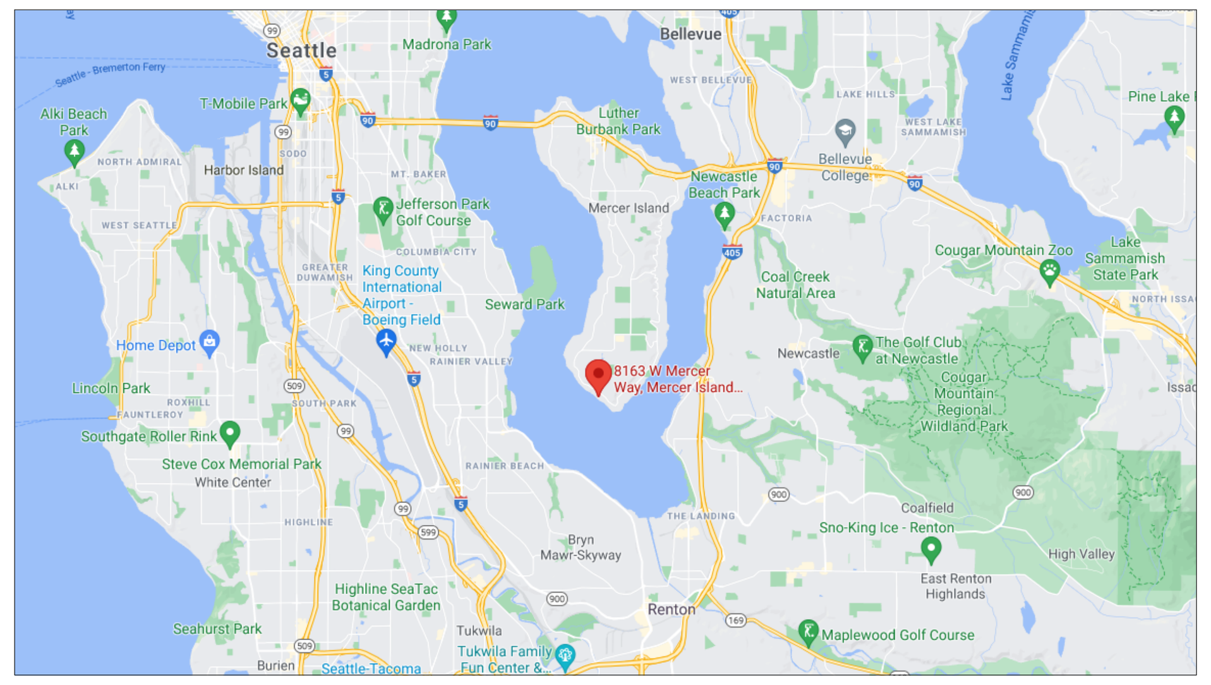
CLARKSON RESIDENCE

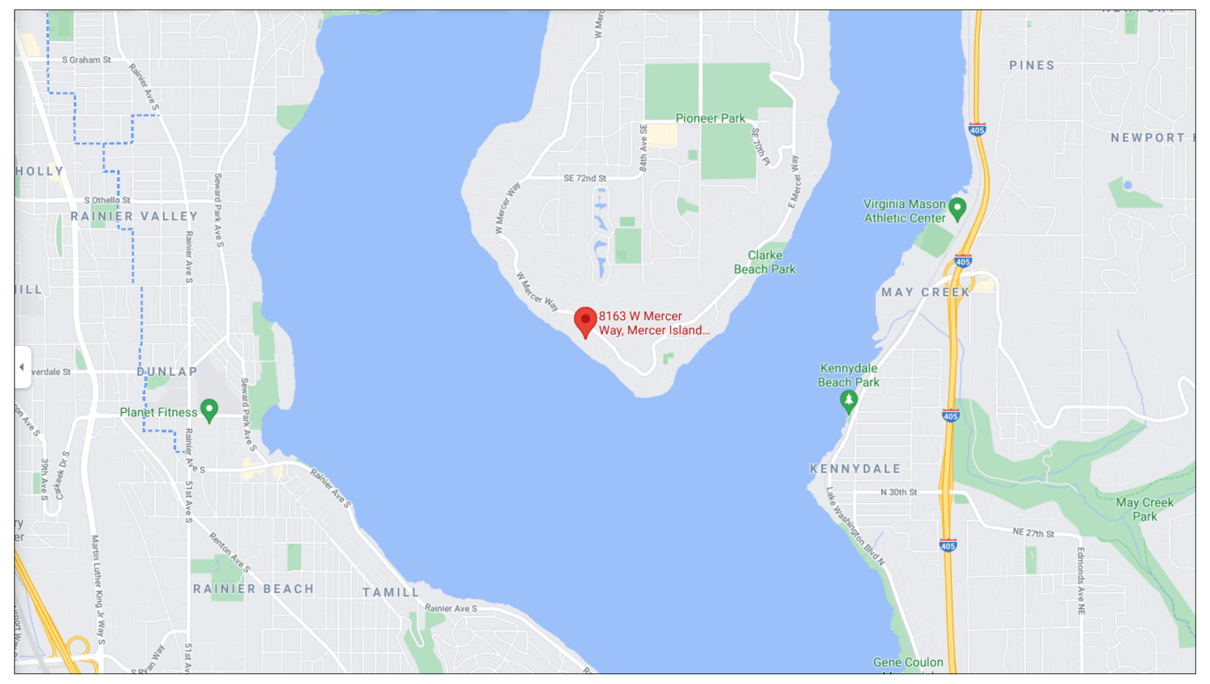
8163 WEST MERCER WAY
MERCER ISLAND, WA 98040

VICINITY PLAN



NORTH

LOCATION PLAN



NORTH

ABBREVIATIONS

ABV	ABOVE
AFF	ABOVE FINISH FLOOR
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
ALT	ALTERNATE
ARCH	ARCHITECT, ARCHITECTURAL
BLW	BELOW
BSMT	BASEMENT
BTW	BETWEEN
BLD	BUILDING
CAB	CABINET
CALC	CALCULATION
CLG	CEILING
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
DEMO	DEMOLISH
DIA	DIAMETER
DIM	DIMENSION
DW	DISHWASHER
DBL	DOUBLE
EA	EACH
ELEC	ELECTRIC, ELECTRICIAN
ELEV	ELEVATION
ENGR	ENGINEER
EQUIV	EQUIVALENT
EXIST OR (E)	EXISTING
EXT	EXTERIOR
FF	FINISH FLOOR
GALV	GALVANIZED
GWB	GYPSUM WALL BOARD
HDR	HEADER
HT	HEIGHT
HORIZ	HORIZONTAL
INSUL	INSULATION
INT	INTERIOR
LOC	LOCATE, LOCATION
MAX	MAXIMUM
MFR	MANUFACTURER
MECH	MECHANICAL
MTL	METAL
MIN	MINIMUM
NTS	NOT TO SCALE
O.C.	ON CENTER
PLY	PLYWOOD
PRELIM	PRELIMINARY
PT	PRESSURE-TREATED
PL	PROPERTY LINE
REFR	REFRIGERATOR
REINF	REINFORCE, REINFORCING
REQD	REQUIRED
SCHED	SCHEDULE
SW	SHEARWALL
SIM	SIMILAR
SF	SQUARE FOOT
SPECS	SPECIFICATIONS
SSTL	STAINLESS STEEL
STL	STEEL
STRUCT	STRUCTURE, STRUCTURAL
TEMP	TEMPORARY
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
VERT	VERTICAL
WP	WATERPROOF, WEATHERPROOF
WNDW	WINDOW
W/	WITH
W/O	WITHOUT
WD	WOOD

GRAPHIC KEY

(NOT TO SCALE)

GLASS
CONCRETE
STEEL
EARTH
GRAVEL
WATER
BRICK
ALUMINUM
BATT INSULATION
RIGID INSULATION
PLYWOOD
FINISH WOOD
STUCCO
SPRAY FOAM INSULATION
GYPSUM WALLBOARD

SYMBOLS KEY

GRID LINES — 0, 0

ROOM REFERENCE — ROOM NAME 101 — ROOM NAME; ROOM NUMBER

DOOR REFERENCE — 100A — ROOM NUMBER; DOOR NUMBER

WINDOW REFERENCE — 200A — ROOM NUMBER; WINDOW NUMBER

EXTERIOR ELEVATIONS — 1 / A300 — DRAWING NUMBER; SHEET NUMBER

WALL SECTION — SIM 1 / A402 — DRAWING NUMBER; SHEET NUMBER

SECTION DETAIL — 1 / A700 — DRAWING NUMBER; SHEET NUMBER

AREA DETAIL — 1 / A700 — DRAWING NUMBER; SHEET NUMBER

INTERIOR ELEVATION — 1, 2, 3, 4, A500 — DRAWING NUMBER; SHEET NUMBER

ELEVATION DATUM — FINISH FLOOR 101'-3" — LOCATION; ELEVATION

FINISH MATERIAL — T-1 — FINISH TYPE: SEE FINISH SCHEDULE; FINISH NUMBER

REVISION BUG — NOTE:
ONLY MOST RECENT REVISION SHOWN CLOUDED.
FOR PREVIOUS REVISIONS DELTAS REMAIN. DATE OF REVISIONS INDICATED AT RIGHT MARGINS.

ASSEMBLY TYPE — W4a —
R: ROOF TYPE
W: WALL TYPE
F: FLOOR TYPE
SEE ASSEMBLIES FOR MORE INFO

EXHAUST FAN

SMOKE DETECTOR

SMOKE/CARBON MONOXIDE DETECTOR

CENTERLINE

GENERAL NOTES

ALL WORK SHALL BE IN **COMPLIANCE** WITH THE 2009 INTERNATIONAL RESIDENTIAL CODE AS ADOPTED AND MODIFIED BY THE JURISDICTIONAL LAND USE CODE, AND ALL OTHER LAWS, CODES, ORDINANCES AND REGULATIONS OF THE COUNTY, STATE, AND FEDERAL JURISDICTIONS. (LATEST EDITION AND AMENDMENTS)

ALL **UNDERGROUND UTILITIES** MUST BE VERIFIED AS TO EXACT LOCATIONS SO AS NO INTERFERENCE BY DISRUPTION WILL BE CAUSED. GENERAL CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITIES BY THE METHODS RECOMMENDED BY THE GEOTECHNICAL ENGINEER AND DPD REPRESENTATIVE AT THE PRE-CONSTRUCTION SITE MEETING. DAMAGE THAT MAY BE CAUSED BY GENERAL CONTRACTOR OR SUBCONTRACTOR TO ANY OF THE ABOVE MENTIONED SHALL BE REPAIRED BY HIM AND LEFT IN AS GOOD A CONDITION AS EXISTED PRIOR TO DAMAGING.

CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL **DIMENSIONS AND JOB CONDITIONS** RELATED TO THIS WORK. ALL DIMENSIONS SHALL BE CONSIDERED "NOMINAL" UNLESS NOTED OTHERWISE. DO NOT SCALE DRAWINGS. USE WRITTEN DIMENSIONS ONLY. DIMENSIONS ON LARGE SCALE DRAWINGS OR DETAILS WILL PREVAIL OVER SMALLER SCALED DRAWINGS. WRITTEN DIMENSIONS ARE DRAWN TO THE FACE OF STUD, U.N.O. VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT, PROVIDE ALL BUCKOUTS, BLOCKING, AND JACKS AS REQUIRED BY THE DRAWINGS AND OTHER TRADES. ANY DISCREPANCY IN DIMENSIONS SHALL BE REPORTED IN WRITING TO THE PROJECT MANAGER/ DESIGNER FOR CLARIFICATION, OR APPROVAL OF MODIFICATION BEFORE COMMENCING WORK. THE RESPONSIBILITY TO THE PROJECT MANAGER/DESIGNER, SHALL REST WITH THE CONTRACTOR OR ANY OTHER PERSON APPROVING SUCH A CHANGE.

ALL **WORKMANSHIP AND MATERIALS** SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF CERTIFICATE OF OCCUPANCY UNLESS SPECIFIED FOR A LONGER PERIOD OF TIME ON SPECIFIED ITEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING OR REPAIRING HIS OWN DEFECTIVE WORK AS WELL AS PAY ALL COSTS INCIDENTAL THERETO INCLUDING DAMAGE TO OTHER WORK, FURNISHINGS OR EQUIPMENT.

ALL **WARRANTIES OR GUARANTEES** AS TO MATERIALS OR WORKMANSHIP ON OR WITH RESPECT TO THE OWNER'S WORK SHALL BE CONTAINED IN THE CONTRACT OR SUBCONTRACT WHICH SHALL BE SO WRITTEN THAT SUCH GUARANTEE OR WARRANTIES SHALL INSURE TO THE BENEFIT OF OWNER.

INSURANCE: PRIOR TO THE COMMENCEMENT OF WORK THE GENERAL CONTRACTOR SHALL DELIVER TO THE OWNER CERTIFICATES OF INSURANCE FOR BOTH COMPREHENSIVE GENERAL LIABILITY AND WORKMAN'S COMPENSATION INCLUDING THE TOTAL AMOUNT OF COVERAGE AND CONDITIONS STIPULATED AND AGREED BY BOTH PARTIES.

THE OWNER SHALL BE RESPONSIBLE FOR PAYING FOR THE **BUILDING PERMIT**. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL OTHER PERMITS REQUIRED OR NECESSARY FOR THE COMPLETION OF THE WORK FROM THE RESPECTIVE AGENCIES. THE CONTRACTOR SHALL NOTIFY THE GOVERNING AGENCIES AS REQUIRED FOR SITE INSPECTIONS.

ALL TRADES SHALL REFER TO THE **ARCHITECTURAL DRAWINGS** REGARDING LOCATIONS OF WORK TO BE INSTALLED.

UNLESS OTHERWISE NOTED, PROVIDE ALL MISCELLANEOUS FASTENERS, HARDWARE AND ACCESSORIES AS REQUIRED FOR COMPLETE INSTALLATION. EVEN THOUGH SUCH ITEMS MAY NOT HAVE BEEN SPECIFICALLY MENTIONED IN THE DRAWINGS AND SPECIFICATIONS, NOTIFY THE ARCHITECT OF ANY REVISIONS OR ADDITIONAL INFORMATION OBTAINED FROM THE MANUFACTURER OF SPECIFIED MATERIALS OR EQUIPMENT WHICH MAY AFFECT THE CONTRACT TIME, COST OR QUALITY OF WORK.

GENERAL CONDITIONS
THE GENERAL CONTRACTOR, ALL SUB-CONTRACTORS AND ALL MAJOR SUPPLIERS SHALL SUBMIT TO THE OWNER WITHIN 30 DAYS AFTER COMPLETION ALL "RELEASE OF LIENS" FOR ALL WORK PERFORMED PRIOR TO FINAL PAYMENT.

PARTIAL LIEN WAIVERS TO BE SUBMITTED WITH MONTHLY REQUISITION.

ALL MANUFACTURERS AND/OR SUPPLIERS SHALL SUBMIT SHOP DRAWINGS AND/OR MATERIAL SAMPLES TO THE DESIGNER/OWNER FOR APPROVAL PRIOR TO FABRICATION.

ALL OF THE GENERAL CONTRACTOR'S EQUIPMENT, SCAFFOLDING HOISTS, ETC., SHALL BE AVAILABLE TO THE OWNER/ DESIGNER AND THEIR STAFF FOR INSPECTION OF ANY AND ALL WORK DURING NORMAL WORKING HOURS.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL DELIVERY POINTS, HOISTS LOCATIONS, ACCESS TO AND FROM THE SITE OF THE BUILDING AND UTILITY SERVICES.
BID TO INCLUDE ALL NECESSARY AND REQUIRED PERMITS, LICENSES, FEES, BONDS AND INSURANCE - EVIDENCE OF WHICH MUST BE SUBMITTED TO OWNER/ DESIGNER PRIOR TO ANY CONSTRUCTION.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SUBCONTRACTORS WORKING AT JOB SITE AND FOR ALL COORDINATION OF WORK.

THE MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTOR SHALL FULLY COORDINATE ALL EQUIPMENT WITH THE OTHER TRADES. THESE CONTRACTORS SHALL BE RESPONSIBLE FOR FINAL HOOK-UP OF ALL EQUIPMENT NOT FURNISHED BY THEM BUT REQUIRING THE SAME FOR FINAL COMPLETION.

GENERAL CONTRACTOR TO BE RESPONSIBLE FOR SECURITY OF ALL MATERIALS AT JOB SITE UNTIL FINAL ACCEPTANCE OF WORK BY OWNER.

ANY SUBCONTRACTOR CUTTING INTO WORK ALREADY COMPLETED, CUTTING CHASES AND TRENCHES FOR THE INTRODUCTION OF HIS WORK AND EQUIPMENT IN THE BUILDING SHALL DO OR PAY FOR ALL BACK FILLING, REPARATION OF WALLS, FLOOR, ETC., DAMAGE BY SUCH A COMPANY. ALL REPAIRS SHALL MATCH EXISTING SURFACES.

CONSTRUCTION SPECIFICATIONS
NO SUBSTITUTIONS ARE ALLOWED FOR MATERIALS WHERE SPECIFIC MANUFACTURERS ARE INDICATED, UNLESS APPROVED BY THE OWNER/ARCHITECT. REQUESTS FOR SUBSTITUTIONS SHALL BE MADE IN WRITING PRIOR TO ORDERING MATERIALS OR COMMENCING WORK. SUCH REQUESTS SHALL INCLUDE THE DATE, SCOPE OF WORK, ANY ADDITIONAL COSTS TO THE OWNER, AND ANY ANTICIPATED DELAYS CAUSED BY SUCH CHANGES.

NO EXTRA WORK OR CHANGE SHALL BE MADE UNLESS A WRITTEN CHANGE ORDER IS SUBMITTED AND SIGNED BY THE OWNER AND ARCHITECT. THE ORDER SHALL STATE THAT THE OWNER HAS AUTHORIZED THE EXTRA WORK OR CHANGE, AND NO CLAIM FOR AN ADDITIONAL SUM SHALL BE VALID UNLESS SO OFFERED AS DESCRIBED ABOVE.

ALL WOOD IN CONTACT WITH MASONRY OR CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESSURE TREATED.

WOOD SPECIFICATIONS TO CONFORM TO OUTLINE SPECIFICATIONS, STRUCTURAL PLANS, NOTES, AND GENERAL CONDITIONS.

CAULKING AND SEALANTS: INSTALLED SHALL BE GUARANTEED WATERTIGHT. EXTERIOR METAL WORK, INCLUDING WINDOWS AND DOOR FRAMES AND ALL JUNCTIONS BETWEEN MASONRY, CONCRETE AND METAL SHALL BE SEALED WITH NEOPRENE OR POLYURETHANE FILLER AND APPROVED SEALANT COMPOUNDS.

PROVIDE GALVANIC INSULATION BETWEEN ALL DISSIMILAR METALS.

PROVIDE WATERPROOFING MEMBRANE OVER PROTECTIVE BOARD AT ALL WALLS EXPOSED TO EARTH.

ALL PIPING AND CONDUIT UNDER SLAB SHALL BE A MINIMUM OF 2"-0' CLEAR OF UNDERSIDE OF FOOTING.

ALL FINAL SURFACE GRADING SHALL BE COMPLETED TO FACILITATE POSITIVE DRAINAGE AWAY FROM THE BUILDING UNLESS NOTED OTHERWISE.

PROVIDE AND INSTALL INSULATION AT EXTERIOR WALLS, ROOF, FLOOR LOCATIONS AS SHOWN, SPECIFIED AND IN ACCORDANCE WITH SEATTLE ENERGY CODE.

WATER PIPES TO BE INSULATED IN ALL UNHEATED AREAS.

INSULATE ALL ROUGH-IN PLUMBING IN WALLS, FLOORS, AND CEILINGS FOR SOUND TRANSMISSION.

SCOPE OF CHANGES SHEET:

GFA/BASEMENT CALCULATIONS UPDATED
LOT COVERAGE CALCULATIONS UPDATED
HARDSCAPE CALCULATOINS UPDATED

LOWER FLOOR:

- UPDATE TO LOWER LEVEL GFA REDUCTION PER PERMIT COMMENT.

MAIN LEVEL:

- MOTORCOURT PAVING REDUCED

UPPER LEVEL:

- REMOVAL OF 10 SF. HARDSCAPE ADDITION DUE TO THE REMOVAL OF PROPOSED DOG RUN
- JULIET BALCONY ADD OFF OF BONUS ROOM

GENERAL INFORMATION

PROJECT ADDRESS	8163 W MERCER WAY MERCER ISLAND, WA 98040
PROJECT NUMBER	2011-147
ASSESSOR'S PARCEL #	335850-0387
LEGAL DESCRIPTION	HILLMANS CD SEA SHORE LAKE FRONT "LOT 2" MERCER ISLAND SHORT PLAT NO SUB9706-005 REC NUMBER 20040617900002 SD SHORT PLAT DAF - LOT A OF MERCER ISLAND LOT LINE REVISION NO MI-90-05-09 (J-3) REC NO 9007109002 BEING A POR OF TRACTS 85-486 -487-488-489-490-576-577 & 578 IN CD HILLMAN'S SEA SHORE LAKE FRONT GARDEN OF EDEN ADDITION TO THE CITY OF SEATTLE
PROJECT DESCRIPTION	NEW CONSTRUCTION OF A SINGLE FAMILY HOUSE
ZONE	R-15
BUILDING TYPE	SINGLE FAMILY RESIDENCE

PROJECT DATA

EXISTING LOT AREA SUMMARY

GROSS LOT AREA	17,955 SF
ACCESS EASEMENTS	2,711 SF
NET LOT AREA	15,244 SF
LOT SLOPE	90.6' / 301.2' = 30.08%

TREE REMOVAL

(E) REGULATED TREES TO BE REMOVED	1
(N) TREES TO BE PLANTED AS REPLACEMENT	2

7

LOT COVERAGE

BUILDING ROOF, GARAGE, COVERED DECK	3,299 SF
(E) FIRE DEPT PAVING	541 SF
(N) DRIVEWAY/PARKING	732 SF
TOTAL LOT COVERAGE	**4,572 SF = 29.99% OF NET LOT AREA**
ALLOWABLE LOT COVERAGE = 30%	15,244 X 0.3 = 4,573 SF

HARDSCAPE

(E) SITE WALLS	142 SF
(N) SITE WALLS	261 SF
(N) ROCKERIES	150 SF
(N) PAVING	199 SF
(N) STAIRS.	82 SF
TOTAL	834 SF
PERCENTAGE	834/15,244 = 5.5%

6

PROPOSED BUILDING AREA SUMMARY (GFA):

PROPOSED LOWER LEVEL	1,943 SF
LOWER LEVEL BELOW GRADE REDUCTION	-1,148 SF
FINAL PROPOSED LOWER LEVEL	795 SF
PROPOSED MAIN LEVEL	1, 629 SF
STAIR DEDUCTION (PER 19.02.020.D.2.C)	-110 SF
FINAL PROPOSED MAIN LEVEL	1,519 SF
GARAGE	874 SF
PROPOSED OUTDOOR COVERED DECK	435 SF
PROPOSED UPPER LEVEL	2,133 SF
PROPOSED UPPER LEVEL 150% (PER 19.02.020.D.2.a) (209.52 * 1.5)	354 SF
TOTAL PROPOSED BUILDING AREA (GFA):	**6,110 SF**
PROPOSED GROSS FLOOR AREA:	**6,110/ 17,955 = 34% OF GROSS LOT AREA**
40% ALLOWABLE GFA	17,955 X 0.40 = 7,182 SF

6 7 6 7

SETBACKS

SIDE YARD	VARIABLE MINIMUM 7'-6"
FRONT YARD	20'
REAR YARD	25'

OCCUPANCY SUMMARY

PROPOSED TYPE -	R-3
OCCUPANT LOAD -	SINGLE FAMILY

ENERGY CODE SUMMARY (2015 WASHINGTON STATE ENERGY CODE, RESIDENTIAL PROVISIONS)
CLIMATE ZONE 4C (R301.1)
PRESCRIPTIVE OPTION III (EFFICIENT ENVELOPE OPTION 1A)

UNLIMITED GLAZING	
GLAZING U-FACTOR (VERTICAL):	.28
GLAZING U-FACTOR (OVERHEAD):	.50
DOOR U-FACTOR:	.20
CEILING:	R-49
VAULTED CEILING:	R-38
WALL ABOVE GRADE:	R-21
WALL BELOW GRADE (INT.)	R-21 (INT.) OR R-10 (EXT.)
FLOOR ABOVE GRADE	R-38
SLAB ON GRADE @ BASEMENT	R-10

AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2a:
COMPLIANCE BASED ON R402.4.1.2: REDUCE THE TESTED AIR LEAKAGE TO 3.0 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 EFFICIANCY 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 MODE.

HIGH EFFICIENCY HVAC EQUIPMENT 3A:
GAS, PROPANE OR OIL-FIELD FURNACE WITH MINIMUM AFUE OF94%, OR GAS, PROPANE OR OILED-FIRED BOILER WITH MINIMUM AFUE OF 92%. PROJECTS MAY ONLY INCLUDE CREDIT FROM ONE SPACE HEATING OPTION, 3A, 3B, 3C, OR 3D. WHEN A HOUSING UNIT HAS TWO PIECES OF EQUIPMENT (I.E., TWO FURNACES) BOTH MUST MEET THE STANDARD TO RECEIVE THE CREDIT.

EFFICIENT WATER HEATING 5A:
ALL SHOWERHEAD AND KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM OR LESS. ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM OR LESS. PLUMBING FIXTURES FLOW RATING. LOW FLOW PLUMBING FIXTURES (WATER CLOSETS AND URINAL) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:

1. RESIDENTIAL BATHROOM LAVATORY SINK FAUCETS: MAXIMUM FLOW RATE - 3.8 L/MIN (1 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1.
2. RESIDENTIAL KITCHEN FAUCETS: MAXIMUM FLOW RATE - 6.6 L/MIN (1.75/MIN) WHEN TESTED IN ACCORDANCE WITH ASME 112.18.1/CSA B125.1.
3. RESIDENTIAL SHOWERHEADS: MAXIMUM FLOW RATE - 6.6 L/MIN (1.75 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1

EFFICIENT WATER HEATING 5C:
WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING: GAS, PROPANE OR OIL WATER HEATERWITH A MINIMUM EF OF 0.91 OR SOLAR WATER HEATING SUPPLEMENTING A MINIMUM STANDARD WATER HEATER. SOLAR WATER HEATING WILL PROVIDE A RATED MINIMUM SAVINGS OF 85 THERMS OR 2000 kWH BASED ON THE SOLAR RATING AND CERTIFICATION CORPORATION (SRCC) ANNUAL PERFORMANCE OF OG-300 CERTIFIED SOLAR WATER HEATING SYSTEMS. OR ELECTRIC HEAT PUMP WATER WITH A MINIMUM EF OF 2.0 AND MEETING THE STANDARDS OF NEEA'S NOTHERN CLIMATE SPECIFICATIONS FOR HEAT PUMP WATER HEATERS

LIFE SAFETY
CONTRACTOR TO INSTALL CARBON MONOXIDE ALARMS OUTSIDE OF EACH BEDROOM IN THE IMMEDIATE VICINITY ON EACH FLOOR LEVEL PER IRC SECTION 315.3, SEE PLANS.
CONTRACTOR TO INSTALL SMOKE ALARMS OUTSIDE OF EACH BEDROOM IN THE IMMEDIATE VICINITY ON EACH FLOOR LEVEL PER IRC SECTION 314.2.2, SEE PLANS.

HEATING
INSTALLED PER INTERNATIONAL RESIDENTIAL CODE, WORK TO BE COMPLETED UNDER A SEPARATE PERMIT.

VENTILATION
PER 2015 WA STATE MECHANICAL CODE/IRC, FANS ON TIMERS, PER PLANS. VOLUME OF REQUIRED OUTDOOR VENTILATION AIR TO BE PROVIDED BASED ON TABLE 403.8.1 / 403.8.5.1
* PLUMBING, MECHANICAL, ELECTRICAL WORK TO BE PERMITTED SEPARATELY.
SEE SHEET A001 FOR VENTILATION & ENERGY CALCULATIONS.

PROJECT DIRECTORY

OWNER	TRACY & IAN CLARKSON 8510 SE 82nd STREET MERCER ISLAND, WA 98040
ARCHITECT	COLIN BRANDT BRANDT DESIGN GROUP 66 BELL ST., UNIT 1 SEATTLE, WA 98121 206.239.0850 colin@brandtdesigninc.com
OWNER'S AGENT/CONTACT	BREE MEDLEY BRANDT DESIGN GROUP 66 BELL ST., UNIT 1 SEATTLE, WA 98121 206.239.0850 bree@brandtdesigninc.com
GENERAL CONTRACTOR	STEVE LAYMAN BLOX CONSTRUCTION 3501 RUCKER AVE. EVERETT, WA 98201 425.339.2423 ryans@bloxconstruction.com
STRUCTURAL ENGINEER	BRETT MOZDEN SWENSON SAY FAGET 2124 THIRD AVENUE, SUITE 100 SEATTLE, WA 98121 206.443.6212 bmozden@ssfengineers.com
CIVIL ENGINEER	LAURIE PFARR LPD ENGINEERING 1932 FIRST AVE, SUITE 201 SEATTLE, WA 98101 206.725.1211 lauriep@lpdengineering.com

SHEET INDEX - PERMIT DOCS

Brandt
Design Group

66 Bell Street
Unit 1
Seattle, WA
98121

206.239.0850

brandtdesigninc.com

8843 REGISTERED ARCHITECT
STATE OF WASHINGTON

PERMIT DRAWINGS

DATE:	06.10.22
SHEET SIZE:	D (24X36)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	04.30.21
2	PLAN CHECK 2	08.13.21
3	PERMIT REVISION 1	04.19.22
4	REV 1 SUB 2	06.10.22
5	REV 1 SUB 3	08.30.22
6	PERMIT REVISION 2	07.06.23
7	PERMIT REV. 2 SUB 2	11.07.23

DRAWN BY:	KJ/JM
CHECKED BY:	BM

COVERSHEET

SCALE: As indicated

A000

DEDICATED APPROVAL STAMP SPACE

WA STATE ENERGY CODE FORMS

CITY OF MERCER ISLAND

DEVELOPMENT SERVICES GROUP
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org
Inspection Requests: Online: www.MyBuildingPermits.com VM: 206.275.7730

2015 WSEC & IRC Ventilation Worksheet (Effective July 1, 2016)

INFORMATION IN THESE WORKSHEETS MUST BE INCLUDED IN THE CONSTRUCTION DOCUMENTS
This set of worksheets has been developed to assist permit applicants with documenting compliance with the 2015 Washington State Energy Code. The following worksheets provide much of the required documentation for plan review. **The details, systems, and ratings noted here must also be shown on the drawings.**

PRESCRIPTIVE ENERGY CODE COMPLIANCE FOR CLIMATE ZONE MARINE 4

Component	Fenestration [1]		Ceiling w/ Attic	Vaulted Ceiling	Wood Framed Wall (Int.)[2]	Mass Wall (Above grade)	Below-Grade Wall [2,3]	Framed Floor	Slab R-Value & Depth
	Vertical	Overhead							
Prescriptive Value	U. 0.30 max.	U. 0.50 max.	R-49 min.	R-38 min.	R-21 min.	R-21 min.	R- 10/15/21 Int. + TB	R-30 min.	R-10 min. 2'

[1] *Fenestration is defined as skylights, roof windows, vertical windows (fixed or moveable), opaque doors, glazed doors, glazed block and combination opaque/glazed doors. Fenestration includes products with glass and non-glass glazing materials.*
[2] *Int. (intermediate framing) denotes standard framing 16" o.c. with headers insulated with a minimum R-10 insulation.*
[3] *10/15/21 +TB" means R-10 continuous insulation on the exterior of the wall, or R-15 on the 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 +TB" 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. "TB" means thermal break between floor slab and basement wall.*

Whole House Ventilation (Prescriptive)
Please check the appropriate box to describe which of the four prescriptive Whole House Ventilation Systems you will be using AND fill in the required whole house ventilation rate in CFM's. (See "2015 Residential Whole House Ventilation Rate" Handout.) A complete system required by one of the sections noted below must be specified on the drawings.

	WHOLE HOUSE VENTILATION METHOD	Whole House Ventilation Rate
☑	Intermittent Whole House Ventilation Using Exhaust Fans & Fresh Air Inlets. (IRC M1507.3.4)	90 CFM
☐	Intermittent Whole House Ventilation Integrated with a Forced Air System. (IRC M1507.3.5)	
☐	Intermittent Whole House Ventilation using a Supply Fan. (IRC M1507.3.6)	
☐	Intermittent Whole House Ventilation Using a Heat Recovery Ventilation System (IRC M1507.3.7)	

Source Specific Exhaust Ventilation & Fan Efficiency
Required in each kitchen, bathroom, water closet compartment, laundry room, indoor swimming pool, spa and other rooms where water vapor or cooking odor is produced. (IRC M 1507.4) Fan efficiency from WAC 51-11R – Table R403.6.1. Kitchen Hoods greater than 400 cfm require makeup air per IRC M1503.4

Minimum Source Specific Ventilation Capacity Requirements

	Bathrooms – Utility Rooms		Kitchens	In-line fan
Intermittently operating	50 cfm min		100 cfm min	
Continuous operation	20 cfm min		25 cfm min	
Minimum Efficacy (cfm/watt)	1.4 cfm/watt if <90cfm	2.8 cfm/watt if >90cfm	2.8 cfm/watt	2.8 cfm/watt

Energy Efficiency Credits
Each dwelling unit shall comply with sufficient options from WSEC Table R406.2 so as to achieve the following minimum number of credits as described on the reverse side of this page.

- ☐ **Small Dwelling Unit: 1.5 credits** (Dwelling units less than 1500 SF in conditioned floor area with less than 300 square feet of fenestration area. Additions to existing building that are greater than 500 SF of heated floor area, but less than 1500 SF. **TOTAL SQUARE FEET OF FENESTRATION:** ________ (doors, windows, skylights)
- ☑ **Medium Dwelling Unit: 3.5 credits** (All dwelling units not included in #1 or #3. Exception: Dwelling units serving R-2 occupancies shall require 2.5 credits.
- ☐ **Large Dwelling Unit: 4.5 credits** (Dwelling Units exceeding 5000 SF of conditioned floor area.
- ☐ **Additions less than 500 SF: 0.5 credits**

S:\DSG\FORMS\2017\Building\2015_WSEC_IRC_Ventilation.pdf

SCOPE OF CHANGE DOES NOT CHANGE SQUARE FOOTAGE OF CONDITIONED SPACE, INCREASES GARAGE AND DECK SQUARE FOOTAGE, NO CHANGE TO MECHANICAL OR

2015 WSCE – Table R406.2 – circle the options that you will be using for this project

OPTION	DESCRIPTION	CREDIT(S)
1a ☐	**EFFICIENT BUILDING ENVELOPE 1a:** 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 UA by 5%.	0.5
1b ☐	**EFFICIENT BUILDING ENVELOPE 1b:** Vertical fenestration U = 0.25 Wall R-21 plus R-4 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 UA by 15%.	1.0
1c ☐	**EFFICIENT BUILDING ENVELOPE 1c:** Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical 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
1d ☐	**EFFICIENT BUILDING ENVELOPE 1d:** Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.24. Projects using this option may not use Option 1a, 1b or 1c.	0.5
2a ☑	**AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2a:** Compliance based on R402.4.1.2: Reduce the tested air leakage to 3.0 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 qualifying ventilation system.***	0.5
2b ☐	**AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2b:** Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 2.0 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 heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.70. ***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.***	1.0
2c ☐	**AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2c:** Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 1.5 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 heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.85. ***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.***	1.5
3a ☑	**HIGH EFFICIENCY HVAC EQUIPMENT 3a:** Gas, propane or oil-fired furnace with minimum AFUE of 94%, or Gas, propane or oiled-fired boiler with minimum AFUE of 92%. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. ***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.***	1.0
3b ☐	**HIGH EFFICIENCY HVAC EQUIPMENT 3b:** Air-source heat pump with minimum HSPF of 9.0. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. ***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.***	1.0
3c ☐	**HIGH EFFICIENCY HVAC EQUIPMENT 3c:** Closed-loop ground source heat pump; with a minimum COP of 3.3 **OR** Open loop water source heat pump with a maximum pumping hydraulic head of 150 feet and minimum COP of 3.6. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. ***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.***	1.5
3d ☐	**HIGH EFFICIENCY HVAC EQUIPMENT 3d:** Ductless Split System Heat Pumps, Zonal Control: In homes where the primary space heating system is zonal electric heating, a ductless heat pump system shall be installed and provide heating to the largest zone of the housing unit. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. ***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.***	1.0

2015 WSCE – Table R406.2 - Continued

OPTION	DESCRIPTION	CREDIT(S)
4 ☐	**HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM:** All heating and cooling system components installed inside the conditioned space. This includes all equipment and distribution system components such as forced air ducts, hydronic piping, hydronic floor heating loop, convectors and radiators. All combustion equipment shall be direct vent or sealed combustion. 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 outside the conditioned space must be insulated to a minimum of R-8. Locating system components in conditioned crawl spaces is not permitted under this option. Electric resistance heat and ductless heat pumps are not permitted under this option. Direct combustion heating equipment with AFUE less than 80% is not permitted under this option. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and shall show the location of the heating and cooling equipment and all the ductwork.***	1.0
5a ☑	**EFFICIENT WATER HEATING 5a:** All showerhead and kitchen sink faucets installed in the house shall be rated at 1.75 GPM or less. All other lavatory faucets shall be rated at 1.0 GPM or less. Plumbing Fixtures Flow Ratings. Low flow plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following requirements: 1. Residential bathroom lavatory sink faucets: Maximum flow rate - 3.8 L/min (1.0 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1. 2. Residential kitchen faucets: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1. 3. Residential showerheads: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum flow rates for all showerheads, kitchen sink faucets, and other lavatory faucets.***	0.5
5b ☐	**EFFICIENT WATER HEATING 5b:** Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.74 **OR** Water heater heated by ground source heat pump meeting the requirements of Option 3c. **OR** For R-2 occupancy, a central heat pump water heater with an EF greater than 2.0 that would supply DHW to all the units through a ce[ntral] minimum pipe insulation. ***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.***	1.0
5c ☑	**EFFICIENT WATER HEATING 5c:** Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.91 **OR** Solar water heating supplementing a minimum standard water heater. Solar water heating will provide a rated minimum savings of 85 therms or 2000 kWh based on the Solar Rating and Certification Corporation (SRCC) Annual Performance of OG-300 Certified Solar Water Heating Systems **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 ***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.***	1.5
5d ☐	EFFICIENT WATER HEATING 5d: A drain water heat recovery unit(s) shall be installed, which captures waste water heat from all the showers, and has a minimum efficiency of 40% if installed for equal flow or a minimum efficiency of 52% if installed for unequal flow. Such units shall be rated in accordance CSA B55.1 and be so labeled. ***To qualify to claim this credit, the building permit drawings shall include a plumbing diagram that specified the drain water heat recovery units and the plumbing layout needed to install it and labels or other documentation shall be provided that demonstrates that the unit complies with the standard.***	0.5
6 ☐	**RENEWABLE ELECTRIC ENERGY:** For each 1200 kWh of electrical generation per each housing unit provided annually by on-site wind or solar equipment a 0.5 credit shall be allowed, up to 3 credits. Generation shall be calculated as follows: For solar electric systems, the design shall be demonstrated to meet this requirement using the National Renewable Energy Laboratory calculator PVWATTs. ***Documentation noting solar access shall be included on the plans.*** For wind generation projects designs shall document annual power generation based on the following factors: The wind turbine power curve; average annual wind speed at the site; frequency distribution of the wind speed at the site and height of the tower. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the photovoltaic or wind turbine equipment type, provide documentation of solar and wind access, and include a calculation of the minimum annual energy power production.***	0.5

Fenestration Schedule

SEE DOOR & WINDOW SCHEDULE SHEET A600

Please check the applicable boxes and complete the information below

☑ **Weighted Average:** Using the Prescriptive Method, all glazing must have an "area weighted average" U-Factor of 0.30. This means that some windows can have a higher U-factor than 0.30 and some can have a lower U-factor than 0.30, as long as the area weighted average is U-0.30 or lower you may need to complete this form to document glazing compliance when applying for your building permit.

☐ **Dwelling units less than 1500 SF in conditioned floor area:** If using the option for new dwellings less than 1500 SF of conditioned floor area with no more than 300 SF fenestration

Electronic version available at: http://www.energy.wsu.edu/Documents/2015%20Glazing%20Schedule.xlsx

Exemptions	Ref	Glazing U-Factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Glazing Area	Glazing UA
Swing Door (24 SF Max)									
Glazed Fenestration (15 SF Max)									

VERTICAL FENESTRATION (WINDOWS AND GLAZED DOORS)

Plan ID	Component Description	Ref	Glazing U-Factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Glazing Area	Glazing UA
Sum of Vertical Fenestration Area and UA										
Area Weighted U = UA/Area										

OVERHEAD GLAZING (SKYLIGHT)

Plan ID	Component Description	Ref	Glazing U-Factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Glazing Area	Glazing UA
Sum of Overhead Glazing Area and UA										
Area Weighted U = UA/Area										

Total Sums of Area and UA for Vertical Fenestration and Overhead Glazing Area and UA: ______ ______

Simple Heating System Size

Electronic version available at: http://www.energy.wsu.edu/Documents/Heat_Sizing_code%20specs_final_2015.xls

Please complete the following information regarding the heating system for this project. The electronic version automatically calculates the information based on the information selected. The paper form below may be used if a computer is not available but will need to be hand calculated.

Conditioned Floor Area (sq ft)	5306
Average Ceiling Height (ft)	x 10.8
Conditioned Volume (cu ft)	57437.45

Component	U-Factor / F-Factor	X	Area / Length	=	UA
Glazing and Doors	u= .28	X	1324 sf	=	397.2
Skylights	u= 0	X	0 sf	=	0
Insulation – Attic	u= .021	X	686 sf	=	14.41
Single Rafter or Joist Vaulted Ceilings	u= .026	X	1612 sf	=	41.91
Above Grade Walls	u= .048	X	3514 sf	=	168.67
Floors	u= .033	X	2036 sf	=	67.19
Below Grade Walls	u= .026	X	1497 sf	=	38.92
Slab Below Grade	f= .1	X	f	=	
Slab on Grade	f=	X	f	=	
				Sum of UA	728.3

Envelope Heat Load Sum of UA x 45	32773.5	Btu / Hour
Air Leakage Heat Load Volume x 0.6 x 45 x .018	27914.6	Btu / Hour
Building Design Heat Load Air Leakage Heat Load + Envelope Heat Load	60688.1	Btu / Hour
Building and Duct Heat Load Ducts in unconditioned space: Building Design Heat Load x 1.10 Ducts in conditioned space: Building Design Heat Load x 1	60688.1	Btu / Hour
Maximum Heat Equipment Output Building and Duct Heat Load x 1.40 for Forced Air Furnace Building and Duct Heat Load x 1.25 for Heat Pump	75860.13	Btu / Hour

Energy Code Support — WASHINGTON STATE UNIVERSITY EXTENSION ENERGY PROGRAM

Duct Testing Standard (RS-33)
For New and Existing Construction

New Construction

Based on the protocol for "Total Leakage Testing," or "Leakage Testing to Outdoors" duct leakage in new construction shall not exceed 0.04 CFM_{25} x floor area (in square feet) served by the system for leakage to outdoors or for total leakage when tested post construction. When testing at rough-in, targets should not exceed 0.04 CFM_{25} x floor area (in square feet) for total leakage or 0.03 CFM_{25} x floor area (in square feet) if the air handler is not installed.

Exception: The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope. Ducts located in crawl spaces do not qualify for this exception.

Existing Construction

When a space-conditioning system is altered by the installation or replacement of space-conditioning equipment (including replacement of the air handler, outdoor condensing unit of a split system air conditioner or heat pump, cooling or heating coil, or the furnace heat exchanger), the duct system that is connected to the new or replacement space-conditioning equipment shall be tested. The test results shall be provided to the building official and the homeowner.

Exception 1: Duct systems that are documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in RS-33.

Exception 2: Ducts with less than 40 linear feet in unconditioned spaces.

Exception 3: Existing duct systems constructed, insulated or sealed with asbestos.

Exception 4: Additions of less than 750 square feet of conditioned floor area.

In addition, the following requirements must be met:
1. All testing must be done by a qualified technician. The minimum qualification requirement is documented attendance at a duct testing training course approved by the building official. The following existing training programs are recognized as equivalent to this requirement:
   a. Northwest ENERGY STAR Homes Program, Performance Testing training for new construction.
   b. Performance Tested Comfort Systems (PTCS) training for existing homes and new construction.
2. Duct systems must be designed, sized, and installed using recognized industry standards and International Residential Code (IRC) requirements, so that calculated heating and/or cooling loads are delivered to each zone.

SCOPE OF CHANGES:
NO CHANGES TO THIS SHEET

WA STATE VENTILATION REQUIREMENTS

M1507.3 Whole-House Mechanical Ventilation System
Whole-house mechanical ventilation systems shall be designed in accordance with Sections M1507.3.1 through M1507.3.3.

M1507.3.1 System Design
Each dwelling unit or guestroom shall be equipped with a ventilation system complying with Section M1507.3.4, M1507.3.5, M1507.3.6 or M1507.3.7. Compliance is also permitted to be demonstrated through compliance with the International Mechanical Code or ASHRAE Standard 62.2.

M1507.3.2 Control and operation
Location of controls. Controls for all ventilation systems shall be readily accessible by the occupant.
Instructions. Operating instructions for whole-house ventilation systems shall be provided to the occupant by the installer of the system.
Local exhaust systems. Local exhaust systems shall be controlled by manual switches, dehumidistats, timers, or other approved means
Continuous whole-house ventilation systems. Continuous whole-house ventilation systems shall operate continuously and be equipped with an override control. A "fan on" switch shall be permitted as an override control. Controls shall be capable of operating the ventilation system without energizing other energy-consuming appliances. A clearly visible label shall be affixed to the controls that reads "Whole House Ventilation (see operating instructions)."
Intermittent whole-house ventilation systems. Intermittent whole-house ventilation systems shall comply with the following:

- They shall be capable of operating intermittently and continuously.
- They shall have controls capable of operating the exhaust fans, forced-air system fans, or supply fans without energizing other energy-consuming appliances.
- The ventilation rate shall be adjusted according to the exception in Section M1507.3.3.
- The system shall be designed so that it can operate automatically based on the type of control timer installed.
- The intermittent mechanical ventilation system shall operate at least one hour out of every four.
- The system shall have a manual control and automatic control, such as a 24-hour clock timer.
- At the time of final inspection, the automatic control shall be set to operate the whole-house fan according to the schedule used to calculate the whole-house fan sizing.
- A label shall be affixed to the control that reads "Whole House Ventilation (see operating instructions).

M1507.3.2.1 Operating instructions
Installers shall provide the manufacturer's installation, operating instructions, and a whole-house ventilation system operation description.

M1507.3.3 Mechanical Ventilation Rate
The whole-house mechanical ventilation system shall provide outdoor air to each dwelling unit at a continuous rate of not less than that determined in accordance with Table M1507.3.3(1).

Exception: The whole-house mechanical ventilation system is permitted to operate intermittently where the system has controls that enable operation for not less than 25 percent of each 4-hour segment and the ventilation rate prescribed in Table M1507.3.3(1) is multiplied by the factor determined in accordance with Table M1507.3.3(2).

M1507.3.5 Whole-house ventilation integrated with a forced-air system
This section establishes minimum prescriptive requirements for whole-house ventilation systems integrated with forced-air ventilation systems. A system which meets all the requirements of this section shall be deemed to satisfy the requirements for a whole-house ventilation system.

M1507.3.5.1 Integrated whole-house ventilation systems
Integrated whole-house ventilation systems shall provide outdoor air at the rate calculated using Section M1507.3.3. Integrated forced-air ventilation systems shall distribute outdoor air to each habitable space through the forced-air system ducts. Integrated forced-air ventilation systems shall have an outdoor air inlet duct connecting a terminal element on the outside of the building to the return air plenum of the forced-air system, at a point within 4 feet upstream of the air handler. The outdoor air inlet duct connection to the return air stream shall be located upstream of the forced-air system blower and shall not be connected directly into a furnace cabinet to prevent thermal shock to the heat exchanger. The system will be equipped with a motorized damper connected to the automatic ventilation control as specified in Section M1507.3.2. The required flow rate shall be verified by field testing with a flow hood or a flow measuring station

M1507.3.5.2 Ventilation duct insulation
All supply ducts in the conditioned space shall be insulated to a minimum of R-4.

M1507.3.5.3 Outdoor air inlets
Inlets shall be screened or otherwise protected from entry by leaves or other material. Outdoor air inlets shall be located so as not to take air from the following areas:
- Closer than 10 feet from an appliance vent outlet, unless such vent outlet is 3 feet above the outdoor air inlet.
- Where it will pick up objectionable odors, fumes or flammable vapors.
- A hazardous or unsanitary location.
- A room or space having any fuel-burning appliances therein.
- Closer than 10 feet from a vent opening of a plumbing drainage system unless the vent opening is at least 3 feet above the air inlet.
- Attic, crawl spaces, or garages.

WHOLE HOUSE VENTILATION CALCS

PROPOSED CONDITIONED SF =	5,704 SF
NUMBER OF BEDROOMS =	6
AIRFLOW IN CFM REQUIRED FOR CONTINUOUS VENTILATION = 120 CFM	
RUN TIME PERCENTAGE IN EACH 4 HOUR SEGMENT =	25 %
FACTOR =	4
CALCULATION	120 CFM X 4 = **480 CFM**

2015 IRC SECTION M1507, WA AMENDED 403.8.1 & 403.8.5.1 - INTERMITTENT WHOLE HOUSE VENTILATION
PER IRC TABLES M1507.3.3(1)/(2) A 25% RUN-TIME IN EACH 4-HOUR SEGMENT REQUIRES A 480 CFM FAN(S) TO BE PROVIDED FOR THE REQUIRED WHOLE-HOUSE VENTILATION. THIS VENTILATION REQUIREMENT WILL BE HANDLED BY A BALANCED VENTILATION SYSTEM IN CONJUNCTION WITH FORCED AIR UNIT. SEE WA STATE VENTILATION NOTES SECTION 1507.3.5.1 ON SHEET A001 REGARDING VENTILATION REQUIREMENTS BASED INTEGRATED WITH A FORCED AIR UNIT.
*OUTDOOR AIR INLET DUCT TO BE FIELD LOCATED WITH HVAC SUBCONTRACTOR IN CONJUNCTION WITH PLACING EXHAUST DUCTS IN ORDER TO AVOID CONFLICT.

IRC M1507, WA AMENDED TABLE 403.8.1 & 403.5.1

DWELLING UNIT FLOOR AREA (square feet)	NUMBER OF BEDROOMS 0 - 1	2 - 3	4 - 5	6 - 7	> 7
	Airflow in CFM				
< 1,500	30	45	60	75	90
1,501 - 3,000	45	60	75	90	105
3,001 - 4,500	60	75	90	105	120
4,501 - 6,000	75	90	105	120	135
6,001 - 7,500	90	105	120	135	150
> 7,500	105	120	135	150	165

RUN-TIME PERCENTAGE IN EACH 4-HOUR SEGMENT	25%	33%	50%	66%	75%	100%
Factor[a]	4	3	2	1.5	1.3	1.0

Brandt
Design Group
66 Bell Street
Unit 1
Seattle, WA
98121
206.239.0850
brandtdesigninc.com

8843 REGISTERED ARCHITECT STATE OF WASHINGTON

CLARKSON RESIDENCE
8163 WEST MERCER WAY
MERCER ISLAND, WA 98040

PERMIT DRAWINGS

DATE: 06.10.22
SHEET SIZE: D (24X36)

REVISIONS

NO.	DESCRIPTION	DATE
3	PERMIT REVISION 1	04.19.22

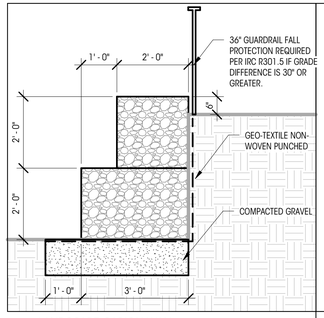
DRAWN BY: KJ/JM
CHECKED BY: BM

WA STATE ENERGY CODE / VENTILATION CALC

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

A001

DEDICATED APPROVAL STAMP SPACE



LANDSCAPE GABION WALL:
NON-SETTLEMENT SENSITIVE LOCATIONS ONLY

2

1/2" = 1'-0"

FRONT YARD ENCROACHMENT

POINT	ELEV. (FT.)	POINT	ELEV. (FT.)
A1	117.83'	B1	130.45'
A2	128.84'	B2	130.75'
A3	129.09'	B3	131.16'
A4	129.20'	B4	131.47'
A5	129.43'	B5	131.82'
TOTAL	634.39'		655.65'

AVERAGE A: 634.39' / 5 = **126.878'**
AVERAGE B: 655.65' / 5 = **131.13'**
ELEVATION DIFFERENCE BETWEEN A & B: 131.13' - 126.878 = **4.25'**
CONFROMANCE PER 19.02.040.D.1 & 2

AVERAGE BUILDING ELEVATION (ABE)

WALL	MIDPOINT ELEV. (FT.)	WALL LENGTH (FT.)	PRODUCT
A	113.95'	30.38'	3,461.168
B	109'	26.56'	2,895.3
C	109'	13.92'	1,516.9
D	114.0'	27.08'	3,087.5
E	124.2'	82.88'	10,292.9
F	129.10'	22.68'	2,927.7
G	117.83'	38.58'	4,546.4
H	117.83'	5.04'	594.0764
I	117.83'	3.5'	412.4167
J	117.92'	13.83'	1,631.1806
K	117.67'	3.5'	411.8333
L	117.83'	12.60'	1,485.191
TOTALS		280.6'	33,262.6

AVERAGE GRADE (ABE) 33,262.6' / 280.6' = **118.56'**
MAX ALLOWABLE HEIGHT 30' ABOVE AVERAGE GRADE
MAX HEIGHT ELEVATION / MAX BUILDING HEIGHT: 148.56'
PROPOSED BUILDING HEIGHT: 146.72'
MAXIMUM CHIMNEY HEIGHT PER 19.02.020.E.3: 153.56'

▲ AVERAGE BUILDING ELEVATION

SCOPE OF CHANGES:

7

- UPDATES TO GFA, LOT COVERAGE & HARDSCAPE CALCS
- REDUCTOIN OF MOTORCOURT PAVING.

GENERAL INFORMATION

PROJECT ADDRESS	8163 W MERCER WAY MERCER ISLAND, WA 98040
PROJECT NUMBER	2011-147
ASSESSOR'S PARCEL #	335850-0387
LEGAL DESCRIPTION	HILLMANS CD SEA SHORE LAKE FRONT "LOT 2" MERCER ISLAND SHORT PLAT NO SUB9706-005 REC NUMBER 20040617900002 SD SHORT PLAT DAF - LOT A OF MERCER ISLAND LOT LINE REVISION NO MI-90-05-09 (J-3) REC NO 9007109002 BEING A POR OF TRACTS 5-486 -487-488-489-490-576-577 & 578 IN CD HILLMAN'S SEA SHORE LAKE FRONT GARDEN OF EDEN ADDITION TO THE CITY OF SEATTLE
PROJECT DESCRIPTION	NEW CONSTRUCTION OF A SINGLE FAMILY HOUSE
ZONE	R-15
BUILDING TYPE	SINGLE FAMILY RESIDENCE

PROJECT DATA

EXISTING LOT AREA SUMMARY

GROSS LOT AREA	17,955 SF
ACCESS EASEMENTS	2,711 SF
NET LOT AREA	15,244 SF
LOT SLOPE	90.6' / 301.2' = 30.08%

TREE REMOVAL

(E) REGULATED TREES TO BE REMOVED	1
(N) TREES TO BE PLANTED AS REPLACEMENT	2

LOT COVERAGE

BUILDING ROOF, GARAGE, COVERED DECK	3,299 SF
(E) FIRE DEPT PAVING	541 SF
(N) DRIVEWAY/PARKING	732 SF
TOTAL LOT COVERAGE	**4,572 SF = 29.99% OF NET LOT AREA**
ALLOWABLE LOT COVERAGE = 30%	15,244 X 0.3 = 4,573 SF

HARDSCAPE

(E) SITE WALLS	142 SF
(N) SITE WALLS	261 SF
(N) ROCKERIES	150 SF
(N) PAVING	199 SF
(N) STAIRS	82 SF
TOTAL	834 SF
PERCENTAGE	834/15,244 = 5.5%

PROPOSED BUILDING AREA SUMMARY (GFA):

PROPOSED LOWER LEVEL	1,943 SF
LOWER LEVEL BELOW GRADE REDUCTION	-1,148 SF
FINAL PROPOSED LOWER LEVEL	795 SF
PROPOSED MAIN LEVEL	1, 629 SF
STAIR DEDUCTION (PER 19.02.020.D.2.C)	-110 SF
FINAL PROPOSED MAIN LEVEL	1,519 SF
GARAGE	874 SF
PROPOSED OUTDOOR COVERED DECK	435 SF
PROPOSED UPPER LEVEL	2,133 SF
PROPOSED UPPER LEVEL 150% (PER 19.02.020.D.2.a) (209.52 * 1.5)	354 SF
TOTAL PROPOSED BUILDING AREA (GFA):	**6,110 SF**
PROPOSED GROSS FLOOR AREA:	**6,110/ 17,955 = 34% OF GROSS LOT AREA**
40% ALLOWABLE GFA	17,955 X 0.40 = 7,182 SF

SITE PLAN LEGEND/NOTES

SHEET REFERENCE NOTES:

A. SEE SHEET A101 FOR PROPOSED BUILDING PAD PLAN.

B. SEE SHEET A102 - A103 FOR SITE EXCAVATION PLANS AND SECTIONS.

C. SEE SHEET A105 FOR CRITICAL AREAS PLAN AND PLANTING PLAN.

D. CONTINUOUS SPECIAL INSPECTIONS BY GEOTECHNICAL ENGINEER DURING EXCAVATION AND SHORING INSTALLATION SHALL BE PROVIDED.

GENERAL PLAN NOTES

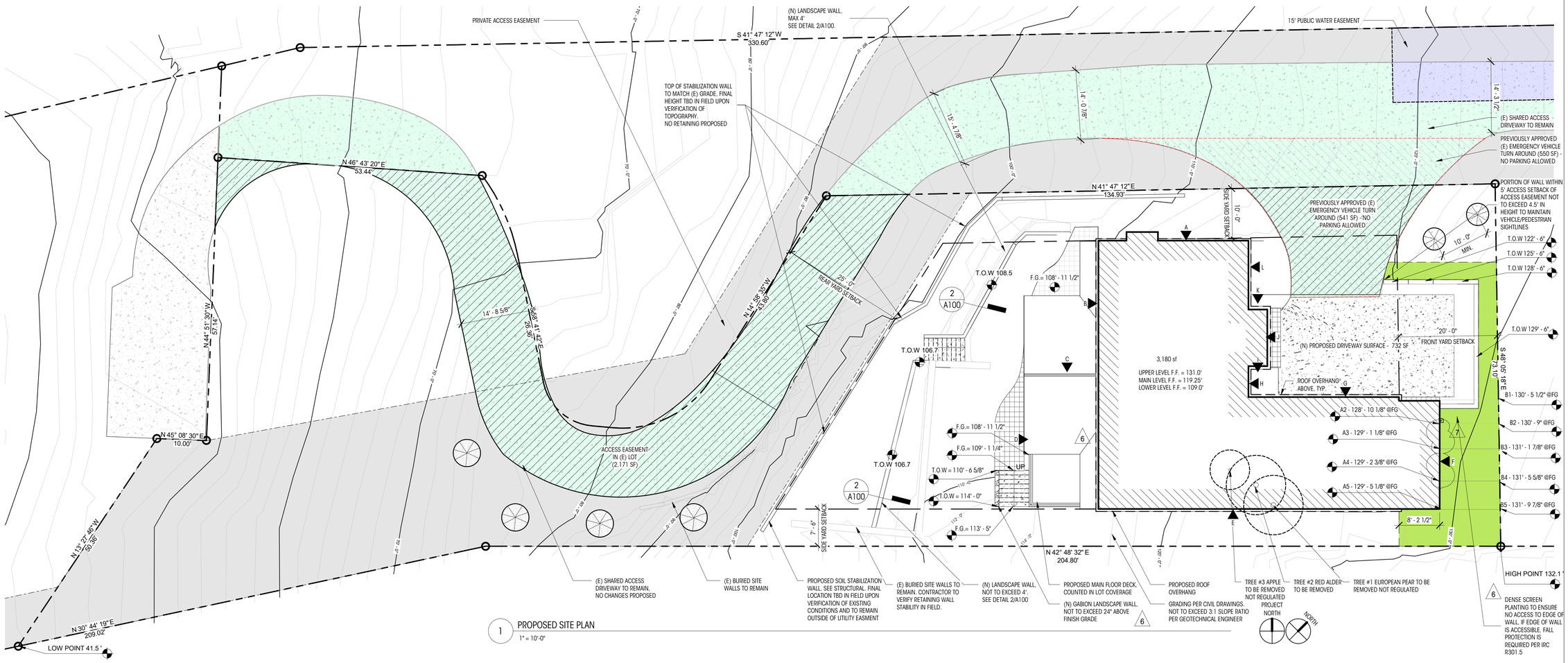
A. ALL DIMENSIONS AT EXTERIOR WALLS TO FACE OF FRAMING AT EXT. FACE OF WALL AND TO FACE OF FRAMING AT INTERIOR WALLS

B. ALL DIMENSIONS AT INTERIOR WALLS ARE TO FACE OF FRAMING

C. ALL DIMENSIONS AT KITCHEN TO EDGE OF COUNTERTOPS, U.N.O.

PER MICC 19.02.020(F)(3)(D), THE PROJECT 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 AREAS ESTABLISHED 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.

- CONTOUR MAJOR
- CONTOUR MINOR
- PROPERTY LINE
- SETBACK
- BUILDING FOOTPRINT
- PAVING/HARDSCAPE/DECK
- ROOF OVERHANG
- (E) TREE TO REMAIN
- (N) TREE
- (E) TREE TO BE DEMOLISHED
- SHARED DRIVEWAY
- 15' PUBLIC WATER EASEMENT
- PRIVATE UTILITY AND DRAINAGE EASEMENT (TO BE FIELD LOCATED PRIOR TO WALL CONSTRUCTION)
- PORTION OF LOT COVERED BY SHARED DRIVEWAY
- PORTION OF (N) DRIVEWAY
- (E) DRIVEWAY TO REMAIN
- PORTION OF SHARED DRIVEWAY DESIGNATED AS APPROVED FIRE DEPARTMENT TURNAROUND PER APPROVED SHORT PLAT



1 PROPOSED SITE PLAN
1" = 10'-0"

Brandt
Design Group
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Seattle, WA
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206.239.0850
brandtdesigninc.com

8843 REGISTERED ARCHITECT STATE OF WASHINGTON

CLARKSON RESIDENCE

8163 WEST MERCER WAY
MERCER ISLAND, WA 98040

PERMIT DRAWINGS

DATE: 06.10.22
SHEET SIZE: D (24X36)

REVISIONS

NO.	DESCRIPTION	DATE
3	PERMIT REVISION 1	04.19.22
4	REV 1 SUB 2	06.10.22
5	REV 1 SUB 3	08.30.22
6	PERMIT REVISION 2	07.06.23
7	PERMIT REV. 2 SUB 2	11.07.23

DRAWN BY: KJ/JM
CHECKED BY: BM

SITE PLAN

SCALE: As indicated

A100

DEDICATED APPROVAL STAMP SPACE

SCOPE OF CHANGES:

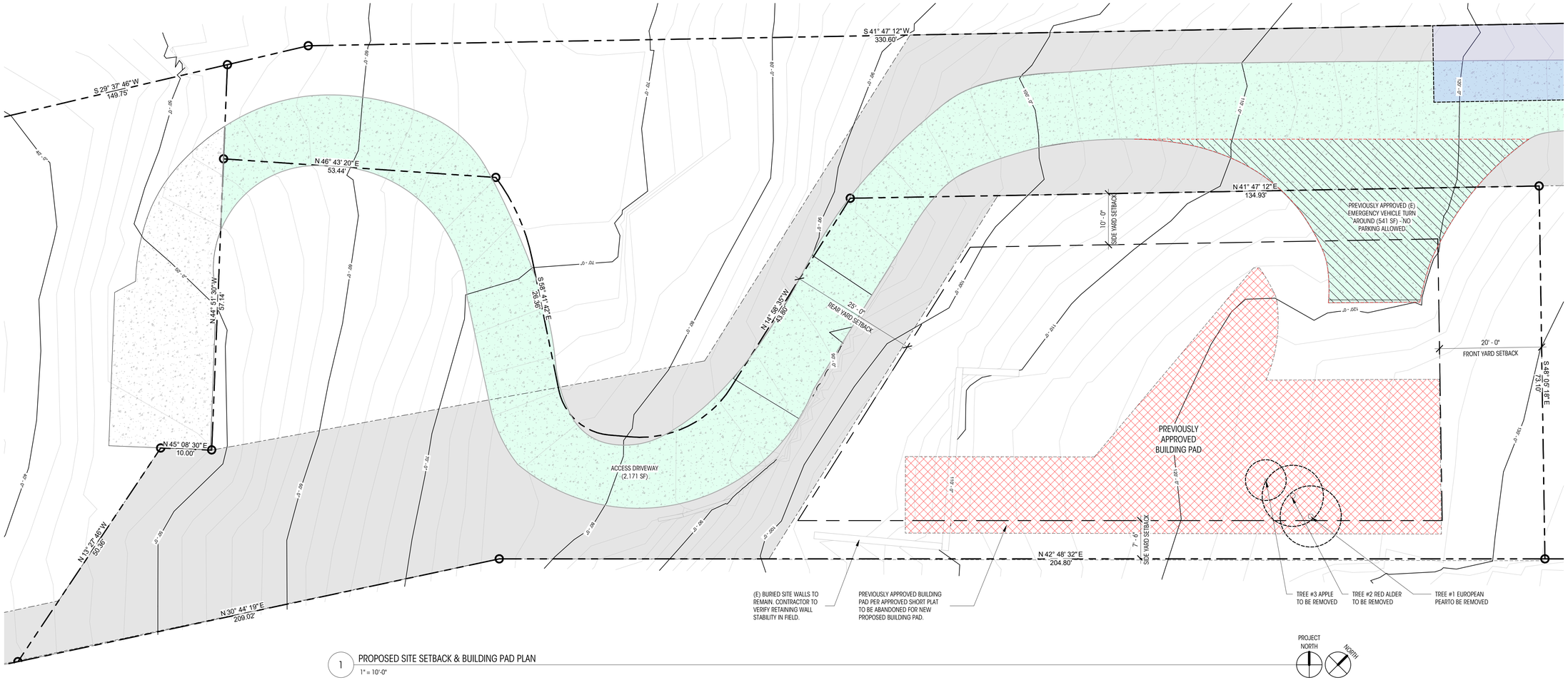
NO CHANGES TO THIS SHEET

BUILDING PAD & SETBACK LEGEND

- CONTOUR MAJOR
- CONTOUR MINOR
- PROPERTY LINE
- SETBACK LINE
- PREVIOUSLY APPROVED BUILDING PAD - TO BE ABANDONED
- PROPOSED BUILDING PAD
- APPROVED FIRE DEPARTMENT TURNAROUND
- SHARED DRIVEWAY, COUNTED TOWARD LOT COVERAGE
- 15' PUBLIC WATER EASEMENT
- PRIVATE UTILITY AND DRAINAGE EASEMENT

PROJECT DATA

EXISTING LOT AREA SUMMARY	
GROSS LOT AREA	17,955 SF
ACCESS EASEMENTS	2,711 SF
NET LOT AREA	15,244 SF
LOT SLOPE	90.6' / 301.2' = 30.08%
TREE REMOVAL	
(E) REGULATED TREES TO BE REMOVED	1
(N) TREES TO BE PLANTED AS REPLACEMENT	2
LOT COVERAGE	
BUILDING ROOF, GARAGE, COVERED DECK	3,299 SF
(E) FIRE DEPT PAVING	541 SF
(N) DRIVEWAY/PARKING	732 SF
TOTAL LOT COVERAGE	**4,572 SF = 29.99% OF NET LOT AREA**
ALLOWABLE LOT COVERAGE = 30%	15,244 X 0.3 = 4,573 SF
SETBACKS	
SIDE YARD	VARIABLE MINIMUM 7'-6"
FRONT YARD	20'
REAR YARD	25'



1 PROPOSED SITE SETBACK & BUILDING PAD PLAN
1" = 10'-0"

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STATE OF WASHINGTON

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MERCER ISLAND, WA 98040

PERMIT DRAWINGS

DATE:	06.10.22
SHEET SIZE:	D (24X36)

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY:	KJ/JM
CHECKED BY:	BM

BUILDING PAD PLAN

SCALE: As indicated

A101

DEDICATED APPROVAL STAMP SPACE

SCOPE OF CHANGES:

NO CHANGES TO THIS SHEET

CONSTRUCTION MONITORING NOTES

MONITOR ADJACENT BLDG. FOR SETTLEMENT. START MONITORING PRIOR TO DEMOLITION WEEKLY UNTIL PILE DRIVING IS COMPLETE. LEVELS TO BE MEASURED BY PROJECT SURVEYOR. CONTINUOUS SPECIAL INSPECTION BY THE GEOTECHNICAL ENGINEER DURING EXCAVATION AND SHORING INSTALLATION SHALL BE PROVIDED.

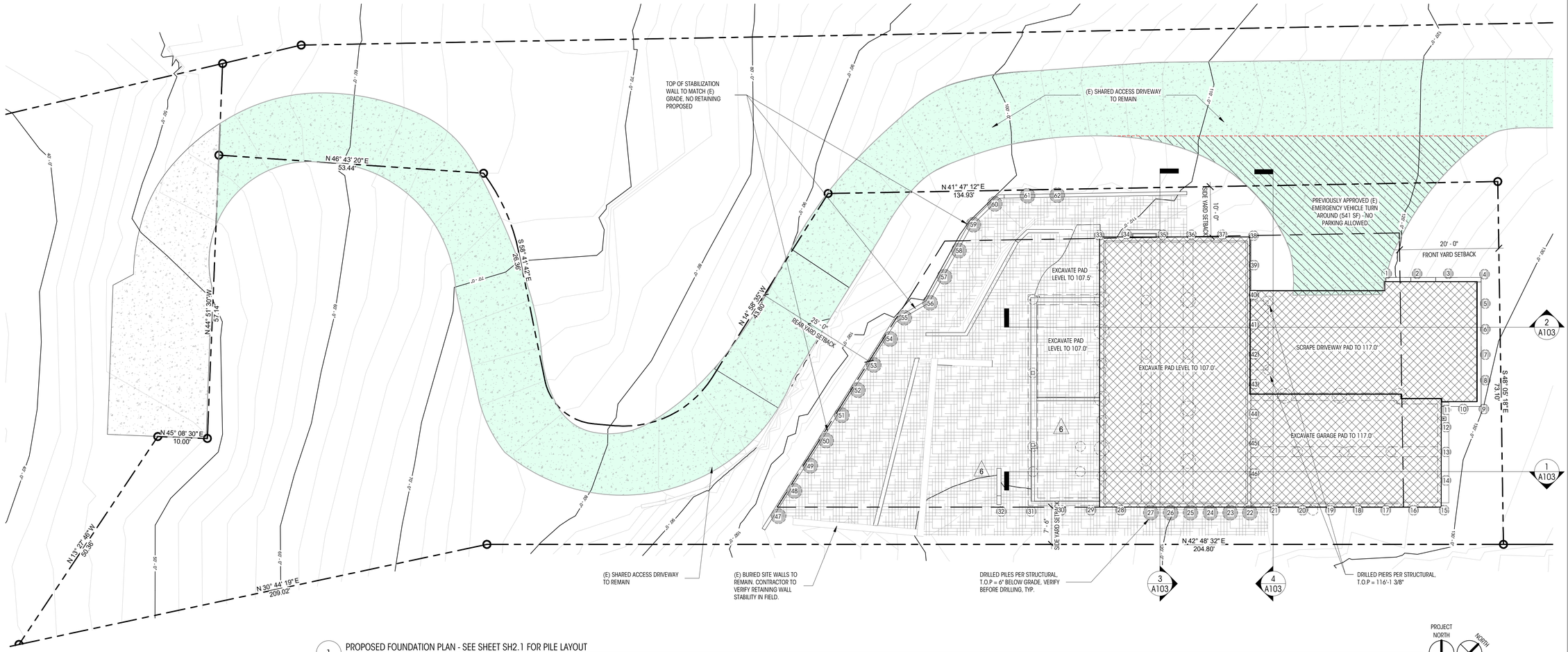
EXCAVATION PLAN

- CONTOUR MAJOR
- CONTOUR MINOR
- EXTENT OF FOUNDATION EXCAVATION
- APPROVED FIRE DEPARTMENT TURNAROUND
- SHARED DRIVEWAY EASEMENT
- EXTENT OF PROPOSED GRADING
- DRILLED PILE FOR PERMANENT SHORING PER STRUCTURAL/GEOTECH
- DRILLED PILE FOR FOUNDATION PER STRUCTURAL/GEOTECH

CONSTRUCTION

1. REMOVE TREES
2. DRILL/INSTALL SHORING PILES FOR STABILIZATION WALL
3. EXCAVATE REMAINING SITE
4. SCRAPE BUILDING PAD
5. FOUNDATION FORMWORK
6. FOUNDATION INSTALL
7. RETAINING WALL FORMWORK
8. DRAIN MAT INSTALL & TRENCHING FOR DRAINAGE AND UTILITIES
9. NON-STRUCTURAL RAT-SLAB INSTALL
10. FORM PARKING PAD FOUNDATION
11. POUR PARKING PAD FOUNDATIONS
12. FORM PARKING PAD RETAINING WALLS
13. FORM PARKING PAD & GARAGE SLAB
14. POUR PARKING/GARAGE SLABS
15. FINAL ROUGH GRADING
16. FRAMING

NOTE: NO SOIL, WATER, OR DEBRIS FROM SITE ACTIVITIES WILL BE ALLOWED TO BE PLACED OR DISCHARGED ON THE SLOPE.



1 PROPOSED FOUNDATION PLAN - SEE SHEET SH2.1 FOR PILE LAYOUT
1" = 10'-0"

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3	PERMIT REVISION 1	04.19.22
4	REV 1 SUB 2	06.10.22
6	PERMIT REVISION 2	07.06.23

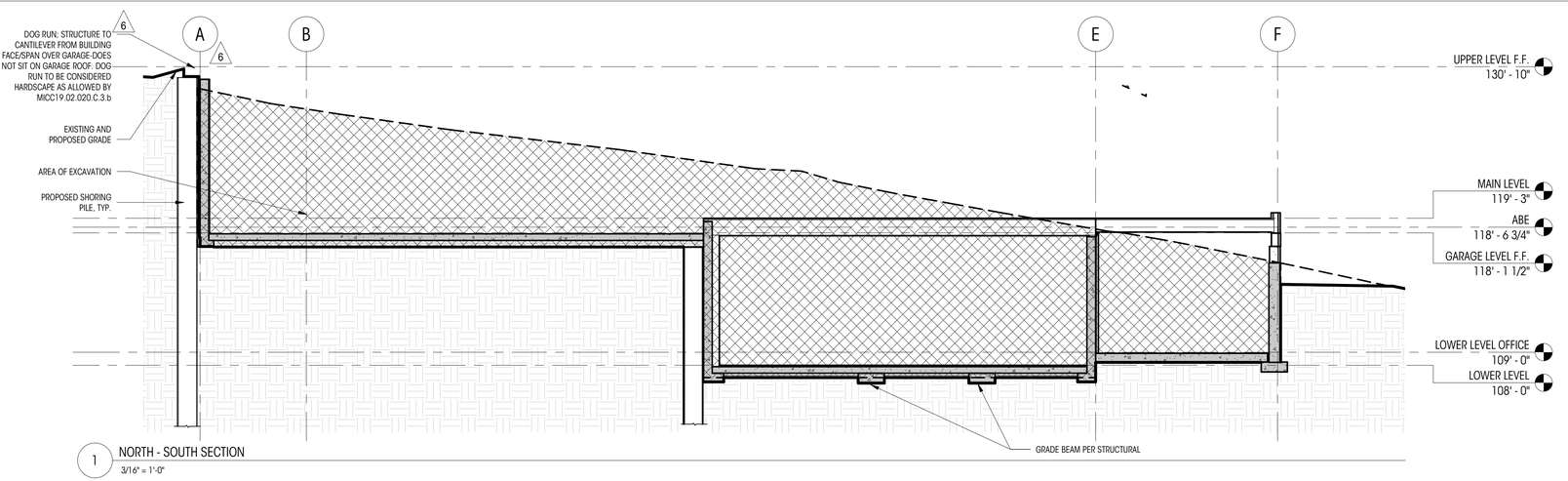
DRAWN BY:	KJ/JM
CHECKED BY:	BM

EXCAVATION PLAN

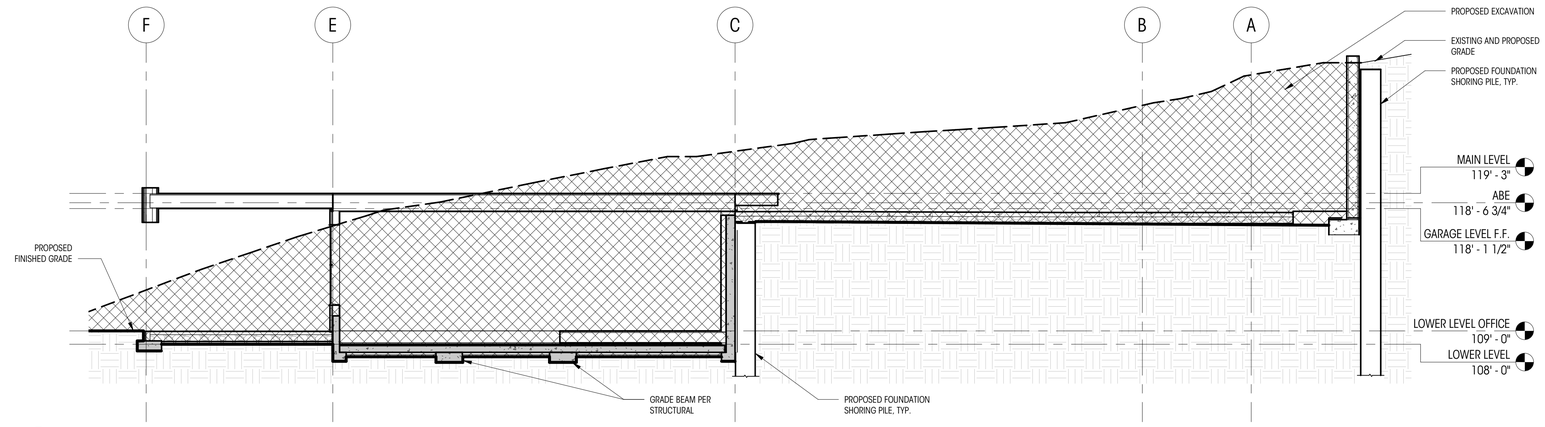
SCALE: As indicated

A102

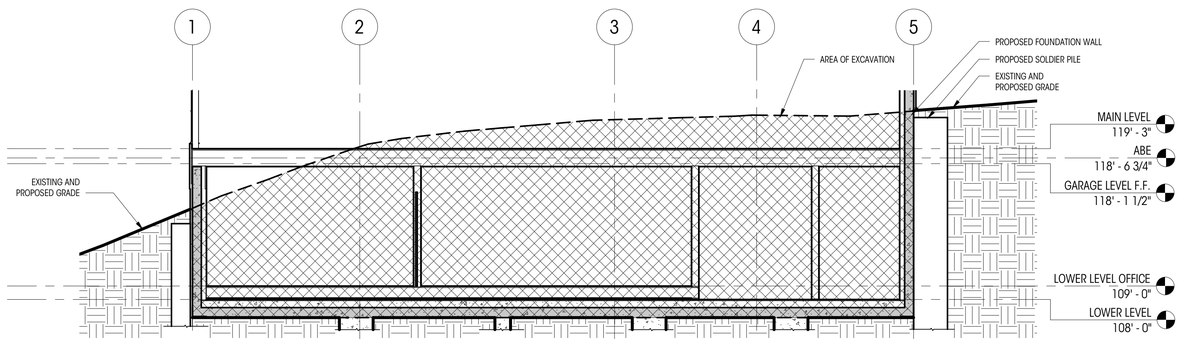
DEDICATED APPROVAL STAMP SPACE



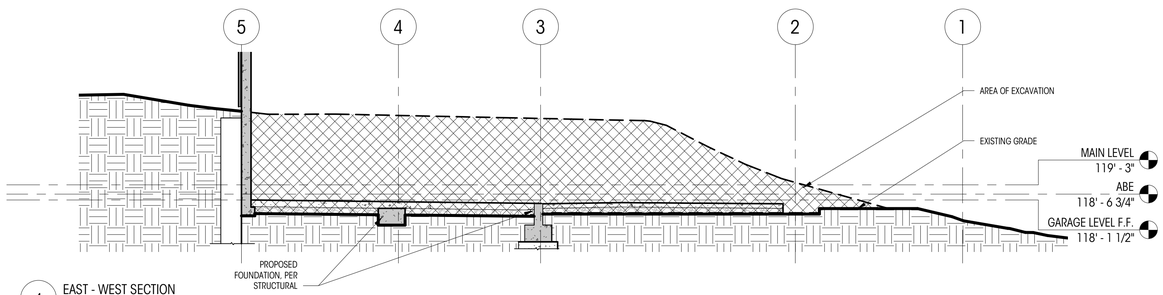
1 NORTH - SOUTH SECTION
3/16" = 1'-0"



2 EAST - WEST SECTION
3/16" = 1'-0"



3 NORTH - SOUTH SECTION
3/16" = 1'-0"



4 EAST - WEST SECTION
3/16" = 1'-0"

SITE EXCAVATION LEGEND

- PROPOSED GRADE
- (E) GRADE
- ALTERED (E) GRADE
- PROPOSED FOUNDATION
- GRADE BEAM, PER STRUCTURAL
- FILL
- PROPOSED EXCAVATION
- EXISTING GRADE

SCOPE OF CHANGES:

NO CHANGES TO THIS SHEET

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8843 REGISTERED ARCHITECT STATE OF WASHINGTON

CLARKSON RESIDENCE

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PERMIT DRAWINGS

DATE: 06.10.22
SHEET SIZE: D (24X36)

REVISIONS

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3	PERMIT REVISION 1	04.19.22
6	PERMIT REVISION 2	07.06.23

DRAWN BY: KJ/JM
CHECKED BY: BM

EXCAVATION SECTIONS

SCALE: As indicated

A103

DEDICATED APPROVAL STAMP SPACE

SCOPE OF CHANGES:

7 • DENSE SCREEN PLANTING GRAPHIC ADDED BACK IN

CRITICAL AREA LEGEND

- STEEP SLOPE AREA
- PROPERTY SETBACK
- BUILDING FOOTPRINT
- APPROVED FIRE DEPARTMENT TURNAROUND
- LANDSCAPE WALL, 4' MAX.
- LANDSCAPING (6)
- DENSE SCREEN PLANTING
- MOTORCOURT PLANTING STRIP

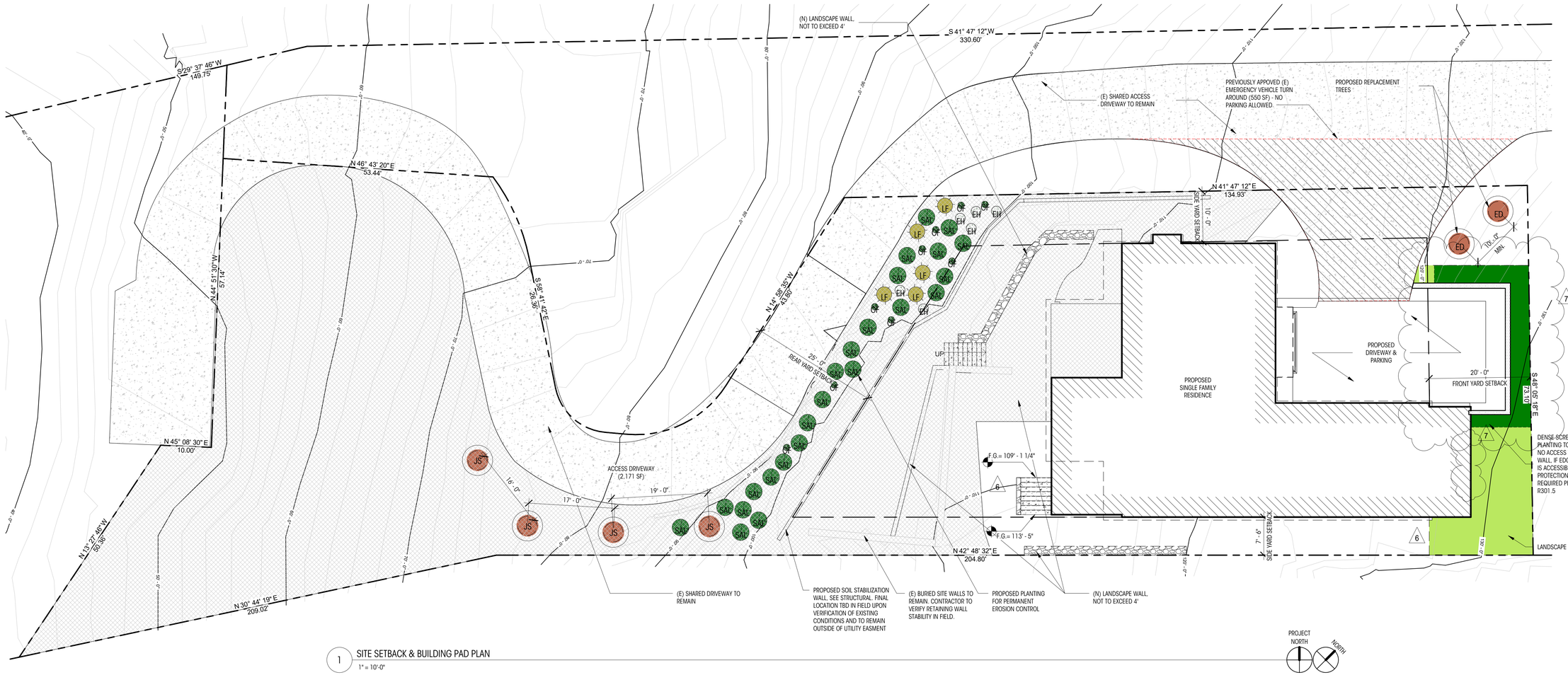
SLOPE STABILIZATION PLANTING PLAN LEGEND

VEGETATION	SPECIES COMMON NAME	SPECIES LATIN NAME
ED	EDDIES WHITE WONDER DOGWOOD	*Cornus Nuttfalii x Florida*
JS	JAPANESE SNOWBELL	*Styrax Japonicus*
LF	LADY FERN	*Athyrium Filix-Femina*

VEGETATION	SPECIES COMMON NAME	SPECIES LATIN NAME
SAL	SALAL	*Gualtheria Shallon*
DF	DEER FERN	*Blechnum Spicant*
OF	OAK FERN	*Gynocarpium Dryopteris*
EH	EVERGREEN HUCKLEBERRY	*Vaccinium Ovatum*

NOTES

PER MICC 19.02.020(F)(3)(D), THE PROJECT 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 AREAS ESTABLISHED 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.



1 SITE SETBACK & BUILDING PAD PLAN
1" = 10'-0"

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8843 REGISTERED ARCHITECT STATE OF WASHINGTON

CLARKSON RESIDENCE

8163 WEST MERCER WAY
MERCER ISLAND, WA 98040

PERMIT DRAWINGS

DATE: 06.10.22
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6	PERMIT REVISION 2	07.06.23
7	PERMIT REV. 2 SUB 2	11.07.23

DRAWN BY: KJ/JM
CHECKED BY: BM

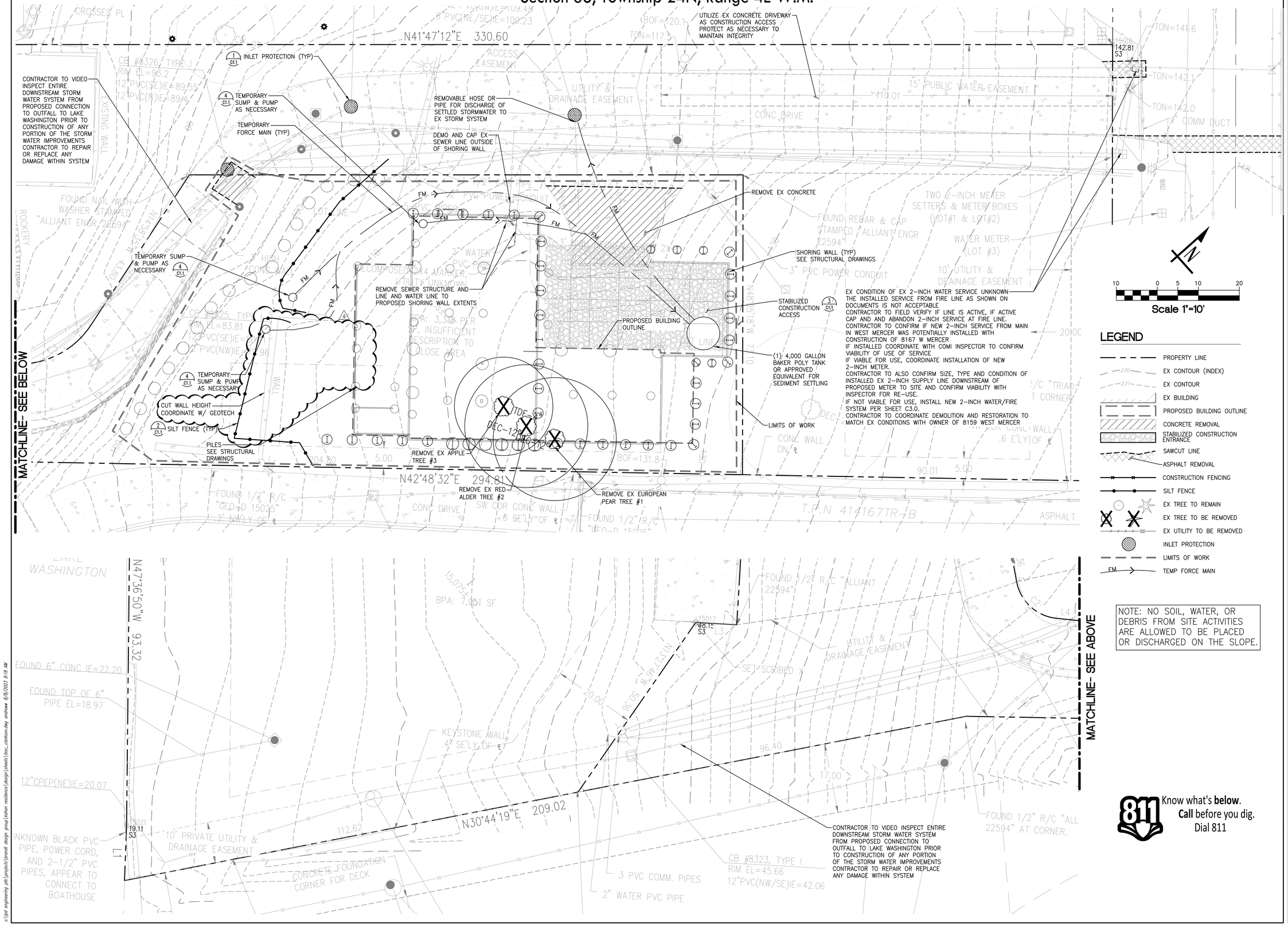
CRITICAL AREA & TREE PLAN

SCALE: As indicated

A105

DEDICATED APPROVAL STAMP SPACE

Section 36, Township 24N, Range 4E W.M.



NOTE: NO SOIL, WATER, OR DEBRIS FROM SITE ACTIVITIES ARE ALLOWED TO BE PLACED OR DISCHARGED ON THE SLOPE.

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

PERMIT DOCUMENTS

LPD engineering pllc
1932 First Ave, Suite 201, Seattle, WA 98101
p. 206.725.1211
f. 206.973.5344
www.lpdengineering.com

Stamp

LAURIE J. PEARR, STATE OF WASHINGTON, 32706, REGISTERED PROFESSIONAL ENGINEER
8-7-2023

No.	Revisions	Date
1	PERMIT REVISIONS	04/20/2022
2	PERMIT REVISIONS	06/10/2022
3	FIELD REVISION	10/10/2022
4	PERMIT REVISIONS	07/06/2023

0 1" 2"
Two Inches At Full Scale
If Not Scale Accordingly

Project Name

CLARKSON RESIDENCE
8163 W MERCER WAY

City of Mercer Island, Washington

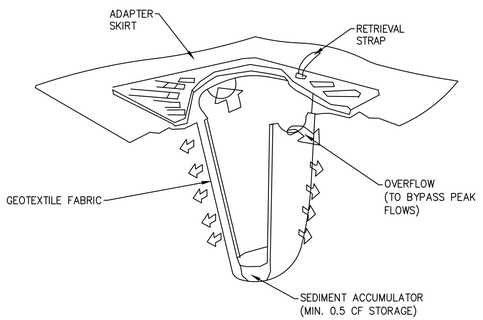
Project No.	272-20-01		
Issue Date	04/20/2022		
Scale	AS NOTED		
Designed	ACW	Checked	LJP
Drawn	KES	Approved	LJP

Description

TESC & DEMOLITION PLAN

Sheet

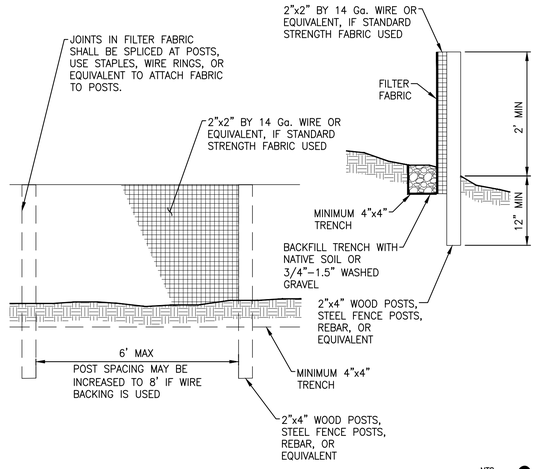
C1.0



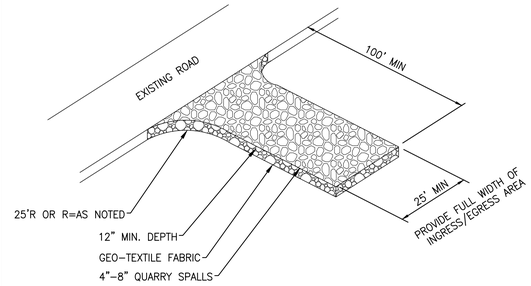
SCHEMATIC DETAIL

PROVIDE "STREAMGUARD SEDIMENT CATCH BASIN INSERT" OR APPROVED EQUAL
MANUFACTURER'S NAME: BOWHEAD ENVIRONMENTAL & SAFETY
ADDRESS: P.O. BOX 375 PRESTON, WA 98050
TELEPHONE: FOR INFORMATION: (800) 909-3677
WWW.SHOPBOWHEAD.COM

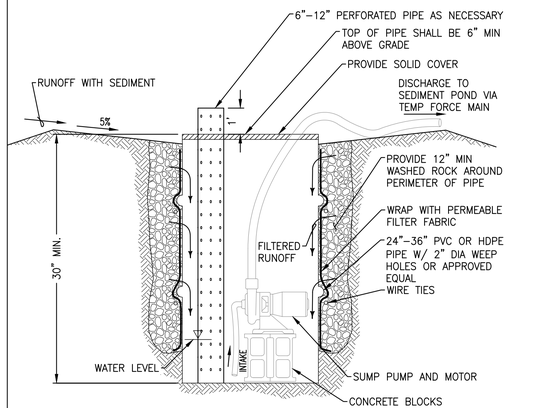
NTS
INLET PROTECTION 1



NTS
SILT FENCE 2



NTS
STABILIZED CONSTRUCTION ENTRANCE 3



NTS
TEMPORARY SUMP & PUMP 4

EROSION AND SEDIMENTATION CONTROL NOTES

1. THE IMPLEMENTATION OF THESE EROSION SEDIMENTATION CONTROL (ESC) PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
2. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO INSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS, AND MUST BE COMPLETED PRIOR TO ALL OTHER CONSTRUCTION.
3. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G. ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES), AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY MORE ESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY THEIR ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.
4. THE ESC FACILITIES SHALL BE INSPECTED DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT AND AT THE END OF EVERY RAINFALL BY THE PERMIT HOLDER/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMP. SILTATION PONDS AND ALL TEMP. SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED.
5. ANY AREA STRIPPED OF VEGETATION, INCLUDING ROADWAY EMBANKMENTS WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF SEVEN (7) DAYS, SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G. SEEDING, MULCHING, NETTING, EROSION, BLANKETS, ETC.)
6. ANY AREAS NEEDING ESC MEASURES, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.
7. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT.
8. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO DOWNSTREAM SYSTEM.
9. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (E.G. ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
10. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF THREE INCHES.
11. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS.
12. EROSION/SEDIMENTATION CONTROL FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
13. A COPY OF THE APPROVED EROSION CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
14. TEMPORARY EROSION/SEDIMENTATION CONTROLS SHALL BE INSTALLED & OPERATING PRIOR TO ANY GRADING OR LAND CLEARING.
15. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
16. ALL CUT AND FILL SLOPES 5:1 (5 FEET HORIZONTAL TO 1 FOOT VERTICAL) OR STEEPER THAT WILL BE LEFT EXPOSED FOR MORE THAN 7 DAYS SHALL BE PROTECTED BY JUTE MATTING, PLASTIC SHEETING, MULCH, OR OTHER APPROVED STABILIZATION METHOD AND PROVIDED WITH ADEQUATE RUNOFF CONVEYANCE TO INTERCEPT RUNOFF AND CONVEY IT TO AN APPROVED STORM DRAIN.
17. OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET, THE STREET SHALL BE CLEANED. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION VEHICLE ENTRANCE AND SHALL BE CLEANED OF MUD PRIOR TO EXITING ONTO THE STREET. SILT SHALL BE CLEANED FROM ALL CATCH BASINS WHEN THE BOTTOM HALF BECOMES FILLED WITH SILT.
18. ANY CATCH BASIN COLLECTING WATER FROM THE SITE, WHETHER THEY ARE ON OR OFF OF THE SITE, SHALL HAVE THEIR GRATES COVERED WITH FILTER FABRIC DURING CONSTRUCTION.
19. IF ANY PORTION OF THE EROSION/SEDIMENTATION CONTROL ELEMENTS ARE DAMAGED OR NOT FUNCTIONING, OR IF THE CLEARING LIMIT BOUNDARY BECOMES NON-DEFINED, IT SHALL BE REPAIRED IMMEDIATELY.

NTS
EROSION AND SEDIMENTATION CONTROL NOTES 9

CITY OF MERCER ISLAND NOTES

1. ANY CHANGES TO THE APPROVED PLANS REQUIRES CITY APPROVAL THROUGH A REVISION.
2. APPLICANT IS RESPONSIBLE FOR ANY DAMAGES TO UNDERGROUND UTILITIES CAUSED FROM THIS CONSTRUCTION.
3. CATCH BASIN FILTERS SHOULD BE PROVIDED FOR ALL STORM DRAIN CATCH BASIN/INLETS DOWNSLOPE AND WITHIN 500 FEET OF THE CONSTRUCTION AREA. CATCH BASIN FILTERS SHOULD BE DESIGNED BY THE MANUFACTURER FOR USE AT CONSTRUCTION SITES AND APPROVED BY THE CITY INSPECTOR. CATCH BASIN FILTERS SHOULD BE INSPECTED FREQUENTLY, ESPECIALLY AFTER STORM EVENTS. IF THE FILTER BECOMES CLOGGED, IT SHOULD BE CLEANED OR REPLACED.
4. CONTRACTORS SHALL VERIFY LOCATIONS AND DEPTHS OF UTILITIES.
5. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, CALL "ONE CALL" AT 1.800.425.5555.
6. DO NOT BACKFILL WITH NATIVE MATERIAL ON PUBLIC RIGHT-OF-WAY. ALL MATERIAL MUST BE IMPORTED.
7. EROSION CONTROL: ALL "LAND DISTURBING ACTIVITY" IS SUBJECT TO PROVISIONS OF MERCER ISLAND ORDINANCE 95C-118 "STORM WATER MANAGEMENT." SPECIFIC ITEMS TO BE FOLLOWED AT YOUR SITE.
8. PROTECT ADJACENT PROPERTIES FROM ANY INCREASED RUNOFF OR SEDIMENTATION DUE TO THE CONSTRUCTION PROJECT THROUGH THE USE OF APPROPRIATE "BEST MANAGEMENT PRACTICES" (BMP) EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, SEDIMENT TRAPS, SEDIMENT PONDS, FILTER FABRIC FENCES, VEGETATIVE BUFFER STRIPS OR BIOENGINEERED SWALES.
9. CONSTRUCTION ACCESS TO SITE SHOULD BE LIMITED TO ONE ROUTE. STABILIZE ENTRANCE WITH QUARRY SPALLS TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING THE STORM DRAINS.
10. PREVENT SEDIMENT, CONSTRUCTION DEBRIS, PAINTS, SOLVENTS, ETC., OR OTHER TYPES OF POLLUTION FROM ENTERING PUBLIC STORM DRAINS. KEEP ALL POLLUTION ON YOUR SITE.
11. ALL EXPOSED SOILS SHALL REMAIN DENUDED FOR NO LONGER THAN SEVEN (7) DAYS AND SHALL BE BE STABILIZED WITH MULCH, HAY, OR THE APPROPRIATE GROUND COVER. ALL EXPOSED SOILS SHALL BE COVERED IMMEDIATELY DURING ANY RAIN EVENT.
12. INSTALLATION OF CONCRETE DRIVEWAYS, TREES, SHRUBS, IRRIGATION, BOULDERS, BERMS, WALLS, GATES, AND OTHER IMPROVEMENTS ARE NOT ALLOWED IN THE PUBLIC RIGHT-OF-WAY WITHOUT PRIOR APPROVAL, AND AN ENCROACHMENT AGREEMENT AND RIGHT OF WAY PERMIT FROM THE SENIOR DEVELOPMENT ENGINEER.
13. OWNER SHALL CONTROL DISCHARGE OF SURFACE DRAINAGE RUNOFF FROM EXISTING AND NEW IMPERVIOUS AREAS IN A RESPONSIBLE MANNER. CONSTRUCTION OF NEW GUTTERS AND DOWNSPOUTS, DRY WELLS, LEVEL SPREADERS OR DOWNSTREAM CONVEYANCE PIPE MAY BE NECESSARY TO MINIMIZE DRAINAGE IMPACT TO YOUR NEIGHBORS. CONSTRUCTION OF MINIMUM DRAINAGE IMPROVEMENTS SHOWN OR CALLED OUT ON THIS PLAN DOES NOT IMPLY RELIEF FROM CIVIL LIABILITY FOR YOUR DOWNSTREAM DRAINAGE.
14. POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.
15. REMEMBER: EROSION CONTROL IS YOUR FIRST INSPECTION.
16. ROOF DRAINS MUST BE CONNECTED TO THE STORM DRAIN SYSTEM AND INSPECTED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY BACKFILLING OF PIPE.
17. SILT FENCE: CLEAN AND PROVIDE REGULAR MAINTENANCE OF THE SILT FENCE. THE FENCE IS TO REMAIN VERTICAL AND IS TO FUNCTION PROPERLY THROUGHOUT THE TERM OF THE PROJECT.
18. WORK IN PUBLIC RIGHT OF WAY REQUIRES A RIGHT-OF-WAY USE PERMIT.
19. REFER TO WATER SERVICE PERMIT FOR ACTUAL LOCATION OF NEW WATER METER AND SERVICE LINE DETERMINED BY MERCER ISLAND WATER DEPARTMENT.
20. THE TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN IS REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED. ALTERNATELY, A PRESSURE TEST OF THE SIDE SEWER, FROM SEWER MAIN TO POINT OF CONNECTION, MAY BE SUBSTITUTED FOR THE VIDEO INSPECTION.
21. NEWLY INSTALLED SIDE SEWER REQUIRES A 4 P.S.I. AIR TEST OR PROVIDE 10' OF HYDROSTATIC HEAD TEST.
22. THE LIMITS AND EXTENTS OF THE PAVEMENT IN THE PUBLIC RIGHT OF WAY SHALL BE DETERMINED BY THE CITY ENGINEER PRIOR TO FINALIZING THE PROJECT.
23. TREE PROTECTION INSPECTION REQUIRED BEFORE ANY WORK BEGINS, CALL 206-275-7713.

NTS
CITY OF MERCER ISLAND NOTES 10

NTS
NOT USED 7

NTS
NOT USED 8

NTS
NOT USED 11

NTS
NOT USED 12

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LAURIE J. PEARR — STATE OF WASHINGTON — 30706 — REGISTERED PROFESSIONAL ENGINEER
8-7-2023

No.	Revisions	Date
1	PERMIT REVISIONS	04/20/2022
2	PERMIT REVISIONS	06/10/2022
3	FIELD REVISION	10/10/2022
4	PERMIT REVISIONS	07/06/2023

0 1" 2"
Two Inches At Full Scale
If Not Scale Accordingly

Project Name

CLARKSON RESIDENCE
8163 W MERCER WAY
City of Mercer Island, Washington

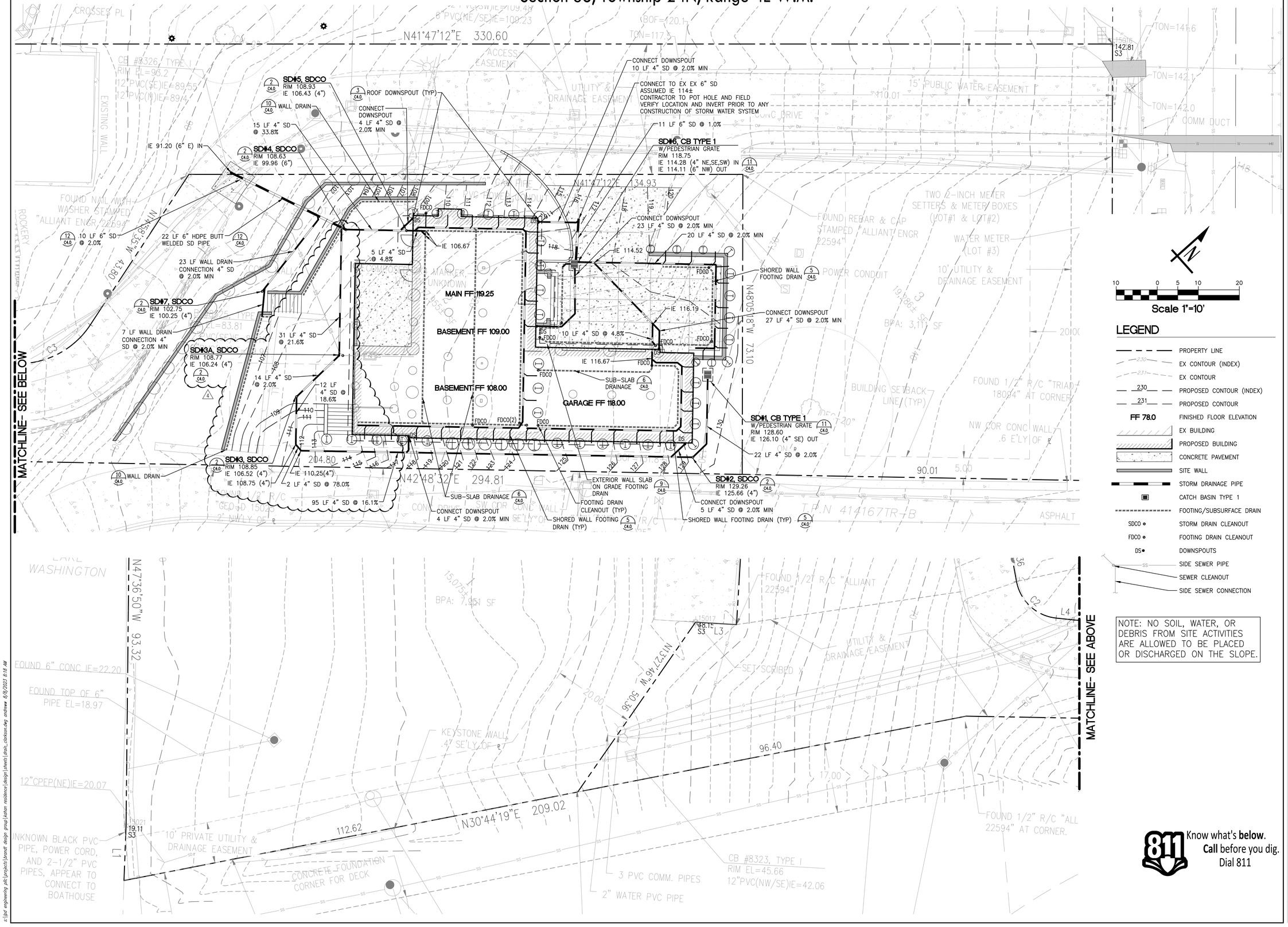
PERMIT DOCUMENTS

Project No. 272-20-01
Issue Date 04/20/2022
Scale As Noted
Designed ACW Checked LJP
Drawn KES Approved LJP

Description
NOTES & TESC DETAILS

Sheet
C1.1

Section 36, Township 24N, Range 4E W.M.



10 0 5 10 20

Scale 1"=10'

LEGEND

- PROPERTY LINE
- EX CONTOUR (INDEX)
- EX CONTOUR
- PROPOSED CONTOUR (INDEX)
- PROPOSED CONTOUR
- FF 78.0 FINISHED FLOOR ELEVATION
- EX BUILDING
- PROPOSED BUILDING
- CONCRETE PAVEMENT
- SITE WALL
- STORM DRAINAGE PIPE
- CATCH BASIN TYPE 1
- FOOTING/SUBSURFACE DRAIN
- SDCO STORM DRAIN CLEANOUT
- FDCO FOOTING DRAIN CLEANOUT
- DS DOWNSPOUTS
- SIDE SEWER PIPE
- SEWER CLEANOUT
- SIDE SEWER CONNECTION

NOTE: NO SOIL, WATER, OR DEBRIS FROM SITE ACTIVITIES ARE ALLOWED TO BE PLACED OR DISCHARGED ON THE SLOPE.

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

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LAURIE J. PEARR — STATE OF WASHINGTON — 30705 — REGISTERED PROFESSIONAL ENGINEER

8-7-2023

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0 1" 2"
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If Not Scale Accordingly

Project Name

CLARKSON RESIDENCE
8163 W MERCER WAY

City of Mercer Island, Washington

Project No.	272-20-01
Issue Date	04/20/2022
Scale	AS NOTED
Designed	ACW
Checked	LJP
Drawn	KES
Approved	LJP

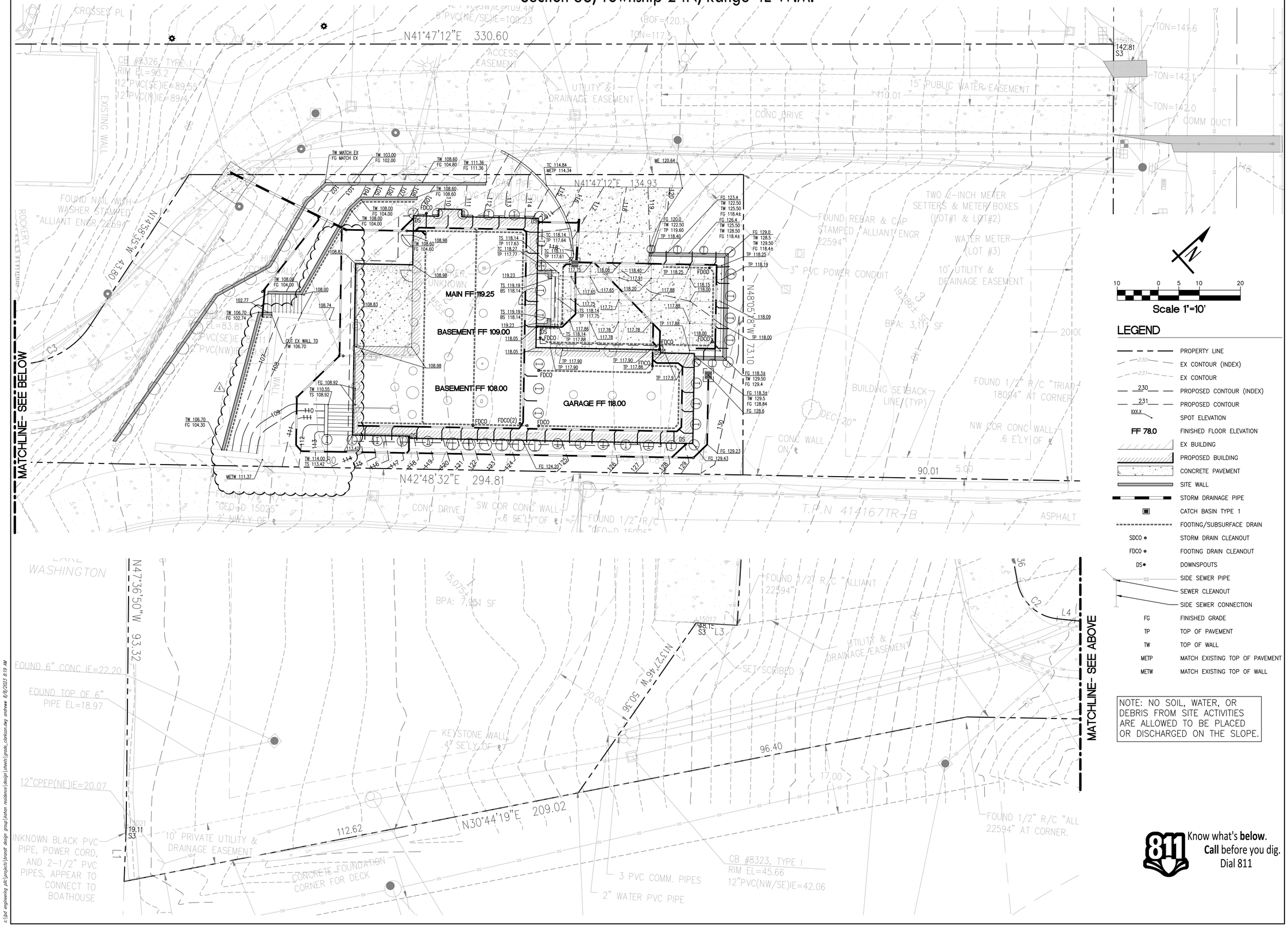
Description

DRAINAGE PLAN

Sheet

C2.0

Section 36, Township 24N, Range 4E W.M.



LEGEND

- PROPERTY LINE
- EX CONTOUR (INDEX)
- EX CONTOUR
- PROPOSED CONTOUR (INDEX)
- PROPOSED CONTOUR
- SPOT ELEVATION
- FF 78.0 FINISHED FLOOR ELEVATION
- EX BUILDING
- PROPOSED BUILDING
- CONCRETE PAVEMENT
- SITE WALL
- STORM DRAINAGE PIPE
- CATCH BASIN TYPE 1
- FOOTING/SUBSURFACE DRAIN
- SDCO STORM DRAIN CLEANOUT
- FDCO FOOTING DRAIN CLEANOUT
- DS DOWNSPOUTS
- SIDE SEWER PIPE
- SEWER CLEANOUT
- SIDE SEWER CONNECTION
- FG FINISHED GRADE
- TP TOP OF PAVEMENT
- TW TOP OF WALL
- METP MATCH EXISTING TOP OF PAVEMENT
- METW MATCH EXISTING TOP OF WALL

NOTE: NO SOIL, WATER, OR DEBRIS FROM SITE ACTIVITIES ARE ALLOWED TO BE PLACED OR DISCHARGED ON THE SLOPE.

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LAURIE J. PEARR — STATE OF WASHINGTON — 30706 REGISTERED PROFESSIONAL ENGINEER

8-7-2023

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8163 W MERCER WAY

City of Mercer Island, Washington

PERMIT DOCUMENTS

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Checked	LJP
Drawn	KES
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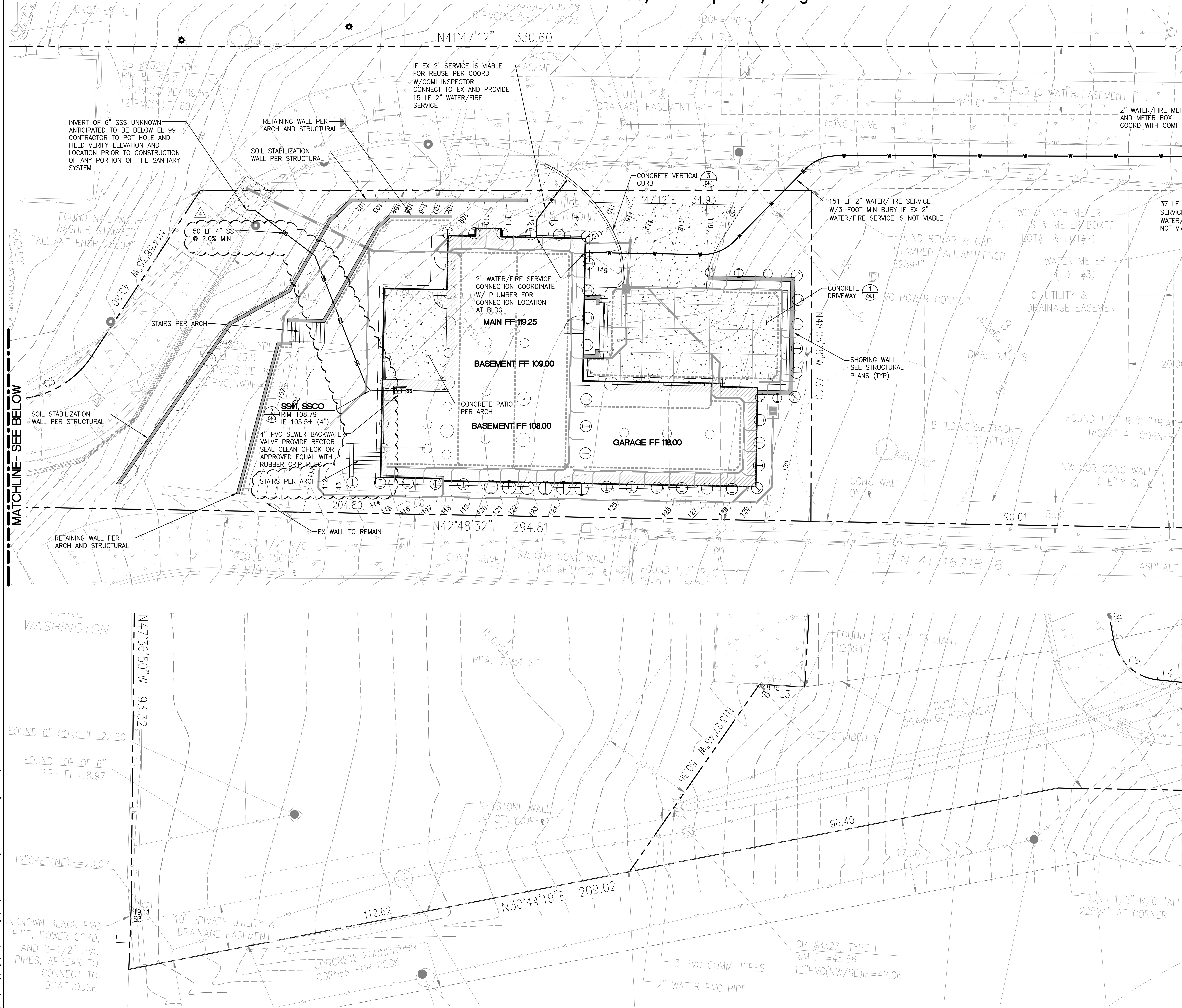
Description

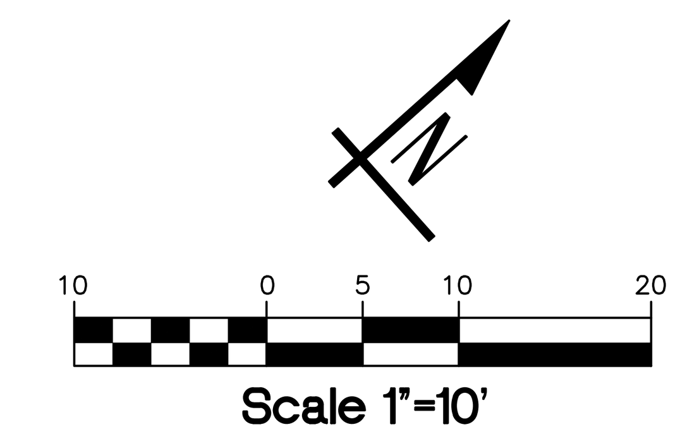
GRADING PLAN

Sheet

C2.1

Section 36, Township 24N, Range 4E W.M.





LEGEND

	PROPERTY LINE
230	EX CONTOUR (INDEX)
231	EX CONTOUR
230	PROPOSED CONTOUR (INDEX)
231	PROPOSED CONTOUR
FF 78.0	FINISHED FLOOR ELEVATION
	EX BUILDING
	PROPOSED BUILDING
	CONCRETE PAVEMENT
	SITE WALL
	STORM DRAINAGE PIPE
	CATCH BASIN TYPE 1
	FOOTING/SUBSURFACE DRAIN
	STORM DRAIN CLEANOUT
	FOOTING DRAIN CLEANOUT
	DOWNSPOUTS
SSCO SS	SIDE SEWER PIPE
	SEWER CLEANOUT
	SIDE SEWER CONNECTION

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LAURIE J. PFARR, STATE OF WASHINGTON, 30766, REGISTERED PROFESSIONAL ENGINEER
8-7-2023

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Project Name

CLARKSON RESIDENCE 8163 W MERCER WAY

City of Mercer Island, Washington

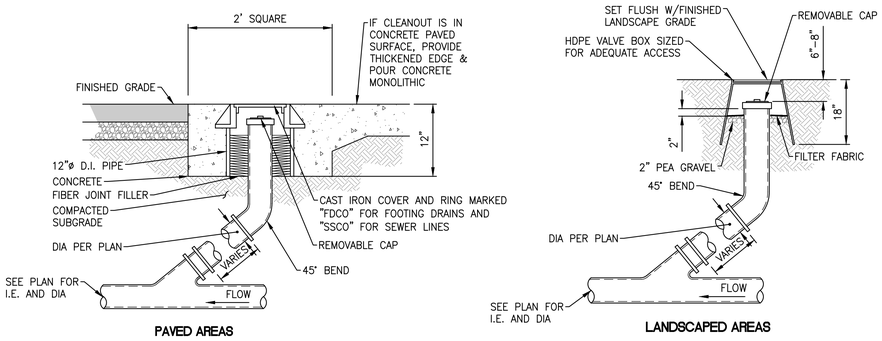
Project No.	272-20-01		
Issue Date	04/20/2022		
Scale	AS NOTED		
Designed	ACW	Checked	LJP
Drawn	KES	Approved	LJP

Description

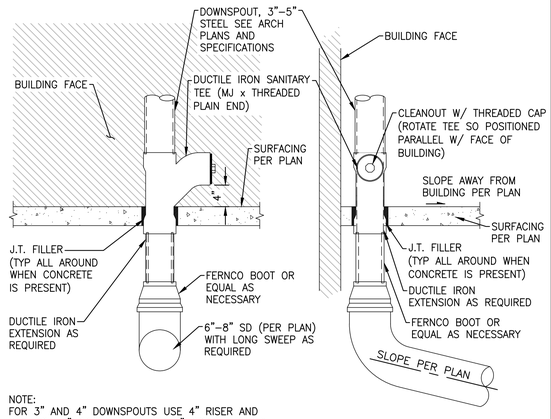
UTILITIES & PAVING PLAN

Sheet

C3.0

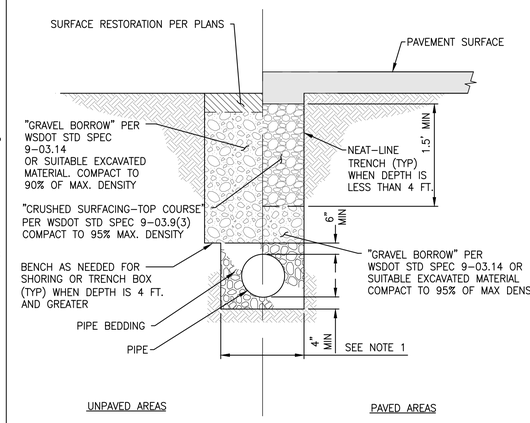


NTS
CLEANOUT 2



NOTE:
FOR 3" AND 4" DOWNSPOUTS USE 4" RISER AND TEE. FOR 5" DOWNSPOUTS USE 6" RISER AND TEE.

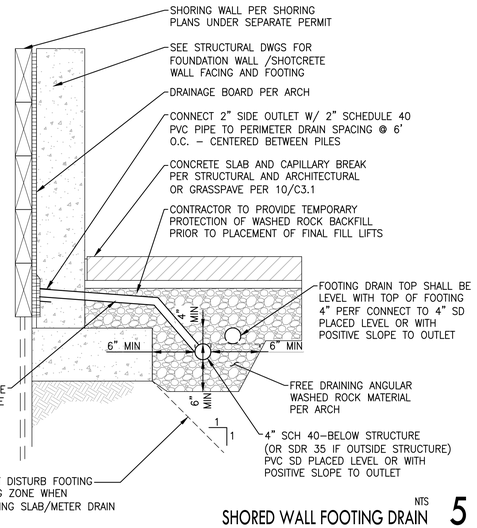
NTS
ROOF DOWNSPOUT 3



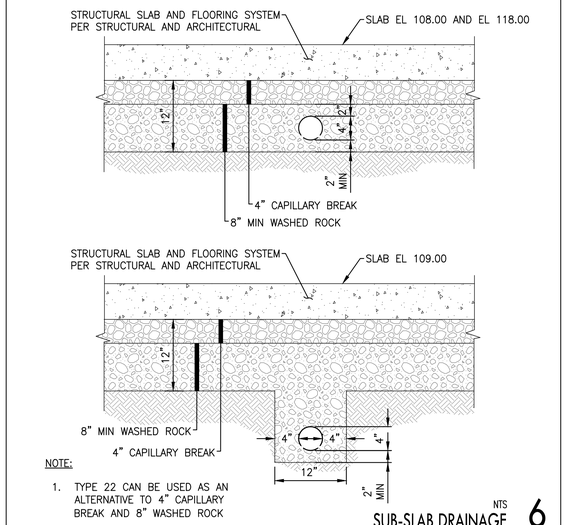
NOTE:

1. MAXIMUM WIDTH OF TRENCH AT TOP OF PIPE
   * 30" FOR PIPE UP TO AND INCLUDING 12" NOMINAL DIAMETER.

NTS
PIPE BEDDING 4



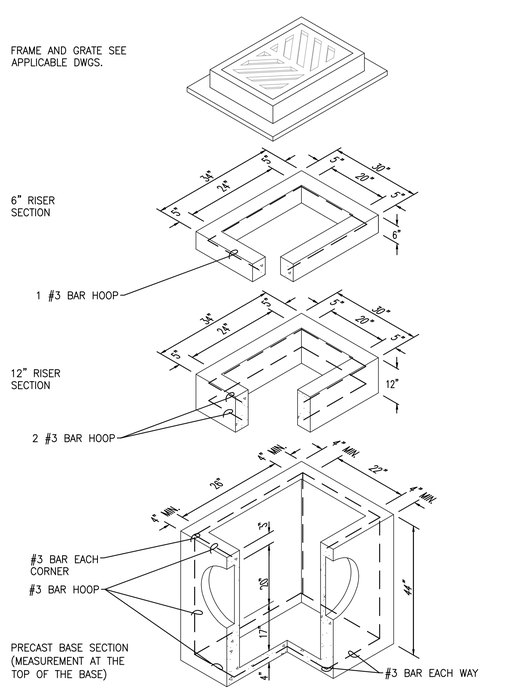
NTS
SHORED WALL FOOTING DRAIN 5



NOTE:

1. TYPE 22 CAN BE USED AS AN ALTERNATIVE TO 4" CAPILLARY BREAK AND 8" WASHED ROCK

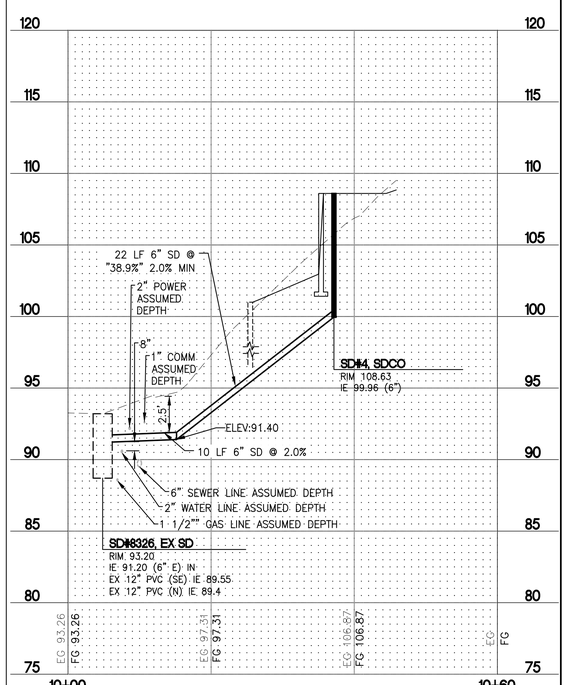
NTS
SUB-SLAB DRAINAGE 6



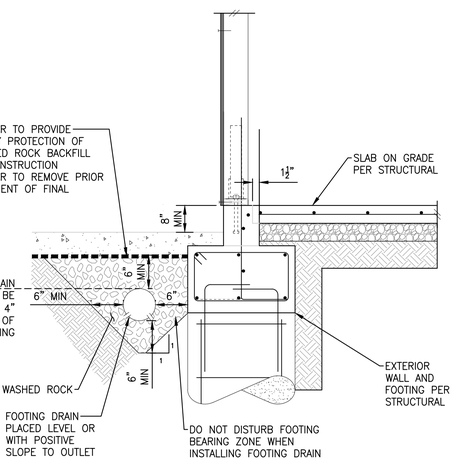
NOTES:

1. CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 (AASHTO M 199) & C890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT/APWA STANDARD SPECIFICATIONS.
2. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497 (AASHTO M 221). WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.
3. ALL REINFORCED CAST–IN–PLACE CONCRETE SHALL BE CLASS 4000.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT.
5. ROUND KNOCKOUTS MAY BE ON ALL 4 SIDES, WITH MAX. DIA. OF 20". KNOCKOUTS MAY BE EITHER ROUND OR "D" SHAPE.
6. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIA. PLUS CATCH BASIN WALL THICKNESS.
7. THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'–0".
8. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED 1/2"/FT.
9. CATCH BASIN FRAME AND GRATE SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR–F–621D. MATING SURFACES SHALL BE FINISHED TO ASSURE NON–ROCKING FIT WITH ANY COVER POSITION.
10. FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO RISER.
11. FOR CATCH BASINS IN PARKING LOTS REFER TO WSDOT STD PLAN B–5.60–01.
12. EDGE OF RISER OR BRICK SHALL NOT BE MORE THAN 2" FROM VERTICAL EDGE OF CATCH BASIN WALL.
13. CATCH BASIN INSTALLATION SHALL BE PER CONTRACT DOCUMENTS AND DETAILS.

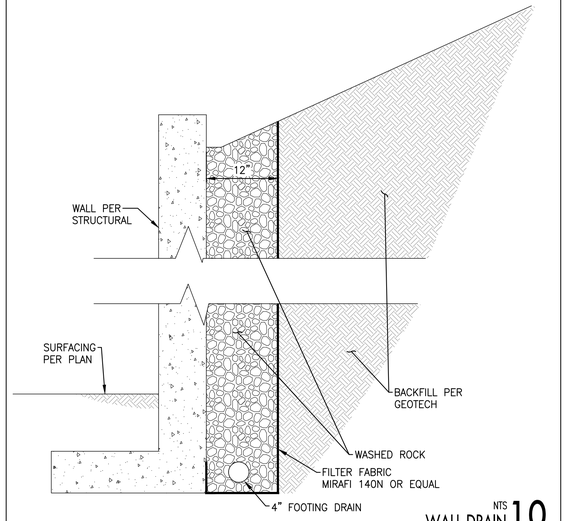
NTS
CATCH BASIN TYPE 1 11



NTS
SD#4 TO EX SD PROFILE 12



NTS
EXTERIOR WALL SLAB ON GRADE FOOTING DRAIN 9



NTS
WALL DRAIN 10

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LAURIE J. PEARR — STATE OF WASHINGTON — 32706 — REGISTERED PROFESSIONAL ENGINEER

8-7-2023

No.	Revisions	Date
1	PERMIT REVISIONS	04/20/2022
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If Not Scale Accordingly

Project Name

CLARKSON RESIDENCE
8163 W MERCER WAY

City of Mercer Island, Washington

PERMIT DOCUMENTS

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Drawn KES Approved LJP

Description
DRAINAGE & UTILITIES DETAILS

Sheet
C4.0

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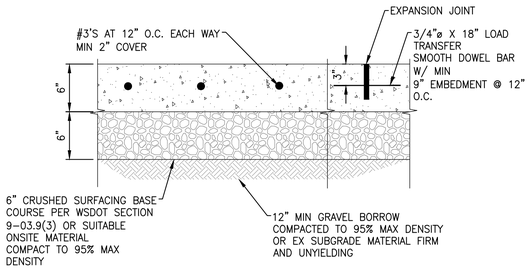
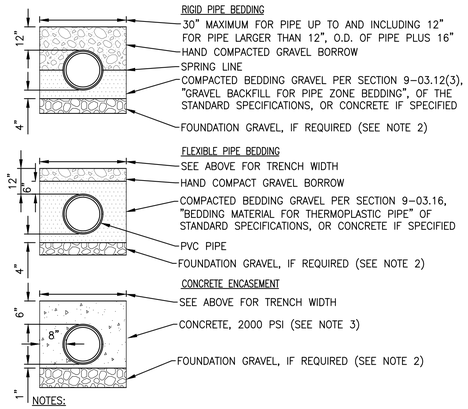


NOTE:

1. MINIMUM CONCRETE 3000 PSI (5 1/2 SACK)
2. PROVIDE CONSTRUCTION OR CONTRACTION JOINTS TO BREAK INTO AREAS OF 144 SF OR LESS. NO ACUTE ANGLES. JOINT LOCATIONS TO BE APPROVED BY THE ARCHITECT.
3. PROOF ROLL EXISTING SUBGRADE AND REMOVE ANY SOFT SPOTS

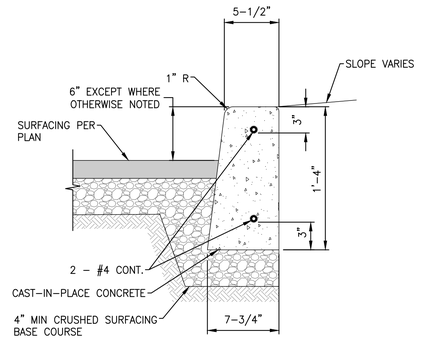
NTS
CONCRETE DRIVEWAY 1



NOTES:

1. COMPACTED CRUSHED SURFACING TOP COURSE PER SECTION 9-03.9(3), "CRUSHED SURFACING", OF THE STANDARD SPECIFICATIONS CAN ALSO BE USED AS BEDDING GRAVEL.
2. EXCAVATE UNSTABLE MATERIAL DOWN TO FIRM SOIL AND REPLACE WITH FOUNDATION GRAVEL PER SECTION 9-03.9(1), "BALLAST", OF THE STANDARD SPECIFICATIONS
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANCHORING PIPE TO PREVENT FLOTATION DURING CONCRETE PLACEMENT.

NTS
PIPE TRENCH 2



NTS
CONCRETE VERTICAL CURB 3

NTS
NOT USED 4

NTS
NOT USED 5

NTS
NOT USED 6

NTS
NOT USED 7

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NOT USED 8

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NOT USED 9

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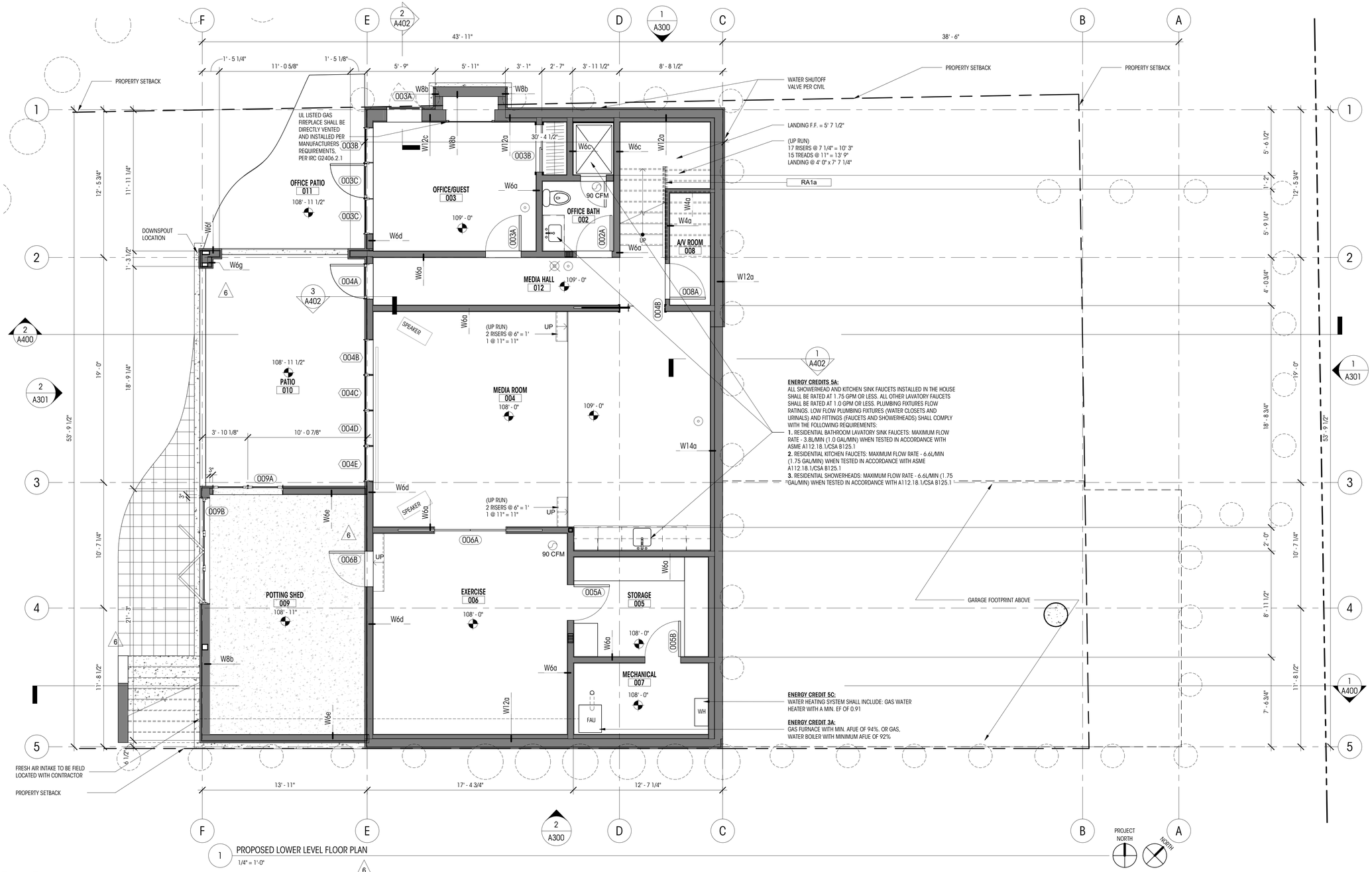
Description

PAVING DETAILS

Sheet

C4.1



1 PROPOSED LOWER LEVEL FLOOR PLAN
1/4" = 1'-0"

ENERGY CREDITS 5A:
ALL SHOWERHEAD AND KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM OR LESS. ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM OR LESS. PLUMBING FIXTURES FLOW RATINGS. LOW FLOW PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
1. RESIDENTIAL BATHROOM LAVATORY SINK FAUCETS: MAXIMUM FLOW RATE - 3.8L/MIN (1.0 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1
2. RESIDENTIAL KITCHEN FAUCETS: MAXIMUM FLOW RATE - 6.6L/MIN (1.75 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1
3. RESIDENTIAL SHOWERHEADS: MAXIMUM FLOW RATE - 6.6L/MIN (1.75 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH A112.18.1/CSA B125.1

ENERGY CREDIT 5C:
WATER HEATING SYSTEM SHALL INCLUDE: GAS WATER HEATER WITH A MIN. EF OF 0.91

ENERGY CREDIT 3A:
GAS FURNACE WITH MIN. AFUE OF 94%. OR GAS, WATER BOILER WITH MINIMUM AFUE OF 92%.

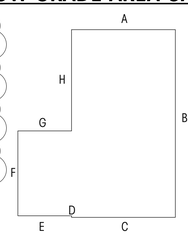
SCOPE OF CHANGES:

- UPDATE TO LOWER LEVEL BASEMENT GFA REDUCTION PER PERMIT COMMENT.

BASEMENT LEVEL BELOW GRADE AREA CALC

WALL SEGMENT	LENGTH	COVERAGE	RESULT
A	30.38'	59%	17.78'
B	54.13'	100%	54.13'
C	30.38'	100%	30.38'
D	00.5'	62%	0.31'
E	13.88'	78%	10.83'
F	21.67'	13%	2.86'
G	13.92'	00%	0.00'
H	31.98'	00%	0.00'
TOTAL	196.81'		116.28'

TOTAL BASEMENT GSF = 1,943 SF
PORTION OF EXCLUDED BASEMENT FLOOR AREA:
(116.28/196.81) X 1,943 = **1,148 SF**
NET BASEMENT GFA: (1943 - 1148) = **795 SF**



LEGEND

- 200A WINDOW ID
- 100A DOOR ID
- 100A FINISH ID
- SMOKE DETECTOR
- SMOKE/CARBON MONOXIDE DETECTOR
- FAN - 100 CFM U.N.O.
- PROPOSED UPPER LEVEL 150% (PER 19.02.020.D.2.g)
- EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR. — ELEVATION DATUM
- 0 — GRIDLINE
- NEW WALL
- PLANTER AREA
- ROOF LINE ABOVE
- LANDSCAPING
- DENSE PLANTING

NOTES

1. ALL DIMENSIONS AT EXTERIOR WALLS TO FACE OF FRAMING OR TO EXT. FACE OF CONCRETE, U.N.O.

2. ALL DIMENSIONS AT INTERIOR WALLS TO FACE OF FINISH (5/8" GWB ASSUMED AT EA. SIDE OF WALL) OR TO FACE OF CONCRETE, U.N.O.

3. ALL DIMENSIONS AT KITCHEN TO EDGE OF COUNTERTOPS, U.N.O.

RA1a PRE-MANUFACTURED 3'-0" HIGH GUARDRAIL TO RESTRICT PASSAGE OF A 4" SPHERE.
CONTRACTOR SHALL VERIFY TO INSPECTOR ALL GUARDS AND RAILINGS SHALL BE CAPABLE OF RESISTING 200LBS ON TOP RAIL ACTING IN ANY DIRECTION AS REQUIRED BY IRC R301.5, TYP.
DESIGN AND CONNECTION UNDER DEFERRED SUBMITTAL.

RA1b HANDRAIL @ 3'0" ABOVE STAIR NOSING PER IRC R311.7.8, TPY.

Fl1a UL LISTED GAS FIREPLACE SHALL BE DIRECT VENTED AND INSTALLED PER MANUFACTURERS'S REQUIREMENTS, PER IRC G2406.2.1

WHOLE HOUSE VENTILATION CALCS

PROPOSED CONDITIONED SF =	5,704 SF
NUMBER OF BEDROOMS =	6
AIRFLOW IN CFM REQUIRED FOR CONTINUOUS VENTILATION = 120 CFM	
RUN TIME PERCENTAGE IN EACH 4 HOUR SEGMENT =	25 %
FACTOR =	4
CALCULATION	120 CFM X 4 = **480 CFM**

2015 IRC SECTION M1507, WA AMENDED 403.8.1 & 403.8.5.1 - INTERMITTENT WHOLE HOUSE VENTILATION
PER IRC TABLES M1507.3.3(1)/(2) A 25% RUN-TIME IN EACH 4-HOUR SEGMENT REQUIRES A 480 CFM FAN(S) TO BE PROVIDED FOR THE REQUIRED WHOLE-HOUSE VENTILATION. THIS VENTILATION REQUIREMENT WILL BE HANDLED BY A BALANCED VENTILATION SYSTEM IN CONJUNCTION WITH FORCED AIR UNIT. SEE WA STATE VENTILATION NOTES SECTION 1507.3.5.1 ON SHEET A001 REGARDING VENTILATION REQUIREMENTS BASED INTEGRATED WITH A FORCED AIR UNIT.
*OUTDOOR AIR INLET DUCT TO BE FIELD LOCATED WITH HVAC SUBCONTRACTOR IN CONJUNCTION WITH PLACING EXHAUST DUCTS IN ORDER TO AVOID CONFLICT.

ENERGY CREDIT

2a	AIR LEAKAGE CONTROL & EFFICIENT VENTILATION: COMPLIANCE BASED ON R402.4.1.2.	.5
3a	HIGH EFFICIENCY HVAC EQUIPMENT: GAS, PROPANE OR OIL FIRE FURNANCE WITH MIN. AFUE OF 94% OR GAS, PROPANE OR OIL FIRE BOILER WITH MIN. AFUE OF 92%	1.0
5a	ALL SHOWERHEAD AND KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM OR LESS. ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM OR LESS. PLUMBING FIXTURES FLOW RATINGS. LOW FLOW PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS: 1. RESIDENTIAL BATHROOM LAVATORY SINK FAUCETS: MAXIMUM FLOW RATE - 3.8L/MIN (1.0 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1 2. RESIDENTIAL KITCHEN FAUCETS: MAXIMUM FLOW RATE - 6.6L/MIN (1.75 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1 3. RESIDENTIAL SHOWERHEADS: MAXIMUM FLOW RATE - 6.6L/MIN (1.75 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH A112.18.1/CSA B125.1	0.5 1.5
5c	GAS WATER HEATING SYSTEM W/ A MINIMUM EF OF 0.91	
	TOTAL	3.5

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8843 REGISTERED ARCHITECT STATE OF WASHINGTON

CLARKSON RESIDENCE

8163 WEST MERCER WAY
MERCER ISLAND, WA 98040

PERMIT DRAWINGS

DATE: 06.10.22
SHEET SIZE: D (24X36)

REVISIONS

NO.	DESCRIPTION	DATE
3	PERMIT REVISION 1	04.19.22
4	REV 1 SUB 2	06.10.22
6	PERMIT REVISION 2	07.06.23
7	PERMIT REV. 2 SUB 2	11.07.23

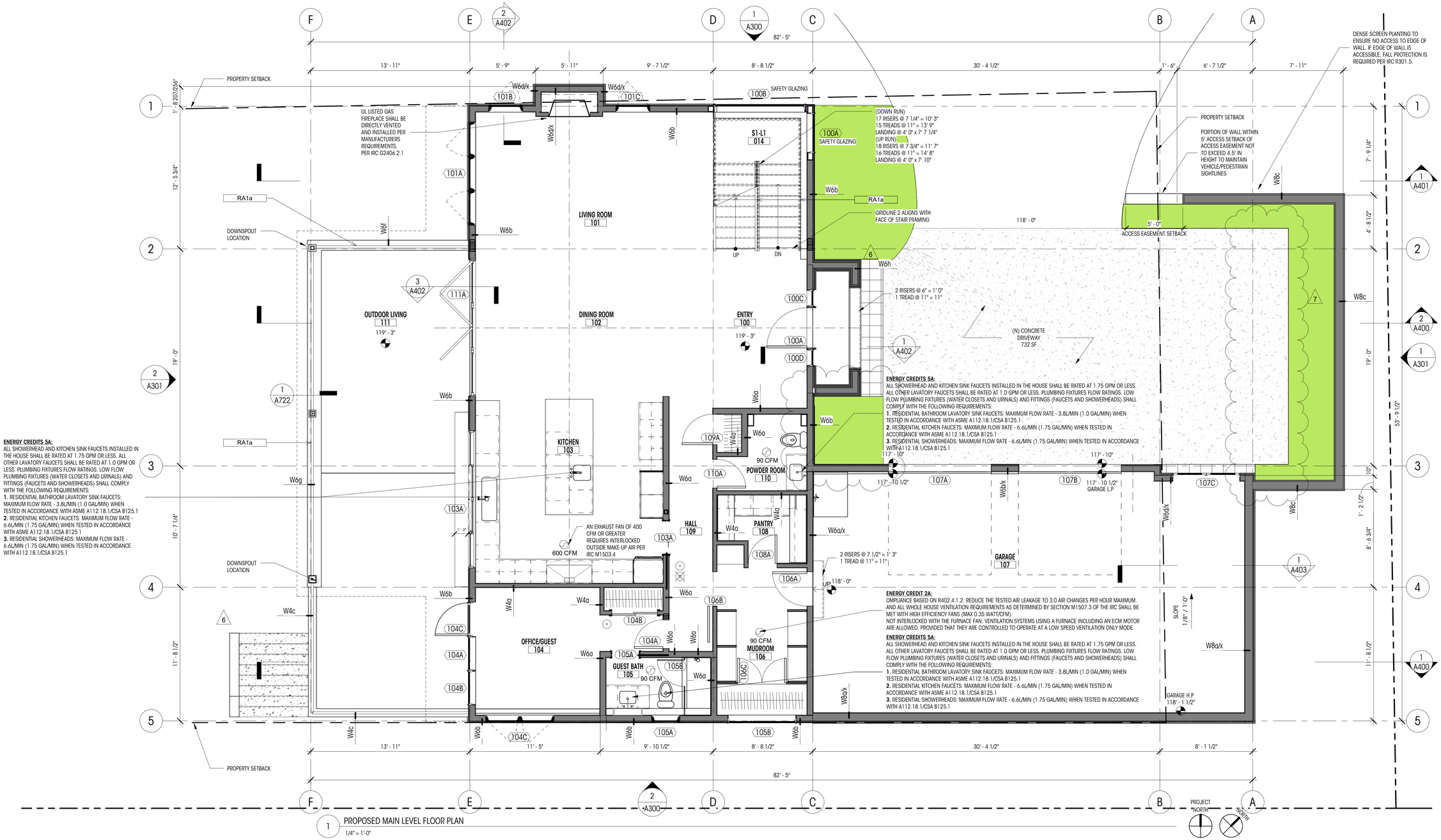
DRAWN BY: KJ,JM
CHECKED BY: BM

LOWER FLOOR PLAN

SCALE: As indicated

A201

DEDICATED APPROVAL STAMP SPACE



1 PROPOSED MAIN LEVEL FLOOR PLAN
1/4" = 1'-0"

SCOPE OF CHANGES:

- EXTENT OF MOTORCOURT PAVING REDUCED

LEGEND

- 200A WINDOW ID
- 100A DOOR ID
- 100A FINISH ID
- SMOKE DETECTOR
- SMOKE/CARBON MONOXIDE DETECTOR
- FAN - 100 CFM U.N.O.
- PROPOSED UPPER LEVEL 150% (PER 19.02.020.D.2.a)
- EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR. — ELEVATION DATUM
- GRIDLINE
- NEW WALL
- PLANTER AREA
- ROOF LINE ABOVE
- LANDSCAPING
- DENSE PLANTING

NOTES

1. ALL DIMENSIONS AT EXTERIOR WALLS TO FACE OF FRAMING OR TO EXT. FACE OF CONCRETE, U.N.O.

2. ALL DIMENSIONS AT INTERIOR WALLS TO FACE OF FINISH (5/8" GWB ASSUMED AT EA. SIDE OF WALL) OR TO FACE OF CONCRETE, U.N.O.

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ENERGY CREDIT

2a	AIR LEAKAGE CONTROL & EFFICIENT VENTILATION: COMPLIANCE BASED ON R402.4.1.2.	.5
3a	HIGH EFFICIENCY HVAC EQUIPMENT: GAS, PROPANE OR OIL FIRE FURNANCE WITH MIN. AFUE OF 94% OR GAS, PROPANE OR OIL FIRE BOILER WITH MIN. AFUE OF 92%.	1.0
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5c	GAS WATER HEATING SYSTEM W/ A MINIMUM EF OF 0.91	1.5
	TOTAL	**3.5**

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PERMIT DRAWINGS

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SHEET SIZE: D (24X36)

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6	PERMIT REVISION 2	07.06.23
7	PERMIT REV. 2 SUB 2	11.07.23

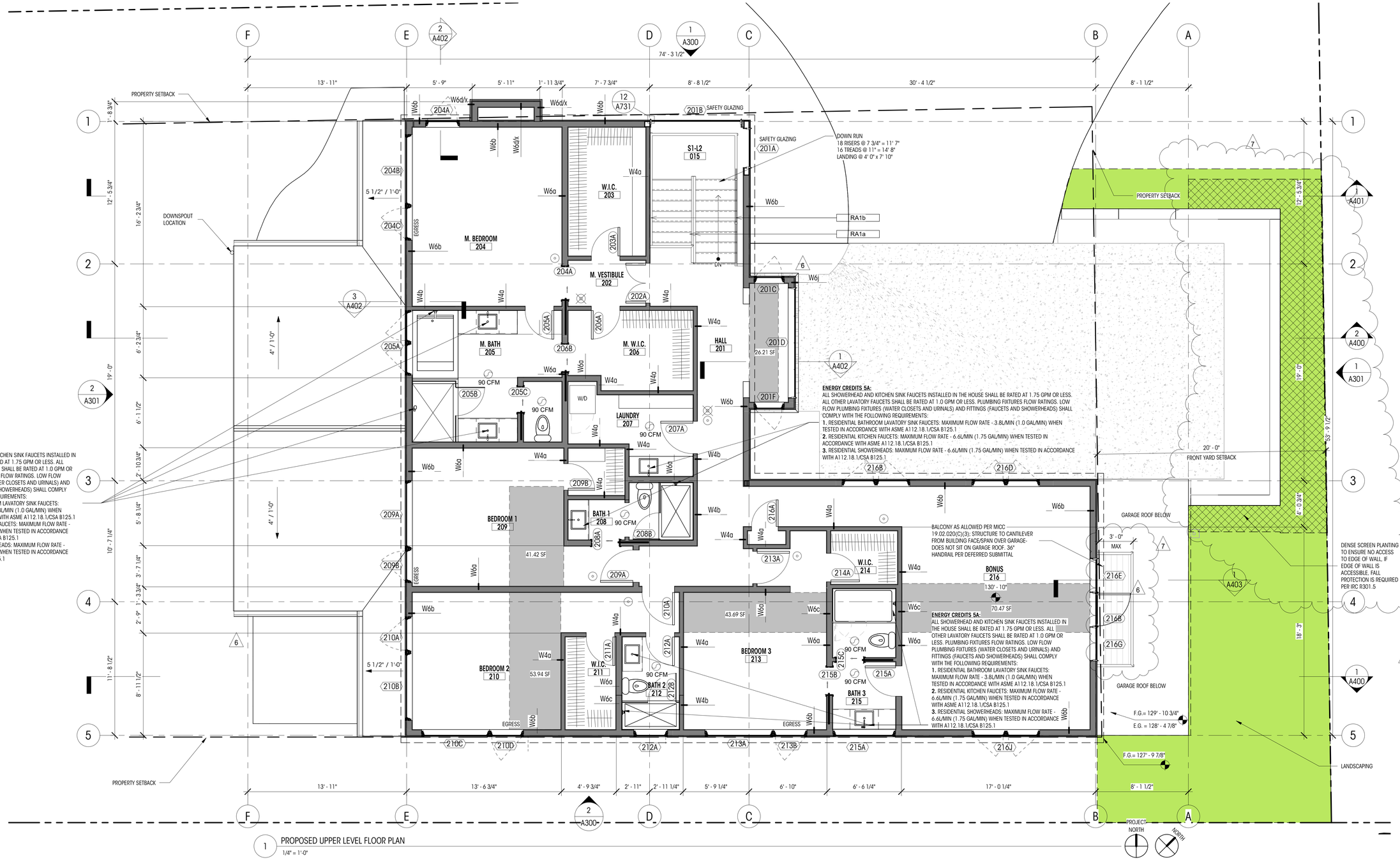
DRAWN BY: KJ/JM
CHECKED BY: BM

MAIN FLOOR PLAN

SCALE: As indicated

A202

DEDICATED APPROVAL STAMP SPACE



1 PROPOSED UPPER LEVEL FLOOR PLAN
1/4" = 1'-0"

ENERGY CREDITS 5A:
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BALCONY AS ALLOWED PER MICC 19.02.020(C)(3); STRUCTURE TO CANTILEVER FROM BUILDING FACE/SPAN OVER GARAGE- DOES NOT SIT ON GARAGE ROOF. 36" HANDRAIL PER DEFERRED SUBMITTAL

DENSE SCREEN PLANTING TO ENSURE NO ACCESS TO EDGE OF WALL, IF EDGE OF WALL IS ACCESSIBLE, FALL PROTECTION IS REQUIRED PER IRC R301.5

SCOPE OF CHANGES:

7

- JULIET BALCONY ADDED OFF OF BONUS ROOM
- DENSE SCREEN PLANTING GRAPHIC ADDED BACK IN

LEGEND

200A	WINDOW ID
100A	DOOR ID
100A	FINISH ID
⊙	SMOKE DETECTOR
⊗	SMOKE/CARBON MONOXIDE DETECTOR
	FAN - 100 CFM U.N.O.
▒	PROPOSED UPPER LEVEL 150% (PER 19.02.020.D.2.a)
EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR.	ELEVATION DATUM
0	GRIDLINE
▬	NEW WALL
▨	PLANTER AREA
- - -	ROOF LINE ABOVE
🟩	LANDSCAPING
▨	DENSE PLANTING

6

NOTES

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3a	HIGH EFFICIENCY HVAC EQUIPMENT: GAS, PROPANE OR OIL FIRE FURNANCE WITH MIN. AFUE OF 94% OR GAS, PROPANE OR OIL FIRE BOILER WITH MIN. AFUE OF 92%	**1.0**
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5c	GAS WATER HEATING SYSTEM W/ A MINIMUM EF OF 0.91	**1.5**
	TOTAL	**3.5**

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PERMIT DRAWINGS

6

DATE: 06.10.22
SHEET SIZE: D (24X36)

REVISIONS

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3	PERMIT REVISION 1	04.19.22
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5	REV 1 SUB 3	08.30.22
6	PERMIT REVISION 2	07.06.23
7	PERMIT REV. 2 SUB 2	11.07.23

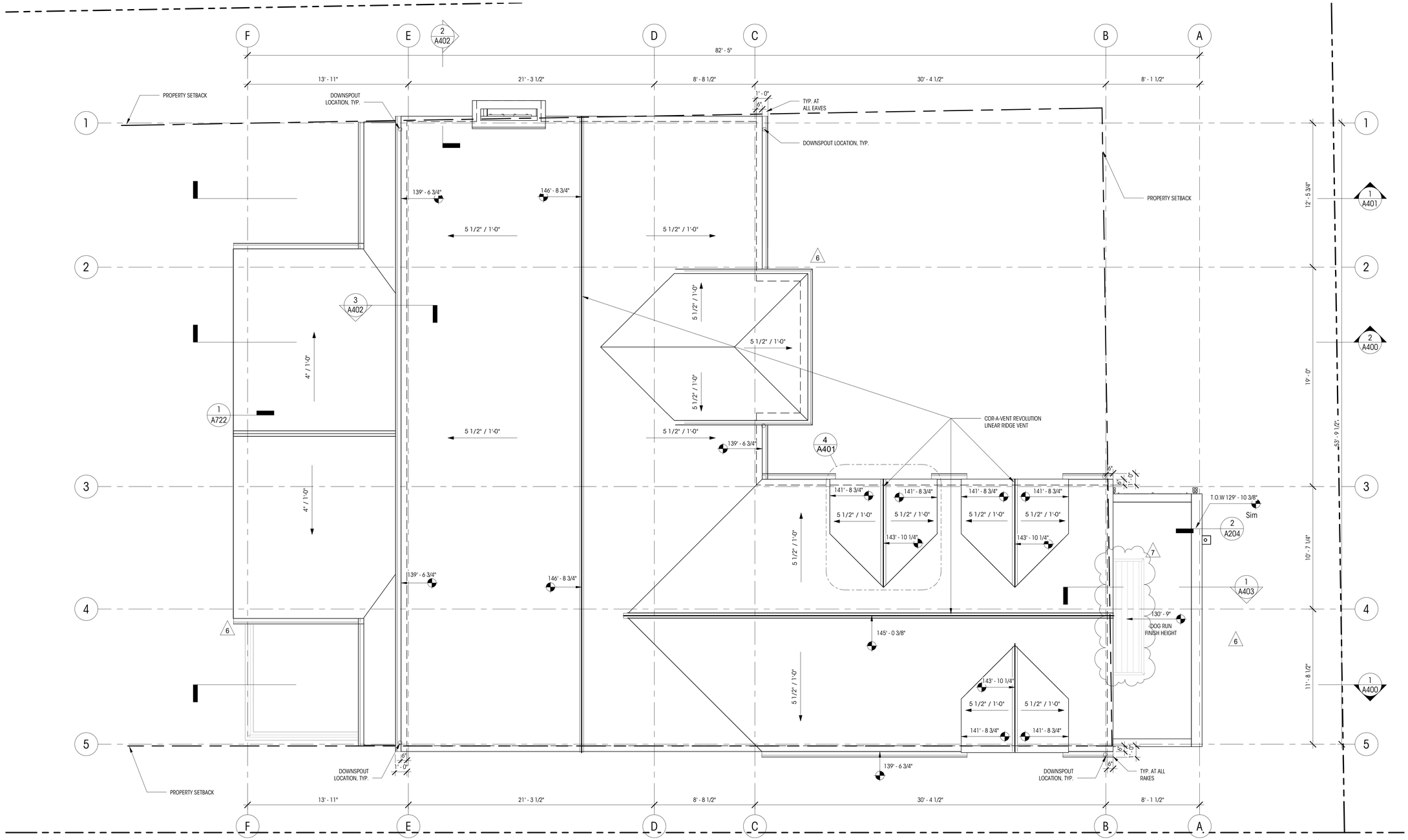
DRAWN BY: KJ/JM
CHECKED BY: BM

UPPER FLOOR PLAN

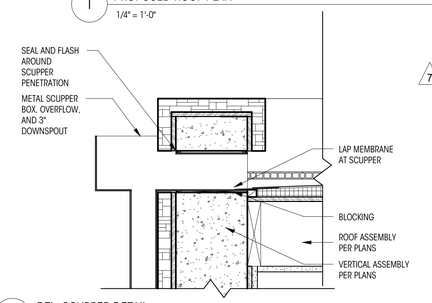
SCALE: As indicated

A203

DEDICATED APPROVAL STAMP SPACE



1 PROPOSED ROOF PLAN
1/4" = 1'-0"



2 DTL_SCUPPER DETAIL
1 1/2" = 1'-0"

SCOPE OF CHANGES:

7
- ADDITION OF JULIET BALCONY BELOW

LEGEND

- 200A WINDOW ID
- 100A DOOR ID
- 100A FINISH ID
- SMOKE DETECTOR
- SMOKE/CARBON MONOXIDE DETECTOR
- FAN - 100 CFM U.N.O.
- PROPOSED UPPER LEVEL 150% (PER 19.02.020.D.2.g)
- EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR. — ELEVATION DATUM
- 0 — GRIDLINE
- NEW WALL
- PLANTER AREA
- ROOF LINE ABOVE
- LANDSCAPING
- DENSE PLANTING

NOTES

1. ALL DIMENSIONS AT EXTERIOR WALLS TO FACE OF FRAMING OR TO EXT. FACE OF CONCRETE, U.N.O.

2. ALL DIMENSIONS AT INTERIOR WALLS TO FACE OF FINISH (5/8" GWB ASSUMED AT EA. SIDE OF WALL) OR TO FACE OF CONCRETE, U.N.O.

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DESIGN AND CONNECTION UNDER DEFERRED SUBMITTAL.

RA1b HANDRAIL @ 3'0" ABOVE STAIR NOSING PER IRC R311.7.8, TPY.

Fi1a UL LISTED GAS FIREPLACE SHALL BE DIRECT VENTED AND INSTALLED PER MANUFACTURERS'S REQUIREMENTS, PER IRC G2406.2.1

ROOF VENTILATION CALCS

REQUIRED VENTILATION : 1 SF/300 SF OF TOTAL ROOF AREA

TOTAL ATTIC/CONDITIONED AREA = **2306 SF**
REQUIRED VENTILATION = 2306/300 = **7.68 SF = 1105.92 SQ.IN.**
RIDGE 1/3RD= 1105.92 SF X .33 = 364.95 SQ.IN.
SOFFIT/EAVE 2/3RD= 1114 SF X .66 = 729.90 SQ. IN

SOFFIT/EAVE BLOCKING VENTILATION
1.5" HOLE = 1.77 SQ.IN. ; 729.90 SQ.IN/1.77 SQ.IN. = 420 HOLES REQUIRED
233.58LF/420 HOLES = 1 HOLE PER 6.67"
PROPOSED VENTILATION - 1.5" HOLES @ 6 1/2" O.C.

RIDGE BLOCKING VENTILATION
TOTAL PROJECT RIDGE= 125'-4" = 1504 LINEAR INCHES OF RIDGE
1" VENT WIDTH AT BLOCKING X 1504" OF RIDGE = 1504 SQ.IN. OF ROOF VENTING

RIDGE AND EAVE VENTING:

PROJECT RIDGES	125.33'
TOTAL VENTING LINEAR FEET	125.33'
VENTS @ 12 SQ.IN. / FT NFVA : 125.33' X 12	**1504 SQ.IN.**

COR-A-VENT REVOLUTION RIDGE VENT PROVIDES 12 SQ.IN. NFVA PER LINEAR FOOT

PROJECT NORTH
NORTH

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PERMIT DRAWINGS

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7	PERMIT REV. 2 SUB 2	11.07.23

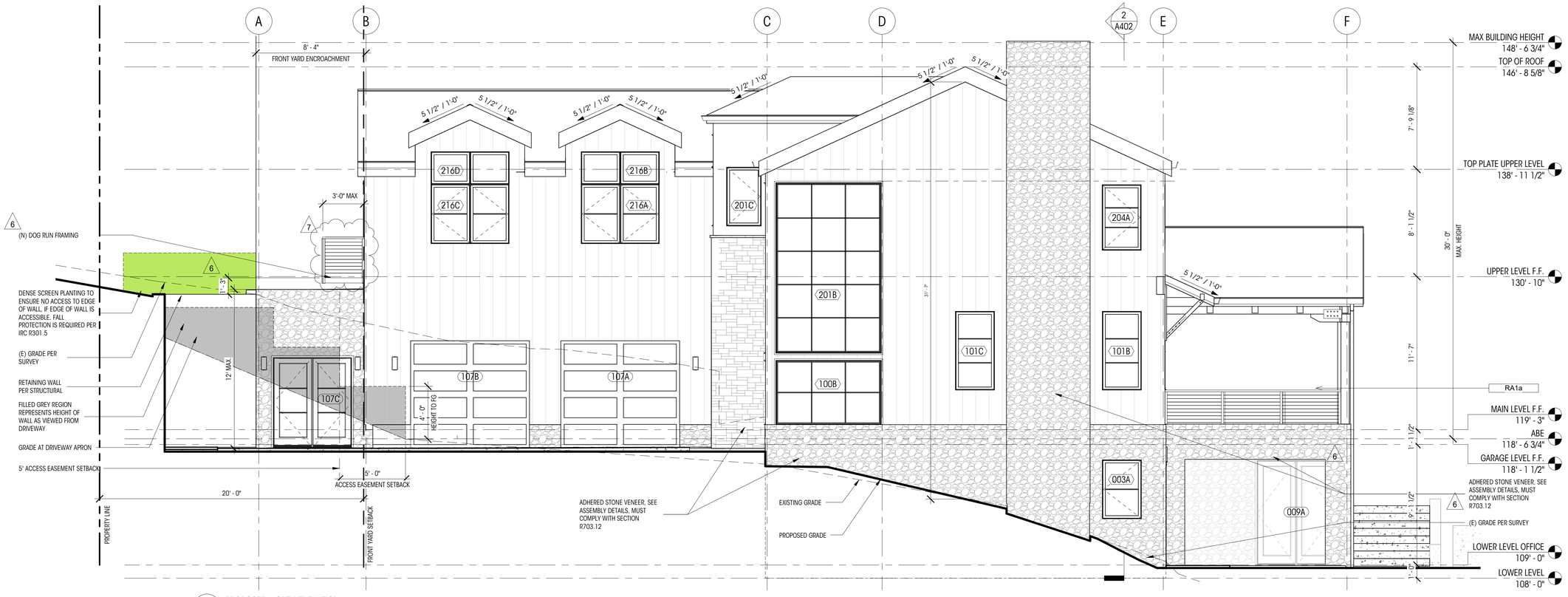
DRAWN BY: KJ/JM
CHECKED BY: BM

ROOF PLAN

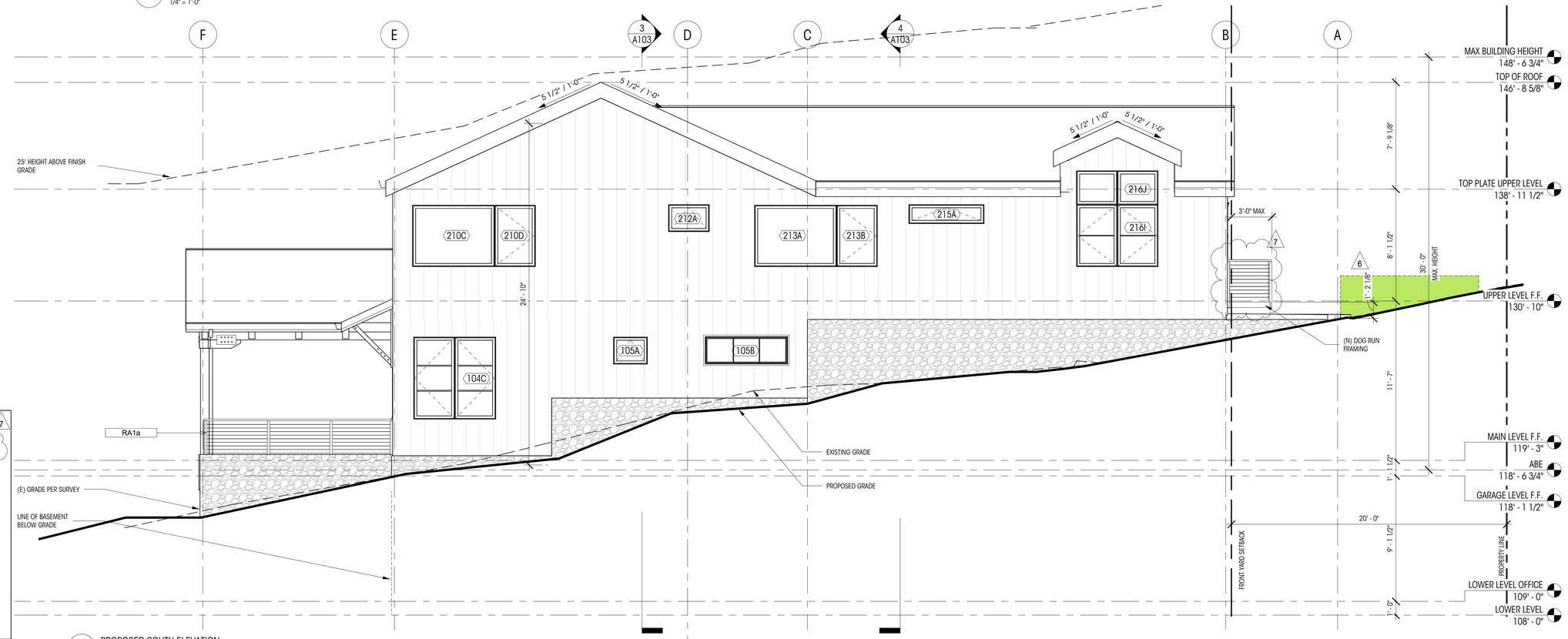
SCALE: As indicated

A204

DEDICATED APPROVAL STAMP SPACE



1 PROPOSED NORTH ELEVATION
1/4" = 1'-0"



2 PROPOSED SOUTH ELEVATION
1/4" = 1'-0"

SCOPE OF CHANGES :

7

- ADDITION OF JULIET BALCONY OFF OF BONUS ROOM

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DRAWN BY: KJ/JM
CHECKED BY: BM

EXTERIOR ELEVATIONS

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

A300

DEDICATED APPROVAL STAMP SPACE

1 PROPOSED EAST ELEVATION

1/4" = 1'-0"

2 PROPOSED WEST ELEVATION

1/4" = 1'-0"

SCOPE OF CHANGES :

7

- ADDITION OF JULIET BALCONY OFF OF BONUS ROOM

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8843 REGISTERED ARCHITECT STATE OF WASHINGTON

CLARKSON RESIDENCE

8163 WEST MERCER WAY
MERCER ISLAND, WA 98040

PERMIT DRAWINGS

DATE: 06.10.22

SHEET SIZE: D (24X36)

REVISIONS

NO.	DESCRIPTION	DATE
3	PERMIT REVISION 1	04.19.22
4	REV 1 SUB 2	06.10.22
5	REV 1 SUB 3	08.30.22
6	PERMIT REVISION 2	07.06.23
7	PERMIT REV. 2 SUB 2	11.07.23

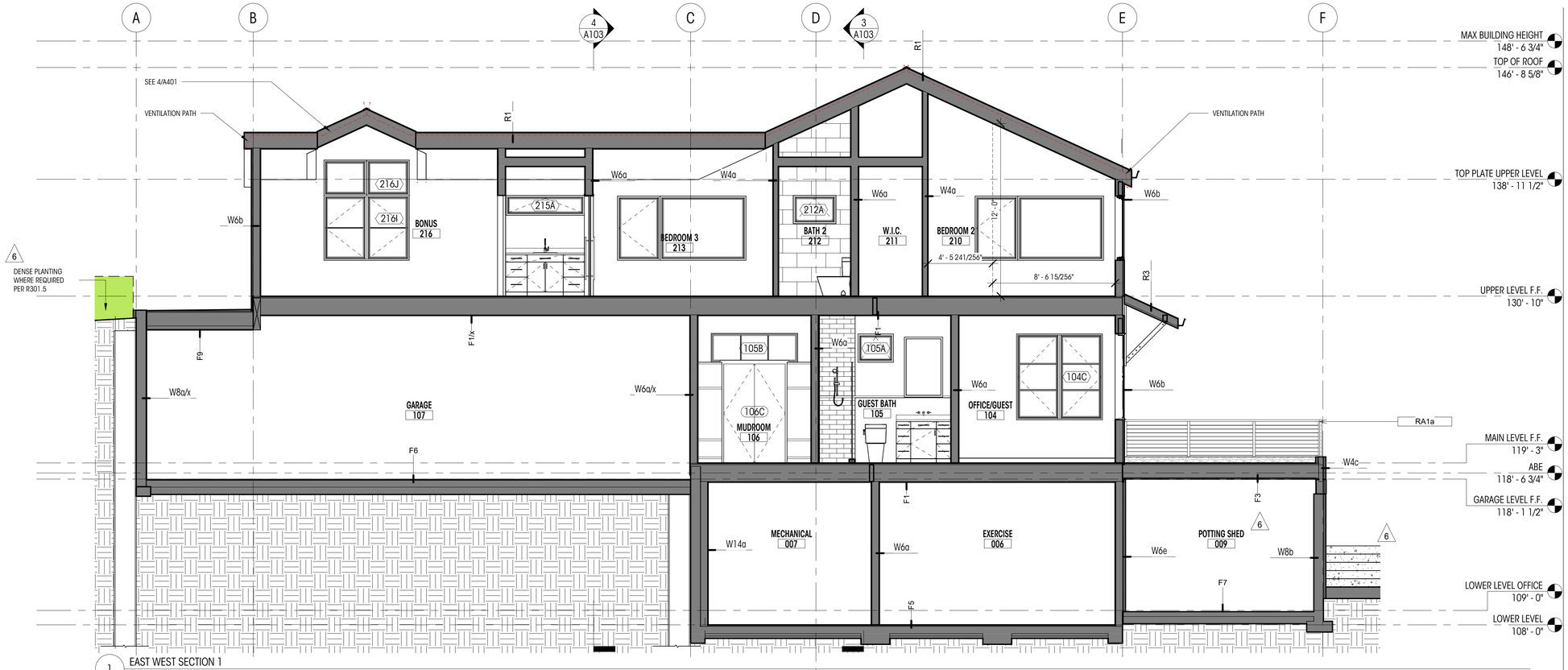
DRAWN BY: KJ/JM
CHECKED BY: BM

EXTERIOR ELEVATIONS

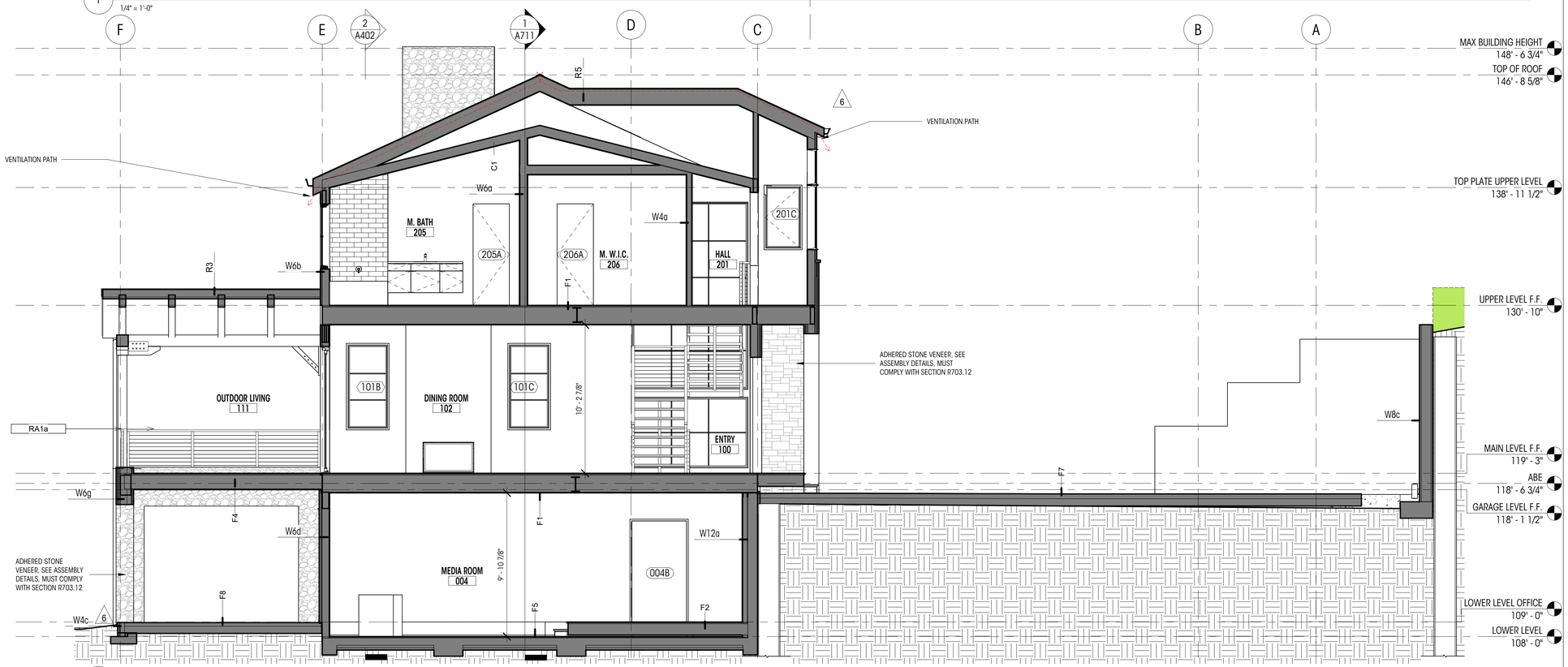
SCALE: 1/4" = 1'-0"

A301

DEDICATED APPROVAL STAMP SPACE



1 EAST WEST SECTION 1
1/4" = 1'-0"



2 EAST WEST THROUGH ENTRY
1/4" = 1'-0"

SCOPE OF CHANGES :

NO CHANGES TO THIS SHEET

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SHEET SIZE: D (24X36)

REVISIONS

NO.	DESCRIPTION	DATE
3	PERMIT REVISION 1	04.19.22
4	REV 1 SUB 2	06.10.22
5	REV 1 SUB 3	08.30.22
6	PERMIT REVISION 2	07.06.23

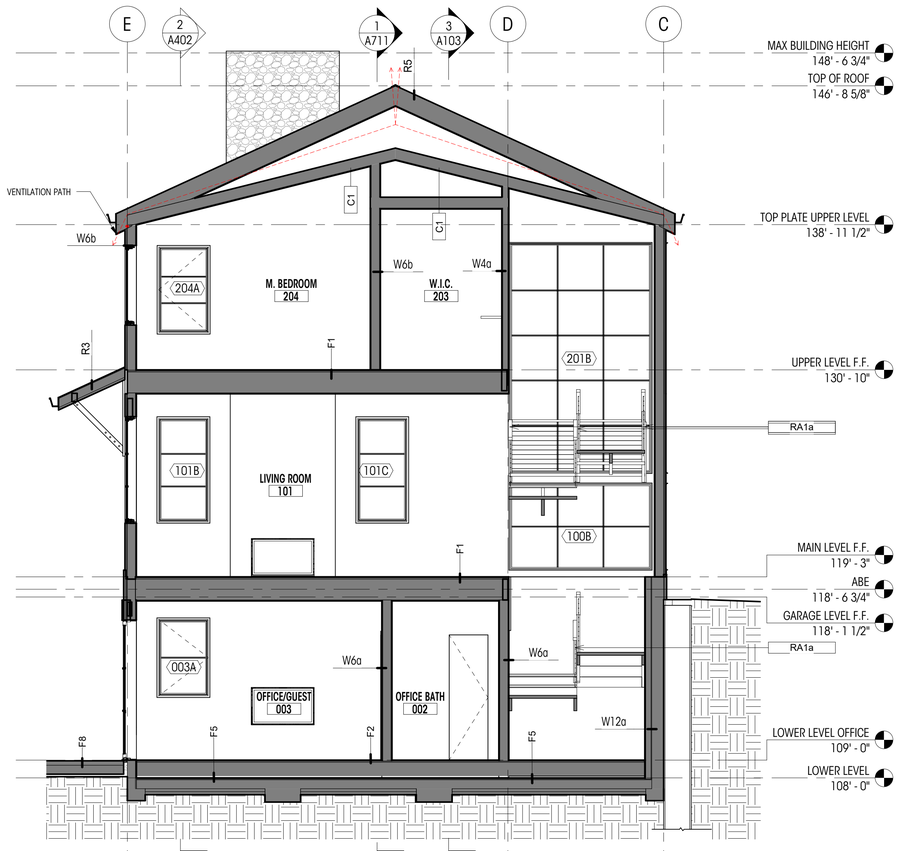
DRAWN BY: KJ/JM
CHECKED BY: BM

BUILDING SECTIONS

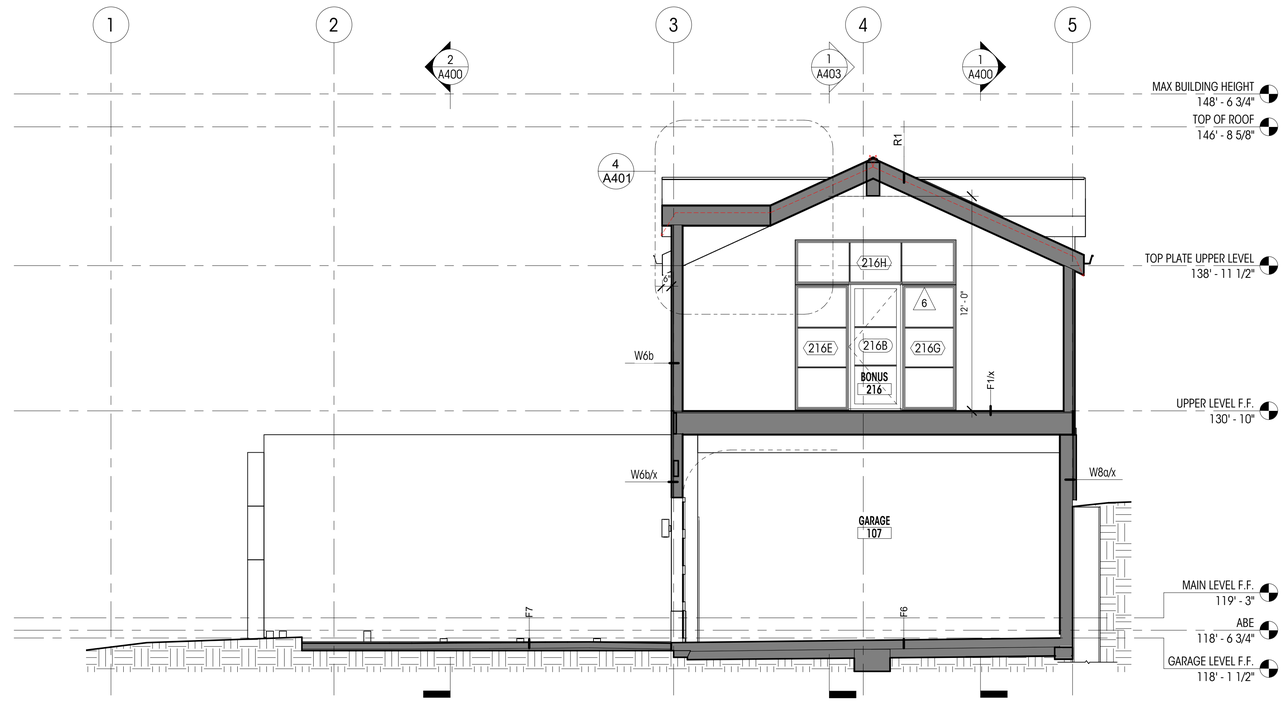
SCALE: 1/4" = 1'-0"

A400

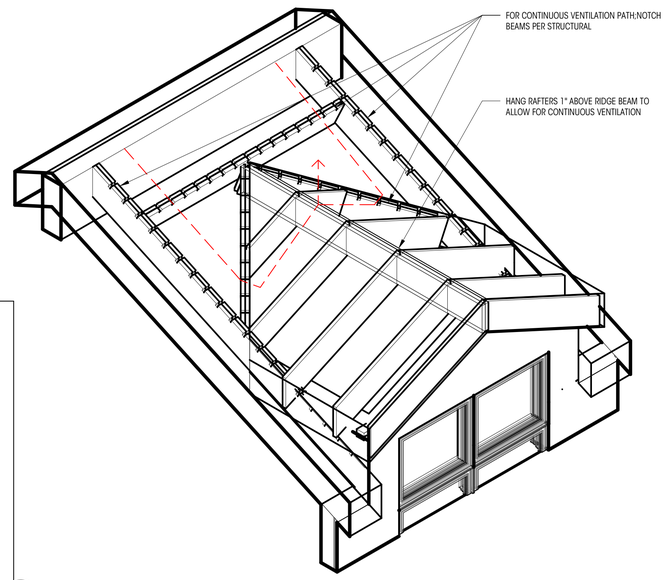
DEDICATED APPROVAL STAMP SPACE



1 EAST WEST THROUGH STAIR
1/4" = 1'-0"



2 NORTH - SOUTH SECTION
1/4" = 1'-0"



4 DORMER VENTILATION ISOMETRIC DETAIL

SCOPE OF CHANGES :

NO CHANGES TO THIS SHEET

3 NORTH - SOUTH THROUGH STAIR
1/4" = 1'-0"

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REVISIONS

NO.	DESCRIPTION	DATE
3	PERMIT REVISION 1	04.19.22
4	REV 1 SUB 2	06.10.22
6	PERMIT REVISION 2	07.06.23

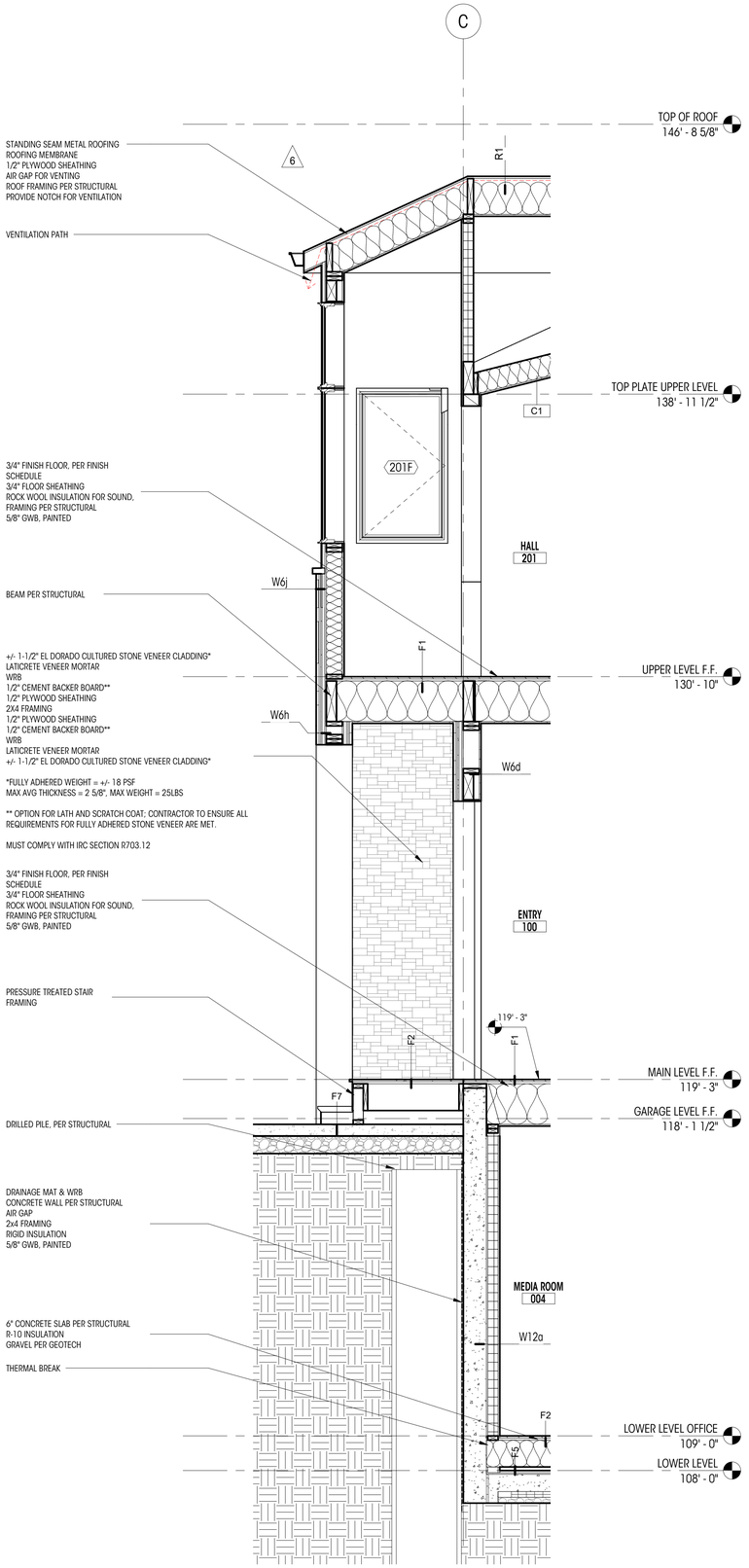
DRAWN BY: KJ/JM
CHECKED BY: BM

BUILDING SECTIONS

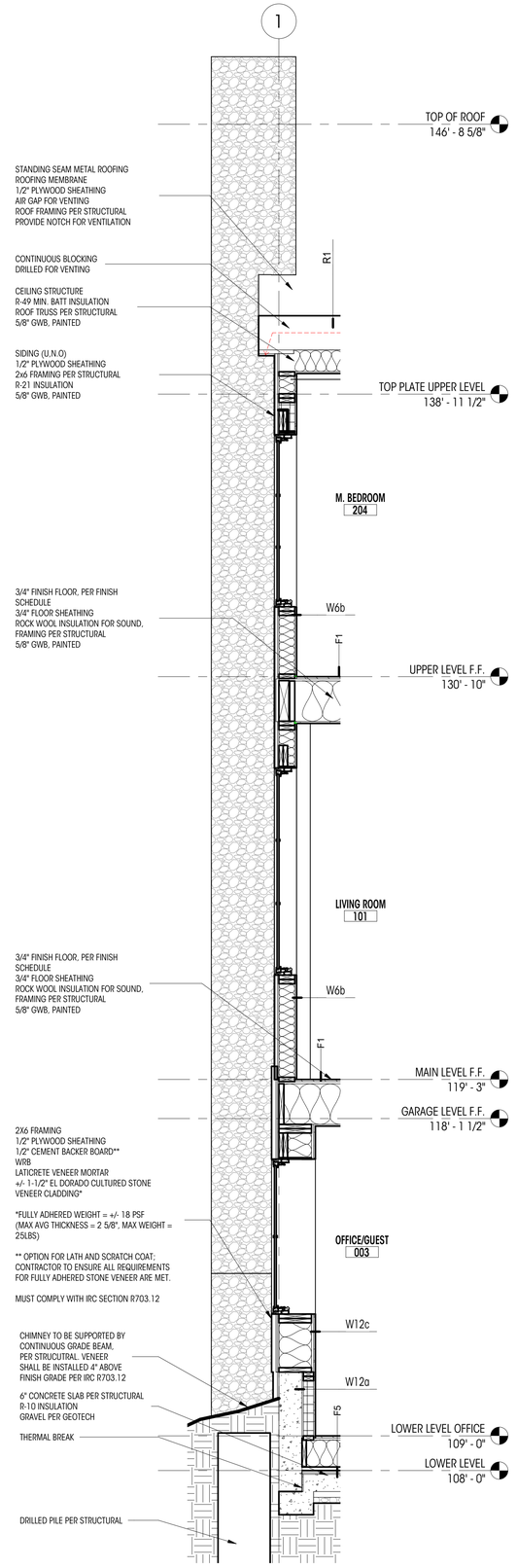
SCALE: As indicated

A401

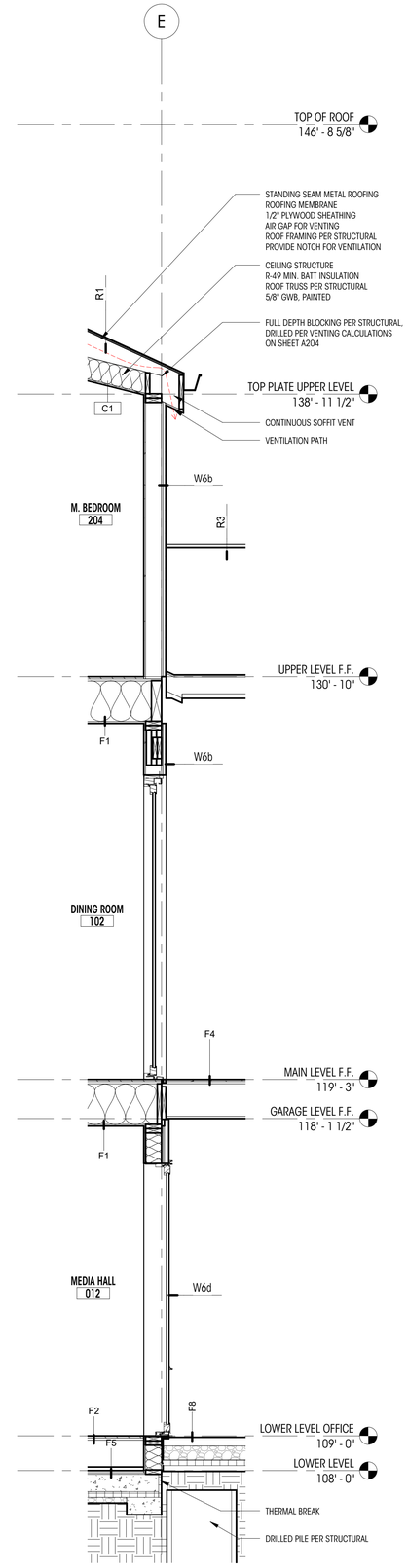
DEDICATED APPROVAL STAMP SPACE



1 WALL SECTION @ ENTRY
1/2" = 1'-0"



2 WALL SECTION @ LIVING ROOM
1/2" = 1'-0"



3 WALL SECTION @ MASTER BEDROOM
1/2" = 1'-0"

SCOPE OF CHANGES :

NO CHANGES TO THIS SHEET

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DRAWN BY: KJ/JM
CHECKED BY: BM

WALL SECTIONS

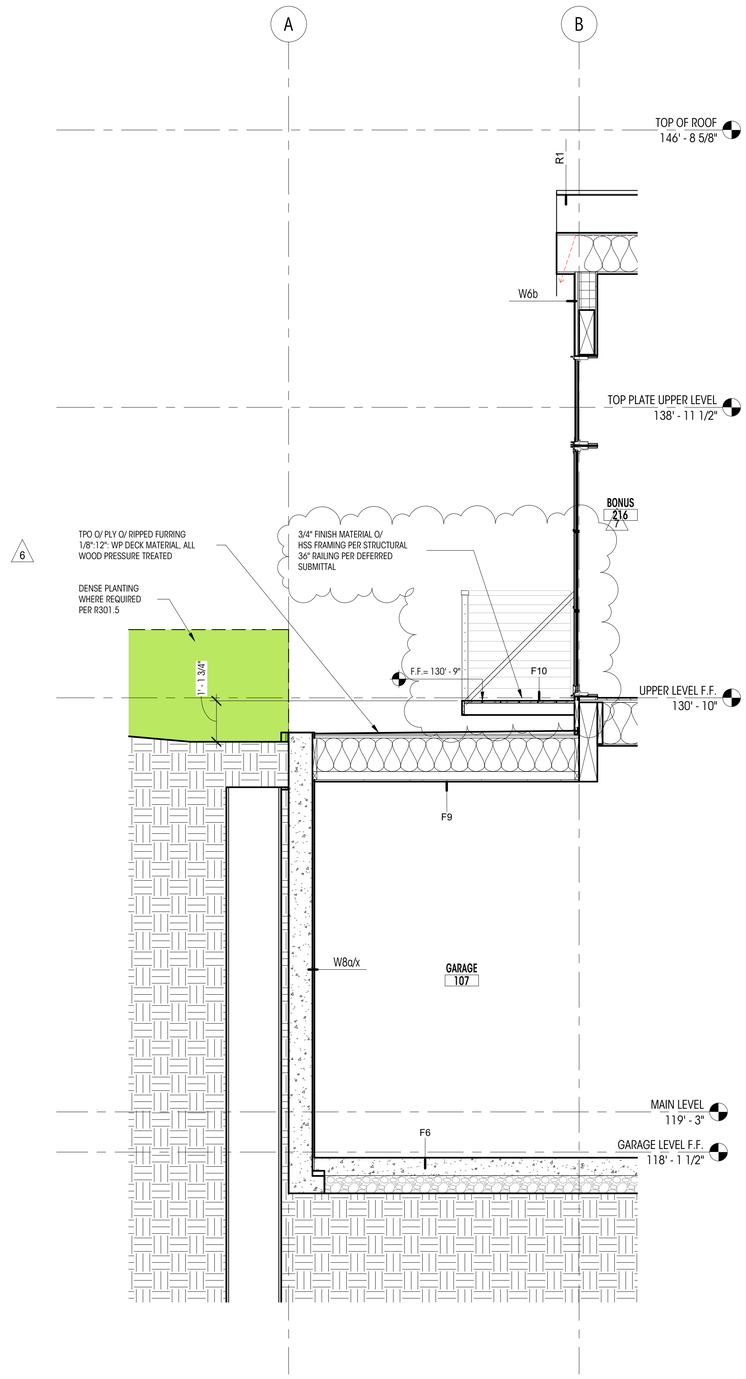
SCALE: 1/2" = 1'-0"

A402

DEDICATED APPROVAL STAMP SPACE

SCOPE OF CHANGES :

- ADDITION OF JULIET BALCONY AT BONUS ROOM



1 WALL SECTION AT DOG RUN
1/2" = 1'-0"

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DRAWN BY: KJ/JM
CHECKED BY: BM

WALL SECTIONS

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

A403

DEDICATED APPROVAL STAMP SPACE

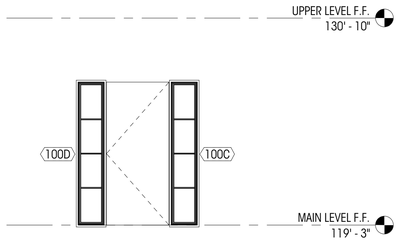
GENERAL NOTES

- ALL DIMENSIONS SHOWN ARE FINISHED DIMENSIONS, R.O. PER CONTRACTOR.
- CONTRACTOR TO VERIFY ALL SIZES AND DIMENSIONS IN FIELD WITH OWNER BEFORE ORDERING.
- ALL NEW WINDOWS TO BE NFRC CERTIFIED.
- ALL WINDOW WALL IS TEMPERED GLASS.
- REFER TO PLANS AND TAGS FOR LOCATION AND SWINGS.
- ALL ELEVATIONS ARE FROM THE EXTERIOR.
- ALL NEW VERTICAL FENESTRATION U-VALUE TO MEET ENERGY COMPLIANCE GUIDELINES
- PER IRC R310.2.1 ALL **EGRESS** OPENINGS SHALL HAVE A NET CLEAR OPENING OF NOT LESS THAN 5.7 SF, NET CLEAR HEIGHT OPENING SHALL NOT BE LESS THAN 24" AND THE NET CLEAR WIDTH SHALL BE NOT LESS THAN 20".
  THE WINDOW SILL SHALL HAVE HEIGHT OF NOT MORE THAN 44" ABOVE THE FLOOR PER IRC R310.2.1
- PER IRC R308.4.3, GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL SHALL BE TEMPERED GLASS/SAFETY GLAZING IF IT MEETS ALL OF THE FOLLOWING CONDITIONS:
  1. THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SF,
  2. THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18" ABOVE THE FLOOR,
  3. THE TOP EDGE OF THE GLAZING IS MORE THAN 36 " ABOVE THE FLOOR, AND
  4. ONE OR MORE WALKING SURFACES ARE WITHING 36", MEASURE HORIZONTALLY IN A STRAIGHT LINE OF THE GLAZING.

- PER IRC R308.4.2 GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR SHALL BE TEMPERED GLASS/SAFETY GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" ABOVE THE FLOOR OR WALKING SURFACE IF:
  1. THE GLAZING IS WITHIN 24" OF EITHER SIDE OF THE DOOR IN THE PLANE OF THE DOOR IN THE CLOSED POSITION.
  2. WHERE THE GLAZING ON A WALL LESS THAN 180 DEGREES FROM THE PLANE OF THE DOOR IN A CLOSED POSITION AND WITHIN 24" OF THE HINGE SIDE ON AN INSWING DOOR.

SPECIFIC NOTES

1. EGRESS
2. TEMPERED GLASS/SAFETY GLAZING
3. SILLS FLUSH WITH COUNTERTOP / TUBDECK

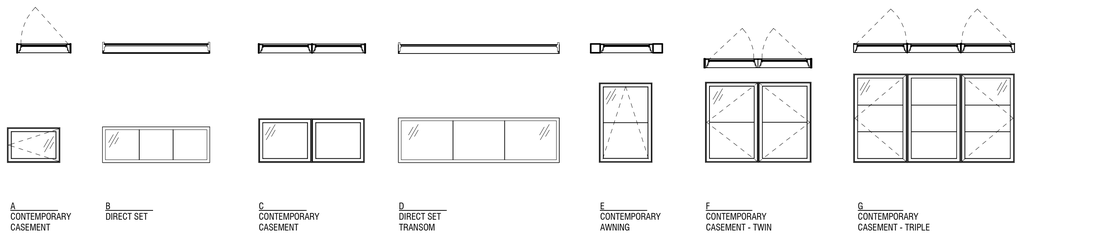


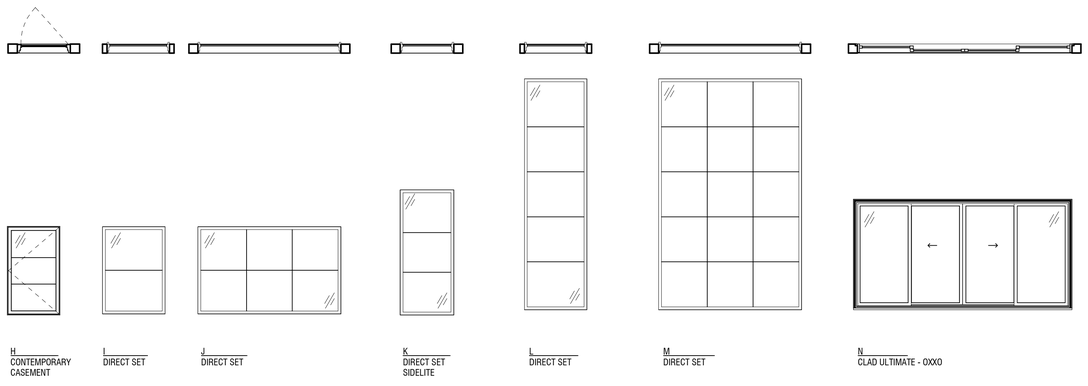
ENTRY WINDOW SYSTEM

1/4" = 1'-0"

WINDOW SCHEDULE

PLAN ID	TYPE	WIDTH (ft)	HEIGHT (ft)	HEAD HT	UNIT AREA (sf)	U VALUE	UA	NOTES
003A	H	2' - 11 1/2"	4' - 5 1/2"	7' - 11 1/2"	13 SF	0.3	4 SF	
003B	K	3' - 0"	7' - 10"	8' - 10"	24 SF	0.3	7 SF	1,2
003C	K	3' - 0"	7' - 10"	8' - 10"	24 SF	0.3	7 SF	1,2
004B	K	3' - 0"	6' - 0"	8' - 11"	18 SF	0.3	5 SF	
004C	K	3' - 0"	6' - 0"	8' - 11"	18 SF	0.3	5 SF	
004D	K	3' - 0"	6' - 0"	8' - 11"	18 SF	0.3	5 SF	
004E	K	3' - 0"	6' - 0"	8' - 11"	18 SF	0.3	5 SF	
100A	I	3' - 6"	4' - 10 1/2"	5' - 3"	17 SF	0.3	5 SF	2
100B	J	8' - 0"	4' - 10 1/2"	5' - 3"	39 SF	0.3	12 SF	2
100C	B	1' - 5 1/2"	8' - 0"	8' - 0"	12 SF	0.3	4 SF	2,6
100D	B	1' - 5 1/2"	8' - 0"	8' - 0"	12 SF	0.3	4 SF	2,6
101A	G	9' - 0"	5' - 11 1/2"	8' - 11 1/2"	54 SF	0.3	16 SF	
101B	H	2' - 11 1/2"	5' - 11 1/2"	8' - 11 1/2"	18 SF	0.3	5 SF	
101C	H	2' - 11 1/2"	5' - 11 1/2"	8' - 11 1/2"	18 SF	0.3	5 SF	
103A	N	12' - 0"	5' - 11 1/2"	9' - 0"	72 SF	0.3	21 SF	2,3
104A	K	3' - 0"	6' - 0"	9' - 0"	18 SF	0.3	5 SF	1
104B	K	3' - 0"	6' - 0"	9' - 0"	18 SF	0.3	5 SF	1
104C	F	5' - 11 5/8"	5' - 11 1/2"	8' - 11 1/2"	36 SF	0.3	11 SF	1
105A	E	2' - 5 1/2"	1' - 11 1/2"	8' - 11 1/2"	5 SF	0.3	1 SF	2
105B	B	6' - 0"	2' - 0"	9' - 0"	12 SF	0.3	4 SF	
201A	L	3' - 6"	12' - 11"	7' - 1 1/2"	45 SF	0.3	14 SF	2
201B	M	8' - 0"	12' - 11"	7' - 1 1/2"	103 SF	0.3	31 SF	2
201C	A	2' - 7 1/2"	4' - 5 1/2"	8' - 3 1/2"	12 SF	0.3	4 SF	2
201D	D	9' - 8 1/4"	4' - 5 1/2"	8' - 3 1/2"	43 SF	0.3	13 SF	2,5
201E	D	9' - 8 1/4"	2' - 5 1/2"	10' - 9 1/8"	24 SF	0.3	7 SF	2,5
201F	A	2' - 7 1/2"	4' - 5 1/2"	8' - 3 1/2"	12 SF	0.3	4 SF	2
204A	H	2' - 11 1/2"	4' - 11 1/2"	6' - 11 1/2"	15 SF	0.3	4 SF	2
204B	B	6' - 3"	4' - 5 1/2"	6' - 11 1/2"	28 SF	0.3	8 SF	2
204C	H	3' - 0"	4' - 5 1/2"	6' - 11 1/2"	13 SF	0.3	4 SF	1,2
205A	F	5' - 8"	4' - 6"	7' - 0"	26 SF	0.3	8 SF	1
209A	B	5' - 11 1/2"	4' - 5 1/2"	6' - 11 1/2"	27 SF	0.3	8 SF	2
209B	A	2' - 11 1/2"	4' - 5 1/2"	6' - 11 1/2"	13 SF	0.3	4 SF	1,2
210A	A	3' - 1 1/2"	4' - 5 1/2"	6' - 11 1/2"	14 SF	0.3	4 SF	1,2
210B	B	5' - 11 1/2"	4' - 5 1/2"	6' - 11 1/2"	27 SF	0.3	8 SF	2
210C	B	5' - 11 1/2"	4' - 5 1/2"	6' - 11 1/2"	27 SF	0.3	8 SF	2
210D	A	2' - 11 1/2"	4' - 5 1/2"	6' - 11 1/2"	13 SF	0.3	4 SF	1,2
212A	E	2' - 11 1/2"	1' - 11 1/2"	7' - 0"	6 SF	0.3	2 SF	
213A	B	5' - 11 1/2"	4' - 5 1/2"	6' - 11 1/2"	27 SF	0.3	8 SF	2
213B	A	2' - 11 1/2"	4' - 5 1/2"	6' - 11 1/2"	13 SF	0.3	4 SF	1,2
215A	E	5' - 5 1/2"	1' - 4 1/2"	7' - 0"	8 SF	0.3	2 SF	2
216A	F	5' - 11 1/8"	4' - 6"	7' - 0"	27 SF	0.3	8 SF	
216B	C	5' - 11 1/8"	2' - 5 1/2"	9' - 5 1/2"	15 SF	0.3	4 SF	
216C	F	5' - 11 1/8"	4' - 6"	7' - 0"	27 SF	0.3	8 SF	
216D	C	5' - 11 1/8"	2' - 5 1/2"	9' - 5 1/2"	15 SF	0.3	4 SF	
216E	K	3' - 0"	7' - 0"	7' - 0 1/2"	21 SF	0.3	6 SF	2
216G	K	3' - 0"	7' - 0"	7' - 0 1/2"	21 SF	0.3	6 SF	2
216H	D	9' - 0"	2' - 6"	9' - 6 3/4"	23 SF	0.3	7 SF	2
216I	F	5' - 11 1/8"	4' - 6"	7' - 0"	27 SF	0.3	8 SF	
216J	C	5' - 11 1/8"	2' - 5 1/2"	9' - 5 1/2"	15 SF	0.3	4 SF	





WINDOW TYPES

1/4" = 1'-0"

SCOPE OF CHANGES:

- REVISED WALL, PERIMETER ON WESTERN WALL AS A RESULT OF STAIR ELIMINATION; LARGER OPENING AT PATIO; ADDITION OF BIFOLD DOOR INTO POTTING SHED.
  1. DOORS 006B & 009B ADDED.
  2. WINDOW 009A ADDED.

- REVISED ENTRY VESTIBULE DESIGN.
  1. WINDOWS 100C & 100D ADDED.
  2. WINDOWS 201C, 201D, 201E, AND 201F ADDED.

- CHANGE WINDOW TO DOOR AT BONUS ROOM.
  1. DOOR 216B ADDED.

DOOR SCHEDULE

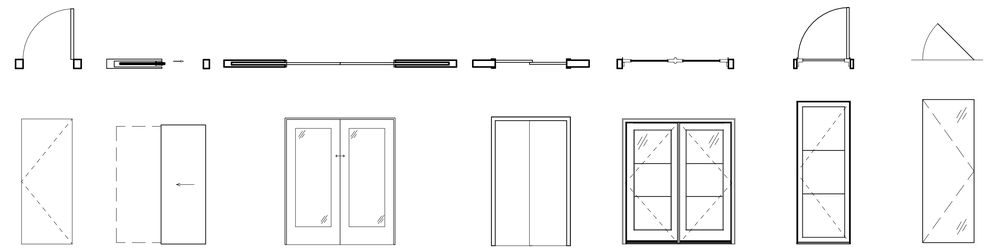
PLAN ID	TYPE	WIDTH (ft.)	HEAD DETAIL	HEIGHT (ft.)	AREA (sf.)	U VALUE	UA	NOTES
002A	A	3' - 0"		7' - 0"	21 SF			
002B	A	2' - 2"		7' - 0"	15 SF			
003A	A	3' - 0"		7' - 0"	21 SF			
003B	D	4' - 0"		7' - 0"	28 SF			
003C	F	3' - 0"		7' - 10"	24 SF	0.3	7 SF	1
004A	F	3' - 0"		7' - 10"	24 SF	0.3	7 SF	1
004B	B	3' - 10 1/4"		7' - 0"	27 SF			
005A	A	3' - 0"		7' - 0"	21 SF			
005B	A	3' - 0"		7' - 0"	21 SF			
006A	C	6' - 0"		7' - 0"	42 SF			
006B	A	3' - 0"		7' - 0"	21 SF			
008A	A	3' - 0"		7' - 0"	21 SF			
009A	E	5' - 11 1/4"		8' - 0"	48 SF	0.3	14 SF	1
009B	J	9' - 0"		8' - 2 1/8"	74 SF	0.3	22 SF	1
100A	I	3' - 6"	1/A733	8' - 0"	28 SF			
103A	B	3' - 0"		7' - 0"	21 SF			
104A	A	2' - 6"		7' - 0"	18 SF			
104B	D	4' - 0"		7' - 0"	28 SF			
104C	E	3' - 0"		9' - 0"	27 SF	0.3	8 SF	1
105A	B	2' - 6"		7' - 0"	18 SF			
105B	G	2' - 4"		7' - 0"	16 SF			
106A	A	3' - 0"		7' - 0"	21 SF			4
106B	L	3' - 0"		7' - 0"	21 SF			
106C	G	4' - 3 1/4"		6' - 10 1/2"	29 SF			
107A	K	9' - 0"		8' - 0"	72 SF	0.3	22 SF	2
107B	K	9' - 0"		8' - 0"	72 SF	0.3	22 SF	2
107C	E	5' - 11 1/4"		6' - 10"	41 SF	0.3	12 SF	1
108A	A	2' - 6"		7' - 0"	18 SF			
109A	A	2' - 8"		7' - 0"	19 SF			
110A	A	2' - 6"		7' - 0"	18 SF			
111A	J	12' - 0"		8' - 9"	105 SF	0.3	32 SF	1
202A	H	3' - 6"		7' - 0"	25 SF			
203A	A	2' - 6"		7' - 0"	18 SF			
204A	B	3' - 0"		7' - 0"	21 SF			
205A	A	2' - 6"		7' - 0"	18 SF			
205B	G	2' - 6"		7' - 0"	18 SF			
205C	B	2' - 4"		7' - 0"	16 SF			
206A	A	2' - 6"		7' - 0"	18 SF			
206B	B	2' - 6"		7' - 0"	18 SF			
207A	A	2' - 10"		6' - 8"	19 SF			
208A	B	2' - 6"		7' - 0"	18 SF			
208B	G	2' - 4"		7' - 0"	16 SF			
209A	A	2' - 10"		7' - 0"	20 SF			
209B	A	2' - 4"		7' - 0"	16 SF			
210A	A	2' - 10"		7' - 0"	20 SF			
211A	A	2' - 6"		7' - 0"	18 SF			
212A	A	2' - 6"		7' - 0"	18 SF			
212B	G	2' - 6"		7' - 0"	18 SF			
213A	A	2' - 10"		7' - 0"	20 SF			
214A	A	2' - 6"		7' - 0"	18 SF			
215A	A	2' - 8"		7' - 0"	19 SF			
215B	B	2' - 6"		7' - 0"	18 SF			
215C	B	2' - 6"		7' - 0"	18 SF			
216A	A	2' - 4"		7' - 0"	16 SF			
216B	F	3' - 0"		7' - 2"	22 SF	0.3	6 SF	1

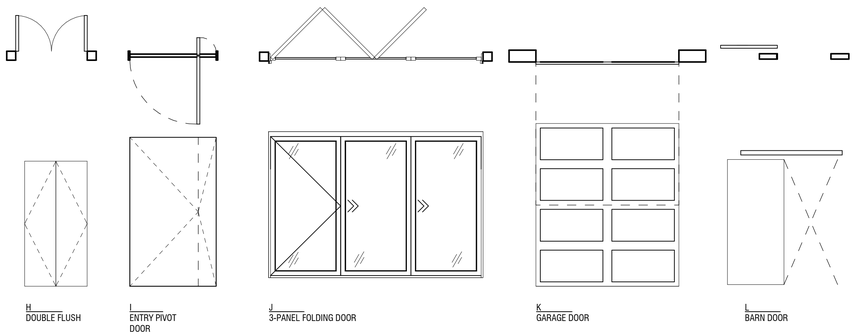
GENERAL NOTES

- ALL NEW DOORS TO BE NFRC CERTIFIED
- ALL NEW VERTICAL FENESTRATION U-VALUE TO MEET ENERGY COMPLIANCE GUIDELINES
- ALL DOORS TO BE SOLID-CORE WOOD VENEER FLAT PANELS UNO
- PER IRC R308.4.1 GLAZING IN FIXED AND OPERABLE PANELS OF SWINGING, SLIDING, AND BIFOLD DOORS TO BE TEMPERED GLASS/SAFETY GLAZING

SPECIFIC NOTES

1. TEMPERED GLASS/SAFETY GLAZING
2. OVERHEAD DOOR
3. ACCESS DOOR TO UNDER STAIR
4. 20 MINUTE RATED DOOR W/ SELF CLOSURE





DOOR TYPES

1/4" = 1'-0"

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DRAWN BY: KJ,IM
CHECKED BY: BM

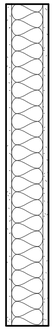
WINDOW / DOOR SCHEDULES

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

A600

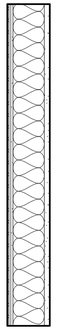
DEDICATED APPROVAL STAMP SPACE

VERTICAL ASSEMBLIES



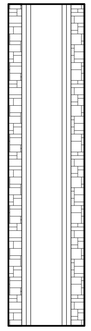
- 5/8" GWB, PAINTED
- 2X4 FRAMING
- ROCK WOOL INSULATION (FOR SOUND)
- 5/8" GWB, PAINTED

W4a



- 3/16" TILE
- 3/16" MORTAR BED
- 1/4" CEMENT BOARD
- 2X4 FRAMING
- ROCK WOOL INSULATION (FOR SOUND)
- 5/8" GWB, PAINTED

W4b



- +/- 1 1/2" EL DORADO CULTURED STONE
- LATICRETE VENEER MORTAR
- 1/2" CEMENT BOARD
- 2X4 FRAMING
- 1/2" CEMENT BOARD
- LATICRETE VENEER MORTAR
- +/- 1 1/2" EL DORADO CULTURED STONE

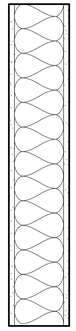
*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

MUST COMPLY WITH IRC SECTION R703.12

W4C

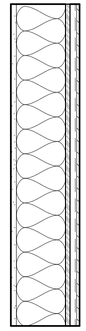
(DECK CURB)



- 5/8" GWB, PAINTED
- 2X6 FRAMING
- ROCK WOOL INSULATION (FOR SOUND)
- 5/8" GWB, PAINTED

W6a

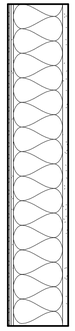
('X' WHERE TYPE X GWB)



- 5/8" GWB, PAINTED
- 2X6 FRAMING
- R-21 MIN INSULATION
- 1/2" PLYWOOD SHEATHING
- WRB
- 1x VERTICAL FURRING STRIP
- EXTERIOR SIDING - TBD

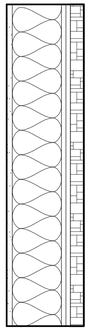
W6b

('X' WHERE TYPE X GWB)



- 3/16" TILE
- 3/16" MORTAR BED
- 1/4" CEMENT BOARD
- 2X6 FRAMING
- ROCK WOOL INSULATION (FOR SOUND)
- 5/8" GWB, PAINTED

W6c



- 5/8" TYPE "X" GWB, PAINTED
- 2x6 FRAMING
- 1/2" PLYWOOD
- 1/2" LATICRETE VENEER MORTAR
- +/- 1 1/2" EL DORADO CULTURED STONE
- DRAINAGE MAT & WRB

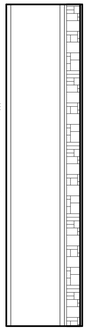
*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

MUST COMPLY WITH IRC SECTION R703.12

W6d

('X' WHERE TYPE X GWB)



- 2x6 FRAMING
- 1/2" PLYWOOD
- 1/2" LATICRETE VENEER MORTAR
- +/- 1 1/2" EL DORADO CULTURED STONE
- DRAINAGE MAT & WRB

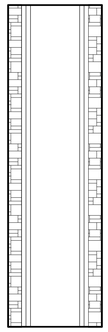
*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

MUST COMPLY WITH IRC SECTION R703.12

W6e

△6



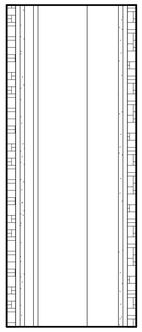
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*
- 1/2" LATICRETE VENEER MORTAR
- WRB
- 1/2" PLYWOOD SHEATHING
- 2X6 FRAMING
- 1/2" PLYWOOD SHEATHING
- WRB
- 1/2" LATICRETE VENEER MORTAR
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*

*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

MUST COMPLY WITH IRC SECTION R703.12

W6f



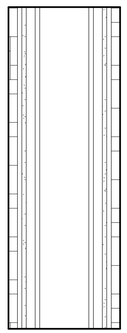
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*
- 1/2" LATICRETE VENEER MORTAR
- 1/2" CEMENTITIOUS BACKER BOARD
- WRB
- 2X4 FRAMING
- 2X6 FRAMING
- 1/2" PLYWOOD SHEATHING
- WRB
- 1" FURRING
- 1/2" CEMENTITIOUS BACKER BOARD
- 1/2" LATICRETE VENEER MORTAR
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*

*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

MUST COMPLY WITH IRC SECTION R703.12

W6g



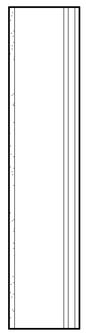
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*
- 1/2" LATICRETE VENEER MORTAR
- 1/2" CEMENTITIOUS BACKER BOARD
- WRB
- 1" FURRING
- 1/2" PLYWOOD SHEATHING
- 2X6 FRAMING
- 1/2" PLYWOOD SHEATHING
- WRB
- 1" FURRING
- 1/2" CEMENTITIOUS BACKER BOARD
- 1/2" LATICRETE VENEER MORTAR
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*

*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

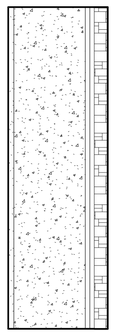
MUST COMPLY WITH IRC SECTION R703.12

W6h



- 1/2" RICH-LITE
- 3/4" FURRING
- WRB
- 1/2" PLYWOOD SHEATHING
- 2X6 FRAMING
- 1/2" PLYWOOD SHEATHING
- WRB
- 5/8" GWB, PAINTED

W6j



- 5/8" TYPE "X" GWB, PAINTED
- 8" CONCRETE WALL PER STRUCTURAL
- 1/2" PLYWOOD
- 1/2" LATICRETE VENEER MORTAR
- +/- 1 1/2" EL DORADO CULTURED STONE
- DRAINAGE MAT & WRB

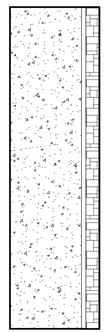
*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

MUST COMPLY WITH IRC SECTION R703.12

W8a

('X' WHERE TYPE X GWB)



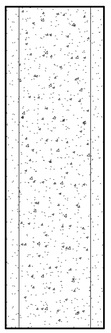
- 8" CONCRETE
- 1/2" LATICRETE VENEER MORTAR
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*

*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

MUST COMPLY WITH IRC SECTION R703.12

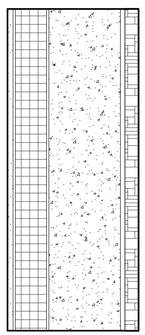
W8b



- 1 1/2" PLASTER
- 8" CONCRETE WALL PER STRUCTURAL
- 1 1/2" PLASTER

W8c

(DRIVEWAY PERIMETER)



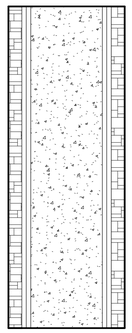
- 5/8" GWB, PAINTED
- 2x4 FURRING
- R-21 INSULATION
- 1/2" AIRGAP
- 8" CONCRETE WALL PER STRUCTURAL
- 1/2" LATICRETE VENEER MORTAR
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*

*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

MUST COMPLY WITH IRC SECTION R703.12

W12a



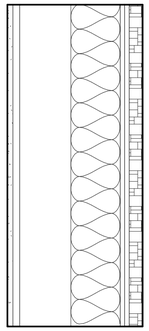
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*
- 1/2" LATICRETE VENEER MORTAR
- 8" CONCRETE WALL
- 1/2" LATICRETE VENEER MORTAR
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*

*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

MUST COMPLY WITH IRC SECTION R703.12

W12b



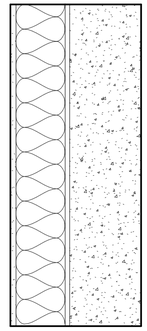
- 5/8" GYP.
- 12x FRAMING
- 1/2" PLYWOOD SHEATHING
- 1/2" CEMENT BACKER BOARD**
- WRB
- LATICRETE VENEER MORTAR
- +/- 1-1/2" EL DORADO CULTURED STONE VENEER CLADDING*

*FULLY ADHERED WEIGHT = +/- 18 PSF
(MAX AVG THICKNESS = 2 5/8", MAX WEIGHT = 25LBS)

** OPTION FOR LATH AND SCRATCH COAT; CONTRACTOR TO ENSURE ALL REQUIREMENTS FOR FULLY ADHERED STONE VENEER ARE MET.

MUST COMPLY WITH IRC SECTION R703.12

W12c



- 5/8" GWB, PAINTED
- 2X6 FRAMING PER STRUCTURAL
- R-21 BATT INSULATION
- 1/2" AIRGAP
- 8" CONCRETE WALL PER STRUCTURAL
- DRAINAGE MAT & WRB

W14a

SCOPE OF CHANGES:

- REVISED WALL PERIMETER ON WESTERN WALL AS A RESULT OF STAIR ELIMINATION; LARGER OPENING AT PATIO; ADDITION OF BIFOLD DOOR INTO POTTING SHED.
  1. ASSEMBLY W6g ADDED.
- REVISED ENTRY VESTIBULE DESIGN.
  1. ASSEMBLY W6h & W6j ADDED

Brandt
Design Group
66 Bell Street
Unit 1
Seattle, WA
98121
206.239.0850
brandtdesigninc.com

8843
REGISTERED ARCHITECT
STATE OF WASHINGTON

CLARKSON RESIDENCE

8163 WEST MERCER WAY
MERCER ISLAND, WA 98040

PERMIT DRAWINGS

DATE:	06.10.22
SHEET SIZE:	D (24X36)

REVISIONS

NO.	DESCRIPTION	DATE
3	PERMIT REVISION 1	04.19.22
6	PERMIT REVISION 2	07.06.23

DRAWN BY:	KJ/JM
CHECKED BY:	BM

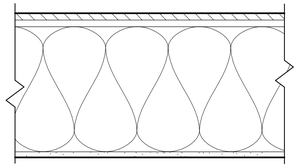
ASSEMBLY DETAILS

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

A700

DEDICATED APPROVAL STAMP SPACE

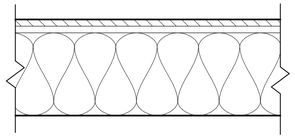
HORIZONTAL ASSEMBLIES



3/4" FINISHED FLOOR
3/4" PLYWOOD SHEATHING
14" TJI PER STRUCTURAL
ROCK WOOL INSULATION
(R-38 ABOVE THE GARAGE)
5/8" DRYWALL
('TYPE 'X' @ GARAGE)

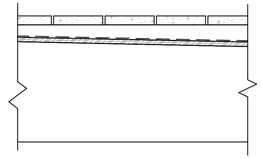
F1

('X' WHERE TYPE X GWB)



3/4" ENGINEERING WOOD FLOOR
3/4" PLYWOOD
ROCKWOOL INSULATION
2X10 FRAMING

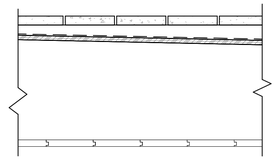
F2



PAVER TILES
RIPPED FURRING, SLOPE 1/8":12"
'DURADECK' OR APPROVED ALTERNATE MEBRANE* O/ 3/4" PLYWOOD
FLOOR FRAMING PER STRUCT RIPPED 1/8":12"

*WATERPROOFING MUST BE APPROVED FOR USE AS A WALKING DECK AND FOR THE INSTALLATION OF THE DECKING DIRECTLY ON THE MEMBRANE PER ICC-ES WALKING DECKS CRITERIA

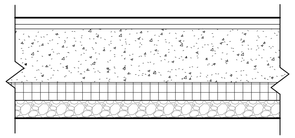
F3



PAVER TILES
RIPPED FURRING, SLOPE 1/8":12"
'DURADECK' OR APPROVED ALTERNATE MEBRANE* O/ 3/4" PLYWOOD
FLOOR FRAMING PER STRUCT RIPPED 1/8":12"
1X CEDAR T&G STAINED

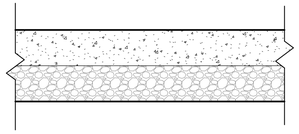
*WATERPROOFING MUST BE APPROVED FOR USE AS A WALKING DECK AND FOR THE INSTALLATION OF THE DECKING DIRECTLY ON THE MEMBRANE PER ICC-ES WALKING DECKS CRITERIA

F4



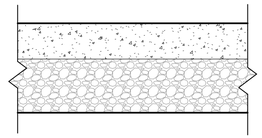
3/4" ENGINEERING WOOD FLOOR
1/2" UNDERLAYMENT
6" CONCRETE PER STRUCTURAL SLAB
VAPOR BARRIER
R-10 RIGID INSULATION
2" GRAVEL

F5



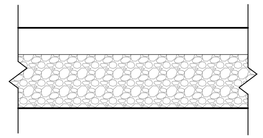
4" CONCRETE SLAB
4" GRAVEL

F6



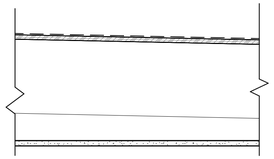
4" CONCRETE
6" GRAVEL

F7



3" PAVERS
6" GRAVEL

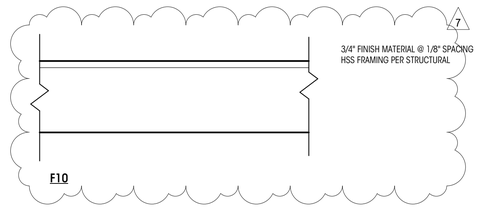
F8



RIPPED FURRING, SLOPE 1/8":12"
'DURADECK' OR APPROVED ALTERNATE MEBRANE*
O/ 3/4" PLYWOOD
FLOOR FRAMING PER STRUCT SLOPED AT 1/8": 12"
RIPPED CEILING FRAMING TO ALIGN WITH ADJACENT CEILING FRAMING
5/8" TYPE 'X' GYPSUM WALL BOARD

*WATERPROOFING MUST BE APPROVED FOR USE AS A WALKING DECK AND FOR THE INSTALLATION OF THE DECKING DIRECTLY ON THE MEMBRANE PER ICC-ES WALKING DECKS CRITERIA

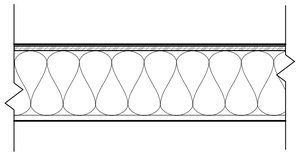
F9



7

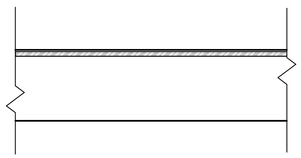
3/4" FINISH MATERIAL @ 1/8" SPACING
HSS FRAMING PER STRUCTURAL

F10



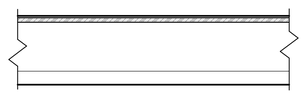
3/16" ASPHALT SHINGLES
ROOFING MEMBRANE
1/2" PLYWOOD
R-38 MIN. INSULATION - ENSURE 1" AIRGAP FOR VENTING
2X FRAMING PER STRUCTURAL
5/8" GWB, PAINTED

R1



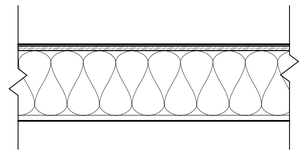
3/16" ASPHALT SHINGLES
ROOFING MEMBRANE
1/2" PLYWOOD
ROOF TRUSS PER STRUCTURAL

R2



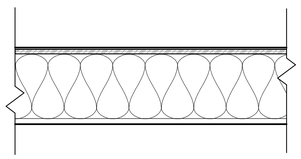
3/16" ASPHALT SHINGLES
1/2" PLYWOOD
2x FRAMING PER STRUCTURAL
1 1/2" CEDAR T&G

R3



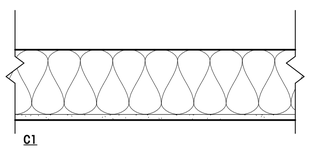
3/16" ASPHALT SHINGLES
ROOFING MEMBRANE
1/2" PLYWOOD
R-38 MIN. INSULATION - ENSURE 1" AIRGAP FOR VENTING
ROOF TRUSS PER STRUCTURAL
5/8" GWB, PAINTED

R4



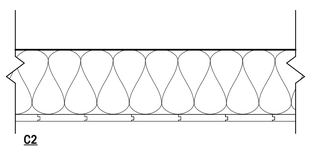
3/16" ASPHALT SHINGLES
ROOFING MEMBRANE
1/2" PLYWOOD
R-38 MIN. INSULATION - ENSURE 1" AIRGAP FOR VENTING
ROOF TRUSS PER STRUCTURAL
5/8" GWB, PAINTED

R5



R-49 MIN. BATT INSULATION
ROOF TRUSS PER STRUCTURAL
5/8" GWB, PAINTED

C1



2X8 FRAMING
3/4" T&G FINISH

C2

SCOPE OF CHANGES:

7

- 1. ASSEMBLY F10 UPDATED PER STRUCTURAL.

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98121
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8843
REGISTERED ARCHITECT
STATE OF WASHINGTON

CLARKSON RESIDENCE

8163 WEST MERCER WAY
MERCER ISLAND, WA 98040

PERMIT DRAWINGS

DATE: 06.10.22
SHEET SIZE: D (24X36)

REVISIONS

NO.	DESCRIPTION	DATE
3	PERMIT REVISION 1	04.19.22
7	PERMIT REV. 2 SUB 2	11.07.23

DRAWN BY: KJ/JM
CHECKED BY: BM

ASSEMBLY DETAILS

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

A701

DEDICATED APPROVAL STAMP SPACE

General Structural Notes

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

CRITERIA

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (2018 EDITION).

2. DESIGN LOADING CRITERIA:
   GARAGES
   FLOOR LIVE LOAD (PASSENGER VEHICLES) . . . . . 40 PSF
   FLOOR CONCENTRATED LOAD (PASSENGER VEHICLES) . . . . . 3000 LBS
   HANDRAILS AND GUARDS
   GUARDRAILS/BALCONY RAILS CONCENTRATED LOAD . . . . . 200 LBS
   RESIDENTIAL - ONE AND TWO-FAMILY DWELLINGS
   FLOOR LIVE LOAD . . . . . 40 PSF
   ROOF
   ROOF LIVE LOAD . . . . . 25 PSF
   MISCELLANEOUS LOADS
   DECKS . . . . . 1.5 x AREA SERVED
   ENVIRONMENTAL LOADS
   SNOW . . . . . Ce=1.0, Is=1.0, Ct=1.1, Pg=25 PSF, Pf=20 PSF
   WIND . . . . . GCpi=0.18, 98 MPH, RISK CATEGORY II, EXPOSURE "C"
   EARTHQUAKE . . . ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
   LATERAL SYSTEM: LIGHT FRAMED SHEAR WALLS, Vs = 22 KIPS
   SITE CLASS=D, Ss=1.47, Sds=.98, S1=.51, SD1=.57, Cs=0.151
   SDC D, Ie=1.0, R=6.5

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATION, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK.

4. PRIMARY STRUCTURAL ELEMENTS NOT DIMENSIONED ON THE STRUCTURAL PLANS AND DETAILS SHALL BE LOCATED BY THE ARCHITECTURAL PLANS AND DETAILS. VERTICAL DIMENSION CONTROL IS DEFINED BY THE ARCHITECTURAL WALL SECTIONS, BUILDING SECTION, AND PLANS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTORS WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.

6. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. CONFORM TO ASCE 37-14 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION".

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

8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER. ALL TYPICAL NOTES AND DETAILS SHOWN ON DRAWINGS SHALL APPLY, UNLESS NOTED OTHERWISE. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS. WHERE TYPICAL DETAILS ARE NOTED ON THE PLANS, THE SPECIFIED TYPICAL DETAIL SHALL BE USED. WHERE NO TYPICAL DETAIL IS NOTED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE TYPICAL DETAIL FROM THOSE PROVIDED OR REQUEST ADDITIONAL INFORMATION. THE CONTRACTOR SHALL SUBMIT ALL PROPOSED ALTERNATE TYPICAL DETAILS TO THOSE PROVIDED WITH RELATED CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO SHOP DRAWING PRODUCTION AND FIELD USE.

9. ALL STRUCTURAL SYSTEMS, 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 INSTRUCTIONS PREPARED BY THE SUPPLIER.

10. SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

    CONNECTOR PLATE WOOD ROOF TRUSSES
    GLUED LAMINATED MEMBERS
    MANUFACTURED LUMBER (PSLs, LSLs, LVLs)
    PLYWOOD WEB JOISTS

11. SHOP DRAWING REVIEW: DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. CONTRACTOR SHALL REVIEW DRAWINGS FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, AND ALL SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO. SUBMITTALS SHALL INCLUDE A REPRODUCIBLE AND ONE COPY; REPRODUCIBLE WILL BE MARKED AND RETURNED WITHIN TWO WEEKS OF RECEIPT WITH A NOTATION INDICATING THAT THE SUBMITTAL HAS BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE SUBMITTED ITEMS SHALL NOT BE INSTALLED UNTIL THEY HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

    SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT, BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

QUALITY ASSURANCE

12. SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SECTIONS 110 AND 1705 OF THE INTERNATIONAL BUILDING CODE BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE ARCHITECT, AND RETAINED BY THE BUILDING OWNER. THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING DEPARTMENT SHALL BE FURNISHED WITH COPIES OF ALL INSPECTION AND TEST RESULTS. SPECIAL INSPECTION OF THE FOLLOWING TYPES OF CONSTRUCTION IS REQUIRED UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL FABRICATION AND ERECTION	PER S1.3
CONCRETE CONSTRUCTION	PER S1.3
CAST-IN-PLACE DEEP FOUNDATION	PER S1.3

    PERIODIC INSPECTION: INSPECTION SHALL BE PERFORMED AT INTERVALS NECESSARY TO CONFIRM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH REQUIREMENTS.
    CONTINUOUS INSPECTION: INSPECTOR SHALL BE ONSITE AND OBSERVE THE WORK REQUIRING INSPECTION AT ALL TIMES THAT WORK IS PERFORMED.

GEOTECHNICAL

13. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH RECOMMENDATIONS GIVEN IN THE SOILS REPORT OR AS DIRECTED BY THE SOILS ENGINEER. FOOTINGS SHALL BEAR ON SOLID UNDISTURBED EARTH OR COMPACTED STRUCTURAL FILL AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE. FOOTING DEPTHS/ELEVATIONS SHOWN ON PLANS (OR IN DETAILS) ARE MINIMUM AND FOR GUIDANCE ONLY; THE ACTUAL ELEVATIONS OF FOOTINGS MUST BE ESTABLISHED BY THE CONTRACTOR IN THE FIELD WORKING WITH THE TESTING LAB AND SOILS ENGINEER. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE SOILS REPORT.

LATERAL EARTH PRESSURE (RESTRAINED/UNRESTRAINED)	55 PCF/45 PCF
ALLOWABLE PASSIVE EARTH PRESSURE (FS NOT INCLUDED)	250 PCF
TRAFFIC SURCHARGE PRESSURE (UNIFORM LOAD)	90 PSF
SEISMIC SURCHARGE PRESSURE (UNIFORM LOAD)	10H PSF
4"ø PILE CAPACITY	10 TONS
2"ø PILE CAPACITY	2 TONS

    SOILS REPORT REFERENCE:

    EMAIL CONFIRMATION FROM MARC MCGINNIS, DATED APRIL 10, 2023.

    TRANSMITTAL LETTER - GEOTECHNICAL ENGINEERING STUDY
    JN 20279
    PREPARED BY:
    GEOTECHNICAL CONSULTANTS, INC.
    October 6, 2020

14. PIN PILES SHOWN ON THE PLAN SHALL BE 4" DIAMETER, SCHEDULE 40, UNLESS OTHERWISE NOTED. THE MAXIMUM CAPACITY OF 4" PILES SHALL BE 10 TONS. ALL PILES SHALL BE DRIVEN TO REFUSAL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. PILES USED IN COMMON TO RESIST LATERAL EARTH PRESSURES SHALL HAVE THE ADDITIONAL REQUIREMENT OF BEING EMBEDDED A MINIMUM OF 10 FEET BELOW RETAINED GRADE. THE MAXIMUM PILE ECCENTRICITY SHALL BE 2 INCHES. GEOTECHNICAL SPECIAL INSPECTION SHALL BE SUBJECT TO THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND THE BUILDING DEPARTMENT. SEE PLANS FOR OTHER SIZES AND CRITERIA.

    2"ø PIN PILES (WHERE OCCURS ON THE PLAN) SHALL BE EXTRA-STRONG, GRADE A, GALVANIZED, UNLESS OTHERWISE NOTED, AND SHALL BE DESIGNED AND INSTALLED UNDER THE STRICT REQUIREMENTS OF DIRECTOR'S RULE 10-2009. THE MAXIMUM CAPACITY OF 2" PILES SHALL BE 2 TONS. ALL PILES SHALL BE DRIVEN TO REFUSAL. AS A MINIMUM, PILE REFUSAL SHALL BE DEFINED AS 1 INCH OF PENETRATION IN 60 SECONDS DURING CONTINUOUS DRIVING OF A 90 LB JACK HAMMER UNDER THE FULL WEIGHT AND EFFORT OF THE OPERATOR. THE MAXIMUM PILE ECCENTRICITY SHALL BE 2 INCHES. GEOTECHNICAL SPECIAL INSPECTION SHALL BE SUBJECT TO THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND THE BUILDING DEPARTMENT (DIRECTOR'S RULE). SEE PLANS FOR OTHER SIZES AND CRITERIA

CONCRETE

15. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 301, INCLUDING TESTING PROCEDURES. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f'c = 3,000 PSI AND MIX SHALL CONTAIN NOT LESS THAN 5-1/2 SACKS OF CEMENT PER CUBIC YARD AND SHALL BE PROPORTIONED TO PRODUCE A SLUMP OF 5" OR LESS. REQUIRED CONCRETE STRENGTH IS BASED ON THE DURABILITY REQUIREMENTS OF SECTION 1904 OF THE IBC. DESIGN STRENGTH IS f'c = 2,500 PSI.

16. ALL CONCRETE WITH SURFACES EXPOSED TO WEATHER OR STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260, C494, AND C618. TOTAL AIR CONTENT FOR FROST-RESISTANT CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318-14, TABLE 19.3.2.1 MODERATE EXPOSURE, F1.

17. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 60, FY = 60,000 PSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, FY = 40,000 PSI. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. SPIRAL REINFORCEMENT SHALL BE DEFORMED WIRE CONFORMING TO ASTM A615, GRADE 60, FY = 60,000 PSI.

18. DETAILING OF REINFORCING STEEL (INCLUDING HOOKS AND BENDS) SHALL BE IN ACCORDANCE WITH ACI 315-99 AND 318-14. LAP ALL CONTINUOUS REINFORCEMENT #5 AND SMALLER 40 BAR DIAMETERS OR 2'-0" MINIMUM. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS #5 AND SMALLER 40 BAR DIAMETERS OR 2'-0" MINIMUM. LAPS OF LARGER BARS SHALL BE MADE IN ACCORDANCE WITH ACI 318-14, CLASS B. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

    NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

19. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

    FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . . 3"
    FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#6 BARS OR LARGER) . . . . 2"
    FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#5 BARS OR SMALLER). . 1-1/2"
    COLUMN TIES OR SPIRALS AND BEAM STIRRUPS . . . . . 1-1/2"
    SLABS AND WALLS (INT. FACE). . . GREATER OF BAR DIAMETER PLUS 1/8" OR 3/4"

20. CONCRETE WALL REINFORCING--PROVIDE THE FOLLOWING UNLESS DETAILED OTHERWISE:

6" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
8" WALLS	#4 @ 12 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
10" WALLS	#4 @ 18 HORIZ.	#4 @ 18 VERTICAL	2 CURTAINS
12" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	2 CURTAINS

21. CAST-IN-PLACE CONCRETE: SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS IN ALL CONCRETE WALLS. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF MISCELLANEOUS MECHANICAL OPENINGS THROUGH CONCRETE WALLS. SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES, BOTH CAST-IN-PLACE AND PRECAST.

22. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (3000 PSI MINIMUM).

ANCHORAGE

23. EXPANSION BOLTS INTO CONCRETE SHALL BE "STRONG-BOLT 2" WEDGE ANCHORS AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY AND INSTALLED IN STRICT CONFORMANCE TO ICC-ES REPORT NUMBER ESR-3037, INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. BOLTS INTO CONCRETE MASONRY OR BRICK MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. PERIODIC SPECIAL INSPECTION IS REQUIRED TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, ANCHOR LOCATION, TIGHTENING TORQUE, HOLE DIMENSIONS, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS.

24. EPOXY-GROUTED ITEMS (THREADED RODS OR REINFORCING BAR) SPECIFIED ON THE DRAWINGS SHALL BE INSTALLED USING "AT-XP" AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. INSTALL IN STRICT ACCORDANCE WITH IAMPO REPORT NO. ER-0281. MINIMUM BASE MATERIAL TEMPERATURE IS 14 DEGREES, F. RODS SHALL BE ASTM A-36 UNLESS OTHERWISE NOTED. PERIODIC SPECIAL INSPECTION OF INSTALLATION IS REQUIRED TO VERIFY ANCHOR OR EMBEDDED BAR TYPE AND DIMENSIONS, LOCATION, ADHESIVE IDENTIFICATION AND EXPIRATION, HOLE DIMENSIONS, HOLE CLEANING PROCEDURE, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS. CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR HORIZONTAL AND OVERHEAD INSTALLATIONS.

25. CONCRETE SCREW ANCHORS INTO CONCRETE AND CONCRETE MASONRY UNITS SHALL BE "TITEN HD" HEAVY DUTY SCREW ANCHOR AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY, INSTALLED IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. ESR-2713 (CONCRETE), NO. ESR-1056 (CMU), INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. SCREW ANCHORS INTO CONCRETE MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. SPECIAL INSPECTION IS REQUIRED.

MASONRY

26. ADHERED MASONRY VENEER, 2-5/8" MAXIMUM THICKNESS, SHALL BE ADHERED TO BACKING WALLS PER SECTION 1405.10 OF THE INTERNATIONAL BUILDING CODE. ADHERED MASONRY SHALL BE ABLE TO DEVELOP SHEAR STRENGTH OF 50 PSI MINIMUM BETWEEN THE BACKING AND THE UNIT IN ACCORDANCE WITH ASTM C 482 OR SHALL BE ADHERED PER ARTICLE 3.3C OF TMS602/ACI530.1/ASCE 6.

STEEL

27. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON:

    A. AISC 360 AND SECTION 2205.2 OF THE INTERNATIONAL BUILDING CODE.
    B. APRIL 14, 2010 AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AMENDED AS FOLLOWS: AS NOTED IN THE CONTRACT DOCUMENTS, BY THE DELETION OF PARAGRAPH 4.4.1, AND REVISE REFERENCE FROM "STRUCTURAL DESIGN DRAWINGS" TO "CONTRACT DOCUMENTS" IN PARAGRAPH 3.1.
    C. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

28. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TYPE OF MEMBER	ASTM SPECIFICATION	FY
A. WIDE FLANGE SHAPES	A992	50 KSI
B. OTHER SHAPES, PLATES, AND RODS	A36	36 KSI
C. OTHER SHAPES AND PLATES (NOTED GRADE 50 ON PLANS)	A572 (GRADE 50)	50 KSI
D. PIPE COLUMNS	A53 (E OR S, GR.B)	35 KSI
E. STRUCTURAL TUBING	A500 (GR.B)	
-SQUARE OR RECTANGULAR		46 KSI
-ROUND		42 KSI
-ANY SHAPE	ASTM A1085	50 KSI
F. CONNECTION BOLTS (3/4" ROUND, UNLESS SHOWN OTHERWISE)	A325-N	

29. ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SHALL CONFORM TO SECTION 10 OF THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.

30. ALL STEEL EXPOSED TO THE WEATHER OR IN CONTACT WITH GROUND SHALL BE CORROSION PROTECTED BY GALVANIZATION OR PROVIDED WITH EXTERIOR PAINT SYSTEM, UNLESS OTHERWISE NOTED.

31. SHOP PRIME ALL STEEL EXCEPT:

    A. STEEL ENCASED IN CONCRETE.
    B. SURFACES TO BE WELDED.
    C. CONTACT SURFACES AT HIGH-STRENGTH BOLTS.
    D. MEMBERS TO BE GALVANIZED.
    E. MEMBERS WHICH WILL BE CONCEALED BY INTERIOR FINISHES.
    F. SURFACES TO RECEIVE SPRAYED FIREPROOFING.
    G. SURFACES TO RECEIVE OTHER SPECIAL SHOP PRIMERS.

32. ALL A-325N CONNECTION BOLTS NEED ONLY BE TIGHTENED TO A SNUG TIGHT CONDITION, DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. THIS MAY BE ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH.

33. ALL ANCHORS EMBEDDED IN MASONRY OR CONCRETE SHALL BE A307 HEADED BOLTS OR A36 THREADED ROD WITH AN ASTM 563 HEAVY HEX NUT TACK WELDED ON THE EMBEDDED END.

34. ALL WELDING SHALL BE IN CONFORMANCE WITH AISC AND AWS STANDARDS AND SHALL BE PERFORMED BY WABO CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. ALL COMPLETE JOINT PENETRATION GROOVE WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CVN TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F AND 40 FT - LBS AT 70 DEGREES F, AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

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DAN J. SAY — STATE OF WASHINGTON — 23000 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
2	85% CD Set	Jan. 13, 2023
3	Permit Revisions	Jun. 30, 2023
4	CA Revisions	Nov. 3, 2023

DPD:

PROJECT TITLE:
Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE:
65% CD Set

SHEET TITLE:
General Structural Notes

SCALE: -
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO: S1.1

General Structural Notes

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

WOOD

35. FRAMING LUMBER SHALL BE S-DRY, KD, OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH WCLIB STANDARD "GRADING RULES FOR WEST COAST LUMBER NO. 17", OR WWPA STANDARD, "WESTERN LUMBER GRADING RULES 2011". FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

JOISTS AND BEAMS	(2X & 3X MEMBERS)	HEM-FIR NO. 2 MINIMUM BASE VALUE, Fb = 850 PSI
	(4X MEMBERS)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fb = 1000 PSI
BEAMS	(INCL. 6X AND LARGER)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fb = 1350 PSI
POSTS	(4X MEMBERS)	DOUGLAS FIR-LARCH NO. 2 MINIMUM BASE VALUE, Fc = 1350 PSI
	(6X AND LARGER)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fc = 1000 PSI
STUDS, PLATES & MISC. FRAMING:		DOUGLAS-FIR-LARCH OR HEM-FIR NO. 2

36. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND ANSI/AITC STANDARDS. EACH MEMBER SHALL BEAR AN AITC OR APA-EWS IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN AITC OR APA-EWS CERTIFICATE OF CONFORMANCE. ALL SIMPLE SPAN BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V4, Fb = 2,400 PSI, Fv =265 PSI. ALL CANTILEVERED BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, Fb = 2400 PSI, Fv = 265 PSI.

37. MANUFACTURED LUMBER, PSL, LVL, AND LSL SHOWN ON PLAN ARE BASED PRODUCTS MANUFACTURED BY THE WEYERHAEUSER CORPORATION IN ACCORDANCE WITH ICC-ES REPORT ESR-1387. MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PSL (2.0E)	Fb = 2900 PSI,	E = 2000 KSI,	Fv = 290 PSI
LVL (2.0E)	Fb = 2600 PSI,	E = 2000 KSI,	Fv = 285 PSI
LSL (1.55E)	Fb = 2325 PSI,	E = 1550 KSI,	Fv = 310 PSI

ALTERNATE MANUFACTURED LUMBER MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE MANUFACTURER'S PRODUCTS SHALL BE COMPATIBLE WITH THE JOIST HANGERS AND OTHER HARDWARE SPECIFIED ON PLANS, OR ALTERNATE HANGERS AND HARDWARE SHALL SUBMITTED FOR REVIEW AND APPROVAL. SUBSTITUTED ITEMS SHALL HAVE ICC-ES REPORT APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES.

MANUFACTURED LUMBER PRODUCTS SHALL BE INSTALLED WITH A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF INSTALLED BEAMS FROM EXCEEDING 12%. EXCESSIVE DEFLECTIONS MAY OCCUR IF MOISTURE CONTENT EXCEEDS THIS VALUE.

38. PREFABRICATED PLYWOOD WEB JOIST DESIGN SHOWN ON PLANS IS BASED ON JOISTS MANUFACTURED BY THE WEYERHAEUSER CORPORATION. ALTERNATE PLYWOOD WEB JOIST MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE MANUFACTURER'S PRODUCTS SHALL BE COMPATIBLE WITH THE JOIST HANGERS AND OTHER HARDWARE SPECIFIED ON PLANS, OR ALTERNATE HANGERS AND HARDWARE SHALL SUBMITTED FOR REVIEW AND APPROVAL. SUBSTITUTED ITEMS SHALL HAVE ICC-ES REPORT APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES.

39. PREFABRICATED CONNECTOR PLATE WOOD ROOF TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE "NATIONAL DESIGN STANDARD FOR METAL PLATE-CONNECTED WOOD TRUSS CONSTRUCTION, ANSI/TPI 1" BY THE TRUSS PLATE INSTITUTE FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. LOADING SHALL BE AS FOLLOWS:

TOP CHORD LIVE LOAD	25 PSF
TOP CHORD DEAD LOAD	10 PSF
BOTTOM CHORD DEAD LOAD	5 PSF
TOTAL LOAD	40 PSF
WIND UPLIFT (TOP CHORD)	5 PSF
BOTTOM CHORD LIVE LOAD (BOTTOM CHORD LIVE LOAD DOES NOT ACT CONCURRENTLY WITH THE ROOF LIVE LOAD)	10 PSF

WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL). SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. SUBMITTED DOCUMENTS SHALL BE SIGNED AND STAMPED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON. PROVIDE FOR SHAPES, BEARING POINTS, INTERSECTIONS, HIPS, VALLEYS, ETC., SHOWN ON THE DRAWINGS. EXACT COMPOSITION OF SPECIAL HIP, VALLEY, AND INTERSECTION AREAS (USE OF GIRDER TRUSSES, JACK TRUSSES, STEP-DOWN TRUSSES, ETC.) SHALL BE DETERMINED BY THE MANUFACTURER UNLESS SPECIFICALLY INDICATED ON THE PLANS. PROVIDE ALL TRUSS TO TRUSS AND TRUSS TO GIRDER TRUSS CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. PROVIDE FOR ALL TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING.

40. PLYWOOD SHEATHING SHALL BE GRADE C-D, EXTERIOR GLUE OR STRUCTURAL II, EXTERIOR GLUE IN CONFORMANCE WITH DOC PS 1 OR PS 2. ORIENTED STRAND BOARD OF EQUIVALENT THICKNESS, EXPOSURE RATING AND PANEL INDEX MAY BE USED IN LIEU OF PLYWOOD.

ROOF SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 32/16.

FLOOR SHEATHING SHALL BE 3/4" (NOMINAL) WITH SPAN RATING 48/24.

WALL SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 24/0.

PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING.

REFER TO WOOD FRAMING NOTES BELOW FOR TYPICAL NAILING REQUIREMENTS.

41. ALL WOOD IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED WITH AN APPROVED PRESERVATIVE OR (2) LAYERS OF ASPHALT IMPREGNATED BUILDING PAPER SHALL BE PROVIDED BETWEEN UNTREATED WOOD AND CONCRETE OR MASONRY.

42. PRESERVATIVE TREATED WOOD SHALL BE TREATED PER AWPA STANDARD U1 TO THE USE CATEGORY EQUAL TO OR HIGHER THAN THE INTENDED APPLICATION. TREATED WOOD FOR ABOVE GROUND USE SHALL BE TREATED TO AWPA UC3B. WOOD IN CONTINUOUS CONTACT WITH FRESH WATER OR SOIL SHALL BE TREATED TO AWPA UC4A. WOOD FOR USE IN PERMANENT FOUNDATIONS SHALL BE TREATED TO AWPA UC4B.

43. FASTENERS AND TIMBER CONNECTORS USED WITH TREATED WOOD SHALL HAVE CORROSION RESISTANCE AS INDICATED IN THE FOLLOWING TABLE, UNLESS OTHERWISE NOTED.

WOOD TREATMENT	CONDITION	PROTECTION
HAS NO AMMONIA CARRIER	INTERIOR DRY	G90 GALVANIZED
CONTAINS AMMONIA CARRIER	INTERIOR DRY	G185 OR A185 HOT DIPPED OR CONTINUOUS HOT-GALVANIZED PER ASTM A653
CONTAINS AMMONIA CARRIER	INTERIOR WET	TYPE 304 OR 316 STAINLESS
CONTAINS AMMONIA CARRIER	EXTERIOR	TYPE 304 OR 316 STAINLESS
AZCA	ANY	TYPE 304 OR 316 STAINLESS

INTERIOR DRY CONDITIONS SHALL HAVE WOOD MOISTURE CONTENT LESS THAN 19%. WOOD MOISTURE CONTENT IN OTHER CONDITIONS (INTERIOR WET, EXTERIOR WET, AND EXTERIOR DRY) IS EXPECTED TO EXCEED 19%. CONNECTORS AND THEIR FASTENERS SHALL BE THE SAME MATERIAL. COMPLY WITH THE TREATMENT MANUFACTURERS RECOMMENDATIONS FOR PROTECTION OF METAL.

44. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-C-2019. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE ICC-ES APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER FOR MAXIMUM LOAD CARRYING CAPACITY. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

ALL 2X JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "LUS" SERIES JOIST HANGERS. ALL TJI JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "ITS" SERIES JOIST HANGERS. ALL DOUBLE-JOIST BEAMS SHALL BE CONNECTED TO FLUSH BEAMS WITH "MIT" SERIES JOIST HANGERS.

WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER.

ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.

45. WOOD FASTENERS

A. NAIL SIZES SPECIFIED ON DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
6d	2"	0.113"
8d	2-1/2"	0.131"
10d	3"	0.148"
12d	3-1/4"	0.148"
16d BOX	3-1/2"	0.135"

IF CONTRACTOR PROPOSES THE USE OF ALTERNATE NAILS, THEY SHALL SUBMIT NAIL SPECIFICATIONS TO THE STRUCTURAL ENGINEER (PRIOR TO CONSTRUCTION) FOR REVIEW AND APPROVAL.

NAILS - PLYWOOD (APA RATED SHEATHING) FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES WITH THE MEMBER AND STARTED 1/3 THE LENGTH OF THE NAIL FROM THE MEMBER END.

B. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG BOLTS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION WITH A LEAD BORE HOLE OF 60 TO 70 PERCENT OF THE SHANK DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" AND SMALLER LAG SCREWS.

46. NOTCHES AND HOLES IN WOOD FRAMING:

A. NOTCHES ON THE ENDS OF SOLID SAWN JOISTS AND RAFTERS SHALL NOT EXCEED ONE-FOURTH THE JOIST DEPTH. NOTCHES IN THE TOP OR BOTTOM OF SOLID SAWN JOISTS SHALL NOT EXCEED ONE-SIXTH THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN. HOLES BORED IN SOLID SAWN JOISTS AND RAFTERS SHALL NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF THE JOIST, AND THE DIAMETER OF ANY SUCH HOLE SHALL NOT EXCEED ONE-THIRD THE DEPTH OF THE JOIST.

B. IN EXTERIOR WALLS AND BEARING PARTITIONS, ANY WOOD STUD IS PERMITTED TO BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH. A HOLE NOT GREATER IN DIAMETER THAN 40 PERCENT OF THE STUD WIDTH IS PERMITTED TO BE BORED IN ANY WOOD STUD. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8 INCH TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.

C. NOTCHES AND HOLES IN MANUFACTURED LUMBER AND PREFABRICATED PLYWOOD WEB JOISTS SHALL BE PER THE MANUFACTURERS RECOMMENDATIONS UNLESS OTHERWISE NOTED.

47. WOOD FRAMING NOTES--THE FOLLOWING APPLY UNLESS OTHERWISE SHOWN ON THE PLANS:

A. ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE INTERNATIONAL BUILDING CODE, THE AITC "TIMBER CONSTRUCTION MANUAL" AND THE AWC "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION". MINIMUM NAILING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO IBC TABLE 2304.10.1. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.

B. WALL FRAMING: REFER ARCHITECTURAL DRAWINGS FOR THE SIZE OF ALL WALLS. ALL STUDS SHALL BE SPACED AT 16" O.C. UNO. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS, AND AT BEAM OR HEADER BEARING LOCATIONS. TWO 2x8 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS NOT OTHERWISE NOTED. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 10'-0" IN HEIGHT.

ALL WALLS SHALL HAVE A SINGLE BOTTOM PLATE AND A DOUBLE TOP PLATE. END NAIL TOP PLATE TO EACH STUD WITH TWO 16d NAILS, AND TOENAIL OR END NAIL EACH STUD TO BOTTOM PLATE WITH TWO 16d NAILS. FACE NAIL DOUBLE TOP PLATE WITH 16d @ 12" O.C. AND LAP MINIMUM 4'-0" AT JOINTS AND PROVIDE EIGHT 16d NAILS @ 4" O.C. EACH SIDE JOINT.

ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH TWO ROWS OF 16d NAILS @ 12" ON-CENTER, OR ATTACHED TO CONCRETE BELOW WITH 5/8" DIAMETER ANCHOR BOLTS @ 4'-0" ON-CENTER EMBEDDED 7" MINIMUM, UNLESS INDICATED OTHERWISE. INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE NAILED TO EACH OTHER WITH TWO ROWS OF 16d @12" ON-CENTER. UNLESS OTHERWISE NOTED, GYPSUM WALLBOARD SHALL BE FASTENED TO THE INTERIOR SURFACE OF ALL STUDS AND PLATES WITH NO. 6 X 1-1/4" TYPE S OR W SCREWS @ 8" ON-CENTER. UNLESS INDICATED OTHERWISE, 1/2" (NOMINAL) APA RATED SHEATHING (SPAN RATING 24/0) SHALL BE NAILED TO ALL EXTERIOR SURFACES WITH 8d NAILS @ 6" ON-CENTER AT PANEL EDGES AND TOP AND BOTTOM PLATES (BLOCK UN-SUPPORTED EDGES) AND TO ALL INTERMEDIATE STUDS AND BLOCKING WITH 8d NAILS @ 12" ON-CENTER ALLOW 1/8" SPACING AT ALL PANEL EDGES AND PANEL ENDS.

C. FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS UNLESS OTHERWISE NOTED. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS. TOE-NAIL JOISTS TO SUPPORTS WITH TWO 16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI JOIST BEAMS TOGETHER WITH TWO ROWS 16d @ 12" ON-CENTER.

UNLESS OTHERWISE NOTED ON THE PLANS, PLYWOOD ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS AND NAILED AT 6" ON-CENTER WITH 8d NAILS TO FRAMED PANEL EDGES, STRUTS AND OVER STUD WALLS AS SHOWN ON PLANS AND @ 12" ON-CENTER TO INTERMEDIATE SUPPORTS. PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d @ 12" ON-CENTER UNLESS OTHERWISE NOTED.

48. TONGUE-AND-GROOVE STRUCTURAL ROOF AND FLOOR DECKING SHALL BE INSTALLED AS FOLLOWS: 2X DECKING SHALL BE TOENAILED THROUGH THE TONGUE AND FACE -NAILED WITH ONE 16d NAIL PER PIECE PER SUPPORT. 3X AND 4X DECKING SHALL BE TOENAILED WITH ONE 40d COMMON NAIL AND FACENAILED WITH ONE 60d COMMON NAIL PER SUPPORT. COURSES SHALL BE SPIKED TOGETHER WITH 8" SPIKES @ 30" O.C. (MAXIMUM) AND @ 10" (MAXIMUM) FROM THE END OF EACH PIECE. SPIKES SHALL BE INSTALLED IN PREDRILLED EDGE HOLES. DECKING SHALL BE PLACED WITH A CONTROLLED RANDOM LAYOUT UNLESS OTHERWISE NOTED AND SHALL EXTEND ACROSS A MINIMUM OF THREE SPANS. EACH PLANK SHALL BEAR ON AT LEAST ONE SUPPORT. ALL JOINTS SHALL BE END MATCHED AND ALL PLANKS NAILED TOGETHER WITHIN ONE FOOT OF EACH SIDE OF THE END JOINT. END JOINTS IN ADJACENT PLANKS SHALL BE AT LEAST TWO FEET APART AND END JOINTS IN ALTERNATE PLANKS SHALL BE MORE THAN ONE FOOT APART WHEN MEASURED ALONG THE LENGTH OF THE DECKING. END JOINTS NOT OCCURRING OVER SUPPORTS SHALL BE MATCHED TONGUED AND GROOVED OR SHALL BE CONNECTED WITH 10 GAUGE METAL SPLINES DRIVEN INTO PRE-CUT SLOTS. TONGUE AND GROOVE JOINTS SHALL BE GLUED WITH CONSTRUCTION ADHESIVE WHERE NOTED ON PLAN. 1

STRUCTURAL ENGINEERING

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DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
2	85% CD Set	Jan. 13, 2023
3	Permit Revisions	Jun. 30, 2023
4	CA Revisions	Nov. 3, 2023

DPD:

PROJECT TITLE:

Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

ARCHITECT:
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ISSUE: 65% CD Set

SHEET TITLE: General Structural Notes

SCALE: -
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO: S1.2

Statement of Special Inspections

Special inspections shall be provided per the requirements of IBC section 1705 and as noted herein

SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	COMMENTS	REFERENCES
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X		IBC 1705.6
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		

DRIVEN DEEP FOUNDATION ELEMENTS

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	COMMENTS	REFERENCES
1. VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS	X			IBC 1705.7
2. DETERMINE CAPACITIES OF TEST ELEMENTS AND CONDUCT ADDITIONAL LOAD TESTS AS REQUIRED	X			
3. OBSERVE DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT	X			
4. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT	X			
5. SEE STEEL CONSTRUCTION INSPECTION REQUIREMENTS FOR STEEL PILE ELEMENTS				IBC 1705.2
6. SEE CONCRETE CONSTRUCTION INSPECTION REQUIREMENTS FOR CONCRETE AND CONCRETE FILLED ELEMENTS				IBC 1705.3
7. FOR SPECIALTY ELEMENTS, PERFORM ADDITIONAL INSPECTIONS AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE				

CAST-IN-PLACE DEEP FOUNDATION ELEMENTS

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	COMMENTS	REFERENCES
1. OBSERVE DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT	X			IBC 1705.8
2. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (if applicable), LENGTHS, EMBEDMENT INTO BEDROCK (if applicable) AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES	X			
3. SEE CONCRETE CONSTRUCTION INSPECTION REQUIREMENTS FOR CONCRETE ELEMENTS				IBC 1705.3

STRUCTURAL STEEL

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	COMMENTS	REFERENCE
1. FABRICATED AND ERECTED STEEL:				
a. COMPLIANCE WITH DETAILS SHOWN ON CONSTRUCTION DOCUMENTS		X		AISC 360, SECTION N5
b. APPLICATION OF JOINT DETAILS AT EACH CONNECTION		X		
2. INSPECTION OF HIGH STRENGTH BOLTING:				
a. SNUG-TIGHT JOINTS		X		IBC 1705.2.1 AISC 360, SECTION M2.5 SECTION N5.6
b. PRE-TENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION		X		
c. PRE-TENSIONS AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION	X			
3. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATIONS IN THE APPROVED CONSTRUCTION DOCUMENTS		X		AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED		X		
4. INSPECTION OF WELDING:				
a. COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELD	X			IBC 1705.2.1 AWS D1.1 AISC 360 SECTION N5.4
b. MULTIPASS FILLET WELDS	X			
c. SINGLE PASS FILLET WELDS > 5/16"	X			
d. PLUG AND SLOT WELDS	X			
e. SINGLE PASS FILLET WELDS ≤ 5/16"		X		
5. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:				
a. DETAILS SUCH AS BRACING AND STIFFENING		X		IBC 1705.2.1
b. MEMBER LOCATIONS		X		
c. APPLICATION OF JOINT DETAILS AT EACH CONN.		X		
6. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS:				
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS		X		AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED		X		

CONCRETE AND CONCRETE REINFORCING

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	COMMENTS	REFERENCE
1. INSPECTION OF REINFORCING STEEL INCLUDING PRESTRESSING TENDONS, AND PLACEMENT		X		IBC 1908.4 ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3
2. INSPECTION OF ANCHORS CAST IN CONCRETE		X		ACI 318: 17.8.2
3. INSPECTION OF POST-INSTALLED ANCHORS IN HARDENED CONCRETE MEMBERS:				
a. ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS	X		SEE ICC-ES ESR REPORT FOR ADDITIONAL REQUIREMENTS	ACI 318: 17.8.2.4
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 3-a		X	SEE ICC-ES ESR REPORT FOR ADDITIONAL REQUIREMENTS	ACI 318: 17.8.2
4. VERIFYING USE OF REQUIRED DESIGN MIX		X		IBC 1904.1 IBC 1904.2 IBC 1908.2 IBC 1908.3 ACI 318: Ch. 19, 26.4.3, 26.4.4
5. INSPECTION DURING CONCRETE MIXING:				
a. CONCRETE MIXES PREPARED IN A BATCH PLANT THAT IS NOT CERTIFIED BY THE CITY OF SEATTLE		X	CITY OF SEATTLE ONLY, NOT REQUIRED IF THE PROPORTIONS OF INGREDIENTS ARE ESTABLISHED IN ACCORDANCE WITH SBC 1905.1.10 OR IF THE MIX HAS BEEN GRANTED CONTINUOUS APPROVAL BY THE BUILDING OFFICIAL	SBC 1705.3.3
b. MIXES WITH f'c > 6000psi		X		
c. STRUCTURAL LIGHT WEIGHT CONCRETE		X		
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X			IBC 1908.10 ASTM C 172 ASTM C 31 ACI 318: 26.5, 26.12
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X			IBC 1908.6 -1908.8 ACI 318: 26.5
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X		IBC 1908.9 ACI 318: 26.5.3-26.5.5
9. INSPECT ERECTION OF PRE-CAST CONCRETE MEMBERS		X		ACI 318: 26.9
10. 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: 26.11.2
11. INSPECT FORMWORK FOR GENERAL CONFORMITY TO APPROVED PLANS FOR SIZE, SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		X		ACI 318: 26.11.1.2(b)
12. REINFORCING BAR WELDING:				
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706		X		AWS D1.4 ACI 318: 26.6.4
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16", OTHER THAN C & D		X		
c. WELDING OF REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT	X			
d. WELDING SHEAR REINFORCEMENT	X			
e. WELDING OF OTHER REINFORCEMENT STEEL	X			
13. MECHANICAL COUPLERS FOR REINFORCING			SEE ICC-ES ESR REPORT FOR REQUIREMENTS	

NOTES

1. TESTING AND SPECIAL INSPECTION REPORTS SHALL BE PREPARED FOR EACH INSPECTION ITEM ON A DAILY BASIS WHENEVER WORK IS PERFORMED ON THAT ITEM. REPORTS SHALL BE DISTRIBUTED TO OWNER, CONTRACTOR, BUILDING OFFICIAL, ARCHITECT, AND STRUCTURAL ENGINEER.
2. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD OR DESIGNATED REPRESENTATIVE IN ACCORDANCE WITH IBC 1704.6. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED AS FOLLOWS:
   a. PERIODIC VISUAL OBSERVATION OF STRUCTURAL SYSTEMS FOR GENERAL CONFORMANCE TO CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTON STAGES
   b. REVIEW OF TESTING AND INSPECTION REPORTS
   c. REPORTS SHALL BE PREPARED FOR EACH SITE VISIT AND SHALL BE DISTRIBUTED TO ARCHITECT.
3. WHERE APPLICABLE, SEE ALSO IBC SECTION 1705.11, SPECIAL INSPECTION FOR WIND RESISTANCE AND IBC SECTION 1705.12, SPECIAL INSPECTION FOR SEISMIC RESISTANCE
4. "STRUCTURAL STEEL" REFERS TO STEEL CONSTRUCTION DEFINED BY AISC 303, "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES."

STRUCTURAL ENGINEERING
2124 Third Avenue - Suite 100 - Seattle, WA 98121
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934 Broadway - Tacoma, WA 98402
p: 253.284.9470 ssfengineers.com

DAN J. SAY — STATE OF WASHINGTON — 23000 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
2	85% CD Set	Jan. 13, 2023
3	Permit Revisions	Jun. 30, 2023
4	CA Revisions	Nov. 3, 2023

DPD:

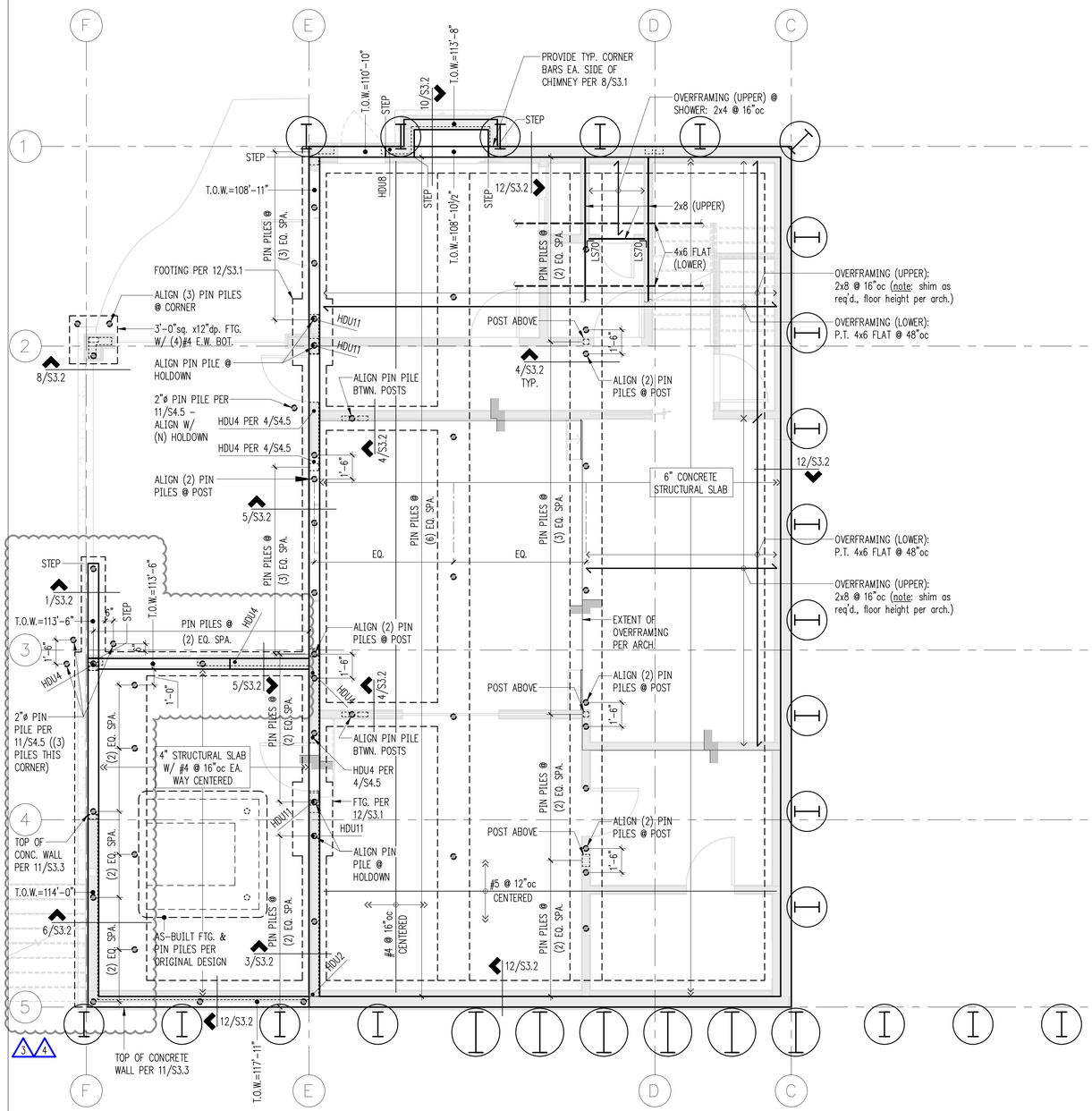
PROJECT TITLE:
Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE:
65% CD Set

SHEET TITLE:
Special Inspection Notes

SCALE:
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO:
S1.3



Legend

- STRUCTURAL WALL OR POST ABOVE
- STEM WALL & FOOTING
- HDUx — HOLDOWN PER 12/S3.1
- SHORING PILE PER SH2.1
- 4"ø PIN PILE (47 total this sheet) NOTE: PIN PILES SUBSTITUTED FOR AUGER CAST PILES; PILES PER GEOTECH REPORT
- T.O.W. — TOP OF WALL ELEVATION. ELEVATIONS ARE ESTIMATES, CONTRACTOR TO CONFIRM W/ ARCHITECT & ACTUAL SITE CONDITIONS

Plan Notes

1. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
3. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 18" MINIMUM BELOW EXTERIOR GRADE.
4. ALL POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE FULL CONTINUOUS BEARING THROUGH FLOORS TO FOUNDATION.
5. INTERIOR SLABS ON GRADE PER PLAN. BELOW SLAB PROVIDE A 10-MIL VAPOR BARRIER OVER 6" MINIMUM FREE DRAINING GRAVEL OVER FIRM NATIVE SOILS OR STRUCTURAL FILL.
6. GEOTECHNICAL SPECIAL INSPECTOR SHALL BE CONTINUOUSLY PRESENT DURING PIN PILE INSTALLATION AND LOAD TESTING.
7. AT LEAST 3% OF THE PIN PILES, BUT NO MORE THAN 5 PILES, SHALL BE LOAD TESTED TO TWICE THE DESIGN PILE LOAD. ALL LOAD TESTS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN ASTM D1143.
8. WOOD OVERFRAMED FLOOR FRAMING CONSISTS OF FLOORING PER ARCHITECT OVER MINIMUM (1) LAYER 1/2" T&G APA RATED PLYWOOD FACE GRAIN PERPENDICULAR TO FRAMING PER PLAN, UON
9. NAIL FLOOR SHEATHING W/ 8d @ 6"oc AT FRAMED PANEL EDGES AND AT 12"oc IN FIELD

Lower Foundation Plan

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

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DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
2	85% CD Set	Jan. 13, 2023
3	Permit Revisions	Jun. 30, 2023
4	CA Revisions	Nov. 3, 2023

DPD:

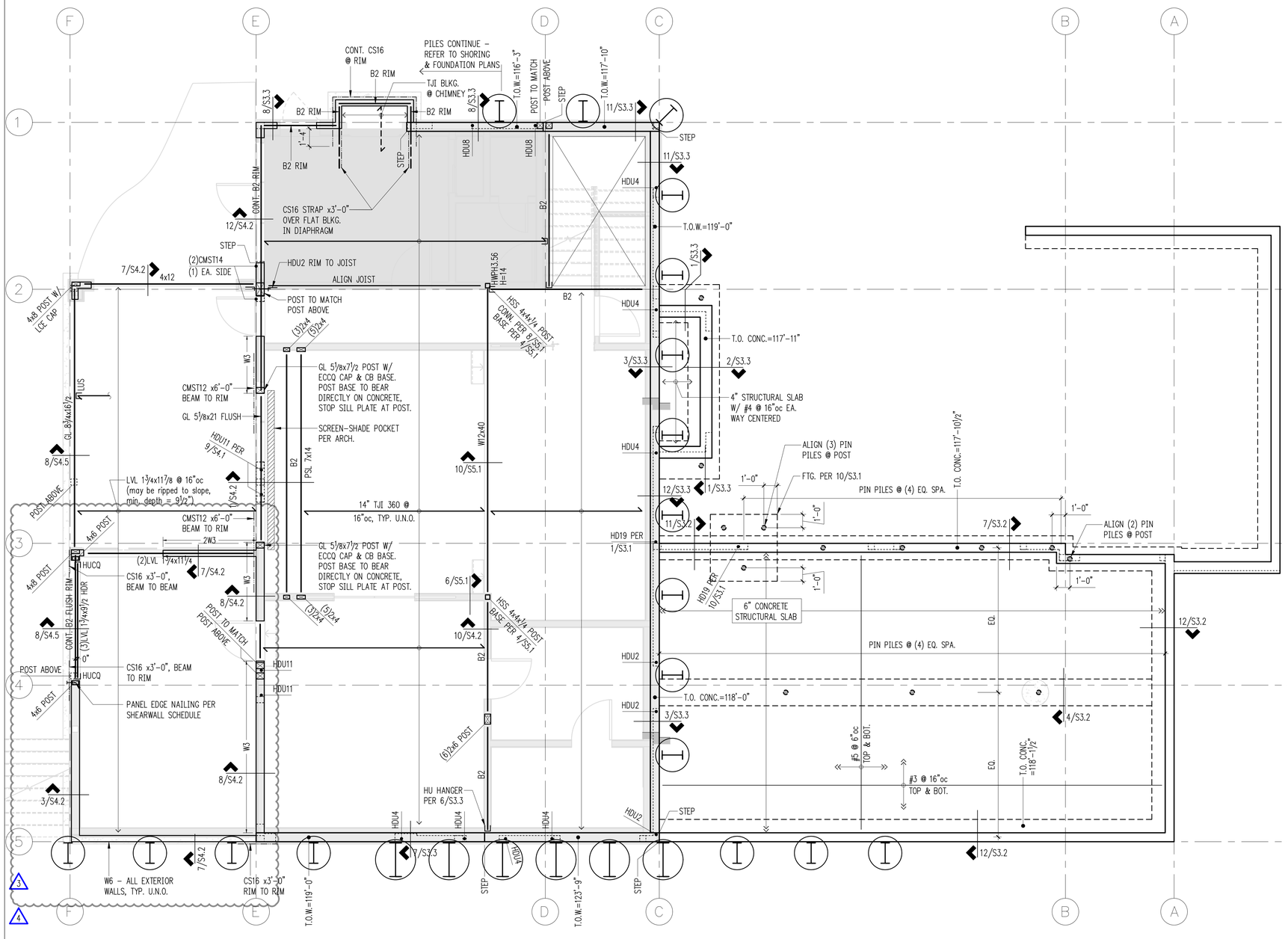
PROJECT TITLE:
Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE:
65% CD Set

SHEET TITLE:
Lower Foundation Plan

SCALE: 1/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO:
S2.1



Beam Schedule

MARK	BEAM	HANGER	BRG. STUDS
B1	LSL 1 3/4x14	HU11	2
B2	LSL 3 1/2x14	HHUS410	3
B3	(3)LVL 1 3/4x14	HGUS5.50/14	4
B4	(4)LVL 1 3/4x14	HGUS7.25/14	5

Legend

- STRUCTURAL WALL OR POST BELOW
- STRUCTURAL WALL OR POST ABOVE
- NON-STRUCTURAL WALL BELOW
- STEM WALL & FOOTING
- Wx — SHEARWALL PER 12/S4.1
- SPAN DIRECTION
- EXTENT OF JOISTS
- HEADER/BEAM PER PLAN
- HANGER
- Bx — BEAM PER SCHEDULE, THIS SHEET
- BLOCKED FLOOR DIAPHRAGM: 2x4 FLAT BLKG. AT ALL PLYWOOD PANEL EDGES. NAIL ALL PLYWOOD PANEL EDGES W/ 8d @ 4"oc & @ 12"oc FIELD
- HDUx — HOLDOWN PER 12/S3.1, U.N.O.
- SHORING PILE PER SH2.1
- 4"ø PIN PILE (13 total this sheet) NOTE: PIN PILES SUBSTITUTED FOR AUGER CAST PILES; PILES PER GEOTECH REPORT
- T.O._ — TOP OF CONCRETE ELEVATION. ELEVATIONS ARE ESTIMATES, CONTRACTOR TO CONFIRM W/ ARCHITECT & ACTUAL SITE CONDITIONS

Plan Notes

1. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
3. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 18" MINIMUM BELOW EXTERIOR GRADE.
4. INTERIOR SLABS ON GRADE PER PLAN. BELOW SLAB PROVIDE A 10-MIL VAPOR BARRIER OVER 6" MINIMUM FREE DRAINING GRAVEL OVER FIRM NATIVE SOILS OR STRUCTURAL FILL.
5. EXTERIOR SLABS ON GRADE SHALL BE 4" MINIMUM THICKNESS. REINFORCE WITH #3 AT 16" O.C. CENTERED IN SLAB. BELOW SLAB PROVIDE 6" MINIMUM FREE DRAINING GRAVEL OVER FIRM NATIVE SOILS OR STRUCTURAL FILL.
6. TYPICAL FLOOR FRAMING CONSISTS OF FLOORING PER ARCHITECT OVER 3/4" T&G APA RATED PLYWOOD FACE GRAIN PERPENDICULAR TO FRAMING PER PLAN, U.O.N.
7. NAIL FLOOR SHEATHING W/ 8D AT 6" OC AT FRAMED PANEL EDGES AND OVER SHEARWALLS, AND AT 12" OC IN FIELD.
8. PROVIDE BLOCKING/BRIDGING AT 8'-0" O.C. IN FLOOR FRAMING
9. "W_" INDICATES PLYWOOD SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE FOR WALL ATTACHMENTS. ALL EXTERIOR WOOD FRAMED WALLS ARE W6, U.O.N.
10. PROVIDE (2) BEARING STUDS AT EACH END OF ALL HEADERS AND BEAMS OVER 3'-0" IN LENGTH, U.O.N.
11. PROVIDE LCE COLUMN CAP AND BASE AT ALL BEAM TO COLUMN CONNECTIONS U.O.N.
12. ALL POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE FULL CONTINUOUS BEARING THROUGH FLOORS TO FOUNDATION.
13. GEOTECHNICAL SPECIAL INSPECTOR SHALL BE CONTINUOUSLY PRESENT DURING PIN PILE INSTALLATION AND LOAD TESTING.
14. AT LEAST 3% OF THE PIN PILES, BUT NO MORE THAN 5 PILES, SHALL BE LOAD TESTED TO TWICE THE DESIGN PILE LOAD. ALL LOAD TESTS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN ASTM D1143.

Main Floor Framing/Upper Foundation Plan

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

STRUCTURAL ENGINEERING
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934 Broadway - Tacoma, WA 98402
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DAN J. SAY — STATE OF WASHINGTON — 53000 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
2	85% CD Set	Jan. 13, 2023
3	Permit Revisions	Jun. 30, 2023
4	CA Revisions	Nov. 3, 2023

DPD:

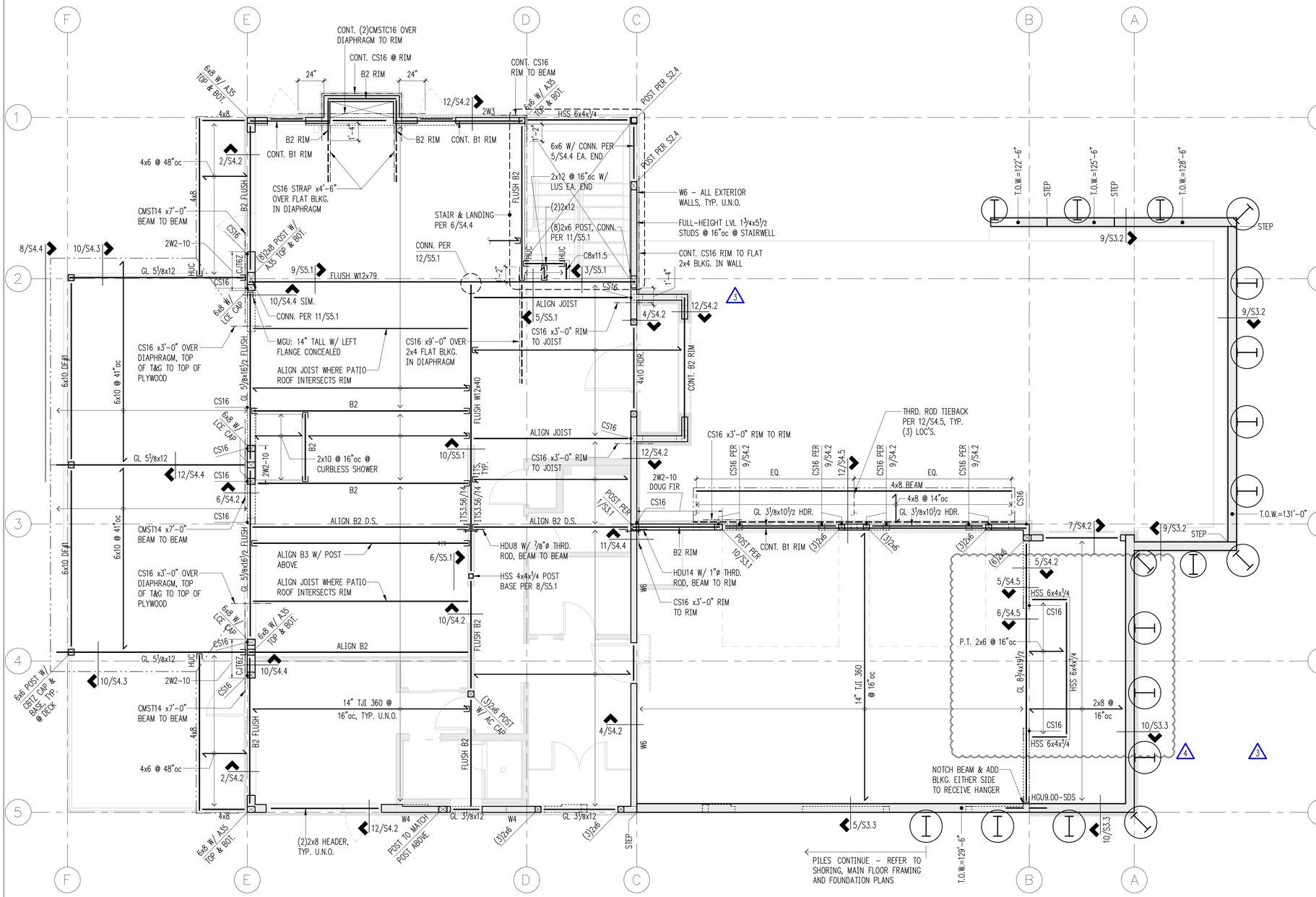
PROJECT TITLE:
Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE: 65% CD Set

SHEET TITLE: Main Floor Framing/Upper Foundation Plan

SCALE: 1/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO: S2.2



Beam Schedule

MARK	BEAM	HANGER	BRG. STUDS
B1	LVL 1 3/4x14	HU11	2
B2	LSL 3 1/2x14	HHUS410	3
B3	(3)LVL 1 3/4x14	HGUS5.50/14	4
B4	(4)LVL 1 3/4x14	HGUS7.25/14	5

Legend

- STRUCTURAL WALL OR POST BELOW
- STRUCTURAL WALL OR POST ABOVE
- NON-STRUCTURAL WALL BELOW
- Wx — SHEARWALL PER 12/S4.1
- SPAN DIRECTION
- EXTENT OF JOISTS
- HEADER/BEAM PER PLAN
- HANGER
- Bx — BEAM PER SCHEDULE, THIS SHEET
- ROOFING PER ARCH. OVER 3/4" CDX APA RATED SHEATHING (EXPOSURE 1), FACE GRAIN PERP. TO FRAMING PER PLAN OVER 2x T&G DECKING PER GENERAL STRUCTURAL NOTES. NAIL ALL PLYWOOD PANEL EDGES W/ 8d @ 4"oc & 12"oc FIELD
- HDUx — HOLDOWN PER 12/S3.1
- CSxx — STRAP PER 5/S4.1
- SHORING PILE PER SH2.1
- T.O.W. — TOP OF WALL ELEVATION. ELEVATIONS ARE ESTIMATES, CONTRACTOR TO CONFIRM W/ ARCHITECT & ACTUAL SITE CONDITIONS
- D.S. — DRAG STRUT: PROVIDE PANEL EDGE NAILING PER PLAN NOTE 4

Plan Notes

1. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
3. TYPICAL FLOOR FRAMING CONSISTS OF FLOORING PER ARCHITECT OVER 3/4" T&G APA RATED PLYWOOD FACE GRAIN PERPENDICULAR TO FRAMING PER PLAN, U.O.N.
4. NAIL FLOOR SHEATHING W/ 8D AT 6" OC AT FRAMED PANEL EDGES AND OVER SHEARWALLS, AND AT 12" OC IN FIELD.
5. PROVIDE BLOCKING/BRIDGING AT 8'-0" O.C. IN FLOOR FRAMING
6. "W_" INDICATES PLYWOOD SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE FOR WALL ATTACHMENTS. ALL EXTERIOR WOOD FRAMED WALLS ARE W6, U.O.N.
7. PROVIDE (2) BEARING STUDS AT EACH END OF ALL HEADERS AND BEAMS OVER 3'-0" IN LENGTH, U.O.N.
8. PROVIDE LCE COLUMN CAP AND BASE AT ALL BEAM TO COLUMN CONNECTIONS U.O.N.
9. ALL POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE FULL CONTINUOUS BEARING THROUGH FLOORS TO FOUNDATION.

Upper Floor Framing Plan

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

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DAN J. SAY — STATE OF WASHINGTON — 23000 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
2	85% CD Set	Jan. 13, 2023
3	Permit Revisions	Jun. 30, 2023
4	CA Revisions	Nov. 3, 2023

DPD:

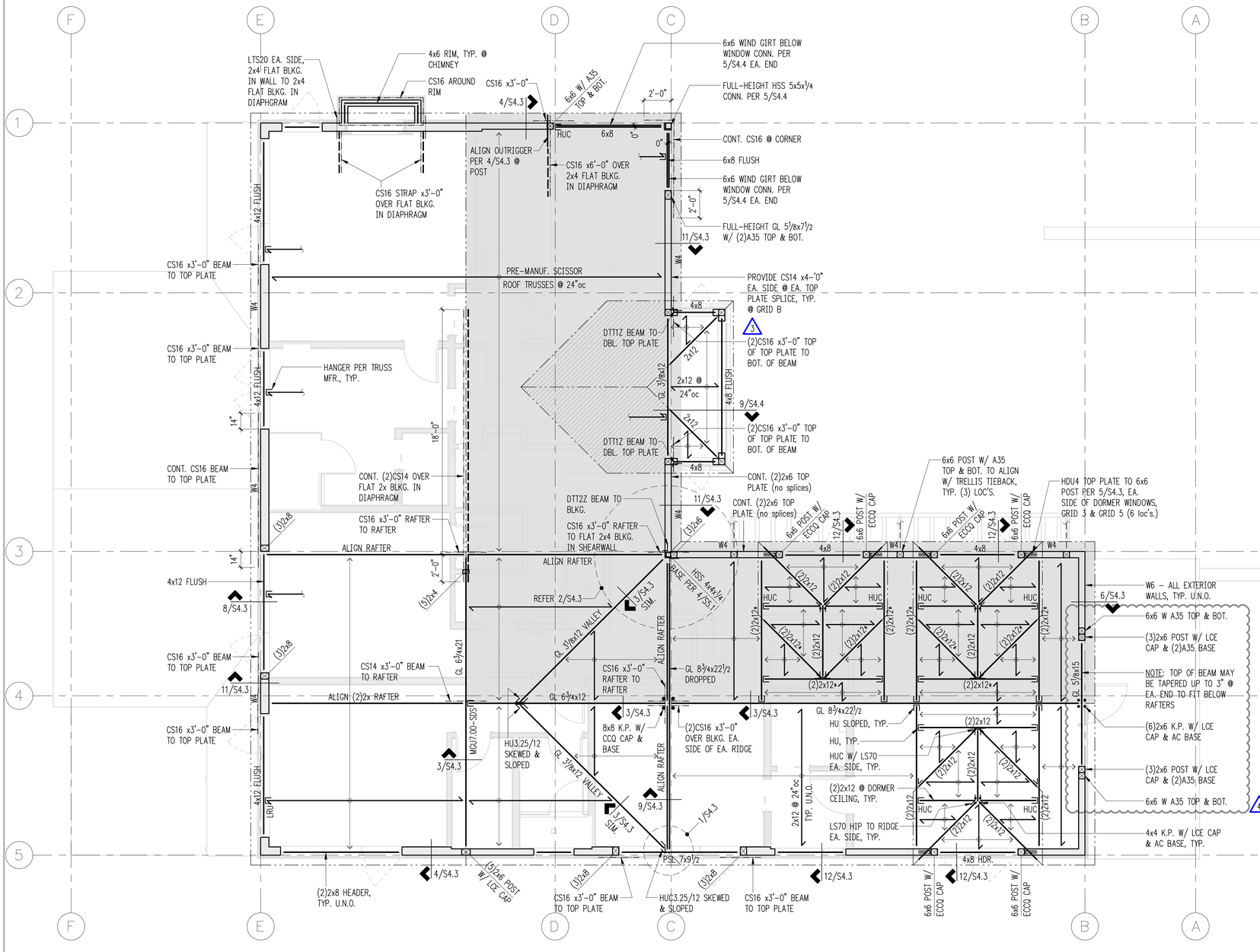
PROJECT TITLE:
Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE: 65% CD Set

SHEET TITLE: Upper Floor Framing Plan

SCALE: 1/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO: S2.3



Legend

- STRUCTURAL WALL OR POST BELOW
- NON-STRUCTURAL WALL BELOW
- Wx — SHEARWALL PER 12/S4.1
- SPAN DIRECTION
- EXTENT OF JOISTS
- HEADER/BEAM PER PLAN
- HANGER
- G.T. — GIRDER TRUSS
- OVERFRAME W/ 2x6 @ 24"oc. POST DOWN TO FRAMING BELOW @ 4'-0"oc
- * — TOP OF BEAMS MAY BE NOTCHED 1"x1" @ 6"oc. NOTCHES SHALL BE CENTERED BETWEEN DIAPHRAGM NAILING PER PLAN NOTE 8
- BLOCKED ROOF DIAPHRAGM: 2x4 FLAT BLKG. AT ALL PLYWOOD PANEL EDGES. NAIL ALL PLYWOOD PANEL EDGES W/ 8d @ 6"oc & @ 12"oc FIELD

Plan Notes

1. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
3. "W_" INDICATES PLYWOOD SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE FOR WALL ATTACHMENTS. ALL EXTERIOR WOOD FRAMED WALLS ARE W6, U.O.N.
4. PROVIDE (2) BEARING STUDS AT EACH END OF ALL HEADERS AND BEAMS OVER 3'-0" IN LENGTH, U.O.N.
5. PROVIDE LCE COLUMN CAP AND BASE AT ALL BEAM TO COLUMN CONNECTIONS U.O.N.
6. ALL POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE FULL CONTINUOUS BEARING THROUGH FLOORS TO FOUNDATION.
7. TYPICAL ROOF FRAMING CONSISTS OF ROOFING PER ARCHITECTURAL DRAWINGS OVER 1/2" CDX OR 7/16" O.S.B. APA RATED SHEATHING (EXPOSURE 1), FACE GRAIN PERPENDICULAR TO FRAMING PER PLAN, U.O.N.
8. NAIL ROOF SHEATHING WITH 8D AT 6" O.C. AT ALL FRAMED PANEL EDGES AND OVER SHEARWALLS, AND AT 12"O.C. FIELD.
9. PROVIDE H1 AT ENDS OF ALL RAFTERS OR TRUSSES, U.O.N.

Roof Framing Plan

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

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DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

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DPD:

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8163 West Mercer Way
Mercer Island, WA 98040

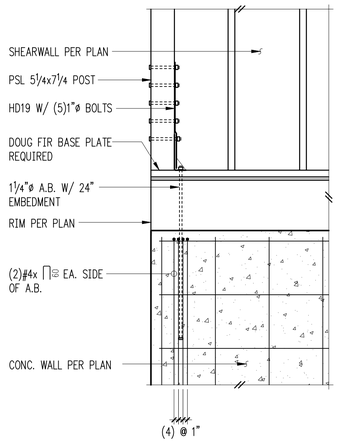
ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE: 65% CD Set

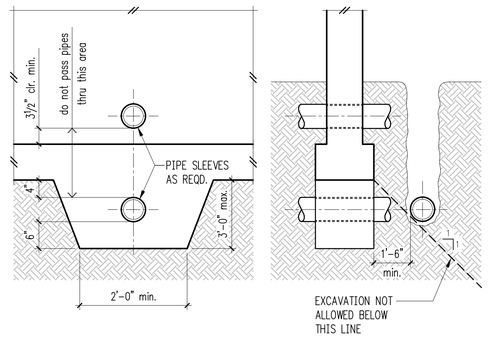
SHEET TITLE: Roof Framing Plan

SCALE: 1/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11

SHEET NO: S2.4



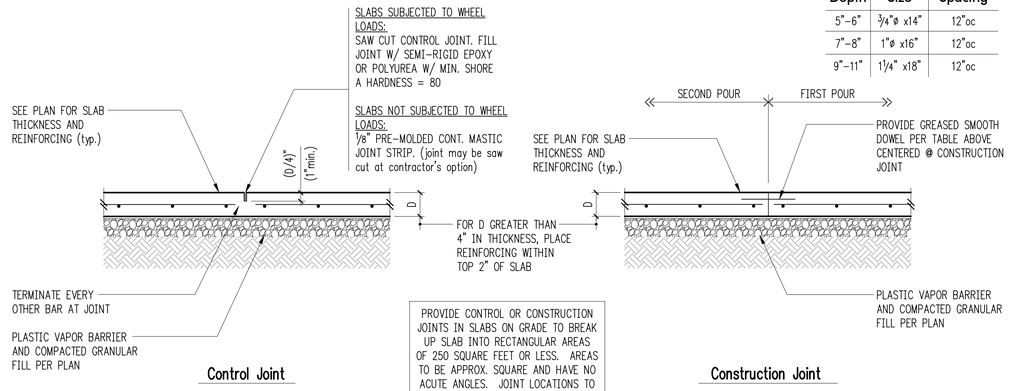
Typical HD19 Holdown 1



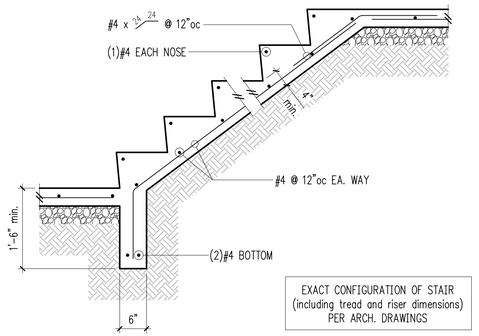
Pipe and Trench Locations 2

Table

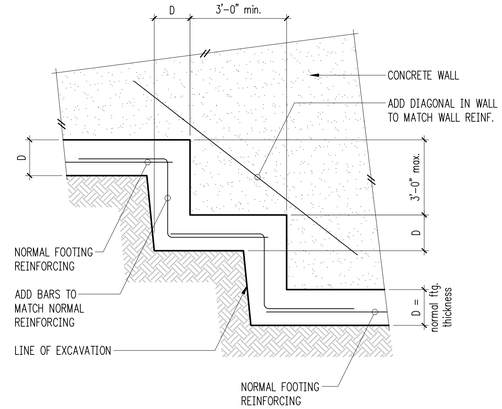
Slab Depth	Dowel Size	Dowel Spacing
5"–6"	¾"ø x14"	12"oc
7"–8"	1"ø x16"	12"oc
9"–11"	1¼" x18"	12"oc



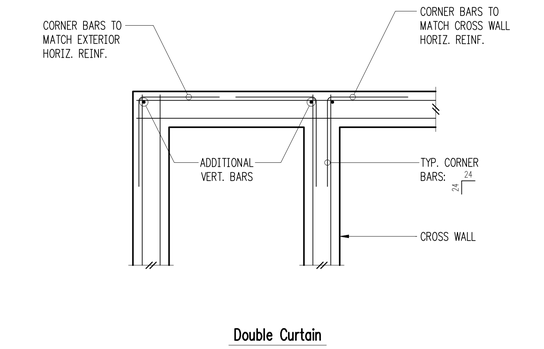
Typical Slab Joints (rebar) 4



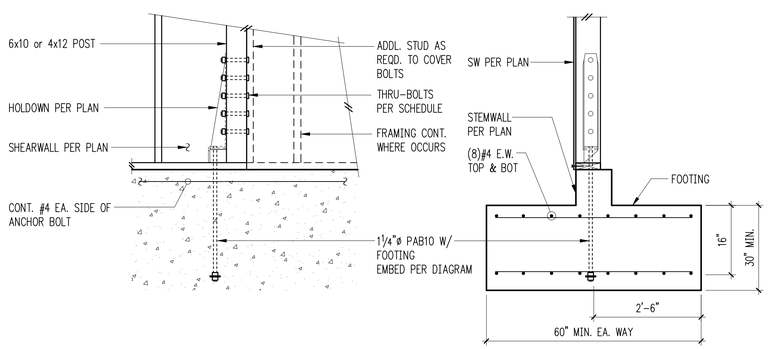
Typical Stair On Grade 5



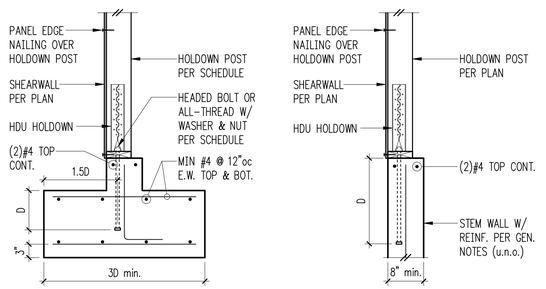
Typical Stepped Footing 6



Typical Corner Bars at Concrete Walls and Footings 8



Typical HD19 Holdown 10



Holdown Schedule

Plan Mark	Screws	Anchor Bolt	Min. A.B. Embed (D)		Holdown Post ①	
			Stem Wall	Footing	if 2x4	if 2x6
HDU2-SDS2.5	(6)SDS ¼"x2½"	⅝"ø	12"	4"	(2) 2x4	(2) 2x6
HDU4-SDS2.5	(10)SDS ¼"x2½"	⅝"ø	SB⅝x24	6"	4x4	4x6
HDU5-SDS2.5	(14)SDS ¼"x2½"	⅝"ø	SB⅝x24	7"	4x4	4x6
HDU8-SDS2.5	(20)SDS ¼"x2½"	⅞"ø	SSTB28	8"	4x6	6x6
HDU11-SDS2.5	(30)SDS ¼"x2½"	1"ø	SB1x30	10"	4x8	6x6
HDU14-SDS2.5	(36)SDS ¼"x2½"	1"ø	N/A	12"	4x8	6x6

① MINIMUM SIZE OF POST AT END OF WALL UNLESS OTHERWISE NOTED ON FRAMING PLANS.

Typical HDU Holdown 12

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Seattle, WA 98121
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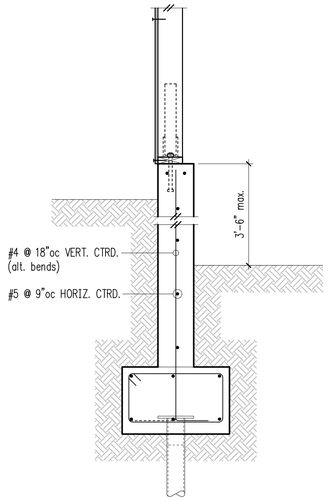
ISSUE:
65% CD Set

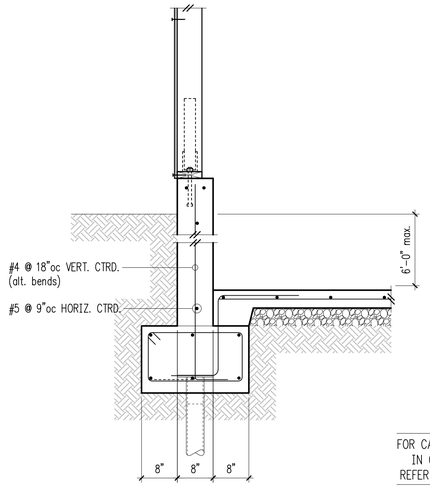
SHEET TITLE:
Typical Concrete Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO:
S3.1



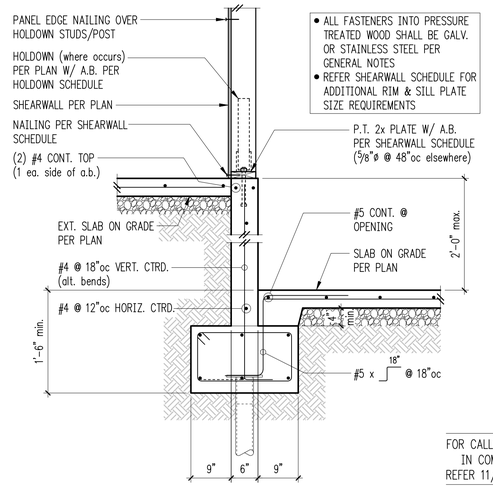
FOR CALLOUTS IN COMMON REFER 11/S3.2

1



FOR CALLOUTS IN COMMON REFER 3/S3.2

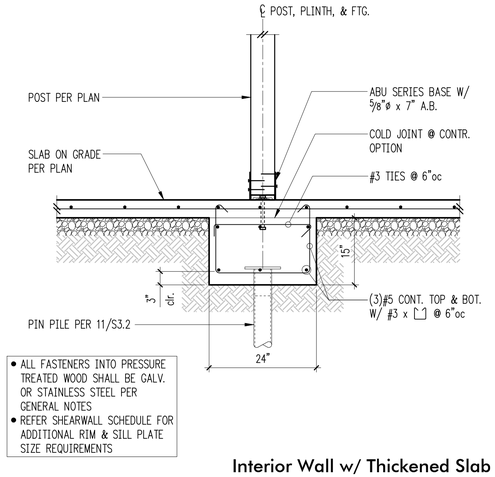
2



FOR CALLOUTS IN COMMON REFER 11/S3.2

Exterior Wall w/ Slab on Grade & High Grade

3



Interior Wall w/ Thickened Slab

4

FOR CALLOUTS IN COMMON REFER 3/S3.2

5

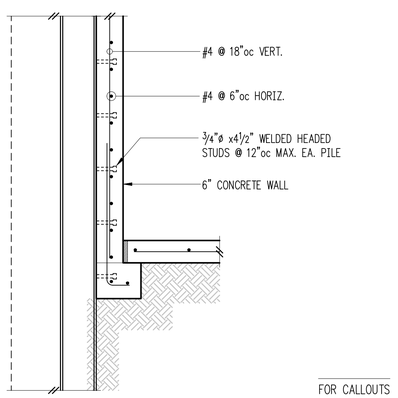
6

FOR CALLOUTS IN COMMON REFER 11/S3.2

7

Deck or Canopy Post Footing

8



FOR CALLOUTS IN COMMON REFER 12/S3.2

Wall Footing at Permanent Shoring Piles at Site Walls

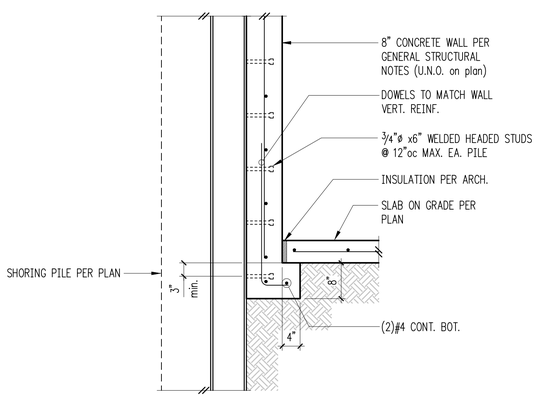
9

FOR CALLOUTS IN COMMON REFER 12/S3.2

10

Exterior Wall w/ Slab on Grade

11



Typical Wall Footing at Permanent Shoring Piles

12

STRUCTURAL ENGINEERING

2124 Third Avenue - Suite 100 - Seattle, WA 98121
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934 Broadway - Tacoma, WA 98402
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DAN J. SAY — STATE OF WASHINGTON — 53000 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
2	85% CD Set	Jan. 13, 2023
3	Permit Revisions	Jun. 30, 2023
4	CA Revisions	Nov. 3, 2023

DPD:

PROJECT TITLE:

Clarkson Residence

8163 West Mercer Way
Mercer Island, WA 98040

ARCHITECT:

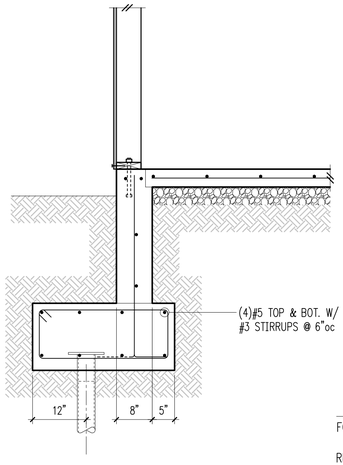
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE: 65% CD Set

SHEET TITLE: Foundation Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11

SHEET NO: S3.2



FOR CALLOUTS IN COMMON REFER 11/S3.2

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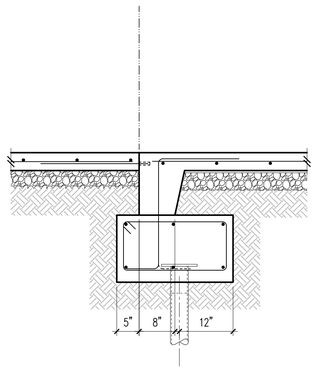
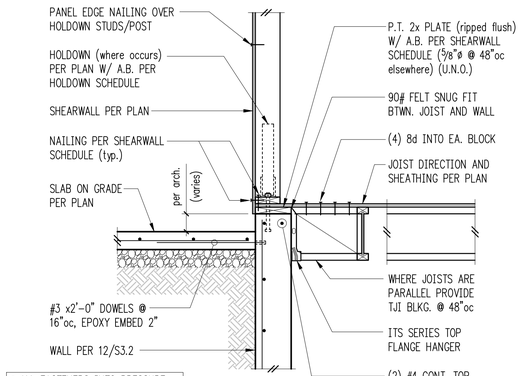


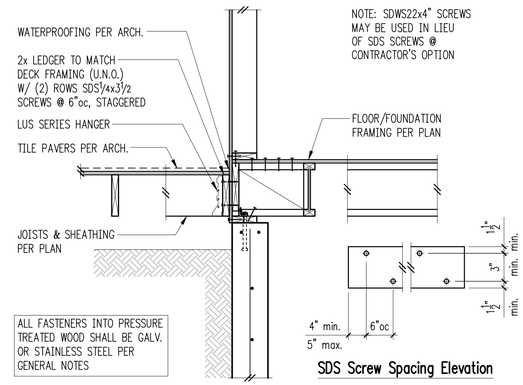
FOR CALLOUTS IN COMMON REFER 7/S3.2

2



- ALL FASTENERS INTO PRESSURE TREATED WOOD SHALL BE GALV. OR STAINLESS STEEL PER GENERAL NOTES
- REFER SHEARWALL SCHEDULE FOR ADDITIONAL RIM & SILL PLATE SIZE REQUIREMENTS

Exterior Framing (w/TJI) at Basement (High Grade) 3



ALL FASTENERS INTO PRESSURE TREATED WOOD SHALL BE GALV. OR STAINLESS STEEL PER GENERAL NOTES

SDS Screw Spacing Elevation

NOTE: LEDGER FASTENER SPACING MAY BE OFFSET UP TO 3" TO AVOID INTERFERENCE W/ JOIST HANGER

Typical Deck Ledger Detail 4

FOR CALLOUTS IN COMMON REFER 12/S3.3

5

6

FOR CALLOUTS IN COMMON REFER 11/S3.3

7

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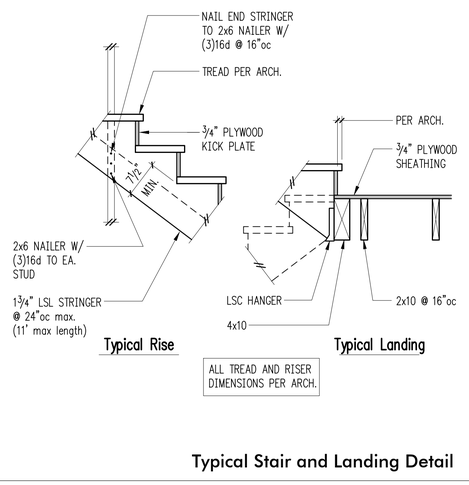
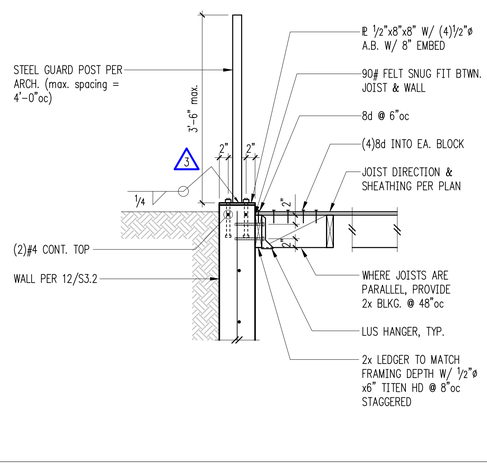
Exterior Framing at Basement w/ Pony Wall 8



ALL TREAD AND RISER DIMENSIONS PER ARCH.

Typical Stair and Landing Detail 9



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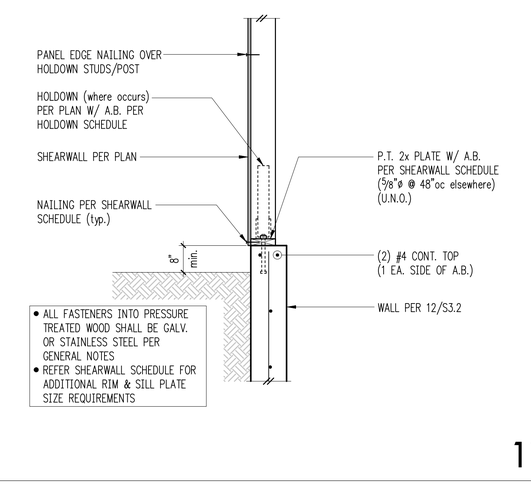

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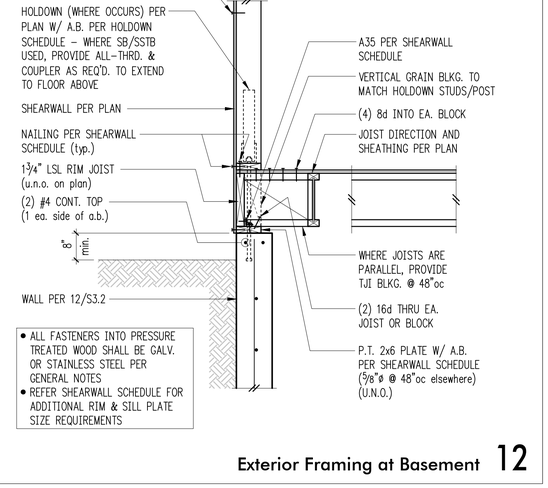
11



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Exterior Framing at Basement 12

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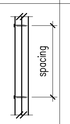
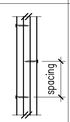
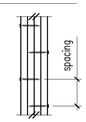
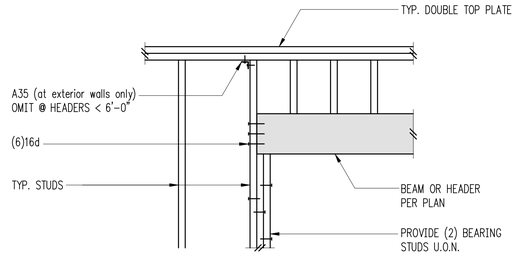
SCALE: 3/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO: S3.3

	A	B	C
PLAN VIEW			
SECTION			
# OF WOOD BMS (LVL)	2–1¾"	3–1¾"	4–1¾"
SDW22 SCREW SIZE	0.220x3	0.220x5	0.220x6
# OF SDW22 SCREWS	2	2	2
SPACING OF SDW22 SCREWS	12"OC	12"OC	12"OC

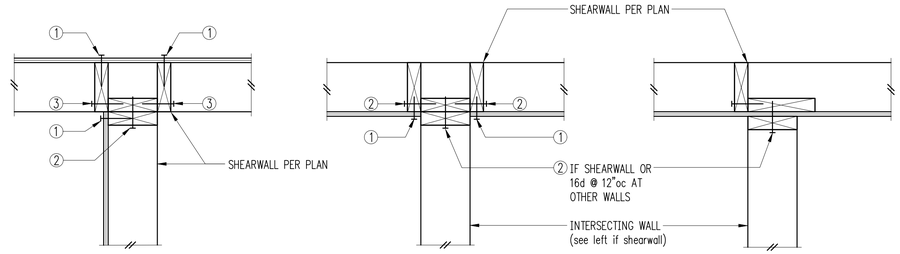
NOTES:
– MIN. SCREW END DISTANCE = 6"

NOTE: MAY USE SDS ¼" @ CONTRACTORS OPTION

Sistering Schedule for Multi Beams (SDWS) 1



Typical Header Support w/2 Bearing Studs 2

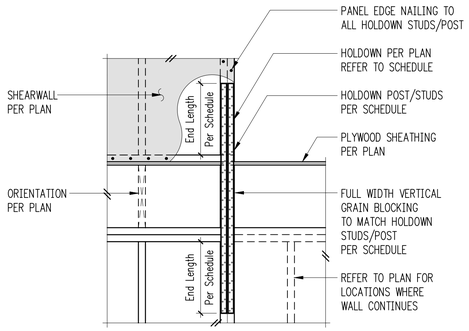


① PLYWOOD PANEL EDGE NAILING PER SHEARWALL SCHEDULE

② BASE PLATE NAILING PER SHEARWALL SCHEDULE

③ 16d @ 8"oc

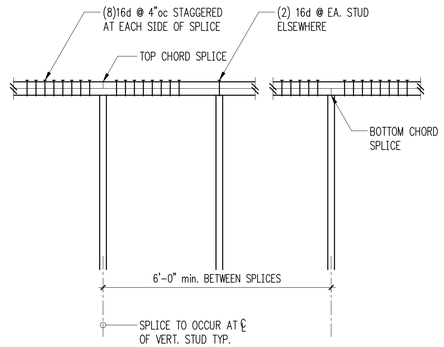
Typical Shearwall Intersections 4



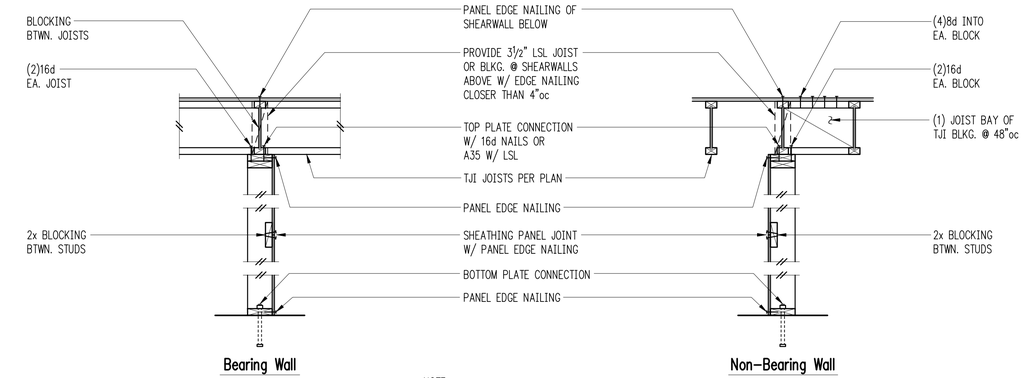
Holdown Strap Schedule

Plan Mark	End Length	#Nails Ea. End Length	Holdown Studs/Post		
			if 2x4	if 2x6	if 2x8
CS16	1'–2"	(13) 8d	(1) 2x4	(1) 2x6	(1) 2x8
CMST14	2'–6"	(33) 10d	4x6	4x6	4x8
CMST12	3'–3"	(43) 10d	4x8	6x6	6x8

Typical Holdown Schedule 5

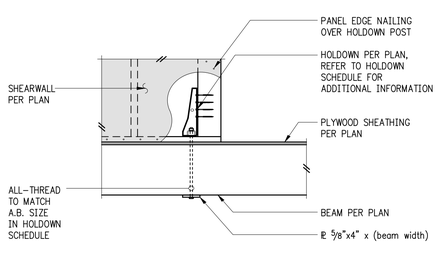


Typical Top Plate Splice 6

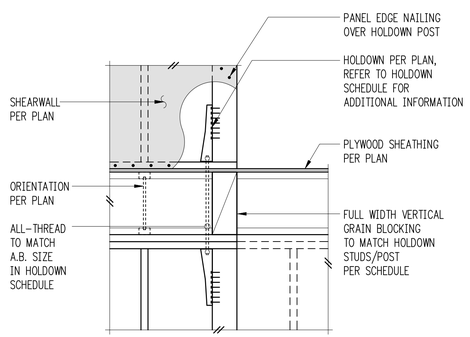


NOTE:
SEE SHEARWALL SCHEDULE FOR ALL NAILING AND CONNECTIONS, NOT OTHERWISE NOTED

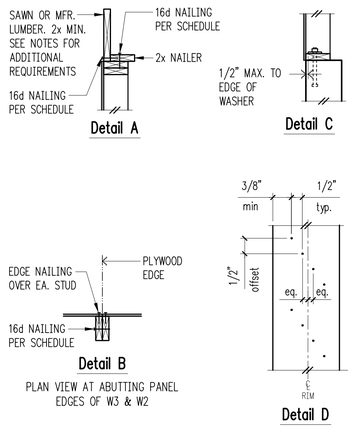
Typical Shearwall Construction 8



HDU at Floor Beam 9



Typical HDU Holdowns 10



Shearwall Schedule ①②③⑥⑦⑧

Mark	Sheathing	Panel Edge Nailing	Top Plate Connection		Base Plate Connection	
			if TJI	if Wood ⑨	at Wood ⑪⑫	at Concrete
W6	15/32" CDX PLYWOOD	8d @ 6"oc	16d @ 6"oc	A35 @ 24"oc ⑩	16d @ 6"oc	5⁄8"ø A.B. @ 48"oc
W4	15/32" CDX PLYWOOD	8d @ 4"oc	16d @ 4"oc	A35 @ 16"oc ⑩	(2)rows 16d @ 6"oc	5⁄8"ø A.B. @ 32"oc
W3 ④	15/32" CDX PLYWOOD	8d @ 3"oc	(2)rows 16d @ 4"oc	A35 @ 12"oc ⑩	(2)rows 16d @ 6"oc	5⁄8"ø A.B. @ 24"oc
W2 ④	15/32" CDX PLYWOOD	8d @ 2"oc	(2)rows 16d @ 4"oc	A35 @ 9"oc ⑩	(2)rows 16d @ 4"oc ⑬	5⁄8"ø A.B. @ 16"oc
2W3 ⑤	15/32" CDX PLYWD. EA. SIDE	8d @ 3"oc EA. SIDE	n/a	A35 @ 6"oc	(3)rows 16d @ 4"oc ⑭	5⁄8"ø A.B. @ 16"oc
2W2 ⑤	15/32" CDX PLYWD. EA. SIDE	8d @ 2"oc EA. SIDE	n/a	HGA10KT @ 8"oc	(3)rows 16d @ 4"oc ⑭	5⁄8"ø A.B. @ 12"oc
2W2–10 ⑤⑮	15/32" CDX PLYWD. EA. SIDE	10d @ 2"oc EA. SIDE	n/a	HGA10KT @ 6"oc	(4)rows 16d @ 4"oc ⑬	5⁄8"ø A.B. @ 12"oc

① BLOCK PANEL EDGES WITH 2x MIN. LAID FLAT AND NAIL PANELS TO INTERMEDIATE SUPPORTS WITH 8d @ 12"o.c.
② 8d NAILS SHALL BE 0.131"ø x 2 1/2" (common) – 16d NAILS SHALL BE 0.135"ø x 3 1/2" (box) – 10d NAILS SHALL BE 0.148"ø x 3" (common).
③ EMBED ANCHOR BOLTS AT LEAST 7". EXPANSION BOLTS MAY BE SUBSTITUTED FOR ANCHOR BOLTS WITH 4" EMBEDMENT. TITEN HD SCREW ANCHORS MAY BE SUBSTITUTED FOR ANCHOR BOLTS W/ 4" EMBEDMENT. ALL BOLTS SHALL HAVE 3" x 3" x 1/4" MIN. PLATE WASHERS. PLATE WASHERS SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE WITH SHEATHING. SEE DETAIL C.
④ 3x STUDS OR DOUBLE STUDS NAILED TOGETHER W/ BASE PLATE NAILING ARE REQUIRED AT ABUTTING PANEL EDGES OF W3 AND W2. SEE DETAIL B. WHERE 3x STUDS ARE USED FOR W2, STAGGER NAILS AT ADJOINING PANEL EDGES.
⑤ 3x FOUNDATION SILL PLATES ARE REQUIRED FOR 2W3 AND 2W2. 3x STUDS ARE REQUIRED AT ABUTTING PANEL EDGES AND PANEL JOINTS SHALL BE OFFSET EACH SIDE OF WALL. STAGGER NAILS AT ADJOINING PANEL EDGES. 3x STUD, MIN., REQUIRED AT END OF SHEARWALL.
⑥ TWO STUDS MINIMUM ARE REQUIRED AT EACH END OF ALL SINGLE–SIDED SHEARWALLS. ALL END STUDS SHALL RECEIVE PANEL EDGE NAILING. SEE PLANS AND HOLDOWN SCHEDULE FOR ALTERNATE REQUIREMENTS.
⑦ ALL EXTERIOR WALLS SHALL BE W6, UNLESS NOTED OTHERWISE.
⑧ 7/16" O.S.B. MAY BE SUBSITUTED FOR 15/32" CDX, EXCEPT AT 10d PANEL EDGE NAILING.
⑨ LTP4's (HORIZIONTAL ORIENTATION) W/ 8d COMMON MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.
⑩ A 2x NAILER ATTACHED W/ BASE PLATE NAILING PER DETAIL A MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.
⑪ AT MULTI–ROW NAILING, MINIMUM OFFSET BETWEEN ROWS AND ROW SPACING 1/2", SEE DETAIL D.
⑫ LVL RIMS PERMITTED AT SINGLE SIDED SHEAR WALLS ONLY.
⑬ PROVIDE (3) ROWS 16d @ 6"oc AT LVL RIMS.
⑭ MINIMUM RIM OR JOIST 3½" WIDE BELOW SHEARWALL.
⑮ STUDS AND PLATES SHALL BE DOUGLAS FIR–LARCH NO. 2 AT 2W2–10 SHEARWALL.

Shearwall Schedule 12

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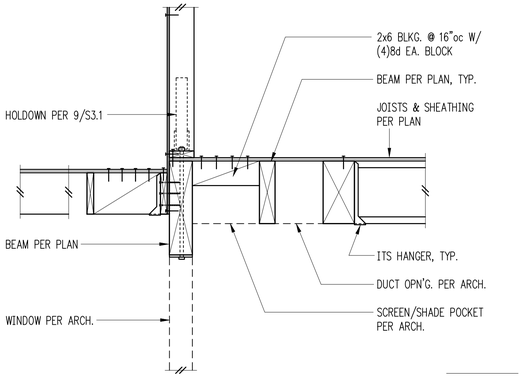
SHEET TITLE:
Typical Wood Framing Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11

SHEET NO:
S4.1



FOR CALLOUTS IN COMMON REFER 5/S4.2

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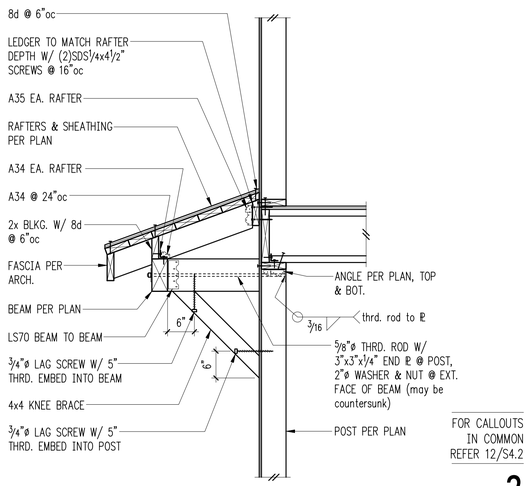

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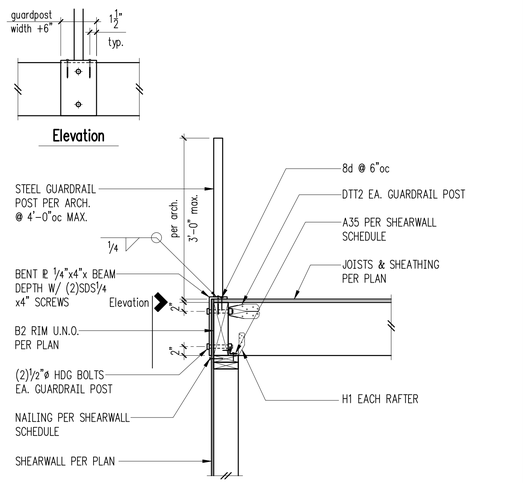
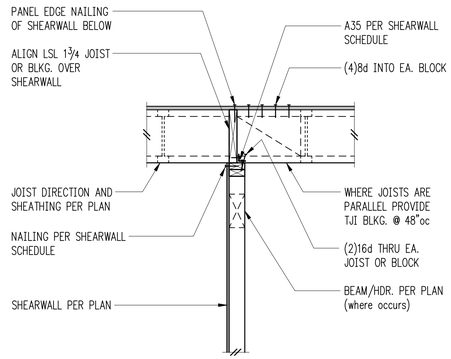


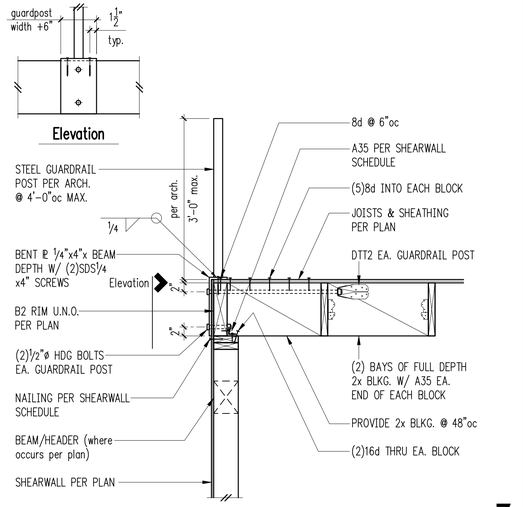
Joists Perpendicular to Exterior Wall 3



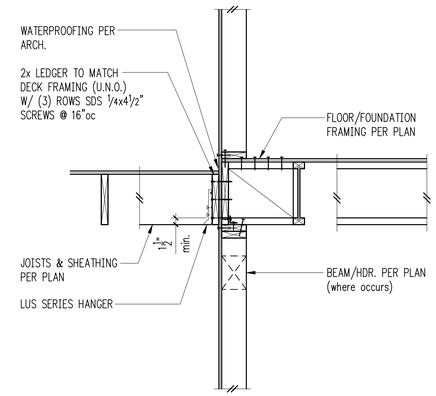
Interior Shearwall Below 4

Exterior Beam w/ Deck 5

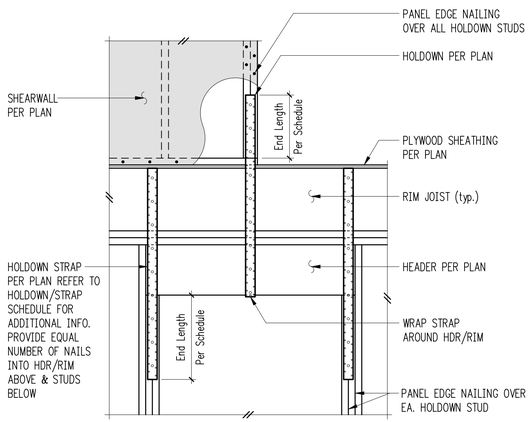
Rafters Parallel to Exterior Wall 6



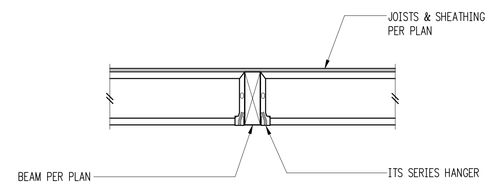
Joists Parallel to Exterior Wall 7



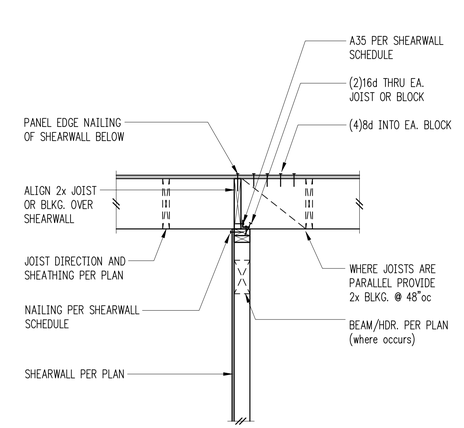
Typical Deck Ledger Detail 8



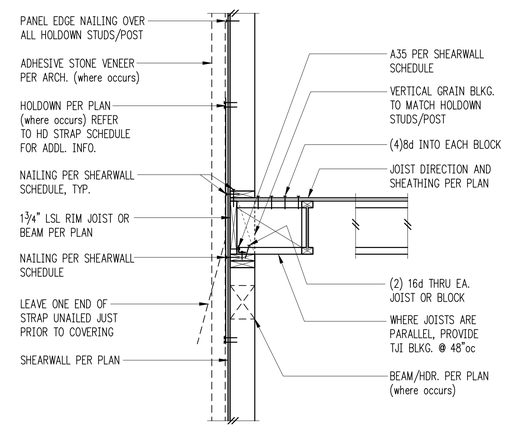
Typical Strap over Beam 9



Typical Flush Beam 10



Interior Shearwall Below Floor 11



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Exterior Floor Framing 12

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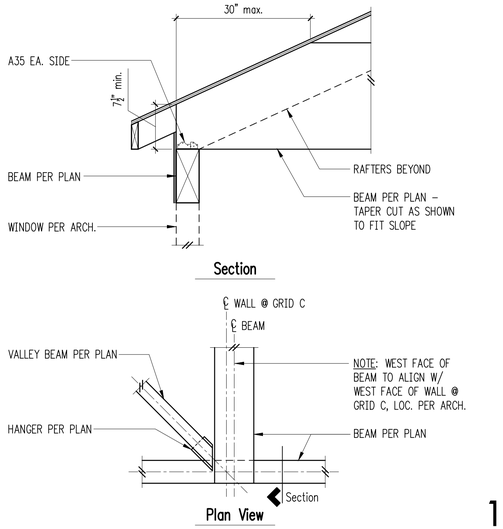

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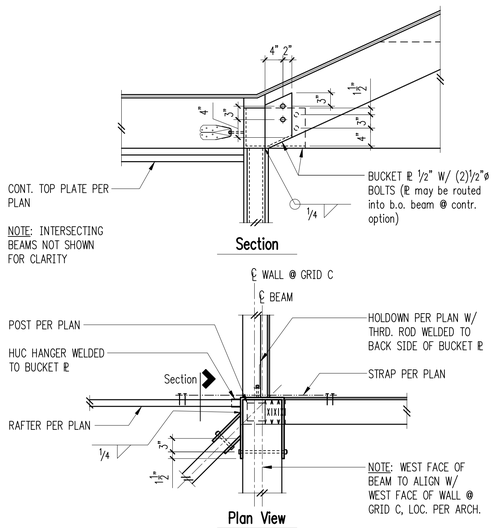

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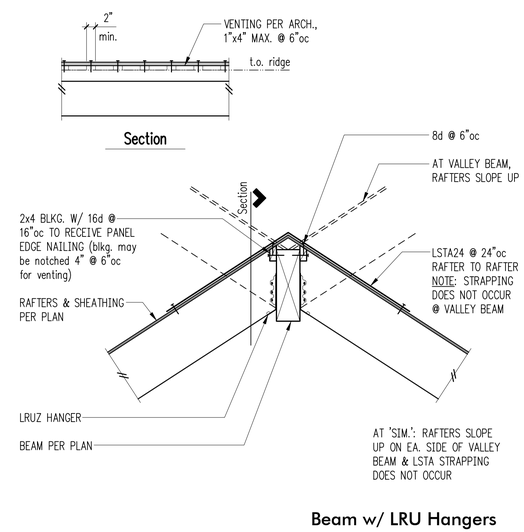
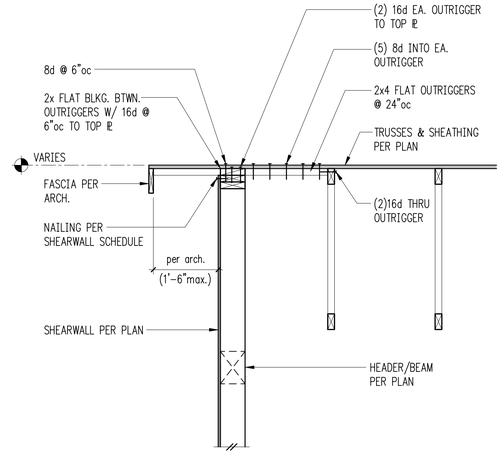
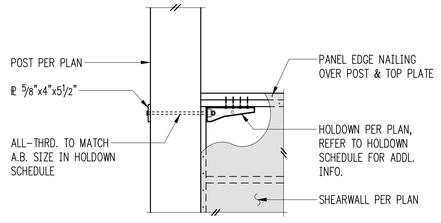


Beam w/ LRU Hangers 3



Trusses Parallel to Exterior Wall w/ Flat Outrigger 4



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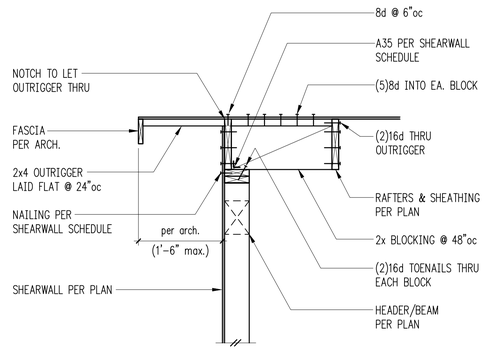
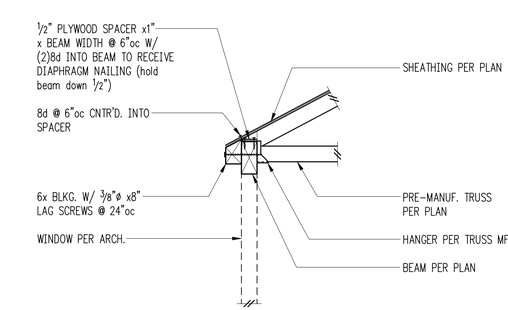


Exterior Non-Bearing Wall 6

7



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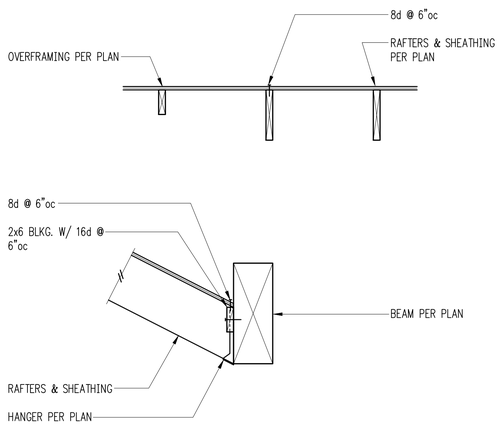

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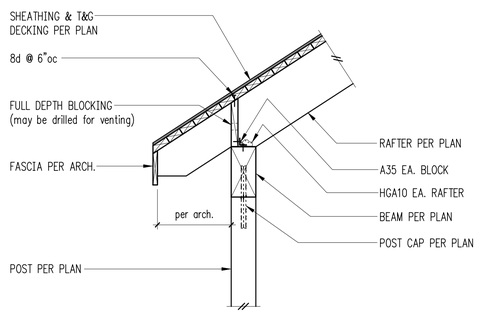
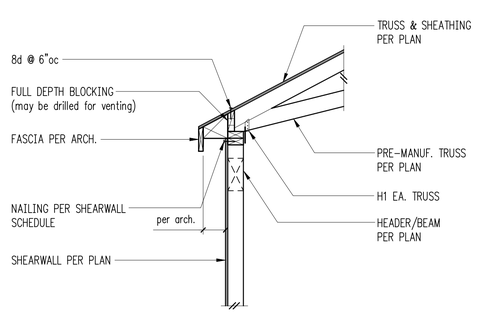
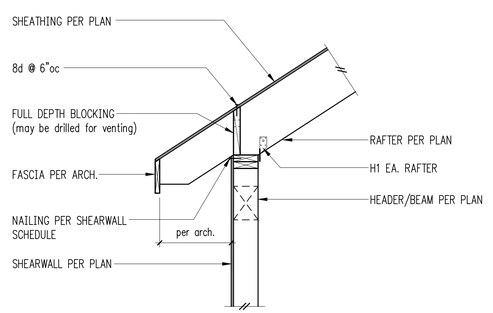


Beam & Post 10



Scissors Trusses Exterior Bearing Wall 11



Exterior Bearing Wall 12

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p: 206.443.6212 ssfengineers.com
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DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
2	85% CD Set	Jan. 13, 2023
3	Permit Revisions	Jun. 30, 2023
4	CA Revisions	Nov. 3, 2023

DPD:

PROJECT TITLE:
Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

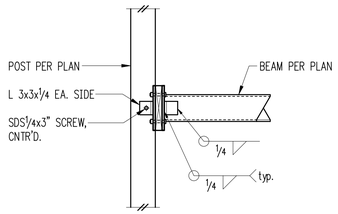
ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE:
65% CD Set

SHEET TITLE:
Wood Framing Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11

SHEET NO:
S4.3



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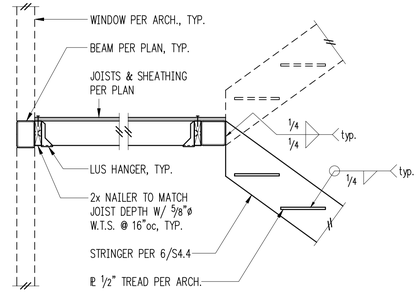

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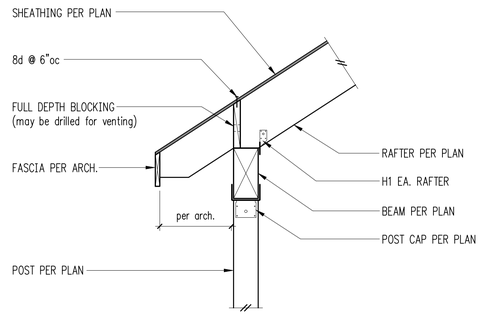
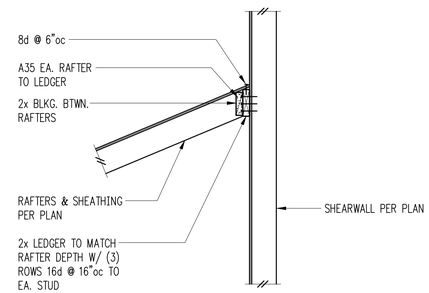
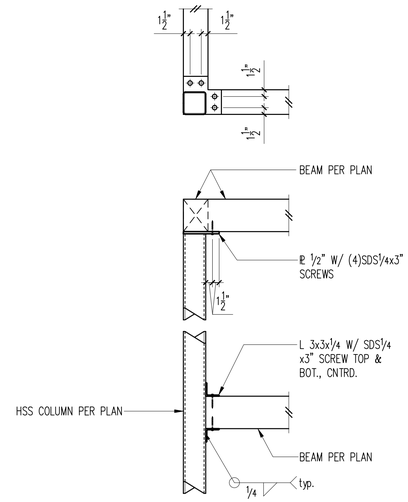


Beam & Post 3



Light Roof Ledger 4



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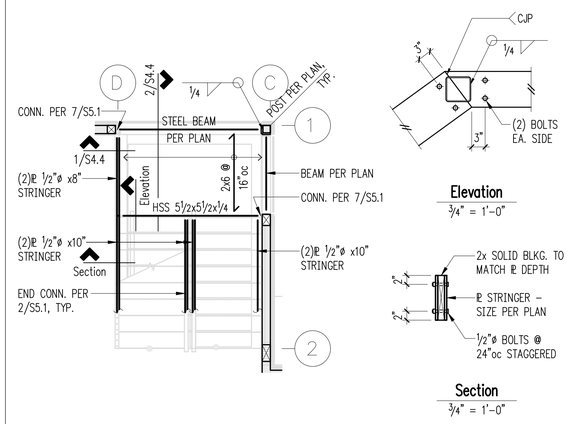
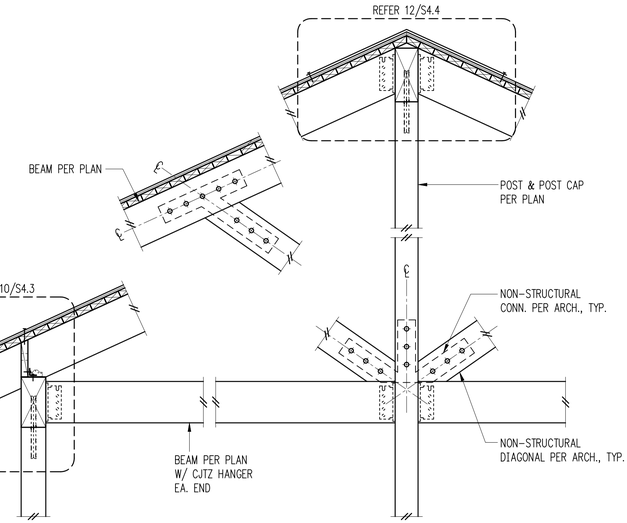


¼" = 1'-0"
Stair Landing Partial Plan 6



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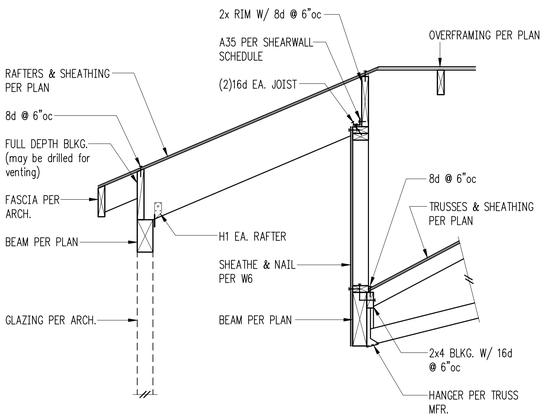

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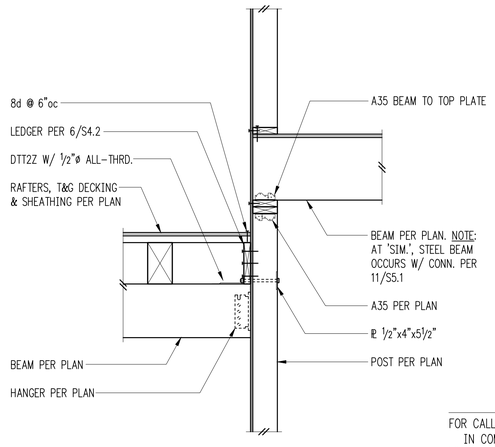
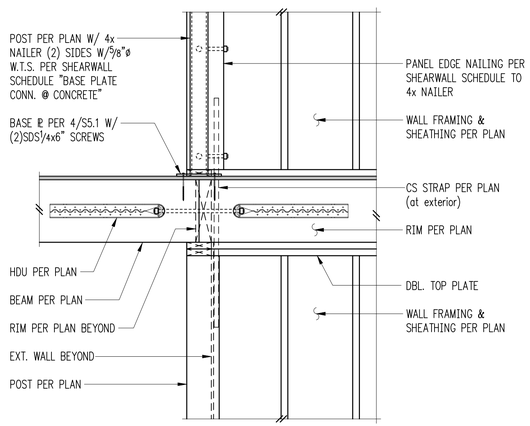


FOR CALLOUTS IN COMMON REFER 12/S4.2

10



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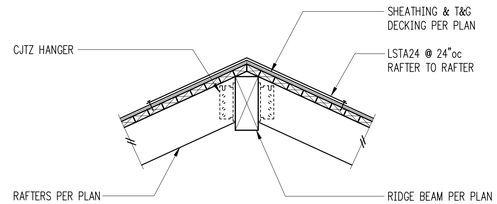

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66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE:
65% CD Set

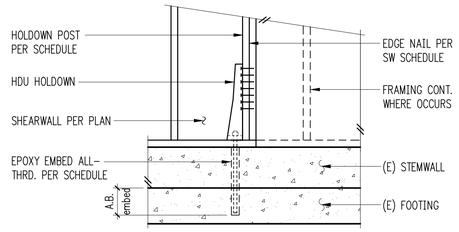
SHEET TITLE:
Wood Framing Details

SCALE: ¾" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO:
S4.4

1

2

3

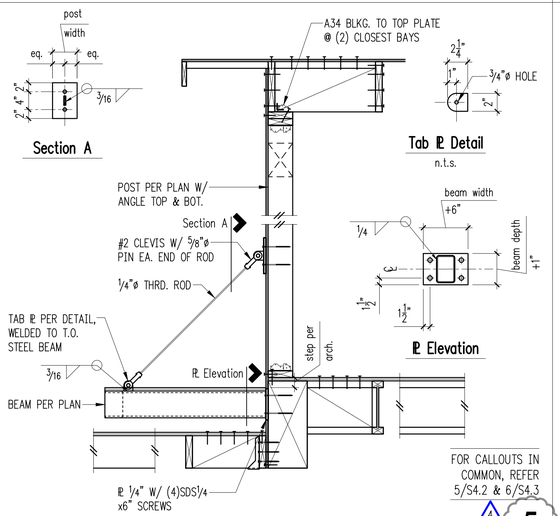


Holdown Schedule

Plan Mark	Screws	Anchor Bolt	A.B. Embed	Holdown Post ①	
				if 2x4	if 2x6
HDU4-SDS2.5	(10)SDS 1/4"x2 1/2"	5/8"ø	6"	4x4	4x6

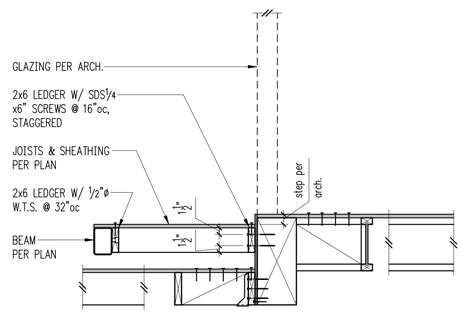
① MINIMUM SIZE OF POST AT END OF WALL UNLESS OTHERWISE NOTED ON FRAMING PLANS.

Typical HDU Holdown 3 4



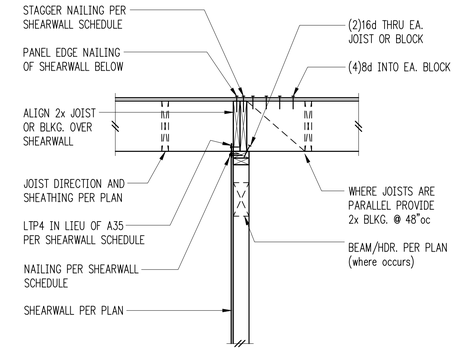
FOR CALLOUTS IN COMMON, REFER 5/S4.2 & 6/S4.3

4 5

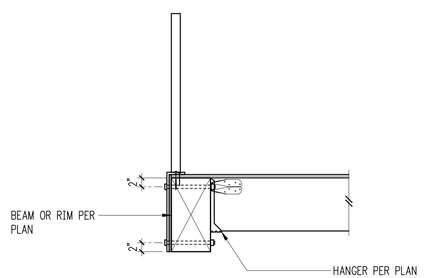


FOR CALLOUTS IN COMMON REFER 5/S4.2

3 4 6



Interior Shearwall Below Floor 3 7

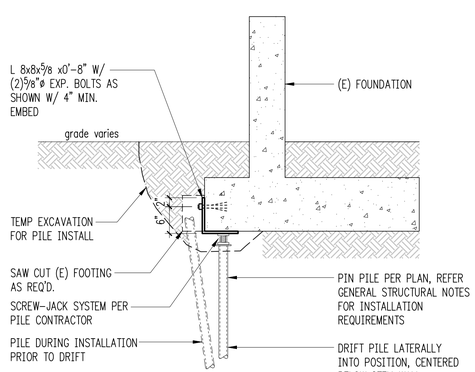


FOR CALLOUTS IN COMMON REFER 3/S4.2

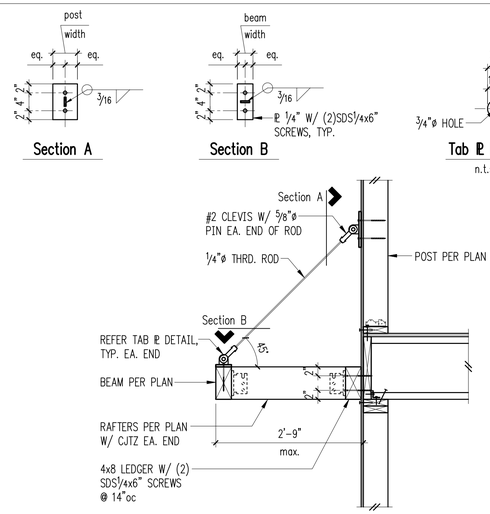
3 8

9

10



Post-Installed Pile - Screw Jack 3 11



12

STRUCTURAL ENGINEERING
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DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

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DPD:

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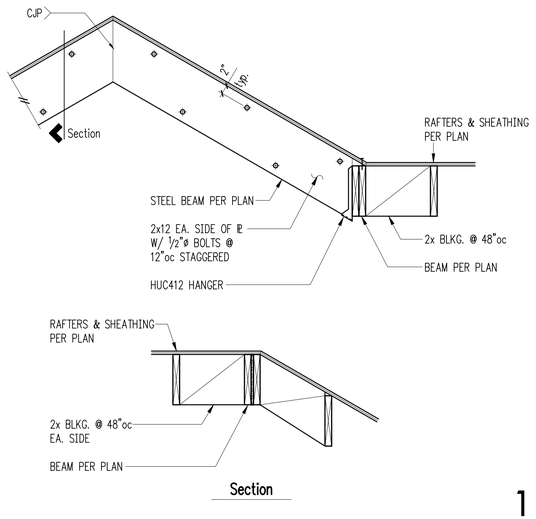
Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE:
65% CD Set

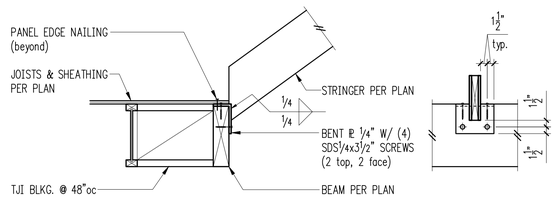
SHEET TITLE:
Wood Framing Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO: S4.5

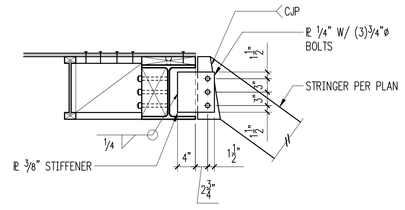


Section

1



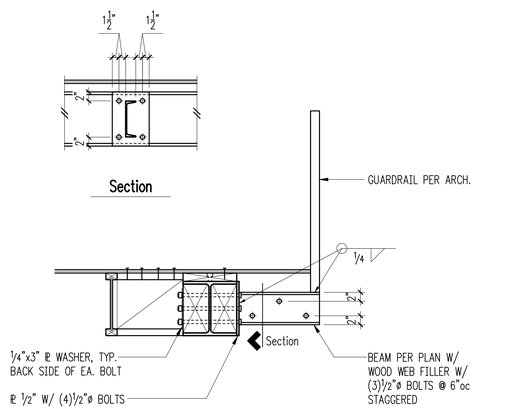
Connection at Wood Beam



Connection at Steel Beam

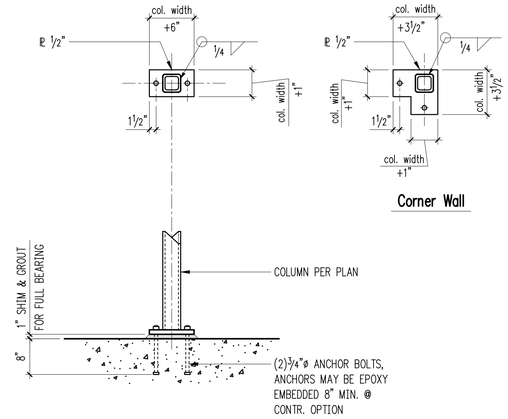
FOR CALLOUTS IN COMMON, REFER 5/S5.1

2



FOR CALLOUTS IN COMMON REFER 5/S5.1

3



Corner Wall

Baseplate - HSS Column

4

5

Beam/Plate Connection - Steel/Wood

6

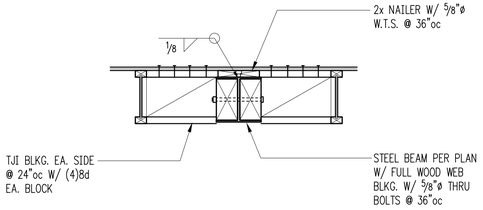
7

Where Beam Stops Where Beam Continues

NOTE:
BEARING PLATE THICKNESS SHALL BE ¾" WHERE DEPTH OF SUPPORTED MEMBER EXCEEDS 24"

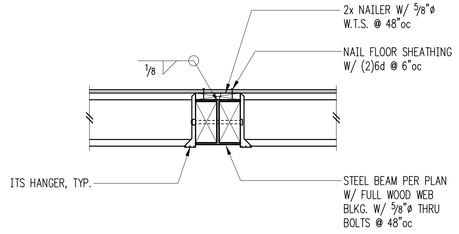
Typical Beam Bearing on HSS or Pipe Column

8



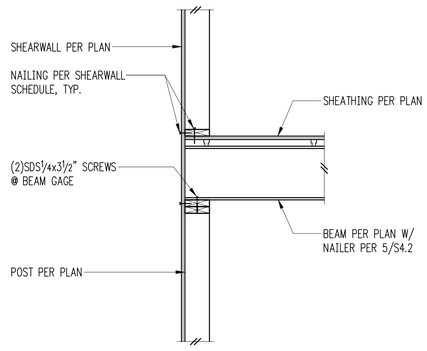
Steel Beam Parallel to Framing

9



Steel Beam Perpendicular to Framing

10



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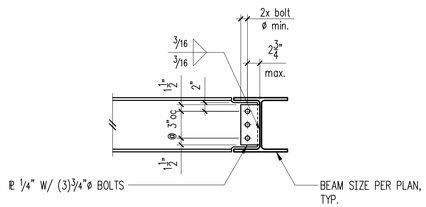

NOTES:
1. STANDARD OR SLOTTED HOLES MAY BE USED.
2. BOLT TYPE A325N.
3. ℄ MATERIAL – A36

12

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DAN J. SAY — STATE OF WASHINGTON — 23000 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

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PH 206.239.0850

ISSUE: 65% CD Set

SHEET TITLE: Steel Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO: S5.1

General Structural Notes

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

CODE REQUIREMENTS

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2015 EDITION

REFERENCE DOCUMENTS

2. GEOTECH REPORT PER S1. 1

GENERAL REQUIREMENTS

3. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATIONS, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ENGINEER AND ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK.

4. SHOULD ANY DISCREPANCIES BE FOUND IN THE PROJECT DOCUMENTS, THE CONTRACTOR WILL BE DEEMED TO HAVE INCLUDED IN THE PRICE THE MOST EXPENSIVE WAY OF COMPLETING THE WORK, UNLESS PRIOR TO SUBMISSION OF THE PRICE THE CONTRACTOR ASKS FOR A DECISION FROM THE ENGINEER AND ARCHITECT AS TO WHICH SHALL GOVERN.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTOR'S WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.

6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF EXISTING STRUCTURES IN THE FIELD AND SHALL NOTIFY THE ENGINEER OF ALL FIELD CHANGES PRIOR TO FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBER.

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

8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER. ALL TYPICAL AND NOTES SHOWN ON DRAWINGS SHALL APPLY, UNLESS NOTED OTHERWISE. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS. WHERE TYPICAL DETAILS ARE NOTED ON THE PLANS, THE SPECIFIED TYPICAL DETAIL SHALL BE USED. WHERE NO TYPICAL DETAIL IS NOTED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE TYPICAL DETAIL FROM THOSE PROVIDED. THE CONTRACTOR SHALL SUBMIT ALL PROPOSED ALTERNATE TYPICAL DETAILS TO THOSE PROVIDED WITH RELATED CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO SHOP DRAWING PRODUCTION AND FIELD USE.

9. THE FOLLOWING ITEMS SHALL BE SUBMITTED IN WRITING FOR APPROVAL TO THE ENGINEER, ARCHITECT AND OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK OR THE FABRICATION OR INSTALLATION OF ANY STRUCTURAL ITEM. THE CONTRACTOR SHALL RETAIN ALL RESPONSIBILITY FOR MEANS AND METHODS OF CONSTRUCTION.

    SHORING MONITORING PROGRAM: SEE MONITORING SECTION.
    SHORING SEQUENCING PROGRAM
    CONCRETE AND GROUT MIX DESIGN

10. SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

    STRUCTURAL STEEL
    MISCELLANEOUS METALS
    GROUTS AND CONCRETES.

11. SHOP DRAWING REVIEW: DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. CONTRACTOR SHALL REVIEW DRAWINGS FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, AND ALL SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO. SUBMITTALS SHALL INCLUDE A REPRODUCIBLE AND ONE COPY; REPRODUCIBLE WILL BE MARKED AND RETURNED WITHIN TWO WEEKS OF RECEIPT WITH A NOTATION INDICATING THAT THE SUBMITTAL HAS BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE SUBMITTED ITEMS SHALL NOT BE INSTALLED UNTIL THEY HAVE BEEN APPROVED BY THE DESIGN TEAM.

    SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT, BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS.

12. UTILITY LOCATION: THE UTILITIES INFORMATION SHOWN ON THE PLANS MAY NOT BE COMPLETE. THE SHORING CONTRACTOR SHALL DETERMINE THE HORIZONTAL AND VERTICAL LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRILLING PILE HOLES OR CUTTING OR DIGGING. THIS INCLUDES POTHOLING ALL UTILITIES PRIOR TO CONSTRUCTION TO CONFIRM DEPTHS AND LOCATIONS AND TO VERIFY THAT THERE ARE NO CONFLICTS WITH THE PILE ELEVATIONS. PILES, INCLUDING CONCRETE CASING SHALL MAINTAIN A MINIMUM OF 12" CLEARANCE TO ANY EXISTING UTILITIES TO REMAIN. CONTRACTOR SHALL NOTIFY THE ENGINEER OF CONFLICTS. CONFLICTS SHALL BE RESOLVED IN WRITING PRIOR TO PROCEEDING WITH CONSTRUCTION.

QUALITY ASSURANCE

13. SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SECTIONS 110 AND 1704 OF THE INTERNATIONAL BUILDING CODE BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE ARCHITECT, AND RETAINED BY THE BUILDING OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL INSPECTIONS. THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING DEPARTMENT SHALL BE FURNISHED WITH COPIES OF ALL INSPECTION AND TEST RESULTS WITHIN TWO WEEKS OF COMPLETION OF EACH PHASE OF WORK. SPECIAL INSPECTION OF THE FOLLOWING TYPES OF CONSTRUCTION IS REQUIRED

STRUCTURAL STEEL FABRICATION AND ERECTION	PER TABLE 1705. 2
SOIL CONDITIONS, FILL PLACEMENT, AND DENSITY	PER TABLE 1705. 6
CAST-IN-PLACE DEEP FOUNDATION	PER TABLE 1705. 8

PERIODIC INSPECTION ALLOWS INSPECTION AT INTERVALS NECESSARY TO CONFIRM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH REQUIREMENTS. CONTINUOUS SPECIAL INSPECTION REQUIRES THAT THE INSPECTOR BE ONSITE AT ALL TIMES THAT WORK REQUIRING SPECIAL INSPECTION IS PERFORMED.

14. INSPECTORS SHALL BRING DEFICIENCIES TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE INSPECTOR SHALL BRING THE UNCORRECTED DEFICIENCY TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER IMMEDIATELY AND PRIOR TO COMPLETION OF THAT PHASE OF WORK.

15. SOILS INSPECTION: INSPECTION BY THE SOILS ENGINEER SHALL BE PERFORMED FOR PILE PLACEMENT. ALL PREPARED SOIL BEARING SURFACES SHALL BE INSPECTED BY THE SOILS ENGINEER PRIOR TO PLACEMENT OF PILES. SOIL COMPACTION SHALL BE SUPERVISED BY AN APPROVED TESTING LAB. THE GEOTECHNICAL ENGINEER SHALL ALSO ADVISE ON WATER CONTROL AND SLAB ON GRADE CONSTRUCTION.

SHORING MONITORING

16. A SYSTEMATIC PROGRAM OF MONITORING SHALL BE CONDUCTED DURING THE PROJECT EXECUTION TO DETERMINE THE EFFECT OF CONSTRUCTION ON ADJACENT FACILITIES AND STRUCTURES IN ORDER TO PROTECT THEM FROM DAMAGE. REFER TO REPORT OF GEOTECHNICAL INVESTIGATION FOR RECOMMENDATIONS. FIELD DATA AND MEASUREMENTS ARE TO BE SUBMITTED TO THE STRUCTURAL AND GEOTECHNICAL ENGINEER FOR REVIEW.

17. MONITORING SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR (PLS) LICENSED IN THE STATE OF WASHINGTON.

18. UNLESS OTHERWISE REQUIRED BY THE GEOTECHNICAL ENGINEER, THE MONITORING PROGRAM SHALL INCLUDE A VIDEO OR PHOTOGRAPHIC SURVEY PRIOR TO THE BEGINNING OF THE SHORING INSTALLATION TO DOCUMENT THE CURRENT CONDITIONS OF THE SURROUNDING FEATURES. THE SIZE AND LOCATION OF ANY EXISTING CRACKS IN ADJACENT SLABS, PAVEMENTS OR BUILDINGS SHALL BE MEASURED AND DOCUMENTED. CONTROL POINTS SHALL BE ESTABLISHED AT A DISTANCE WELL AWAY FROM THE WALLS AND SLOPES, AND DEFLECTIONS FROM THE REFERENCE POINTS SHALL BE MEASURED THROUGHOUT CONSTRUCTION BY OPTICAL SURVEY. A MINIMUM OF 3 MONITORING POINTS SHALL BE ESTABLISHED ON NEARBY ADJACENT BUILDINGS. MINIMUM SURVEY FREQUENCY SHALL BE ONCE PER WEEK.

19. SOLDIER PILE MONITORING PROGRAM: FOLLOWING INSTALLATION OF THE SOLDIER PILES, MONITORING POINTS SHALL BE ESTABLISHED ON THE TOP OF THE PILES PRIOR TO PROCEEDING WITH THE EXCAVATION. ONE MONITORING POINT SHALL BE ESTABLISHED FOR EVERY FOUR PILES. THE MONITORING POINTS SHALL BE READ DAILY DURING EXCAVATION OPERATIONS AND TWICE WEEKLY ONCE THE EXCAVATION IS COMPLETED. THE INITIAL READINGS FOR THIS MONITORING SHALL BE TAKEN BEFORE STARTING ANY DEMOLITION OR EXCAVATION ON THE SITE. NOTIFY THE GEOTECHNICAL AND STRUCTURAL ENGINEERS, SHORING DESIGNER, AND THE BUILDING DEPARTMENT IF .5"OF MOVEMENT OCCURS BETWEEN TWO CONSECUTIVE READINGS. THE ENGINEERS AND DESIGNERS SHALL DETERMINE THE CAUSE OF DISPLACEMENT AND DEVELOP REMEDIAL MEASURES IF WARRANTED. PLEASE NOTE THAT A MAXIMUM OF 1" HORIZONTAL DISPLACEMENT IS REQUIRED ANYWHERE ON SHORING WALL SURFACES THROUGHOUT THE SHORING WALL SERVICE LIFETIME. CONSTRUCTION SHALL BE SUSPENDED IMMEDIATELY AND REMEDIAL PROCEDURES APPLIED AS LONG AS A DISPLACEMENT READING EXCEEDS 1". IF THE TOTAL MEASURED LATERAL DEFLECTION OF THE PILES EXCEEDS 1", REMEDIAL MEASURES MAY BE REQUIRED.

20. EACH SET OF MONITORING DATA MUST BE PROVIDED TO THE GEOTECHNICAL ENGINEER FOR REVIEW. IT MAY BE NECESSARY TO INSTALL ADDITIONAL MONITORING POINTS IF WARRANTED BY THE DATA. RECOMMENDATIONS WILL BE PROVIDED BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION IF ADDITIONAL MONITORING POINTS BECOME NECESSARY.

21. SURVEY FREQUENCY MAY BE DECREASED AFTER THE SHORING SYSTEM HAS BEEN INSTALLED AND EXCAVATION IS COMPLETE IF THE DATA INDICATES LITTLE OR NO ADDITIONAL MOVEMENT. CHANGE IN THE SURVEY FREQUENCY SHALL BE APPROVED IN WRITING BY THE GEOTECHNICAL ENGINEER AND THE BUILDING DEPARTMENT. SURVEYING MUST CONTINUE UNTIL THE PERMANENT STRUCTURE (INCLUDING FLOOR SLABS AS BRACES) IS COMPLETE TO FINAL AND STREET GRADES.

GEOTECHNICAL INFORMATION AND CRITERIA

22. INSTALLATION OF SHORING, SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION AND FILLING REQUIREMENTS SHALL CONFORM WITH THE RECOMMENDATIONS CONTAINED IN THE SOILS REPORT AND/OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE SUBSURFACE CHARACTERIZATIONS USED TO DESIGN THE SHORING ARE CONTAINED IN THE SOILS REPORT AS REFERENCED ABOVE.

23. EXCAVATIONS FOR FOUNDATIONS SHALL BE PER PLAN DOWN TO UNDISTURBED NATIVE MATERIAL PER THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS. OVER EXCAVATED AREAS SHALL BE BACKFILLED WITH LEAN CONCRETE OR PER GEOTECHNICAL RECOMMENDATIONS AT THE CONTRACTOR'S EXPENSE. EXCAVATION SLOPES SHALL BE SAFE AND SHALL NOT BE GREATER THAN THE LIMITS SPECIFIED BY LOCAL, STATE, AND NATIONAL SAFETY REGULATIONS. CONTRACTOR SHALL PROTECT CUT SLOPES AS NECESSARY IF CONSTRUCTION OCCURS DURING WET WEATHER, AND SHALL CONTROL AND MANAGE RUNOFF TO MINIMIZE EFFECTS ON CONSTRUCTION.

24. DESIGN SOIL CAPACITIES ARE DETERMINED BY THE GEOTECHNICAL ENGINEER. THE SOIL PRESSURES INDICATED ON THE SOIL PRESSURE DIAGRAM WERE USED FOR DESIGN, IN ADDITION TO THE DEAD AND LIVE LOADS. SEE REPORT OF GEOTECHNICAL INVESTIGATION FOR MORE COMPLETE INFORMATION, INCLUDING RECOMMENDATIONS FOR SHORING IN GENERAL, SHORING MONITORING, EXCAVATION, LAGGING, AND DRAINAGE.

25. SOIL DESIGN PARAMETERS PER SH3. 1.

26. SHORING DURATION: PERMANENT

CONCRETE

27. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH IBC SECTION 1905, 1906, AND ACI 301. STRENGTHS AT 28 DAYS AND MIX CRITERIA SHALL BE AS FOLLOWS:

f'c (PSI)	Minimum Cement Per Cubic Yard	Max. Water Per 94 LB Cement	Use
-----	1-1/2 sacks	-----	pile lean concrete

STEEL

28. STEEL SPECIFICATIONS: DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL, AISC 360 AND SECTION 2205 OF THE BUILDING CODE.

29. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TYPE OF MEMBER	ASTM SPECIFICATION	FY
WIDE FLANGE SHAPES	A992	50 KSI
OTHER SHAPES, PLATES, AND RODS	A36	36 KSI
HEADED SHEAR STUDS	A108	

30. ALL WELDING SHALL BE IN CONFORMANCE WITH AISC AND AWS STANDARDS AND SHALL BE PERFORMED BY WABO CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. ALL COMPLETE JOINT PENETRATION GROOVE WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CVN TOUGHNESS OF 20 FT-LBS AT 20 DEGREES F AND 40 FT-LBS AT 70 DEGREES F, AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

31. PERMANENT STEEL SHORING SHALL BE GALVANIZED OR PAINTED BLACK FOR CORROSION RESISTANCE.

WOOD

32. FRAMING LUMBER SHALL BE KILN DRIED OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH WCLIB STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

Use	Grade	Fb (psi)
4X TIMBER LAGGING	DOUGLAS-FIR NO. 1	1000
6X TIMBER LAGGING	DOUGLAS-FIR NO. 1	1350

33. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG BOLTS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (2012 EDITION) WITH A LEAD BORE HOLE OF 60 TO 70 PERCENT OF THE SHANK DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" AND SMALLER LAG SCREWS.

PILE AND LAGGING CONSTRUCTION

34. DEMOLITION: SHORING AND SOIL EXCAVATION SHALL BE DONE SIMULTANEOUSLY.

35. DIMENSIONS AND LOCATION OF EXISTING STRUCTURES SHALL BE VERIFIED PRIOR TO FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBER. NOTIFY ENGINEER ABOUT ANY DISCREPANCIES PRIOR TO FABRICATION.

36. PILE HOLES SHALL BE DRILLED WITHOUT LOSS OF GROUND AND WITHOUT ENDANGERING PREVIOUSLY INSTALLED PILES AND ANCHORS. THIS MAY INVOLVE CASING THE HOLES OR OTHER METHODS OF PROTECTION FROM CAVING. REFER TO REPORT OF GEOTECHNICAL INVESTIGATION FOR RECOMMENDED HOLE DIGGING PROCEDURE.

37. STEEL PILE PLACEMENT TOLERANCES:

    1" INSIDE PERPENDICULAR TO SHORING WALL.
    1" OUTSIDE PERPENDICULAR TO SHORING WALL.
    3" LATERALLY.
    1" IN ANY DIRECTION

38. LAGGING: TIMBER LAGGING SHALL BE INSTALLED IN ALL AREAS. VOIDS BETWEEN LAGGING AND SOIL SHALL BE BACKFILLED WITH PEA GRAVEL OR LEAN MIX FILL. DRAINAGE BEHIND THE WALL MUST BE MAINTAINED. IT IS CONTRACTOR'S RESPONSIBILITY TO LIMIT THE AMOUNT OF EXPOSED SOIL WITHOUT LAGGING TO AVOID LOSS OF SOIL. MAXIMUM HEIGHT OF 4 FEET IS RECOMMENDED. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO AVOID GROUND LOSS DURING EXCAVATION.

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DAN J. SAY — STATE OF WASHINGTON — 21613 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
2	85% CD Set	Jan. 13, 2023
3	Permit Revisions	Jun. 30, 2023
4	CA Revisions	Nov. 3, 2023

DPD:

PROJECT TITLE:

Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

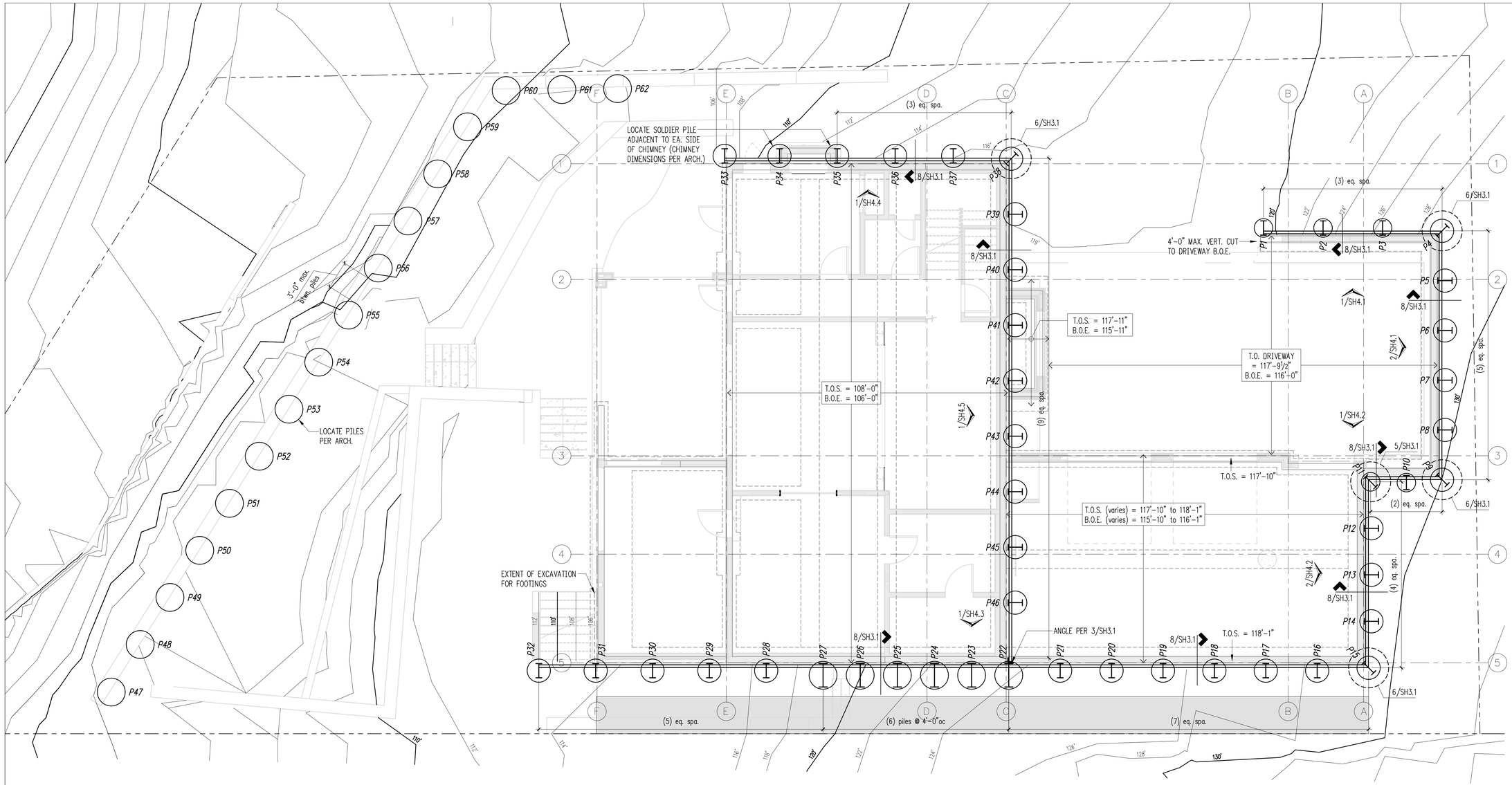
ARCHITECT:

Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE: 65% CD Set

SHEET TITLE: General Shoring Notes

SCALE: -
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO: SH1.1



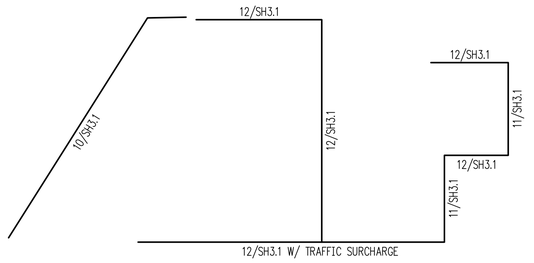
Plan Notes

1. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. TYPICAL TIMBER LAGGING SHALL CONSIST OF 4x12 HF #2 WITH A BASE VALUE OF FB=900 PSI UNLESS NOTED OTHERWISE ON PLAN.
3. OBSTRUCTIONS MAY BE ENCOUNTERED DURING EXCAVATION AND SHORING/PILE INSTALLATION. NOTIFY ENGINEER OF RECORD AND GEOTECHNICAL ENGINEER IF OBSTRUCTIONS PREVENT INSTALLATION OF PILES PER PLANS.
4. FOR EACH PILE UTILIZING LEAN CONCRETE, THE REQUIRED VOLUME OF GROUT SHALL BE CALCULATED PRIOR TO, AND MONITORED DURING INSTALLATION. GROUTING OPERATIONS SHALL BE STOPPED IF THE PUMPED GROUT VOLUME EXCEEDS THE CALCULATED GROUT VOLUME BY 10%.
5. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
6. MAXIMUM GRAVITY LOAD ON SOLDIER PILE = 35k (ALLOWABLE)

Legend

	STEM WALL & FOOTING PER S2.1 & S2.2
I	SHORING PILE PER SCHEDULE, THIS SHEET
T.O.S.	TOP OF SLAB
B.O.E.	BOTTOM OF EXCAVATION
	ADJACENT DRIVEWAY SURCHARGE APPLIED TO PILES P15-P31

Loading Diagram



Pile Schedule

MARK	AUGER DIA. (min.)	STEEL PILE SIZE	PERM./ TEMP.	MIN. EMBED D	MAX. SHORING HEIGHT
P1-P3	24"ø	W18x50	PERM.	22'-0"	11'-0"
P4-P9	30"ø	W24x84	PERM.	28'-0"	14'-0"
P10	30"ø	W18x65	PERM.	24'-0"	13'-0"
P11-P14	30"ø	W24x84	PERM.	26'-0"	13'-0"
P15-P21	30"ø	W24x84	PERM.	25'-0"	13'-0"
P22-P27	42"ø	W33x169	PERM.	36'-0"	18'-0"
P28-P32	30"ø	W18x86	PERM.	22'-0"	11'-0"
P33-P37	30"ø	W18x50	PERM.	17'-0"	10'-0"
P38-P46	30"ø	W18x86	PERM.	23'-0"	13'-0"
P47-P62 (stabilization piles)	36"ø	W30x90	PERM.	37'-0" min. embed from top of (e) grade	2'-0" max. stickup (assumes 1'-0" of geofoam)

Shoring Plan

Scale: 3/16" = 1'-0"

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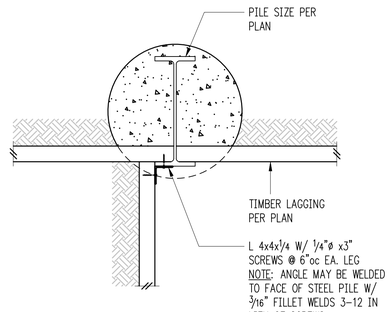
ISSUE: 65% CD Set

SHEET TITLE: Shoring Plan

SCALE: 3/16" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO: SH2.1

1

2



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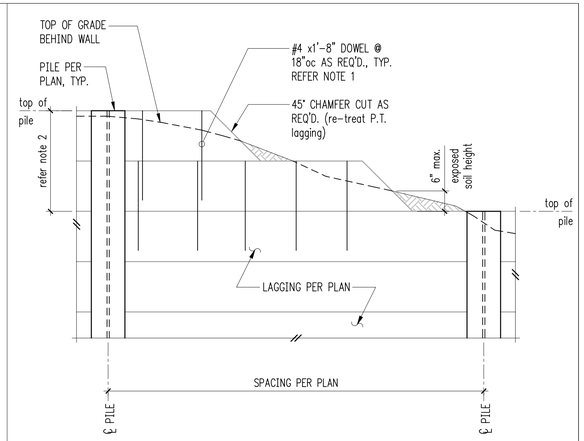
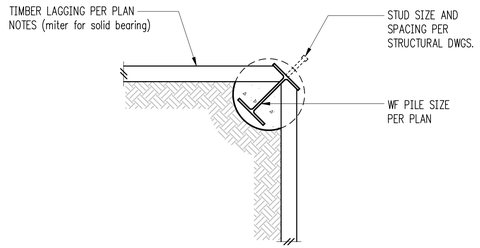
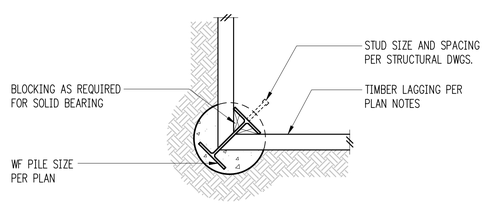


NOTE:
1. PRE-DRILL 7/16"ø DOWEL HOLE AT CENTER LINE OF LAGGING WIDTH. HAMMER DOWEL INTO HOLE, TOP FLUSH WITH LAGGING.
2. 2'-0" MAX. OF DOWEL LAGGING BETWEEN PILES.

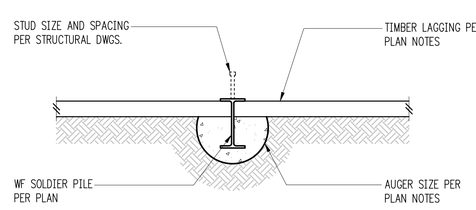
Lagging Transition at Wall Step 4



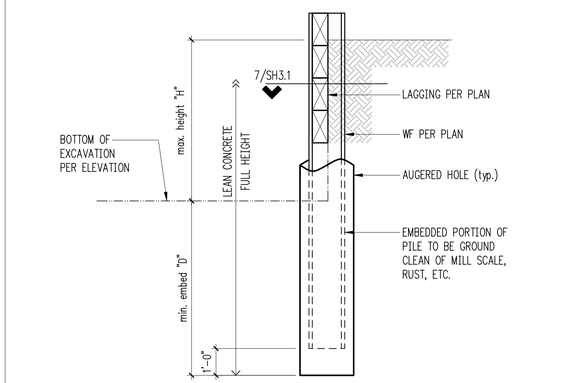
Auger Pile - Outside Corner 5



Auger Pile - Inside Corner 6

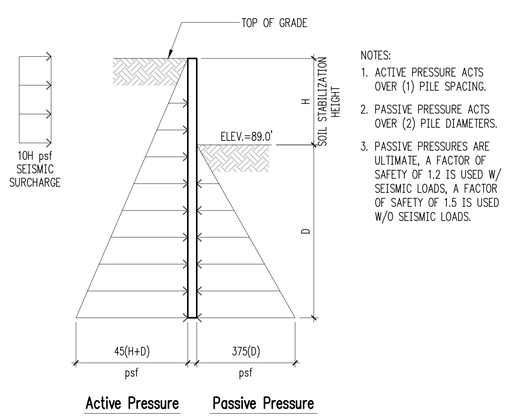


Typical Pile Plan - Small Auger 7



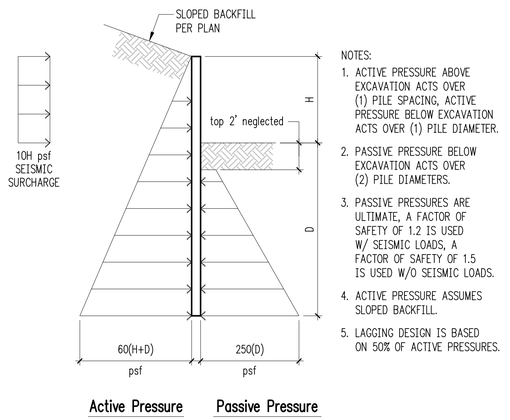
Cantilever Pile 8

9



NOTES:
1. ACTIVE PRESSURE ACTS OVER (1) PILE SPACING.
2. PASSIVE PRESSURE ACTS OVER (2) PILE DIAMETERS.
3. PASSIVE PRESSURES ARE ULTIMATE, A FACTOR OF SAFETY OF 1.2 IS USED W/ SEISMIC LOADS, A FACTOR OF SAFETY OF 1.5 IS USED W/O SEISMIC LOADS.

West and North Stabilization Wall 10



NOTES:
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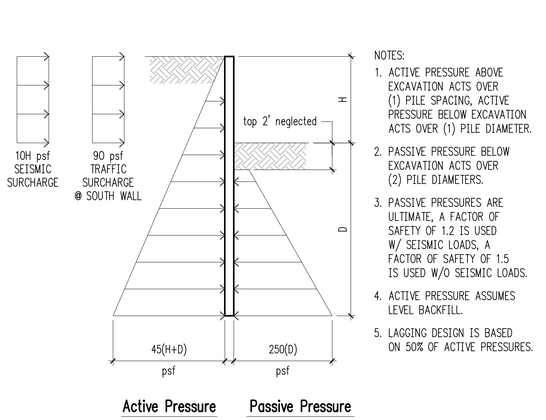
2. PASSIVE PRESSURE BELOW EXCAVATION ACTS OVER (2) PILE DIAMETERS.
3. PASSIVE PRESSURES ARE ULTIMATE, A FACTOR OF SAFETY OF 1.2 IS USED W/ SEISMIC LOADS, A FACTOR OF SAFETY OF 1.5 IS USED W/O SEISMIC LOADS.
4. ACTIVE PRESSURE ASSUMES SLOPED BACKFILL.
5. LAGGING DESIGN IS BASED ON 50% OF ACTIVE PRESSURES.

Cantilever Pile at East Parking Wall With Slope Diagram 11



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4. ACTIVE PRESSURE ASSUMES LEVEL BACKFILL.
5. LAGGING DESIGN IS BASED ON 50% OF ACTIVE PRESSURES.

Typical Pile Loading Diagram 12

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ISSUE:
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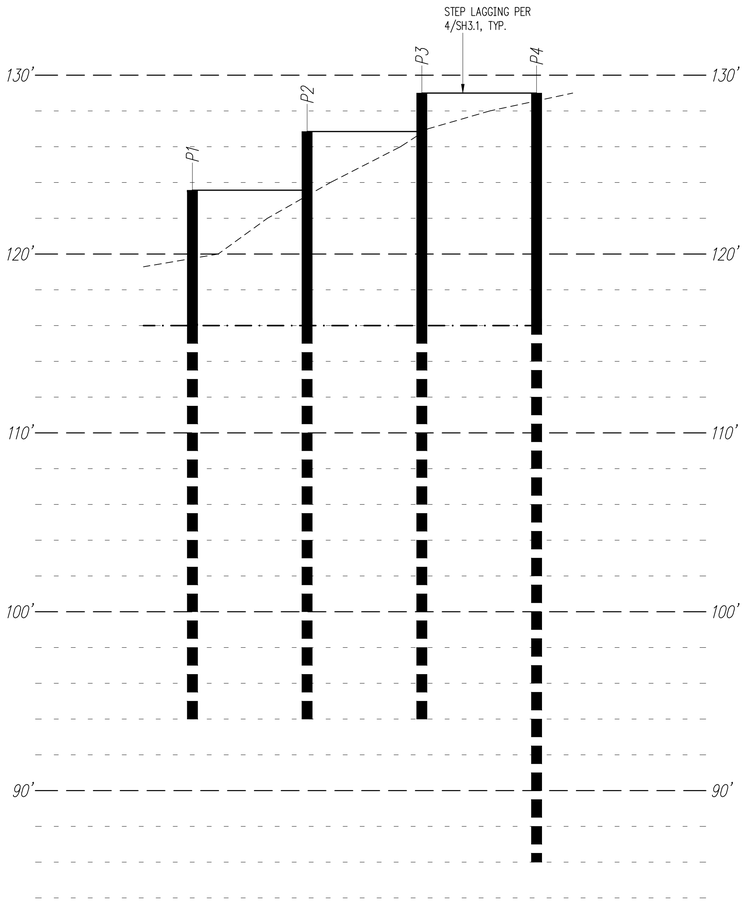
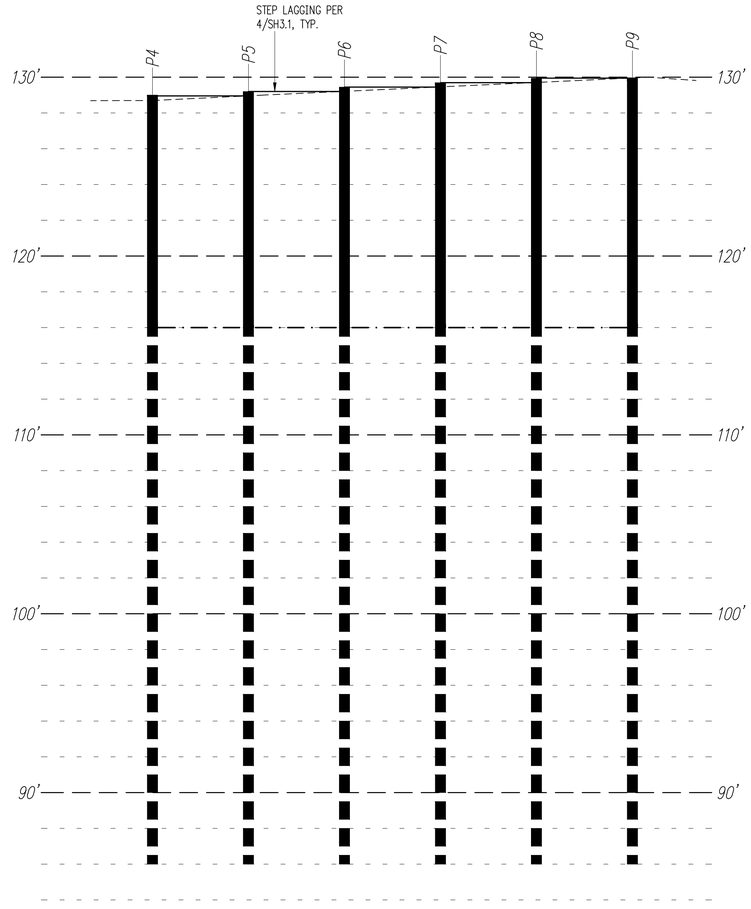
SHEET TITLE:
Shoring Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO:
SH3.1



North Shoring Elevation ①

LOOKING NORTH
Scale: 1/4" = 1'-0"



East Shoring Elevation ②

LOOKING EAST
Scale: 1/4" = 1'-0"

Legend

- APPROXIMATE TOP OF GRADE
- BOTTOM OF EXCAVATION
- Px — STEEL PILE PER PLAN/SCHEDULE
- 4x LAGGING

Legend

- APPROXIMATE TOP OF GRADE
- BOTTOM OF EXCAVATION
- Px — STEEL PILE PER PLAN/SCHEDULE
- 4x LAGGING

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DONN J. SAY — STATE OF WASHINGTON — 53000 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
2	85% CD Set	Jan. 13, 2023
3	Permit Revisions	Jun. 30, 2023
4	CA Revisions	Nov. 3, 2023

DPD:

PROJECT TITLE:
Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

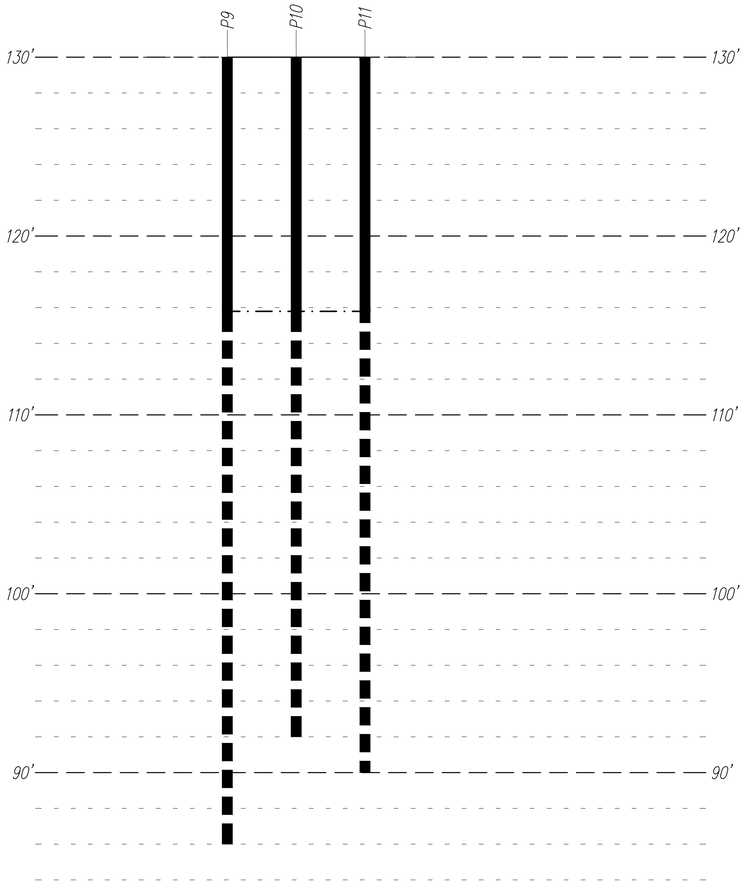
ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE:
65% CD Set

SHEET TITLE:
Shoring Elevations

SCALE: 1/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO:

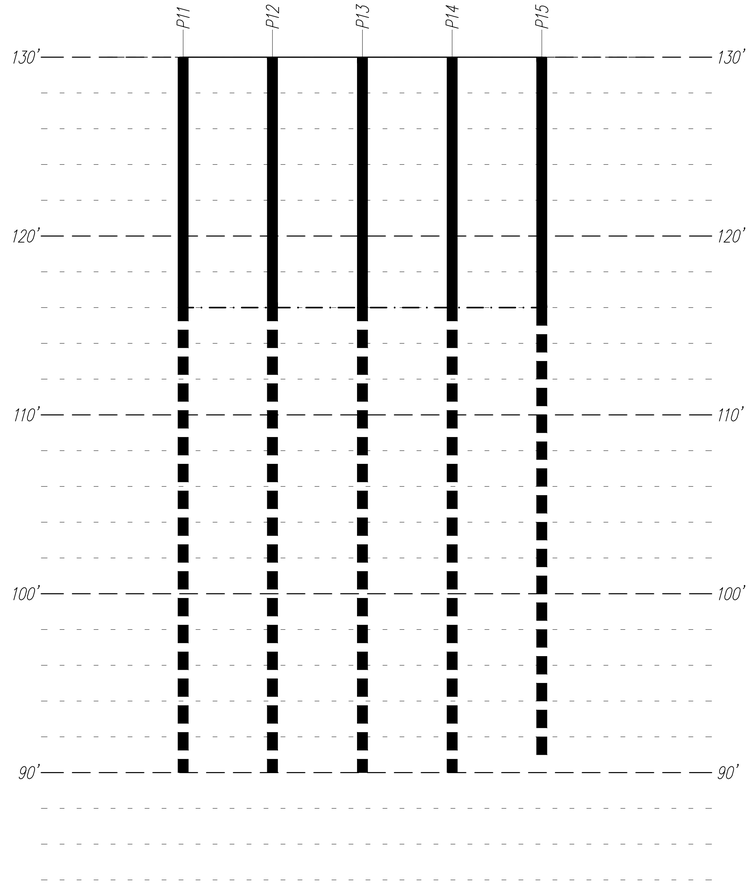
SH4.1



South Shoring Elevation

LOOKING SOUTH
Scale: 1/4" = 1'-0"

1



East Shoring Elevation

LOOKING EAST
Scale: 1/4" = 1'-0"

2

Legend

- - - - - -	APPROXIMATE TOP OF GRADE
— · —	BOTTOM OF EXCAVATION
——— Px	STEEL PILE PER PLAN/SCHEDULE
———	4x LAGGING

Legend

- - - - - -	APPROXIMATE TOP OF GRADE
— · —	BOTTOM OF EXCAVATION
——— Px	STEEL PILE PER PLAN/SCHEDULE
———	4x LAGGING

SSF STRUCTURAL ENGINEERING

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ISSUE:

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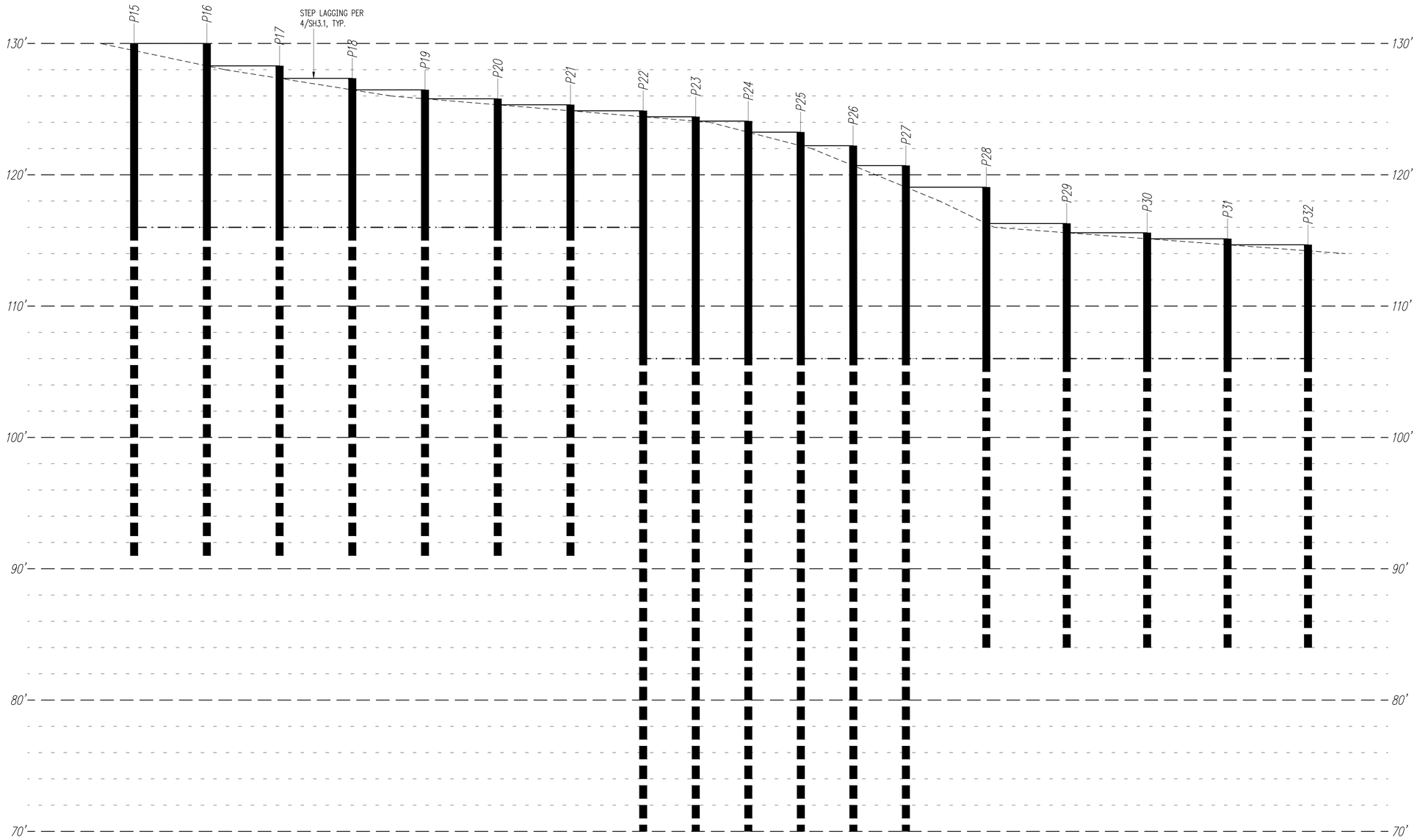
SHEET TITLE:

Shoring Elevations

SCALE: 1/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO:

SH4.2



Legend

- APPROXIMATE TOP OF GRADE
- BOTTOM OF EXCAVATION
- Px — STEEL PILE PER PLAN/SCHEDULE
- 4x LAGGING

South Shoring Elevation 1

LOOKING SOUTH
Scale: 1/4" = 1'-0"

STRUCTURAL ENGINEERING

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DAN J. SAY — STATE OF WASHINGTON — 53000 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

1	Revision 1	Aug. 15, 2022
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4	CA Revisions	Nov. 3, 2023

DPD:

PROJECT TITLE:

Clarkson Residence
8163 West Mercer Way
Mercer Island, WA 98040

ARCHITECT:

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66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850

ISSUE:

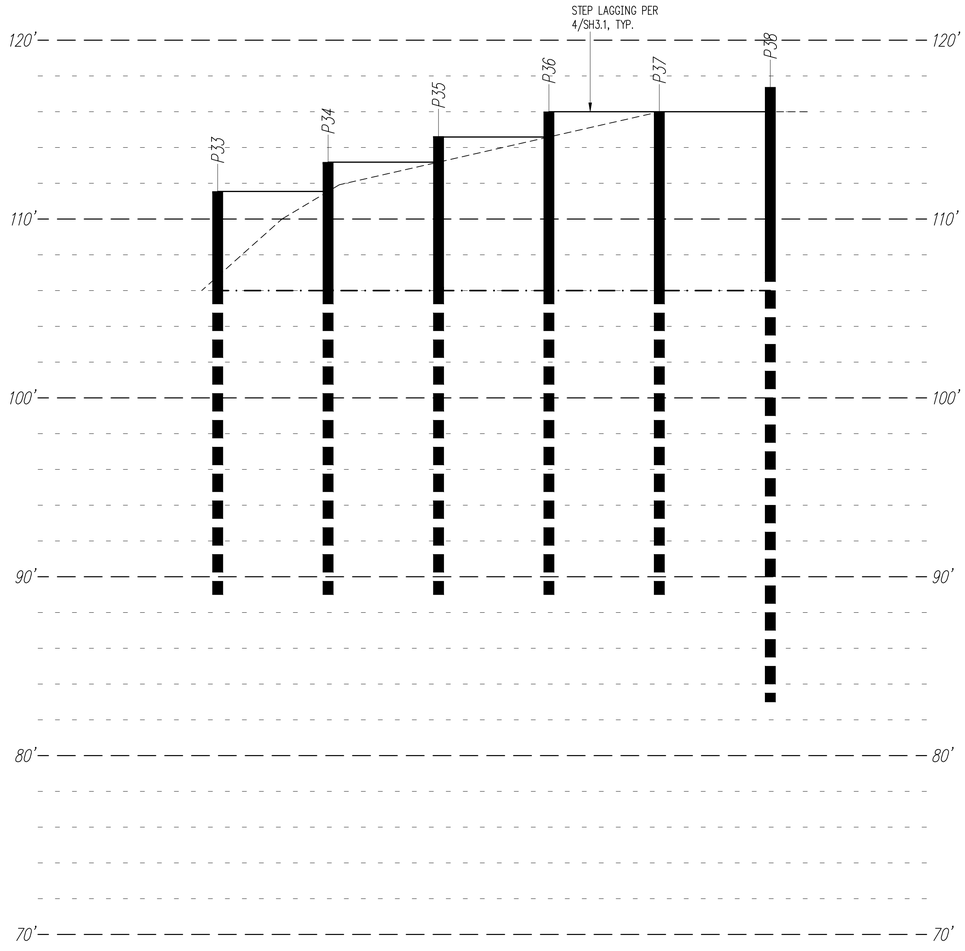
65% CD Set

SHEET TITLE:

Shoring Elevations

SCALE: 1/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO:

SH4.3



Legend

- - - - - -	APPROXIMATE TOP OF GRADE
— · —	BOTTOM OF EXCAVATION
▬▬ Px	STEEL PILE PER PLAN/SCHEDULE
———	4x LAGGING

North Shoring Elevation 1

LOOKING NORTH
Scale: 1/4" = 1'-0"

STRUCTURAL ENGINEERING

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DAN J. SAY — STATE OF WASHINGTON — 53000 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, BDM
DRAWN: NHD
CHECKED: BDM
APPROVED: DJS

REVISIONS:

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DPD:

PROJECT TITLE:

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ARCHITECT:

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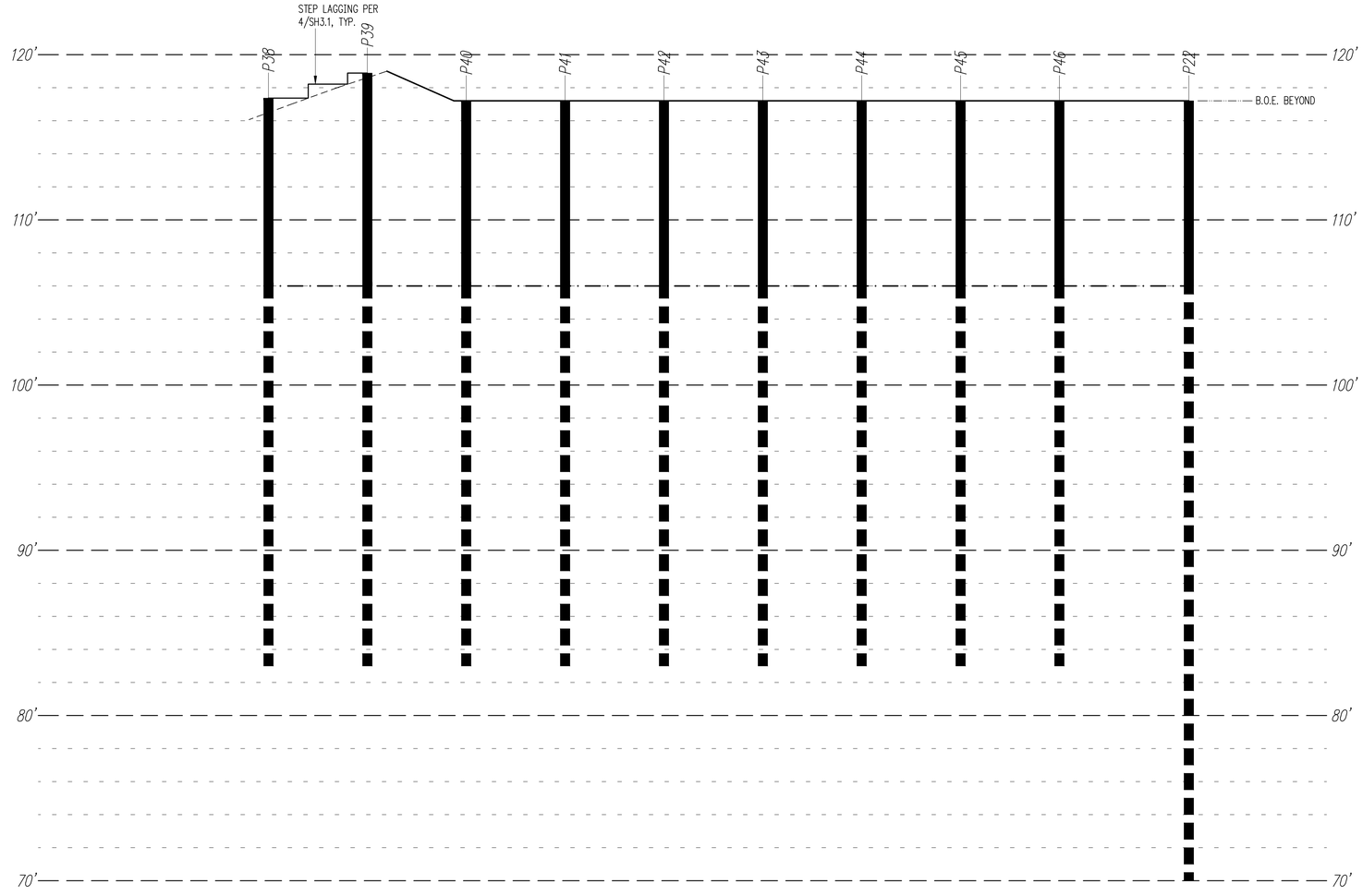
ISSUE: 65% CD Set

SHEET TITLE: Shoring Elevations

SCALE: 1/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO: SH4.4



Legend

- APPROXIMATE TOP OF GRADE
- BOTTOM OF EXCAVATION
- *Px* STEEL PILE PER PLAN/SCHEDULE
- 4x LAGGING

East Shoring Elevation ①

LOOKING EAST
Scale: 1/4" = 1'-0"

STRUCTURAL ENGINEERING

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ISSUE:
65% CD Set

SHEET TITLE:
Shoring Elevations

SCALE: 1/4" = 1'-0" U.N.O.
DATE: June 22, 2022
PROJECT NO: 01519-2021-11
SHEET NO:

SH4.5