# **VICINITY PLAN**

# White Cent

# LOCATION PLAN



GRID LINES

WINDOW

EXTERIOR

WALL

SECTION

SECTION

DETAIL

AREA

DETAIL

INTERIOR

ELEVATION

ELEVATION

**REVISION BUG** 

ASSEMBLY TYPE

EXHAUST FAN

CENTERLINE

SMOKE DETECTOR

DATUM

ELEVATIONS

REFERENCE

NORTH

#### SYMBOLS KEY

#### 0 0 \_\_\_\_ ROOM NAME -ROOM NAME ROOM REFERENCE ROOM NUMBER -ROOM NUMBER DOOR REFERENCE (100A<del>) –</del> DOOR NUMBER ROOM NUMBER (20'0A <del>) –</del> WINDOW NUMBER 1-DRAWING NUMBER A4.07 SHEET NUMBER DRAWING NUMBER SHEET NUMBER DRAWING NUMBER 8.0-SHEET NUMBER DRAWING NUMBER 9.0-SHEET NUMBER DRAWING NUMBER SHEET NUMBER FINISH FLOOR - LOCATION FINISH MATERIAL FINISH NUMBER

NOTE: CLOUDED

W4a  $\bigcirc$  $\odot$  $\bigotimes$ SMOKE/CARBON MONOXIDE DETECTOR



FINISH TYPE: SEE FINISH SCHEDULE

ONLY MOST RECENT REVISION SHOWN FOR PREVIOUS REVISIONS DELTAS REMAIN. DATE

OF REVISIONS INDICATED AT RIGHT MARGINS.

ROOF TYPE WALL TYPE FLOOR TYPE SEE ASSEMBLIES FOR MORE INFO

## **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.

#### **GRAPHIC KEY** (NOT TO SCALE)





#### **GENERAL INFORMATION**

PROJECT ADDRESS 8163 W MERCER WAY MERCER ISLAND, WA 98040 PROJECT NUMBER 2011-147 4139300305 ASSESSOR'S PARCEL # LEGAL DESCRIPTION

**PROJECT DESCRIPTION** ZONE SF 5000 **BUILDING TYPE** SINGLE FAMILY RESIDENCE

#### **PROJECT DIRECTORY**

OWNER ARCHITECT COLIN BRANDT BREE MEDLEY **OWNER'S AGENT/CONTACT** GENERAL CONTRACTOR JOHN KAELIN

STRUCTURAL ENGINEER

**CIVIL ENGINEER** 

LAURIE PFARR

#### **PROJECT DATA**

**EXISTING LOT AREA SUMMARY** GROSS LOT AREA ACCESS EASEMENTS NET LOT AREA LOT SLOPE

#### TREE REMOVAL (E) TREES TO BE REMOVED (N) TREES TO BE PLANTED AS REPLACEMENT

LOT COVERAGE BUILDING ROOF, GARAGE, COVERED DECK (N) DRIVEWAY/PARKING (E) DRIVEWAY (E) TOTAL LOT COVERAGE

ALLOWABLE LOT COVERAGE = 35% HARDSCAPE

(E) SITE WALLS (N) SITE WALLS <u>(N) STAIRS</u>

TOTAL

PERCENTAGE

PROPOSED BUILDING AREA SUMMARY (GFA):

PROPOSED LOWER LEVEL PROPOSED LOWER LEVEL BELOW GRADE (EXCLUDED) PROPOSED MAIN LEVEL W/ GARAGE PROPOSED UPPER LEVEL (EXCLUDES STAIRS) TOTAL PROPOSED BUILDING AREA (GFA):

PROPOSED GROSS FLOOR AREA:



#### **SETBACKS** SIDE YARD

FRONT YARD REAR YARD

**OCCUPANCY SUMMARY** PROPOSED TYPE -

OCCUPANT LOAD -ENERGY CODE SUMMARY CLIMATE ZONE 1 (TABLE 6-1) PRESCRIPTIVE OPTION III (EFFICIENT ENVELOPE OPTION 1A) UNLIMITED GLAZING GLAZING U-FACTOR (VERTICAL): GLAZING U-FACTOR (OVERHEAD): DOOR U-FACTOR: CEILING: VAULTED CEILING: WALL ABOVE GRADE: WALL BELOW GRADE (INT.) SLAB ON GRADE @ BASEMENT

#### HEATING

INSTALLED PER INTERNATIONAL MECHANICAL CODE, WORK TO BE COMPLETED UNDER A SEPARATE PERMIT. VENTILATION

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

- (PER QUIT CLAIM DEED RECORDING #9608220105 LOT B OF SHORT PLAT NO. MI 79-05-14, ACCORDING TO THE SHORT PLAT SURVEY RECORDED UNDER KING COUNTY RECORDING NO. 790806-0708; TOGETHER WITH EASEMENT FOR INGRESS, EGRESS AND UTILITIES OVER AND ACROSS LOT A OF SAID
- SHORT PLAT AS DESCRIBED THEREIN; SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.
- REMODEL OF EXISTING SINGLE FAMILY HOUSE

- JOHN & HEATHER KAHAN 8163 WEST MERCER WAY MERCER ISLAND, WA 98040
  - BRANDT DESIGN GROUP 66 BELL ST., UNIT 1 SEATTLE, WA 98121 206.239.0850 colin@brandtdesigninc.com
  - BRANDT DESIGN GROUP 66 BELL ST., UNIT 1 SEATTLE, WA 98121 206.239.0850 bree@brandtdesigninc.com
  - **K2 CNSTRUCTION** 19601 SE 29th ST SAMMAMISH, WA 98075 206.730.8878
- K2QUALITY@COMCAST.NET BRETT MOZDEN
  - SWENSON SAY FAGET 2124 THIRD AVENUE, SUITE 100 SEATTLE, WA 98121 206.443.6212 bmozden@ssfengineers.com
  - LPD ENGINEERING 1932 FIRST AVE, SUITE 201 SEATTLE, WA 98101 206.725.1211 lauriep@lpdengineering.com
  - 17,955 SF 2,721 SF 15,234 SF 90.35' / 301.2' = 29.9%
- 2,794 SF 896 SF 537 SF 4,227 SF = 27.7% OF NET LOT AREA 15,234 X 0.35 = 5,331.9 SF
  - 63 SF 46 SF <u>30 SF</u> 139 SF 139/15,234 = 0.9%
    - 1,635 SF
- 1,187 SF 2,320 SF 2,205 SF 4,973 SF 4,973 / 17,955 = 27.7%
- OF GROSS LOT AREA 17,995 X 0.40 = 7,198 SF
  - VARIABLE MINIMUM 7'-6" 20'

25'

- R-15 SINGLE FAMILY
- 50 .20 R-49 R-38 R-21 R-21 (INT.) OR R-10 (EXT.) R-10

#### **ABBREVIATIONS**

ABV

AFF

ADDL

ADJ

ALT

ARCH

BLW

BSMT

BTW

BLD

CAB

CALC

CLG

CLR

COL

CONC

CONST

DEMO

DIA

DIM

DW DBL

EA

ELEC

ELEV

ENGR

EQUIV

EXT

GALV

GWB

HDR

HT

HORIZ

INSUL

INT

LOC

MAX

MFR

MTL MIN

NTS

0.C.

PLY

PT

REFR

REINF

REQD

SW

SIM

SF

SCHED

SPECS

STRUCT

TEMP

TOW

TYP

UNO

VIF

VER.

WP

W/

W/0

WD

WNDW

SSTL

STL

PRELIM

MECH

EXIST OR (E)

CONT CONTR

CL

ABOVE

| ABOVE FINISH FLOOR         |
|----------------------------|
| ADDITIONAL<br>AD IIISTABLE |
| ALTERNATE                  |
| ARCHITECT, ARCHITECTURAL   |
| BELOW                      |
| BETWEEN                    |
| BUILDING                   |
| CABINET                    |
| CALCULATION                |
| CENTERLINE                 |
| CLEAR                      |
|                            |
| CONSTRUCTION               |
| CONTINUOUS                 |
| CONTRACTOR                 |
| DEMOLISH<br>DIAMETER       |
| DIMENSION                  |
| DISHWASHER                 |
|                            |
| ELECTRIC, ELECTRICIAN      |
| ELEVATION                  |
| ENGINEER                   |
| EQUIVALENT                 |
| EXTERIOR                   |
| FINISH FLOOR               |
| GALVANIZED                 |
| HEADER                     |
| HEIGHT                     |
| HORIZONTAL                 |
| INTERIOR                   |
| LOCATE, LOCATION           |
|                            |
| MECHANICAL                 |
| METAL                      |
|                            |
| ON CENTER                  |
| PLYWOOD                    |
| PRELIMINARY                |
|                            |
| REFRIGERATOR               |
| REINFORCE, REINFORCING     |
|                            |
| SHEARWALL                  |
| SIMILAR                    |
| SQUARE FOOT                |
| STAINLESS STEEL            |
| STEEL                      |
| STRUCTURE, STRUCTURAL      |
| TOP OF WALL                |
| TYPICAL                    |
| UNLESS NOTED OTHERWISE     |
| VERICAI                    |
| WATERPROOF, WEATHERPROOF   |
| WINDOW                     |
| WITHOUT                    |
| WOOD                       |
|                            |

| SHEET INDEX |  |
|-------------|--|
|-------------|--|

| DISCIPLINE    | SHEET NUMBER | SHEET NAME                               |
|---------------|--------------|--|
| ARCHITECTURAL | A000         | COVERSHEET                               |
|               | A001         | WA STATE ENERGY CODE / VENTILATION CALC  |
|               | A002         | SURVEY                                   |
|               | A100         | SITE PLAN                                |
|               | A101         | BUILDING PAD PLAN                        |
|               | A102         | EXCAVATION PLAN                          |
|               | A103         | EXCAVATION SECTIONS                      |
|               | A105         | CRITICAL AREA & TREE PLAN                |
| CIVIL         | C1.0         | TESC & DEMOLITION                        |
|               | C1.1         | TESC DETAILS & NOTES                     |
|               | C2.0         | GRADING & DRAINAGE                       |
|               | C3.0         | UTLITY & PAVING                          |
|               | C4.0         | DRAINAGE, UTILITIES & PAVING DETAILS     |
| ARCHITECTURAL | A201         | LOWER FLOOR PLAN                         |
|               | A202         | MAIN FLOOR PLAN                          |
|               | A203         | UPPER FLOOR PLAN                         |
|               | A204         | ROOF PLAN                                |
|               | A300         | EXTERIOR ELEVATIONS                      |
|               | A301         | EXTERIOR ELEVATIONS                      |
|               | A400         | BUILDING SECTIONS                        |
|               | A401         | BUILDING SECTIONS                        |
|               | A402         | WALL SECTIONS                            |
|               | A600         | WINDOW / DOOR SCHEDULES                  |
| STRUCTURAL    | S1.1         | GENERAL STRUCTURAL NOTES                 |
|               | S1.2         | GENERAL STRUCTURAL NOTES                 |
|               | S2.1         | FOUNDATION PLAN                          |
|               | S2.2         | MAIN FLOOR FRAMING/UPPER FOUNDATION PLAN |
|               | S2.3         | UPPER FRAMING PLAN                       |
|               | S2.4         | ROOF FRAMING PLAN                        |
|               | S3.1         | TYPICAL CONCRETE DETAILS                 |
|               | S3.2         | FOUNDATION DETAILS                       |
|               | S3.3         | FOUNDATION DETAILS                       |
|               | S4.1         | TYPICAL WOOD FRAMING DETAILS             |
|               | S4.2         | WOOD FRAMING DETAILS                     |
|               | S4.3         | WOOD FRAMING DETAILS                     |
|               | S4.4         | STEEL DETAILS                            |
|               | SH1.1        | GENERAL SHORING NOTES                    |
|               | SH2.1        | SHORING PLAN                             |
|               | SH3.1        | SHORING DETAILS                          |
|               | SH4.1        | SHORING ELEVATIONS                       |
|               | SH4.2        | SHORING ELEVATIONS                       |
|               | SH4.3        | SHORING ELEVATIONS                       |
|               | SH4.4        | SHORING ELEVATIONS                       |
|               | SH4.5        | SHORING ELEVATIONS                       |
|               | SH4.6        | SHORING ELEVATIONS                       |
|               | SH4.7        | SHORING ELEVATIONS                       |

| Brc<br>Desig<br>66 Be<br>U<br>Seat<br>98<br>206.2<br>brandtde | C N C<br>gn Gr<br>II Stren<br>it 1<br>tle, W<br>3121<br>39.08<br>signine<br>REGISTERE<br>ARCHITECT | <b>d</b><br><b>f</b><br><b>o</b><br><b>u</b><br><b>p</b><br><b>b</b> |
|---|--|--|
| KAHAN SPEC HOME   | 8163 WEST MERCER WAY<br>MERCER ISLAND, WA 98040  | © COPYRIGHT 2020 BRANDT DESIGN, INC. SEATTLE, WA                     |
| DATE:<br>SHEET SIZE:<br><b>REVIS</b><br>NO:                   | 11,<br>D (24X36)<br>IONS<br>DATE   | /30/20   |
| DRAWN BY:<br>CHECKED B<br>COV<br>SCALE:                       | MO<br>(: BM<br>ERSHEE<br>As indi   | T<br>cated   |



#### WA STATE ENERGY CODE FORMS

| 201   | .5 WSEC   | C & IR   | C Ven   | tilatio   | n Work  | sheet  | (Effective   | July   | 1, 20  | 16)   |
|---|---|--|---|---|---|--|--|--|--|---|
| INFORM<br>is set of work<br>ide. The follow<br>ust also be sho  | IATION IN<br>sheets has beer<br>ving worksheet<br>own on the dra  | THESE<br>en develope<br>its provide<br>awings.   | WORKSI<br>ed to assist<br>much of th  | HEETS MI<br>permit appl<br>e required o   | UST BE IN<br>licants with do<br>documentation   | CLUDED<br>ocumenting<br>n for plan r   | s <b>IN THE CONST</b><br>compliance with the<br>eview. <b>The details, s</b>   | RUCT<br>2015<br>ystems                                     | Washington<br>Washington<br>s, and rating  | State Energy<br>s noted he                                    |
| RESCRIPT  | IVE ENERG   | Y CODE   | COMPL   | IANCE FO  | OR CLIMAT   | E ZONE   | MARINE 4   |  |  |   |
| Component   | Fenestrati  | tion <sup>1</sup><br>Overhead  | Ceiling<br>w/ Attic   | Vaulted<br>Ceiling  | Wood<br>Framed<br>Wall (Int )2  | Mass Wal<br>(Above   | Below-Grade Wa   | 2,3  | Framed<br>Floor  | Slab<br>R-Value &   |
| Prescriptive  | U. 0.30   | U. 0.50  | R-49  | R-38 min.   | R-21 min.   | R-21 min   | . R- 10/15/21 Int. +   | тв   | R-30 min.  | R-10 min  |
| Value   | max.  | max.   | min.  |   |   |  |  |  |  | 2'  |
| with R-13 ca<br>break between<br>Vhole Hou<br>Please c<br>be using  | vity insulation on<br>en floor slab and<br>se Ventilati<br>heck the appr<br>AND fill in th  | n the interior<br>d basement v<br>tion (Pre<br>propriate b<br>he require   | r of the base<br>wall.<br>escriptiv<br>ox to desc<br>d whole b  | ment wall plu<br>e)<br>cribe which<br>ouse ventil   | of the four pation  | orescriptive   | e Whole House Ven  | tilation   | n Systems  | you will  |
| with R-13 ca<br>break between<br>Vhole Hou<br>Please of<br>be using<br>Handout.]  | vity insulation on<br>en floor slab and<br>se Ventilati<br>heck the appr<br>AND fill in th<br>A complete syste<br>E HOUSE VENT  | tion (Pre<br>ropriate b<br>he require<br>tium require  | r of the base<br>wall.<br>escriptive<br>tox to desc<br>ad whole h<br>d by one of t<br>METHOD  | ment wall plu<br>e)<br>cribe which<br>ouse ventil<br>the sections no  | of the four p<br>ation rate in<br>oted below mus  | orescriptive<br>CFM's. (See<br>the specifie  | e Whole House Ven<br>e "2015 Residential Wh<br>d on the drawings.  | tilation   | n Systems<br>se Ventilation<br>Whole Hous  | you will<br>n Rate"   |
| Whole Hou<br>Please of<br>be using<br>Handout.  | vity insulation on<br>en floor slab and<br>se Ventilati<br>heck the appr<br>AND fill in th<br>A complete syste<br>.E HOUSE VENT<br>nittent Whole  | n the interior<br>d basement v<br>tion (Pre<br>ropriate b<br>he require<br>tem require<br>TILATION N<br>e House Ve   | escriptiv<br>escriptiv<br>ox to desc<br>d whole h<br>d by one of t<br>METHOD  | ment wall plu<br>e)<br>cribe which<br>ouse ventil<br>the sections no<br>Jsing Exhau   | of the four p<br>ation rate in<br>oted below mus  | orescriptive<br>CFM's. (See<br>it be specifie<br>resh Air Inl  | e Whole House Ven<br>e "2015 Residential Wh<br>d on the drawings.<br>lets. (IRC M1507.3.   | tilation<br>ble Hous                                       | wall. "TB" me<br>n Systems<br>se Ventilation<br>Whole Hous<br>Ventilation I<br>90 CF   | you will<br>Rate"<br>Rate                                     |
| Whole Hou<br>Please of<br>be using<br>Handout.)<br>Interr   | vity insulation on<br>en floor slab and<br>see Ventilati<br>heck the appr<br>AND fill in th<br>A complete syste<br>E HOUSE VENT<br>nittent Whole<br>nittent Whole   | n the interior<br>d basement v<br>tion (Pre<br>ropriate b<br>he require<br>tem required<br>TILATION N<br>e House Ve<br>e House Ve  | escriptiv<br>escriptiv<br>ox to desc<br>d whole h<br>d by one of t<br>METHOD<br>entilation I<br>entilation I  | ment wall plu<br>e)<br>cribe which<br>ouse ventil<br>the sections no<br>Jsing Exhau<br>(ntegrated w   | of the four p<br>ation rate in<br>oted below mus<br>ust Fans & Fr<br>with a Forcec  | orescriptive<br>CFM's. (Sec<br>to be specifie<br>esh Air Inl<br>d Air System   | e Whole House Ven<br>e "2015 Residential Wh<br>d on the drawings.<br>lets. (IRC M1507.3.<br>m. (IRC M1507.3.5)   | tilation<br>ble Hous<br>4)                                 | wall. "TB" me<br>n Systems<br>se Ventilation<br>Whole Hous<br>Ventilation I<br>90 CF   | you will<br>a Rate"<br>Rate<br>M                              |
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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. Thi 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

|                            |     | Glazing  |  |     | Wi   | dth  | Heig | t    | Glaz | zing |
|----------------------------|-----|----------|--|-----|------|------|------|------|------|------|
| Exemptions                 | Ref | U-Factor |  | Qt. | Feet | Inch | Feet | Inch | Area | UA   |
| Swing Door (24 SF Max)     |     |          |  |     |      |      |      |      |      |      |
| Glazed Fenestration (15 SF |     |          |  |     |      |      |      |      |      |      |
| Max)                       |     |          |  |     |      |      |      |      |      |      |

VERTICAL FENESTRATION (WINDOWS AND GLAZED DOORS)

| Plan<br>ID     Component<br>Description     Ref     Glazing<br>U-Factor       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description     Image: Component Description       Image: Component Description     Image: Component Description   |
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| ID Description U-Factor  |
| Image: second |
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**OVERHEAD GLAZING (SKYLIGHT)** 

Plan ID

|        |            |          |            |        | I |
|--------|------------|----------|------------|--------|---|
| Sum of | Vertical F | enestrat | ion Area a | and UA |   |

Inch

Area

Area Weighted U = UA/Area

|             | -   | -        |     |              |           |           |        |   |      |     |
|-------------|-----|----------|-----|--------------|-----------|-----------|--------|---|------|-----|
| Component   | Ref | Glazing  | Qt. | . Wi         | dth       | Hei       | ght    |   | Glaz | ing |
| Description |     | U-Factor |     | Feet         | Inch      | Feet      | Inch   | A | rea  | U   |
|             |     |          |     |              |           |           |        |   |      |     |
|             |     |          |     |              |           |           |        |   |      |     |
|             |     |          |     |              |           |           |        |   |      |     |
|             |     |          | _   |              |           |           |        |   |      |     |
|             |     |          |     |              |           |           |        |   |      |     |
|             |     |          |     | Sum of Overl | nead Glaz | ing Area  | and UA |   |      |     |
|             |     |          |     | Are          | ea Weigh  | ted U = U | A/Area |   |      |     |
|             |     |          |     |              |           |           |        |   |      |     |

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

| 2015 V | VSCE — Table R406.2 — circle the options that you will be using fo  |
|--------|---|
| OPTION | DESCRIPTION   |
| 1a     | EFFICIENT BUILDING ENVELOPE 1a:<br>Vertical fenestration U = 0.28<br>Floor R-38<br>Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under ent<br><u>OR</u> Compliance based on Section R402.1.4: Reduce the Total UA by 5%.   |
| 1b     | EFFICIENT BUILDING ENVELOPE 1b:<br>Vertical fenestration U = 0.25<br>Wall R-21 plus R-4 Floor R-38<br>Basement wall R-21 int plus R-5 ci<br>Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under ent<br><u>OR</u> Compliance based on Section R402.1.4: Reduce the Total UA by 15%.   |
| 1c     | EFFICIENT BUILDING ENVELOPE 1c:<br>Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenest<br>Ceiling and single-rafter or joist-vaulted R-49 advanced Wood frame wall R-21 int plus R-12 ci<br>Floor R-38<br>Basement wall R-21 int plus R-12 ci<br>Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under ent<br><u>OR</u> compliance based on Section R402.1.4: Reduce the Total UA by 30%.   |
| 1d     | EFFICIENT BUILDING ENVELOPE 1d:<br>Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenest<br>option may not use Option 1a, 1b or 1c.  |
| 2a     | AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2a:<br>Compliance based on R402.4.1.2: Reduce the tested air leakage to 3.0 air changes per hour maximu<br>AND All whole house ventilation requirements as determined by Section M1507.3 of the Internatio<br>with a high efficiency fan (maximum 0.35 watts/cfm), not interlocked with the furnace fan. Ventilat<br>an ECM motor are allowed, provided that they are controlled to operate at low speed in ventilation<br>To qualify to claim this credit, the building permit drawings shall specify the option being selected<br>tested building air leakage and shall show the qualifying ventilation system. |
| 2b     | AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2b:<br>Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 2.0air changes per hour<br><u>AND</u> All whole house ventilation requirements as determined by Section M1507.3 of the <i>Internatio</i><br>a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.70.<br>To qualify to claim this credit, the building permit drawings shall specify the option being selected<br>tested building air leakage and shall show the heat recovery ventilation system.   |
| 2c     | AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2c:<br>Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 1.5 air changes per hour<br><u>AND</u> All whole house ventilation requirements as determined by Section M1507.3 of the Internatio<br>with a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.85.<br>To qualify to claim this credit, the building permit drawings shall specify the option being selected<br>tested building air leakage and shall show the heat recovery ventilation system.  |
| 3a     | HIGH EFFICIENCY HVAC EQUIPMENT 3a:<br>Gas, propane or oil-fired furnace with minimum AFUE of 94%, or Gas, propane or oiled-fired boiler<br>Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing u<br>two furnaces) both must meet the standard to receive the credit.<br>To qualify to claim this credit, the building permit drawings shall specify the option being selected<br>equipment type and the minimum equipment efficiency.  |
| 3b     | HIGH EFFICIENCY HVAC EQUIPMENT 3b:<br>Air-source heat pump with minimum HSPF of 9.0. Projects may only include credit from one space<br>When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard<br>To qualify to claim this credit, the building permit drawings shall specify the option being selected<br>equipment type and the minimum equipment efficiency.   |
| 3c     | HIGH EFFICIENCY HVAC EQUIPMENT 3c:<br>Closed-loop ground source heat pump; with a minimum COP of 3.3<br>OR Open loop water source heat pump with a maximum pumping hydraulic head of 150 feet and m<br>only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pi<br>furnaces) both must meet the standard to receive the credit.<br>To qualify to claim this credit, the building permit drawings shall specify the option being selected<br>equipment type and the minimum equipment efficiency.   |
| 3d     | HIGH EFFICIENCY HVAC EQUIPMENT 3d:<br>Ductless Split System Heat Pumps, Zonal Control: In homes where the primary space heating system<br>heat pump system shall beinstalled and provide heating to the largest zone of the housing unit. Pr<br>one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e.<br>standard to receive the credit.<br>To qualify to claim this credit, the building permit drawings shall specify the option being selected<br>equipment type and the minimum equipment efficiency.   |

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



| Sum of UA x 45                 |                         |
|--------------------------------|-------------------------|
| Air Leakage Heat Load          |                         |
| Volume x 0.6 x 45 x .018       |                         |
| Building Design Heat Load      |                         |
| Air Leakage Heat Load + Envelo | ope Heat Load           |
| Building and Duct Heat Load    |                         |
| Ducts in unconditioned space:  | Building Design Heat Lo |
| Ducts in conditioned space: Bu | ilding Design Heat Load |
| Maximum Heat Equipment Outp    | ut                      |
|                                |                         |

Building and Duct Heat Load x 1.25 for Heat Pump

Building and Duct Heat Load x 1.40 for Forced Air Furnace

| r | this | project |
|---|------|---------|

|   | CREDIT(S) |
|---|-----------|
| re slab.  | 0.5       |
| re slab.  | 1.0       |
| ation U = 0.22<br>re slab   | 2.0       |
| ation U = 0.24. Projects using this   | 0.5       |
| n<br>a <i>l Residential Cod</i> e shall be met<br>on systems using a furnace including<br>only mode.<br><b>and shall specify the maximum</b>      | 0.5       |
| naximum<br>al Residential Code shall be met with<br>and shall specify the maximum   | 1.0       |
| naximum.<br>al Residential Code shall be met<br>and shall specify the maximum   | 1.5       |
| vith minimum AFUE of 92%.<br>iit has two pieces of equipment (i.e.,<br>and shall specify the heating  | 1.0       |
| eating option, 3a, 3b, 3c or 3d.<br>to receive the credit.<br>and shall specify the heating   | 1.0       |
| nimum COP of 3.6. Projects may<br>aces of equipment (i.e., two<br>and shall specify the heating   | 1.5       |
| is zonal electric heating, a ductless<br>ojects may only include credit from<br>two furnaces) both must meet the<br>and shall specify the heating | 1.0       |

| OPTION | DESCRIPTION   |           |
|--------|---|-----------|
| OPTION | HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM:   | CREDIT(S) |
| 4      | 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.<br>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 ductslocated 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.<br><b>To qualify to claim this credit, the building permit drawings shall specify theoption being selected and shall specify the heating equipment and all the ductwork.</b> | 1.0       |
| Sa     | EFFICIENT WATER HEATING 5a:<br>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<br>rated at 1.0 GPM or less.<br>Plumbing Fixtures Flow Ratings. Low flow plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall<br>comply with the following requirements:<br>1. Residential bathroom lavatory sink faucets: Maximum flow rate - 3.8 L/min (1.0 gal/min) when tested in accordance with ASME<br>A112.18.1/CSA B125.1.<br>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<br>B125.1.<br>3. Residential showerheads: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA<br>B125.1.<br>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum flow<br>rates for all showerheads, kitchen sink faucets, and other lavatory faucets.   | 0.5       |
| 5b     | EFFICIENT WATER HEATING 5b:<br>Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.74<br><u>OR</u> Water heater heated by ground source heat pump meeting the requirements of Option 3c.<br><u>OR</u> 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<br>minimum pipe insulation.<br>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater<br>equipment type and the minimum equipment efficiency.  | e 1.0     |
| 5c     | EFFICIENT WATER HEATING 5c:<br>Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.91<br>OR Solar water heating systems or 2000 kWh based on the Solar Rating and Certification Corporation (SRCC) Annual Performance of OG-300 Certified Solar<br>Water Heating Systems<br>OR Electric heat pump water heater with a minimum EF of 2.0 and meeting thestandards of NEEA's Northern Climate Specifications for<br>Heat Pump Water Heaters<br>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater<br>equipment type and theminimum equipment efficiency and, for solar water heating systems, the calculation of the minimum energy<br>savings.  | 1.5       |
| 5d     | EFFICIENT WATER HEATING 5d:<br>A drain water heat recovery unit(s) shall be installed, which captures waste water heat from all the showers, and has a minimum<br>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<br>accordance CSA B55.1 and be so labeled.<br>To qualify to claim this credit, the building permit drawings shall include a plumbing diagram that specified the drain water heat<br>recovery units and the plumbing layout needed to install it and labels or other documentation shall be provided that demonstrates<br>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 generationbased 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 parear prover production.  | 0.5       |

| nergy | Co | od<br>r | e<br>t | WASHINGTON STATE UNIVERSI<br>EXTENSION ENERGY PROGRAM              |
|-------|----|---------|--------|--|
|       |    |         |        | Duct Testing Standard (RS-33)<br>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<sub>25</sub> 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<sub>25</sub> x floor area (in square feet) for total leakage or 0.03 CFM<sub>25</sub> 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 spaceconditioning 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.

| DWELLING UNIT                                 |                   | NUMBER OF BEDROOMS |          |          |       |       |     |     |  |  |
|---|-------------------|--------------------|----------|----------|-------|-------|-----|-----|--|--|
| FLOOR AREA                                    | 0 - 1             | 2                  | - 3      | 4 -      | 5     | 6 - 7 | ,   | > 7 |  |  |
| (square feet)                                 |                   |                    | А        | irflow i | n CFM |       |     |     |  |  |
| < 1,500                                       | 30                | 30 45              |          | 60       |       | 75    |     | 90  |  |  |
| 1,501 - 3,000                                 | 3,000 45 60 75 90 |                    | 45 60 75 |          |       | 105   |     |     |  |  |
| 3,001 - 4,500                                 | 60                |                    | 75       | 5 90     |       | 105   |     | 120 |  |  |
| 4,501 - 6,000                                 | 75                | 75 90              |          | 105      |       | 120   |     | 135 |  |  |
| 6,001 - 7,500                                 | 90                | 1                  | 05       | 120      |       | 135   |     | 150 |  |  |
| > 7,500                                       | 105               | 1                  | 20       | 135      |       | 150   |     | 165 |  |  |
| RUN-TIME PERCENTAGE IN EACH 4-HOUR<br>SEGMENT |                   |                    | 25%      | 33%      | 50%   | 66%   | 75% | 100 |  |  |
| Factorª                                       |                   |                    | 4        | 3        | 2     | 1.5   | 1.3 | 1.0 |  |  |

# 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 =<br>NUMBER OF BEDROOMS = |               | 4,964 SF<br>6 |
|---|---------------|---------------|
| AIRFLOW IN CFM REQUIRED FOR CONTINUOUS VENTILA    | TION =        | 125 CFM       |
| RUN TIME PERCENTAGE IN EACH 4 HOUR SEGMENT =      |               | 25 %          |
| FACTOR =  |               | 4             |
| CALCULATION                                       | 120 CFM X 4 = | 480 CFM       |
|   |               |               |

#### OPTION 2015 IMC 403.8.1 & 403.8.5.1 -

INTERMITANT 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 ARI UNIT. \*OUTDOOR AIR INLET DUCT TO BE FIELD LOCATED WITH HVAC SUBCONTRACTOR IN CONJUNTION WITH PLACING EXHAUST DUCTS IN ORDER TO AVOID CONFLICT.

| Brc<br>Desig<br>66 Be<br>U<br>Seat                        | <b>JNC</b><br><b>gnGr</b><br>Il Stree<br>nit 1<br>tle, WA<br>8121 | <b>b u p</b><br>e t                              |
|---|---|--|
| 206.2<br>brandtde   | 39.085<br>signinc.  | . <b>com</b>                                     |
| 8843<br>STATE   | REGISTERED<br>ARCHITECT   |  |
| <b>KAHAN SPEC HOME</b>                                    | 8163 WEST MERCER WAY<br>MERCER ISLAND, WA 98040                   | © COPYRIGHT 2020 BRANDT DESIGN, INC. SEATTLE, WA |
| Permit (  | DOCUME  | NTS  |
| DATE:<br>SHEET SIZE:<br><b>REVIS</b><br>NO:               | 11/3<br>D (24X36)<br>IONS<br>DATE:                                | 0/20   |
| DRAWN BY:<br>CHECKED BY<br>WA STA<br>CODE / V<br>CODE / V | MO<br>Y: BM<br>ATE ENER<br>VENTILAT<br>CALC<br>1/4" = 1           | GY<br>ION  |













1" = 10'-0"

#### 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.



EXISTING TOPOGRAPHY LINE MAJOR

EXISTING TOPOGRAPHY LINE MINOR

EXTENT OF EXCAVATION

APPROVED FIRE DEPARTMENT TURNAROUND

SHARED DRIVEWAY

DRILLED PILE FOR PERMANENT SHORING PER STRUCTURAL/GEOTECH

#### DRILLED PILE FOR FOUNDATION PER STRUCTURAL/GEOTECH

**CONSTRUCTION PHASING** 

- REMOVE TREES DRILL/INSTALL SHORING PILES FOR STABILIZATION WALL
- 3. EXCAVATE REMAINING SITE 4.

2.

8.

9. 10.

11.

12.

13.

- SCRAPE BUILDING PAD FOUNDATION FORMWORK
- FOUNDATION INSTALL
- RETAINING WALL FORMWORK
- DRAIN MAT INSTALL & TRENCHING FOR DRAINAGE AND UTILITIES NON-STRUCTURAL RAT-SLAB INSTALL
- Form Parking Pad Foundation
- POUR PARKING PAD FOUNDATIONS FORM PARKING PAD RETAINING WALLS
- Form Parking Pad & Garage Slab
- 14. POUR PARKING/GARAGE SLABS FINAL ROUGH GRADING 15.
- 16. FRAMING

brandtdesigninc.com 8843 REGISTERED STATE OF WASHINGTON

Brandt

Design Group

66 Bell Street

Unit 1

Seattle, WA

98121

206.239.0850

HOM PEC WAY 98040 S Ā AN MERCER W **KAH** 8163 WEST M MERCER ISLAN PERMIT DOCUMENTS 11/30/20 DATE: SHEET SIZE: D (24X36) REVISIONS NO: DATE:

DRAWN BY: MO CHECKED BY: BM

EXCAVATION PLAN

As indicated

A102



# SITE EXCAVATION LEGEND

PROPOSED GRADE

(E) GRADE

ALTERED (E) GRADE

PROPOSED FOUNDATION

FILL

PROPOSED CUT

Brandt Design Group 66 Bell Street Unit 1 Seattle, WA 98121 206.239.0850 brandtdesigninc.com 8843 REGISTERED ARCHITECT STATE OF WASHINGTON MOH SPEC WAY 98040 AN ЧЧ МА NER, AH 8163 WEST MERCER ISL/  $\mathbf{Y}$ PERMIT DOCUMENTS 11/30/20 DATE: SHEET SIZE: D (24X36) REVISIONS NO: DATE: DRAWN BY: MO CHECKED BY: BM EXCAVATION SECTIONS SCALE: As indicated A103

> DEDICATED APPROVAL STAMP SPACE









EROSION AND SEDIMENTATION CONTROL NOTES



NTS 🦳 NOT USED

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

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

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

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

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

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

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

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

16. ROOF DRAINS MUST BE CONNECTED TO THE STORM DRAIN SYSTEM AND INSPECTED BY THE

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.

19. REFER TO WATER SERVICE PERMIT FOR ACTUAL LOCATION OF NEW WATER METER AND SERVICE

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

21. NEWLY INSTALLED SIDE SEWER REQUIRES A 4 P.S.I. AIR TEST OR PROVIDE 10' OF HYDROSTATIC

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.

CITY OF MERCER ISLAND NOTES 10



![](_page_11_Figure_0.jpeg)

| Image: Stamp       1932 First Suite 201         No.       Revisions | t Ave,<br>,<br>VA 98101<br>5.1211<br>3.5344<br>ngineering.com<br>OTO CDO<br>Date |
|---|--|
| 0 1"<br>Two Inches At Full Scale<br>If Not Scale Accordingly<br>Project Name  | 2"   |
| KAHAN RESIDENCE<br>8163 W MERCER WAY  | City of Mercer Island, Washington  |
| Project No. 272-20-01<br>Issue Date 11/30/2020<br>Scale 1"=10'<br>Designed ACW Checked<br>Drawn KES Approved<br>Description<br>UTILITIES &<br>PAVING  | LJP<br>LJP<br><b>Ç</b>   |
| Sheet <b>C3.0</b>   |  |

![](_page_12_Figure_0.jpeg)

![](_page_13_Figure_0.jpeg)

| PROPOSED CONDITIONED SF =                      |               | 4,964 SF |
|--|---------------|----------|
| NUMBER OF BEDROOMS =                           |               | 6        |
| AIRFLOW IN CFM REQUIRED FOR CONTINUOUS VENTILA | TION =        | 125 CFM  |
| RUN TIME PERCENTAGE IN EACH 4 HOUR SEGMENT =   |               | 25 %     |
| FACTOR =                                       |               | 4        |
| CALCULATION                                    | 120 CFM X 4 = | 480 CFM  |

CONJUNTION WITH PLACING EXHAUST DUCTS IN ORDER TO AVOID CONFLICT.

![](_page_13_Figure_10.jpeg)

Brandt

Design Group

66 Bell Street

Unit 1

Seattle, WA

98121

206.239.0850

brandtdesigninc.com

REGISTERED ARCHITECT

WM

STATE OF WASHINGTON

8843

![](_page_14_Figure_0.jpeg)

| PROPOSED CONDITIONED SF =                        |              | 4,964 SF |
|--|--------------|----------|
| NUMBER OF BEDROOMS =                             |              | 6        |
| AIRFLOW IN CFM REQUIRED FOR CONTINUOUS VENTILATI | ON =         | 125 CFM  |
| RUN TIME PERCENTAGE IN EACH 4 HOUR SEGMENT =     |              | 25 %     |
| FACTOR =   |              | 4        |
| CALCULATION 12                                   | 20 CFM X 4 = | 480 CFM  |

CONJUNTION WITH PLACING EXHAUST DUCTS IN ORDER TO AVOID CONFLICT.

![](_page_15_Figure_0.jpeg)

|  |               | ч,70 <del>ч</del> 01 |
|--|---------------|----------------------|
| NUMBER OF BEDROOMS =                           |               | 6                    |
| AIRFLOW IN CFM REQUIRED FOR CONTINUOUS VENTILA | ATION =       | 125 CFM              |
| RUN TIME PERCENTAGE IN EACH 4 HOUR SEGMENT =   |               | 25 %                 |
| ACTOR =  |               | 4                    |
| CALCULATION                                    | 120 CFM X 4 = | 480 CFM              |
|  |               |                      |

![](_page_16_Figure_0.jpeg)

![](_page_17_Figure_0.jpeg)

![](_page_18_Figure_0.jpeg)

![](_page_18_Picture_1.jpeg)

Brandt

APPROVAL

LOWER LEVEL 109' - 0"

109' - 0"

![](_page_19_Figure_0.jpeg)

![](_page_20_Figure_1.jpeg)

![](_page_20_Figure_2.jpeg)

#### **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 IBC 8310.2 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 R308.4.3, GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL NEEDS TO • BE TEMPERED GLASS / SAFETY GLAZING IN THE FOLLOWING HAZARDOUS LOCATIONS:
  - 1. THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SF, THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18" ABOVE THE FLOOR,
  - THE TOP EDGE OF THE GLAZING IS MORE THAN 36 " AVOVE THE FLOOR, AND 3.
  - ONE OR MORE WALKING SURFACES ARE WITHING 36", MEASURE Δ HORIZONTALLY IN A STRAIGHT LINE OF THE GLAZING.

#### SPECIFIC NOTES

- EGRESS
- TEMPERED GLASS/SAFETY GLAZING
- ENGLISH 1/2" REED GLASS
- SILLS FLUSH WITH COUNTERTOP / TUBDECK
- (E) OWNER SUPPLIED WINDOWS TO BE REPURPOSED MULL HEAD OF WINDOW 103A TO SILL OF WINDOW 216A
- VERIFY SILL HEIGHT WITH (E) TOP OF ROOF, PROVIDE 2" MIN. CLEARANCE
- CONTRACTOR TO DISASSEMBLE MOLD UNIT IN TO SEPARATE SINGLE UNITS, VERIFY W/ OWNER.

#### WINDOW WALL GENERAL NOTES

\*ALL WINDOW WALL MUST HAVE A U-VALUE OF .28 OR LOWER

\*CONTRACTOR TO VERIFY ALL SIZES AND DIMENSIONS IN FIELD WITH OWNER BEFORE ORDERING.

\*ALL WINDOW WALL IS TEMPERED GLASS

\*REFER TO PLANS AND TAGS FOR LOCATION

\*ALL ELEVATIONS ARE FROM THE EXTERIOR

\*ALL DIMENSIONS SHOWN ARE FINISHED DIMENSIONS, R.O. PER CONTRACTOR

![](_page_21_Figure_27.jpeg)

| WIND    | WO   | SCHE          | DULE         |                       |           |         |       |       |
|---------|------|---------------|--------------|-----------------------|-----------|---------|-------|-------|
|         |      |               |              |                       | UNIT AREA |         |       |       |
| PLAN ID | TYPE | WIDTH (ft)    | HEIGHT (ff)  | HEAD HT               | (sf)      | U VALUE | UA    | NOTES |
|         |      |               |              |                       |           |         | 1     |       |
| 003A    | J    | 5' - 11 1/2"  | 4' - 5 1/2"  | 8' - 0"               | 27 SF     | 0.3     | 8 SF  |       |
| 003B    | С    | 2' - 11 1/2"  | 4' - 5 1/2"  | 8' - 0"               | 13 SF     | 0.3     | 4 SF  |       |
| 100A    | F    | 2' - 11 1/2"  | 7' - 11 1/2" | 9' - 0 3/4"           | 24 SF     | 0.3     | 7 SF  |       |
| 100B    | F    | 2' - 11 1/2"  | 7' - 11 1/2" | 9' - 0 3/4"           | 24 SF     | 0.3     | 7 SF  |       |
| 100C    | Н    | 7' - 11 1/2"  | 13' - 5 1/2" | 7' - 0"               | 107 SF    | 0.3     | 32 SF |       |
| 100D    | D    | 2' - 11 1/2"  | 4' - 11 1/2" | 4' - 1 7/8"           | 15 SF     | 0.3     | 4 SF  |       |
| 100E    | М    | 7' - 11 1/2"  | 4' - 11 1/2" | 15' - 7 1/2"          | 39 SF     | 0.3     | 12 SF |       |
| 101A    | К    | 8' - 11 1/2"  | 5' - 11 1/2" | 8' - 11 1/4"          | 53 SF     | 0.3     | 16 SF |       |
| 101B    | Е    | 2' - 11 1/2"  | 5' - 11 1/2" | 8' - 11 1/2"          | 18 SF     | 0.3     | 5 SF  |       |
| 101C    | Е    | 2' - 11 1/2"  | 5' - 11 1/2" | 8' - 11 1/2"          | 18 SF     | 0.3     | 5 SF  |       |
| 103A    | L    | 14' - 11 1/2" | 5' - 11 1/2" | 8' - 11 1/4"          | 89 SF     | 0.3     | 27 SF |       |
| 104A    | К    | 8' - 11 1/2"  | 5' - 11 1/2" | 8' - 11 1/4"          | 53 SF     | 0.3     | 16 SF |       |
| 104B    | J    | 5' - 11 1/2"  | 5' - 11 1/2" | 8' - 11 1/2"          | 36 SF     | 0.3     | 11 SF | 1     |
| 105A    | В    | 5' - 11 1/2"  | 1'-111/2"    | 8' - 11 1/2"          | 12 SF     | 0.3     | 4 SF  |       |
| 105B    | В    | 5' - 11 1/2"  | 1'-111/2"    | 8' - 11 1/2"          | 12 SF     | 0.3     | 4 SF  |       |
| 201A    | D    | 2' - 11 1/2"  | 4' - 11 1/2" | 7' - 0"               | 15 SF     | 0.3     | 4 SF  |       |
| 201B    | D    | 2' - 11 1/2"  | 4' - 11 1/2" | 7' - 0"               | 15 SF     | 0.3     | 4 SF  |       |
| 201C    | G    | 3' - 5 1/2"   | 13' - 5 1/2" | 7' - 0"               | 47 SF     | 0.3     | 14 SF |       |
| 203A    | E    | 2' - 11 1/2"  | 5' - 11 1/2" | 7' - 0"               | 18 SF     | 0.3     | 5 SF  |       |
| 204A    | E    | 2' - 11 1/2"  | 5' - 11 1/2" | 7' - 0"               | 18 SF     | 0.3     | 5 SF  |       |
| 204B    | J    | 5' - 11 1/2"  | 5' - 11 1/2" | 7' - 0"               | 36 SF     | 0.3     | 11 SF |       |
| 207A    | K    | 8' - 11 1/2"  | 5' - 11 1/2" | 7' - 0"               | 53 SF     | 0.3     | 16 SF | 1     |
| 209A    | K    | 8' - 11 1/2"  | 5' - 11 1/2" | 7' - 0"               | 53 SF     | 0.3     | 16 SF |       |
| 209B    | K    | 8' - 11 1/2"  | 5' - 11 1/2" | 7' - 0"               | 53 SF     | 0.3     | 16 SF | 1     |
| 210A    | A    | 2' - 11 1/2"  | 1'-111/2"    | 7' - 0"               | 6 SF      | 0,3     | 2 SF  |       |
| 211A    | K    | 8' - 11 1/2"  | 5' - 11 1/2" | 7' - 0"               | 53 SF     | 0,3     | 16 SF | 1     |
| 212A    | A    | 2' - 11 1/2"  | 1'-11 1/2"   | 7' - 0"               | 6 SF      | 0.3     | 2 SF  |       |
| 213A    |      | 5' - 11 1/2"  | 5' - 11 1/2" | 7' - 1 3/4"           | 36 SF     | 0.3     | 11 SF |       |
| 213B    |      | 5' - 11 1/2"  | 5'-111/2"    | 7' - 1 .3/4"          | 36 SF     | 0.3     | 11 SF |       |
| 2130    | K    | 8'-111/2"     | 5'-111/2"    | , , , ,,,,<br>7' - ∩" | 53 SF     | 0.3     | 16.SF |       |
| 2130    | K    | 8'-111/2"     | 5'-111/2"    | , 0<br>7'₋∩"          | 53 SF     | 0.3     | 16 SF |       |

![](_page_21_Figure_29.jpeg)

WINDOW TYPES 1/4" = 1'-0"

# 

| PLAN ID      | TYPE | WIDTH (ff.) | HEIGHT (ft.)          | AREA (sf.) | U VALUE | UA    | NOTES |
|--------------|------|-------------|-----------------------|------------|---------|-------|-------|
|              |      |             |                       |            |         |       | 1     |
| 001A         |      | 3' - 0"     | 10' - 3"              | 31 SF      |         |       |       |
| 002A         | A    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 003A         | A    | 2' - 10"    | 6' - 8"               | 19 SF      |         |       |       |
| 003B         | A    | 2' - 3"     | 7' - 0"               | 16 SF      |         |       |       |
| 005A         | С    | 3' - 0"     | 9' - 0"               | 27 SF      |         |       |       |
| 006A         | А    | 3' - 0"     | 7' - 0"               | 21 SF      |         |       |       |
| 007A         | А    | 3' - 0"     | 7' - 0"               | 21 SF      |         |       |       |
| 100A         | С    | 4' - 0"     | 8' - 4"               | 33 SF      | 0.3     | 10 SF | 1,2   |
| 103A         | E    | 3' - 0"     | 7' - 0"               | 21 SF      |         |       |       |
| 104A         | А    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 104B         | F    | 3' - 0"     | 6' - 8"               | 20 SF      |         |       |       |
| 105A         | E    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 106A         | Α    | 3' - 0"     | 7' - 0"               | 21 SF      |         |       |       |
| 106B         | В    | 4' - 0"     | 7' - 0"               | 28 SF      |         |       |       |
| 107A         | L    | 9' - 0"     | 7' - 0"               | 63 SF      | 0.3     | 19 SF | 4     |
| 107B         | L    | 9' - 0"     | 7' - 0"               | 63 SF      | 0.3     | 19 SF | 4     |
| 108A         | Е    | 3' - 0"     | 7' - 0"               | 21 SF      |         |       |       |
| 110A         | А    | 2' - 8"     | 7' - 0"               | 19 SF      |         |       |       |
| 111A         | J    | 10' - 11"   | 8' - 11 1/4"          | 98 SF      | 0.3     | 29 SF | 1,2   |
| 112A         | А    | 2' - 8"     | 7' - 0"               | 19 SF      |         |       |       |
| 201A         | С    | 3' - 0"     | 7' - 0"               | 21 SF      | 0.3     | 6 SF  | 1,2   |
| 201B         | М    | 6' - 0"     | 7' - 0"               | 42 SF      |         |       |       |
| 202A         | А    | 2' - 10"    | 6' - 8"               | 19 SF      |         |       |       |
| 203A         | E    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 204A         | E    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 204B         | Α    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 205B         | J    | 10' - 11"   | 7' - 0"               | 76 SF      | 0.3     | 23 SF | 1,2   |
| 206A         | Е    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 207A         | Α    | 2' - 10"    | 6' - 8"               | 19 SF      |         |       |       |
| 208A         | Α    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 209A         | A    | 2' - 10"    | 6' - 8"               | 19 SF      |         |       |       |
| 210A         | А    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 211A         | Α    | 2' - 10"    | 6' - 8"               | 19 SF      |         |       |       |
| 211B         | Н    | 6' - 0"     | 7' - 0"               | 42 SF      |         |       |       |
| 212A         | Е    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 212B         | E    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 212C         | E    | 2' - 6"     | 7' - 0"               | 18 SF      |         |       |       |
| 213A         | A    | 2' - 10"    | 6' - 8"               | 19 SF      |         |       |       |
| 213B         | F    | 3' - 0"     | 7' - 0"               | 21 SF      |         |       |       |
| 2130         | F    | 2' - 6"     | 7' - 0"               | 18.SF      |         |       |       |
| 2100<br>214A | F    | 3' - 0"     | 7' - N"               | 21 SF      |         |       |       |
| 215A         | F    | 2' - 6"     | , c<br>7' - ∩"        | 18.SF      |         |       |       |
| 215R         | F    | 2' - 6"     | , <u>0</u><br>7' - 0" | 18 SF      |         |       |       |
| 0150         | L .  | 2 0         | 7 0                   | 14.00      |         |       |       |

<u>a</u> Single flush

<u>B</u> DOUBLE FLUSH

<u>C</u> SINGLE FLUSH GLASS

←

╶────────── 

1/1 1/1 1/1  $\rightarrow$  $\rightarrow$ ←

<u>H</u> INTERIOR DOUBLE SLIDING DOOR

DOOR TYPES 1/4" = 1'-0"

 $\rightarrow$ 

 $\rightarrow$ 

J TRIPLE PANEL SLIDING DOOR

#### **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 •

#### SPECIFIC NOTES

6.

- TEMPERED GLASS/SAFETY GLAZING
- EGRESS 20-MINUTE RATED W/SELF-CLOSURE
- OVERHEAD DOOR 4. 5.
- ENGLISH 1/2" REED GLASS ACCESS DOOR TO UNDER STAIR

- - <u>G</u> INTERIOR DOUBLE

![](_page_21_Picture_53.jpeg)

![](_page_21_Picture_54.jpeg)

PERMIT DOCUMENTS

SHEET SIZE: D (24X36)

REVISIONS NO: DATE:

DATE:

11/30/20

Brandt

66 Bell Street

Unit 1

Seattle, WA

98121

206.239.0850

brandtdesigninc.com

REGISTERED

ARCHITECT

STATE OF WASHINGTON

8843

Design Group

![](_page_21_Figure_56.jpeg)

<u>D</u> DOUBLE FLUSH GLASS

![](_page_21_Picture_58.jpeg)

<u>E</u> POCKET DOOR

![](_page_21_Picture_60.jpeg)

![](_page_21_Picture_61.jpeg)

![](_page_21_Picture_62.jpeg)

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

![](_page_21_Picture_64.jpeg)

APPROVAL

![](_page_21_Figure_66.jpeg)

![](_page_21_Figure_67.jpeg)

←

FOLDING DOOR

![](_page_21_Picture_70.jpeg)

FOLDING DOOR

### VERTICAL ASSEMBLIES

![](_page_22_Figure_1.jpeg)

('X' WHERE TYPE X GWB)

HORIZONTAL ASSEMBLIES

![](_page_22_Figure_4.jpeg)

![](_page_22_Figure_5.jpeg)

![](_page_22_Figure_6.jpeg)

![](_page_22_Figure_7.jpeg)

STANDING SEAM METAL ROOFING ROOFING MEMBRANE 1/2" PLYWOOD R-38 MIN. INSULATION - ENSURE 1" AIRGAP FOR VENTING ROOF TRUSS PER STRUCTURAL 5/8" GWB, PAINTED

<u>W6b</u>

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

![](_page_22_Picture_12.jpeg)

5/8" GWB 2X6 FRAMING **R-21 MIN INSULATION** 3/4" PLYWOOD SHEATHING WRB 1X VERTICAL FURRING STRIP, PNT BLACK

SIDING

('X' WHERE TYPE X GWB)

![](_page_22_Figure_14.jpeg)

<u>W10a</u>

![](_page_22_Figure_16.jpeg)

<u>W10c</u>

![](_page_22_Figure_18.jpeg)

1/2" UNDERLAYMENT 6" CONCRETE PER STRUCTURAL SLAB VAPOR BARRIER R-10 RIGID INSULATION GRAVEL

GRAVEL

![](_page_22_Picture_20.jpeg)

![](_page_22_Picture_22.jpeg)

1/2" GWB, PAINTED 2X4 FRAMING PER STRUCTURAL **R-21 INSULATION** 1/2" AIRGAP CONCRETE WALL PER STRUCTURAL DRAINAGE MAT & WRB

1/2" GWB, PAINTED

Drainage mat & Wrb

1/2" AIRGAP

2X6 FRAMING PER STRUCTURAL R-21 BATT INSULATION

CONCRETE WALL PER STRUCTURAL

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 OF THE MEMBRANE PER ICC-ES WALKING DECKS CRITERIA

![](_page_22_Picture_28.jpeg)

SHEET SIZE: D (24X36) REVISIONS NO: DATE:

DRAWN BY: MO CHECKED BY: BM

ASSEMBLY DETAILS

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

![](_page_22_Picture_34.jpeg)

- EDITION).
- 2. DESIGN LOADING CRITERIA: GARAGES FLOOR LIVE LO FLOOR CONCENT HANDRAILS AND GUARDRAILS/BA GUARDRAILS/BA RESIDENTIAL -FLOOR LIVE LO ROOF ROOF LIVE LOAD MISCELLANEOUS LOADS ENVIRONMENTAL LOADS

- REQUIREMENT.
- AND FIELD USE.
- PREPARED BY THE SUPPLIER.

- DEPARTMENT.

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 (2015)

| AD (PASSENGER VEHICLES)         | ) PSF |
|---------------------------------|-------|
| RATED LOAD (PASSENGER VEHICLES) | ) LBS |
| GUARDS                          |       |
| LCONY RAILS                     | ) PLF |
| LCONY RAILS CONCENTRATED LOAD   | ) LBS |
| ONE AND TWO-FAMILY DWELLINGS    |       |
| AD                              | ) PSF |
|                                 |       |
| D                               | 5 PSF |

SNOW . . . . . . . . . . . . Ce=1.0, Is=1.0, Ct=1.1, Pg=25 PSF, Pf=20 PSF EARTHQUAKE . . . ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE LATERAL SYSTEM: LIGHT FRAMED SHEAR WALLS, Vs = 20 KIPS SITE CLASS=D, Ss=147, Sds=98, S1=56, SD1=56, Cs=0.150 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

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

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

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

CONTRACTOR SHALL SUBMIT WALL ELEVATION DRAWINGS OF AT LEAST 1/8" = 1'-0" SCALE INDICATING LOCATIONS OF CONNECTION EMBEDMENT'S AND WALL OPENINGS FOR REVIEW PRIOR TO CONSTRUCTION. CONTRACTOR SHALL COORDINATE WALL ELEVATION DRAWINGS WITH REINFORCEMENT SHOP DRAWINGS.

APPROVED SETS OF ALL SHOP DRAWINGS SHALL ALSO BE SUBMITTED TO THE BUILDING

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. SPE | CIAL              | 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<br>RETAINED BY THE BUILDING OWNER. THE ARCHITECT, STRUCTURAL ENGINEER, AND<br>BUILDING DEPARTMENT SHALL BE FURNISHED WITH COPIES OF ALL INSPECTION AND<br>TEST RESULTS. SPECIAL INSPECTION OF THE FOLLOWING TYPES OF CONSTRUCTION<br>IS REQUIRED UNLESS NOTED OTHERWISE. |  |  |  |
|--|--|--|--|
| STRUCTURAL STEEL FABRICATION AND ERECTIONPER AISC 360CONCRETE CONSTRUCTIONPER TABLE 1705.3CAST-IN-PLACE DEEP FOUNDATIONPER TABLE 1705.8EXPANSION BOLTS AND THREADED EXPANSION INSERTSPER MANUFACTUREREPOXY GROUTED INSTALLATIONSPER MANUFACTURER   |  |  |  |
| PERIODIC INSPECTION: INSPECTION SHALL BE PERFORMED AT INTERVALS NECESSARY<br>TO CONFIRM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH<br>REQUIREMENTS.<br>CONTINUOUS INSPECTION: INSPECTOR SHALL BE ONSITE AND OBSERVE THE WORK<br>REQUIRING INSPECTION AT ALL TIMES THAT WORK IS PERFORMED.                                  |  |  |  |
| GEOTECHNICAL   |  |  |  |
| FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION,<br>COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH<br>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/FLEVATIONS 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

| ALLOWABLE SOIL PRESSURE (NATIVE SOILS / STRUCTURAL FILL) 2500/2000 PSF |
|--|
| ATERAL EARTH PRESSURE (RESTRAINED/UNRESTRAINED)                        |
| ALLOWABLE PASSIVE EARTH PRESSURE (FS OF 1.5 INCLUDED)                  |
| COEFFICIENT OF FRICTION (FS OF 1.5 INCLUDED)                           |
| TRAFFIC SURCHARGE PRESSURE (UNIFORM LOAD)                              |
| SEISMIC SURCHARGE PRESSURE (UNIFORM LOAD)                              |
|  |

SOILS REPORT REFERENCE:

13.

#### CONCRETE

- 14. 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 5-1/2SACKS 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 = 2,500PSI.
- 15. 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.
- 16. 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 A-185. SPIRAL REINFORCEMENT SHALL BE DEFORMED WIRE CONFORMING TO ASTM A615, GRADE 60, FY = 60,000 PSI.
- 17. 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'-O" 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.

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

FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#6 BARS OR LARGER) . . . 2" FORMED SURFACES EXPOSED TO FARTH OR WEATHER (#5 BARS OR SMALLER) 1-1/2"

| COLUMN TIES OR SPIRALS | S AND BEAM STIRRUPS |                   | 1-1/2"            |
|------------------------|---------------------|-------------------|-------------------|
| SLABS AND WALLS (INT.  | FACE) GREATER       | OF BAR DIAMETER F | PLUS 1/8" OR 3/4" |

19. 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 |

- 20. 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.
- 21. 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).

24. 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.

25. 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.

26. 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.

TYPE A.WI B. 0T C. 0T

D. PI F. ST

F. COM (3/4 ROUND, UNLESS SHOWN OTHERWISE)

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.

#### ANCHORAGE

22. 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.

23. 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.

#### MASONRY

#### STEEL

27. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

| OF MEMBER   | ASTM SPECIFICATION                | FY               |
|---|-----------------------------------|------------------|
| IDE FLANGE SHAPES<br>THER SHAPES, PLATES, AND RODS  | A992<br>A36                       | 50 KSI<br>36 KSI |
| THER SHAPES AND PLATES<br>(NOTED GRADE 50 ON PLANS) | A572 (GRADE 50)                   | 50 KSI           |
| IPE COLUMNS<br>IRUCTURAL TUBING                     | A53 (E OR S, GR.B)<br>A500 (GR.B) | 35 KSI           |
| -SQUARE OR RECTANGULAR                              | · · · ·                           | 46 KSI           |
| -ROUND  |                                   | 42 KSI           |
| -ANY SHAPE  | ASTM A1085                        | 50 KSI           |
| DNNECTION BOLTS                                     | A325-N                            |                  |
| (3/4" ROUND LINEESS SHOWN OTHERWISE)                |                                   |                  |

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

29. 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.

30. SHOP PRIME ALL STEEL EXCEPT:

G. SURFACES TO RECEIVE OTHER SPECIAL SHOP PRIMERS.

31. 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.

32. 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.

33. 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.

![](_page_23_Picture_86.jpeg)

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![](_page_23_Picture_88.jpeg)

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

REVISIONS

PROJECT TITLE:

Kahan Spec Home 8163 West Mercer Way Mercer Island, WA 98040

#### ARCHITECT:

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

#### PERMIT

SHEET TITLE:

#### General Structural Notes

#### SCALE: DATE: November 30, 2020 PROJECT NO: 01519-2020-15 SHEET NO:

| 34. | FRAMING<br>CONFORMAN<br>17", OR<br>THE FOLLO | LUMB<br>NCE<br>WWPA<br>DWIN( |
|-----|--|------------------------------|
|     | JOISTS<br>AND BEAMS                          | 6<br>6                       |
|     |  | (                            |

BEAMS

POSTS

35. 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. CAMBER ALL SIMPLE SPAN GLULAM BEAMS, WITH SPANS OVER 30', TO 3,500' RADIUS, UNLESS SHOWN OTHERWISE ON THE PLANS.

PSL (2.0E) LVL (2.0E) LSL (1.55E)

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.

37. 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.

38. 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 TOP CHORD BOTTOM CHO TOTAL LOAD

WIND UPLI BOTTOM CHO (BOTTOM CH

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.

General Structural Notes

#### THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

#### WOOD

BER SHALL BE S-DRY, KD, OR MC-19, AND GRADED AND MARKED IN WITH WCLIB STANDARD "GRADING RULES FOR WEST COAST LUMBER NO. STANDARD, "WESTERN LUMBER GRADING RULES 2011". FURNISH TO G MINIMUM STANDARDS:

| 2X & 3X MEMBERS) | HEM-FIR NO. 2<br>MINIMUM BASE VALUE, Fb = 850 PSI            |
|------------------|--|
| 4X MEMBERS)      | DOUGLAS FIR-LARCH NO. 1<br>MINIMUM BASE VALUE, Fb = 1000 PSI |

(INCL. 6X AND LARGER) DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fb = 1350 PSI

DOUGLAS FIR-LARCH NO. 2 (4X MEMBERS) 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. 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:

| Fb = 2900 PSI, | E = 2000 KSI, | Fv = 290 PSI |
|----------------|---------------|--------------|
| Fb = 2600 PSI, | E = 2000 KSI, | Fv = 285 PSI |
| Fb = 2325 PSI, | E = 1550 KSI, | Fv = 310 PSI |

| 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              | 10  | PSF |
| (BOTTOM CHORD LIVE LOAD DOES NOT A  | СТ  |     |
| CONCURRENTLY WITH THE ROOF LIVE LO. | AD) |     |

39. 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

- 40. 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.
- 41. 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.
- 42. FASTENERS AND TIMBER CONNECTORS USED WITH TREATED WOOD SHALL HAVE CORROSION RESISTANCE AS INDICATED IN THE FOLLOWING TABLE, UNLESS OTHERWISE NOTED.

| WOOD TREATMENT<br>HAS NO AMMONIA CARRIER<br>CONTAINS AMMONIA CARRIER | CONDITION<br>INTERIOR DRY<br>INTERIOR DRY | PROTECTION<br>G90 GALVANIZED<br>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.

43. 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.

44. 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.

45. 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.

46. 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'-O" 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.

![](_page_24_Picture_59.jpeg)

PROJECT TITLE:

REVISIONS:

Kahan Spec Home 8163 West Mercer Way Mercer Island, WA 98040

ARCHITECT:

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

#### PERMIT

SHEET TITLE:

#### General Structural Notes

#### SCALE: DATE:

November 30, 2020 PROJECT NO: 01519-2020-15 SHEET NO:

![](_page_25_Figure_0.jpeg)

![](_page_25_Picture_1.jpeg)

Lower Foundation Plan

| SCALE:      |                     |
|-------------|---------------------|
| _           | 1/4" = 1'-0" U.N.O. |
| DATE:       |                     |
|             | November 30, 2020   |
| PROJECT NO: |                     |
|             | 01519-2020-15       |
| SHEET NO:   |                     |

**S2.1** 

#### Drilled Pier Schedule

| MARK | PIER Ø | MIN. EMBED | VERT. REINF. | HORIZ. REINF.      |
|------|--------|------------|--------------|--------------------|
| D1   | 36"    | 10'-0"     | (8)#4        | #3 TIES<br>@ 12"oc |
| D2   | 24"    | 6'-0"      | (4)#4        | #3 TIES<br>@ 12"oc |

#### Legend

|                | STRUCTURAL WALL OR POST ABOVE                                  |
|----------------|--|
|                | STEM WALL & FOOTING  |
| •XX            | HOLDOWN PER  |
| $(\mathbb{I})$ | SHORING PILE PER SH2.1   |
| $\bigcirc$     | DRILLED PIER PER SCHEDULE, THIS<br>SHEET (10 total this sheet) |
|                |  |

#### 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.

# Lower Foundation Plan Scale: $\frac{1}{4}$ = 1'-0"

![](_page_25_Picture_16.jpeg)

![](_page_25_Picture_17.jpeg)

5

![](_page_26_Figure_0.jpeg)

![](_page_26_Picture_1.jpeg)

#### Framing/Upper Foundation Plan

| SCALE:      | 1/4" = 1'-0" U.N.O. |
|-------------|---------------------|
| DATE:       |                     |
|             | November 30, 2020   |
| PROJECT NO: | 01519-2020-15       |
| SHEET NO:   |                     |

**S2.2** 

#### **Drilled Pier Schedule**

| MARK | PIER Ø | MIN. EMBED | VERT. REINF. | HORIZ. REINF.      |
|------|--------|------------|--------------|--------------------|
| D1   | 36"    | 10'-0"     | (8)#4        | #3 TIES<br>@ 12"oc |
| D2   | 24"    | 6'-0"      | (4)#4        | #3 TIES<br>@ 12"oc |

#### Beam Schedule

| MARK | BEAM                        | HANGER      | BRG. STUDS |
|------|-----------------------------|-------------|------------|
| B1   | LVL 1 <sup>3</sup> /4x14    | HU11        | 2          |
| B2   | LSL 3 <sup>1</sup> /2x14    | HHUS410     | 3          |
| B3   | (3)LVL 1 <sup>3</sup> /4x14 | HGUS5.50/14 | 4          |
| B4   | (4)LVL 1 <sup>3</sup> /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  |
| <u>,                                    </u> | SPAN DIRECTION   |
| $\longleftrightarrow \rightarrow$            | EXTENT OF JOISTS   |
|  | HEADER/BEAM PER PLAN   |
|  | HANGER   |
|  |  |
| Bx   | BEAM PER SCHEDULE, THIS SHEET  |
| Bx   | BEAM PER SCHEDULE, THIS SHEET<br>MAX. TILE AND MORTAR WEIGHT<br>OF 20 PSF  |
| Bx   | BEAM PER SCHEDULE, THIS SHEET<br>MAX. TILE AND MORTAR WEIGHT<br>OF 20 PSF<br>BLOCKED FLOOR DIAPHRAGM:<br>2x4 FLAT BLKG. AT ALL PLYWOOD<br>PANEL EDGES. NAIL ALL PLYWOOD<br>PANEL EDGES W/ 8d @ 4"oc &<br>@ 12"oc FIELD   |
| Bx   | BEAM PER SCHEDULE, THIS SHEET<br>MAX. TILE AND MORTAR WEIGHT<br>OF 20 PSF<br>BLOCKED FLOOR DIAPHRAGM:<br>2x4 FLAT BLKG. AT ALL PLYWOOD<br>PANEL EDGES. NAIL ALL PLYWOOD<br>PANEL EDGES. W/ 8d @ 4"oc &<br>@ 12"oc FIELD<br>HOLDOWN PER   |
| Bx   | BEAM PER SCHEDULE, THIS SHEET<br>MAX. TILE AND MORTAR WEIGHT<br>OF 20 PSF<br>BLOCKED FLOOR DIAPHRAGM:<br>2x4 FLAT BLKG. AT ALL PLYWOOD<br>PANEL EDGES. NAIL ALL PLYWOOD<br>PANEL EDGES. NAIL ALL PLYWOOD<br>PANEL EDGES W/ 8d @ 4"oc &<br>@ 12"oc FIELD<br>HOLDOWN PER<br>SHORING PILE PER SH2.1 |

#### 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.

# Main Floor Framing/Upper Foundation Plan Scale: 1/4" = 1'-0"

![](_page_27_Figure_0.jpeg)

![](_page_27_Picture_1.jpeg)

![](_page_27_Picture_2.jpeg)

**REVISIONS**:

# PROJECT TITLE:

Kahan Spec Home 8163 West Mercer Way Mercer Island, WA 98040

#### ARCHITECT:

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

#### PERMIT

SHEET TITLE:

ISSUE:

# Upper Floor Framing Plan

| SCALE:      |                     |
|-------------|---------------------|
|             | 1/4" = 1'-0" U.N.O. |
| DATE:       |                     |
|             | November 30, 2020   |
| PROJECT NO: |                     |
|             | 01519-2020-15       |
| SHEET NO:   |                     |

S2.3

#### Beam Schedule

| MARK | BEAM                        | HANGER      | BRG. STUDS |
|------|-----------------------------|-------------|------------|
| B1   | LVL 1 <sup>3</sup> /4x14    | HU11        | 2          |
| B2   | LSL 3 <sup>1</sup> /2x14    | HHUS410     | 3          |
| В3   | (3)LVL 1 <sup>3</sup> /4x14 | HGUS5.50/14 | 4          |
| B4   | (4)LVL 1 <sup>3</sup> ⁄4x14 | HGUS7.25/14 | 5          |

| Legend                |   |
|-----------------------|---|
|                       | STRUCTURAL WALL OR POST BELOW   |
| []]]]]                | STRUCTURAL WALL OR POST ABOVE   |
|                       | NON-STRUCTURAL WALL BELOW   |
| Wx                    | SHEARWALL PER   |
| <u> </u>              | SPAN DIRECTION  |
| $\longleftrightarrow$ | EXTENT OF JOISTS  |
|                       | HEADER/BEAM PER PLAN  |
|                       | HANGER  |
| Bx                    | BEAM PER SCHEDULE, THIS SHEET   |
|                       | MAX. TILE AND MORTAR WEIGHT<br>OF 20 PSF  |
|                       | BLOCKED FLOOR DIAPHRAGM:<br>2x4 FLAT BLKG. AT ALL PLYWOOD<br>PANEL EDGES. NAIL ALL PLYWOOD<br>PANEL EDGES W/ 8d @ 4"oc &<br>@ 12"oc FIELD |
| •XX                   | HOLDOWN PER   |
| $(\mathbb{I})$        | SHORING PILE PER SH2.1  |

#### 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"

![](_page_27_Picture_29.jpeg)

![](_page_28_Figure_0.jpeg)

| 6%                | STRUCTURAL<br>ENGINEERING   |
|-------------------|---|
| 2124 Third Avenu  | ue - Suite 100 - Seattle, WA 98121  |
| 934 Broadw        | ay - Tacoma, WA 98402<br>o ssfengineers.com   |
| Copyright 2020 Sw | renson Say Fagét - All Rights Reserved  |
|                   | J<br>OF WASA<br>23000 CHARTER<br>23000 CHARTER<br>2000 CH |
| DESIGN:           | HAA, BDM  |
| DRAWN:            | NHD   |
| CHECKED:          | BDM   |
| APPROVED:         | DJS   |
| REVISIONS:        |   |
|                   |   |
|                   |   |
|                   |   |
|                   |   |
|                   |   |
| DPD:              |   |
|                   |   |
|                   |   |
|                   |   |
|                   |   |
|                   |   |
|                   |   |

PROJECT TITLE:

Kahan Spec Home 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:

#### PERMIT

SHEET TITLE:

Roof Framing Plan

| SCALE:      |                      |
|-------------|----------------------|
| O GI (EEI   |                      |
|             | 1/4 = 1 -0 U N O     |
|             |                      |
| DATE        |                      |
| DATE.       |                      |
|             | November 30 2020     |
|             | 10000111001 007 2020 |
| DDOJECT NO. |                      |
| PROJECT NO: |                      |
|             | 01519-2020-15        |
|             | 01515 2020 15        |
|             |                      |
| SHEET NO:   |                      |

**S2.4** 

# Legend

|                                   | STRUCTURAL WALL OR POST BELOW                                     |
|-----------------------------------|---|
|                                   | NON-STRUCTURAL WALL BELOW   |
| Wx                                | SHEARWALL PER   |
| <u>````</u>                       | SPAN DIRECTION  |
| $\longleftrightarrow \rightarrow$ | EXTENT OF JOISTS  |
|                                   | HEADER/BEAM PER PLAN  |
|                                   | HANGER  |
| G.T.                              | GIRDER TRUSS  |
|                                   | OVERFRAME W/ 2x6 @ 24"oc. POST<br>DOWN TO FRAMING BELOW @ 4'-0"oc |

#### 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.
- 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.
- 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"

![](_page_29_Figure_0.jpeg)

| 1 |
|---|
|   |
|   |
| 5 |
|   |
|   |
| 9 |

![](_page_30_Figure_1.jpeg)

| 1 |
|---|
|   |
|   |
| 5 |
|   |
|   |
| 9 |

![](_page_31_Figure_1.jpeg)

![](_page_32_Figure_0.jpeg)

![](_page_33_Figure_0.jpeg)

| 5 | NOTCH TO LET<br>OUTRIGGER THRU<br>FASCIA<br>PER ARCH.<br>2x4 OUTRIGGER<br>LAID FLAT @ 24"oc<br>NAILING PER<br>SHEARWALL SCHEDULE<br>SHEARWALL SCHEDULE<br>SHEARWALL PER PLAN |
|---|--|
| 9 | SHEATHING PER PLAN<br>8d @ 6"oc<br>FULL DEPTH BLOCKING<br>(may be drilled for venting)<br>FASCIA PER ARCH.<br>NAILING PER SHEARWALL<br>SCHEDULE<br>SHEARWALL PER PLAN        |

![](_page_34_Figure_1.jpeg)

| 1 | 2 3 |
|---|-----|
|   |     |
| 5 | 6   |
|   |     |
| 9 | 10  |

![](_page_35_Figure_1.jpeg)

- CODE, 2015 EDITION
- 2. GEOTECH REPORT PER S1. 1

- PRODUCTION AND FIELD USE.

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

STRUCTURAL STEEL

- DESIGN TEAM.

#### 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

#### **REFERENCE DOCUMENTS**

#### 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

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.

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

#### 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

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

| TRUCTURAL  | STEEL  | FABRI  | CATION   | AND  | ERECTION    | PEF | R TABLE | 1705. 2 |
|------------|--------|--------|----------|------|-------------|-----|---------|---------|
| OIL CONDIT | IONS,  | FILL   | PLACEME  | ENT, | AND DENSITY | PEF | ₹ TABLE | 1705.6  |
| AST-IN-PLA | CE DEE | EP FOL | JNDATION | ١    |             | PEF | ₹ 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

27. CONC WITH CRITE

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.

#### CONCRETE

| CRETE | SHALL    | BF WIXF  | D, PRO | PORT | IONED, | CON  | VEYED | and   | PLA | CED | IN AC | CORD | ANCE |
|-------|----------|----------|--------|------|--------|------|-------|-------|-----|-----|-------|------|------|
| IBC   | SECTION  | V 1905,  | 1906,  | AND  | ACI    | 301. | STREN | IGTHS | AT  | 28  | DAYS  | AND  | MIX  |
| RIAS  | SHALL BE | E AS FOL | LOWS:  |      |        |      |       |       |     |     |       |      |      |

| (PSI)<br> | Per Cubic Yard | 94 LB Cement |                    |
|-----------|----------------|--------------|--------------------|
|           | 1-1/2 sacks    | STEEL        | pile lean concrete |

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<br>OTHER SHAPES, PLATES,<br>HEADED SHEAR STUDS | AND RODS | A992<br>A36<br>A108 | 50 KSI<br>36 KSI |

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

|                                      | STRUCTURAL   |
|--------------------------------------|--|
|                                      |  |
| 2124 Third Avenue<br>p: 206.443.6212 | - Suite 100 - Seattle, WA 9812<br>ssfengineers.cor |
| 934 Broadway                         | - Tacoma, WA 9840:                                 |
| p: 253.284.9470                      | sstengineers.con                                   |
| Copyright 2020 Swens                 | son Say Fagét - All Rights Reserve                 |
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|                                      | OF WASAUN  |
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| A PS                                 | SIONAL ENGINE                                      |
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| CHECKED:                             | BDM  |
| APPROVED:                            | DJS  |
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| PROJECT TITLE:                       |  |
| Kahan                                | Spec Home  |
| 8163 West M                          | ercer Way  |
| Mercer Island                        | ,<br>1, WA 98040                                   |
|                                      |  |
|                                      |  |
|                                      |  |
|                                      |  |
| ARCHITECT:                           |  |
| Brandt D                             | esian Group  |
|                                      |  |
| oo Bell Street                       | t, Unit 1<br>98121                                 |
| PH 206.239                           | .0850  |
|                                      |  |
|                                      |  |
| ISSUE:                               |  |
|                                      |  |
| PE                                   | ERMIT  |
| PE                                   | ERMIT  |

**General Shoring** Notes

| SCALE:      |                   |
|-------------|-------------------|
|             | -                 |
| DATE:       |                   |
|             | November 30, 2020 |
| PROJECT NO: | 01519-2020-15     |
| SHEET NO:   |                   |

SH1.

![](_page_37_Figure_0.jpeg)

|                         |  |                             |  |                                |  | CCE /  |                |
|-------------------------|--|-----------------------------|--|--------------------------------|--|--|----------------|
|                         |  |                             |  |                                |  |  |                |
|                         |  |                             |  |                                |  | ENGINEERIN   | G              |
|                         |  |                             |  |                                |  | 2124 Third Avenue, Suite 100, Septtle WA of                      | 101            |
|                         |  |                             |  |                                |  | p: 206.443.6212 ssfengineers.co                                  | im             |
|                         |  |                             |  |                                |  | 934 Broadway - Tacoma, WA 984<br>p: 253.284.9470 ssfengineers.co | <b>)2</b><br>m |
|                         |  |                             |  |                                |  | Copyright 2020 Swenson Say Fagét - All Rights Reser              | /ed            |
| 1                       |  |                             |  |                                |  |  |                |
|                         |  |                             |  |                                |  | NJ. STA  |                |
|                         |  |                             |  |                                |  |  |                |
| <br>∠Pile Schε          | edule                                      |                             |  |                                |  |  |                |
|                         | AUGER DIA STEEL PI                         | IF PFRM /                   | MIN EMBED                                  | MAX SHORING                    |  | CT-USAL ENGLASS  |                |
| MARK                    | (min.) SIZE                                | TEMP.                       | D  | HEIGHT                         |  | SJONAL EN  |                |
| Г <u>Р1-Р3</u><br>/SH31 | 24"ø W18x50                                | PERM.                       | 20'-0"                                     | 10'-0"                         |  | DESIGN:  | _              |
| P4-P9<br>P10-P12        | 30″ø W18x86<br>24"ø W18x65                 | PERM.                       | 26 <sup>°</sup> -0″<br>22 <sup>°</sup> -0″ | <u>13'-0"</u><br><u>12'-0"</u> |  | HAA, BDM   |                |
| P13-P16                 | 30"ø W18x86                                | PERM.                       | 22'-0"                                     | 11'-0"                         |  | NHD  |                |
| P17-P20<br>P21-P26      | 24 Ø W18x63<br>36ӯ W30x13                  | 2 PERM.<br>2 PERM.          | <u>    22    0</u>                         | 10-0                           |  | BDM  |                |
| P27-P28                 | 30"ø W18x86                                | PERM.                       | 24'-0"                                     | 13'-0"                         |  | DJS  |                |
| ) / P29-P44             | 36"ø W30x13                                | 2 PERM.                     | (below elev.                               | HEIGHT                         |  |  |                |
| P45-P52                 |  | PERM.                       | 89'-0")<br>23'-0"                          | 11'-6"                         |  |  |                |
| I P53-P54               | 24"ø W18x50                                | TEMP.                       | 20'-0"                                     | 8'-0"                          |  |  |                |
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| →         →             | STEM WALL & FO                             | DTING PER S2                | 2.1 & S2.2                                 |                                |  |  |                |
|                         | SHORING PILE PI                            | R SCHEDULE.                 | THIS SHEET                                 |                                |  |  |                |
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| D.V.E.                  |  |                             |  |                                |  |  |                |
|                         | TO PILES P17-P2                            | vat Surchar<br>27           | GE APPLIED                                 |                                |  |  | _              |
|                         |  |                             |  |                                |  |  |                |
|                         |  |                             |  |                                |  |  |                |
|                         | g Diagram                                  |                             |  |                                |  |  |                |
| + / +                   | 18'-0"                                     |                             |  |                                |  |  |                |
| /<br>′SH <b>J</b> 1 /1  | 0/SH3.1 12/SH3.1                           |                             |  |                                |  |  |                |
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|                         |  | <u>.</u>                    |  | =                              |  |  |                |
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|                         |  | 12                          |  |                                |  | Kahan Spec Hom   | 9              |
|                         |  |                             |  | HC/II                          |  | 8163 West Mercer Way   |                |
|                         |  |                             |  |                                |  | mercer Island, WA 98040  |                |
|                         | 12/SH3.1 W/ TRAF                           | FIC SURCHAR                 | GE   |                                |  |  |                |
| Plan No                 | otes                                       |                             |  |                                |  |  |                |
|                         | CALE DRAWINGS. REFER                       | TO ARCHITEC                 | TURAL DRAWI                                | NGS FOR ALL                    |  |  |                |
| DIMENSION               | VS.  |                             |  |                                |  | ARCHITECT:   | -              |
| 2. TYPICAL T            | IMBER LAGGING SHALL<br>FB=900 PSI UNIESS N | CONSIST OF 4                | 4x12 HF #2 W.<br>ISF ON PLAN.              | ITH A BASE                     |  | Brandt Design Group  |                |
| I 3. OBSTRUCT           | IONS MAY BE ENCOUNTE                       | RED DURING                  | EXCAVATION /                               | AND                            |  | 66 Bell Street, Unit 1<br>Seattle, WA 98121                      |                |
| SHORING/P               | PILE INSTALLATION. NO                      | TIFY ENGINEE<br>RUCTIONS PR | R OF RECORD                                | AND<br>LATION OF               |  | PH 206.239.0850  |                |
| PILES PER               | PLANS.                                     |                             |  |                                |  |  |                |
| 4. FOR EACH             | PILE UTILIZING LEAN                        | CONCRETE, TH                | E REQUIRED \                               | /OLUME OF<br>JRING             |  | ISSUE:   | —              |
|                         | ION. GROUTING OPERAT                       | IONS SHALL E                | BE STOPPED I                               | THE PUMPED                     |  | PERMIT   |                |
|                         | CENERAL STRUCTURAL                         | JULAILU GRUI                | ΟΙ VULUME ΒΊ                               | IU%.                           |  |  |                |
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|                         |  |                             |  |                                |  | Shoring Plan   |                |
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|                         |  |                             |  |                                |  | SCALE:   | _              |
|                         |  |                             |  |                                |  | $\frac{1/4" = 1'-0" U.N.C}{DATE}$                                | )              |
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PROJECT NO:

November 30, 2020

01519-2020-15

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

![](_page_38_Figure_0.jpeg)

|      | STEP LAGGING PER<br>4/SH3.1, TYP. |            |                      |
|------|-----------------------------------|------------|----------------------|
| 130' |                                   | - — — 130' | 1 <i>30'</i> — — — — |
|      |                                   |            |                      |
| 120' |                                   |            | 120'                 |
| 110' |                                   |            |                      |
| 100' |                                   |            | 100'                 |
| 90'  |                                   | <br><br>   |                      |

| Legend |                              | North |
|--------|------------------------------|-------|
|        | APPROXIMATE TOP OF GRADE     |       |
| ·      | BOTTOM OF EXCAVATION         |       |
| Px     | STEEL PILE PER PLAN/SCHEDULE |       |
|        | 4x   AGGING                  |       |

# h Shoring Elevation LOOKING NORTH Scale: 1/4" = 1'-0"

| Legend   |                              |
|----------|------------------------------|
|          | APPROXIMATE TOP OF GRADE     |
| <u> </u> | BOTTOM OF EXCAVATION         |
| Px       | STEEL PILE PER PLAN/SCHEDULE |
|          | 4x LAGGING                   |

STEP LAGGING PER 4/SH3.1, TYP.

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| 6<br>       | - 130'<br>-                            | 2124 Third Avenue - Suite 100 - Seattle, WA 98121         2124 Third Avenue - Suite 100 - Seattle, WA 98121         2124 Third Avenue - Suite 100 - Seattle, WA 98121         2124 Third Avenue - Suite 100 - Seattle, WA 98121         2124 Third Avenue - Suite 100 - Seattle, WA 98121         2124 Third Avenue - Suite 100 - Seattle, WA 98121         2124 Third Avenue - Suite 100 - Seattle, WA 98121         2125 Third Avenue - Suite 100 - Seattle, WA 98121         2126 Third Avenue - Suite 100 - Seattle, WA 98121         2127 Third Avenue - Suite 100 - Seattle, WA 98121         2128 Third Avenue - Suite 100 - Seattle, WA 98121         2129 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121         2120 Third Avenue - Suite 100 - Seattle, WA 98121 <td< th=""></td<> |
|-------------|--|---|
|             | -<br>-<br>- 120'                       | DESIGN:       HAA, BDM         DRAWN:       HUD   |
|             | -<br>- 110'<br>-                       | NHD<br>CHECKED: BDM<br>APPROVED: DJS  |
|             | -<br>- 100'<br>-                       |   |
|             | -<br>- 90'                             | DPD:  |
| East Shorii | LOOKING EAST<br>Scale: $1/4$ " = 1'-0" | PROJECT TITLE:<br><b>Kahan Spec Home</b><br>8163 West Mercer Way<br>Mercer Island, WA 98040   |
|             |  | ARCHITECT:<br><b>Brandt Design Group</b><br>66 Bell Street, Unit 1<br>Seattle, WA 98121<br>PH 206.239.0850  |
|             |  | ISSUE:<br>PERMIT  |
|             |  | SHEET TITLE:<br>Scale:<br>1/4" = 1'-0" U.N.O.<br>DATE:<br>November 30, 2020<br>PROJECT NO:<br>01519-2020-15<br>SHEET NO:  |
|             |  | SHEET NO:   |

![](_page_40_Figure_0.jpeg)

| Legend   |                              | South |
|----------|------------------------------|-------|
|          | APPROXIMATE TOP OF GRADE     |       |
| <u> </u> | BOTTOM OF EXCAVATION         |       |
| Px       | STEEL PILE PER PLAN/SCHEDULE |       |
|          | 4x LAGGING                   |       |

| — —  1.30'  | 1.30'       | 24         |          | 2        |
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| <i>90</i> ' | 90'         |            |          |          |
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# h Shoring Elevation LOOKING SOUTH Scale: 1/4" = 1'-0"

| Legend   | Legend                       |  |  |
|----------|------------------------------|--|--|
|          | APPROXIMATE TOP OF GRADE     |  |  |
| <u> </u> | BOTTOM OF EXCAVATION         |  |  |
| Px       | STEEL PILE PER PLAN/SCHEDULE |  |  |
|          | 4x LAGGING                   |  |  |

|          |              |                                     | STRUCTURAL   |
|----------|--------------|-------------------------------------|--|
| <u> </u> |              | - <i>130'</i>                       | 2124 Third Avenue - Suite 100 - Seattle, WA 98121<br>p: 206.443.6212 ssfengineers.com<br>934 Broadway - Tacoma, WA 98402<br>p: 253.284.9470 ssfengineers.com |
|          |              | _                                   | Copyright 2020 Swenson Say Fagét - All Rights Reserved   |
|          |              | -<br>-<br>- 120'                    | 23000 HOLE   |
|          |              | _                                   | DESIGN:  |
|          |              | _                                   | HAA, BDM<br>DRAWN: NHD   |
|          |              | _                                   | CHECKED:<br>BDM<br>APPROVED:   |
|          | <b>-</b>     | -                                   | DJS  |
|          | · — <u> </u> | - 110'                              |  |
|          |              | _                                   |  |
|          |              | _                                   | REVISIONS:   |
| <b>-</b> | <b>-</b>     | _                                   |  |
|          |              | - 100'                              |  |
|          |              | _                                   |  |
|          |              | _                                   | DPD:   |
|          |              | _                                   |  |
|          |              | -                                   |  |
|          |              | - 90'                               |  |
|          |              |                                     |  |
|          | East Shori   | LOOKING EAST<br>Scale: 1/4" = 1'-0" |  |
|          |              |                                     | PROJECT TITLE:<br><b>Kahan Spec Home</b><br>8163 West Mercer Way<br>Mercer Island, WA 98040  |
|          |              |                                     | ARCHITECT:<br><b>Brandt Design Group</b><br>66 Bell Street, Unit 1<br>Seattle, WA 98121<br>PH 206.239.0850   |
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|          |              |                                     | SHEET TITLE:<br>Shoring<br>Elevations  |
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|          |              |                                     | SHEET NO.  |

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| 120'              |          |                     |             |       |               |                |                      |                                     |          |           |          |  |
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|             | APPROXIMATE TOP OF GRADE     |
|-------------|------------------------------|
| ·           | BOTTOM OF EXCAVATION         |
| — <i>Px</i> | STEEL PILE PER PLAN/SCHEDULE |
|             | 4x LAGGING                   |

|   |                       |          |            |                    |                                      | STRUCTURAL<br>ENGINEERING  |
|---|-----------------------|----------|------------|--------------------|--------------------------------------|--|
|   |                       |          | - <u> </u> |                    | - <i>130'</i>                        | 2124 Third Avenue - Suite 100 - Seattle, WA 98121<br>p: 206.443.6212 ssfengineers.com<br>934 Broadway - Tacoma, WA 98402<br>p: 253.284.9470 ssfengineers.com |
|   | 25                    |          |            |                    | _                                    | Copyright 2020 Swenson Say Fagét - All Rights Reserved   |
|   |                       |          |            |                    | -<br>- 120'                          | CHARLENGTON AL ENGINE  |
|   |                       |          |            |                    | -                                    | DESIGN:<br>HAA, BDM<br>DRAWN:<br>NHD   |
|   |                       |          |            |                    | -                                    | CHECKED:<br>BDM<br>APPROVED:<br>DJS  |
|   |                       |          |            |                    | - 110'                               |  |
|   |                       |          |            |                    | _                                    | REVISIONS:   |
|   |                       | <b>I</b> |            |                    | -                                    |  |
|   |                       |          |            | <u>■</u><br>■<br>■ | - 100'                               |  |
|   |                       | <b>I</b> | _<br>L     |                    | -                                    | DPD:   |
|   |                       |          |            |                    | -                                    |  |
| J |                       | <b>B</b> |            |                    | - 90'<br>-                           |  |
|   |                       | II       |            |                    | _                                    |  |
|   |                       |          | <b>-</b>   |                    | -                                    | PROJECT TITLE:   |
|   | ▐─╴─╴╶┨╶╴<br>┖╶╶╶╶╹┛╶ |          |            |                    | - 80'                                | Kahan Spec Home<br>8163 West Mercer Way  |
|   |                       | <b>I</b> |            |                    | -                                    | MELLEI ISIAIIU, WA YOUHU   |
|   |                       |          |            |                    | - 70'                                | ARCHITECT:   |
|   |                       |          |            |                    | - 70                                 | 66 Bell Street, Unit 1<br>Seattle, WA 98121<br>PH 206.239.0850   |
|   |                       |          |            | South Shori        | LOOKING SOUTH<br>Scale: 1/4" = 1'-0" | ISSUE:   |
|   |                       |          |            |                    | ,                                    | PERMIT<br>SHEET TITLE:   |
|   |                       |          |            |                    |                                      | Shoring<br>Elevations  |
|   |                       |          |            |                    |                                      | SCALE:<br>   |

SH4.3

PROJECT NO: 01519-2020-15
SHEET NO:

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

|  |           |                |              |          | STEP LAGGIN<br>4/SH3.1, TY | <br>NG PER<br>P. |            |        |                       |   |        |              |
|--|-----------|----------------|--------------|----------|----------------------------|------------------|------------|--------|-----------------------|---|--------|--------------|
|  |           |                |              |          |                            |                  |            |        |                       |   |        |              |
| 120'— — — — — — –                        | <u>q`</u> | <u> </u>       |              | <u>_</u> |                            |                  |            |        |                       |   |        |              |
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|  |           |                |              |          |                            |                  |            |        |                       |   |        | <b>I</b>     |
| 110'                                     |           | <b>I</b> — — - |              |          |                            |                  |            |        |                       |   |        | ·            |
|  |           |                |              |          |                            |                  | 1<br>)<br> |        | )<br>(<br>)<br>(<br>) |   |        |              |
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| 100'— — — — — — –                        | ▲         |                |              | ■        | ■                          | ■                | ■          | ■      |                       | ■   | ■      |              |
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|  | 📕         |                |              |          | ■                          |                  |            |        | ▋                     |   |        | <b>—</b>     |
|  | <b>_</b>  |                |              |          |                            |                  |            |        |                       |   |        |              |
| 90' <u> </u>                             | ₽         | ∎<br>-∎        | ∎<br>        | ■<br>■   | ■<br>■                     | ■<br>■           | ■<br>■     | ■<br>■ | ∎<br>∎                | ■<br>■  | ■<br>■ |              |
| 50                                       |           | i              |              |          |                            |                  |            |        |                       |   |        |              |
|  |           |                |              |          |                            |                  |            |        |                       |   |        |              |
|  | <u>-</u>  |                |              |          |                            |                  |            |        |                       |   |        |              |
|  |           |                |              |          |                            |                  |            |        |                       |   |        | <b>-</b> -   |
|  | <b>-</b>  |                |              |          |                            |                  |            |        |                       |   |        |              |
| 80'— — — — — — — — — — — — — — — — — — — |           | ┇──-           | $\mathbf{I}$ |          |                            |                  |            |        |                       |   |        |              |
|  |           |                |              |          |                            |                  |            |        |                       |   |        |              |
|  |           |                |              |          |                            |                  |            |        |                       |   |        |              |

|        |  | STRUCTURAL<br>ENGINEERING  |
|--------|--|--|
|        | — — <i>130'</i>  | 2124 Third Avenue - Suite 100 - Seattle, WA 98121<br>p: 206.443.6212 ssfengineers.com<br>934 Broadway - Tacoma, WA 98402<br>p: 253.284.9470 ssfengineers.com |
|        |  | Copyright 2020 Swenson Say Fagét - All Rights Reserved   |
|        | — — 120'<br>   | DESIGN:<br>HAA, BDM  |
|        |  | DRAWN: NHD<br>CHECKED: BDM<br>APPROVED: DJS  |
|        | — — <i>110'</i>  |  |
|        |  | REVISIONS:   |
|        | — — <i>100'</i>  |  |
|        |  | <br>DPD:   |
|        | — — <i>90'</i>   |  |
|        |  |  |
|        | — — 80'<br>  | PROJECT TITLE:<br>Kahan Spec Home<br>8163 West Mercer Way<br>Mercer Island, WA 98040   |
|        | <br>   |  |
|        | — — <i>70</i> ′  | ARCHITECT:<br>Brandt Design Group<br>66 Bell Street, Unit 1<br>Seattle, WA 98121<br>PH 206.239.0850  |
| West S | Shoring Elevation<br>LOOKING WEST<br>Scale: 1/4" = 1'-0" |  |
|        | Scule. $74 = 1 - 0$                                      |  |
|        |  | Shoring<br>Elevations  |

| SCALE:      | 1/4" = 1'-0" U.N.O. |
|-------------|---------------------|
| DATE:       |                     |
|             | November 30, 2020   |
| PROJECT NO: |                     |
|             | 01519-2020-15       |
| SHEET NO:   |                     |
|             |                     |

SH4.4

![](_page_43_Figure_1.jpeg)

|          | APPROXIMATE TOP OF GRADE     |
|----------|------------------------------|
| <u> </u> | BOTTOM OF EXCAVATION         |
| Px       | STEEL PILE PER PLAN/SCHEDULE |
|          | 4x LAGGING                   |

|            | <i>P</i> 45  | <br> | <i>P46</i>                   | <br> | <br> | 120         |
|------------|--------------|------|------------------------------|------|------|-------------|
| <br>       |              | <br> |                              | <br> | <br> |             |
|            |              | <br> |                              | <br> | <br> | 110'        |
|            |              | <br> | ·                            | <br> | <br> |             |
|            | <br>         | <br> |                              | <br> | <br> |             |
|            | - <b>-</b>   | <br> |                              | <br> | <br> | 100'        |
|            | ■<br>-∎-     | <br> |                              | <br> | <br> |             |
|            |              | <br> |                              | <br> | <br> |             |
|            | - <b>]</b> - | <br> | · - <b>I</b> -<br><b>I</b> - | <br> | <br> | 90'         |
|            |              | <br> |                              | <br> | <br> |             |
|            |              | <br> |                              | <br> | <br> |             |
|            |              | <br> |                              | <br> | <br> | 80'         |
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|            |              | <br> |                              | <br> | <br> |             |
| . <u> </u> |              | <br> |                              | <br> | <br> | 70 <b>'</b> |

# North Shoring Elevation LOOKING NORTH Scale: 1/4" = 1'-0"

![](_page_43_Picture_7.jpeg)

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

#### ISSUE:

#### PERMIT

SHEET TITLE:

#### Shoring Elevations

| SCALE:      |                     |
|-------------|---------------------|
|             | 1/4" = 1'-0" U.N.O. |
| DATE:       |                     |
|             | November 30, 2020   |
| PROJECT NO: |                     |
|             | 01519-2020-15       |
| SHEET NO:   |                     |

SH4.5

| 110'                 | 110'               | 120 - | <br>  |   |   | _ | _ |   | · - |   |   |
|----------------------|--------------------|-------|-------|---|---|---|---|---|-----|---|---|
| 110'                 | 110'               | -     | <br>_ | _ | _ | _ | _ | _ | _   | _ | _ |
| 110'                 | 110'               | -     | <br>_ | _ | _ | _ | _ | _ | _   |   |   |
| 110'                 | 110'               | -     | <br>_ | _ | _ | _ | _ | _ | _   | _ | _ |
| 110'                 | 110'               | -     | <br>_ | _ | _ | _ | _ | _ | _   | _ | _ |
| 100'                 | 100'               | 110'- | <br>  |   |   | _ |   |   |     |   |   |
| 100'                 | 100'               | -     | <br>_ | _ | _ | _ | _ | _ | _   | _ | _ |
| 100'                 | 100'               | -     | <br>_ | _ | _ | _ | _ | _ | _   | _ | _ |
| 100'                 | 100'               | -     | <br>_ | - | _ | _ | _ | _ | _   | _ | _ |
| 100'                 | 100'               | -     | <br>_ | _ | _ | _ | - | _ | _   | _ | _ |
| 90'                  | 90'                | 100'- | <br>  |   |   | _ | _ |   | · _ |   |   |
| 90'                  | 90'                | -     | <br>_ | _ | _ | _ | _ | _ | _   | _ | _ |
| 90'                  | 90'                | -     | <br>- | - | _ | _ | _ | _ | _   | _ | _ |
| 90'                  | 90'                | -     | <br>_ | _ | _ | _ | - | _ | _   | - | _ |
| 90'                  | 90'                | -     | <br>_ | - | _ | _ | - | _ | _   | - | _ |
| 80'                  | 80'                | 90'-  | <br>  |   |   |   | _ |   | · _ |   |   |
| 80' <u> </u>         | 80' <u> </u>       | -     | <br>_ | _ | _ | _ | - | _ | _   | - | _ |
| 80'                  | 80' <u> </u>       | -     | <br>_ | - | _ | - | - | _ | _   | _ | _ |
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APPROXIMATE TOP OF GRADE BOTTOM OF EXCAVATION STEEL PILE PER PLAN/SCHEDULE 4x LAGGING

|       | <u>_</u> | 9 — — — — <u> </u> | <u>&gt;</u> | <u> </u>                              | <u> </u>      |
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| <u>4</u> 20 |     |   |     |   |     |   |   |            | 100 | - ·      |   |   |              |       |     |     |     | _ | 120'        |
|-------------|-----|---|-----|---|-----|---|---|------------|-----|----------|---|---|--------------|-------|-----|-----|-----|---|-------------|
|             | _   | _ | _   | _ | _   | _ | _ | _          | -   | <b>-</b> | _ | _ | _            | -     | _   | -   | -   | - |             |
|             | _   | _ | _   | _ | _   | _ | _ | _          | _   | _        |   |   | ··· <u> </u> | · B.0 | .E. | BEY | OND | _ |             |
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| _           |     |   |     |   |     |   |   |            | -   |          |   | _ |              |       |     |     |     | _ | 110'        |
|             | _   | _ | _   | _ | _   | _ | _ | _          | _   | _        | _ | _ | _            | _     | _   | _   | _   | _ |             |
|             | • – | _ | • — | _ | • — |   | _ | <b>-</b> · | -   |          |   |   |              |       |     |     |     |   |             |
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|             |     |   |     |   |     |   |   |            |     |          |   |   |              |       |     |     |     |   | 100'        |
|             |     |   |     |   |     |   |   |            |     |          |   |   |              |       |     |     |     |   |             |
|             | _   | _ | _   | _ | _   | _ | _ | _          |     |          | _ | _ | _            | _     | _   | _   | _   | - |             |
|             | —   | _ | _   | _ | _   | _ | _ | _          |     | L        | _ | _ | _            | _     | _   | _   | _   | - |             |
| _           | _   | _ | _   | _ | _   | _ | _ | _          |     |          | _ | _ | _            | _     | _   | _   | _   | - |             |
|             | _   | _ | _   | _ | _   | _ | _ | _          | _   | <b>-</b> | _ | _ | _            | _     | _   | _   | _   | _ |             |
|             |     |   |     |   |     |   |   |            |     | -<br>L   |   |   |              |       |     |     |     |   | <i>00</i> ' |
|             |     |   |     |   |     |   |   |            |     |          |   |   |              |       |     |     |     |   | 90          |
| _           | _   | _ | _   | - | _   | _ | _ | _          |     |          | _ | _ | -            | _     | _   | _   | _   | - |             |
|             | -   | _ | _   | _ | _   | - | _ | _          | _   | -        | _ | _ | _            | -     | _   | _   | _   | - |             |
|             | _   | _ | _   | _ | _   | _ | _ | _          |     |          | _ | _ | _            | _     | _   | _   | _   | _ |             |
| _           | _   | _ | _   | _ | _   | _ | _ | _          |     |          | _ | _ | _            | _     | _   | _   | _   | _ |             |
|             |     |   |     |   |     |   |   |            |     |          |   |   |              |       |     |     |     |   |             |
|             |     |   |     | • |     |   |   |            | -   | ┠╴╶<br>■ |   |   |              |       |     |     |     | _ | 80'         |
| _           | -   | _ | _   | _ | _   | _ | _ | _          |     | L_<br>   | _ | _ | —            | _     | —   | _   | _   | - |             |
| _           | _   | _ | _   | _ | _   | _ | _ | _          |     |          | _ | _ | _            | _     | _   | _   | _   | _ |             |
| _           | _   | _ | _   | _ | _   | _ | _ | _          |     |          | _ | _ | _            | _     | _   | _   | _   | _ |             |
|             |     |   |     |   |     |   |   |            |     |          |   |   |              |       |     |     |     |   |             |
| _           | -   | - | _   | - | -   | _ | _ | _          | _   | _        | _ | _ | _            | -     | _   | -   | -   | - |             |
|             |     |   |     |   |     |   |   |            |     |          |   |   |              |       |     |     |     | _ | 70'         |

East Shoring ElevationLOOKING EASTScale: 1/4" = 1'-0"

# STRUCTURAL ENGINEERING 2124 Third Avenue - Suite 100 - Seattle, WA 98121 p: 206.443.6212 ssfengineers.com 934 Broadway - Tacoma, WA 98402 p: 253.284.9470 ssfengineers.com Copyright 2020 Swenson Say Fagét - All Rights Reserved DESIGN: HAA, BDM DRAWN: NHD CHECKED: BDM APPROVED: DJS \_\_\_\_\_ REVISIONS: \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_ \_\_\_\_\_ \_ \_\_\_\_\_ PROJECT TITLE: Kahan Spec Home 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: PERMIT SHEET TITLE:

#### Shoring Elevations

| SCALE:      |                     |
|-------------|---------------------|
|             | 1/4" = 1'-0" U.N.O. |
| DATE:       |                     |
|             | November 30, 2020   |
| PROJECT NO: |                     |
|             | 01519-2020-15       |
| SHEET NO:   |                     |

SH4.6

![](_page_45_Figure_0.jpeg)

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APPROXIMATE TOP OF GRADE BOTTOM OF EXCAVATION STEEL PILE PER PLAN/SCHEDULE 6x LAGGING

#### South Shoring Elevation

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

![](_page_45_Picture_5.jpeg)

----

| 120'— —         |          |          | — — 120'        | 120'— — —    |
|-----------------|----------|----------|-----------------|--------------|
|                 |          |          |                 |              |
|                 |          |          |                 |              |
| <br>110'        |          |          | — — 110'<br>— — | <br>110'     |
|                 |          |          |                 |              |
| 100'— —         | <br>     | <br>     | — — <i>100'</i> | 100'— — —    |
|                 | <b>-</b> | <b>-</b> |                 |              |
| <br>90' <b></b> |          | <b>I</b> | — — <i>90</i> ' | <br>90'— — — |
|                 |          |          |                 |              |
| — — —<br>80'— — |          |          | <br>80'         | <br>80'— — — |
|                 |          |          |                 |              |
|                 |          |          |                 |              |
| 70'— —          |          |          | — <i>— 70'</i>  | 70'— — —     |

#### Legend

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- - - - - - -

APPROXIMATE TOP OF GRADE

STEEL PILE PER PLAN/SCHEDULE

BOTTOM OF EXCAVATION

6x LAGGING

West Shoring Elevation LOOKING WEST Scale: 1/4" = 1'-0"

Legend

\_ \_ \_ \_ \_ \_

\_\_\_\_ · \_\_\_\_

APPROXIMATE TO BOTTOM OF EXCA

STEEL PILE PER I 6x LAGGING

|                       |   | STRUCTURAL<br>ENGINEERING   |
|-----------------------|---|---|
|                       | — — 120'                                | 2124 Third Avenue - Suite 100 - Seattle, WA 98121<br>p: 206.443.6212 ssfengineers.com |
|                       |   | 934 Broadway - Tacoma, WA 98402<br>p: 253.284.9470 ssfengineers.com                   |
|                       |   | Copyright 2020 Swenson Say Fagét - All Rights Reserved                                |
|                       |   | J J J S   |
|                       |   |   |
|                       | — — 110'                                | CALL FRONT  |
|                       |   | SJONAL BROWN  |
|                       |   | DESIGN:<br>HAA, BDM   |
|                       |   | CHECKED:  |
|                       |   | APPROVED:<br>DJS  |
|                       | — — <i>100'</i>                         |   |
|                       |   |   |
|                       |   |   |
|                       |   | REVISIONS:  |
|                       |   |   |
|                       | — — <i>Q</i> ()'                        |   |
|                       |   |   |
|                       |   |   |
|                       |   | DPD:  |
|                       |   |   |
|                       | — <i>— 80'</i>                          |   |
|                       |   |   |
|                       |   |   |
|                       |   |   |
|                       |   |   |
|                       | — — <i>70'</i>                          | PROJECT TITLE:  |
|                       | 70                                      | Kahan Spec Home<br>8163 West Mercer Way   |
|                       |   | Mercer Island, WA 98040   |
| North Shori           | ng Elevation                            |   |
| IMATE TOP OF GRADE    | LOOKING NORTH<br>Scale: $1/4$ " = 1'-0" |   |
| ILE PER PLAN/SCHEDULE |   | ARCHITECT:<br>Brandt Design Group   |
| SING                  |   | 66 Bell Street, Unit 1<br>Seattle, WA 98121   |
|                       |   | PH 206.239.0850   |
|                       |   | ISSUE:  |
|                       |   | PERMIT  |
|                       |   | SHEET TITLE:  |
|                       |   | Shoring   |
|                       |   | Elevations  |
|                       |   | SCALE:<br>1/4" = 1'-0" U.N.O.   |
|                       |   | November 30, 2020 PROJECT NO:   |
|                       |   | SHEET NO:   |
|                       |   | SH4.7   |
|                       |   |   |

#### RMIT

#### oring vations

| SCALE:      |                     |
|-------------|---------------------|
|             | 1/4" = 1'-0" U.N.O. |
| DATE:       |                     |
|             | November 30, 2020   |
| PROJECT NO: |                     |
|             | 01519-2020-15       |
| SHEET NO:   |                     |