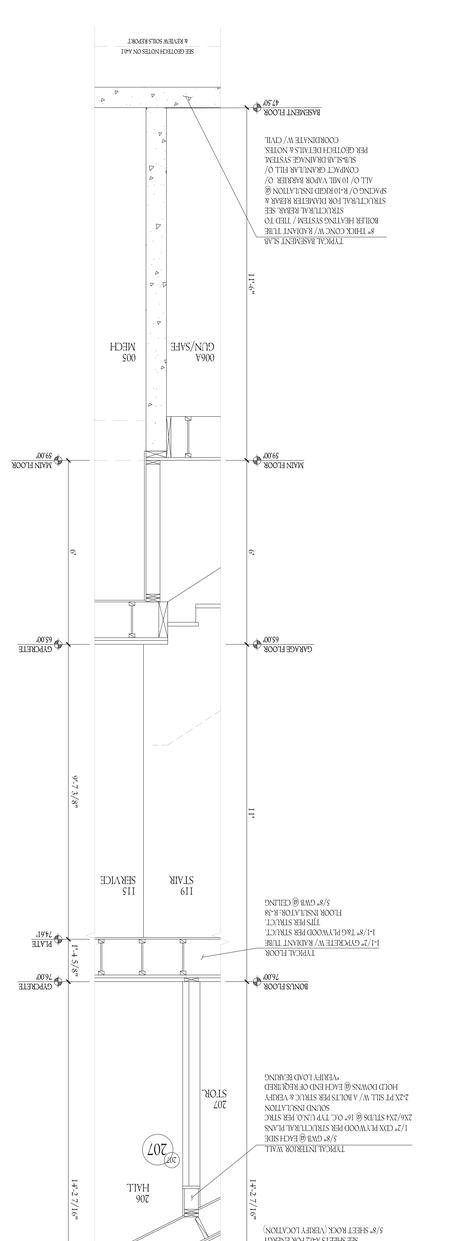
17 WALL SECTION
SCALE: 1/2" = 1'-0"



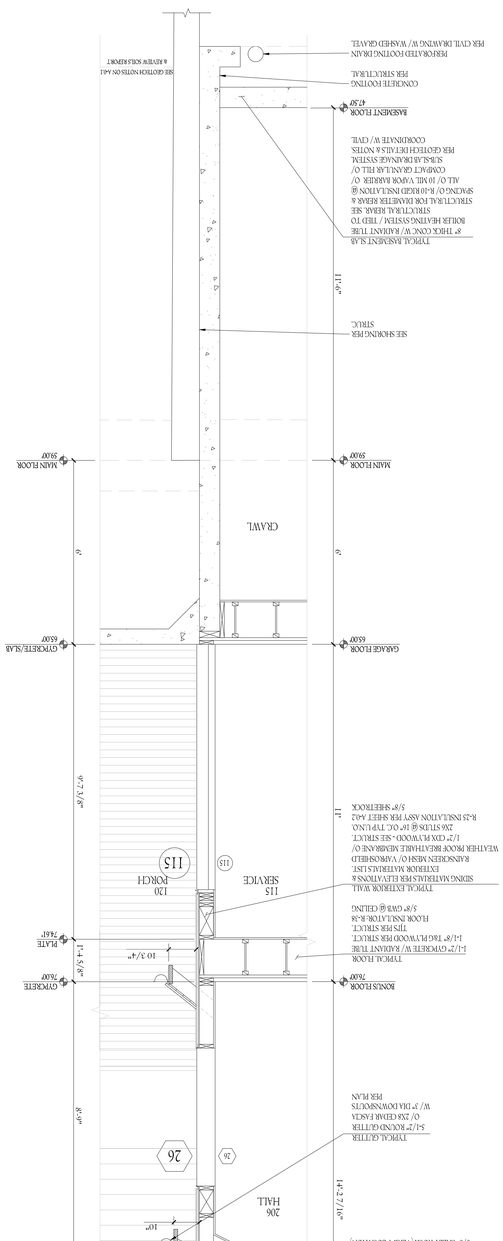
18 WALL SECTION
SCALE: 1/2" = 1'-0"

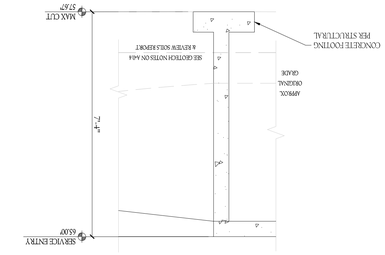


19 WALL SECTION
SCALE: 1/2" = 1'-0"

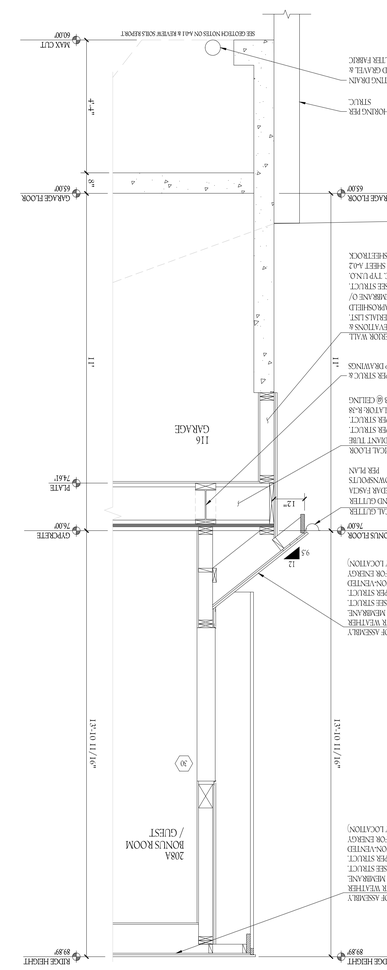


20 WALL SECTION
SCALE: 1/2" = 1'-0"

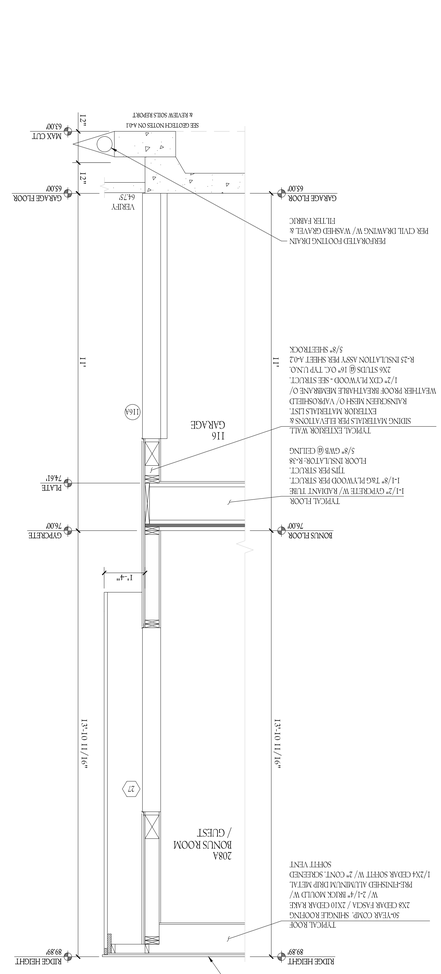




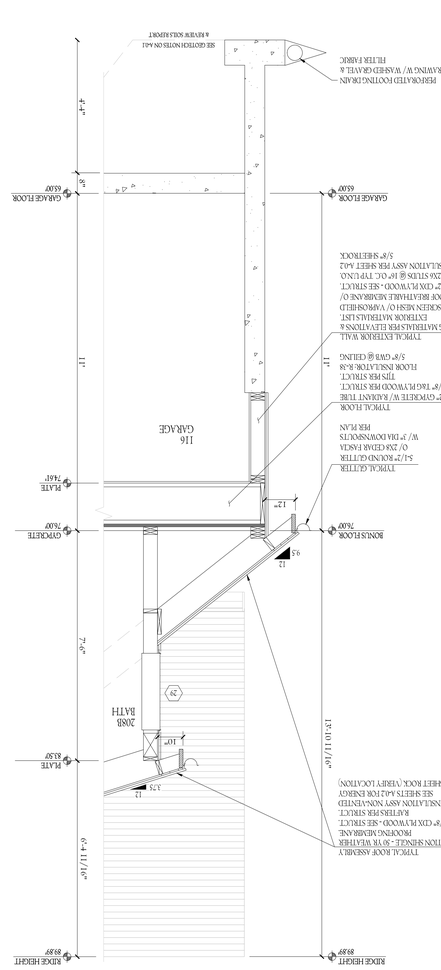
21 WALL SECTION
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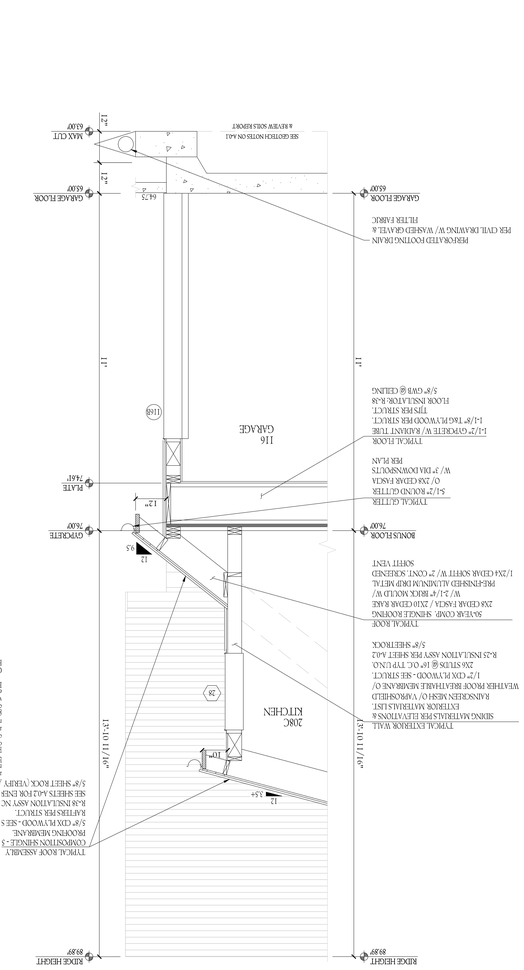
22 WALL SECTION
SCALE: 1/2" = 1'-0"



23 WALL SECTION
SCALE: 1/2" = 1'-0"



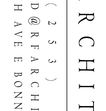
24 WALL SECTION
SCALE: 1/2" = 1'-0"



25 WALL SECTION
SCALE: 1/2" = 1'-0"

MURRAY RESIDENCE
NEW SINGLE FAMILY RESIDENCE
AMERICER ISLAND, WA 98040

RF ARCHITECTURE
PH: (253) 359-4039
RICHARD@RFARCHITECTURE.COM
7421 214TH AVE E BONNEYLAKE, WA 98391



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Richard Hale Architect

DESIGN: RWF
DRAWN: RWF

HAVELAND CONSULTING

CHECKED: RWF

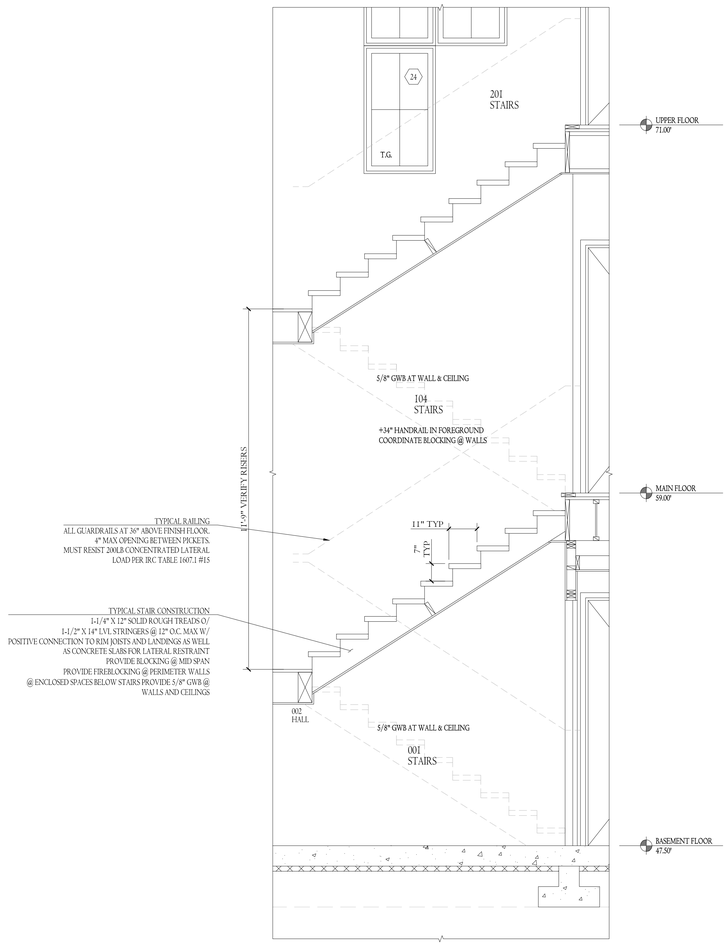
REVISIONS:

#	REVISIONS	DATE
1	PER CITY REVIEW	10.22.2021

APRIL 28 2023

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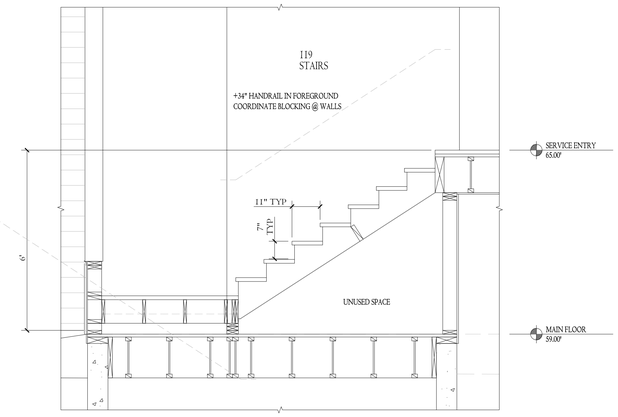
EXTERIOR CONCRETE STAIRS TO FOLLOW BASED ON CONFIRMATION OF SITE GRADING



1 STAIR DETAIL AT ENTRY
SCALE: 1/2" = 1'-0"

GENERAL STAIR NOTES:

1. RISER HEIGHT TO BE 7-3/4" MAX (7" MAX PREFERRED - VERIFY EACH RUN)
2. TREAD RUN TO BE 11" STANDARD THIS PROJECT (10" MIN AS NECESSARY)
3. STAIR WIDTH AND LANDING LENGTH TO BE 36" MIN
4. HANDGRASP WIDTH TO BE 1-1/4" MIN AND 2" MAX
5. HANDGRASP TO HAVE A MIN CLEAR SPACE TO WALL SURFACE OF 1-1/2"
6. HANDGRASP TO PROJECT INTO STAIRWAY 3-1/2" MAX
7. TOP OF HANDGRASP TO BE 34" MIN AND 38" MAX ABOVE NOSINGS
8. HANDGRASPS TO BE CONTINUOUS FROM FIRST TO LAST NOSING
9. HANDGRASPS TO RETURN TO WALL OR TERMINATE AT A NEWEL POST (COORDINATE BLOCKING AT STUDS PRIOR TO SHEETROCK)
10. HANDRAILS (SLOPED) AND GUARDRAILS (LEVEL) TO BE CAPABLE OF WITHSTANDING A 200# FORCE AT ANY POINT IN ANY DIRECTION
11. HANDRAIL AND GUARDRAIL MEMBERS TO BE SPACED SO AS TO PROHIBIT THE PASSING OF A 4" DIA SPHERE THROUGH RAILING AT ANY POINT
12. GUARDRAILS TO BE 36" MIN ABOVE FINISH FLOOR
13. NEWELL POSTS TO BE INCLUDED IN MILLWORK SHOP DRAWINGS TO INSURE ADEQUATE POSITIVE SECURING TO STRUCTURAL FRAMING
14. HALF TREAD/CARPET DETAILS TO BE COORDINATED WITH MILLWORK PACKAGE
15. VERIFY FINISH FLOOR TO FINISH FLOOR ELEVATION IN ORDER TO COORDINATE RISER HEIGHT AND RUN LENGTH
16. PROVIDE PROPER FIREBLOCKING & DRAFTSTOPPING AS WELL AS POSITIVE CONNECTIONS TO RIM JOISTS AS WELL AS TO CONCRETE SLAB FLOORS



2 STAIR DETAIL AT SERVICE STAIR
SCALE: 1/2" = 1'-0"

RF ARCHITECTURE
PH: (253)359-4039
RICHARD@RFARCHITECTURE.COM
7421 214TH AVE E BONNEYLAKE, WA 98391

6080 REGISTERED ARCHITECT RICHARD W. FLAKE STATE OF WASHINGTON

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MURRAY RESIDENCE

NEW 3,800 SF SINGLE FAMILY RESIDENCE
WITH ATTACHED ADU
4804 SE 98TH AVE
MERCER ISLAND, WA

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
1 PER CITY REVIEW 10.22.2021
REVISIONS

APRIL 28, 2023

1 A-10.1

TREMCO
Commercial Sealants & Waterproofing

TREMproof® TWS
Triple Waterproofing System



TREMproof® TWS is a blindside and underslab triple-layer waterproofing assembly consisting of 20 mils of HDPE, expandable granular bentonite and a protective layer of spun-bonded polyester, coated with 60 dry mils of polymer-enhanced, liquid-applied asphalt membrane.

This durable waterproofing system creates a physical bond to the concrete that eliminates the possibility of lateral water movement between the membrane and the structure. TWS provides superior defense against inclement weather conditions, preventing bentonite hydration prior to concrete placement.

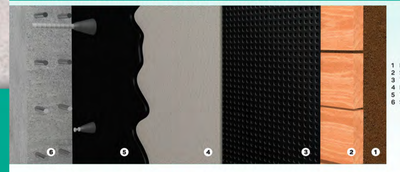
TREMproof® TWS
Triple Waterproofing System

FEATURES AND BENEFITS

- Innovative triple-layer waterproofing assembly, tested per ASTM standards
- Protected bentonite allows for longer exposure to weather and construction elements
- Monolithic asphaltic membrane protects seams and seals penetrations reducing time required for detail work
- Exothermic reaction during concrete cure builds adhesion of the asphaltic membrane to the structure, creating a bonded waterproofing assembly, eliminating the potential for lateral water movement
- Extreme durability with exceptional elongation and crack-bridging characteristics
- Compatible with approved TREMproof, ExoAir and TREMDrain solutions for a continous building envelope
- Comprehensive on-site technical support and product knowledge expertise
- VOC compliant
- Acceptable for use in hydrostatic conditions*
- Premium waterproofing system backed by an all-inclusive warranty.*

*Consult with your local Tremco Sales or Technical Services Representative for more information.

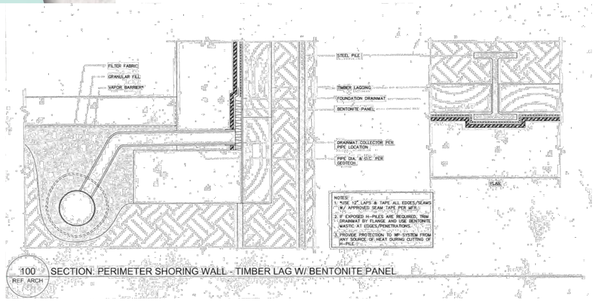
BLINDSIDE WALLS (Cast-in-place and shotcrete)



UNDERSLAB / BELOW SLAB ON GRADE







100' REF. ARCH — SECTION: PERIMETER SHORING WALL - TIMBER LAG W/ BENTONITE PANEL

TREMCO
Commercial Sealants & Waterproofing

TREMproof® Triple Waterproofing System (TWS)

TREMproof 260 Sprayed over Paraseal Waterproofing Membranes

System Description

TREMproof® Triple Waterproofing System (TWS) is a blindside and underslab triple-layer waterproofing assembly consisting of 20 mils of HDPE, expandable granular bentonite and a protective layer of spun-bonded polyester, coated with 60 dry mils of polymer-enhanced, liquid-applied asphalt membrane. This durable waterproofing system creates a physical bond to the concrete that eliminates the possibility of lateral water movement between the membrane and the structure. TWS provides superior defense against inclement weather conditions, preventing bentonite hydration prior to concrete placement.

Paraseal® LG is a sheet waterproofing membrane consisting of 20 mils of HDPE, expandable granular bentonite and a protective layer of spun-bonded polyester for non-submerged conditions.

Paraseal® GM/LG (20 mil) is a sheet waterproofing and methane-mitigating membrane consisting of 20 mils of HDPE, expandable granular bentonite and a protective layer of spun-bonded polyester for submerged conditions*.

TREMproof® 250 is a polymer-enhanced, co-sprayed asphalt emulsion, below-grade waterproofing membrane.
*Also available with 60 mil HDPE. Please consult your local Tremco Sales Representative for more information.

Basic Uses

- Blindside walls (Cast-in-place and shotcrete)
- Under-slab/below slab on grade
- Hydrostatic conditions*

*Consult Tremco Technical Services for more information.

Features & Benefits

- Innovative triple-layer waterproofing assembly, tested per ASTM standards
- Protected bentonite allows for longer exposure to weather and construction elements
- Monolithic asphaltic membrane protects seams and seals penetrations reducing time required for detail work
- Exothermic reaction during concrete cure builds adhesion of the asphaltic membrane to the structure, creating a bonded waterproofing assembly, eliminating the potential for lateral water movement
- Extreme durability with exceptional elongation and crack-bridging characteristics
- Compatible with approved TREMproof, ExoAir and TREMDrain solutions for a continous building envelope
- Comprehensive on-site technical support and product knowledge expertise
- VOC compliant
- Premium waterproofing system backed by an all-inclusive warranty*

*Consult with your local Tremco Sales Representative for more information.

Availability

TREMproof TWS is immediately available from your local Tremco Sales Representative, Tremco Distributor or Tremco Warehouse.

Packaging

Paraseal Systems 4' x 24' (1.2 M x 7.3 M) rolls, 20 rolls/pallet
TREMproof 260 SP 55-gal (208-L) drum containing (52 gal (197 L) of TREMproof 260), 4 drums/pallet
TREMproof 260 SP 330-Gallon (1,249-L) tote, 1 tote/pallet
TREMproof 260 R 5-gallon (19-L) pail, 36 pails/pallet

Limitations

- Limit UV exposure to a maximum of 90 days.
- Do not let the product freeze prior to being applied to the substrate. It is best to store TREMproof 260 off the floor at an ambient temperature above 50 °F (10 °C). Opened drums should be tightly sealed before storage.
- When applying TREMproof 260 below 40 °F (4 °C), contact your local Tremco Sales Representative or Tremco Technical Services.
- TREMproof 250 is not for use with potable water.
- Protect Paraseal systems from moisture. Store on a skid or pallet and cover with polyethylene or tarp. Do not double-stack pallets. Prevent hydration of bentonite until the sheet is installed and under recommended compaction.
- Paraseal products require a minimum of 24 psf of compaction/confinement in order to function as designed.
- Paraseal systems are not to be installed over ponding or standing water or snow.
- If ground water is brackish, please contact your local Tremco Sales Representative four weeks prior to a pending application, and provide a water and/or soil sample for testing purposes in order to determine the correct bentonite formula for your project's application.
- Paraseal LG is not for use in submerged conditions.
- Use of Paraseal GM/LG - 20 mil submerged conditions requires prior approval from Tremco.

Warranty

Tremco warrants its Products to be free of defects in materials but makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond control and can affect performance, Tremco makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE with respect to Tremco Products. Tremco's sole obligation shall be, at its option, to replace or to refund the purchase price of the quantity of Tremco Products proven to be defective, and Tremco shall not be liable for any loss or damage.

Please refer to our website at www.tremcosealants.com for the most up-to-date Product Data Sheets.

NOTE: All Tremco Safety Data Sheets (SDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

TREMCO
Commercial Sealants & Waterproofing

TREMproof® Triple Waterproofing System (TWS)

TREMproof 260 Sprayed over Paraseal Waterproofing Membranes

PARASEAL LG
TYPICAL PHYSICAL PROPERTIES

PROPERTY	DESCRIPTION		
Color (Bentonite/HDPE)	Gray/Black		
Installation Temperatures	-25 to 130 °F (-31.7 to 54.4 °C)		
Freeze/Thaw Cycles	No effect before or after installation		
Resistance to Chemicals & Gases	Extremely high resistance. Contact Tremco for specific information.		
Life Expectancy	Indefinite		
PROPERTY	**TEST METHOD**	**VALUES US**	**VALUES SI**
Elongation	ASTM D412 Type 4 Dumbbell	700%	
Strength at Break	ASTM D412	4,000 lb/in²	281.22 kg/cm²
Strength at Break	ASTM D6693, Type IV	80 lb/in	14.28 kg/cm
Resistance to Micro-organisms (bacteria, fungi, mold, yeast)	ASTM D4068	Unaffected	
Index Puncture Resistance	ASTM D4833	36.67 lb/ft	54.57 kg/M
Resistance to Hydrostatic Head Pressure	ASTM D5385	231' of H_2O	
Hydrostatic Resistance	ASTM D5385	>100+ psi (>231 ft/H$_2$O)	
Permeance	ASTM E96	0.029 US Perms	1.7 ng/Pa·s·m²
Puncture Resistance (cod)	ASTM E154	155 lbf	689.47 N

All data based on 20-mil HDPE

PARASEAL GM/LG 20 MIL
TYPICAL PHYSICAL PROPERTIES

PROPERTY	DESCRIPTION		
Color (Bentonite/HDPE)	Gray/Black		
Installation Temperatures	-25 to 130 °F (-31.7 to 54.4 °C)		
Freeze/Thaw Cycles	No effect before or after installation		
Resistance to Chemicals & Gases	Extremely high resistance. Contact Tremco for specific information.		
Life Expectancy	Indefinite		
PROPERTY	**TEST METHOD**	**VALUES US**	**VALUES SI**
Elongation	ASTM D412 Type 4 Dumbbell	700%	
Strength at Break	ASTM D412	4,000 lb/in²	281.22 kg/cm²
Strength at Break	ASTM D6693, Type IV	80 lb/in	14.28 kg/cm
Resistance to Micro-organisms (bacteria, fungi, mold, yeast)	ASTM D4068	Unaffected	
Index Puncture Resistance	ASTM D4833	36.67 lb/ft	54.57 kg/M
Resistance to Hydrostatic Head Pressure	ASTM D5385	231' of H_2O	
Hydrostatic Resistance (with Para JT™ Tape)	ASTM D5385	>100 psi (>231 ft/H$_2$O)	(>68.9 N/cm²) (>70.4 MH$_2$O)
Permeance	ASTM E96	0.029 US Perms	1.7 ng/Pa·s·m²
Puncture Resistance (cod)	ASTM E154	155 lbf	689.47 N

All data based on 20-mil HDPE

TREMproof® Dual Waterproofing System TREMproof TRA Sheeting Embedded in TREMproof 250GC

TREMPROOF 260
TYPICAL PHYSICAL PROPERTIES

PROPERTY	DESCRIPTION	
Type	Polymer-Modified emulsion	
Color	Black	
Solids	64%	
Density	8.1 lb/gal	
Application	Sprayer/Roller	
Cure Time	16 to 24 hr at 75 °F (24 °C), 50% RH	
Thickness	Minimum 100 mils (wet), 60 mils (dry)	
PROPERTY	**TEST METHOD**	**TYPICAL VALUES**
Water Resistance	ASTM C836; AATC-127	Pass
Adhesion-in-Peel after Water Immersion (Unprimed)	ASTM C836; ASTM C 794	Exceeds
Low-Temp Flexibility	ASTM C836; ASTM C 836	Pass
Weight Loss 20% maximum Loss 80% Solids minimum	ASTM C836; ASTM C 1250	
Low Temperature Crack Bridging	ASTM C836; ASTM C1305	Pass**
Elongation	ASTM D412	800%
Peel Adhesion	ASTM D903	Passes
Extension after heat aging No observable cracking	ASTM C836; ASTM C1522	
Hardness, Type 00 50 Min.	ASTM C836; ASTM D 2240	Passes
Water Vapor Permeance	ASTM C836; ASTM E96 Dry Cup	0.06 US Perms
	ASTM C836; ASTM E96 Wet Cup	1.70 US Perms
	ASTM C836; ASTM E96 Inverted Wet Cup	
Maximum V.O.C.	Method 310	72 g/L
Shelf Life Stability 6 Months Minimum		
Application Temperature		Above 40 °F (5 °C) and rising. If installing below 40 °F (5 °C), please refer to additional application instructions in Cold Weather Technical Bulletin or contact Tremco Technical Service at 866-209-2404.
Storage Temperature		40 to 100 °F (5 to 37 °C)

0516/TPTWSDS-BG

Tremco Commercial Sealants & Waterproofing

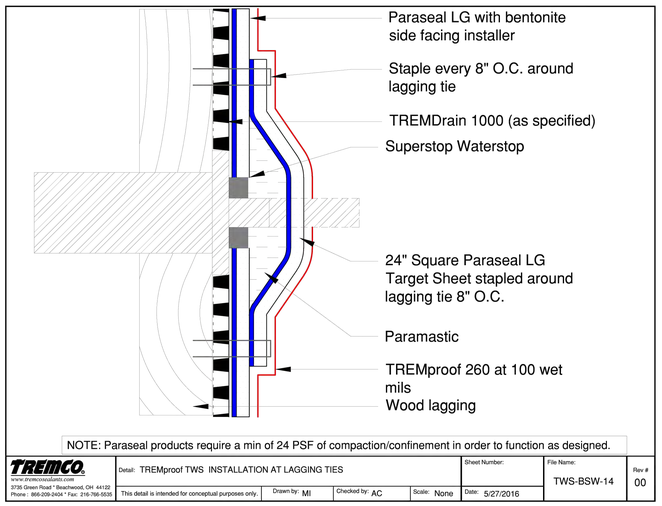
3735 Green Rd
Beachwood OH 44122
216.292.5000 / 800.321.7906

1451 Jacobson Ave
Ashland OH 44805
419.289.2050 / 800.321.6357

220 Wicksteed Ave
Toronto ON M4H1G7
416.421.3300 / 800.363.3213

1465 Rue de Coulomb
Boucherville QC J4B 7L8
514.521.9555

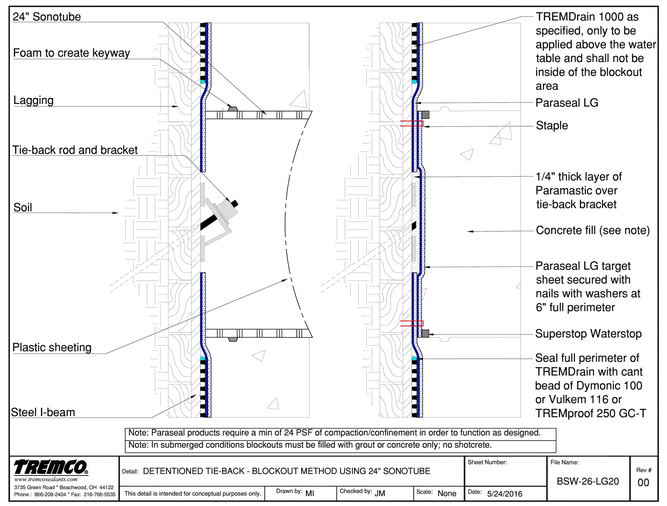
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Richard Flake Architect



NOTE: Paraseal products require a min of 24 PSF of compaction/confinement in order to function as designed.

TREMCO
www.tremcosealants.com
3735 Green Road * Beachwood, OH 44122
Phone : 866-209-2404 * Fax: 216-766-5535

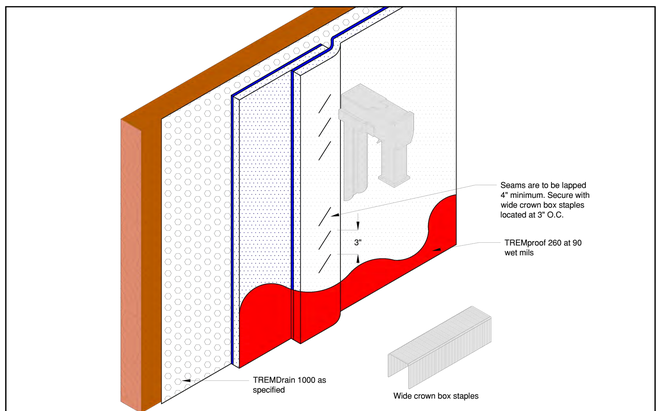
Detail: TREMproof TWS INSTALLATION AT LAGGING TIES
This detail is intended for conceptual purposes only.
Drawn by: MI | Checked by: AC | Scale: None | Date: 5/27/2016
Sheet Number:
File Name: TWS-BSW-14
Rev # 00



Note: Paraseal products require a min of 24 PSF of compaction/confinement in order to function as designed.
Note: In submerged conditions blockouts must be filled with grout or concrete only; no shotcrete.

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Phone : 866-209-2404 * Fax: 216-766-5535

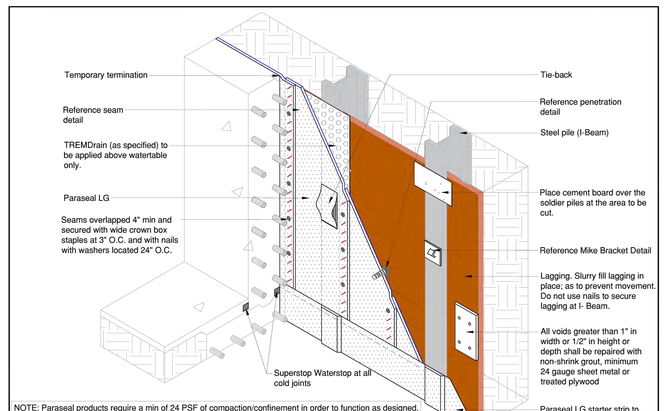
Detail: DETENTIONED TIE-BACK - BLOCKOUT METHOD USING 24" SONOTUBE
This detail is intended for conceptual purposes only.
Drawn by: MI | Checked by: JM | Scale: None | Date: 5/24/2016
Sheet Number:
File Name: BSW-26-LG20
Rev # 00



NOTE: Fasteners not located in the seam area shall be driven through a piece of Superstop Waterstop or Parastick N Dry; otherwise, fastener heads are to be covered with Parastick N Dry that is adhered with Paraprimer.
NOTE: Paraseal products require a min of 24 PSF of compaction/confinement in order to function as designed.

TREMCO
www.tremcosealants.com
3735 Green Road * Beachwood, OH 44122
Phone : 866-209-2404 * Fax: 216-766-5535

Detail: TREMproof TWS - TYPICAL SEAM AT BLINDSIDE LAGGING WALL
This detail is intended for conceptual purposes only.
Drawn by: MI | Checked by: AC | Scale: None | Date: 5/27/2016
Sheet Number:
File Name: TWS-BSW-04
Rev # 00



NOTE: Paraseal products require a min of 24 PSF of compaction/confinement in order to function as designed.
NOTE: Not recommended for use in submerged conditions.
NOTE: All fasteners shall be located in the seam area. Fasteners not located in the seam areas shall be driven through or covered by Parastick N Dry that is adhered with Paraprimer.

TREMCO
www.tremcosealants.com
3735 Green Road * Beachwood, OH 44122
Phone : 866-209-2404 * Fax: 216-766-5535

Detail: BLINDSIDE LAGGING WALL
This detail is intended for conceptual purposes only.
Drawn by: MI | Checked by: JM | Scale: None | Date: 5/24/2016
Sheet Number:
File Name: BSW-01-LG20
Rev # 00

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STATE OF WASHINGTON

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NEW SINGLE FAMILY RESIDENCE
MURRAY PLACE
NE 38TH CT.
RENTON, WA 98059

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF

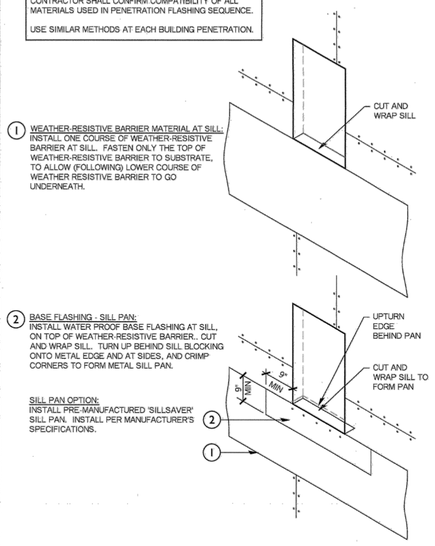
REVISIONS:
1 PER CITY REVIEW 10-22-2021
REVISIONS

APRIL 28, 2023

1 A-II.1

*NOTE:
CONTRACTOR SHALL CONFIRM COMPATIBILITY OF ALL MATERIALS USED IN PENETRATION FLASHING SEQUENCE.

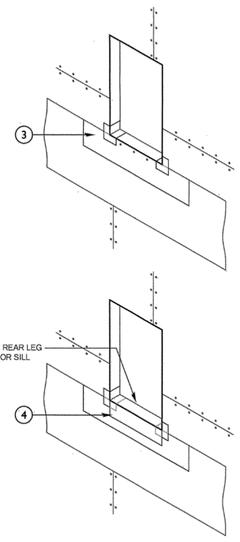
USE SIMILAR METHODS AT EACH BUILDING PENETRATION.



1 WEATHER-RESISTIVE BARRIER MATERIAL AT SILL:
INSTALL ONE COURSE OF WEATHER-RESISTIVE BARRIER AT SILL. FASTEN ONLY THE TOP OF WEATHER-RESISTIVE BARRIER TO SUBSTRATE, TO ALLOW (FOLLOWING) LOWER COURSE OF WEATHER RESISTIVE BARRIER TO GO UNDERNEATH.

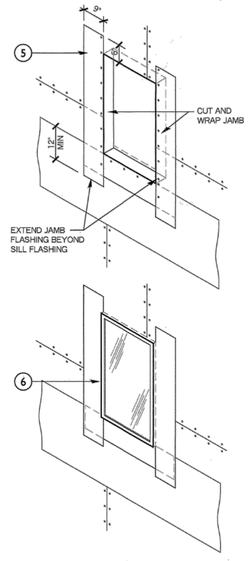
2 BASE FLASHING - SILL PAN:
INSTALL WATER PROOF BASE FLASHING AT SILL, ON TOP OF WEATHER-RESISTIVE BARRIER.. CUT AND WRAP SILL. TURN UP BEHIND SILL BLOCKING ONTO METAL EDGE AND AT SIDES, AND CRIMP CORNERS TO FORM METAL SILL PAN.

SILL PAN OPTION:
INSTALL PRE-MANUFACTURED 'SILLSAVER' SILL PAN. INSTALL PER MANUFACTURER'S SPECIFICATIONS.



3 CORNER SHIELD:
FASTEN PRE-FORMED CORNER SHIELDS IN BED OF SEALANT, CUT TO FIT TIGHT TO EXISTING LINER. DO NOT NAIL THROUGH SILL.

4 SILL WRAP:
INSTALL SELF-ADHESIVE SILL WRAP FLASHING AT SILL, OVER BASE FLASHING AND CORNER SHIELDS. TURN UP BEHIND SILL BLOCKING

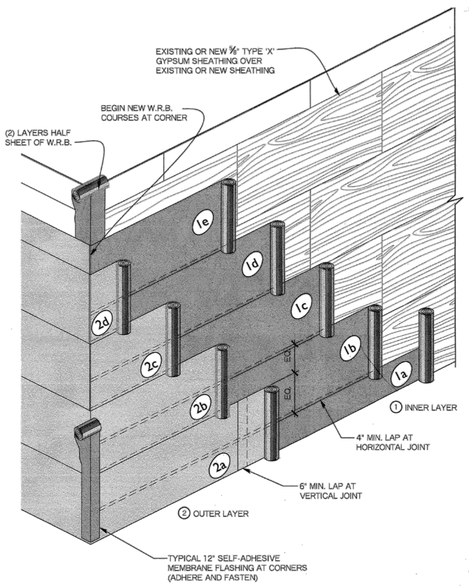


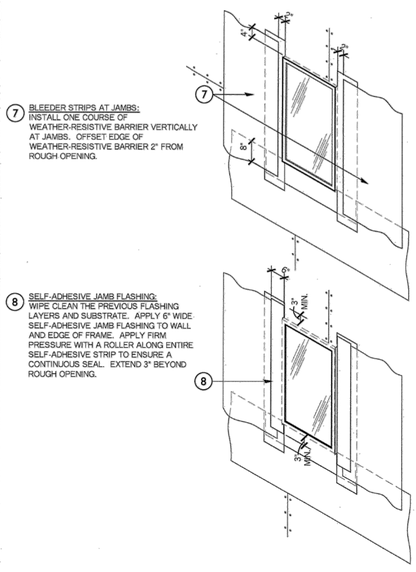
5 VERTICAL BASE FLASHING-JAMB:
INSTALL VERTICAL SELF-ADHESIVE MEMBRANE BASE FLASHING OVER SILL FLASHING. CUT AND WRAP JAMB. EXTEND 6" MINIMUM ABOVE AND 12" MINIMUM BELOW ROUGH OPENING.

NOTE:
PRIOR TO SEALANT APPLICATION,
- CLEAN WINDOW NAILING FLANGE
- CLEAN AND PREP SUBSTRATE
AND FLASHINGS.

6 INSTALL WINDOW IN OPENING:
INSTALL WINDOW IN OPENING PER MANUFACTURER'S SPECIFICATIONS.

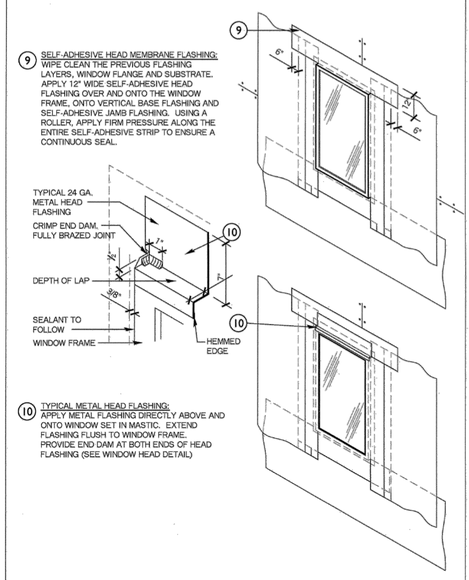
CAULK WINDOW RIM :
INSTALL CAULKING AFTER SIDING AND SILL FLASHING ARE INSTALLED. APPLY CONTINUOUS BEAD OF SILICONE CAULKING BETWEEN SIDES AND BOTTOM OF WINDOW FRAME AND OPENING. MAKE SURE THAT WINDOW WEEP SLOTS ARE FREE.





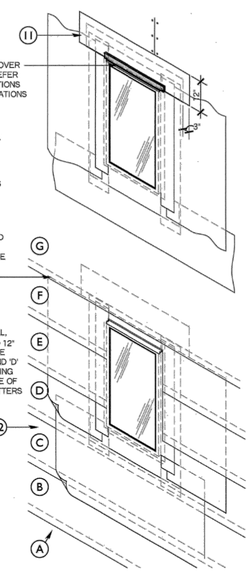
7 BLEEDER STRIPS AT JAMBS:
INSTALL ONE COURSE OF WEATHER-RESISTIVE BARRIER VERTICALLY AT JAMBS. OFFSET EDGE OF WEATHER-RESISTIVE BARRIER 2" FROM ROUGH OPENING.

8 SELF-ADHESIVE JAMB FLASHING:
WIPE CLEAN THE PREVIOUS FLASHING LAYERS AND SUBSTRATE. APPLY 6" WIDE SELF-ADHESIVE JAMB FLASHING TO WALL AND EDGE OF FRAME. APPLY FIRM PRESSURE WITH A ROLLER ALONG ENTIRE SELF-ADHESIVE STRIP TO ENSURE A CONTINUOUS SEAL. EXTEND 3" BEYOND ROUGH OPENING.



9 SELF-ADHESIVE HEAD MEMBRANE FLASHING:
WIPE CLEAN THE PREVIOUS FLASHING LAYERS, WINDOW FLANGE AND SUBSTRATE. APPLY 12" WIDE SELF-ADHESIVE HEAD FLASHING OVER AND ONTO THE WINDOW FRAME, ONTO VERTICAL BASE FLASHING AND SELF-ADHESIVE JAMB FLASHING. USING A ROLLER, APPLY FIRM PRESSURE ALONG THE ENTIRE SELF-ADHESIVE STRIP TO ENSURE A CONTINUOUS SEAL.

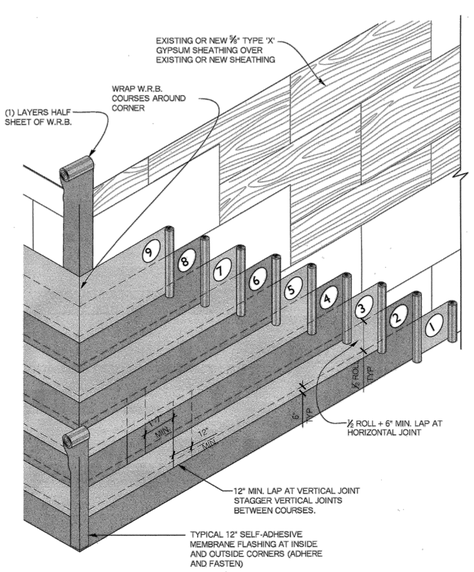
10 TYPICAL METAL HEAD FLASHING:
APPLY METAL FLASHING DIRECTLY ABOVE AND ONTO WINDOW SET IN MASTIC. EXTEND FLASHING FLUSH TO WINDOW FRAME. PROVIDE END DAM AT BOTH ENDS OF HEAD FLASHING (SEE WINDOW HEAD DETAIL)



11 WATERPROOF HEAD FLASHING MEMBRANE:
INSTALL SELF-ADHESIVE MEMBRANE OVER METAL HEAD FLASHING. APPLY FIRM PRESSURE WITH A ROLLER ALONG THE ENTIRE SELF-ADHESIVE STRIP TO ENSURE A CONTINUOUS SEAL. FASTEN AT CORNERS AND MIDPOINTS.

INTEGRATE PREVIOUSLY INSTALLED WEATHER-RESISTIVE BARRIER AT JAMBS (PER STEP 7) OF SEQUENCE INTO W.R.B. WEATHERBOARD ASSEMBLY.

12 WEATHER-RESISTIVE BARRIER:
START AT THE BOTTOM OF THE WALL, LAY WEATHER-RESISTIVE BARRIER UP THE WALL, OVERLAPPING ½ ROLL + 6" MIN. HORIZ. AND 12" VERTICAL IN WEATHERBOARD FASHION, SEE DETAIL 8. MAKE SURE THAT COURSE 'C' AND 'D' ARE PLACED UNDER THE SILL STRIP FLASHING AND JAMB FLASHING. ALIGN VERTICAL EDGE OF W.R.B. WITH SIDES OF HEAD FLASHING (LETTERS REFER TO ORDER OF INSTALLATION)



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7421 214TH AVE E BONNEYLAKE, WA 98391

6080 REGISTERED ARCHITECT RICHARD W. FLAKE STATE OF WASHINGTON

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Richard Flake Architect

IDENCE
RESIDENCE
WA 98040

MURRAY RESIDENCE
NEW SINGLE FAMILY RESIDENCE
MERCER ISLAND, WA

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
1 PER CITY REVIEW 10.22.2023
REVISIONS

APRIL 28, 2023

1 A-II.2

ROOM FINISH SCHEDULE

		FLOOR FINISH		WALL FINISH				CEILING FINISH	REMARKS
MARK	ROOM NAME	FLOOR	BASE	NORTH	EAST	SOUTH	WEST	CEILING	

TOWN & COUNTRY
LUXURY FIREPLACES

FOR ARCHITECTS & DESIGNERS

TC42

SERIES D2

Dimensions | Clearances | Venting

IMPORTANT
This booklet is intended as a basic specification guide for architects, designers and builders. Please refer to the Instruction Manual supplied with the fireplace for detailed information regarding installation and operation.

Product installation manuals can also be viewed at: www.townandcountryfireplaces.com

Fireplace Dimensions

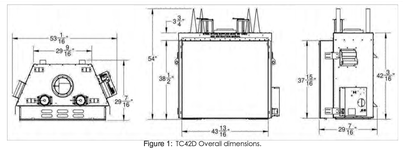
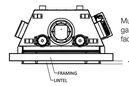


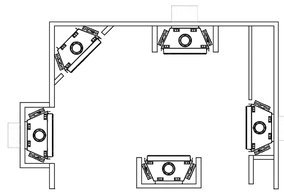
Figure 1: TC42D Overall dimensions.



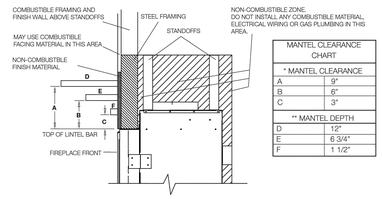
Must allow for minimum 1/2 inch gap for drywall/sheetrock and facing

TC42D2 Cad Drawing Available at www.townandcountryfireplaces.com

Examples of Common Locations

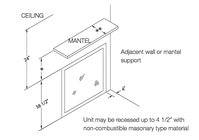


Mantel Clearance Chart



MANTEL CLEARANCE CHART	
* MANTEL CLEARANCE	
A	9"
B	6"
C	3"
** MANTEL DEPTH	
D	12"
E	6 3/4"
F	1 1/2"

Minimum Clearances to Combustibles



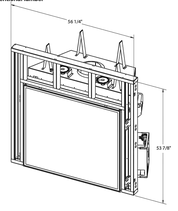
Minimum Clearances:

Side standoffs	0 in.	(0 mm)
Back standoffs	0 in.	(0 mm)
Top standoffs	0 in.	(0 mm)
Bottom of appliance	0 in.	(0 mm)
Adjacent side wall	4 in.	(102 mm)
Ceiling to appliance	24 in.	(610 mm)
*Mantel to appliance	See Figure #4	
**Maximum Mantel extension	See Figure #4	
Mantel support	4 in.	(102 mm)
Vertical vent pipe	1 3/4" in.	(45 mm)
Horizontal Vent pipe (Top, sides and bottom)	1 3/4" in.	(45 mm)

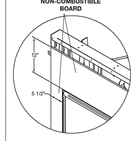
Steel Stud Framing Kit Dimensions Kit

Framing kit is supplied with unit with Fireplace

All other framing can be done with conventional lumber



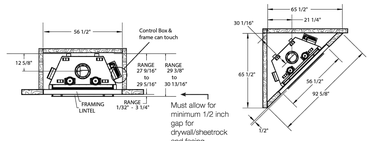
Non-combustible Board Detail



NON-COMBUSTIBLE materials must extend 12" above and 5 1/2" to the sides of the framing edges.

NON-COMBUSTIBLE BOARD NOT INCLUDED.

Minimum Combustible Framing Dimensions



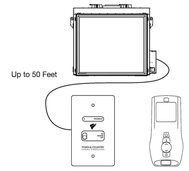
NOTE: Fireplace should be in its final location before framing.

Proflame 2 Control System

Town and Country D Series fireplaces use the SIT Proflame 2 control system.

This includes an elegant hand-held, programmable, multi-function remote control transmitter with an easy to read LCD display.

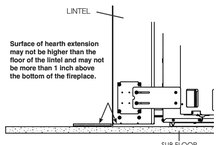
The fireplace also comes with a Town & Countrys' proprietary wall-mounted control panel which allows for simple ON/OFF operation, or can be linked with the hand-held remote control unit. This panel also accepts four double A batteries to provide for a back-up system during power outages. The wall-mounted panel also works on most customer supplied Home Automation Systems which allow for full control of fireplace flame and light modulation.



Hearth Extension

Caution: While a hearth extension is not required and combustible flooring materials may be brought directly up to the fireplace, many materials (such as wood flooring) may not tolerate the radiant heat from this fireplace, resulting in discoloration, shrinking and cracking. For this reason, we suggest a non-combustible hearth that is no more than 1" above the bottom of the fireplace. If material is thicker, fireplace must be raised accordingly.

Caution: Hearth extensions thicker than 1" will interfere with the window frame when opening.

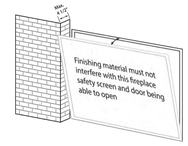


Surface of hearth extension may not be higher than the floor of the lintel and may not be more than 1 inch above the bottom of the fireplace.

Side Facing Clearances

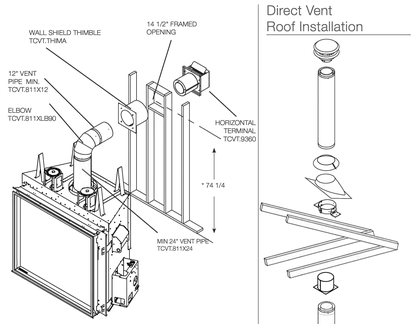
Caution: This fireplace may be recessed up to a maximum depth of 4 1/2". This recess must be constructed from non-combustible material. The space between the outside framing edge and the firebox must be completely free of any obstructions or debris, and the window, with trim fitted, must be able to move freely.

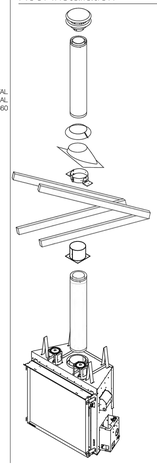
No building material is permitted to protrude past the framing edges attached to the fireplace under ANY circumstance.



Direct Vent Wall Installation

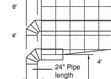
Direct Vent Roof Installation





*** Minimum height from the floor to center of the opening with a maximum horizontal run of 18" from the center of the flue outlet to the outside face of the outer wall. The height will need to be increased if a longer horizontal pipe is required.**

Wall Termination Venting Chart



A Minimum rise	B Pipe length	C Maximum run	D Pipe length Max.
74 1/4"	1-24"	18"	1-12"
78 1/2"	1-12" 1-18"	75 3/4"	1-48" 1-12"
84 1/2"	1-24" 1-12"	11' 2"	2-48" 1-24"
90 1/2"	1-24" 1-18"	15' 10 1/2"	3-48" 1-24" 1-12"
98 1/4"	1-48"	20' 10 1/2"	5-48"

For other rise/run combinations see chart below

**** All dimensions are approximate. Both rise and run may vary with different combinations of pipe.**

NOTE: The vent must not exceed a total length of 68 feet. Any combination of rise and run may be used but must be constrained to the boundaries of this chart. A total of 3 - 90° elbows or combination of other elbows equalling 90° can be used without reducing horizontal run. For each additional 90° elbow, or an equal combination of elbows, reduce horizontal vent run by 2 feet. Ensure vent pipe is properly supported.

TC42D2 Cad Drawing Available at www.townandcountryfireplaces.com

Roof Termination Venting Chart



A Minimum rise	B Pipe length	C Maximum run	D Pipe length Maximum
74 1/4"	1-24"	29"	1-12"
78 1/2"	1-12" 1-18"	77 1/4"	1-48" 1-12"
84 1/2"	1-24" 1-12"	11' 1 1/2"	2-48" 1-24"
90 1/2"	1-24" 1-18"	15' 10"	3-48" 1-24" 1-12"
98 1/4"	1-48"	20' 10"	5-48"

For other rise/run combinations see chart below

**** All dimensions are approximate. Both rise and run may vary with different combinations of pipe.**

NOTE: The vent must not exceed a total length of 68 feet. Any combination of rise and run may be used but must be constrained to the boundaries of this chart. A total of 4 - 90° elbows or combination of other elbows equalling 90° can be used without reducing horizontal run. For each additional 90° elbow, or an equal combination of elbows, reduce horizontal vent run by 2 feet. Ensure vent pipe is properly supported.

TC42D2 Cad Drawing Available at www.townandcountryfireplaces.com

Vent Terminal Clearance

Minimum clearances to the vent terminal must be maintained as shown (See illustration to right & below). Measure clearances to the nearest edge of termination hood. (See pitch table below).
NOTE: Vent terminal must not be recessed

NOTE: LOCAL CODES OR REGULATIONS MAY REQUIRE DIFFERENT CLEARANCES.

Terminal to sloped Roof Pitch Table

(minimum)	ft	m
Flat to 6/12	1.00	0.30
Over 6/12 to 7/12	1.25	0.38
Over 7/12 to 8/12	1.50	0.46
Over 8/12 to 9/12	2.00	0.61
Over 9/12 to 10/12	2.50	0.76
Over 10/12 to 11/12	3.25	0.99
Over 11/12 to 12/12	4.00	1.22

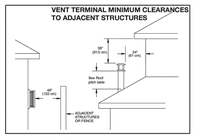
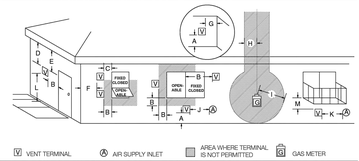


Figure 2: Vent roof clearance.

Vent Terminal Minimum Clearances



V VENT TERMINAL | A AIR SUPPLY INLET | AREA WHERE TERMINAL IS NOT PERMITTED | G GAS METER

A=	*12 inches (30 cm) min.	Clearances above grade, verandа, porch, deck, or balcony
B=	*12 inches (30 cm) min.	Clearance to window or door that may be opened
C=	12 inches (30 cm) min.	Clearance to permanently closed window recommanded to prevent condensation on window
D=	30 inches (76 cm) min.	Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 feet (60 cm) from the edge of the terminal
E=	30 inches (76 cm) min.	Clearance to unventilated soffit
F=	6 inches (15 cm) min.	Clearance to outside corner
G=	6 inches (15 cm) min.	Clearance to inside corner
H=	3 feet (90 cm) min. regulator	*Not to be installed above a meter/regulator assembly within 3 feet (90 cm) horizontally from the center-line of the
I=	*6 feet (1.8 m) min.	Clearance to service regulator vent outlet
J=	*12 inches (30 cm) min.	Clearance to non mechanical air supply inlet to building or the combustion air inlet to any other appliance
K=	*6 feet (1.8 m) min.	Clearance to a mechanical air supply inlet
L=	*7 feet (2.1 m) min.	^ Clearance above paved side-walk or a paved driveway located on public property
M=	**30 inches (76 cm) min	Clearance under verandа, porch, deck, or balcony

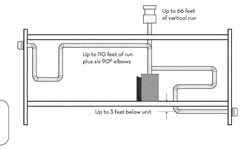
^ a vent shall not terminate directly above a side-walk or paved driveway which is located between two single family dwellings and serves both dwellings"
** only permitted if verandа, porch, deck, or balcony, is fully open on a minimum of 2 sides beneath the floor"
* as specified in CAN/CSA-31451.1 Installation Codes, Note, Local Codes or Regulation may require different clearances
* for U.S.A. Installations follow the current National Fuel Gas Code, NFPA54/ANSI Z223.1

Optional Power Vent

Reach almost any room or commercial setting. Optional Power Venting allows runs up to 110' from an outside wall or roof surface. Vent horizontally or vertically with up to six 90-degree elbows, including runs up to 3' below the fireplace.

The premium Power Vent fan runs quietly outside, at the exterior terminal.

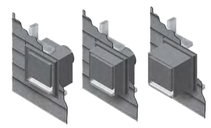
TC42D2 Cad Drawing Available at www.townandcountryfireplaces.com



Power Vent Terminals



Roof Termination



Flush Mount termination

Direct Vent Terminals



Standard Venting Roof Termination

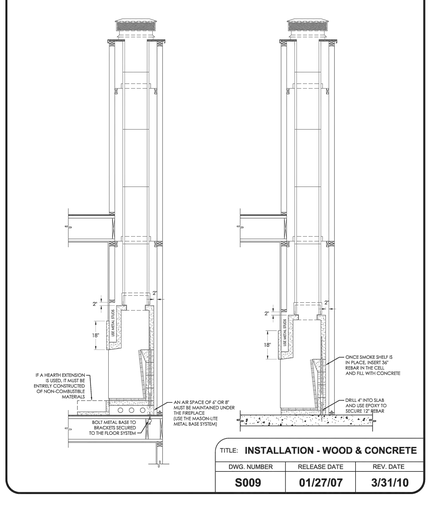


Standard Venting Wall Termination



Stainless Steel Standard Venting Termination for Condo Installation

MASON-LITE



TITLE: INSTALLATION - WOOD & CONCRETE		
DWG. NUMBER	RELEASE DATE	REV. DATE
S009	01/27/07	3/31/10

RF ARCHITECTURE
PH: (253) 359-4039
RICHARD@RFARCHITECTURE.COM
7421 214TH AVE E BONNEYLAKE, WA 98391

6080
REGISTERED ARCHITECT
RICHARD W. FLAKE
STATE OF WASHINGTON

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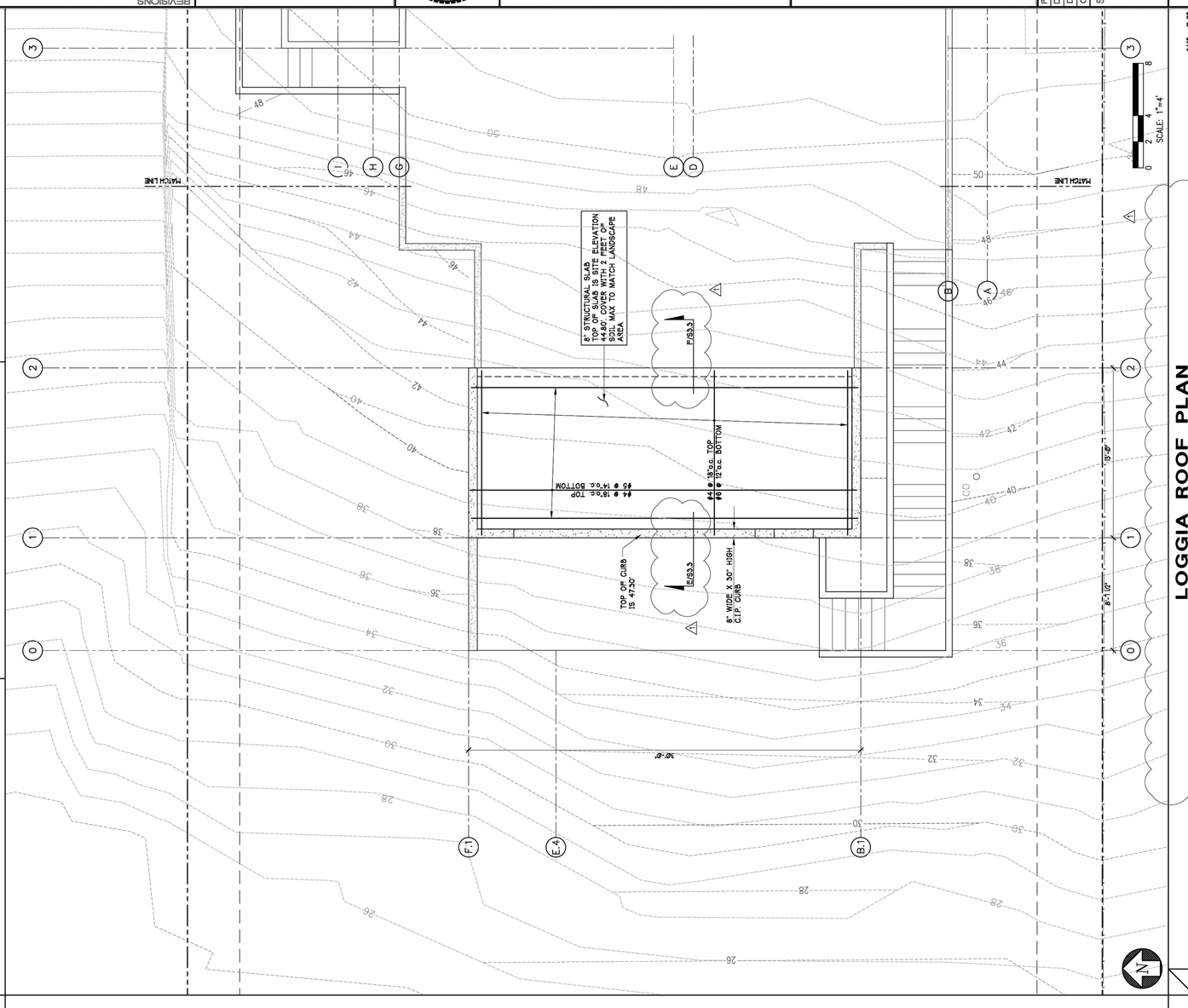
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Richard Flake Architect

MURRAY RESIDENCE
NEW SINGLE FAMILY RESIDENCE
9 8 0 4 0
SW 3RD. PL. RENTON, WA

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
1 PER CITY REVIEW 10.22.2021
REVISIONS

APRIL 28, 2023

1 A-12.2



REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION
04/10/23	CITY OF MERCER ISLAND CNH 1		

B & T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557 0779 (PHONE)
(425) 557 0765 (FAX)

B&T DESIGN & ENGINEERING

PROFESSIONAL ENGINEER
STATE OF WASHINGTON
23913
B. A. TAYLOR
PROFESSIONAL ENGINEER

PROJECT TITLE

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040

SHEET TITLE

LOGGIA ROOF PLAN

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

SHEET : S1.1W

OF

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1/4" = 1'-0"

LOGGIA ROOF PLAN

18156-S1.1 04/10/23

PLAN NOTES: (SHORING)

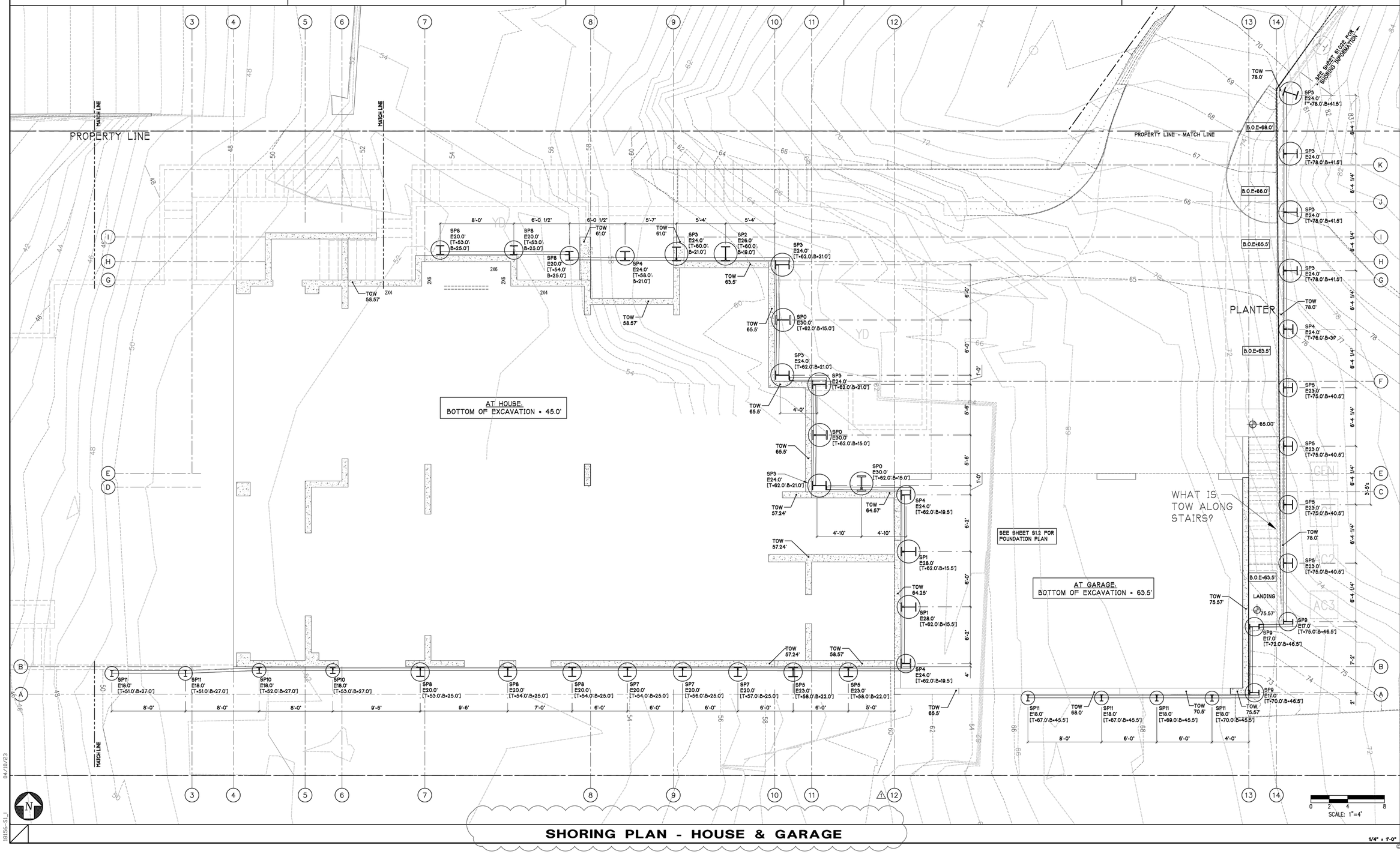
1. INDICATES AUGERCAST WF SOLDIER PILE - "SPX" INDICATES TYPE. SEE SCHEDULE ON THIS SHEET FOR BALANCE OF INFORMATION.
2. INDICATES 4 X 12 DF#2 LAGGING.

SOLDIER PILE SCHEDULE

MARK	AUGER SIZE [IN]	MEMBER SIZE	REQ'D EMBEDMENT [FT]	TOTAL COUNT
SP0	30"	W18 X 158	30'	
SP1	30"	W18 X 130	28'	
SP2	30"	W18 X 106	26'	
SP3	30"	W18 X 76	24'	
SP4	24"	W12 X 87	24'	
SP5	24"	W12 X 72	23'	
SP6	24"	W12 X 65	22'	
SP7	24"	W12 X 58	20'	
SP8	24"	W12 X 53	20'	
SP9	24"	W12 X 35	17'	
SP10	18"	W8 X 24	18'	
SP11	18"	W8 X 15	18'	

NOTES:

1. [T=[XX.X']B=XX.X'] INDICATES SITE GRADE AT TOP OF PILE/BOTTOM OF PILE.
2. EXX.X' INDICATES MINIMUM REQUIRED EMBEDMENT DEPTH OF PILE BELOW BOTTOM OF EXCAVATION.



SHORING PLAN - HOUSE & GARAGE

1/4" = 1'-0"

REVISIONS		
DATE	DESCRIPTION	
02/04/21	ADDED PILE DIMENSIONS	
04/10/23	CITY OF MERCER ISLAND CM#1	1

B&T DESIGN & ENGINEERING

B & T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-9783 (VOICE)
(425) 557-9785 (FAX)

PROJECT TITLE: MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040

SHEET TITLE: HOUSE & GARAGE SHORING PLAN

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

SHEET :

S1.01E

OF

04/10/23

18156-S1_1

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PLAN NOTES: (SHORING)

1. I INDICATES AUGERCAST WF SOLDIER PILE - "SPX" INDICATES TYPE. SEE SCHEDULE ON THIS SHEET FOR BALANCE OF INFORMATION.
2. ▭ INDICATES 4 X 12 DF#2 LAGGING.

PLAN NOTES: (FDN)

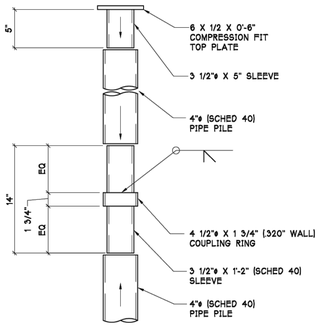
1. ● INDICATES 4-INCH DIAMETER SCHEDULE 40 PIPE PILE (NOT ALLOWABLE LOAD).

SOLDIER PILE SCHEDULE

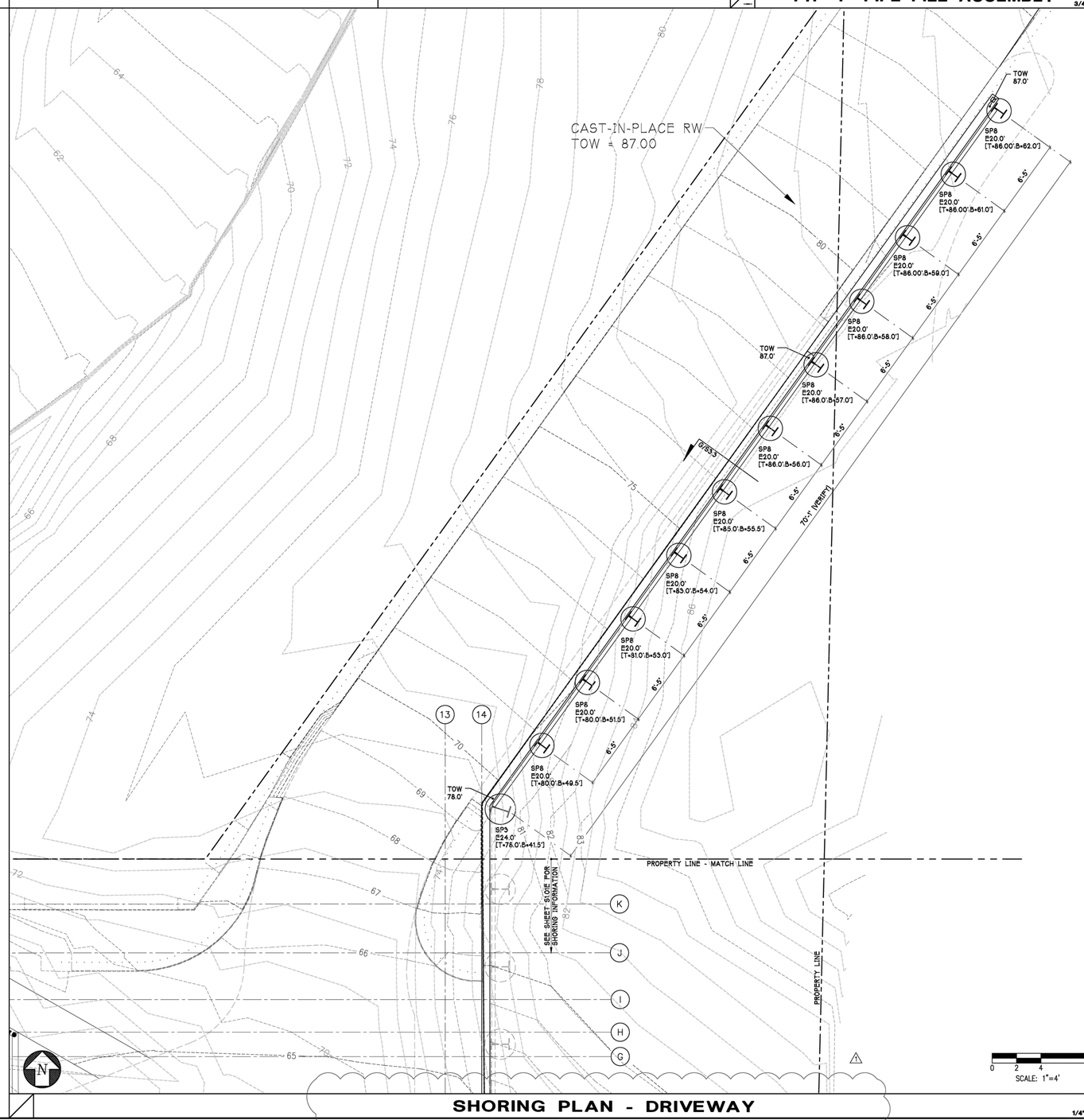
MARK	AUGER SIZE (IN)	MEMBER SIZE	REQ'D EMBEDMENT (FT)	TOTAL COUNT
SP0	30"	W18 X 158	30'	
SP1	30"	W18 X 130	28'	
SP2	30"	W18 X 106	26'	
SP3	30"	W18 X 76	24'	
SP4	24"	W12 X 87	24'	
SP5	24"	W12 X 72	23'	
SP6	24"	W12 X 65	22'	
SP7	24"	W12 X 58	20'	
SP8	24"	W12 X 53	20'	
SP9	24"	W12 X 35	17'	
SP10	18"	W8 X 24	18'	
SP11	18"	W8 X 15	18'	

NOTES:

1. [T+(XX.X')B+XX.X'] INDICATES SITE GRADE AT TOP OF PILE/BOTTOM OF PILE.
2. EXX.X' INDICATES MINIMUM REQUIRED EMBEDMENT DEPTH OF PILE BELOW BOTTOM OF EXCAVATION.



A — **TYP 4" PIPE PILE ASSEMBLY** 3/4" = 1'-0"



SHORING PLAN - DRIVEWAY 1/4" = 1'-0"

REVISIONS

DATE	DESCRIPTION
04/10/23	CITY OF MERCER ISLAND CMT

B&T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-9780 (PHONE)
(425) 557-9785 (FAX)

B&T DESIGN & ENGINEERING

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040
PROJECT TITLE

DRIVEWAY
SHORING PLAN
SHEET TITLE

PROJECT	18156
DATE	03/15/23
DRAWN	NH
CHKD.	TB

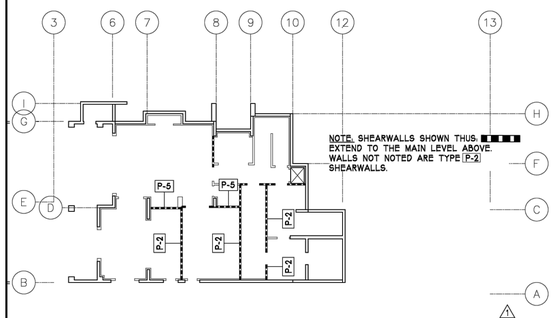
SHEET :

S1.02E

OF

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18156-S1.1 04/10/23



SHEARWALL KEY PLAN

1/16"=1'-0"

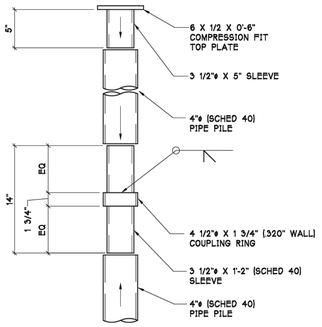
POST SCHEDULE			
MARK	SIZE & GRADE	COMMENTS	HARDWARE
P1	(2) 2 X 6 DF STUD		
P2	(3) 2 X 6 DF STUD		
P3	4 X 6 DF#2		
P4	6 X 6 DF#1		

POST SCHEDULE

PLAN NOTES: (FDN)

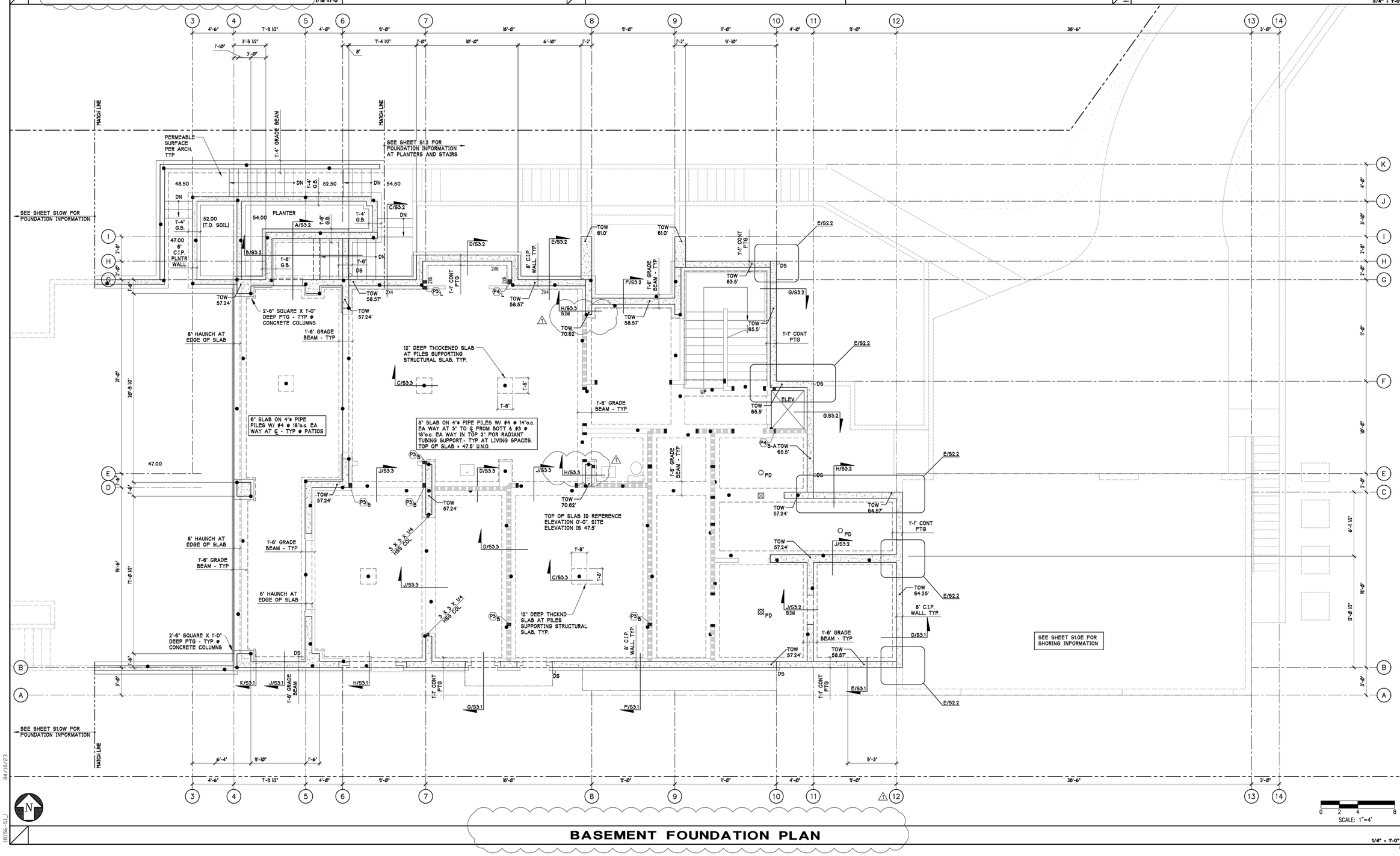
1. ● INDICATES 4-INCH DIAMETER SCHEDULE 40 PIPE PILE (10T ALLOWABLE LOAD).
2. TOP OF BASEMENT FLOOR STRUCTURAL SLAB IS REFERENCE ELEVATION 0'-0". SITE ELEVATION IS 47.5'.
3. SW-# INDICATES: BASEMENT LEVEL SHEARWALLS ABOVE. SHEATH AND NAIL SHEARWALLS PER SCHEDULE ON SHEET S2.3. SEE SHEARWALL KEY PLAN AT LEFT FOR SHEARWALL TYPES FROM BASEMENT LEVEL TO MAIN LEVEL.
4. (X-#) INDICATES KEY NOTE. SEE KEY NOTES ON THIS SHEET.
5. ⬭ INDICATES SIMPSON HARDWARE. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
6. (#) INDICATES POST TYPE. SEE POST SCHEDULE ON THIS SHEET FOR SIZE
   ■ = POST ABOVE U.N.O. ON PLAN.
   ☒ = POST BELOW.

   NOTE: (P#) M-A INDICATES LEVEL WHERE COLUMN STARTS-ENDS.
   "B" = BASEMENT
   "M" = MAIN FLOOR
   "U" = UPPER FLOOR
   "A" = ATTIC FLOOR
   "R" = ROOF.
7. ←(#) INDICATES SIMPSON HOLDOWN AT END OF SHEARWALL - LOCATE AT BASE OF BASEMENT LEVEL WALL. CONNECT TO DOUBLE STUD MINIMUM. (SEE SHEET S2.3 FOR HOLDOWN SCHEDULE & DETAILS.)
8. SEE SHEET S2.1 FOR BALANCE OF FRAMING NOTES AND SCHEDULES. SEE SHEETS S2.1, S2.2 & S2.3 FOR TYPICAL DETAILS.
9. SEE ARCHITECTURAL PLANS FOR DIMENSIONS.



TYP 4" PIPE PILE ASSEMBLY

3/4" = 1'-0"



BASEMENT FOUNDATION PLAN

1/4" = 1'-0"

0 2 4 8
SCALE: 1"=4'

REVISIONS		
DATE	DESCRIPTION	
04/10/23	CITY OF MERCER ISLAND CN#1	

B&T DESIGN & ENGINEERING
B & T DESIGN & ENGINEERING, INC.
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(425) 557-9785 (FAX)

REGISTERED PROFESSIONAL ENGINEER - STATE OF WASHINGTON - BRIAN T. BUTLER - 22004 - STRUCTURAL

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT TITLE

BASEMENT FOUNDATION PLAN

SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

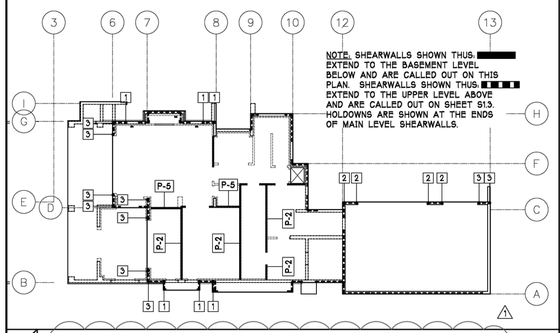
SHEET :

S1.1E

OF

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18156-S1_1 04/10/23



SHEARWALL & HOLDOWN KEY PLAN

1/16"=1'-0"

POST SCHEDULE

MARK	SIZE & GRADE	COMMENTS	HARDWARE
P1	(2) 2 X 6 DF STUD		
P2	(3) 2 X 6 DF STUD		
P3	4 X 6 DF#2		
P4	6 X 6 DF#1		

POST SCHEDULE

PLAN NOTES: (FLR)

1. TOP OF MAIN FLOOR GYPCRETE IS +11'-6" ABOVE REFERENCE ELEVATION 0'-0". SITE ELEVATION IS 59.0'. TOP OF GARAGE FLOOR STRUCTURAL SLAB IS +17'-6" ABOVE REFERENCE ELEVATION 0'-0". SITE ELEVATION IS 65.0'.
2. ▭ INDICATES BASEMENT LEVEL SHEARWALLS BELOW (x-#)
   ▭ INDICATES MAIN LEVEL SHEARWALLS ABOVE. (x-#)
   SHEATH AND NAIL SHEARWALLS PER SCHEDULE ON SHEET S2.3. SEE KEY PLAN AT LEFT FOR SHEARWALL TYPES AT BASEMENT LEVEL. SEE KEY PLAN ON SHEET S1.3 FOR SHEARWALL TYPES AT MAIN LEVEL.
3. TYPICAL HEADER AT ALL INTERIOR AND EXTERIOR BEARING WALLS SHALL BE 4 X 8 DF#2 UNLESS NOTED OTHERWISE ON PLAN.
4. (x-#) INDICATES KEY NOTE. SEE KEY NOTES ON THIS SHEET.
5. ▭ INDICATES SIMPSON HARDWARE. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
6. (#) INDICATES POST TYPE. SEE POST SCHEDULE ON THIS SHEET FOR SIZE
   ■ = POST ABOVE U.N.O. ON PLAN.
   ☒ = POST BELOW.
   NOTE: (P#) M-A INDICATES LEVEL WHERE COLUMN STARTS-ENDS.
   "B" = BASEMENT
   "M" = MAIN FLOOR
   "U" = UPPER FLOOR
   "A" = ATTIC FLOOR
   "R" = ROOF.
7. •—(#) INDICATES SIMPSON HOLDOWN AT END OF SHEARWALL ABOVE - LOCATE AT BASE OF MAIN LEVEL WALL / TOP OF BASEMENT LEVEL WALL. SEE KEY PLAN AT LEFT FOR LOCATIONS. CONNECT TO DOUBLE STUD MINIMUM. (SEE SHEET S2.3 FOR HOLDOWN SCHEDULE & DETAILS.)
8. SEE SHEET S2.1 FOR BALANCE OF FRAMING NOTES AND SCHEDULES. SEE SHEETS S2.1, S2.2 & S2.3 FOR TYPICAL DETAILS.
9. SEE ARCHITECTURAL PLANS FOR DIMENSIONS.

FLOOR FRAMING DESIGN LOADS:

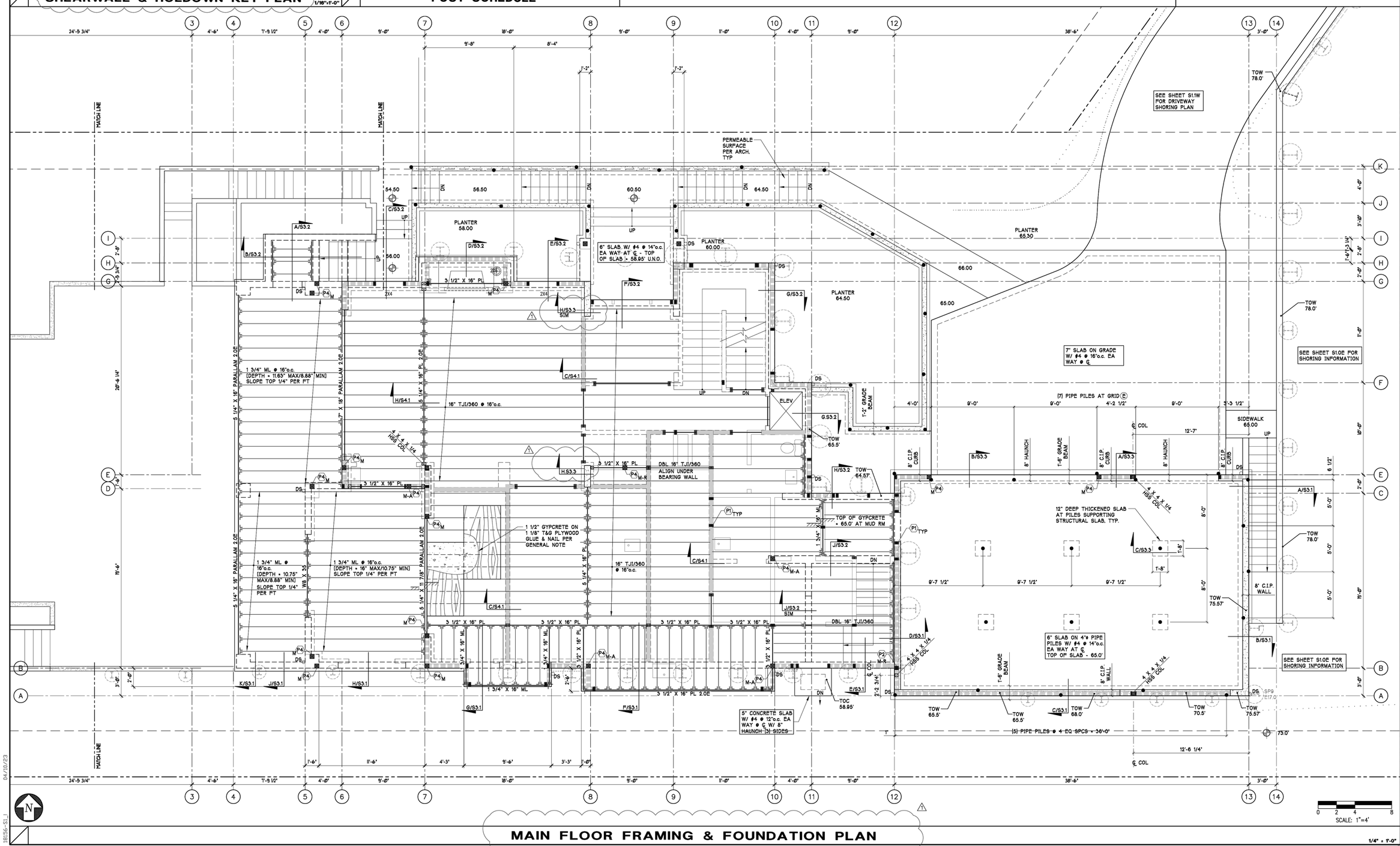
• DEAD LOAD	• 28 PSF
• LIVE LOAD	• 40 PSF
TOTAL DESIGN LOAD	• 68 PSF

DECK FRAMING DESIGN LOADS:

• DEAD LOAD (INCLUDES PAVERS)	• 22 PSF
• LIVE LOAD	• 60 PSF
TOTAL DESIGN LOAD	• 82 PSF

PLAN NOTES: (FDN)

1. ● INDICATES 4-INCH DIAMETER SCHEDULE 40 PIPE PILE.



MAIN FLOOR FRAMING & FOUNDATION PLAN

1/4" = 1'-0"

REVISIONS		
DATE	DESCRIPTION	
02/04/21	ADDED PILE DIMENSIONS	
04/10/23	CITY OF MERCER ISLAND CM#1	1

B & T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
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B&T DESIGN & ENGINEERING

REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — TIMOTHY BRADY — 22014 — STRUCTURAL

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT TITLE

MAIN FLOOR FRAMING & FOUNDATION PLAN

SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

SHEET :

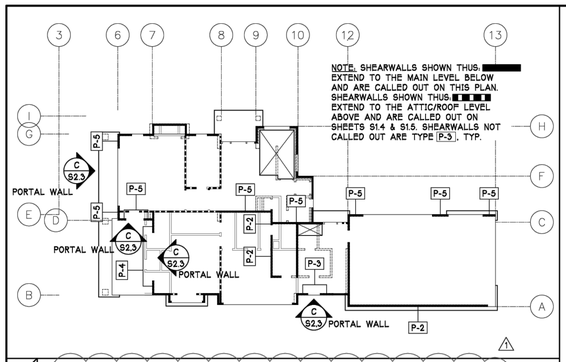
S1.2

OF

04/10/23

18156-S1_1

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SHEARWALL KEY PLAN

1/16"=1'-0"

POST SCHEDULE

MARK	SIZE & GRADE	COMMENTS	HARDWARE
P1	(2) 2 X 6 DF STUD		
P2	(3) 2 X 6 DF STUD		
P3	4 X 6 DF#2		
P4	6 X 6 DF#1		

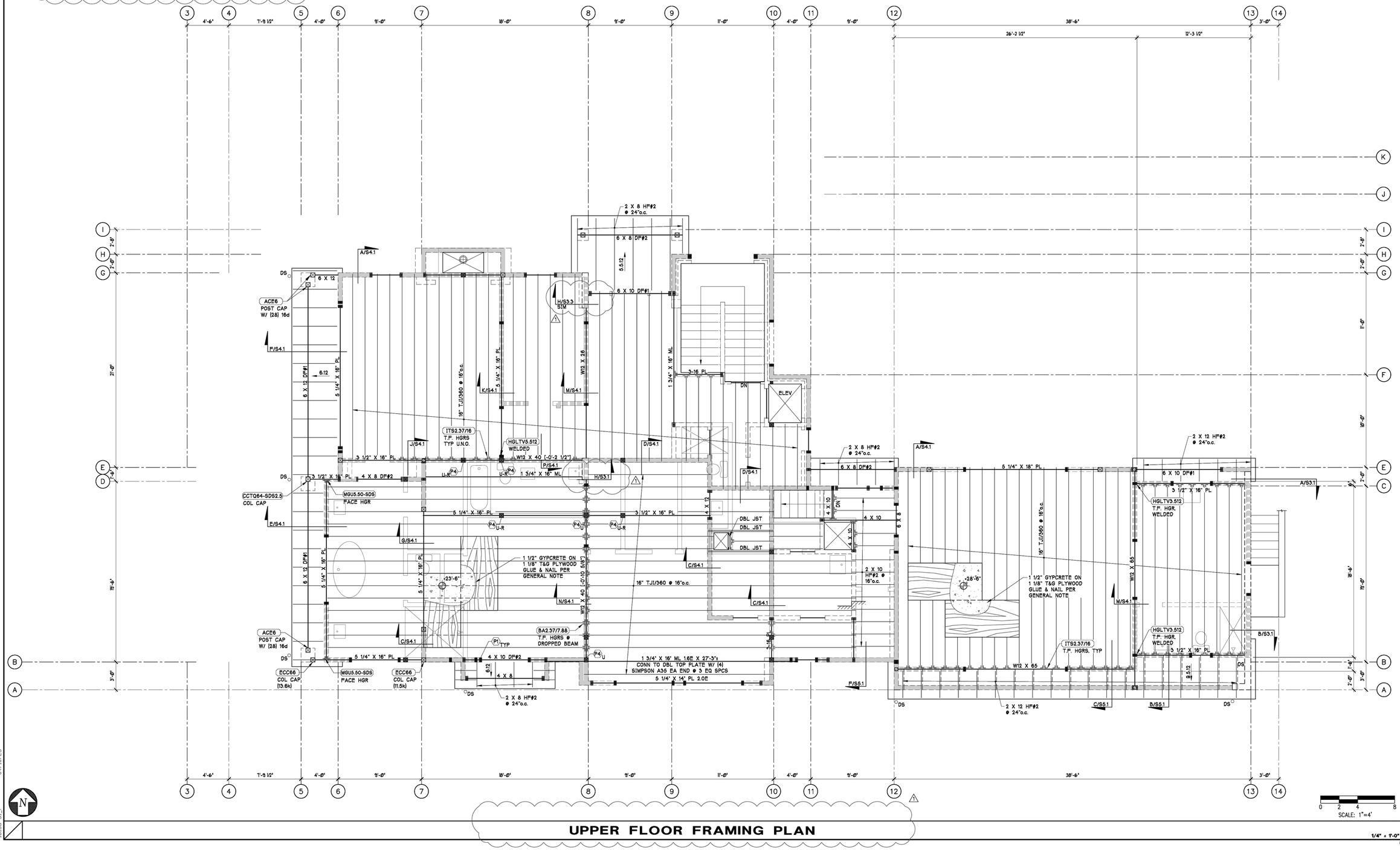
POST SCHEDULE

PLAN NOTES:

1. TOP OF UPPER FLOOR GYPCRETE IS +23'-6" ABOVE REFERENCE ELEVATION 0'-0". SITE ELEVATION IS 71.0'. TOP OF BONUS ROOM GYPCRETE IS +28'-6" ABOVE REFERENCE ELEVATION 0'-0". SITE ELEVATION IS 76.0'.
2. INDICATES: MAIN LEVEL SHEARWALLS BELOW (X-#)
   INDICATES: UPPER LEVEL SHEARWALLS ABOVE. (X-#)
   SHEATH AND NAIL SHEARWALLS PER SCHEDULE ON SHEET S2.3. SEE KEY PLAN AT LEFT FOR SHEARWALL TYPES AT MAIN LEVEL. WALLS NOT CALLED OUT SHALL BE TYPE P-3.
3. TYPICAL HEADER AT ALL INTERIOR AND EXTERIOR BEARING WALLS SHALL BE 4 X 8 DF#2 UNLESS NOTED OTHERWISE ON PLAN.
4. (x-#) INDICATES KEY NOTE. SEE KEY NOTES ON THIS SHEET.
5. INDICATES SIMPSON HARDWARE. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
6. (#) INDICATES POST TYPE. SEE POST SCHEDULE ON THIS SHEET FOR SIZE
   ■ = POST ABOVE U.N.O. ON PLAN.
   ▣ = POST BELOW.
   NOTE: (P#) M-A INDICATES LEVEL WHERE COLUMN STARTS-ENDS.
   "B" = BASEMENT
   "M" = MAIN FLOOR
   "U" = UPPER FLOOR
   "A" = ATTIC FLOOR
   "R" = ROOF
7. DIMENSIONS SHOWN THUS: [-X'-X"] ARE TO TOP OF STEEL BEAM FROM BOTTOM OF 1-1/8" PLYWOOD SUBFLOOR.
8. SEE SHEET S2.1 FOR BALANCE OF FRAMING NOTES AND SCHEDULES. SEE SHEETS S2.1, S2.2 & S2.3 FOR TYPICAL DETAILS.
9. SEE ARCHITECTURAL PLANS FOR DIMENSIONS.

FLOOR FRAMING DESIGN LOADS:

• DEAD LOAD	•	28 PSF
• LIVE LOAD	•	40 PSF
TOTAL DESIGN LOAD	•	68 PSF



UPPER FLOOR FRAMING PLAN

1/4" = 1'-0"

SCALE: 1"=4'

REVISIONS		
DATE	DESCRIPTION	
04/10/23	CITY OF MERCER ISLAND CN#1	

DATE DESCRIPTION

B & T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-9780 (PHONE)
(425) 557-9785 (FAX)

B&T DESIGN & ENGINEERING

REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON TIMOTHY BERNARD BALDWIN 29915

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT TITLE

UPPER FLOOR FRAMING PLAN

SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

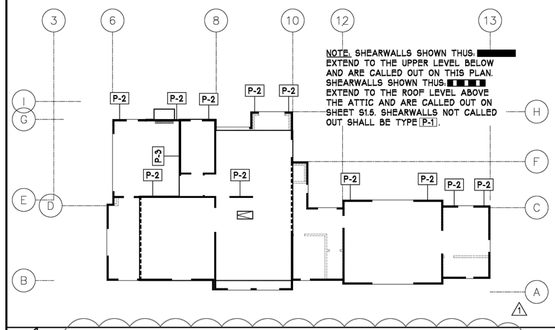
SHEET :

S1.3

OF

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18156-S1.3 04/10/23



SHEARWALL KEY PLAN

1/16"=1'-0"

POST SCHEDULE			
MARK	SIZE & GRADE	COMMENTS	HARDWARE
P1	(2) 2 X 6 DF STUD		
P2	(3) 2 X 6 DF STUD		
P3	4 X 6 DF#2		
P4	6 X 6 DF#1		

POST SCHEDULE

PLAN NOTES:

1. TOP OF ATTIC JOISTS ARE +32'-1 1/4" ABOVE REFERENCE ELEVATION 0'-0". SITE ELEVATION IS 79.604'.
2. INDICATES: UPPER LEVEL SHEARWALLS BELOW (X-#)

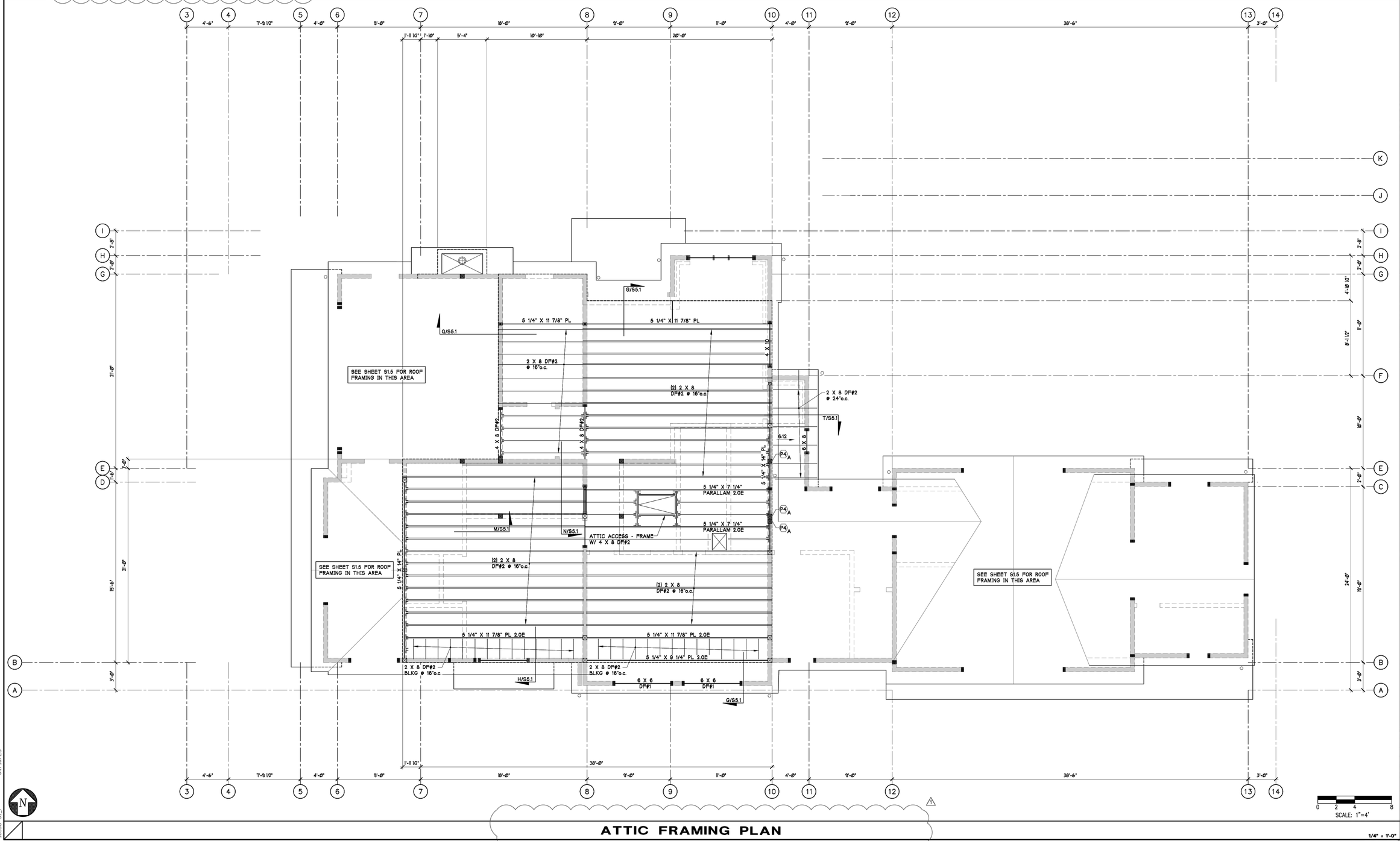
   INDICATES: ROOF LEVEL SHEARWALLS ABOVE. (X-#)

   SHEATH AND NAIL SHEARWALLS PER SCHEDULE ON SHEET S2.3. SEE KEY PLAN AT LEFT FOR SHEARWALL TYPES AT UPPER LEVEL. WALLS NOT CALLED OUT SHALL BE TYPE P-1.
3. TYPICAL HEADER AT ALL INTERIOR AND EXTERIOR BEARING WALLS SHALL BE 4 X 8 DF#2 UNLESS NOTED OTHERWISE ON PLAN.
4. (X-#) INDICATES KEY NOTE. SEE KEY NOTES ON THIS SHEET.
5. INDICATES SIMPSON HARDWARE. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
6. (#) INDICATES POST TYPE. SEE POST SCHEDULE ON THIS SHEET FOR SIZE
   - ■ = POST ABOVE U.N.O. ON PLAN.
   - ☒ = POST BELOW.

   NOTE: (P4) M-A INDICATES LEVEL WHERE COLUMN STARTS-ENDS.
   "B" = BASEMENT
   "M" = MAIN FLOOR
   "U" = UPPER FLOOR
   "A" = ATTIC FLOOR
   "R" = ROOF
7. SEE SHEET S2.1 FOR BALANCE OF FRAMING NOTES AND SCHEDULES. SEE SHEETS S2.1, S2.2 & S2.3 FOR TYPICAL DETAILS.
8. SEE ARCHITECTURAL PLANS FOR DIMENSIONS.

ATTIC FLOOR FRAMING DESIGN LOADS:

• DEAD LOAD	• 14 PSF
• LIVE LOAD	• 20 PSF
TOTAL DESIGN LOAD	• 34 PSF



ATTIC FRAMING PLAN

1/4" = 1'-0"

SCALE: 1"=4'

REVISIONS		
DATE	DESCRIPTION	
04/10/23	CITY OF MERCER ISLAND CN#1	1

B&T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
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(425) 557-9765 (FAX)

B&T DESIGN & ENGINEERING

REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON BRYAN T. BAYNE 23231 RENEWAL 10/12/2024

PROJECT TITLE
MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040

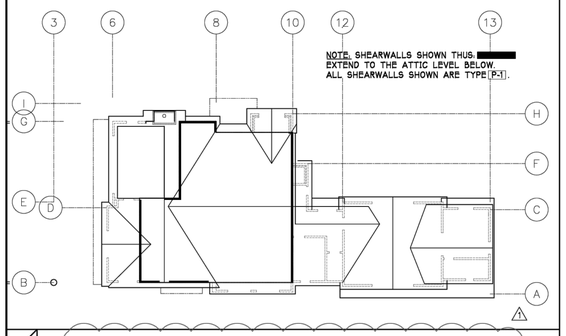
SHEET TITLE
ATTIC
FRAMING PLAN

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

SHEET :
S1.4
OF

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04/10/23
18156-S1_1



SHEARWALL KEY PLAN

1/16"=1'-0"

SIMPSON HARDWARE NOTES:

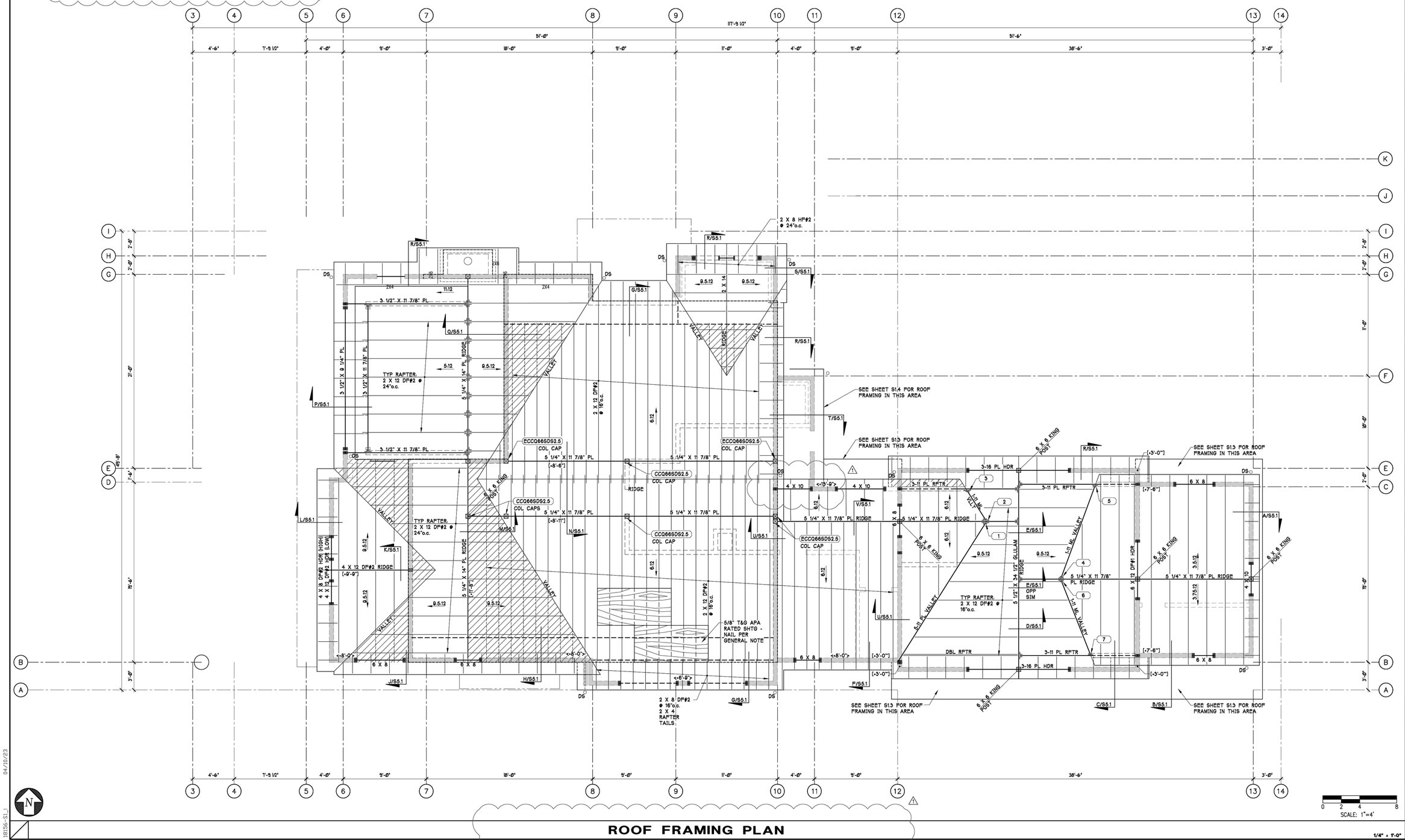
1. SIMPSON HANGER: HWU5.50/11.88 X SLD22.9 SKL32.3
2. SIMPSON HANGER: WPU1.81/11.88 X SLD22.9 SKR32.3
3. SIMPSON HANGER: WPU1.81/11.88 X SLU22.9 SKR32.3
4. SIMPSON HANGER: WPU1.81/11.88 X SLD15.3 SKL20.2
5. SIMPSON HANGER: WPU1.81/11.88 X SLU15.3 SKL20.2
6. SIMPSON HANGER: WPU1.81/11.88 X SLD16.2 SKR21.5
7. SIMPSON HANGER: WPU1.81/11.88 X SLU16.2 SKR21.5

PLAN NOTES:

1. <-X'-X"> INDICATES TOP OF DOUBLE TOP PLATE ABOVE FINISH FLOOR ELEVATION 76.0'. [-X'-X"] INDICATES TOP OF DOUBLE TOP PLATE ABOVE FINISH FLOOR ELEVATION 79.0'.
2. INDICATES SHEARWALLS BELOW. SHEATH AND NAIL SHEARWALLS PER SCHEDULE ON SHEET S2.3. SEE KEY PLAN AT LEFT FOR SHEARWALL LAYOUT. ALL SHEARWALLS SHALL BE TYPE P-1.
3. (X-#) INDICATES KEY NOTE. SEE KEY NOTES ON THIS SHEET.
4. INDICATES SIMPSON HARDWARE. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. INDICATES AREAS OF OVERFRAMING. USE PREMANUFACTURED VALLEY SETS OR 2 X 6 HF#2 @ 24"o.c. TYPICAL. MAXIMUM UNSUPPORTED LENGTH OF 2 X 6 RAFTER SHALL BE 8'. FOR LONGER SPANS, PROVIDE 2 X 4 BRACES TO FRAMING BELOW.
6. SEE SHEET S2.1 FOR BALANCE OF FRAMING NOTES AND SCHEDULES. SEE SHEETS S2.1, S2.2 & S2.3 FOR TYPICAL DETAILS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS.

ROOF FRAMING DESIGN LOADS:

• DEAD LOAD	• 18 PSF
• SOLAR PANEL READY LOAD	• 03 PSF
• LIVE LOAD (SNOW)	• 25 PSF
TOTAL FLAT ROOF DESIGN LOAD	• 46 PSF



ROOF FRAMING PLAN

SCALE: 1"=4'

1/4" = 1'-0"

04/10/23

18156-S1_1

REVISIONS

DATE	DESCRIPTION
04/10/23	CITY OF MERCER ISLAND CNF

B&T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
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(425) 557-9765 (PHONE)
(425) 557-9765 (FAX)

B&T DESIGN & ENGINEERING

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT TITLE

SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

SHEET :

S1.5

OF

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REQUIRED VERIFICATION AND INSPECTION OF SOILS (TABLE 1705.6 IBC 2012)

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. VERIFY MATERIALS BELOW SHALLOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	–	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	–	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	–	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	–
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	–	X

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION (TABLE 1705.3 IBC 2012)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD [1]	IBC REFERENCE
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT	–	X	ACI 318: 3.5, 7.1–7.7	1910.4
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 2b	–	–	AWS D1.4 ACI 318: 3.5.2	–
3. INSPECTION OF ANCHORS CAST IN CONCRETE	–	X	ACI 318: D.9.2	
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS: [b] a. ADHESIVE ANDHORS INSTALLED IN HORIZONALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4a.	X –	– X	ACI 318: D.9.2.4 ACI 318: D.9.2	
5. VERIFYING USE OF REQUIRED DESIGN MIX	–	X	ACI 318: CH 4, 5.2–5.4	1904.2, 1910.2, 1910.3
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	–	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1910.10
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	–	ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	–	X	ACI 318: 5.11–5.13	1910.9
9. INSPECTION OF PRESTRESSED CONCRETE: a. APPLICATION OF PRESTRESSING FORCES b. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE–RESISTING SYSTEM	X X	–	ACI 318: 18.20 ACI 318: 18.18.4	–
10. ERECTION OF PRECAST CONCRETE MEMBERS	–	X	ACI 318: CH. 16	–
11. VERIFICATION OF IN–SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST–TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	–	X	ACI 318: 6.2	–
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	–	X	ACI 318: 6.1.1	–

NOTES:

a. WHERE APPLICABLE, SEE ALSO SECTION 1705.11, SPECIAL INSPECTION FOR SEISMIC RESISTANCE.

b. SPECIAL REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH ACI 355.2 OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

REQUIRED VERIFICATION AND INSPECTION OF STRUCTURAL STEEL CONSTRUCTION (SECTION 1705.2.1 IBC 2012, AISC 360)

SYSTEM OR MATERIAL	OSSC CODE REFERENCE	CODE OR STANDARD REFERENCE	INSPECTION (NOTES 1 AND 2) CONTINUOUS	PERIODIC	OBSERVE	PERFORM	REMARKS
CONTRACTOR QUALITY CONTROL REQUIRMENTS		AISC 360 CHAPTER N	–	–	X	X	CONTRACTOR TO PROVIDE QUALITY CONTROL FOR ALL ITEMS INDICATED TO BE OBSERVE AND/OR PERFORM IN TABLE
STEEL FABRICATION							
FABRICATION OF STRUCTURAL ELEMENTS	1704.2.5.2	AISC 360 N2	–	X	–	–	REFER TO INSPECTION OF FABRICATOR REQUIREMENTS
MATERIAL VERIFICATION OF STRUCTURAL STEEL	1705.2.1 2203.1 TABLE 1705.2	ASTM A6 ASTM STDS SPECIFIED IN CONSTRUCTION DOCUMENTS AISC 360 A3.1 AISC 360 N3.2	–	X	–	–	CERTIFIED MILL TEST REPORTS
FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	TABLE 1705.2	APPLICABLE ASTM STANDARDS	–	X	–	–	MANUFACTURER'S CERTIFIED TEST REPORTS
MATERIAL VERIFICATION OF WELD FILLER METALS	TABLE 1705.2	AISC 360 A3.5 AISC 360 N3.2 APPLICABLE AWS A5 DOCUMENTS	–	X	–	–	MANUFACTURER'S CERTIFIED TEST REPORTS
STRUCTURAL STEEL WELDING							
VERIFYING USE OF PROPER WPS'S		AISC 360 N3.2	–	–	–	–	RETAIN A RECORD OF WELDING PROCEDURE SPECIFICATIONS
VERIFYING WELDER QUALIFICATIONS	1705.2.2.1		–	X	–	–	RETAIN A RECORD OF QUALIFICATION CARDS
COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	TABLE 1705.2	AWS D1.1 SECTION 6	X	–	–	–	
MULTIPASS FILLET WELDS			X	–	–	–	
SINGLE PASS FILLET WELDS GREATER THAN 5/16"			X	–	–	–	ALL WELDS VISUALLY INSPECTED PER AWS D1.16.9
PLUG SLOT WELDS			X	–	–	–	
SINGLE PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16"			–	X	–	–	
WELDING STAIR AND RAILING SYSTEMS	1705.2(2.5)	AWS D1.1 SECTION 6	–	X	–	–	ALL WELDS VISUALLY INSPECTED PER AWS D1.16.9
TS			–	–	–	X	

NOTES:

1. FOR STEEL INSPECTIONS PER AISC 360 AND 341:
   a. QUALITY ASSURANCE (QA) IS REQUIRED FOR EACH ITEM IN TABLES UNLESS SPECIFICALLY NOTED OTHERWISE.
   b. QUALITY CONTROL (QC) TO BE PROVIDED BY THE FABRICATOR, ERECTOR OR OTHER RESPONSIBLE CONTRACTOR AS APPLICABLE. CONTRACTOR AND SPECIAL INSPECTOR TO DOCUMENT QUALITY CONTROL AS REQUIRED IN AISC 360 SECTION N3 AND AISC 341 SECTION J2.

2. INSPECTION TYPES
   a. CONTINUOUS: THE FULL–TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.
   b. PERIODIC: THE PART–TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK.
   c. OBSERVE: OBSERVE THESE FUNCTIONS ON A RANDOM, DAILY BASIS. OPERATIONS NEED NOT BE DELAYED PENDING OBSERVATIONS.
   d. PERFORM: INSPECTIONS SHALL BE PERFORMED PRIOR TO THE FINAL ACCEPTANCE OF THE ITEM.

INSPECTION TABLES

GENERAL NOTE
CODE: INTERNATIONAL BUILDING CODE –– 2018 EDITION
ALL ASTM'S CALLED OUT ARE TO BE THE LATEST EDITION

LIVE LOADS
BUILDING RISK CATEGORY II (IBC TABLE 1604.5)

GRAVITY LOADS:
SNOW . . . . . GROUND SNOW LOAD PG = 36 PSF
. . . . . FLAT ROOF SNOW LOAD PF = 25 PSF
. . . . . SNOW EXPOSURE FACTOR CE = 1.0
. . . . . SNOW IMPORTANCE FACTOR IS = 1.0
. . . . . THERMAL FACTOR CT = 1.0
FLOOR . . . . . 40 PSF

LATERAL LOADS:
WIND . . . . . V = 110 MPH
. . . . . EXPOSURE "C" KZT = 1.0
SEISMIC . . . . . SITE CLASS "E"
SEISMIC DESIGN CATEGORY "D"
IMPORTANCE FACTOR IE = 1.0
Ss = 1.440g Si = 0.550G
Fa = 1.200 Sms = 1.152G
R = 5 (SPECIAL REINFORCED CONCRETE SHEARWALLS)

FOUNDATION
FOUNDATION DESIGN WAS BASED UPON SOILS REPORT NO. JN20086 BY GEOTECH CONSULTANTS, INC. DATED MAY 5, 2020. THE FOLLOWING VALUES WERE USED:

LATERAL EARTH PRESSURE: . . . . . ACTIVE–UNRESTRAINED; LEVEL BACKFILL = 45 PCF
. . . . . ACTIVE–UNRESTRAINED; SLOPING BACKFILL = 55 PCF
. . . . . 267 PCF EQUIVALENT FLUID PRESSURE (PASSIVE)
COEFFICIENT OF FRICTION: 0.3

ALL EXTERIOR FOOTINGS AND GRADE BEAMS SHALL BE A MINIMUM OF 1'–6" BELOW FINISH GRADE. SLABS AND FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR STRUCTURAL FILL COMPACTED TO 95% MAXIMUM DRY DENSITY PER ASTM D–1557 AS RECOMMENDED IN SOILS REPORT. CONTRACTOR SHALL PROVIDE PERMANENT POSITIVE DRAINAGE OF BUILDING PERIMETER. ALL SITE PREPARATION AND GRADING SHALL BE DONE IN ACCORDANCE WITH SOILS REPORT.

DRILLED PILES
PILE LENGTH SHOWN ON PLAN IS BASED ON DEPTH BELOW SITE ELEVATION X'. THE SOILS ENGINEER SHALL INSPECT THE INSTALLATION OF THE PILES AND WILL MAKE THE FINAL DETERMINATION OF PILE PENETRATION FOR LOADS SHOWN BELOW BASED ON CONDITIONS THAT HE/SHE OBSERVES DURING INSTALLATION OF EACH PILE. f'c FOR GROUT FOR PILING IS 4000 PSI. USE 10 SACKS CEMENT PER CUBIC YARD OF CONCRETE MINIMUM. ALTERNATE MIX DESIGN MAY BE SUBMITTED TO ENGINEER FOR APPROVAL. SUBMIT PILING RECORDS TO THE ENGINEER AND BUILDING DEPARTMENT FOR APPROVAL PRIOR TO POURING PILE CAPS.

PIPE PILES
STANDARD BLACK STEEL DRIVEN PIPE PILES ARE TO BE THE FOUNDATION SYSTEM TO SUPPORT THE DEAD LOADS ANTICIPATED FROM THE BUILDING AND ITS FOUNDATION.

FOUR INCH DIAMETER (SCHEDULE 40) PIPE PILES DRIVEN WITH A MINIMUM 800 POUND HYDRAULIC HAMMER TO A FINAL PENETRATION RATE OF ONE INCH OR LESS FOR ONE MINUTE OF CONTINUOUS DRIVING MAY BE ASSIGNED AN ALLOWABLE COMPRESSIVE LOAD OF 10 TONS PER PILE.

PILE CAPS SIMILAR TO CONVENTIONAL FOOTINGS SHOULD BE USED TO TRANSMIT LOADS TO THE PILES. NO LESS THAN TWO PILES SHOULD BE INCLUDED IN EACH PILE CAP. WELDED COUPLERS SHOULD BE USED TO CONNECT SUBSEQUENT PIPE SECTIONS ON PILES THAT NEED TO EXTEND IN LENGTH.

GEOTECH CONSULTANTS WILL BE REQUIRED TO DO ON SITE MONITORING OF PILE DRIVING TO DETERMINE THEIR FINAL PENETRATION.

CONCRETE
f'c = 3000 psi FOR ALL WALLS, FOOTINGS & SLABS ON GRADE
ULTIMATE STRENGTH DESIGN METHOD USED. MIXING AND PLACING OF ALL CONCRETE AND SELECTION OF MATERIALS SHALL BE IN ACCORDANCE WITH THE IBC AND ACI CODE 318. PROPORTIONING OF AGGREGATE TO CEMENT SHALL BE SUCH AS TO PRODUCE A DENSE WORKABLE MIX WITH 5" MAXIMUM SLUMP WHICH CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER. FOR ADMIXTURES, SEE SPECIFICATIONS. 1/2" CHAMFER ALL EXPOSED EDGES, UNLESS INDICATED OTHERWISE ON ARCHITECTURAL DRAWINGS. WATER CURING SHALL BE USED. AIR ENTRAIN ALL CONCRETE EXPOSED TO WEATHER WITH 3% TO 6% AIR BY VOLUME.

REINFORCING STEEL
ALL CONCRETE REINFORCING STEEL SHALL BE DEFORMED PER ASTM A615, GRADE 60 (fy=60,000 psi) EXCEPT ALL #4 SLAB DOWELS SHALL BE GRADE 40 (fy=40,000 psi). LAP CONTINUOUS REINFORCING BARS 30 BAR DIAMETERS, 1'–7" MINIMUM UNLESS NOTED OTHERWISE. CORNER BARS (1'–7" BEND) WILL BE PROVIDED FOR ALL HORIZONTAL REINF. DETAIL STEEL IN ACCORDANCE WITH "ACI MANUAL OF STANDARD PRACTICE OF DETAILING REINFORCED CONCRETE STRUCTURES". WELDED WIRE FABRIC (WWF) TO CONFORM WITH ASTM A185. REINFORCING HOOKS TO COMPLY WITH STANDARD ACI HOOKS.

UNLESS NOTED OTHERWISE, COVER TO MAIN REINFORCEMENT TO BE:
CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH . . . . . 3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER . . 1 1/2 INCHES (#5 BARS & SMALLER)
. . . . 2 INCHES (#6 THRU #18 BARS)
CONCRETE NOT EXPOSED TO WEATHER
OR IN CONTACT WITH GROUND . . . . . .3/4 INCHES (#11 BAR & SMALLER)
. . . . . 1 1/2 INCHES (#14 & #18 BARS)

STRUCTURAL STEEL
ALL WORK IN ACCORDANCE WITH "AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AND THE "CODE OF STANDARD PRACTICE".

STRUCTURAL STEEL BEAMS CONFORMS WITH . . . . . ASTM A992 (Fy=50,000 PSI)
TUBE COLUMNS CONFORM WITH . . . . . ASTM A500 GRADE B (Fy=46,000 PSI)
MISC STEEL PLATES CONFORM WITH . . . . . ASTM A36 (Fy=36,000 PSI)
STEEL PLATES AT MOMENT FRAMES CONFORM WITH . . . . ASTM A572 (Fy=50,000 PSI)
WELDHEAD STUDS CONFORM WITH . . . . . .ASTM A108 (Fy=46,000 PSI)
BOLTS (WOOD TO STEEL) CONFORM WITH . . . . . ASTM A307
BOLTS (STEEL TO STEEL) CONFORM WITH . . . . . ASTM A325N

PROVIDE MINIMUM EMBEDMENT FOR ANCHOR BOLTS PER IBC TABLE 1908.2 FOR CONCRETE. ALL WELDING TO CONFORM WITH AWS D1.1 "CODE FOR WELDING IN BUILDING CONSTRUCTION". WELDS NOT SPECIFIED SHALL BE 1/4" CONTINUOUS FILLET MINIMUM. ALL WELDS BY WABO CERTIFIED WELDERS. USE FRESH 70XX ELECTRODES. SEE SPECIFICATIONS FOR ITEMS TO BE GALVANIZED. NOTE: BOLTS ARE NOT AN EQUAL SUBSTITUTE FOR WELDHEAD STUDS.

EPOXY DOWELS
EPOXY SHALL BE SIMPSON "EPOXY–TIE SET–XP" FROM SIMPSON STRONG–TIE PLEASANTON, CA. ANCHORING ADHESIVE SHALL BE A TWO–COMPONENT HIGH–SOLIDS EPOXY–BASED SYSTEM SUPPLIED IN MANUFACTURER'S STANDARD CARTRIDGE AND DISPENSED THROUGH A STATIC–MIXING NOZZLE SUPPLIED BY THE MANUFACTURER. THE ADHESIVE ANCHOR SHALL HAVE BEEN TESTED AND QUALIFIED FOR PERFORMANCE IN CRACKED AND UNCRACKED CONCRETE PER ICC–ES–AC308.
DOWELS SHALL BE DEFORMED BAR PER "REINFORCING STEEL" NOTE ABOVE. PROVIDE SIZE AND EMBEDMENT AS SPECIFIED ON PLANS AND DETAILS. DOWELS SHALL BE INSTALLED PER SIMPSON STRONG–TIE'S INSTRUCTIONS FOR SET–XP EPOXY–TIE ADHESIVE.

EPOXY ANCHORS
EPOXY SHALL BE SIMPSON "EPOXY–TIE SET–XP" FROM SIMPSON STRONG–TIE PLEASANTON, CA. ANCHORING ADHESIVE SHALL BE A TWO–COMPONENT HIGH–SOLIDS EPOXY–BASED SYSTEM SUPPLIED IN MANUFACTURER'S STANDARD CARTRIDGE AND DISPENSED THROUGH A STATIC–MIXING NOZZLE SUPPLIED BY THE MANUFACTURER. THE ADHESIVE ANCHOR SHALL HAVE BEEN TESTED AND QUALIFIED FOR PERFORMANCE IN CRACKED AND UNCRACKED CONCRETE PER ICC–ES–AC308.
ANCHORS SHALL BE THREADED ROD CONFORMING TO ASTM A36. PROVIDE DIAMETER AND EMBEDMENT AS SPECIFIED ON PLANS AND DETAILS. ANCHORS SHALL BE INSTALLED PER SIMPSON STRONG–TIE'S INSTRUCTIONS FOR SET–XP EPOXY–TIE ADHESIVE.

TIMBER
2X MEMBERS . . . . . H.F.#2 (Fb=1270 psi REP.) (2 X 6 OR LESS)
H.F.#2 (Fb=1035 psi REP.) (2 X 8 OR LARGER)
4X MEMBERS . . . . . D.F.#2 (Fb=1080 psi) (4 X 10 OR LESS)
D.F.#2 (Fb=990 psi) (4 X 12 OR LARGER)
6X MEMBERS . . . . . D.F.#1 (Fb=1350 psi)
LUMBER NOT NOTED TO BE . . . . . D.F.#2
BOLTS IN WOOD CONFORM WITH ASTM A307

ALL GRADES SHALL CONFORM TO "WWPA GRADING RULES FOR WESTERN LUMBER –– LATEST EDITION." BOLT HEADS AND NUTS BEARING AGAINST WOOD SHALL BE PROVIDED WITH STANDARD CUT WASHERS. PLATE WASHERS A MINIMUM OF 3" X 3" X 1/4" SHALL BE USED AT ALL SILL PLATE ANCHOR BOLTS. ALL NEW FRAMING LUMBER SHALL HAVE 19% MAXIMUM MOISTURE CONTENT AT TIME OF INSTALLATION. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED. ALL NAILS ARE "COMMON" UNLESS INDICATED OTHERWISE. MINIMUM NAILING PER IBC TABLE 2304.9.1. SAS TYPICAL UNLESS NOTED OTHERWISE. SUBSTITUTION OF OTHERS SPECIES WITHOUT WRITTEN APPROVAL OF THE ENGINEER IS PROHIBITED. MISCELLANEOUS HANGERS TO BE SIMPSON OR I.C.C. APPROVED EQUAL. ALL CONNECTORS FOR PRESSURE TREATED LUMBER AND ALL NAILS IN EXTERIOR SHEATHING SHALL BE HOT–DIPPED GALVANIZED. NAIL ALL HOLES WITH NAILS AS SPECIFIED BY MANUFACTURER UNLESS NOTED OTHERWISE ON DRAWINGS.
ANCHOR BOLTS INTO CONCRETE SHALL HAVE MINIMUM EMBEDMENT PER IBC TABLE 1908.2.

NAILS
NAILS SHALL BE COMMON, AMERICAN OR CANADIAN MANUFACTURED ONLY WITH MINIMUM DIAMETERS AS FOLLOWS:

NAIL DESIGNATION	MINIMUM NAIL SHANK DIAMETER (IN)	MINIMUM NAIL LENGTH
8d	0.131"ø	2 1/2"
10d	0.148"ø	3"
16d SINKER OR 12d	0.148"ø	3 1/4"
16d	0.162"ø	3 1/2"
20d	0.192"ø	4"

MICROLAM & PARALLAM MEMBERS
ALL MICROLAM & PARALLAM MEMBERS SHALL BE TRUS JOIST OR ENGINEER APPROVED EQUAL WHICH DEMONSTRATES ICC AND NRB ACCEPTANCE. MINIMUM MEMBER PROPERTIES SHALL BE AS FOLLOWS:

1 3/4" MICROLAM – Fb = 2600 psi; Fv = 285 psi; E = 1900 KSI
1 1/2" PARALLAM – Fb = 2900 psi; Fv = 290 psi; E = 2000 KSI
5 1/4" PARALLAM – Fb = 2900 psi; Fv = 290 psi; E = 2000 KSI

SIMPSON STRONG–TIE HARDWARE
ALL FRAMING HARDWARE SHALL BE SIMPSON STRONG–TIE OR ENGINEER APPROVED EQUAL. CONTRACTOR SHALL INSTALL ALL FRAMING HARDWARE WITH SIZE, TYPE AND NUMBER OF FASTENERS SPECIFIED BY THE MANUFACTURER.

ROOF, FLOOR, DECK & SHEARWALL SHEATHING
ROOF SHEATHING SHALL BE 5/8" (NOMINAL) APA RATED SHEATHING 40/20, EXPOSURE 1, SIZED FOR SPACING. INSTALL PANELS WITH 1/8" SPACING AT END JOINTS AND 1/4" SPACING AT EDGE JOINTS. NAILING SHALL BE 10d (COMMON) AT 6"o.c. AT PANEL EDGES AND 12"o.c. AT INTERMEDIATE SUPPORTS U.N.O. ON PLANS.

FLOOR SHEATHING SHALL BE 1 1/8" (NOMINAL) APA RATED T&G STURD–I–FLOOR, EXPOSURE 1 AT INTERIOR APPLICATIONS, EXTERIOR AT DECKS, SIZED FOR SPACING. INSTALL WITH 1/8" SPACING BETWEEN EDGE AND END JOINTS. GLUE AND NAIL ALL SUPPORTS AND BLOCKING. NAILING SHALL BE 10d (COMMON) AT 6"o.c. AT PANEL EDGES AND 10"o.c. AT INTERMEDIATE SUPPORTS U.N.O. ON PLANS.

DECK & ATTIC FLOOR SHEATHING SHALL BE 3/4" (NOMINAL) APA RATED T&G STURD–I–FLOOR 48/24, EXPOSURE 1 AT INTERIOR APPLICATIONS, EXTERIOR AT DECKS, SIZED FOR SPACING. INSTALL WITH 1/8" SPACING BETWEEN EDGE AND END JOINTS. GLUE AND NAIL ALL SUPPORTS AND BLOCKING. NAILING SHALL BE 10d (COMMON) AT 6"o.c. AT PANEL EDGES AND 10"o.c. AT INTERMEDIATE SUPPORTS U.N.O. ON PLANS.

SHEARWALL SHEATHING SHALL BE 1/2" (NOMINAL) APA RATED SHEATHING WALL–16, EXPOSURE 1, SIZED FOR SPACING. ALLOW 1/8" SPACING AT PANEL ENDS AND EDGES UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER. BLOCK ALL PANEL EDGES AND NAIL PER SHEARWALL SCHEDULE ON SHEET S2.1.

SHOP DRAWINGS
SUBMIT THREE SETS OF SHOP DRAWINGS TO THE ENGINEER AND ONE SET TO THE BUILDING DEPARTMENT FOR APPROVAL PRIOR TO FABRICATION FOR:
REINFORCING STEEL, MISC. & STRUCTURAL STEEL, PLYWOOD WEB JOISTS, MICROLAMS AND PARALLAMS.

SPECIAL INSPECTIONS
INSPECTIONS ARE TO BE PER IBC CHAPTER 17, SECTIONS 1704 AND 1705 AND ARE TO BE BY AN INDEPENDENT TESTING LAB AND APPROVED BY THE OWNER AND BUILDING DEPARTMENT AND ENGAGED BY AND PAID FOR BY THE OWNER PRIOR TO STARTING CONSTRUCTION.

FOUNDATION: INSPECT FOOTINGS AND EXCAVATIONS JUST PRIOR TO CONCRETE PLACEMENT TO INSURE MATERIAL IS DRY AND DENSE.

CONCRETE: TAKE CONCRETE CYLINDERS PER IBC SECTION 1705.3. VERIFY MIX DESIGN AND SLUMPS.

REINFORCING: VERIFY ALL REINFORCING IS PLACED IN ACCORDANCE WITH APPROVED PLANS. CHECK FOR REQUIRED COVER, SIZE AND GRADE.

FLOOR & ROOF DIAPHRAGM: NOTIFY BUILDING DEPARTMENT AND ENGINEER OF RECORD FOR INSPECTION 48 HOURS PRIOR TO COVERING.

WELDING: INSPECT ALL FIELD WELDING. VERIFY CERTIFICATION OF WELDERS. CONTRACTOR SHALL PAY FOR REWELDING AND REINSPECTION OF ALL WELDS NOT MEETING SPECS. INSPECTOR SHALL NOTIFY STRUCTURAL ENGINEER OF WELDS NOT MEETING SPECS.

EPOXY ANCHOR: SPECIAL INSPECTION IS REQUIRED.

SPECIAL CONDITIONS
CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD AND SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL FIELD CHANGES PRIOR TO INSTALLATION.

GENERAL NOTES

WOOD STUD SCHEDULE

LEVEL [#4]	EXTERIOR WALLS	INTERIOR 2 X 6 WALLS	INTERIOR 2 X 4 WALLS [#3]
BASEMENT - MAIN FLOOR	2 X 6 DF#2 @ 16"o.c.	2 X 6 DF#2 @ 16"o.c.	3 X 4 DF#2 @ 16"o.c.
MAIN FLOOR - UPPER FLOOR	2 X 6 DF#2 @ 16"o.c.	2 X 6 DF#2 @ 16"o.c.	3 X 4 DF#2 @ 16"o.c.
UPPER FLOOR - ROOF	2 X 6 DF#2 @ 24"o.c.	2 X 6 DF STUD GRADE OR BETTER @ 24"o.c.	2 X 4 DF#2 @ 24"o.c.

TYPICAL NOTES:
1. ALL STUDS SHALL ALIGN UNDER FRAMING.
2. SEE SHEARWALL SCHEDULE FOR ADDITIONAL REQUIREMENTS FOR 3 X FRAMING IN HIGH STRESS SHEARWALLS.
3. PROVIDE (2) 2 X 4 STUDS AT STAIR OPENINGS WHERE LENGTH OF STUD EXCEEDS 10 FEET.

WOOD STUD SCHEDULE

POST SCHEDULE

REVISIONS
DATE 04/10/23 DESCRIPTION CITY OF MERCER ISLAND CN#1

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STATE OF WASHINGTON — REGISTERED STRUCTURAL ENGINEER — 20815 — PROFESSIONAL

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040
PROJECT TITLE

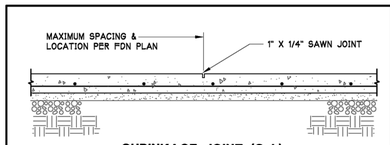
INSPECTION SCHEDUELS
GENERAL NOTES &
SCHEDULES
SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

SHEET :
S2.1
OF

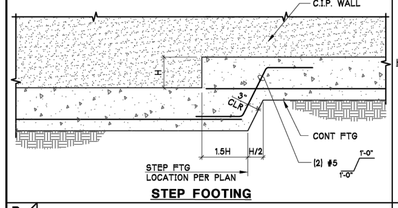
18156-S2_1 04/24/23

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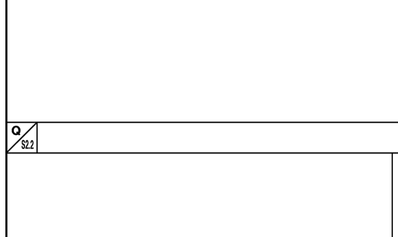
SHRINKAGE JOINT (S.J.)

A S2.2 SLAB JOINT DETAILS 3/4" = 1'-0"



STEP FOOTING

B S2.2 STEP FOOTING 3/4" = 1'-0"



H S2.2 HOLES IN STUDS, JOISTS & BEAMS 3/4" = 1'-0"

	JOIST DEPTH	JOIST SERIES	ROUND HOLE SIZE 2"	4"	6"	8"	10"	12"	14"	16"	18"	20"
TABLE 1	11 7/8"	TJI/L65	A	B	E	–	–	–	–	–	–	–
	16"	TJI/L65	A	B	C	E	–	–	–	–	–	–

MINIMUM DISTANCE (d) FROM INSIDE FACE OF ANY SUPPORT TO NEAREST EDGE OF HOLE

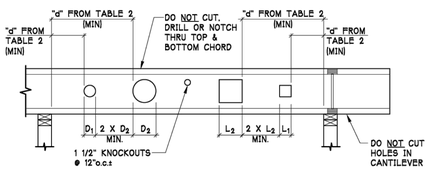
	JOIST DEPTH	JOIST SERIES	SQUARE OR RECTANGULAR HOLE SIZE 1 1/4"	2 1/4"	3 1/2"	4 3/4"	6"	7"	8 1/4"	9 1/2"	10 3/4"	12"
TABLE 1	11 7/8"	TJI/L65	A	B	E	–	–	–	–	–	–	–
	16"	TJI/L65	A	B	C	E	–	–	–	–	–	–

MINIMUM DISTANCE (d) FROM INSIDE FACE OF ANY SUPPORT TO NEAREST EDGE OF HOLE
*NOTE: RECTANGULAR HOLES BASED ON MEASUREMENT OF LONGEST SIDE.

NOTES:
1. IF MORE THAN ONE HOLE IS TO BE CUT IN THE WEB, THE LENGTH OF THE UNCUT WEB BETWEEN HOLES MUST BE TWICE THE LENGTH OF THE LONGEST DIMENSION OF THE LARGEST ADJACENT HOLE. HOLES MAY BE LOCATED VERTICALLY ANYWHERE WITHIN THE WEB.
2. TJI JOISTS ARE MANUFACTURED WITH 1 1/2" PERFORATED "KNOCKOUTS" IN THE WEB @ APPROXIMATELY 12"o.c. ALONG THE LENGTH OF THE JOIST.

NOTE: THIS INFORMATION IS TAKEN DIRECTLY FORM THE TRUS JOIST MACMILLAN CATALOG. ANY DISCREPANCIES BETWEEN THE DETAILS AND NOTES HEREIN AND INFORMATION OBTAINED BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO INSTALLATION.

TABLE 2 JOIST SPAN CENTER TO CENTER OF SUPPORT	HOLE FACTOR A	B	C	D	E
14'	1'–3"	2'–0"	2'–6"	3'–9"	5'–0"
16'	1'–3"	2'–3"	3'–3"	4'–6"	5'–9"
18'	1'–6"	3'–0"	4'–3"	5'–6"	6'–9"
20'	1'–9"	3'–0"	4'–3"	5'–6"	7'–0"
22'	2'–0"	3'–0"	4'–3"	5'–9"	7'–3"
24'	2'–3"	3'–3"	4'–6"	5'–9"	7'–6"
26'	2'–3"	3'–9"	4'–9"	6'–0"	7'–9"
28'	2'–6"	4'–0"	5'–3"	6'–6"	8'–0"
30'	2'–9"	4'–3"	5'–9"	7'–0"	8'–6"
32'	3'–0"	4'–6"	6'–0"	7'–6"	9'–3"
34'	3'–0"	5'–0"	6'–6"	8'–0"	9'–9"
36'	3'–3"	5'–0"	6'–9"	8'–6"	10'–3"



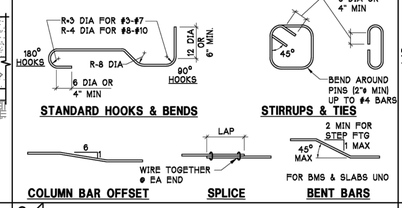
O S2.2 HOLES IN "TJI" JOISTS 3/4" = 1'-0"

MINIMUM BAR LAPS FOR REINFORCING STEEL CONCRETE STRENGTH. SEE BELOW (CLASS B SPLICE - STAGGER SPLICES)					
SIZE	LAP LENGTH 3000 PSI OR LESS	4000 PSI	SIZE	LAP LENGTH 3000 PSI OR LESS	4000 PSI
#3	24"	24"	#7	63"	54"
#4	29"	25"	#8	72"	62"
#5	36"	31"	#9	81"	69"
#6	43"	38"	#10	90"	77"

MINIMUM BAR SPACING (INCLUDING LAPS). 2" CLR OR 1 1/2" X BAR DIAMETER

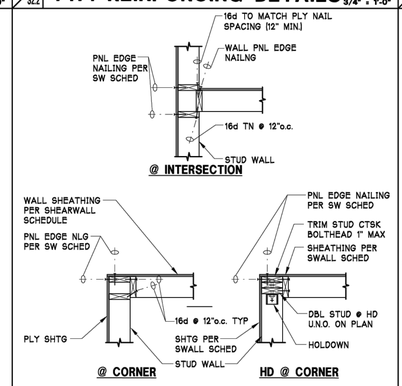
1.5 X LAP EQUALS 150% LAP LENGTH REQUIRED

ALL REINFORCING BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN A STANDARD 90 OR 180 HOOK UNLESS DETAILED OTHERWISE

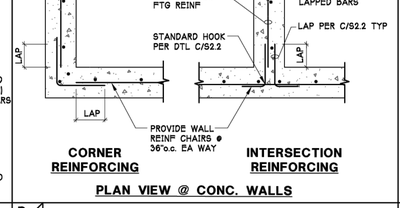


STANDARD HOOKS & BENDS | STIRRUPS & TIES | COLUMN BAR OFFSET | SPLICE | BENT BARS FOR BMS & SLABS UNO

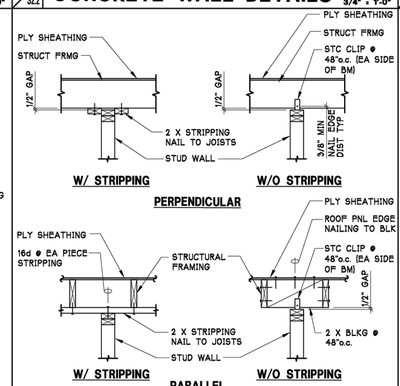
C S2.2 TYP. REINFORCING DETAILS 3/4" = 1'-0"



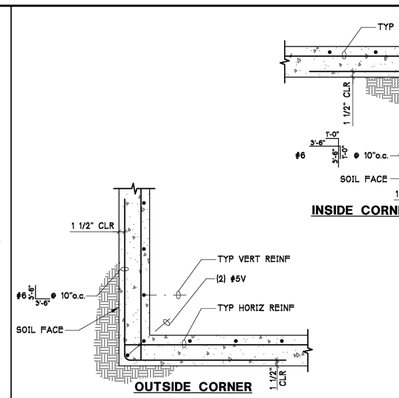
J S2.2 STUD WALL DETAILS 3/4" = 1'-0"



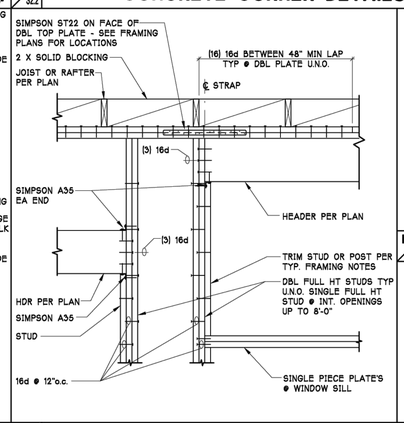
D S2.2 CONCRETE WALL DETAILS 3/4" = 1'-0"



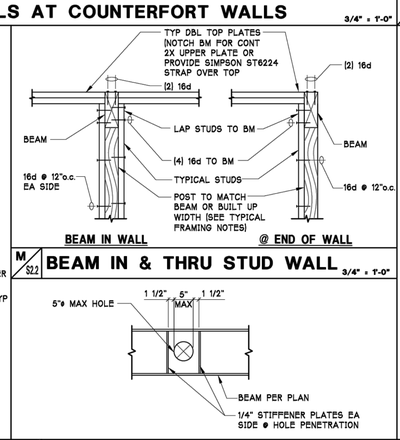
K S2.2 STUD WALL DETAILS 3/4" = 1'-0"



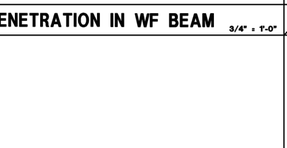
E S2.2 CONCRETE CORNER DETAILS AT COUNTERFORT WALLS 3/4" = 1'-0"



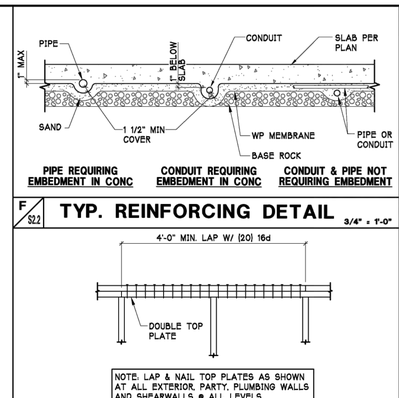
L S2.2 STUD WALL & HDR DETAIL 3/4" = 1'-0"



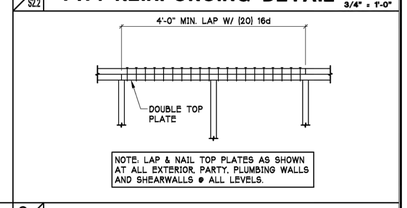
M S2.2 BEAM IN & THRU STUD WALL 3/4" = 1'-0"



N S2.2 TYP PENETRATION IN WF BEAM 3/4" = 1'-0"

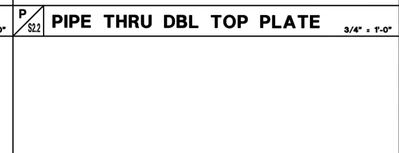


F S2.2 TYP. REINFORCING DETAIL 3/4" = 1'-0"



NOTE. LAP & NAIL TOP PLATES AS SHOWN AT ALL EXTERIOR, PARTY, PLUMBING WALLS AND SHEARWALLS @ ALL LEVELS.

G S2.2 DBL TOP PLATE SPLICE 3/4" = 1'-0"



P S2.2 PIPE THRU DBL TOP PLATE 3/4" = 1'-0"

REVISIONS DATE	DESCRIPTION
04/10/23	CITY OF MERCER ISLAND CNF1

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MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040
PROJECT TITLE

STANDARD DETAILS
SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

SHEET :
S2.2
OF

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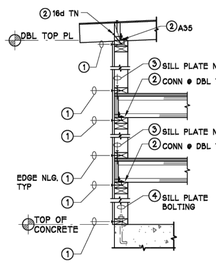
18156-S2.1 04/10/23

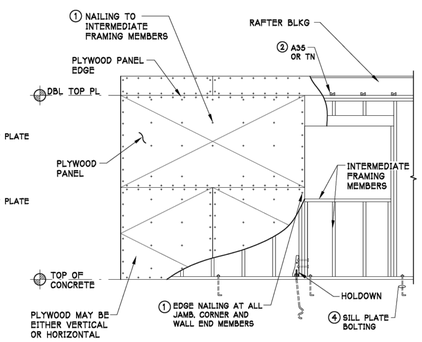
WOOD STRUCTURAL PANEL SHEAR WALL SCHEDULE

TYPE	CAPACITY EQ / WIND [PLF]	SHEATHING	BLKG REQ'D	① NAILING #1a	② RIM JOIST/BLOCKING TO DBL. TOP PL	CONNECTION AT SILL ③ WOOD	CONNECTION AT SILL ④ CONCRETE
P-1	240 / 335	1/2" PLYWOOD ONE SIDE	YES #3	8d @ 6"o.c. EDGE, 12"o.c. FIELD	SIMPSON A35 @ 16"o.c.	16d @ 6"o.c.	1/2"ø AB @ 2'-6"o.c. #2
P-2	350 / 490	1/2" PLYWOOD ONE SIDE	YES #3	8d @ 4"o.c. EDGE, 12"o.c. FIELD	SIMPSON A35 @ 12"o.c.	(2) ROWS 16d @ #4 6"o.c., STAGGER 3"	1/2"ø AB @ 1'-8"o.c. #2
P-3	480 / 670	1/2" PLYWOOD BOTH SIDES	YES #3	8d @ 6"o.c. EDGE, 12"o.c. FIELD	SIMPSON A35 @ 8"o.c.	(2) ROWS 16d @ #4 3"o.c., STAGGER 1 1/2"	1/2"ø AB @ 1'-3"o.c. #2
P-4	700 / 980	1/2" PLYWOOD BOTH SIDES	YES #3	8d @ 4"o.c. EDGE, #1b 12"o.c. FIELD	SIMPSON LS90 @ 12"o.c.	(2) ROWS 1/4"ø x 0'-4" LAG #4 SCREWS @ 8"o.c., STAGGER 4"	1/2"ø AB @ 0'-10"o.c. #2
P-5	980 / 1370	1/2" PLYWOOD BOTH SIDES	YES #3	8d @ 3"o.c. EDGE, #1b 12"o.c. FIELD	SIMPSON LS90 @ 8"o.c.	(2) ROWS 1/4"ø x 0'-4" LAG #4 SCREWS @ 6"o.c., STAGGER 3"	1/2"ø AB @ 0'-6"o.c. #2

TYPICAL SHEAR WALL NOTES

1. WOOD STRUCTURAL PANEL SHEAR WALLS:
   a. 8d NAILS SHALL BE COMMON (2 1/2" X 0.113" DIAMETER) WITH 1 3/8" MINIMUM PENETRATION INTO FRAMING. NO. 14 GAGE STAPLES WITH A MINIMUM 7/16" OD CROWN AND 1 1/2" LENGTH MAY BE USED ONE FOR ONE IN LIEU OF 8d NAILS. FASTENERS EXPOSED TO WEATHER SHALL BE ZINC COATED BY HOT DIP GALVANIZING, MECHANICALLY DEPOSITED, OR ELECTRO DEPOSITED
   b. WHERE PLYWOOD IS APPLIED BOTH SIDES OF SHEAR WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS, OR FRAMING MEMBERS SHALL BE 3" WIDE (NOMINAL) AND NAILS ON EACH SIDE SHALL BE STAGGERED.
   c. FRAMING AT ADJOINING PANEL EDGES AND BOTTOM PLATES OF SHEAR WALLS SHALL BE 3-INCH NOMINAL OR WIDER AND NAILS SHALL BE STAGGERED WHERE THE REQUIRED SHEAR CAPACITY EXCEEDS 700 plf.
   d. ALLOWABLE SHEAR VALUES IN TABLE ABOVE ARE FOR HEM-FIR FRAMING MEMBERS (GROUP III) NO SUBSTITUTION OF LESSER GROUPS WILL BE ALLOWED.
2. PLATE WASHERS A MINIMUM OF 3 INCH X 3 INCH X 0.229 INCH THICK SHALL BE USED ON EACH ANCHOR BOLT. SEE DETAIL A/S2.3.
3. ALL BLOCKING SHALL BE 2X HEM-FIR STUD GRADE OR BETTER. (USE 3 X HF BLOCKING WHERE REQUIRED BY NOTE #1b. & 1c.)
4. PROVIDE DOUBLE BLOCKING OR RIM JOIST UNDER WOOD SILL WHERE (2) ROWS OF FASTENERS ARE REQUIRED. PROVIDE TRIPLE BLOCKING OR RIM JOIST UNDER WOOD SILL WHERE (3) ROWS OF FASTENERS ARE REQUIRED. (CLOSEST ALLOWABLE SPACING FOR 16d NAILS IN 1 1/4" "TIMBERSTRAND" LSL RIM IS 6"o.c.).
5. "ⓝ" INDICATES CONNECTION TYPE AS DESCRIBED IN SCHEDULE ABOVE – LOCATE PER DIAGRAM AT RIGHT.





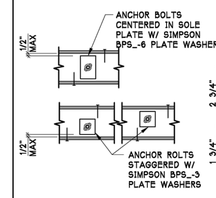
SHEAR WALL SYSTEMS:

1. PANELS SHALL NOT BE LESS THAN 4' X 8', EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING. ALL EDGES OF ALL PANELS SHALL BE SUPPORTED BY AND FASTENED TO FRAMING MEMBERS OR BLOCKING.
2. NAILS SHALL BE LOCATED AT LEAST 3/8" FROM THE PANEL EDGES. MAXIMUM NAIL SPACING AT PANEL EDGES SHALL BE 6" ON CENTER.
3. NAILS ALONG INTERMEDIATE FRAMING MEMBERS SHALL BE THE SAME SIZE AS NAILS SPECIFIED FOR PANEL EDGE NAILING. AT INTERMEDIATE FRAMING MEMBERS, THE MAXIMUM NAIL SPACING SHALL BE 6" ON CENTER.
4. THE WIDTH OF THE NAILED FACE OF FRAMING MEMBERS AND BLOCKING SHALL BE 2" NOMINAL OR GREATER AT ADJOINING PANEL EDGES EXCEPT THAT A 3" NOMINAL OR GREATER WIDTH AT ADJOINING PANEL EDGES AND STAGGERED NAILING AT ALL PANEL EDGES ARE REQUIRED WHERE:
   a. NAIL SPACING OF 2" ON CENTER OR LESS AT ADJOINING PANEL EDGES IS SPECIFIED, OR
   b. 10d COMMON NAILS HAVING PENETRATION INTO FRAMING MEMBERS AND BLOCKING OF MORE THAN 1-1/2" ARE SPECIFIED AT 3" ON CENTER, OR LESS AT ADJOINING PANEL EDGES, OR
   c. REQUIRED NOMINAL UNIT SHEAR CAPACITY ON EITHER SIDE OF THE SHEAR WALL EXCEEDS 700 plf IN SEISMIC DESIGN CATEGORY D, E, OR F.
5. MAXIMUM STUD SPACING SHALL BE 24" ON CENTER.
6. WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS FOR ITS TYPE IN DOC PS 1 OR PS 2.

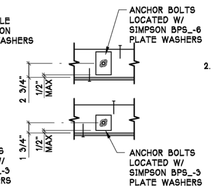
SHEARWALL SCHEDULE

NOTES:

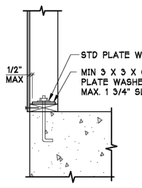
1. A PLATE WASHER MUST BE A MINIMUM OF 3" X 3" X 0.229" AND MUST EXTEND TO WITHIN 1/2" OF THE SHEATHED EDGE OF THE SILL PLATE. SLOTS ARE PERMITTED IN THE PLATE WASHER TO ALLOW FOR A TOLERANCE IN ANCHOR BOLT PLACEMENT.
2. THE 3" X 3" PLATE WASHER WORKS WELL W/ A 2 X 4 SILL PLATE BUT WHEN USED W/ A 2 X 6 SILL PLATE, IT REQUIRES THE ANCHOR BOLT TO BE OFFSET TOWARD THE SHEATHED EDGE. IF THE WALL IS SHEATHED ON BOTH SIDES, A STAGGERED BOLT PATTERN IS REQUIRED.



SHEAR ANCHOR OPTIONS FOR 2 X 6 WALL SHEATHED BOTH SIDES



SHEAR ANCHOR OPTIONS FOR 2 X 6 WALL SHEATHED ONE SIDE

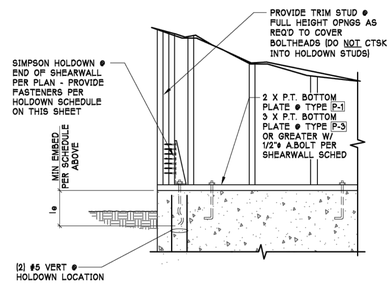


SILL PLATE ANCHORAGE

A S2.3 — 1" = 1'-0"

HOLDOWN SCHEDULE

MARK	SIMPSON DESIGNATION	CONNECTION REQUIREMENTS l_e	CONNECTION REQUIREMENTS FASTENERS
1	HDU2-SDS2.5	16 5/8"	(6) SDS 1/4 X 2 1/2 WOOD SCREWS INTO DOUBLE STUD
			SSTB20 ANCHOR BOLT INTO CONC.
2	HDU5-SDS2.5	20 5/8"	(14) SDS 1/4 X 2 1/2 WOOD SCREWS INTO DOUBLE STUD
			SSTB24 ANCHOR BOLT INTO CONC.
3	HHDQ11-SDS2.5	24 7/8"	(24) SDS 1/4 X 2 1/2 WOOD SCREWS INTO 6 X 6 POST
			1"ø ALLTHREAD INTO CONC.



NOTE: IN LIEU OF SIMPSON SSTB ANCHOR BOLT @ HOLDOWN, CONTRACTOR MAY USE A36 ALLTHREAD W/ 3 X 3 X 1/4 PLATE & NUT ON EMBEDDED END - DIAMETER & LENGTH AS FOLLOWS.

HDU2 HOLDOWN:
USE 5/8"ø ALLTHREAD (16" MIN EMBED)

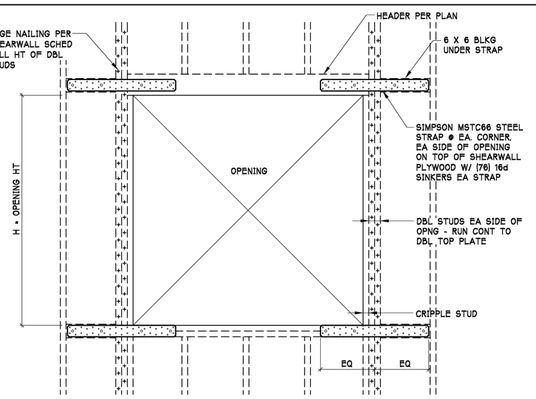
HDU5 HOLDOWN:
USE 5/8"ø ALLTHREAD (20" MIN EMBED)

HHDQ11 HOLDOWN:
USE 1"ø ALLTHREAD (24" MIN EMBED)

ⓑ HOLDOWN DETAIL @ CONCRETE FOUNDATION

B S2.3 — 3/4"=1'-0"

HOLDOWN SCHEDULE & DETAILS



C S2.3 — 1" = 1'-0"

PORTAL SHEARWALL

REVISIONS

DATE	DESCRIPTION
04/10/23	CITY OF MERCER ISLAND CNF1

DATE DESCRIPTION

B&T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-9783 (VOICE)
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B&T DESIGN & ENGINEERING

REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — TYLER BRUCE — 22016 — STRUCTURAL

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040
PROJECT TITLE

SHEARWALL SCHEDULE AND DETAILS
SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

SHEET :

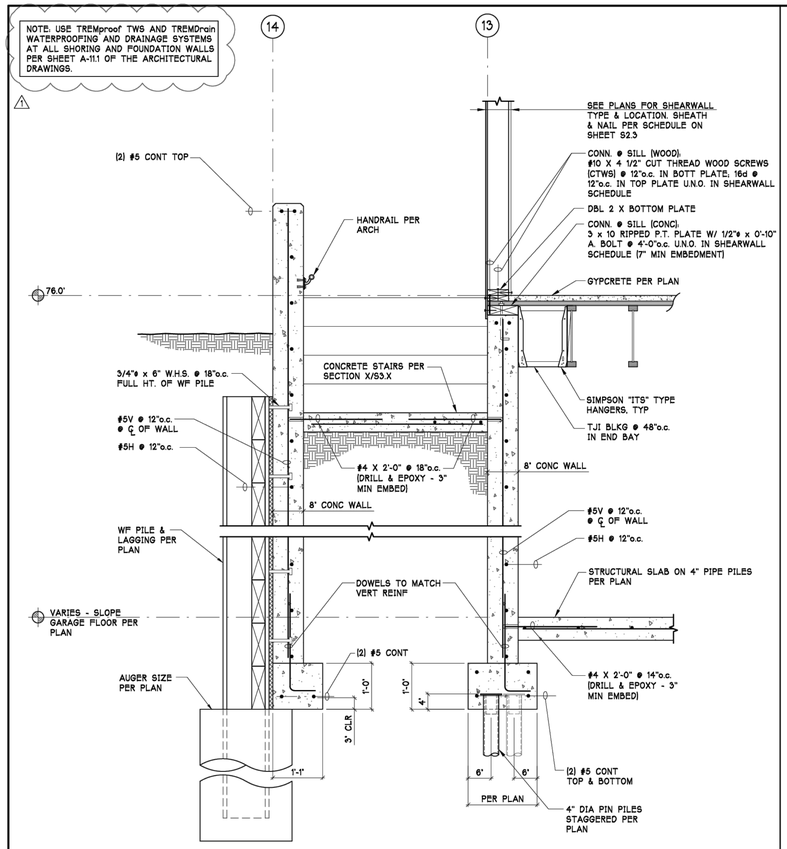
S2.3

OF

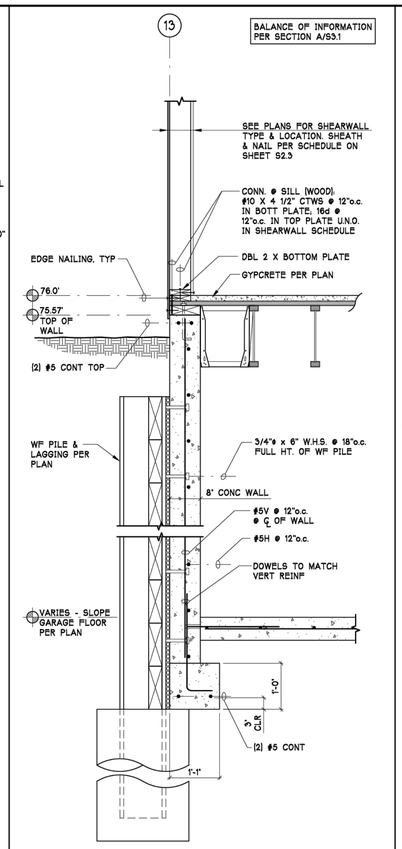
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18156-S2_i 04/10/23

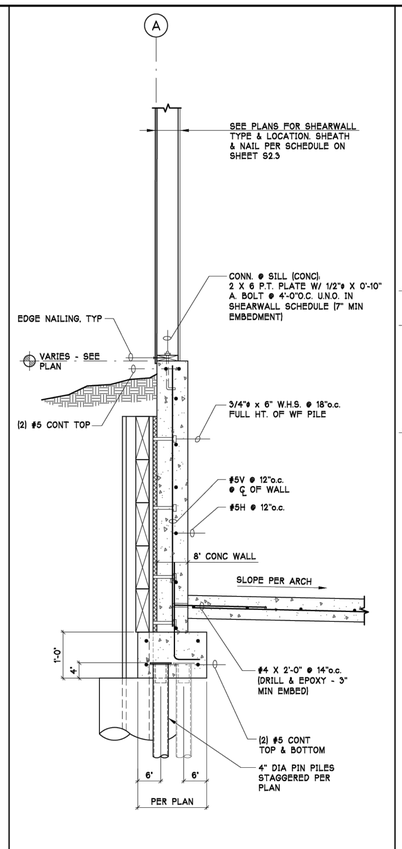
NOTE: USE TREMproof TWS AND TREMDrain WATERPROOFING AND DRAINAGE SYSTEMS AT ALL SHORING AND FOUNDATION WALLS PER SHEET A-11.1 OF THE ARCHITECTURAL DRAWINGS.



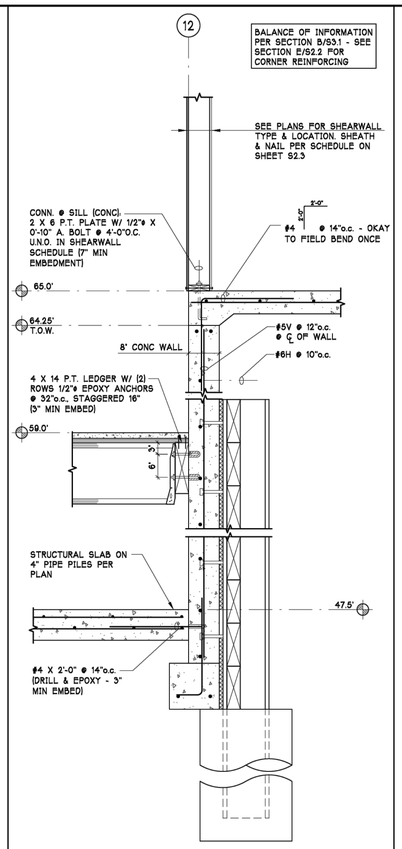
A S3.1 **SECTION** 3/4" = 1'-0"



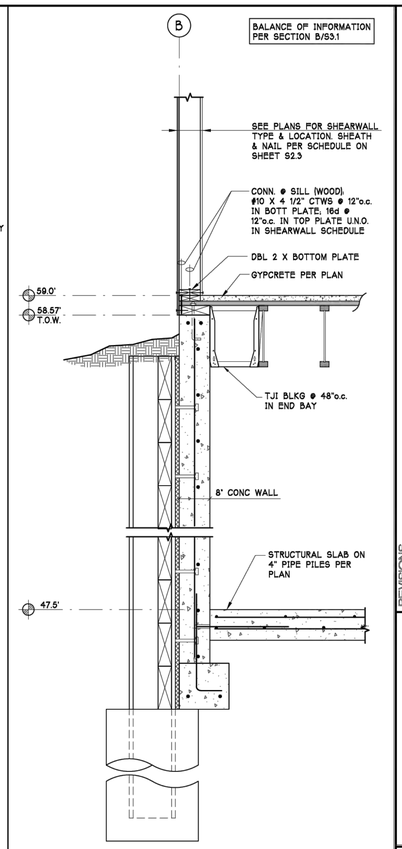
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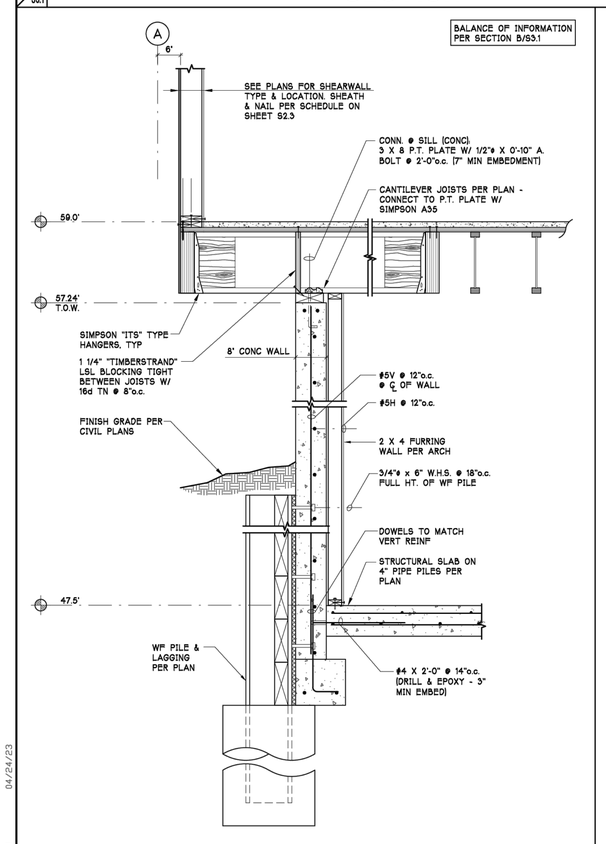
C S3.1 **SECTION** 3/4" = 1'-0"



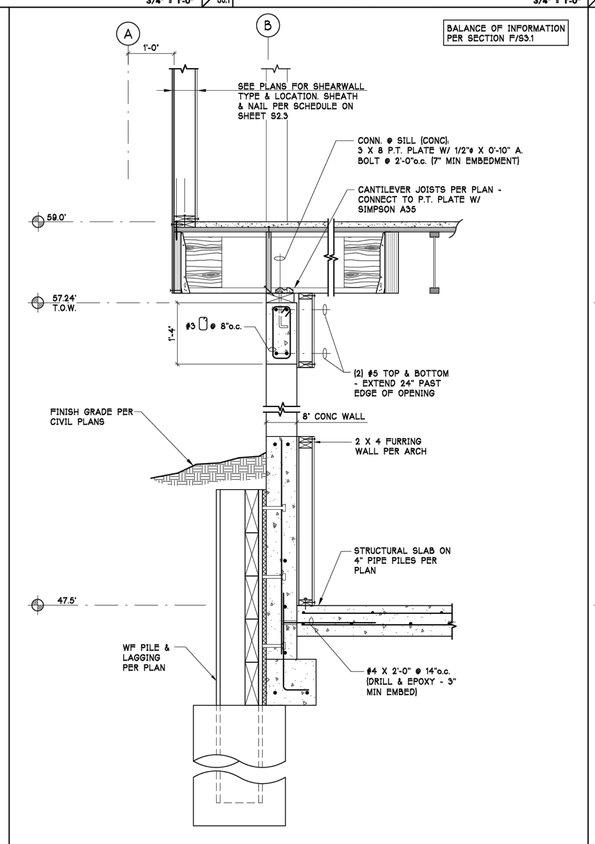
D S3.1 **SECTION** 3/4" = 1'-0"



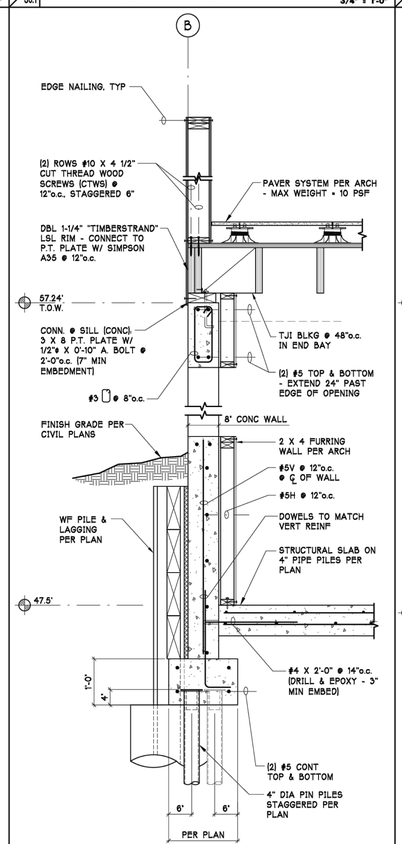
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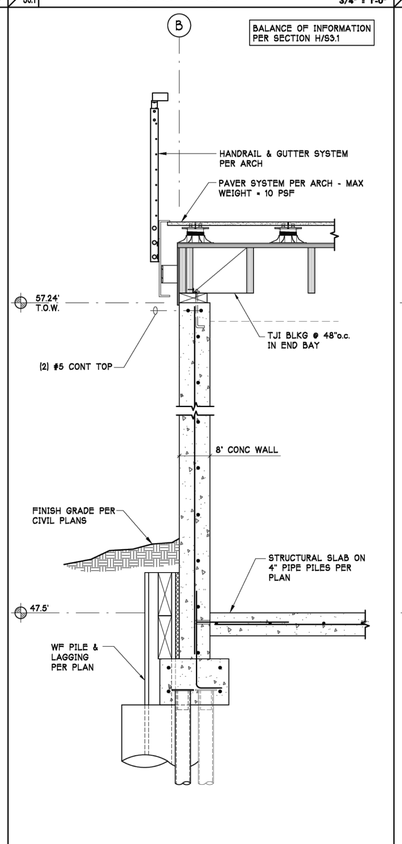
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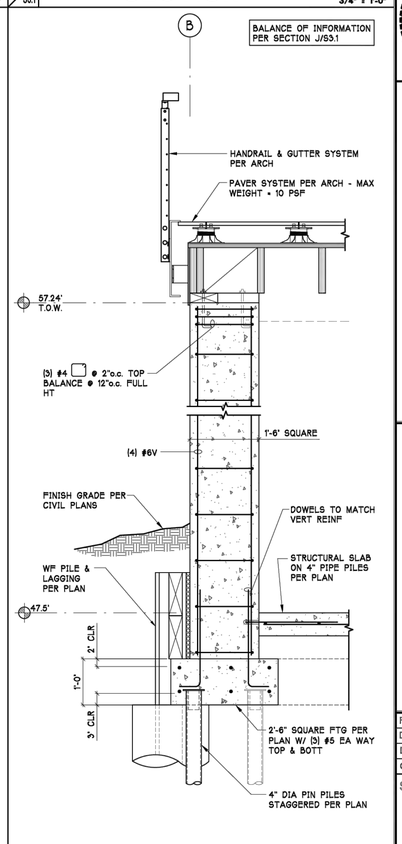
G S3.1 **SECTION** 3/4" = 1'-0"



H S3.1 **SECTION** 3/4" = 1'-0"



J S3.1 **SECTION** 3/4" = 1'-0"



K S3.1 **SECTION** 3/4" = 1'-0"

04/24/23

18156-S3_1

REVISIONS

DATE	DESCRIPTION
04/10/23	CITY OF MERCER ISLAND CN#1

B&T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-9783 (VOICE)
(425) 557-9785 (FAX)
B&T DESIGN & ENGINEERING

REGISTERED PROFESSIONAL ENGINEER - STATE OF WASHINGTON - 23328 - NEIL HRISTOVA - 10/31/2023

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040
PROJECT TITLE

FOUNDATION DETAILS
SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

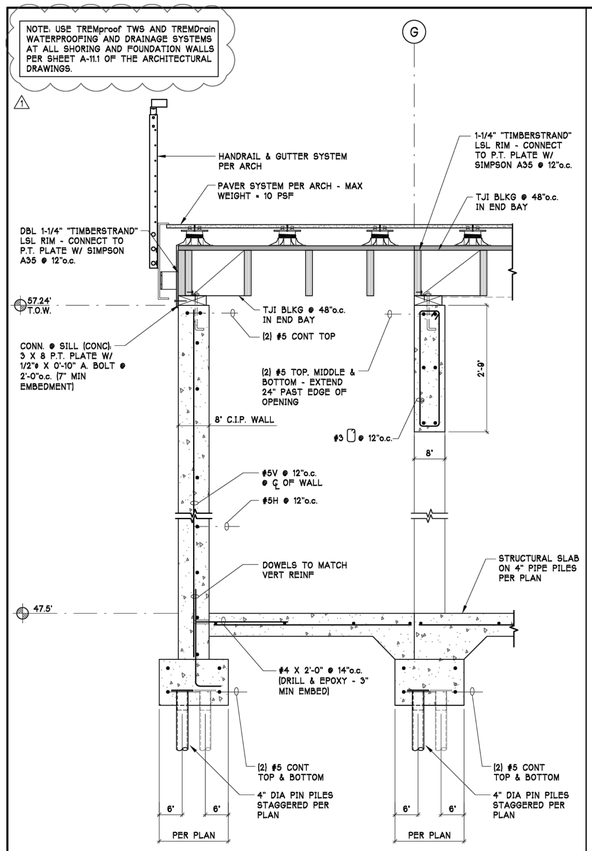
SHEET :

S3.1

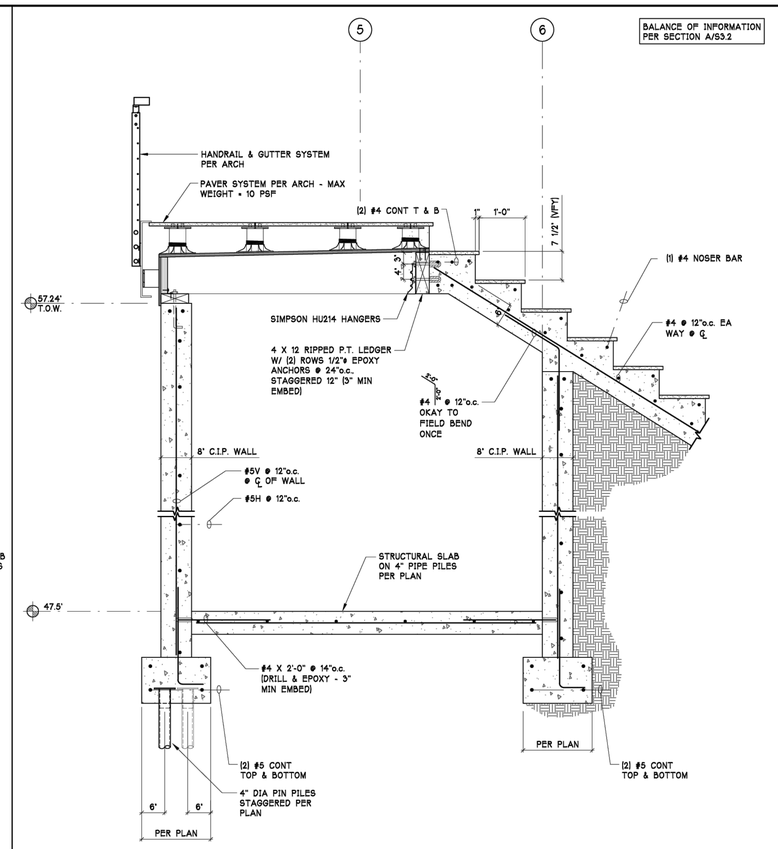
OF

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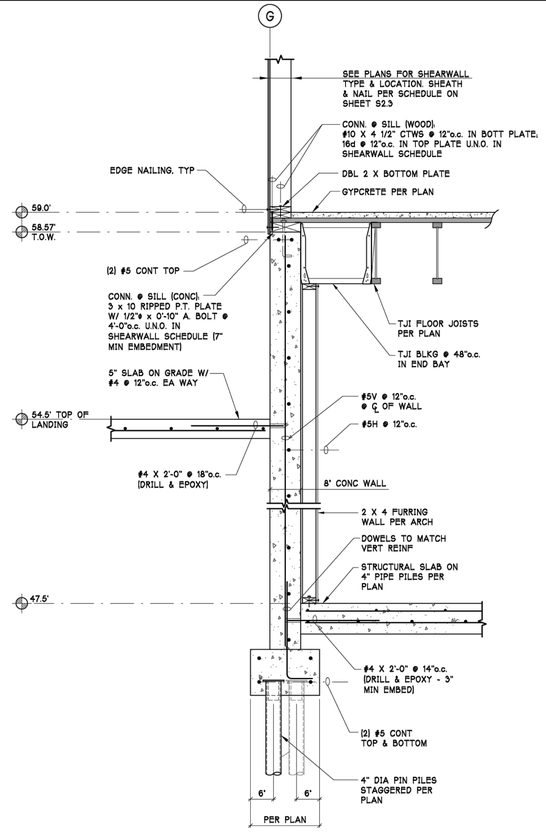
NOTE: USE TREMproof TWS AND TREMDrain WATERPROOFING AND DRAINAGE SYSTEMS AT ALL SHORING AND FOUNDATION WALLS PER SHEET A-11.1 OF THE ARCHITECTURAL DRAWINGS.



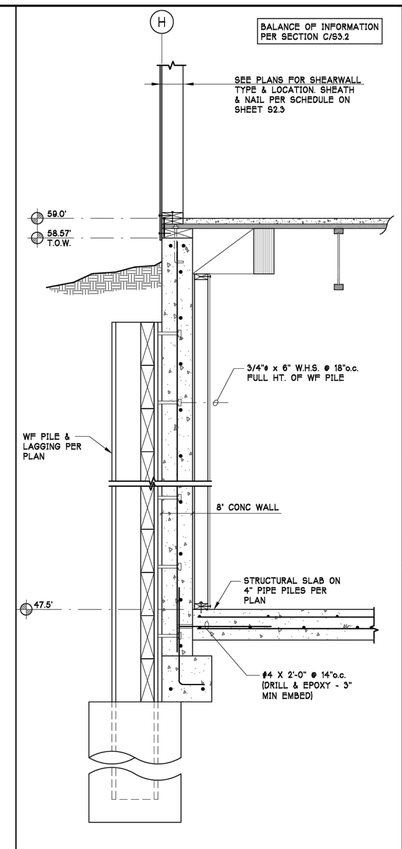
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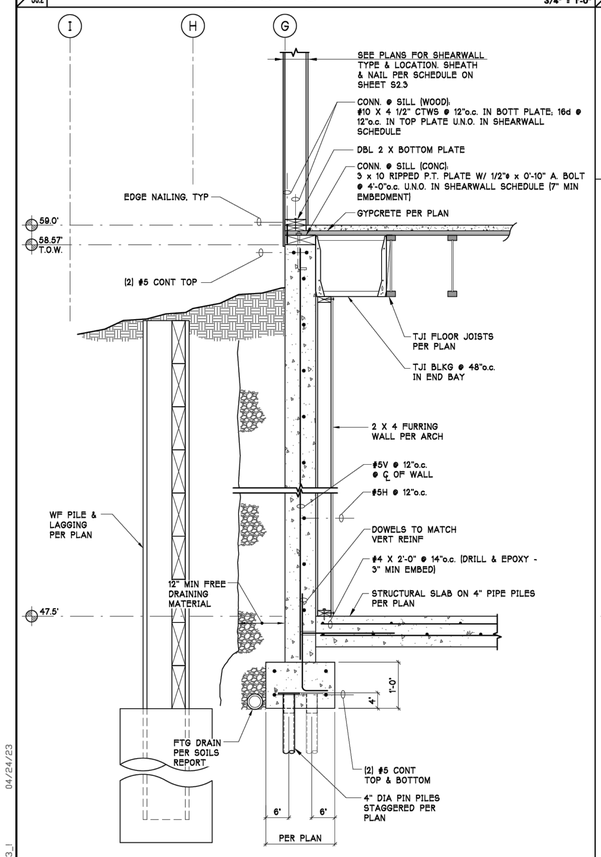
B S3.2 **SECTION** 3/4" = 1'-0"



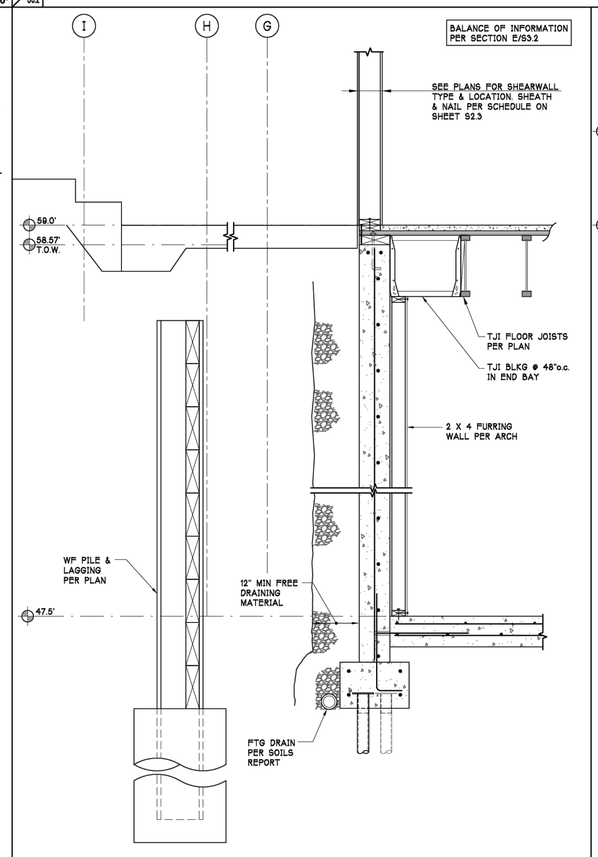
C S3.2 **SECTION** 3/4" = 1'-0"



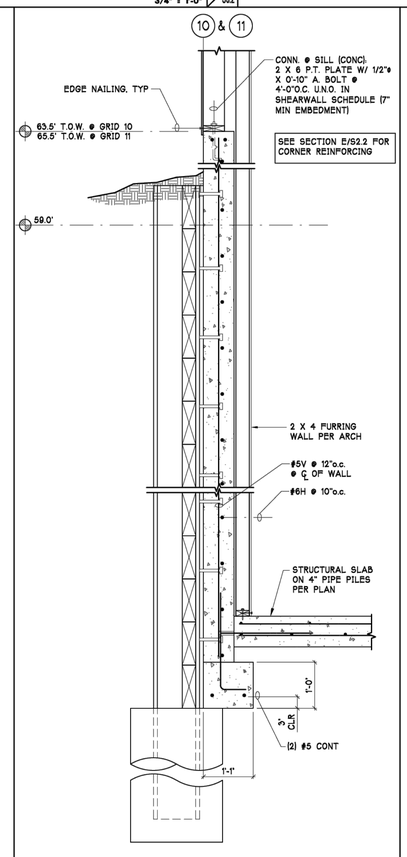
D S3.2 **SECTION** 3/4" = 1'-0"



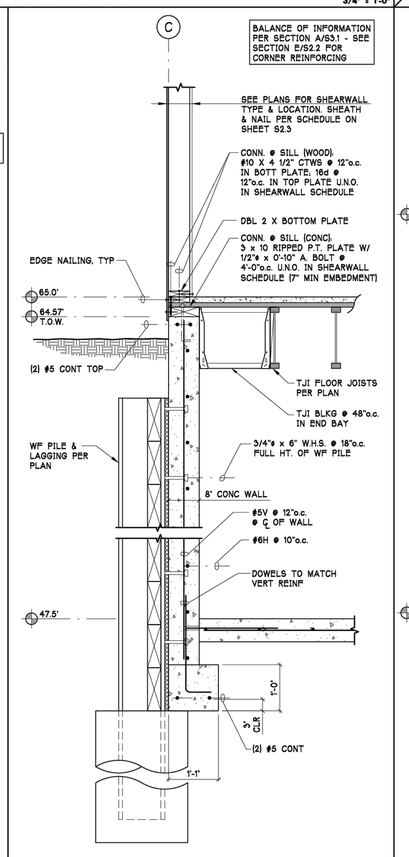
E S3.2 **SECTION** 3/4" = 1'-0"



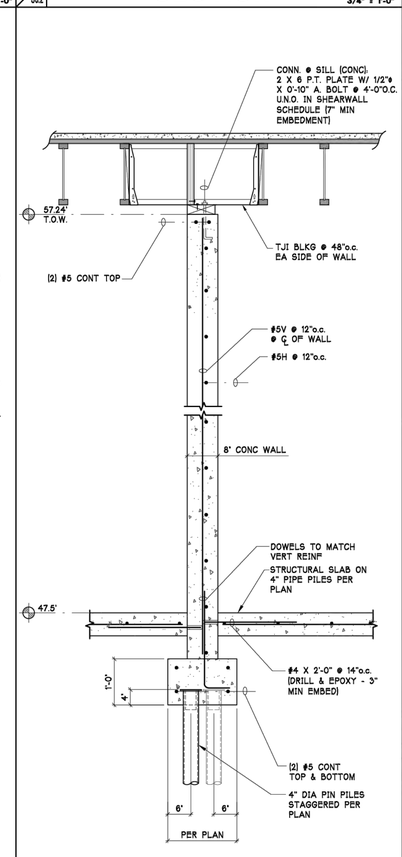
F S3.2 **SECTION** 3/4" = 1'-0"



G S3.2 **SECTION** 3/4" = 1'-0"



H S3.2 **SECTION** 3/4" = 1'-0"



J S3.2 **SECTION** 3/4" = 1'-0"

REVISIONS

DATE	DESCRIPTION
04/10/23	CITY OF MERCER ISLAND CNF

B&T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-9765 (VOICE)
(425) 557-9765 (FAX)
B&T DESIGN & ENGINEERING

REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON 23231 NEIL H. TAYLOR 2023

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040
PROJECT TITLE

FOUNDATION DETAILS
SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

SHEET :

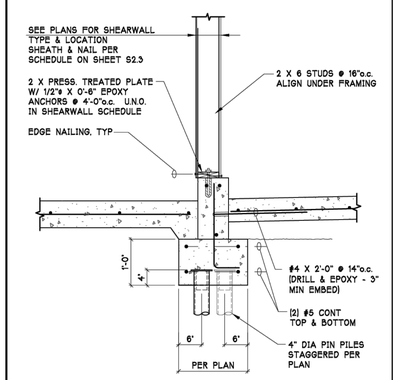
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OF

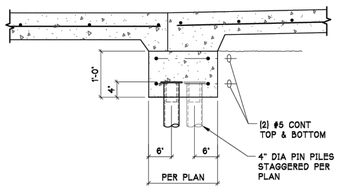
04/24/23

18156-S3_1

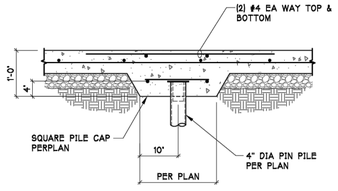
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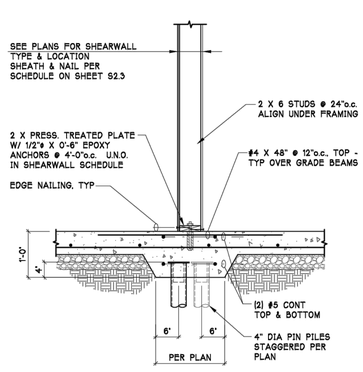
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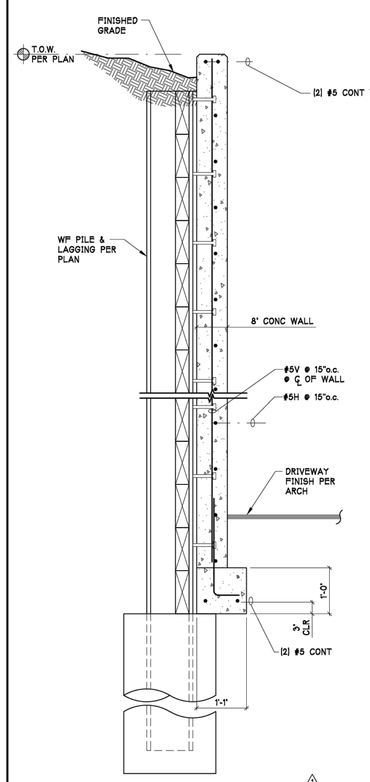
B S3.3 **SECTION** 3/4" = 1'-0"



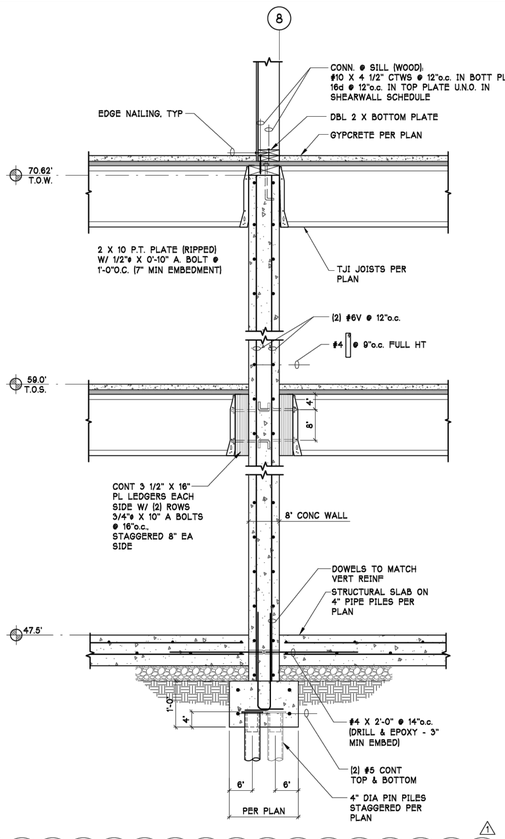
C S3.3 **SECTION** 3/4" = 1'-0"



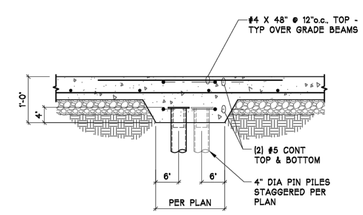
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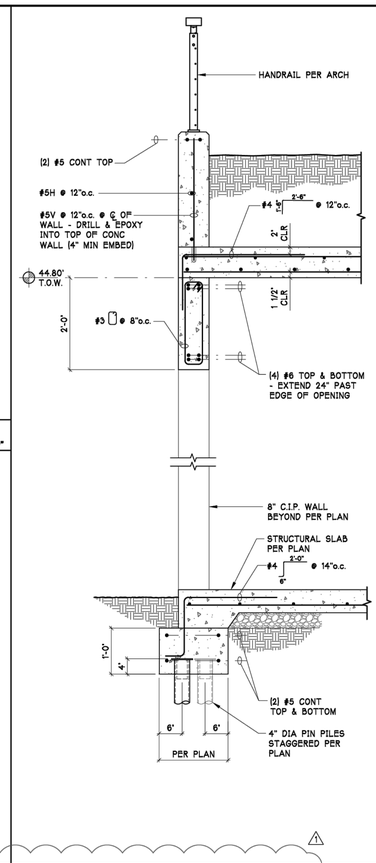
G S3.3 **SECTION** 3/4" = 1'-0"



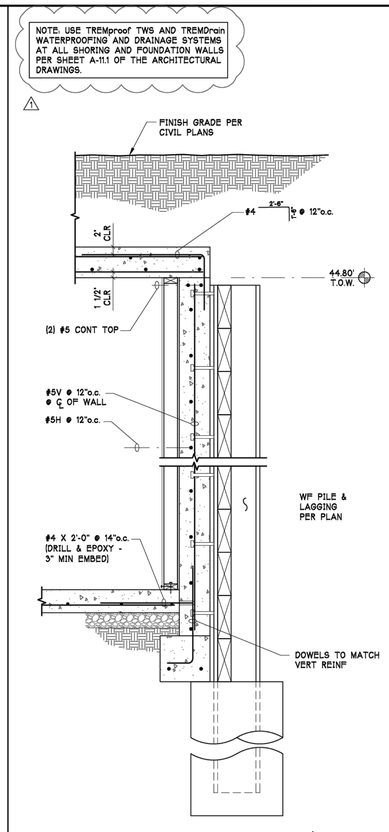
H S3.3 **SECTION** 3/4" = 1'-0"



J S3.3 **SECTION** 3/4" = 1'-0"



E S3.3 **SECTION** 3/4" = 1'-0"



F S3.3 **SECTION** 3/4" = 1'-0"

REVISIONS	
DATE	DESCRIPTION
04/10/23	CITY OF MERCER ISLAND CNF1

B&T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-9783 (VOICE)
(425) 557-9785 (FAX)
B&T DESIGN & ENGINEERING

B & T DESIGN & ENGINEERING WASHINGTON REGISTERED STRUCTURAL 20015 PROFESSIONAL ENGINEER

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT TITLE

FOUNDATION DETAILS

SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

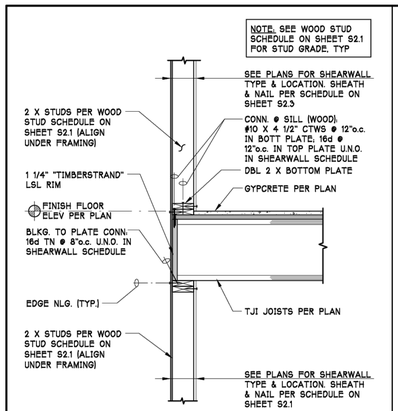
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S3.3

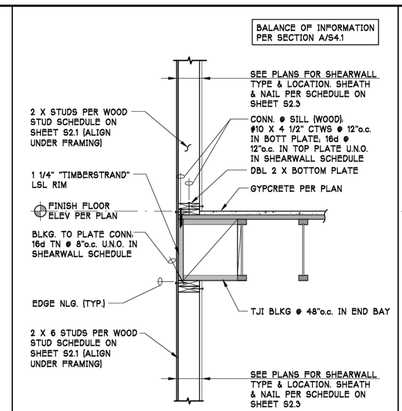
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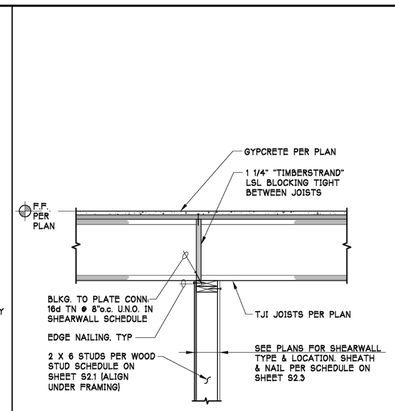
18156-S3_J 04/24/23



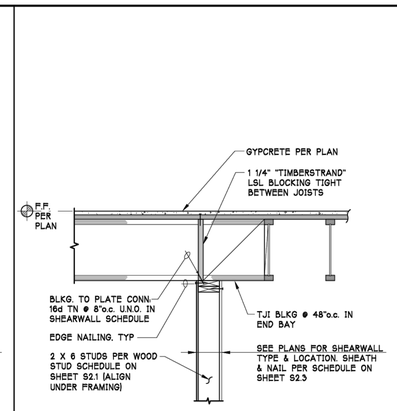
A S4.1 **SECTION** 3/4" = 1'-0"



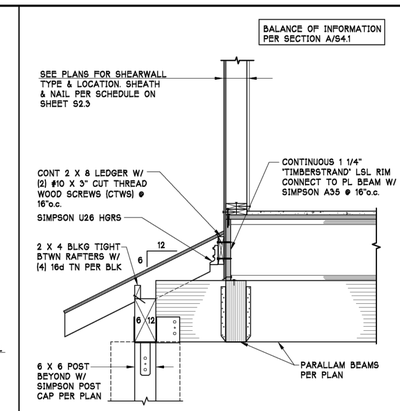
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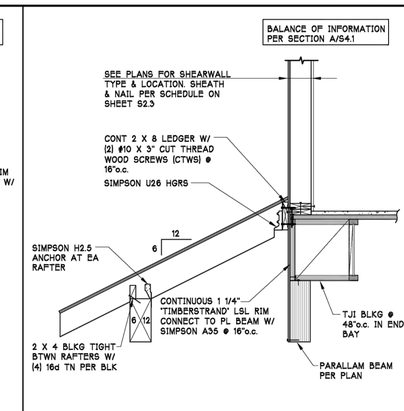
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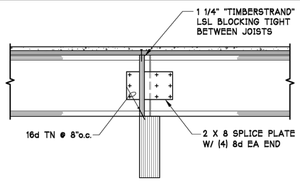
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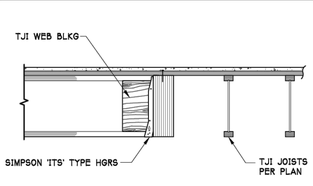
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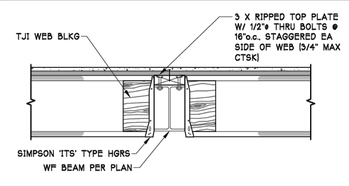
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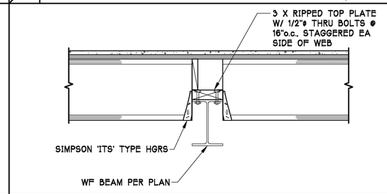
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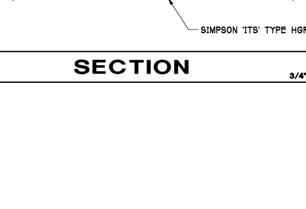
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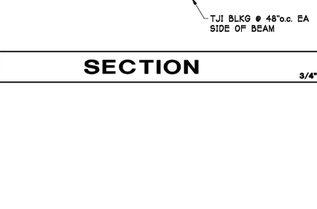
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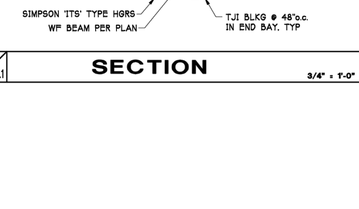
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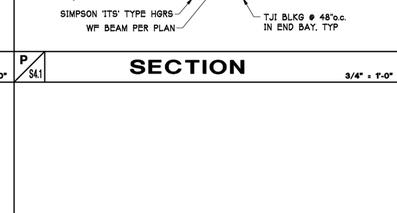
H S4.1 **SECTION** 3/4" = 1'-0"



K S4.1 **SECTION** 3/4" = 1'-0"



M S4.1 **SECTION** 3/4" = 1'-0"



P S4.1 **SECTION** 3/4" = 1'-0"

REVISIONS

DATE	DESCRIPTION
04/10/23	CITY OF MERCER ISLAND CNF1

B&T DESIGN & ENGINEERING
B & T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-9783 (VOICE)
(425) 557-9785 (FAX)



MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT TITLE

FLOOR FRAMING DETAILS

SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

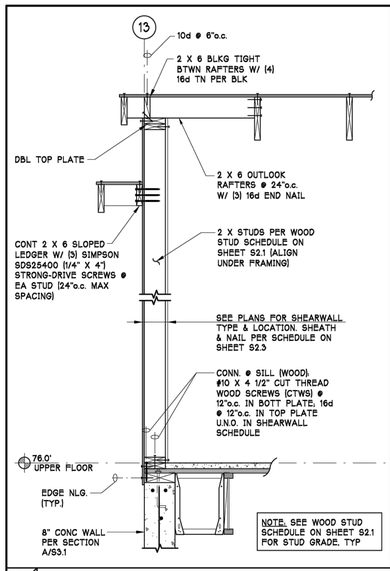
SHEET :

S4.1

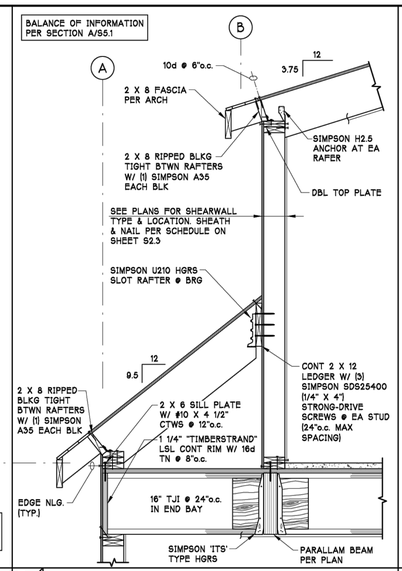
OF

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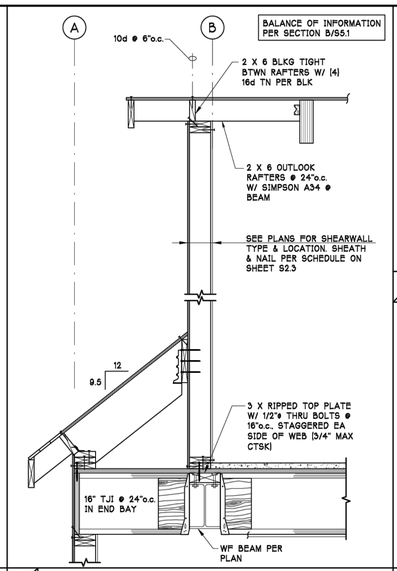
18156-S4.1 04/10/23



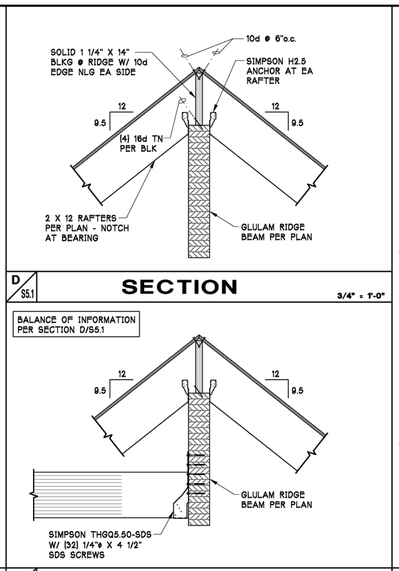
A S5.1 **SECTION** 3/4" = 1'-0"



B S5.1 **SECTION** 3/4" = 1'-0"

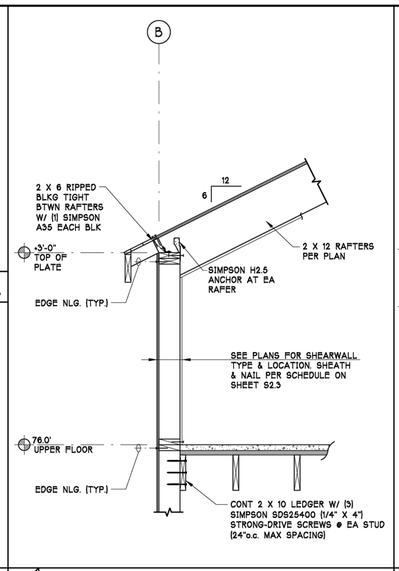


C S5.1 **SECTION** 3/4" = 1'-0"

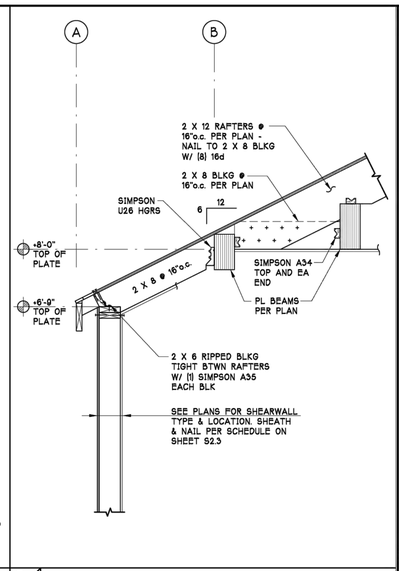


D S5.1 **SECTION** 3/4" = 1'-0"

E S5.1 **SECTION** 3/4" = 1'-0"



F S5.1 **SECTION** 3/4" = 1'-0"



G S5.1 **SECTION** 3/4" = 1'-0"

H S5.1 **SECTION** 3/4" = 1'-0"

J S5.1 **SECTION** 3/4" = 1'-0"

K S5.1 **SECTION** 3/4" = 1'-0"

L S5.1 **SECTION** 3/4" = 1'-0"

M S5.1 **SECTION** 3/4" = 1'-0"

N S5.1 **SECTION** 3/4" = 1'-0"

P S5.1 **SECTION** 3/4" = 1'-0"

Q S5.1 **SECTION** 3/4" = 1'-0"

S S5.1 **SECTION** 3/4" = 1'-0"

T S5.1 **SECTION** 3/4" = 1'-0"

U S5.1 **SECTION** 3/4" = 1'-0"

V S5.1 **SECTION** 3/4" = 1'-0"

REVISIONS		
DATE	DESCRIPTION	DATE
04/10/23	CITY OF MERCER ISLAND CN#1	

B&T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-9783 (VOICE)
(425) 557-9785 (FAX)
B&T DESIGN & ENGINEERING

B & T DESIGN & ENGINEERING, INC. REGISTERED PROFESSIONAL ENGINEERS STATE OF WASHINGTON 28915

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040
PROJECT TITLE

ROOF
FRAMING DETAILS
SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHKD.	TB

SHEET :

S5.1

OF

04/10/23

18156-S5_1

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PLAN NOTES: (SHORING)

1. ⊥ INDICATES AUGERCAST WF SOLDIER PILE - "SPX" INDICATES TYPE. SEE SCHEDULE ON THIS SHEET FOR BALANCE OF INFORMATION.
2. ▭ INDICATES 4 X 12 DF#2 LAGGING.

PLAN NOTES: (FDN)

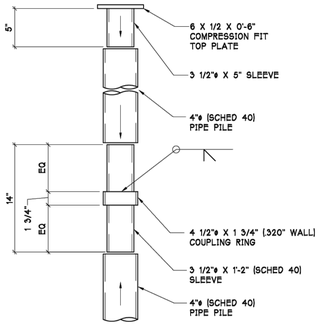
1. ● INDICATES 4-INCH DIAMETER SCHEDULE 40 PIPE PILE.

SOLDIER PILE SCHEDULE

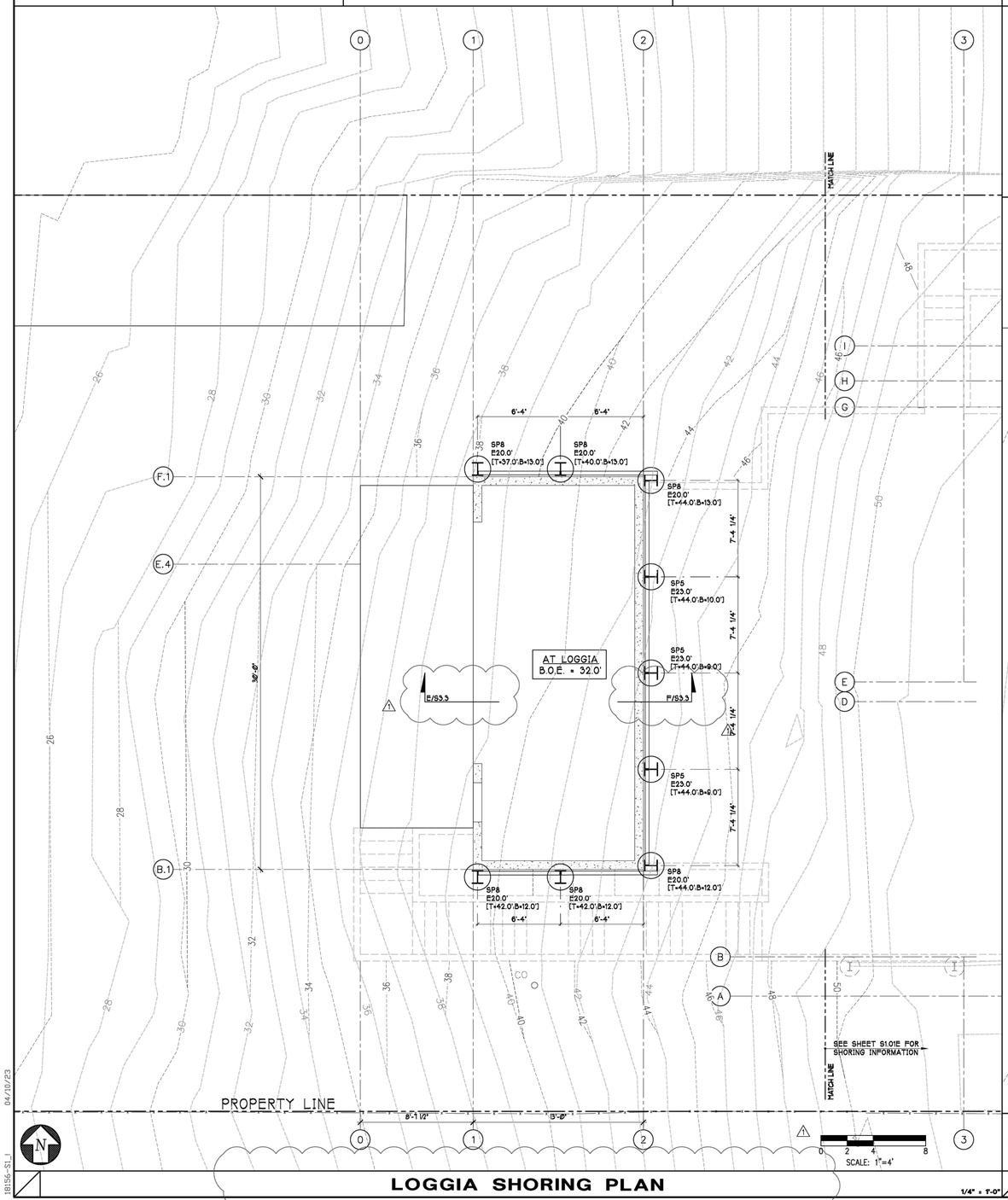
MARK	AUGER SIZE (IN)	MEMBER SIZE	REQ'D EMBEDMENT (FT)	TOTAL COUNT
SP0	30"	W18 X 158	30'	
SP1	30"	W18 X 130	28'	
SP2	30"	W18 X 106	26'	
SP3	30"	W18 X 76	24'	
SP4	24"	W12 X 87	24'	
SP5	24"	W12 X 72	23'	
SP6	24"	W12 X 65	22'	
SP7	24"	W12 X 58	20'	
SP8	24"	W12 X 53	20'	
SP9	24"	W12 X 35	17'	
SP10	18"	W8 X 24	18'	
SP11	18"	W8 X 15	18'	

NOTES:

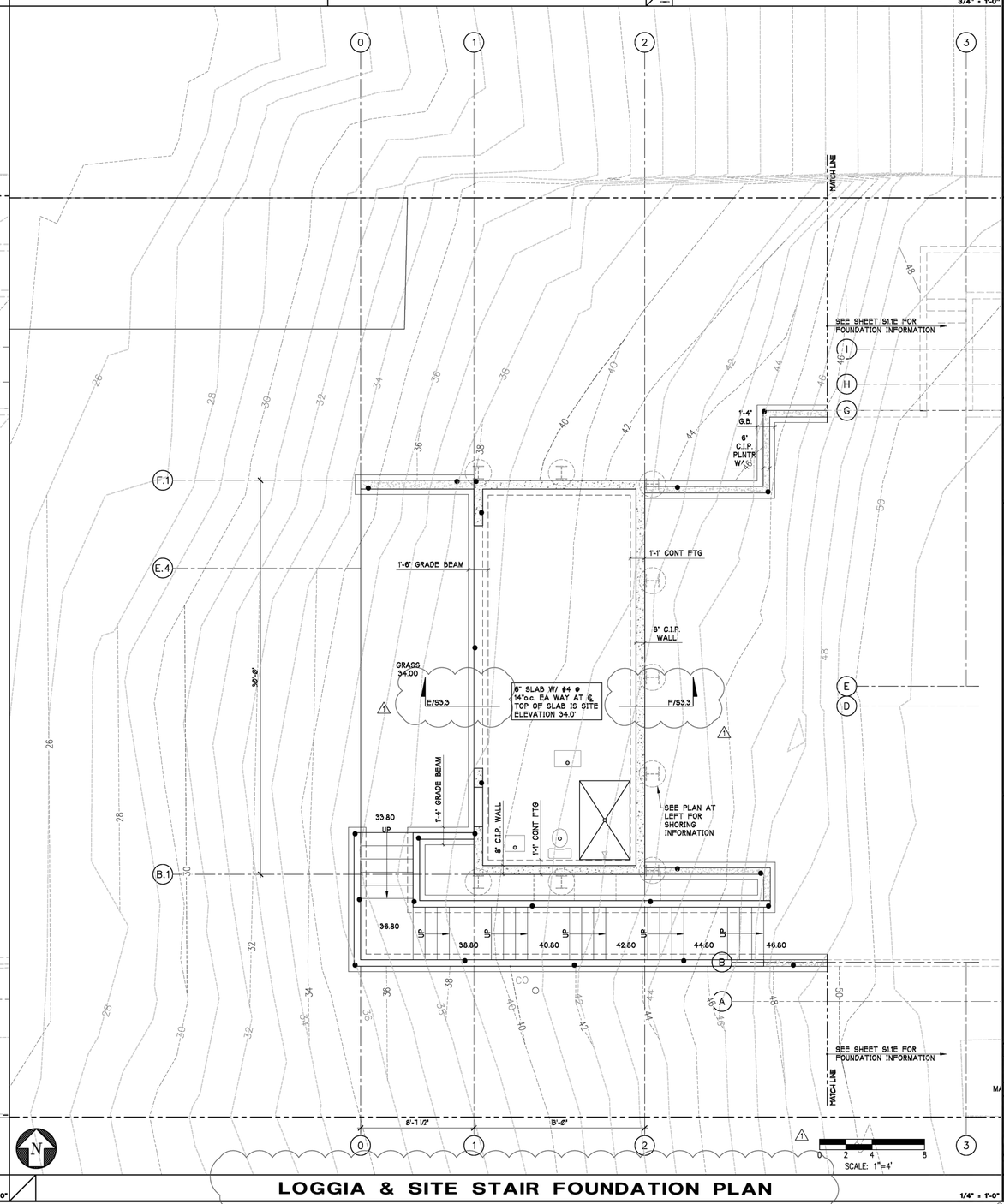
1. [T+[XX.X']B+XX.X'] INDICATES SITE GRADE AT TOP OF PILE/BOTTOM OF PILE.
2. EXX.X' INDICATES MINIMUM REQUIRED EMBEDMENT DEPTH OF PILE BELOW BOTTOM OF EXCAVATION.



A — TYP 4" PIPE PILE ASSEMBLY — 3/4" = 1'-0"



LOGGIA SHORING PLAN — 1/4" = 1'-0"



LOGGIA & SITE STAIR FOUNDATION PLAN — 1/4" = 1'-0"

REVISIONS		
DATE	DESCRIPTION	
02/04/21	ADDED PILE DIMENSIONS	
04/10/23	CITY OF MERCER ISLAND CMI#1	1

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250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-9780 (PHONE)
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B&T DESIGN & ENGINEERING

STATE OF WASHINGTON — TIMOTHY BERNARD BOYLE — 23665 — PROFESSIONAL ENGINEER

MURRAY RESIDENCE
4603 FOREST AVE SE
MERCER ISLAND, WA 98040
PROJECT TITLE

LOGGIA
SHORING PLAN &
FOUNDATION PLAN
SHEET TITLE

PROJECT	18156
DATE	03/29/21
DRAWN	NH
CHK'D.	TB

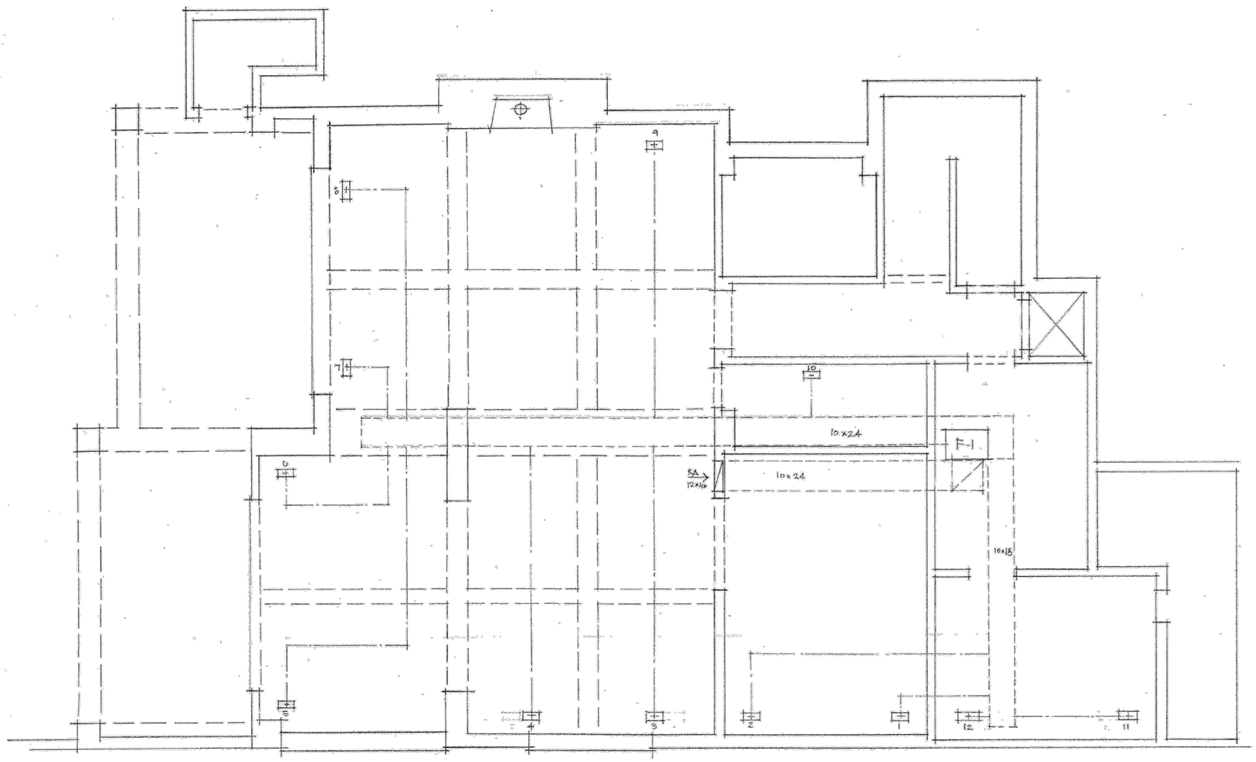
SHEET : S1.0W

OF

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04/10/23

18156-S1.dwg



BASEMENT - MECHANICAL

RF ARCHITECTURE
PH: (253) 359-4039
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7421 214TH AVE E BONNEYLAKE, WA 98391

6080
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RICHARD W. FLAKE
STATE OF WASHINGTON

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NEW SINGLE FAMILY RESIDENCE
4805 MERCER ISLAND DR.
MERCER ISLAND, WA 98040

DESIGN:
RWF

DRAWN:
HAVILAND CONSULTING

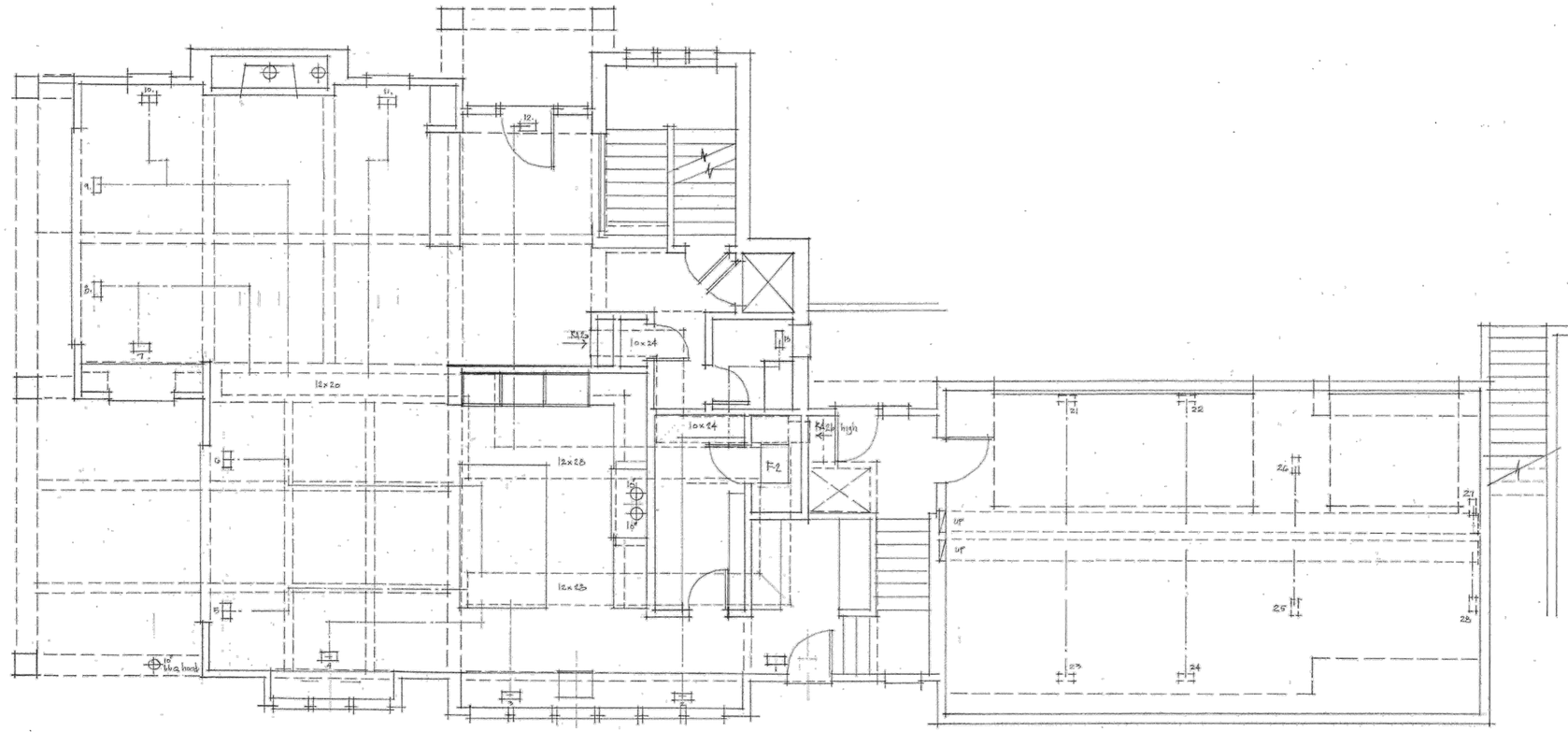
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RWF

REVISIONS:

1 PER CITY REVIEW
10.22.2021
REVISIONS

APRIL 28, 2023

M-2.1



MAIN FLR - MECHANICAL

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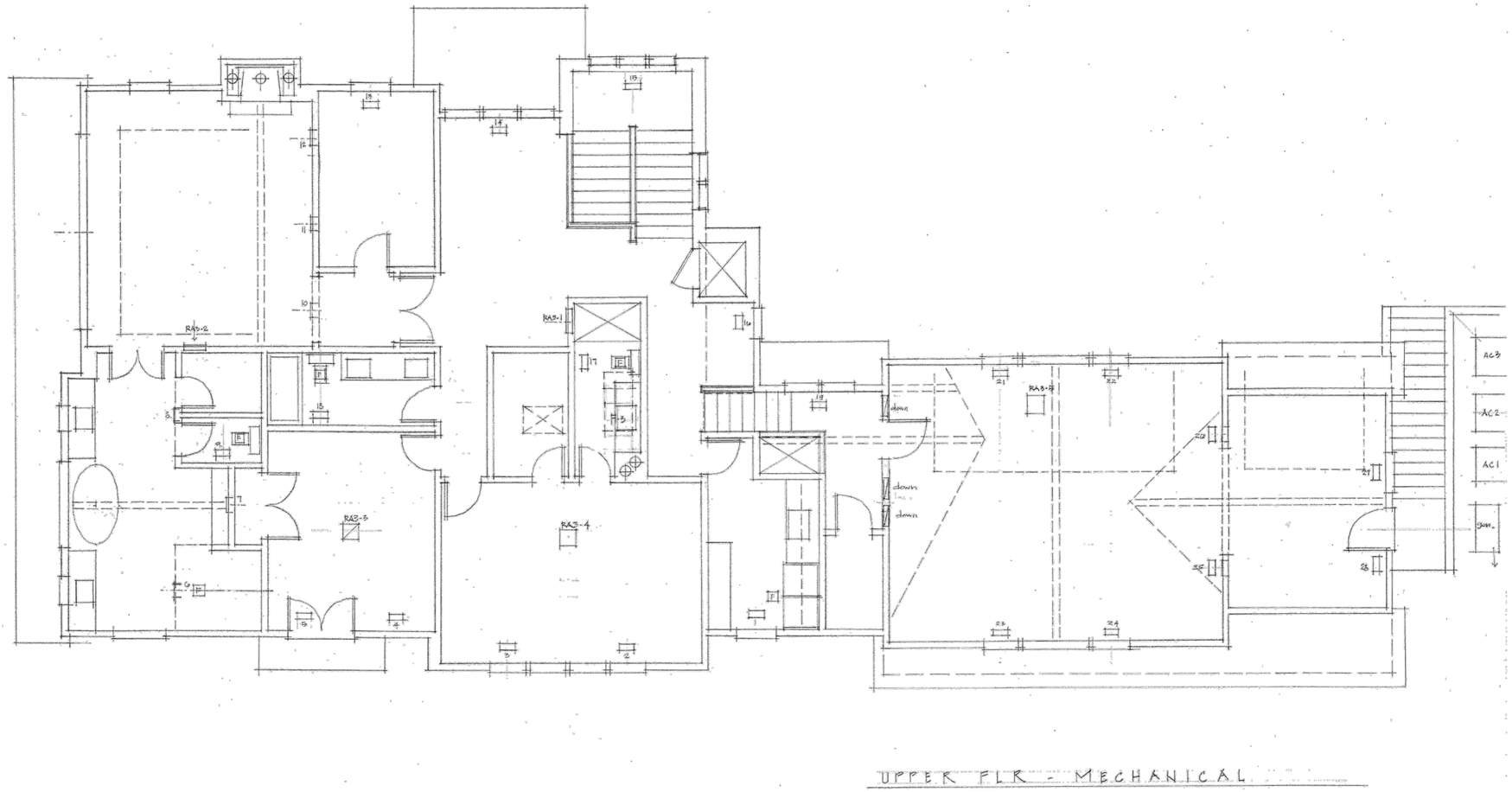
MURRAY RESIDENCE

NEW SINGLE FAMILY RESIDENCE
4804 MERCER ISLAND, WA 98040

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:
PER CITY REVIEW 10.27.2023
REVISIONS

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M-3.1



UPPER FLR - MECHANICAL

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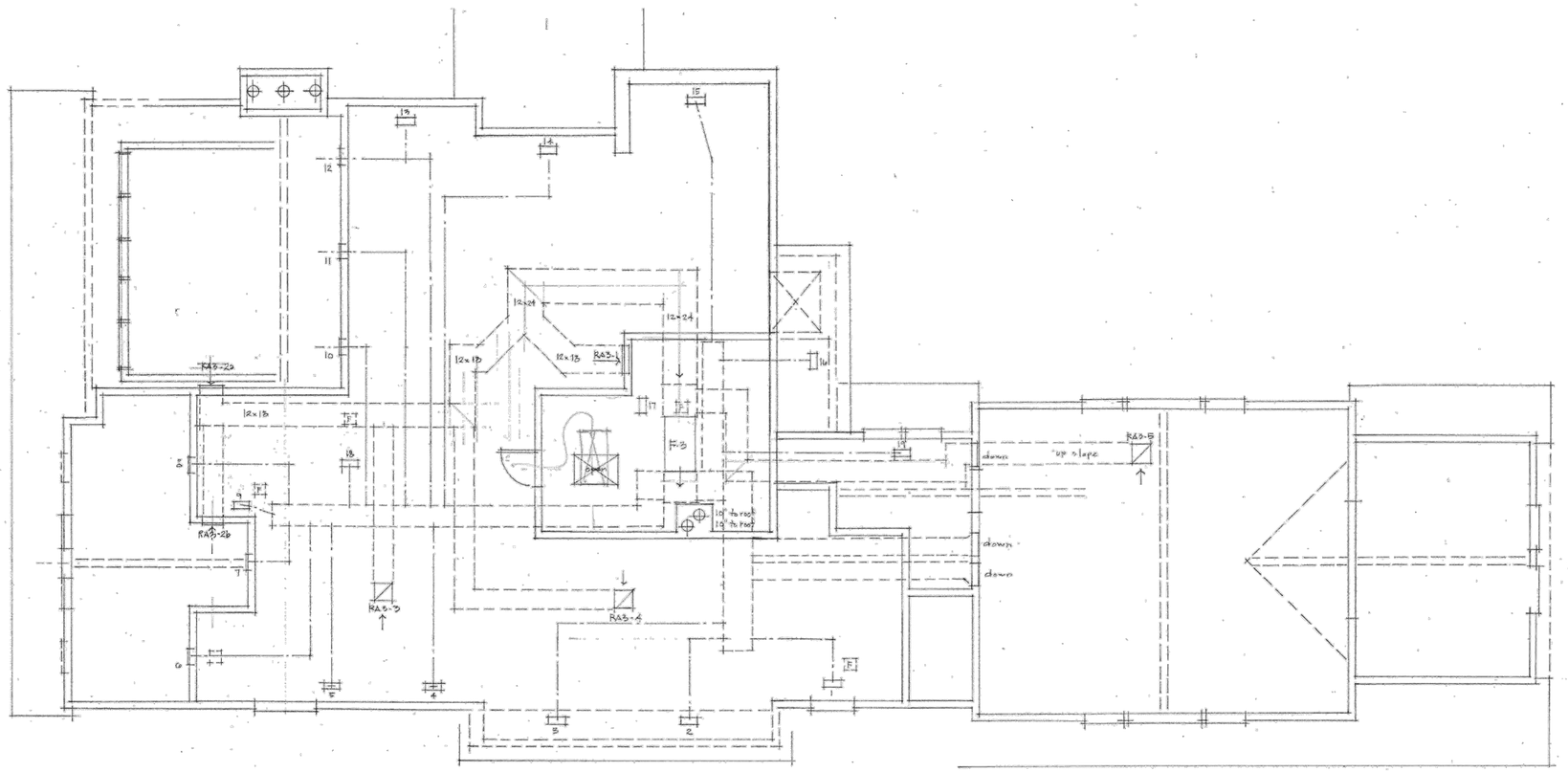
NEW SINGLE FAMILY RESIDENCE
4+ BEDROOMS FOR ISLAND
MERCER ISLAND, WA 98040

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:

1 PER CITY REVIEW 10.22.2021
REVISIONS

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M-4.1



ATTIC - MECHANICAL

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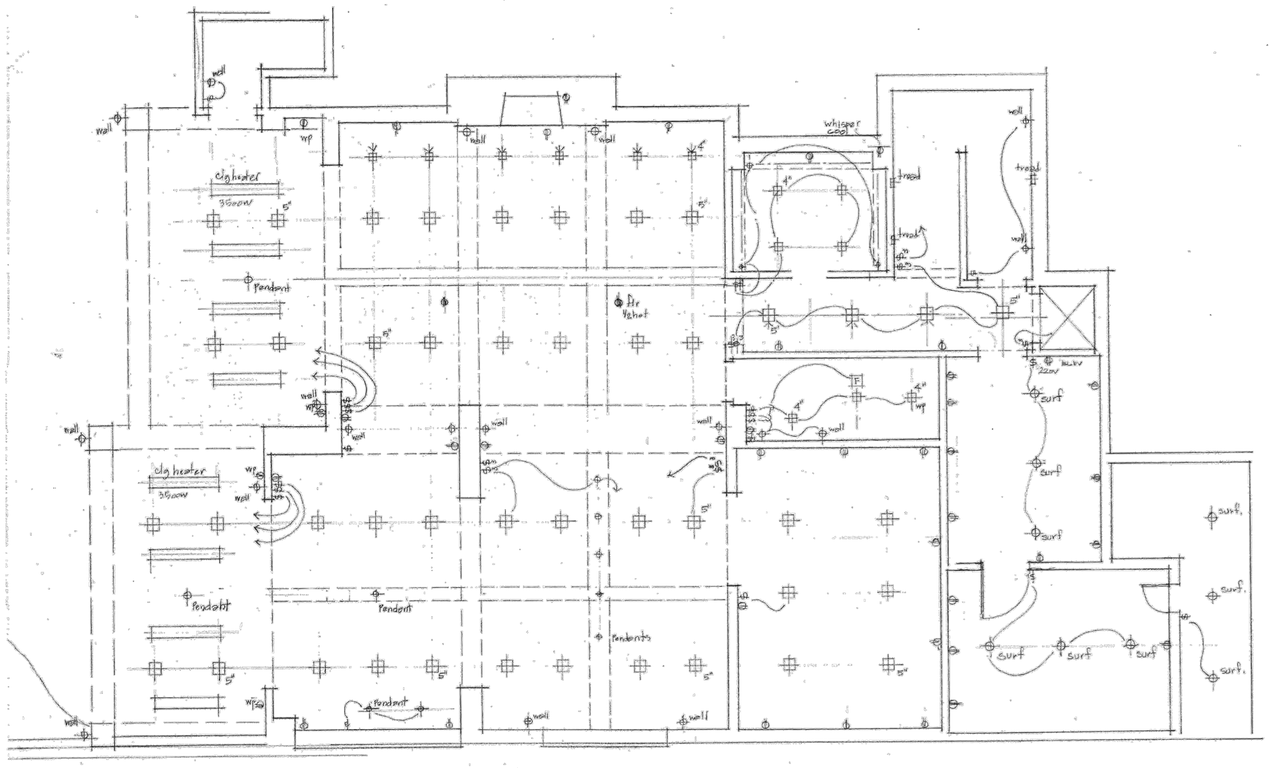
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NEW SINGLE FAMILY RESIDENCE
8600 SE 36TH ST. MERCER ISLAND, WA 98040

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CHECKED: RWF
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△ PER CITY REVIEW 10.22.2021
REVISIONS

APRIL 28, 2023

M-5.1



BASEMENT - LIGHTING & ELEC

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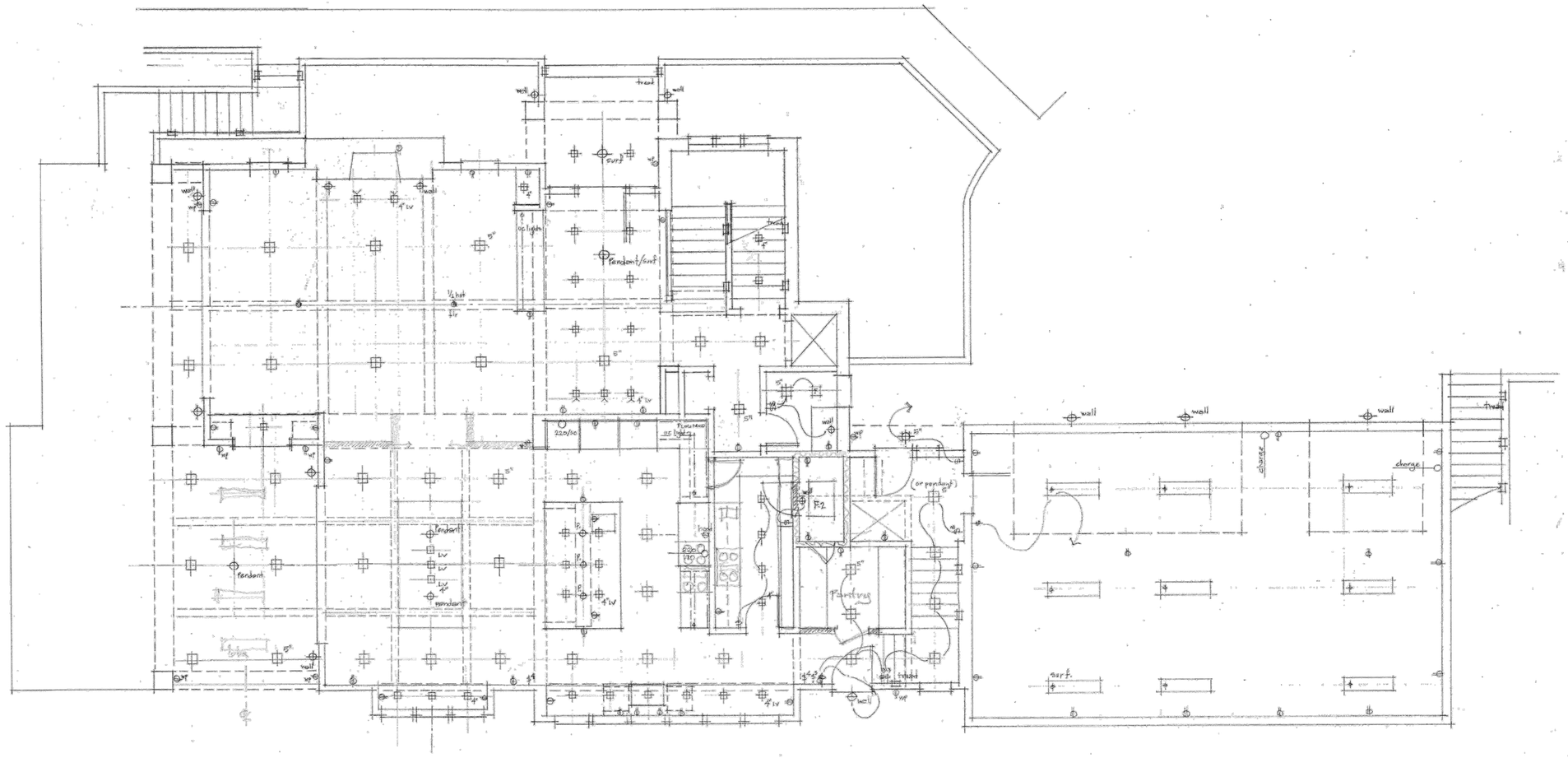
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NEW SINGLE FAMILY RESIDENCE
MERCER ISLAND, WA 98040

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
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REVISIONS:
1 PER CITY REVIEW 10.22.2021
REVISIONS

APRIL 28, 2023

E-3.1



MAIN FLR - LIGHTING & ELEC

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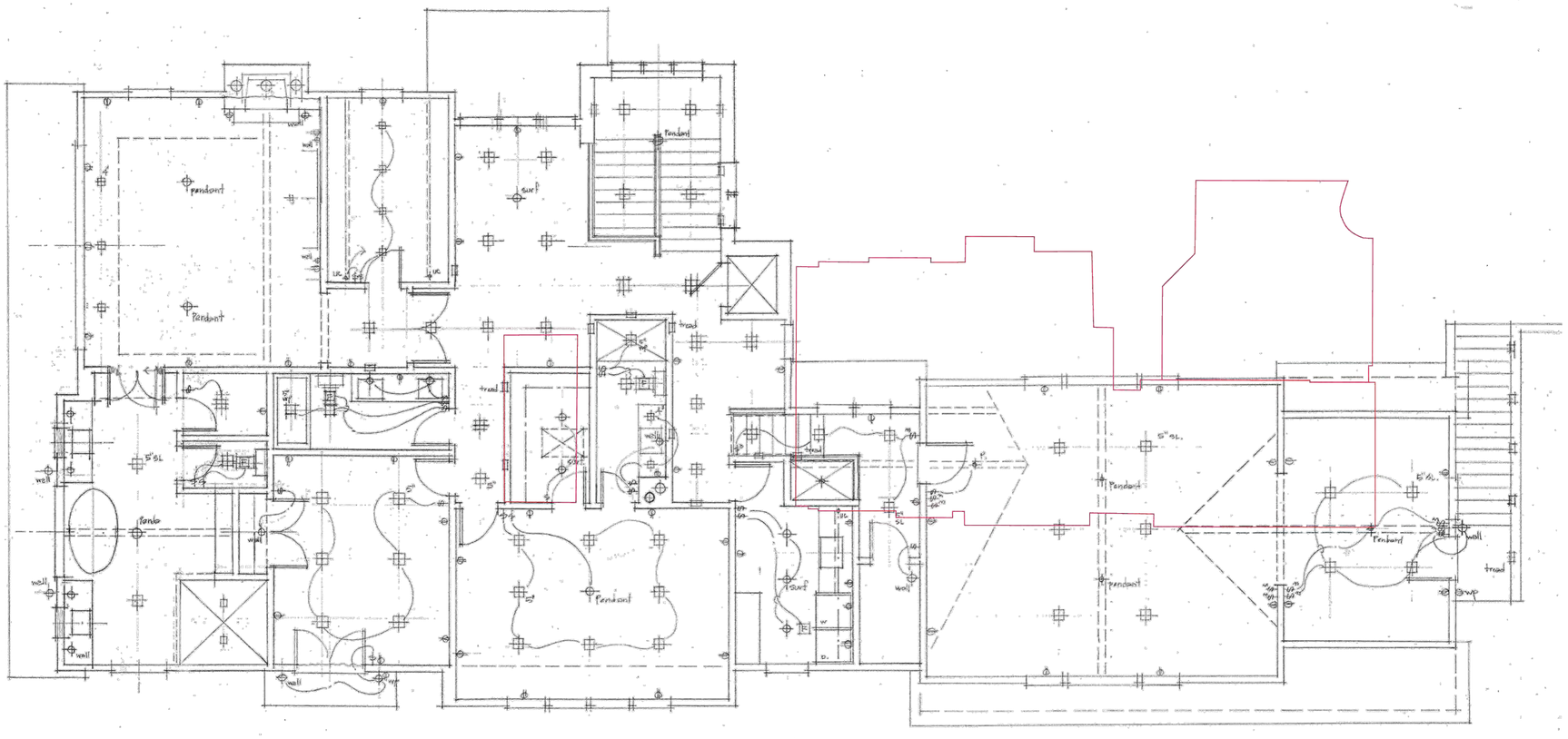
NEW SINGLE FAMILY RESIDENCE
4805 MERCER ISLAND DR. E. WA 98040

DESIGN: RWF
DRAWN: HAVILAND CONSULTING
CHECKED: RWF
REVISIONS:

PER CITY REVIEW
10.22.2021
REVISIONS

APRIL 28, 2023

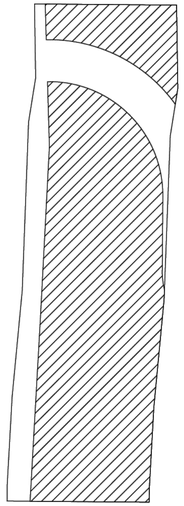
E-4.1


Pendant
Pendant
Pendant
Pendant
Pendant
Pendant
Pendant
Pendant
Pendant
Pendant
Pendant
wall
wall
wall

SHORELINE NATIVE PLANTING DIAGRAM

TOTAL SHORELINE AREA*	1403 SF
75% REQUIRED NATIVE PLANTING AREA	1052 SF
PROPOSED NATIVE PLANTING AREA	1069 SF

*SHORELINE AREA DEFINED AS AREA BETWEEN ORDINARY HIGH WATER MARK (OHWM) AND 20' SETBACK FROM OHWM.



EXISTING TREES LEGEND

- TREES TO BE REMOVED - SEE ARBORIST REPORT & TOPOGRAPHIC BOUNDARY SURVEY
- TREES TO REMAIN AND PROTECT

TREE PROTECTION NOTES

1. TREE PROTECTION FENCING SHALL CONSIST OF 6' TALL CHAIN-LINK FENCING, SECURELY STAKED INTO PLACE.
2. TREE PROTECTION ZONE SIGNAGE, PER MERCER ISLAND CODE SHALL BE POSTED EVERY TEN FEET (10') ALONG THE FENCE PERIMETER AND SHALL BE MADE TO BE WEATHER RESISTANT.
3. TREE PROTECTION FENCING SHALL BE PLACED AT AN 18' RADIUS FROM TREE #287 AS SHALL DETAILED ON THE SITE PLAN SO AS TO LEAVE NO QUESTION ABOUT THE LOCATION OF THE TREE PROTECTION FENCING.
4. INVASIVE OR NON-NATIVE SPECIES SHALL BE REMOVED, BY THE USE OF HAND TOOLS, WITHIN THE TREE PROTECTION ZONE.
5. BARE SOILS INSIDE THE TREE PROTECTION ZONE SHOULD BE COVERED WITH ARBORIST CHIPS OR A COMMERCIAL MULCH MATERIAL, TO A DEPTH OF 3".
6. NO PRUNING OF LIMBS SHOULD BE NECESSARY FOR BUILDING CLEARANCE OR CONSTRUCTION AREA ACCESS. IF LIMBS DO NEED TO BE TRIMMED, THIS WORK SHALL BE DONE UNDER THE SUPERVISION OF A PROFESSIONAL TREE PERSON.
7. ANY EXCAVATION NEAR THE TREE PROTECTION ZONE (WITHIN 2') SHALL HAVE AN ARBORIST ONSITE TO MONITOR ROOTS THAT MIGHT BE EXPOSED. ANY ROOTS THAT NEED TO BE SEVERED SHALL BE FIRST ASSESSED BY THE ONSITE ARBORIST AND THEN SHALL BE PRUNED USING THOSE METHODS AND PRACTICES AS DETAILED IN ANSI STANDARD A300 (PART 8)-2013 ROOT MANAGEMENT.
8. MITIGATION WILL LIKELY INCLUDE REPLANTING OF UNDERSTORY NATIVE SHRUBS AND GROUNDCOVERS.

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	CAL
	AC	6	ACER CIRCINATUM VINE MAPLE	1.5" CAL.
	AM	1	ACER MACROPHYLLUM BIG LEAF MAPLE	1.5" CAL.
	AS	1	ARBUTUS UNEDO STRAWBERRY TREE	1.5" CAL.
	CD	3	CALOCEDRUS DECURRENS INCENSE CEDAR	6` HT MIN
	PE	6	PRUNUS EMARGINATA BITTER CHERRY	1.5" CAL.
	RP	3	RHAMNUS PURSHIANA CASCARA	1.5" CAL.

SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
	CR	13	CORNUS SERICEA RED TWIG DOGWOOD	2 GAL
	DT	48	DESCHAMPSIA CESPITOSA TUFTED HAIR GRASS	1 GAL
	HD	4	HOLODISCUS DISCOLOR OCEAN-SPRAY	5 GAL
	PM	13	POLYSTICHUM MUNITUM WESTERN SWORD FERN	1 GAL
	SA	6	SYMPHORICARPOS ALBUS COMMON WHITE SNOWBERRY	2 GAL

GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	AU	87	ARCTOSTAPHYLOS UVA-URSI KINNIKINNICK	4"POT

Name: Murray
project 4803 Forest Ave SE

Assessment date: June 2019
Revised: December 15, 2020

Thomas QuigleyName: Murray project ISA certified arborist PN0655A4803 Forest Ave SE

	Species	DBH"	Drpln rad'	Cndtn	Remarks	Designation	Rm	RTN	Mitigation
	On-site Trees								
287	Acer macrophyllum, Big leaf maple	34"	24' south	Good	Tree root collar is located 4-5' below existing/proposed grade	Exceptional		X	
290	Calocedrus decurrens. Incense cedar	16"	10' radius	Excellent	To be removed	Large	X		2
292	Acer macrophyllum, Big leaf maple	11"	12' south	Fair	Located 5' from BLM stump with Kretzmaria fungii. Leans 5% south.	Large	X		2
293	Acer macrophyllum, Big leaf maple	7"	5' south, 0' north	Good	4", 2", 5" equlas 6.7" DBH. Shared canopy. Leans 5% south	Non-reg			Non-reg
294	Acer macrophyllum, Big leaf maple	13"	18' south	Fair	Tree leans south so canopy is unusually heavy to the south.	Large	X		2
295	Acer macrophyllum, Big leaf maple	17"	0' south	Good	Shared canopy with other more dominant trees.	Large	X		2
296	Acer macrophyllum, Big leaf maple	15"	8' south	Fair	Dead stem and limbs, low vigor	Large	X		2
297	Acer macrophyllum, Big leaf maple	9"	18' south	Good	To be removed	Non-reg			Non-reg
298	Acer macrophyllum, Big leaf maple	12.5"	18' south	Good	no canopy coverage to the north, to be removed	Large	X		2
744	Acer macrophyllum, Big leaf maple	19"	15'	Excellent	Out of proposed construction area, tree protection from nearby, off-site construction	Large		X	
745	Thuja plicata, Western red cedar	19", 11"	15' south	Fair	Out of proposed construction area.	Large		X	
746	Acer macrophyllum, Big leaf maple	36"+	18' SW	Fair	Decay column. Out of proposed construction area.	Exceptional		X	
748	Acer macrophyllum, Big leaf maple	22"	0' north 20' south	Fair	Out of proposed construction area.	Large		X	
750	Prunus, plum?	7"	6'	Fair	under canopy of nearby Tree 744	Non-reg			Non-reg
751	Acer macrophyllum, Big leaf maple	36"+	' south 15' w	Fair	Canopy slightly overhangs construction area below. Decay, deadwood.	Exceptional	X		6
					Total trees onsite = 15, 3 Non-regulated. 30% of 12 is 3.6 or 4 trees. 5 trees retained.	**Total Replant**			**18**
	Off-site Trees								
288	Acer macrophyllum, Big leaf maple	est 48" +	6' south	Good	Off-site tree with canopy dominated by Tree #287	Exceptional		RTN X	Mitigation
289	Acer macrophyllum, Big leaf maple	est 30"	15' radius	Good	Off-site tree with hornet nest in ground at root collar.	Exceptional		X	
291	Acer macrophyllum, Big leaf maple	2 x 18"	5' south	Fair	Was 3-stem, center stem cut at 10', deadwood, narrow.	Exceptional		X	
299	Acer macrophyllum, Big leaf maple	21"	3' south	Fair	Off-site tree, large decay column, good response growth.	Large	X		2
300	Acer macrophyllum, Big leaf maple	15", 20.5"	8' south	Fair	Off-site, located just 8' from power pole with transformer.	Large		X	
					Total trees offsite = 5, 4 trees retained.	**Total Replant**			**2**

MITIGATION TREES

PROPOSED ONSITE TREES: (5) ACER CIRCINATUM, (1) ACER AMCROPHYLLUM, (3) CALOCEDRUS DECURRENS, (6) PRUNUS EMARGINATA, (3) RHAMNUS PURSHIANA

PROPOSED OFFSITE TREES: (1) ACER CIRCINATUM, (1) ARBUTUS UNEDO

LANDSCAPE NOTES

1. THE REMAINDER OF THE SITE OUTSIDE OF THE 20' SHORELINE ZONE WILL BE LANDSCAPED PER MICC 19.02.020.F.3.
2. ALL PROPOSED LANDSCAPE SHALL BE IRRIGATED.
3. TREE DRIP LINES MUST BE PROTECTED DURING CONSTRUCTION.
4. MERCER ISLAND WEED REMOVAL: DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREASESTABLISHED PURSUANT TO SUBSECTION (F)(3)(A) OF THIS SECTION. NEW LANDSCAPING ASSOCIATED WITH NEW SINGLE-FAMILY HOME SHALL NOT INCORPORATE ANY WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED. PROVIDED, THAT REMOVAL SHALL NOT BE REQUIRED IF THE REMOVAL WILL RESULT IN INCREASED SLOPE INSTABILITY OR RISK OF LANDSLIDE OR EROSION.
5. TREE REPLACEMENT: REGULATED TREES TO BE REMOVED WILL BE REPLACED PER CITY REQUIREMENTS. SEE CITY OF MERCER ISLAND TREE INVENTORY AND REPLACEMENT SUBMITTAL FORM FOR COMPLETE TREE REPLACEMENT CALCULATIONS.

EXCERPT FROM MICC 19.10.070(B)(1):

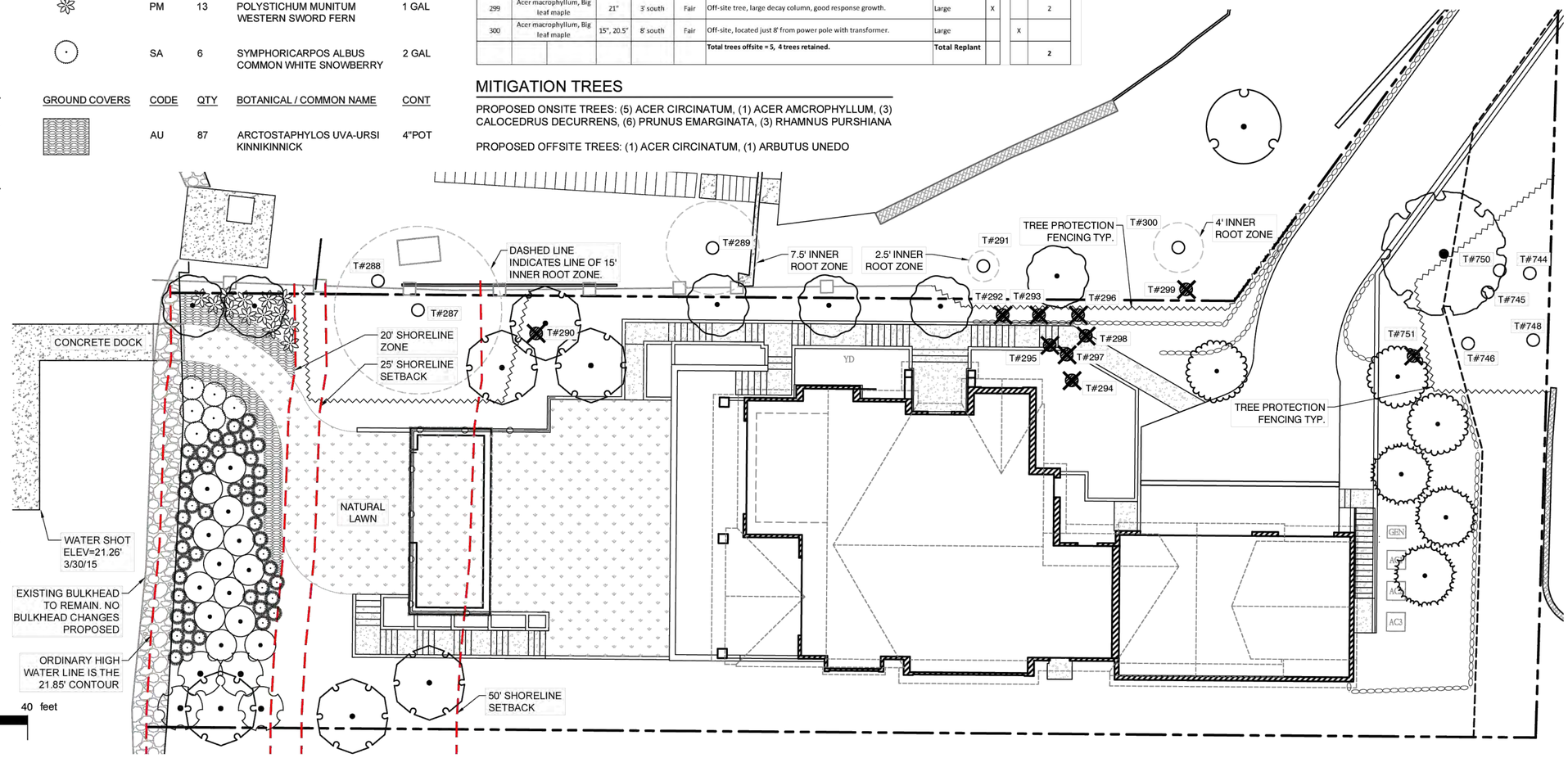
REPLACEMENT TREES SHALL BE LOCATED IN THE FOLLOWING ORDER OF PRIORITY FROM MOST IMPORTANT TO LEAST IMPORTANT:

a. *ON-SITE REPLACEMENT ADJACENT TO OR WITHIN CRITICAL TREE AREAS AS DEFINED IN CHAPTER 19.16 MICC;*

b. *ON-SITE REPLACEMENT OUTSIDE OF CRITICAL TREE AREAS ADJACENT TO OTHER RETAINED TREES MAKING UP A GROVE OR STAND OF TREES;*

c. *ON-SITE REPLACEMENT OUTSIDE OF CRITICAL TREE AREAS; AND*

d. *OFF-SITE IN ADJACENT PUBLIC RIGHT-OF-WAY WHERE EXPLICITLY AUTHORIZED BY THE CITY.*



REVISIONS		DATE	BY
1	PERMIT SUBMITTAL	5-10-2021	RR
2	PERMIT UPDATE	3-01-2023	JB
3	PERMIT UPDATE	4-17-2023	JB

SCJ STUDIO
LANDSCAPE ARCHITECTURE
1148 NW LEARY WAY, SEATTLE, WA 98107
P: 206-708-1862
SCJSTUDIO.COM

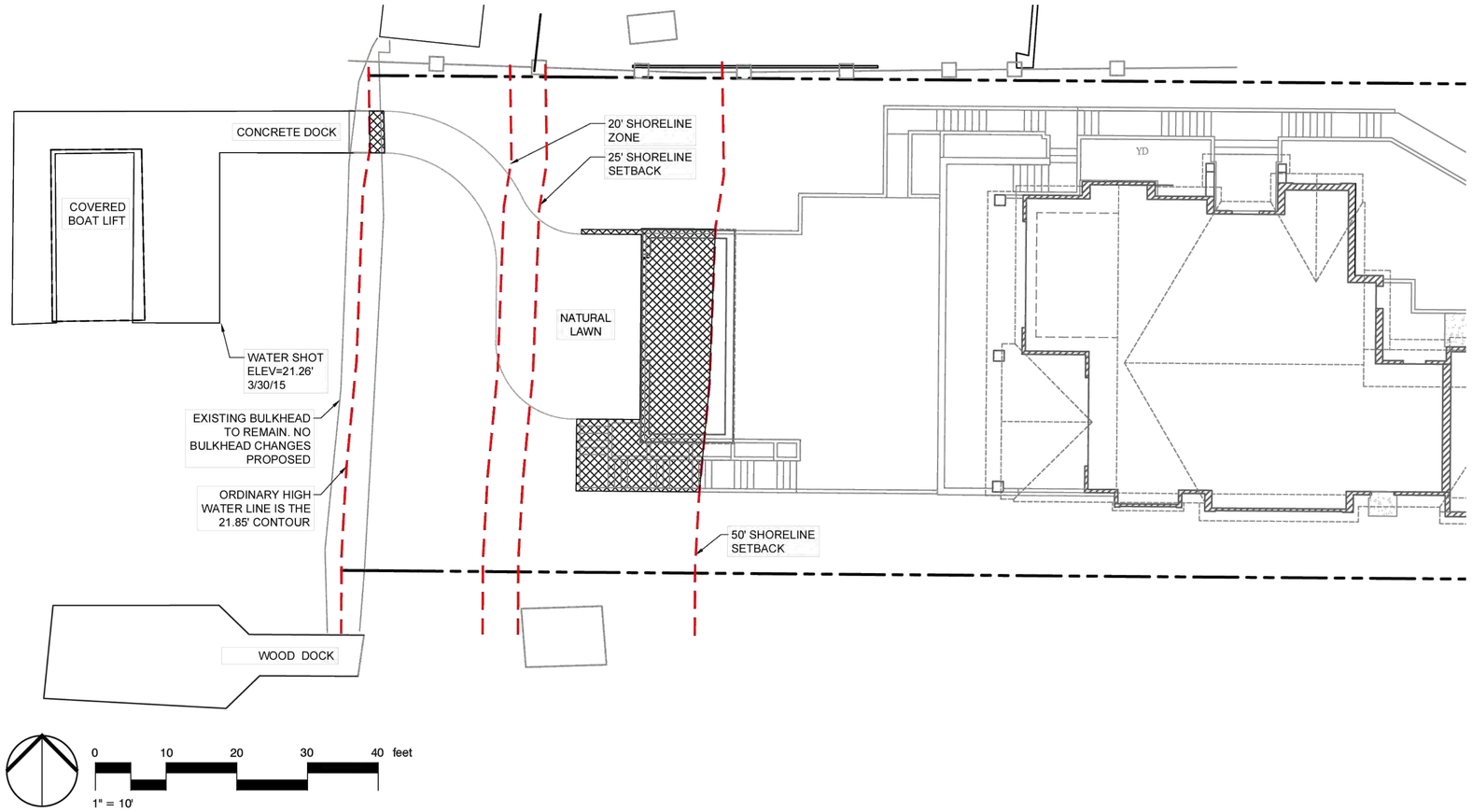
SHEET TITLE: SHORELINE PLANTING & TREE REPLACEMENT PLAN

PROJECT NAME: Murray Residence
4803 Forest Ave SE
Mercer Island, WA

SEAL:

DESIGNER:	JM
DRAWN BY:	JB
APPROVED BY:	JM
DATE:	May, 10 2021
JOB No:	3476.01
DRAWING FILE No:	
DRAWING No:	LA-1.0
SHEET No:	01 OF 02

Apr 17, 2023 4:37:36pm – User: jena.blondolillo
N:\PROJECTS\3476 ROSS MURRAY\3476.01 MURRAY RESIDENCE\CAD\3476.01_PERMIT.DWG



LEGEND

HARDSCAPE AND LOT COVERAGE

HARDSCAPE WITHIN 25' SHORELINE SETBACK

MAXIMUM 10% HARDSCAPE ALLOWED WITHIN 25' SHORELINE SETBACK.

TOTAL AREA OF 25' SHORELINE SETBACK:	1,753 SF
HARDSCAPE AREA ALLOWED:	175 SF
HARDSCAPE PROPOSED:	12 SF

HARDSCAPE AND LOT COVERAGE IN 50' SHORELINE SETBACK

MAXIMUM 30% HARDSCAPE AND LOT COVERAGE ALLOWED BETWEEN 25' AND 50' SHORELINE SETBACK.

TOTAL AREA BETWEEN 25' - 50' SHORELINE SETBACK:	1,755 SF
HARDSCAPE AND LOT COVERAGE AREA ALLOWED:	526 SF
HARDSCAPE AND LOT COVERAGE PROPOSED:	458 SF

REVISIONS	DATE	BY
1 PERMIT SUBMITTAL	5-10-2021	RR
2 PERMIT UPDATE	3-01-2023	JB
3 PERMIT UPDATE	4-17-2023	JB

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SHEET TITLE: SHORELINE HARDSCAPE AND LOT COVERAGE

PROJECT NAME: Murray Residence
4803 Forest Ave SE
Mercer Island, WA

SEAL:

DESIGNER:	JM
DRAWN BY:	JB
APPROVED BY:	JM
DATE:	May, 10 2021
JOB No:	3476.01
DRAWING FILE No:	
DRAWING No:	LA-2.0
SHEET No:	02 OF 02

Apr 17, 2023 4:37:46pm - User: jmabiondolla
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