RAMBLER RESIDENCE

191 RAMBLER AVE
NEW MILFORD, NJ 07646

LOT: 23
BLOCK: 104

PROJECT DESCRIPTION:

ADDITION TO AN EXISTING ONE FAMILY HOUSE

TYPE OF WORK:

[ ] NEW BUILDING
[X] ADDITION
[ ] REHABILITATION
[ ] ROOFING
[ ] SIDING
[ ] FENCE _____ HEIGHT (EXCEEDS 6FT)
[ ] SIGN _____ SF
[ ] POOL
[ ] RETAINING WALL _____ SF
[ ] ASBESTOS ABATEMENT SUBCHAPTER 8
[ ] LEAD HAZ. ABATEMENT NJAC 5:17
[ ] RADON REMEDIATION
[ ] OTHER INTERIOR ALTERATIONS
[ ] DEMOLITION

UTILITIES NOTE:

APPLICABLE CODES

- CURRENT NEW JERSEY UNIFORM CONSTRUCTION CODE (NJUCC) DEFINED AS NEW JERSEY ADMINISTRATIVE CODE CHAPTER 23 (NJAC 5:23)
- REHABILITATION SUBCODE (NJAC 5:23-6) CURRENT OF 02.16.21
- INTERNATIONAL RESIDENTIAL CODE NJ ED. 2021
- NATIONAL ELECTRIC CODE (NFPA 70) 2020
- INTERNATIONAL FUEL GAS SUBCODE 2021
- NATIONAL STANDARD PLUMBING CODE 2021
- INTERNATIONAL ENERGY CONSERVATION CODE 2021

BUILDING CHARACTERISTICS

NO. OF STORIES:	2
BUILDING HEIGHT:	29.4 FT
AREA OF LARGEST FLOOR;	1363 SF
VOLUME OF NEW STRUCTURE:	34,479 CF
MAX LIVE LOAD:	40 PSF
MAX OCCUPANCY LOAD	13 OCCUPANTS
IF INDUSTRIALIZED BLDG- STATE APPROVED:	N/A HUD____
TOTAL LAND AREA DISTURBED:	900 SF APPROXIMATELY
FLOOD HAZARD ZONE:	GC TO VERIFY
BASE FLOOD ELEVATION:	N/A
WET LANDS	GC TO VERIFY
BUILDING TYPE:	R-5 (ONE OR TWO FAMILY RESIDENTIAL)
CONSTRUCTION TYPE:	V-B
SPRINKLER SYSTEM	NOT REQUIRED
NO OF EXIST	2

Drawing List

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DRAWING LEGEND

DETAIL TAG — X / A-X
SECTION MARKER — X / A-X
DRAWING LABEL — X DWG TITLE / SCALE
NORTH ARROW — N
ELEVATION NUMBER — ELEVATION 0"
ISSUE OR REVISION MARKER — X

ABBREVIATION

A.F.F.	ABOVE FINISH FLOOR
ALUM.	ALUMINUM
BLDG.	BUILDING
C.O.	CLEAN OUT
C.W.	COLD WATER
℄	CENTER LINE
CL.	CLOSET
CLG.	CEILING
CLNG.	CEILING
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
DEMO.	DEMOLITION
DISH W.	DISH WASHER
DN.	DOWN
DR.	DOOR
DWGS	DRAWINGS
ELEC.	ELECTRICAL
EX.	EXISTING
EXIST.	EXISTING
EXT.	EXTERIOR
FAM.	FAMILY
GC	GENERAL CONTRACTOR
GR.	GROSS
GWB	GYPSUM WALL BOARD
H.W.	HOT WATER
I. NO	ISSUE NUMBER
INT.	INTERIOR
LAV.	LAVATORY
LIC.	LICENSE
MFR'S	MANUFACTURERS
NO.	NUMBER
O.C.	ON CENTER
OPNG.	OPENING
PROP.	PROPOSED
PSF	POUNDS PER SF
R.A.	REGISTERED ARCHITECT
R. NO	REVISION NUMBER
REQ.	REQUIRED
SF.	SQUARE FOOT
SPEC.	SPECIFICATION
TYP.	TYPICAL
U.O.N	UNLESS OTHERWISE NOTED
V.I.F.	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WD	WOOD

ELECTRICAL LEGEND

- CM — CARBON MONOXIDE DETECTOR
- SM — SMOKE DETECTOR
- SC — SMOKE AND CARBON MONOXIDE DETECTOR
- CLG MOUNTED LIGHT FIXTURE
- T — RECESSED VAPOR PROOF LIGHT FIXTURE
- C — CLG MOUNTED LIGHT FIXTURE (FULLY ENCLOSED LAMP)
- CH — CHANDELIER
- PENDANT LIGHT FIXTURE
- F — LIGHT FIXTURE W/ FAN
- E — LIGHT FIXTURE W/ EXHAUST
- R — RECESSED LIGHT FIXTURE
- WP — WEATHER PROTECTED RECESSED LIGHT FIXTURE
- WALL MOUNTED LIGHT
- WP — WEATHER PROTECTED WALL MOUNTED LIGHT
- RECEPTACLE FLOOR MOUNTED
- $ — LIGHT SWITCH
- $3 — THREE WAY LIGHT SWITCH
- $4 — FOUR WAY LIGHT SWITCH
- DUPLEX RECEPTACLE CEILING MOUNTED
- DUPLEX RECEPTACLE 1'-6" A.F.F. (TAMPER PROOF)
- GFI — GROUND FAULT PROTECTED DUPLEX RECEPTACLE 1'-6" A.F.F. (TAMPER PROOF)
- WP — WEATHER PROTECTED GROUND FAULT PROTECTEDDUPLEX RECEPTACLE 1'-6" A.F.F.
- UC — GROUND FAULT PROTECTED UNDER COUNTERTOP DUPLEX RECEPTACLE MAX. 12" UNDER COUNTERTOP
- TV — CABLE/TV OUTLET 1'-6" A.F.F.
- PHONE
- FD — FLOOR DRAIN

AREA CALCULATIONS					
	EXISTING AREA	ADDED	PROPOSED AREA	PROPOSED CF AREA	REMARKS
CELLAR	798 sq ft	0 sq ft	798 sq ft		
FIRST FLOOR	804 sq ft	441 sq ft	1245 sq ft		
SECOND FLOOR	380 sq ft	983 sq ft	1363 sq ft		
ATTACHED GARAGE	222 sq ft	-9 sq ft	231 sq ft		
SHED	84 sq ft	0 sq ft	84 sq ft		
PORCH	33 sq ft	16 sq ft	49 sq ft		
DRIVEWAY	592 sq ft	0 sq ft	592 sq ft		
WALKWAYS AND STEPS	263 sq ft	-62 sq ft	201 sq ft		
PATIO	335 sq ft	-335 sq ft	0 sq ft		
ROOF OVERHANGS			180 sq ft		
BOROUGH OF NEW MILFORD RESIDENTIAL A ZONE					
	REQUIRED	EXISTING	PROPOSED		REMARKS
MIN LOT AREA	7500 SF	8983 SF	8983 SF		CONFORMING
MIN LOT WIDTH	75 FT	87 FT	87 FT		CONFORMING
FRONT YARD	30 FT	30.82 FT	30.1 FT		CONFORMING
REAR YARD	23.84 FT	36.42 FT	23.91 FT		CONFORMING
SIDE YARD 1	10 FT	14.84 FT	12.08 FT		CONFORMING
SIDE YARD 2	30 FT*	30.4 FT	30.4 FT		CONFORMING
MAX BUILDING COVERAGE	20.00%	12.36%	19.60%		CONFORMING
MAX IMPERVIOUS COVERAGE	40.00%	25.04%	28.74%		CONFORMING
STORIES	2 1/2	1 1/2	2		CONFORMING
HEIGHT	30 FT	VIF	29.4 FT		CONFORMING
MAX NUMBER OF FAMILIES PER BUILDING	1				
* IN CASE OF A CORNER LOT, THE EXTERIOR SIDE YARD SHALL BE NO LESS THAN THIRTY (30') FEET					

GENERAL NOTES

1. ALL NOTES HEREIN MENTIONED WITH THOSE ON THE VARIOUS DRAWINGS SHALL APPLY TO ALL DRAWINGS AND FORM PART OF THE CONTRACT.
2. ARCHITECT MAY ISSUE REVISIONS TO THESE CONSTRUCTION DOCUMENTS IN FORM OF ADDENDUMS, BULLETINS OR NOTES ON ARCHITECT APPROVED SHOP DRAWINGS. CONTRACTOR SHALL MAINTAIN RECORD OF ALL REVISIONS AND SHALL FOLLOW AND KEEP THE MOST CURRENT DRAWING SET AND NOTES AT THE JOB SITE.
3. ALL MATERIALS, EQUIPMENT AND TYPES OR METHODS OF CONSTRUCTION SHALL IN NO EVENT BE LESS THAN THAT NECESSARY TO CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE CODES, ACCESSIBILITY REQUIREMENTS, ORDINANCES, LAWS, ETC., OF THE REQUIRED GOVERNING AUTHORITIES AND ACCEPTED INDUSTRY STANDARDS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS, LICENSES, ETC. REQUIRED BY REGULATING AUTHORITIES HAVING JURISDICTION.
5. ALL WORKMANSHIP, MATERIAL, AND EQUIPMENT SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF OWNER ACCEPTANCE. ANY FAILURE OR DETERIORATION WITHIN THIS PERIOD SHALL BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
6. REQUESTS TO SUBSTITUTE ANY PRODUCT, TECHNIQUE, OR MATERIAL SHALL BE SUBMITTED IN WRITING FOR ARCHITECT'S APPROVAL. SAMPLES, PRODUCT INFORMATION, AND DRAWINGS SHALL BE REQUIRED PRIOR TO SUBSTITUTION APPROVAL. PROPOSED SUBSTITUTION SHALL BE OF EQUAL QUALITY AND PERFORMANCE SPECIFICATION TO THAT ORIGINALLY SPECIFIED.
7. ALL MATERIALS, FINISHES, MANUFACTURED ITEMS, AND EQUIPMENT SHALL BE INSTALLED IN FULL ACCORDANCE WITH THE SUPPLIER'S OR MANUFACTURER'S WRITTEN RECOMMENDATIONS OR THESE DOCUMENTS, WHICHEVER IS MORE STRINGENT.
8. CONTRACTOR SHALL REVIEW THESE PLANS THOROUGHLY, MAKE A DETAILED SITE VISIT, VERIFY ALL EXISTING CONDITIONS AND ESTABLISH THE COMPATIBILITY OF ALL NEW WORK WITH THE EXISTING CONDITIONS AND SHALL IMMEDIATELY BRING ANY INCONSISTENCY, SITE LAYOUT PROBLEM, OR ANY OTHER REQUEST FOR CLARIFICATION TO THE ARCHITECT FOR RESOLUTION PRIOR TO THE DELIVERY OF ANY BID AND/OR COMMENCING WORK. FAILURE TO DO SO SHALL CAUSE THE CONTRACTOR TO BE INELIGIBLE FOR EXTRAS RELATING TO SUCH MATTERS.
9. CONTRACTOR SHALL SUBMIT REPRODUCIBLE SHOP DRAWINGS FOR ARCHITECT'S APPROVAL.
10. CONTRACTOR SHALL COORDINATE WITH ALL TRADES TO PROVIDE COMPLETE WORKING SYSTEMS.
11. DRAWINGS OF EXISTING FACILITIES ARE, IN GENERAL, DIAGRAMMATIC. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR FROM FIELD MEASUREMENTS TAKEN BY CONTRACTOR'S PERSONNEL. ACTUAL ARRANGEMENT OF THE WORK SHALL FOLLOW LOCATIONS SHOWN ON THE DRAWINGS WITHIN THE CONSTRAINTS OF EXISTING EQUIPMENT AND CONSTRUCTION. DIMENSIONS SHALL GOVERN THESE DRAWINGS AND THEY ARE NOT TO BE SCALED. DRAWINGS AND NOTES ARE CORRELATIVE AND HAVE EQUAL AUTHORITY AND PRIORITY. SHOULD THERE BE DISCREPANCIES IN THEMSELVES OR BETWEEN THEM, CONTRACTOR SHALL BASE BID PRICING ON THE MOST EXPENSIVE COMBINATION OF QUALITY AND/OR QUANTITY OF THE WORK INDICATED. IN THE EVENT OF DISCREPANCIES, THE APPROPRIATE METHOD OF PERFORMING THE WORK AND/OR ITEMS TO BE INCORPORATED INTO THE SCOPE OF THE WORK SHALL BE DETERMINED BY THE ARCHITECT.
12. CONTRACTOR IS RESPONSIBLE FOR THE SAFETY, ACTIONS AND CONDUCT OF HIS EMPLOYEES AND HIS SUBCONTRACTORS' EMPLOYEES WHILE IN THE PROJECT AREA, ADJACENT AREAS AND IN THE BUILDING AND ITS VICINITY.
13. THE OWNER RESERVES THE RIGHT AT ALL TIMES TO DELIVER, PLACE AND INSTALL EQUIPMENT AND FURNISHINGS AS THE WORK PROGRESSES, SO LONG AS THERE IS NO INTERFERENCE WITH THE WORK OF THE CONTRACTORS.

GENERAL FLOOR PLAN NOTES

1. ALL CONDITIONS, LAYOUTS, ETC. LABELED AS 'TYPICAL' INDICATE THE EXTENT OF WORK TO BE EXECUTED FOR ALL OTHER ROOMS, SPACES, ETC. OF THE SAME USE OR TYPE. REPETITIVE FEATURES NOT COMPLETELY DESCRIBED AND/OR DETAILED SHALL BE CONSTRUCTED IN EXACT ACCORDANCE WITH CORRESPONDING FEATURES THAT ARE COMPLETELY DESCRIBED OR DETAILED.
2. ALL DIMENSIONS ARE ACTUAL AND MEASURED FROM FACE OF 'FINISHED WALL/FRAMING' U.O.N.
3. CONTRACTOR SHALL FURNISH AND INSTALL NEW PARTITIONS AS SHOWN. ALL WALLS AND/OR PARTITIONS SHALL EXTEND FROM FLOOR SLAB TO UNDERSIDE OF SLAB CONSTRUCTION ABOVE, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL MAINTAIN OR RESTORE, AS REQUIRED, THE INTEGRITY OF EXISTING RATED PARTITIONS ALTERED DURING THE COURSE OF CONSTRUCTION. WHERE NEW PARTITIONS INTERSECT WITH EXISTING, ATTACH AS REQUIRED TO MAINTAIN RIGIDITY. MATCH EXISTING WALL TEXTURE. PROVIDE FINISH AS SCHEDULED.
4. CONTRACTOR SHALL FURNISH AND INSTALL DOORS, DOOR HARDWARE, AS PER OWNER'S SPECIFICATIONS. PAINT EDGES OF DOOR WITH LACQUER TO MATCH FACE COLOR.
5. CONTRACTOR SHALL FURNISH AND INSTALL MILLWORK AS PER OWNER'S SPECIFICATIONS AND PROVIDE FIRE RETARDANT TREATED BLOCKING IN WALLS FOR SUPPORT OF MILLWORK.
6. CONTRACTOR SHALL FURNISH AND INSTALL FLOOR AND WALL FINISHES, PLUMBING FIXTURES AS PER OWNER'S SPECIFICATIONS.

WALL LEGEND

- EXISTING CONSTRUCTION TO BE REMOVED
- U.O.N. EXISTING CONSTRUCTION TO REMAIN
- **2x4 INTERIOR PARTITION WALL**
  1/2" GWB
  2X4 WD STUDS @ 16" O.C.
  1/2" GWB
- **2x4 INTERIOR LOAD BEARING WALL**
  1/2" GWB
  2X4 WD STUDS @ 16" O.C.
  ((2) 2X4 @ 16" O.C. AT FIRST FLOOR AND BASEMENT)
  1/2" GWB
- **2x6 INTERIOR PARTITION GARAGE WALL (POSSIBLE LOAD BEARING, SEE PLANS)**
  1/2" GWB
  2X6 WD STUDS @ 16" O.C. W/ R-19 WOOL INSULATION
  5/8" TYPE X GWB (GARAGE SIDE)
- **2x6 EXT.WALL**
  SIDING AS SPECIFIED (SEE ELEVATIONS)
  1X3 TREATED WOOD @ 16" O.C. (INSTALL AS PER TABLE 703.15.2)
  1.5" R-6.5 HIGH DENSITY EPS INSUL (R 4.2 PER INCH)
  POLYURETHANE FOAM ADHESIVE
  VAPOR PERMIABLE, FLUID APPLIED AIR AND WATER RESISTIVE MEMBRANE
  CS-WSP SHEATHING AS SPECIFIED
  2X6 WD STUDS @ 16" O.C. W/ R-21C HIGH DENSITY FACED BATT INSUL. BTWN STUDS
  U.O.N. 1/2" GWB
- **CMU WALLS**
  FINISH AS SPECIFIED (SEE ELEVATIONS)
  PROPOSED 8" CMU WALL (SEE PLANS)
- **EXT CMU WALLS**
  FINISH AS SPECIFIED (SEE ELEVATIONS)
  EXISTING FOUNDATION WALL
  VAPOR BARRIER W/ JOINTS TAPED/SEALED W/ FOAM JOINT TAPE
  2X6 WD STUDS @ 16" O.C. W/ R-19 FACED BATT INSUL. BTWN STUDS
  U.O.N. 1/2" GWB

OTHER LEGEND ON PLANS

- HANGER ROD AND 14" SHELF AT 5'-8" A.F.F. AS SELECTED BY OWNER
- LINE OF COFFERED OR TRAY CEILING ABOVE AS SPECIFIED BY OWNER

STRUCTURAL LEGEND

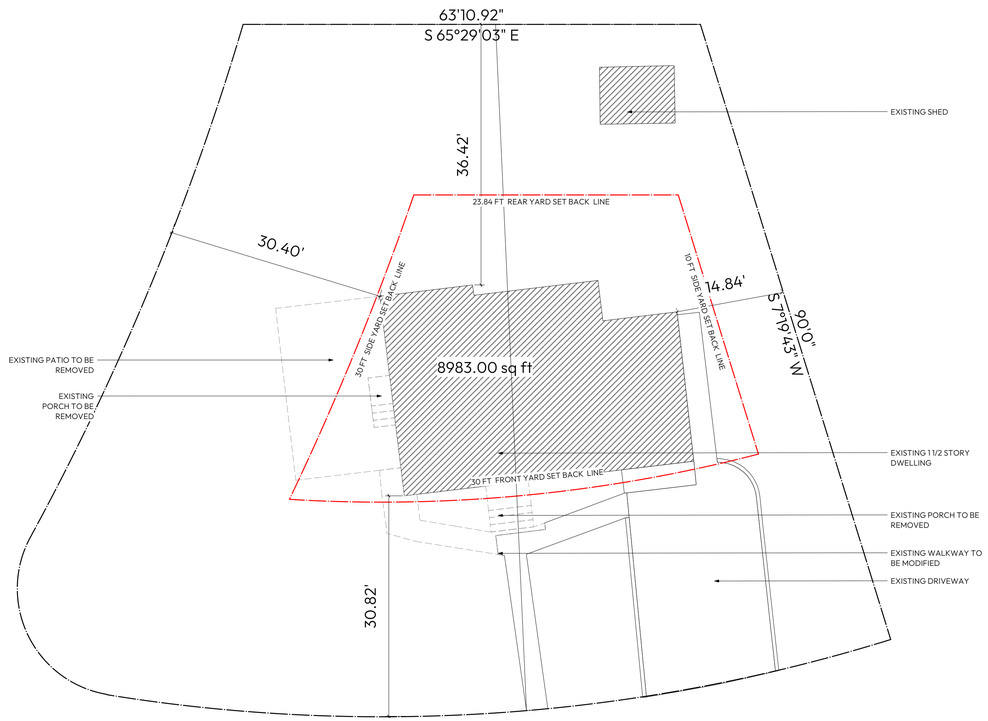
JOIST DIRECTION
U.O.N. SPAN FROM EXTERIOR WALLS TO LOAD BEARING WALLS
DO NOT CUT JOISTS OVER PARITITON WALLS
EXTENT OF JOIST SPACING

- (2) 2X4 POST
- (3) 2X4 POST
- (4) 2X4 POST
- (2) 2X6 POST
- (3) 2X6 POST
- (4) 2X6 POST
- 4X4 POST
- (2) 4X4 POST

DESIGN LOADS

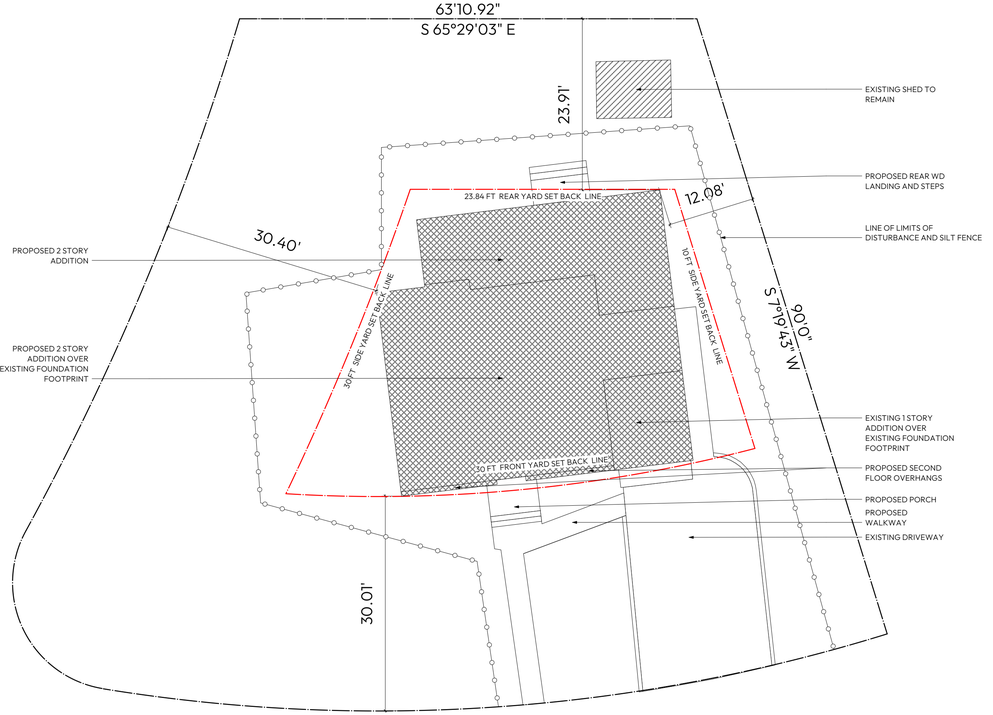
	LIVE LOAD
- ATTICS WITHOUT STORAGE	10 PSF
- ATTICS WITH LIMITED STORAGE	20 PSF
- HABITABLE ATTICS AND ATTICS SERVED WITH FIXED STAIRS	30 PSF
- DECKS	40 PSF
- EXTERIOR BALCONIES	60 PSF
- FIRE ESCAPES	40 PSF
- GUARDRAILS AND HANDRAIL	200 P
- GUARDRAIL IN-FILL COMPONENTS	50 PLF
- PASSENGER VEHICLE GARAGES	50 PSF OR 2000 POUNDS OVER 20 SQ IN
- ROOMS OTHER THAN SLEEPING ROOM	40 PSF
- SLEEPING ROOMS	30 PSF
- STAIRS	40 PSF OR 300 POUNDS OVER 4 SQ IN

GROUND SNOW LOAD:	30 PSF
DESIGN SNOW LOAD:	25 PSF
3-SECOND GUST, Vult:	115 MPH
NOMINAL DESIGN WIND SPEED FASTEST MILE, Vasd:	89 MPH
EXPOSURE:	B
ENCLOSURE:	ENCLOSED
SEISMIC DESIGN CATEGORY:	N/A
WEATHERING:	SEVERE
FROST LINE DEPTH:	3'-0"
TERMITE:	



1 EXISTING SITE PLAN
Scale: 1" = 10'-0"

SITE PLAN INFORMATION TAKEN FROM SURVEY PREPARED BY LAND SURVEYOR LICENSE NO. 24100, JAMES P. DEADY SURVEYOR, LLC, 295 ROUTE 22 EAST, ONE SALEM SQUARE SUITE 202 WEST, WHITEHOUSE STATION NJ 08889 DATE 10/07/25



2 PROPOSED SITE PLAN
Scale: 1" = 10'-0"

SITE PLAN INFORMATION TAKEN FROM SURVEY PREPARED BY LAND SURVEYOR LICENSE NO. 24100, JAMES P. DEADY SURVEYOR, LLC, 295 ROUTE 22 EAST, ONE SALEM SQUARE SUITE 202 WEST, WHITEHOUSE STATION NJ 08889 DATE 10/07/25

R No.	Date	Notes
1	11/6/2025	Permit Set

I No.	Date	Notes

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Project ID: 20251001
Project date: 10.20.2025
Sheet Date: 11/6/2025

Sheet Title
GENERAL NOTES

Scale: As Noted

Sheet No.: A-1 of 11

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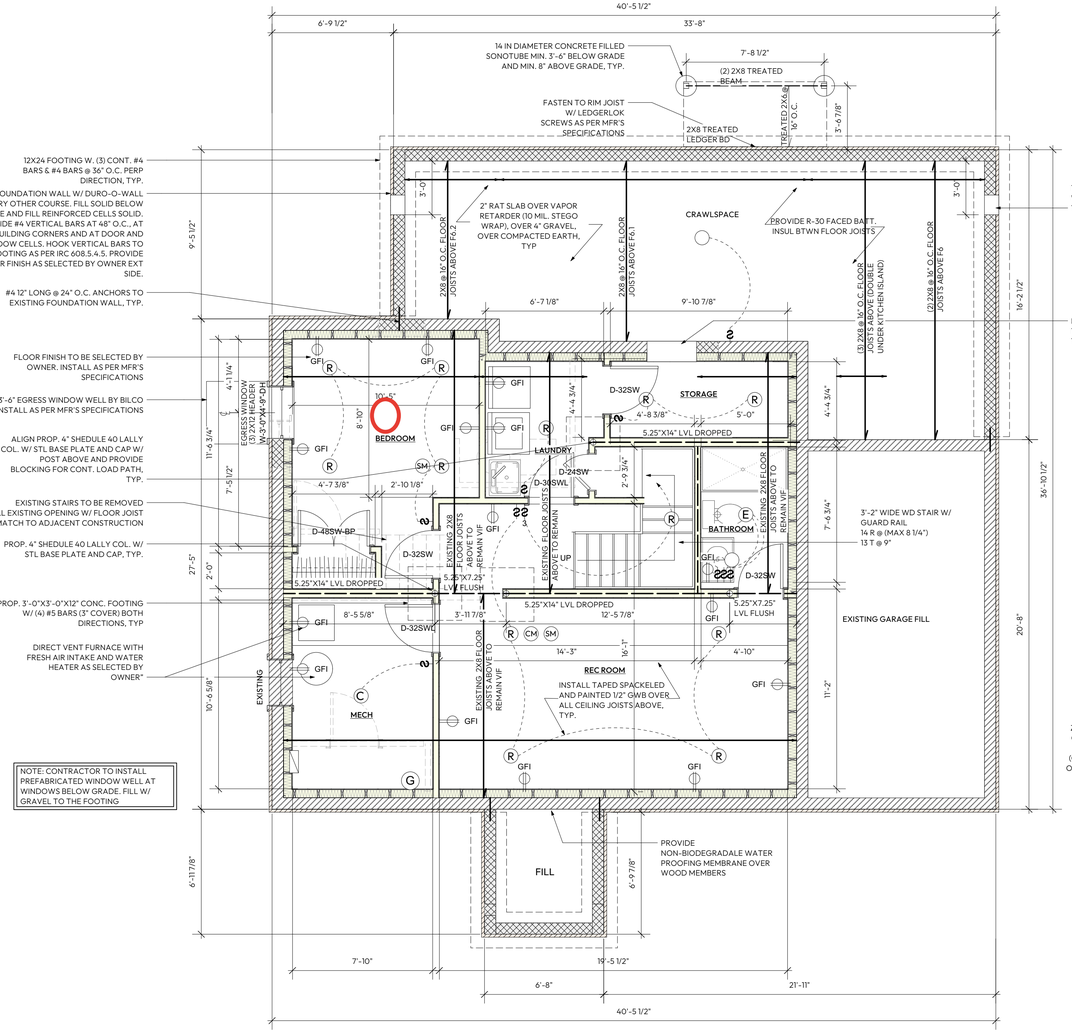
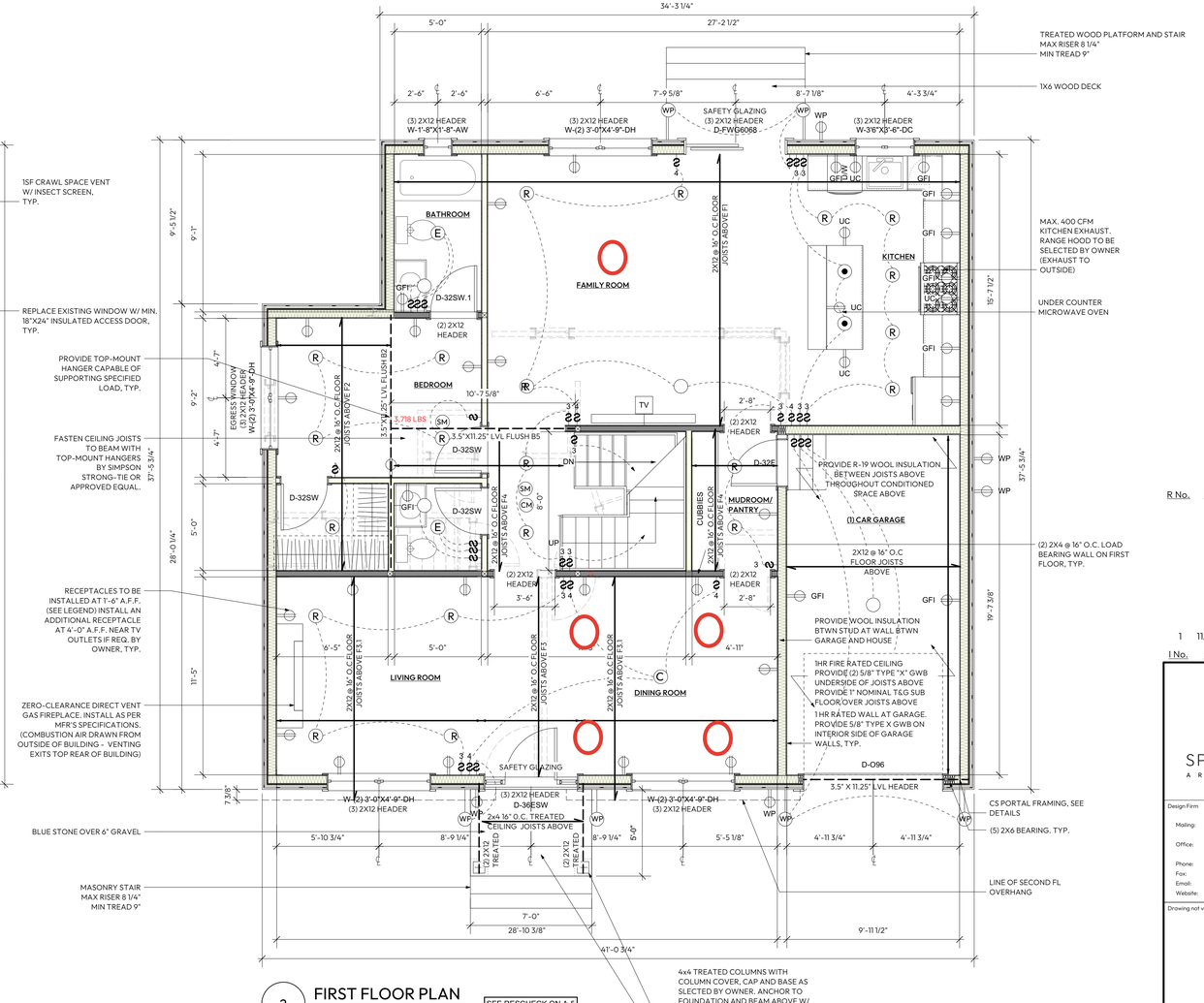


1 CELLAR FLOOR PLAN

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

EXISTING AREA: 798 SF

SEE RESCHECK ON A-5



2 FIRST FLOOR PLAN

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

PROPOSED AREA: 1245 SF

PROPOSED GARAGE AREA: 231 SF

SEE RESCHECK ON A-5

R No.	Date	Notes
1	11/6/2025	Permit Set

I No.	Date	Notes

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Drawing not valid unless sealed

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Project ID
20251001

Project date	Sheet Date
10.20.2025	11/6/2025

Sheet Title
FLOOR PLANS

Scale
As Noted

Sheet No.
A-2
of
11

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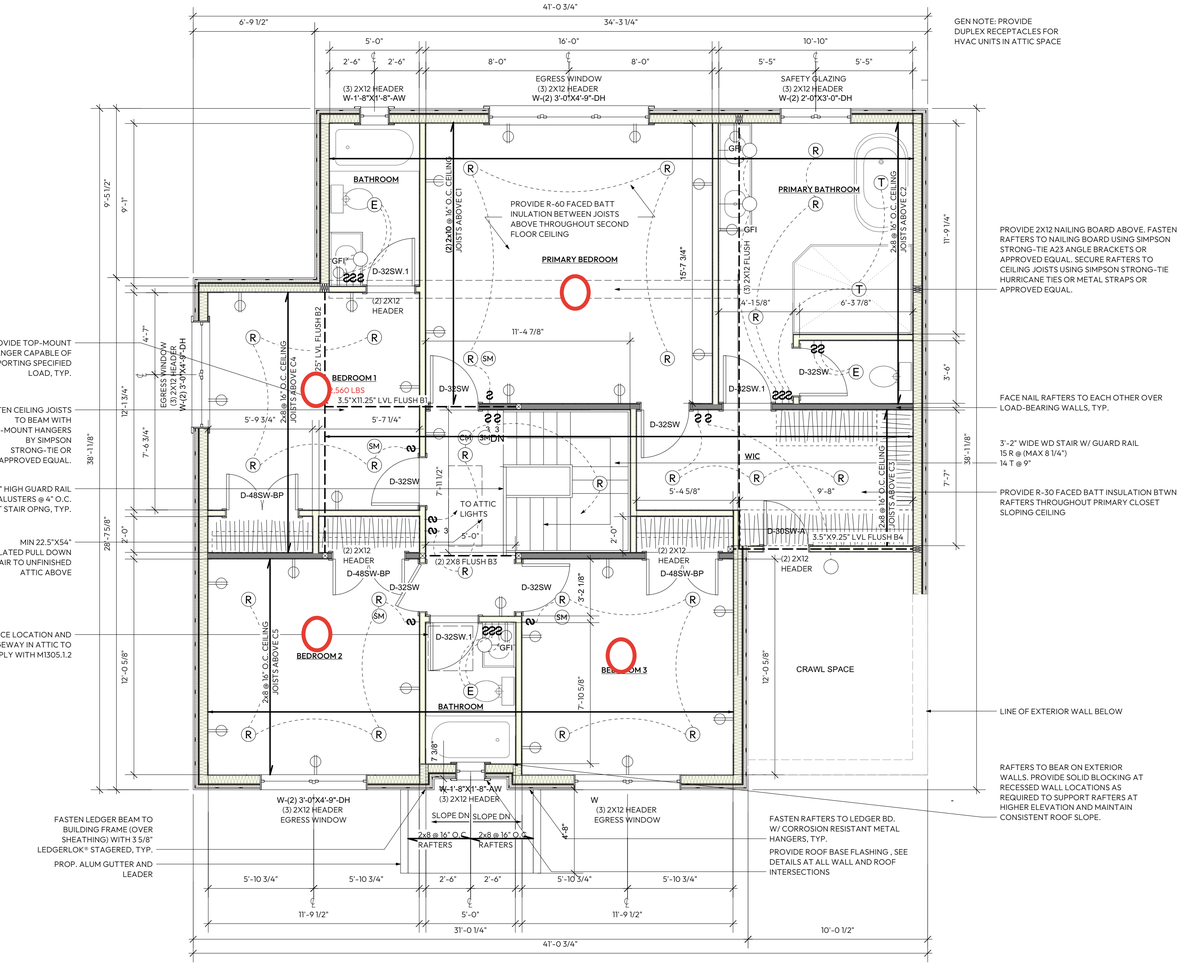
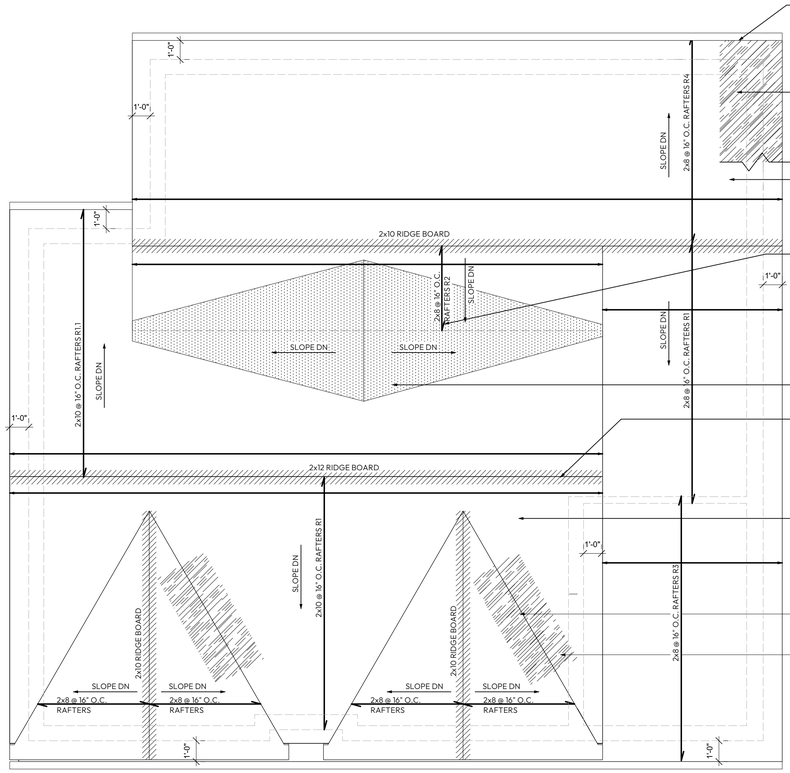


1 SECOND FLOOR PLAN

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

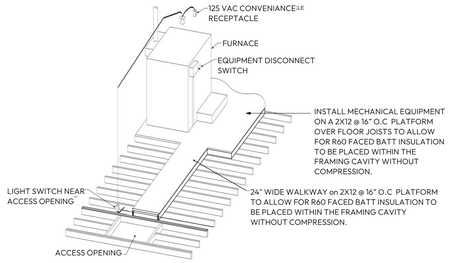
SEE RESCHECK ON A-5

PROPOSED AREA: 1363 SF



2 ROOF PLAN

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



M1305.1.2 FURNACE ATTIC INSTALLATION DETAIL
NTS

Door Schedule

	Mark	Quantity*	Nominal Size Width**	Height**	Thickness**	Door Style Operation		Side Lights	L Sidelt Wid	R Sidelt Wid	Threshold***	Fire Rating Frame	Door Slab	Manufacturer	Model	Comments
D-	24SW	1	2'0"	6'8"	1 3/4"	Swing Simple	HOLLOW WOOD CORE		N/A	N/A	False					
D-	30SW-A	1	2'6"	4'0"	1 3/4"	Swing Simple	HOLLOW WOOD CORE		N/A	N/A	False					
D-	30SWL	1	2'6"	6'8"	1 3/4"	Swing Simple	LOUVERED DOOR		N/A	N/A	True					
D-	32F	1	2'8"	6'8"	1 3/4"	Swing Simple	SOLID WOOD CORE		N/A	N/A	True					PROVIDE WEATHER STRIP AND THRESHOLD
D-	32SW	11	2'8"	6'8"	1 3/4"	Swing Simple	HOLLOW WOOD CORE		N/A	N/A	False					
D-	32SW	1	2'6"	6'8"	1 3/4"	Swing Simple	HOLLOW WOOD CORE		N/A	N/A	False					
D-	32SW.1	4	2'8"	6'8"	1 3/4"	Swing Simple	SOLID WOOD CORE		N/A	N/A	True					
D-	32SWL	1	2'8"	6'8"	1 3/4"	Swing Simple	LOUVERED DOOR		N/A	N/A	True					
D-	36ESW	1	3'0"	6'8"	1 3/4"	Swing Simple	WOOD/GLASS	*	T0"	T0"	True					PROVIDE WEATHER STRIP AND THRESHOLD (SAFETY GLAZING REQUIERED)
D-	48SW-BP	4	4'0"	6'8"	1 3/4"	Swing Bi-part	HOLLOW WOOD CORE		N/A	N/A	False					
D-	FWG6068	1	5'11 1/4"	6'7 1/2"	1 3/4"	Slider	Wood		N/A	N/A	False	-	-	Andersen Windows	400 Series Frenchwood Gliding Patio Door	-
D-	O96	1	8'0"	7'0"	1"	Overhead			N/A	N/A	False					R18 INSULATED REMOTE CONTROL GARAGE DOOR

* ARCHITECT IS NOT RESPONSIBLE FOR QUANTITIES OF MATERIALS. QUANTITIES IN SCHEDULE TO BE VERIFIED BY GENERAL CONTRACTOR
** ALL DIMENSONS ARE NOMINAL. GC TO PROVIDE ROUGH OPENING DIMENSIONS AS REQUIRED FOR THE INSTALLATION OF DOORS
*** PROVIDE THRESHOLD AS SELECTED BY OWNER

Window Schedule

	Mark		Quantity*	Window Style Sash Operation	Nominal Size O.A. Width**	O.A. Height**	Window Elev****	Area	Elevaion Set At	Muntin Pattern	Egress Win	Window Data Mfr	Model No.	Comments
W-	1'-8"X1'-8"	-AW	3	Awning	1'8"	1'8"	5'4"	8.333 sq ft	Sill of Window	Colonial	FALSE	ANDERSEN	3020	
W-	3'6"X3'-6"	-DC	1	Bi-parting Casement	3'5 1/4"	3'5 5/8"	3'6"	11.924 sq ft	Sill of Window	Colonial	FALSE	ANDERSEN		
W-	(2) 2'-0"X3'-0"	-DH	1	Custom	4'0"	3'0"	3'8"	12 sq ft	Sill of Window	Colonial	FALSE	ANDERSEN		
W-	(2) 3'-0"X4'-9"	-DH	1	Custom	9'0"	4'9"	2'0"	42.75 sq ft	Sill of Window	Colonial	TRUE	ANDERSEN		
W-	(2) 3'-0"X4'-9"	-DH	7	Custom	6'0"	4'9"	2'0"	199.5 sq ft	Sill of Window	Colonial	TRUE	ANDERSEN		
W-	3'-0"X4'-9"	-DH	1	Double Hung	3'0"	4'9"	2'0"	14.25 sq ft	Sill of Window	Colonial	TRUE	ANDERSEN		

* ARCHITECT IS NOT RESPONSIBLE FOR QUANTITIES OF MATERIALS. QUANTITIES IN SCHEDULE TO BE VERIFIED BY GENERAL CONTRACTOR
** ALL DIMENSONS ARE NOMINAL. GC TO PROVIDE ROUGH OPENING DIMENSIONS AS REQUIRED BY THE MFR FOR THE INSTALLATION OF WINDOWS.
**** SILL ELEVATIONS ARE MEASURED FROM FINISHED FLOOR TO TOP OF WINDOW SILL FRAMING
*****ANY WINDOW WITH A WINDOW SILL THAT IS LESS THAN 2 FT SHALL REQUIRE AN OPENING CONTROL DEVICE THAT COMPLIES WITH ASTMF 2090

R No. Date Notes

1 11/6/2025 Permit Set

I No. Date Notes

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Drawing not valid unless sealed

Hayk Ekshian R.A.
NJ Lic No: 21AI01941200

Prepared For:
Name:
Address:

Project Title
RAMBLER RESIDENCE

191 RAMBLER AVE
NEW MILFORD, NJ 07646

Project ID: 20251001

Project date: 10.20.2025
Sheet Date: 11/6/2025

Sheet Title
FLOOR PLANS

Scale: As Noted

Sheet No.
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of
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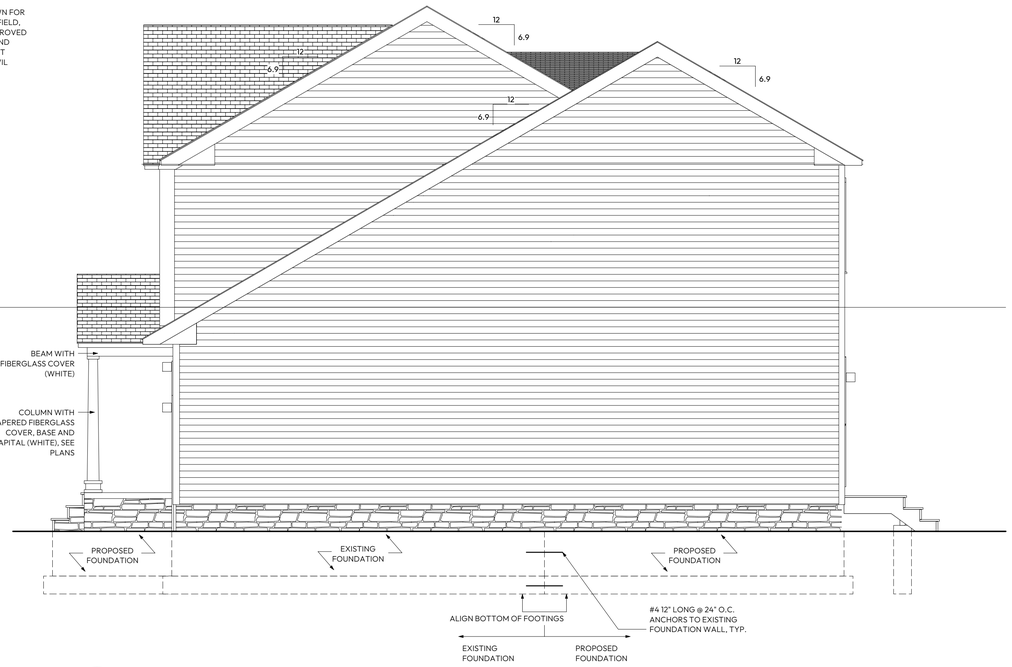
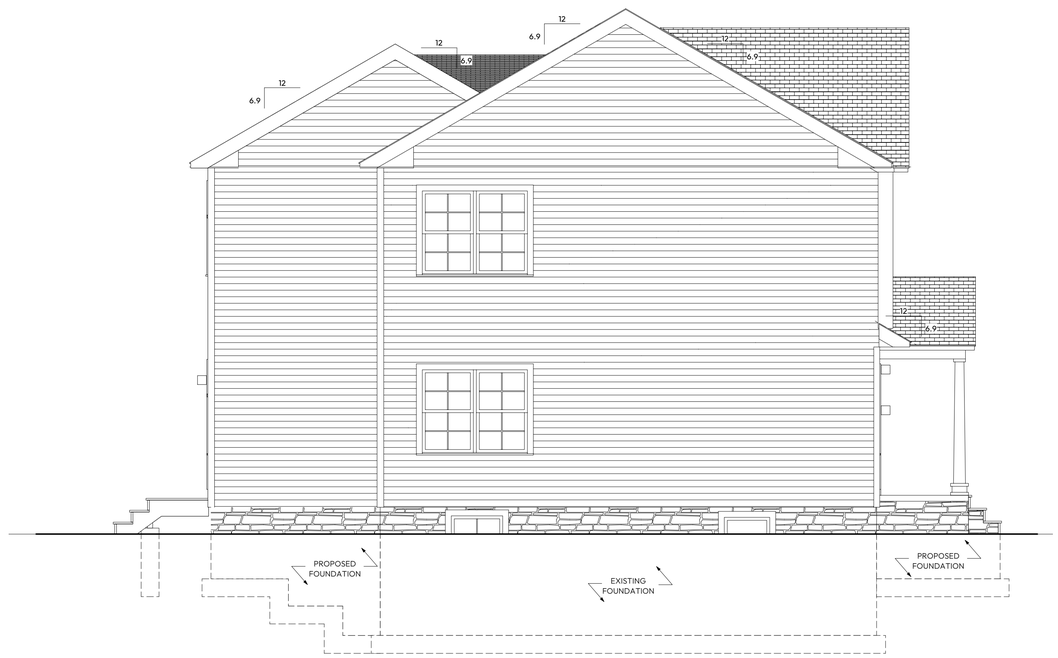
1 FRONT ELEVATION
Scale: 1/4" = 1'-0"



2 SIDE ELEVATION
Scale: 1/4" = 1'-0"
SEE FRONT ELEVATION FOR TYPICAL NOTES

3 REAR ELEVATION
Scale: 1/4" = 1'-0"
SEE FRONT ELEVATION FOR TYPICAL NOTES



4 SIDE ELEVATION
Scale: 1/4" = 1'-0"
SEE FRONT ELEVATION FOR TYPICAL NOTES

LEGEND

- WOOD, CEMENTITIOUS FIBERBOARD OR VINYL SIDING (CONSULT W/ OWNER)
- ASPHALT ROOFING (SEE ROOF PLAN FOR SPEC.), TYP.
- SYNTHETIC STONE VENEER TO BE SELECTED BY OWNER

R No.	Date	Notes

1 11/6/2025 Permit Set

I No.	Date	Notes

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Project ID: 20251001

Project date: 10.20.2025
Sheet Date: 11/6/2025

Sheet Title: ELEVATIONS

Scale: As Noted

Sheet No.: A-4 of 11

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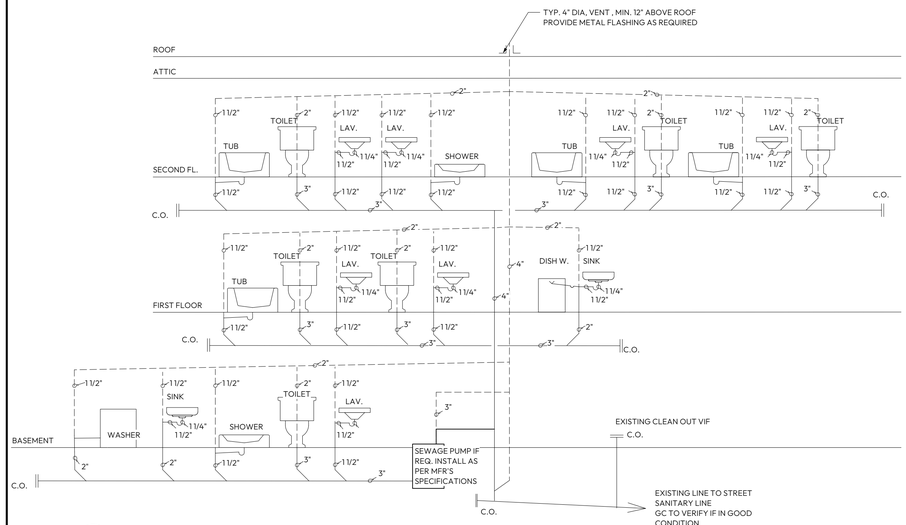
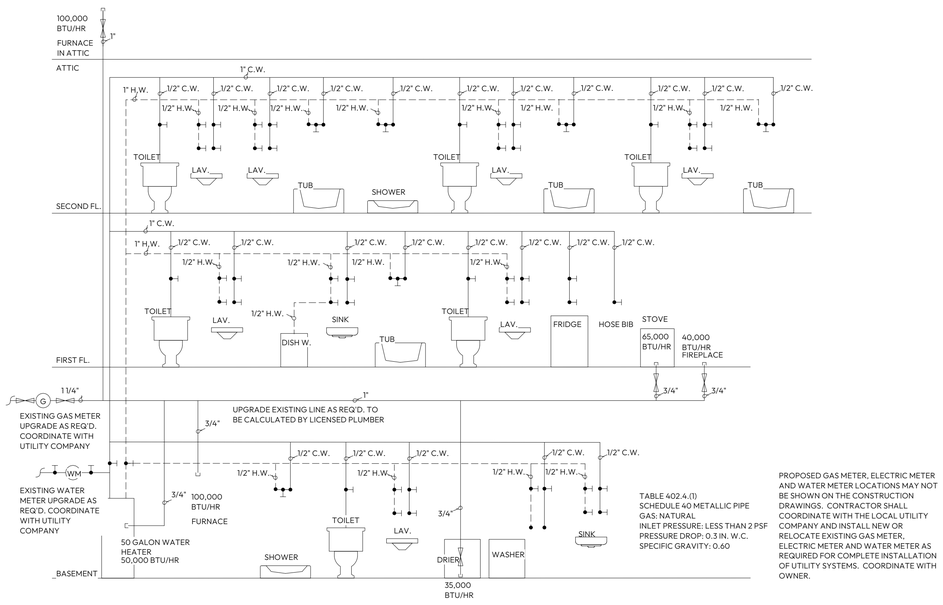
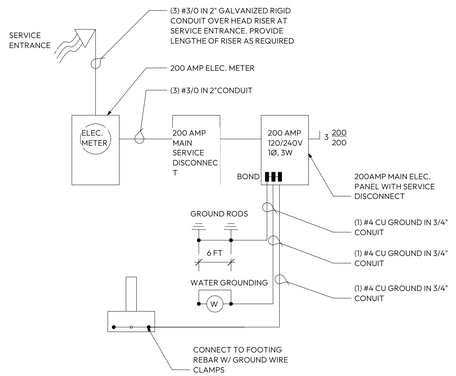


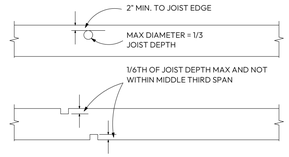
1 PLUMBING RISER DIAGRAM
NTS



2 WATER & GAS DIAGRAM
NTS



3 ELECTRIC RISER DIAGRAM
NTS



TO ALLOW PLUMBING AND ELEC. LINES TO PASS THROUGH JOISTS, CUTS MAY BE MADE ACCORDING TO THE GUIDELINES ILLUSTRATED ABOVE. **FOR COMMODITY LUMBER ONLY**
IF POSSIBLE, USE EXISTING NOTCHED

PER TABLE B.5.3	WSFU
3 BATHROOM GROUP W/ 1.6 GPF WC	9
2 ADDITIONAL BATHROOM GROUP W/ 1.6 GPF WC	2
KITCHEN GROUP W/ SINK AND D/W	2
LAUNDRY GROUP W/ SINK AND CLOTHES WASHER	5
BAR SINK	1
HOSE BIB	2.5
TOTAL	19

8 FPS VELOCITY PEX PLASTIC TUBE per TABLE B.7.3.H. 1 1/4"
U.O.N. WATER SUPPLY PIPES TO BE PEX TUBING

	BTU/HR
FURNACE 1	60,000
FURNACE 2	60,000
WATER HEATER	70,000
STOVE	65,000
DRIER	35,000
TOTAL	290,000

TABLE G2413.4(1) [402.4(2)]
SCHEDULE 40 METALLIC PIPE
GAS: NATURAL
INLET PRESSURE: LESS THAN 2 PSF
PRESSURE DROP: 0.3 IN. W.C.
SPECIFIC GRAVITY: 0.60

1 1/2", MAX LENGTH 80 FT

R No. Date Notes

1 11/6/2025 Permit Set

I No. Date Notes

RESCHECK-WEB™

Compliance Certificate

Project Information

Project Title:	**RAMBLER RESIDENCE**
Energy Code:	2021 IECC
Location:	New Milford, New Jersey
Construction Type:	Single Family
Project Type:	Addition
Project Sub Type:	None
Glazing Area:	13%
Climate Zone:	5a (5199 HDD)
Project No:	1787190
All Electric:	false
Is Renewable:	false
Has Battery:	false
Has Charger:	false
Has Heat Pump	false

Construction Site:
191 RAMBLER AVE
NEW MILFORD , NJ 07646

Owner/Agent:
191 RAMBLER AVE
NEW MILFORD , NJ 07646

Designer/Contractor:
P.O. BOX:55
SPACE & MARK, LLC
BERKELEY HEIGHTS , NJ 07922
9088733068
info@spaceandmark.com

Project Notes:

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Prop. U-Factor/ F-Factor	Req. U-Factor/ F-Factor	Prop. UA	Req. UA
SECOND FL CEILING: Flat Ceiling or Scissor Truss	1363	60.0	0.0	0.024	0.024	33	33
SECOND FL BTWN RAFTERS: Cathedral Ceiling	44	30.0	0.0	0.034	0.024	1	1
FLOOR OVER GARAGE: All-Wood Joist/Truss	88	19.0	0.0	0.047	0.033	4	3
FLOOR OVER CRAWL SPACE: All-Wood Joist/Truss	421	30.0	0.0	0.033	0.033	14	14
2X6 EXTERIOR WALLS: Wood Frame, 16" o.c.	2751	21.0	5.0	0.043	0.045	101	106
WINDOWS: Vinyl Frame	274			0.300	0.300	82	82
Door 3: Glass Door (over 50% glazing)	40			0.300	0.300	12	12
REAR GLASS DOOR: Glass Door (over 50% glazing)	37			0.300	0.300	11	11
Door 3: Glass Door (over 50% glazing)	40			0.300	0.300	12	12
2X6 INTERIOR GARAGE WALLS: Wood Frame, 16" o.c.	270	19.0	0.0	0.060	0.045	16	12

Compliance: Passes using UA trade-off
Compliance: 0.0% Better Than Code **Max UA: 286** **Your UA: 286**

The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules. It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Slab-on-grade tradeoffs are no longer considered in the UA or performance compliance path in REScheck. Each slab-on-grade assembly in the specified climate zone must meet the minimum energy code insulation R-value and depth requirements.

Compliance Statement

The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the 2021 IECC requirements in REScheck-Web and to comply with the mandatory requirements listed in the REScheck Inspection Checklist.

Name - Title **Signature** **Date**

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Hayk Ekshian R.A.
NJ Lic No: 21AI01941200

Prepared For:
Name:
Address:

Project Title
RAMBLER RESIDENCE
191 RAMBLER AVE
NEW MILFORD, NJ 07646

Project ID: 20251001
Project date: 10.20.2025
Sheet Date: 11/6/2025

Sheet Title
DETAILS

Scale: As Noted

Sheet No.
A-5
of
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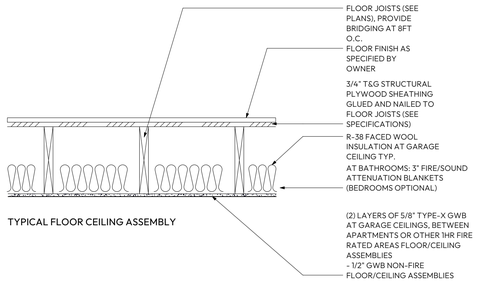
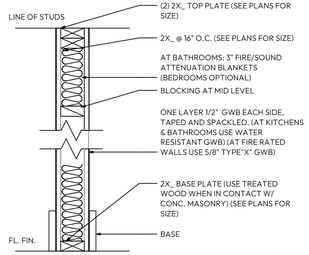
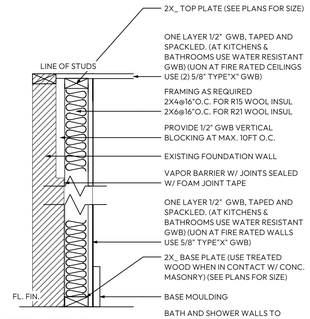


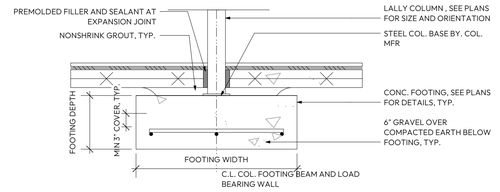
TYPICAL FLOOR CEILING ASSEMBLY



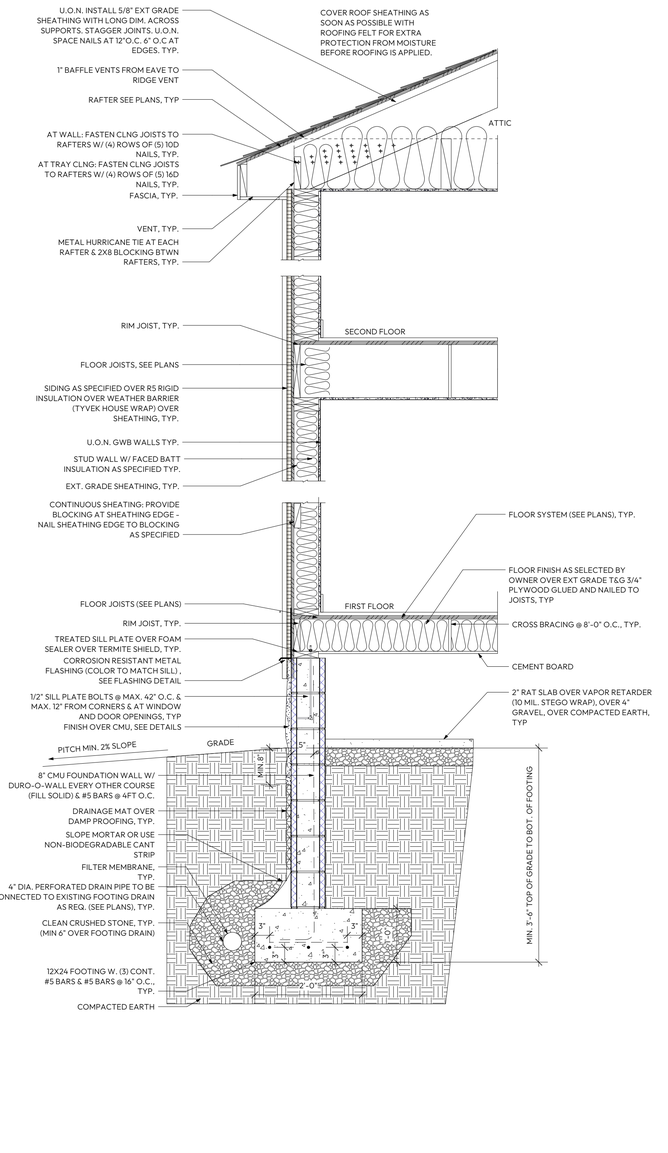
TYPICAL PARTITION WALL



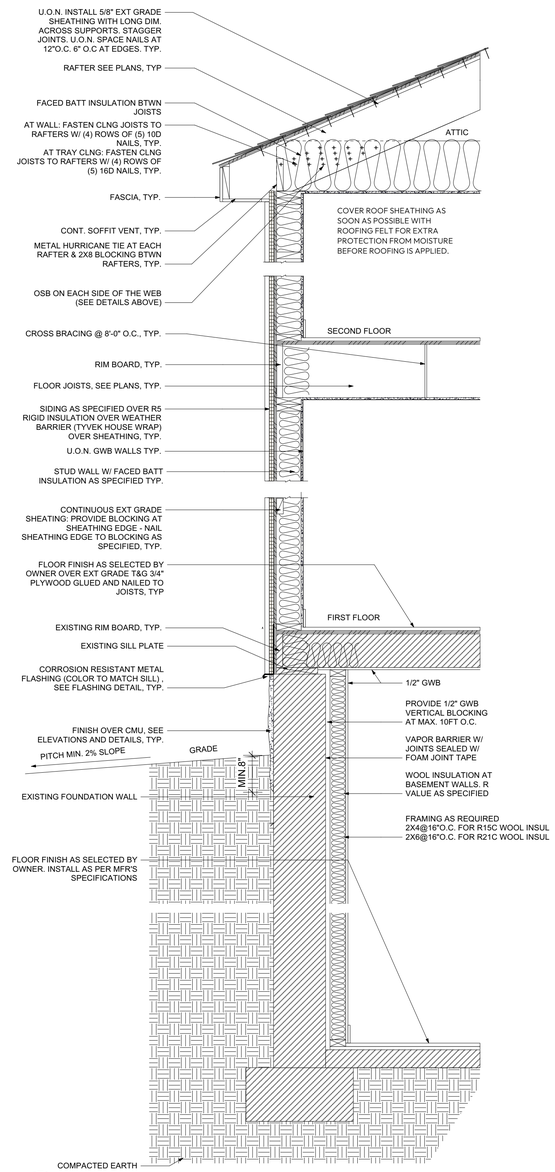
TYPICAL FURRING



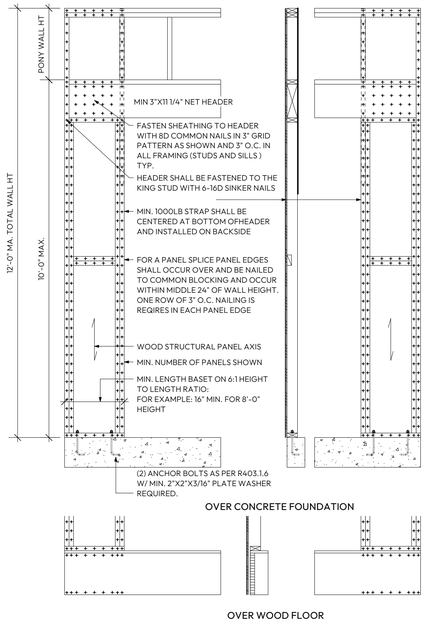
4 FOOTING DETAIL
Scale: 3/4" = 1'-0"



1 TYPICAL WALL SECTION AT ADDITION (CRAWLSPACE)
Scale: 3/4" = 1'-0"



2 TYPICAL WALL SECTION AT ADDITION
Scale: 3/4" = 1'-0"



3 CS PORTAL FRAMING
Scale: 1/2" = 1'-0"

R No.	Date	Notes
1	11/6/2025	Permit Set

I No.	Date	Notes

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NEW MILFORD, NJ 07646

Project ID
20251001

Project date: 10.20.2025
Sheet Date: 11/6/2025

Sheet Title
FOUNDATION AND FRAMING DETAILS

Scale
As Noted

Sheet No.
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of
11

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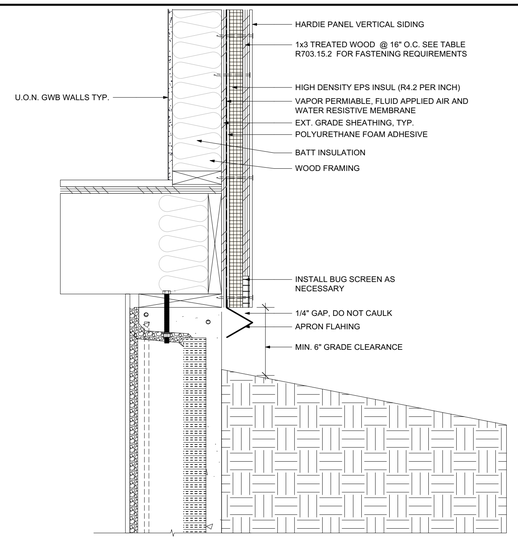
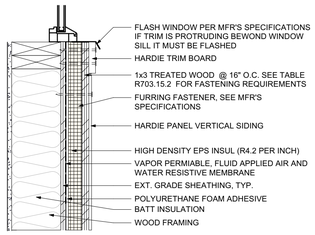
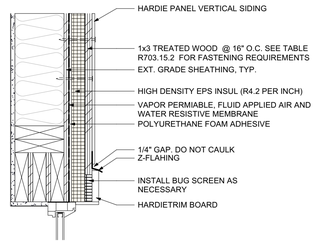


1 EIFS TERMINATION AT GRADE
Scale: 1 1/2" = 1'-0"



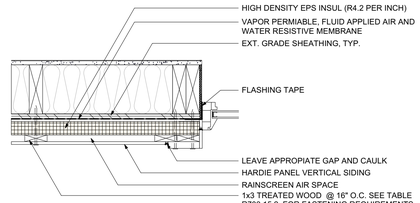
2 WINDOW SILL DETAIL
Scale: 1 1/2" = 1'-0"

NOTE: REFER TO WINDOW MFR'S INSTRUCTIONS FOR PROPOER WINDOW INSTALLATION



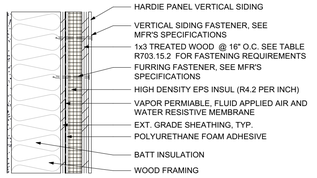
3 WINDOW HEAD DETAIL
Scale: 1 1/2" = 1'-0"

NOTE: REFER TO WINDOW MFR'S INSTRUCTIONS FOR PROPOER WINDOW INSTALLATION



4 WINDOW JAMB DETAIL
Scale: 1 1/2" = 1'-0"

NOTE: REFER TO WINDOW MFR'S INSTRUCTIONS FOR PROPOER WINDOW INSTALLATION



5 WALL ASSEMBLY DETAIL
Scale: 1 1/2" = 1'-0"

6 DIVERTER FLASHING AT ROOF ABUTMENT
Scale: 1 1/2" = 1'-0"

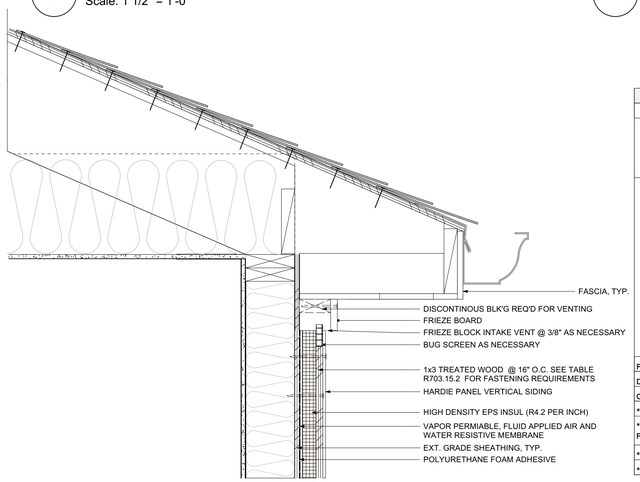
7 INSIDE CORNER DETAIL
Scale: 1 1/2" = 1'-0"

8 OUTSIDE CORNER DETAIL
Scale: 1 1/2" = 1'-0"

NOTE: MIN. 3/8" GAP IS RECOMMENDED TO ACCOUNT FOR STRUCTURAL MOVEMENT BETWEEN FLOOR JOINTS. 1/4" MIN. CLEARANCE IS REQUIRED BETWEEN PANEL HORIZONTALS IN DIRECT TO APPLICATIONS

NOTE: EVERY OTHER FLOOR BREAK SHOULD HAVE Z-FLASHING EXTENDING BACK TO THE WEATHER BARRIER

9 HORIZONTAL BREAK AT FLOOR TRANSITION
Scale: 1 1/2" = 1'-0"



10 OVERHANG DETAIL
Scale: 1 1/2" = 1'-0"

TABLE R703.15.1

CLADDING MINIMUM FASTENING REQUIREMENTS FOR DIRECT ATTACHMENT OVER FOAM PLASTIC SHEATHING TO SUPPORT CLADDING WEIGHT (*A)

CLADDING FASTENER THROUGH FOAM SHEATHING (*B)	CLADDING FASTENER TYPE AND MINIMUM SIZE (*C)	CLADDING FASTENER VERTICAL SPACING (INCHES)	MAXIMUM THICKNESS OF FOAM SHEATHING (*D) INCHES									
			16" O.C. FASTENER HORIZONTAL SPACING					24" O.C. FASTENER HORIZONTAL SPACING				
			CLADDING WEIGHT:					CLADDING WEIGHT:				
			3 PSF	11 PSF	15 PSF	18 PSF	25 PSF	3 PSF	11 PSF	15 PSF	18 PSF	25 PSF
WOOD FRAMING (MINIMUM 1 1/4 INCH PENETRATION	0.113"DIAMETER NAIL	6	2.00	1.45	1.00	0.75	DR	2.00	0.85	0.55	DR	DR
		8	2.00	1.00	0.65	DR	DR	2.00	0.55	DR	DR	DR
		12	2.00	0.55	DR	DR	DR	1.85	DR	DR	DR	DR
	0.120" DIAMETER NAIL	6	3.00	1.70	1.15	0.90	0.55	3.00	1.05	0.65	0.50	DR
		8	3.00	1.20	0.80	0.60	DR	3.00	0.70	DR	DR	DR
		12	3.00	0.70	DR	DR	DR	2.15	DR	DR	DR	DR
	0.131" DIAMETER NAIL	6	4.00	2.15	1.50	1.20	0.75	4.00	1.35	0.90	0.70	DR
		8	4.00	1.55	1.05	0.80	DR	4.00	0.90	0.55	DR	DR
		12	4.00	0.90	0.55	DR	DR	2.70	0.50	DR	DR	DR
	0.162" DIAMETER NAIL	6	4.00	3.55	2.50	2.05	1.40	4.00	2.25	1.55	1.25	0.80
		8	4.00	2.55	1.80	1.45	0.95	4.00	1.60	1.10	0.85	0.50
		12	4.00	1.60	1.10	0.85	0.50	4.00	0.95	0.60	DR	DR

FOR SI:1 INCH=25.4 MM, 1 POUND PER SQUARE FOOT=0.0479 kPa, 1 POUND PER SQUARE INCH=6.895 kPa.

DR=DESIGN REQUIRED

O.C. = ON CENTER.

*A - WOOD FRAMING SHALL BE SPRUCE PINE FIR OR ANY WOOD SPECIES WITH A SPECIFIC GRAVITY OF 0.42 OR GREATER IN ACCORDANCE WITH AWC NDS

*B - THE THICKNESS OF WOOD STRUCTURAL PANELS COMPLYING WITH THE SPECIFIC REQUIREMENT OF NOTE A SHALL BE PERMITTED TO BE INCLUDED IN SATISFYING THE MINIMUM PENETRATION INTO FRAMING. FOR CLADDING CONNECTIONS TO WOOD STRUCTURAL PANELS, REFER TO TABLE R703.3.3. FOR BRICK VENEER TIE CONNECTIONS TO WOOD STRUCTURAL PANELS, REFER TO TABLE R703.8.4 (2)

*C-NAIL FASTENERS SHALL COMPLY WITH ASTM F1667, EXCEPT NAIL LENGTH SHALL BE PERMITTED TO EXCEED ASTM F1667 STANDARD LENGTHS

*D- FOAM SHEATHING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 15 PSI IN ACCORDANCE WITH ASTM C578 OR ASTM C1289.

TABLE R703.15.2

FURRING MINIMUM FASTENING REQUIREMENTS FOR APPLICATION OVER FOAM PLASTIC SHEATHING TO SUPPORT CLADDING WEIGHT (*A) (*B)

FURRING MATERIAL	FRAMING MEMBER	FASTENER TYPE AND MINIMUM SIZE	MINIMUM PENETRATION INTO WALL FRAMING (*C) INCHES	FASTENER SPACING IN FURRING (INCHES)	MAXIMUM THICKNESS OF FOAM SHEATHING (*E) INCHES									
					16" O.C. FURRING (*F)					24" O.C. FURRING (*F)				
					SIDING WEIGHT					SIDING WEIGHT				
					3 PSF	11 PSF	15 PSF	18 PSF	25 PSF	3 PSF	11 PSF	15 PSF	18 PSF	25 PSF
MINIMUM 1X WOOD FURRING (*D)	MINIMUM 2X WOOD STUD	0.131" DIAMETER NAIL	1 1/4	8	4.00	2.45	1.75	1.45	0.95	4.00	1.60	1.10	0.85	DR
				12	4.00	1.60	1.10	0.85	DR	4.00	0.95	0.55	DR	DR
				16	4.00	1.10	0.70	DR	DR	3.05	0.60	DR	DR	DR
		0.162" DIAMETER NAIL	1 1/4	8	4.00	4.00	3.05	2.45	1.60	4.00	2.75	1.85	1.45	0.85
				12	4.00	2.75	1.85	1.45	0.85	4.00	1.65	1.05	0.75	DR
				16	4.00	1.90	1.25	0.95	DR	4.00	1.05	0.60	DR	DR
		NO. 10 WOOD SCREW	1	12	4.00	2.30	1.60	1.20	0.70	4.00	1.40	0.85	0.60	DR
				16	4.00	1.65	1.05	0.75	DR	4.00	0.90	DR	DR	DR
				24	4.00	0.90	DR	DR	DR	2.85	DR	DR	DR	DR
		1/4" LAG SCREW	1 1/2	12	4.00	2.65	1.90	1.50	0.90	4.00	1.65	1.05	0.80	DR
				16	4.00	1.95	1.25	0.95	0.50	4.00	1.10	0.65	DR	DR
				24	4.00	1.10	0.65	DR	DR	3.25	0.50	DR	DR	DR

FOR SI:1 INCH=25.4 MM, 1 POUND PER SQUARE FOOT=0.0479 kPa, 1 POUND PER SQUARE INCH=6.895 kPa.

DR=DESIGN REQUIRED

O.C. = ON CENTER.

*A - WOOD FRAMING AND FURRING SHALL BE SPRUCE PINE FIR OR ANY WOOD SPECIES WITH A SPECIFIC GRAVITY OF 0.42 OR GREATER IN ACCORDANCE WITH AWC NDS

*B - NAIL FASTENERS SHALL COMPLY WITH ASTM F1667, EXCEPT NAIL LENGTH SHALL BE PERMITTED TO EXCEED ASTM F1667 STANDARD LENGTHS

*C- THE THICKNESS OF WOOD STRUCTURAL PANELS COMPLYING WITH THE SPECIFIC GRAVITY REQUIREMENTS OF NOTE A SHALL BE PERMITTED TO BE INCLUDED IN SATISFYING THE MINIMUM REQUIRED PENETRATION INTO FRAMING

*D - WHERE THE REQUIRED CLADDING FASTENER PENETRATION INTO WOOD MATERIALS EXCEEDS 3/4 INCH AND IS NOT MORE THAN 1 1/2 INCHES, A MINIMUM 2X WOOD FURRING OR AN APPROVED DESIGN SHALL BE USED

*E- FOAM SHEATHING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 15 PSI IN ACCORDANCE WITH ASTM C578 OR ASTM C1289

*F- FURRING SHALL BE SPACED NOT MORE THAN 24 INCHES ON CENTER, IN A VERTICAL OR HORIZONTAL ORIENTATION. IN A VERTICAL ORIENTATION, FURRING SHALL BE LOCATED OVER WALL STUD AND ATTACHED WITH THE REQUIRED FASTENER SPACING. IN A HORIZONTAL ORIENTATION, THE INDICATED 8-INCH AND 12-INCH FASTENER SPACING IN FURRING SHALL BE ACHIEVED BY USE OF TWO FASTENERS INTO STUDS AT 16 INCHES AND 24 INCHES ON CENTER, RESPECTIVELY.

R No.	Date	Notes

I No.	Date	Notes
1	11/6/2025	Permit Set

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Project ID
20251001

Project date: 10.20.2025
Sheet Date: 11/6/2025

Sheet Title
EXTERIOR FINISH DETAILS

Scale
As Noted

Sheet No.
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of
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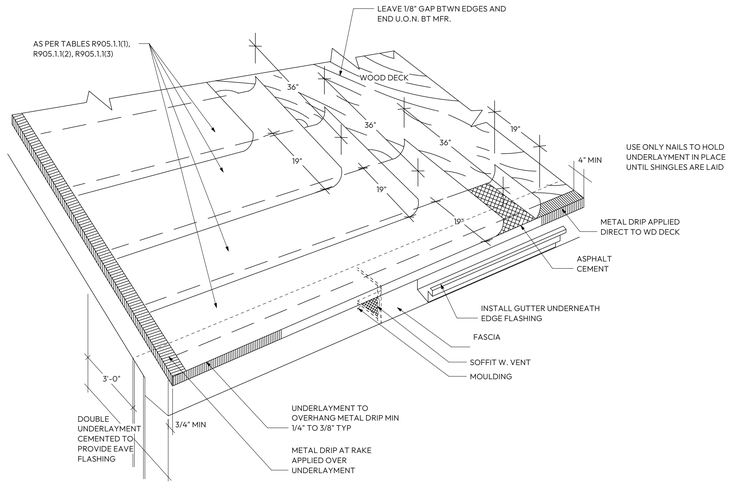
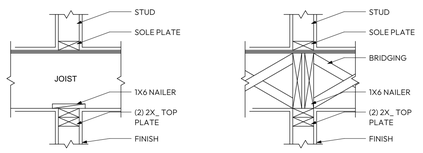
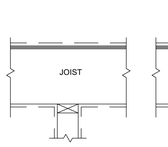
		TABLE R905.1.1(2) UNDERLAYMENT APPLICATION	TABLE R905.1.1(3) UNDERLAYMENT ATTACHMENT
ROOF COVERING	SECTION	MAXIMUM ULTIMATE DESIGN WIND SPEED, Vult < 140 MPH	MAXIMUM ULTIMATE DESIGN WIND SPEED, Vult < 140 MPH
Asphalt shingles	R905.2	FOR ROOF SLOPES FROM 2 UNITS VERTICAL IN 12 UNITS HORIZONTAL (2:12), UP TO 4 UNITS VERTICAL IN 12 UNITS HORIZONTAL (4:12), UNDERLAYMENT SHALL BE TWO LAYERS APPLIED IN THE FOLLOWING MANNER: APPLY A 19-INCH STRIP OF UNDERLAYMENT FELT PARALLEL TO AND STARTING AT THE EAVES, STARTING AT THE EAVE, APPLY 36-INCH-WIDE SHEETS OF UNDERLAYMENT, OVERLAPPING SUCCESSIVE SHEETS 19 INCHES. DISTORTIONS IN THE UNDERLAYMENT SHALL NOT INTERFERE WITH THE ABILITY OF THE SHINGLES TO SEAL. END LAPS SHALL BE 4 INCHES AND SHALL BE OFFSET BY 6 FEET.	FASTENED SUFFICIENTLY TO HOLD IN PLACE
		UNDERLAYMENT SHALL BE ONE LAYER APPLIED IN THE FOLLOWING MANNER: UNDERLAYMENT SHALL BE APPLIED SHINGLE FASHION, PARALLEL TO AND STARTING FROM THE EAVE AND LAPPED 2 INCHES, DISTORTIONS IN THE UNDERLAYMENT SHALL NOT INTERFERE WITH THE ABILITY OF THE SHINGLES TO SEAL. END LAPS SHALL BE 4 INCHES AND SHALL BE OFFSET BY 6 FEET.	
Clay and concrete tile	R905.3	FOR ROOF SLOPES FROM 21/2 UNITS VERTICAL IN 12 UNITS HORIZONTAL (21/2:12), UP TO 4 UNITS VERTICAL IN 12 UNITS HORIZONTAL (4:12), UNDERLAYMENT SHALL BE NOT FEWER THAN TWO LAYERS APPLIED AS FOLLOWS: STARTING AT THE EAVE, APPLY A 19-INCH STRIP OF UNDERLAYMENT PARALLEL WITH THE EAVE. STARTING AT THE EAVE, APPLY 36-INCH-WIDE STRIPS OF UNDERLAYMENT FELT, OVERLAPPING SUCCESSIVE SHEETS 19 INCHES. END LAPS SHALL BE 4 INCHES AND SHALL BE OFFSET BY 6 FEET.	
		FOR ROOF SLOPES OF 4 UNITS VERTICAL IN 12 UNITS HORIZONTAL (4:12) OR GREATER, UNDERLAYMENT SHALL BE NOT FEWER THAN ONE LAYER OF UNDERLAYMENT FELT APPLIED SHINGLE FASHION, PARALLEL TO AND STARTING FROM THE EAVES AND LAPPED 2 INCHES. END LAPS SHALL BE 4 INCHES AND SHALL BE OFFSET BY 6 FEET.	
METAL ROOF SHINGLES	R905.4	APPLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.	MANUFACTURER'S INSTALLATION INSTRUCTIONS.
MINERAL-SURFACED ROLL ROOFING	R905.5		
SLATE AND SLATE-TYPE SHINGLES	R905.6		
WOOD SHINGLES	R905.7		
WOOD SHAKES	R905.8		
METAL PANELS	R905.10		





LOAD BEARING PARTITION WALL PERP. TO JOIST

LOAD BEARING PARTITION WALL PARALLEL TO JOIST



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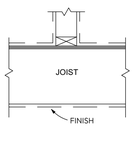

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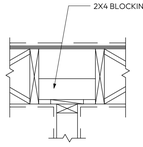

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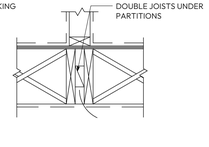

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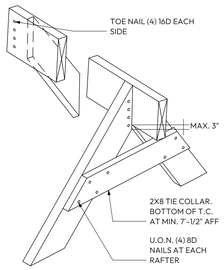
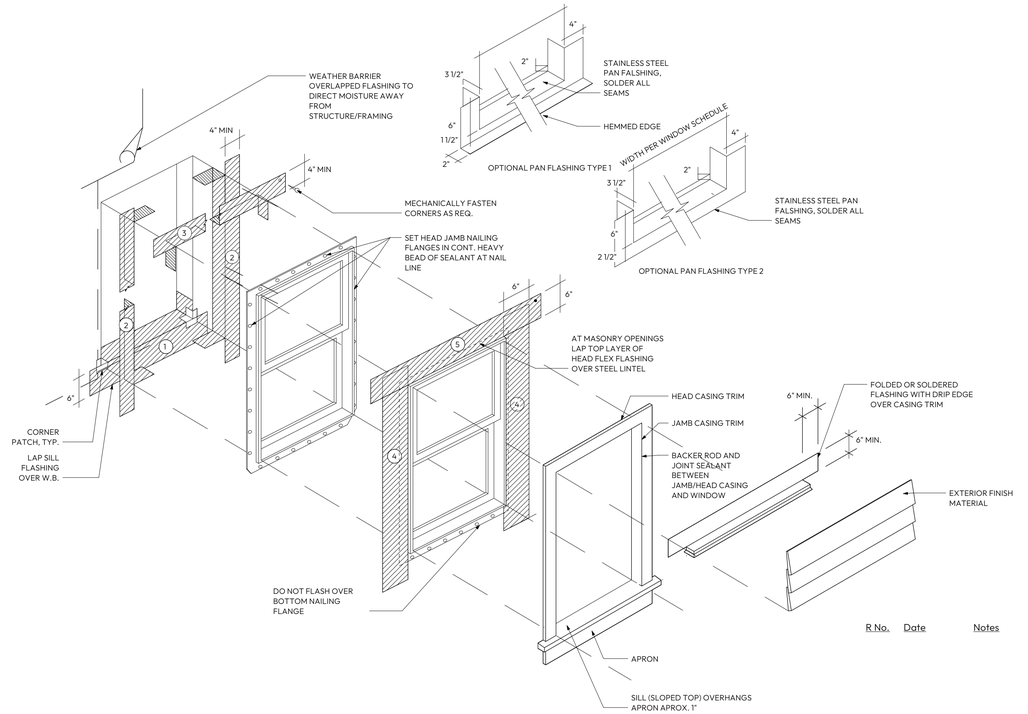
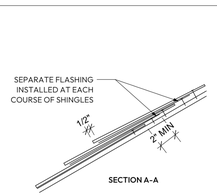




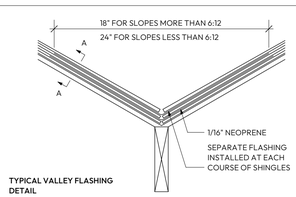
OPTIONAL PAN FLASHING TYPE 1

OPTIONAL PAN FLASHING TYPE 2

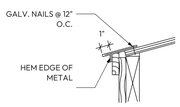
R No.	Date	Notes



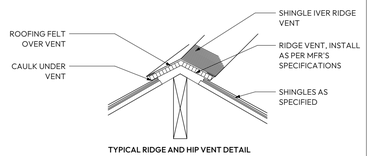
SECTION A-A



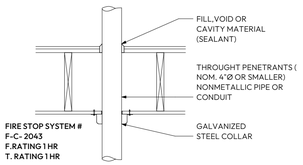
TYPICAL VALLEY FLASHING DETAIL



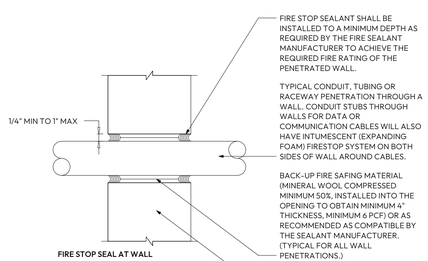
ROOD EDGE DETAIL



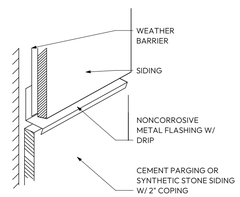
TYPICAL RIDGE AND HIP VENT DETAIL



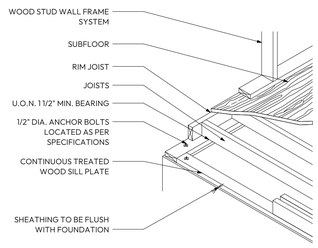
FIRE STOP SYSTEM #
F-C- 2043
F. RATING 1 HR
T. RATING 1 HR

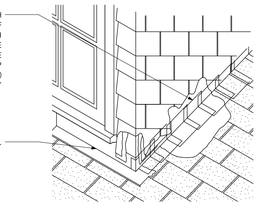


FIRE STOP SEAL AT WALL PENETRATIONS
N.T.S.

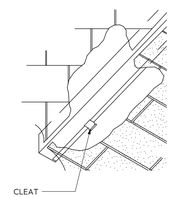


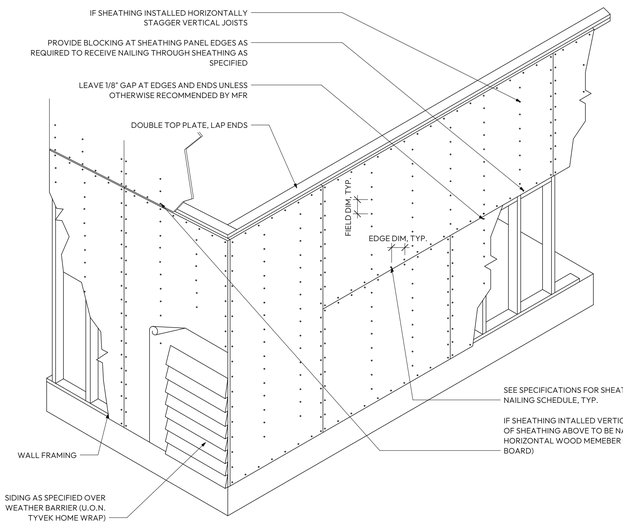
FLASHING AT MAT. CHANGE

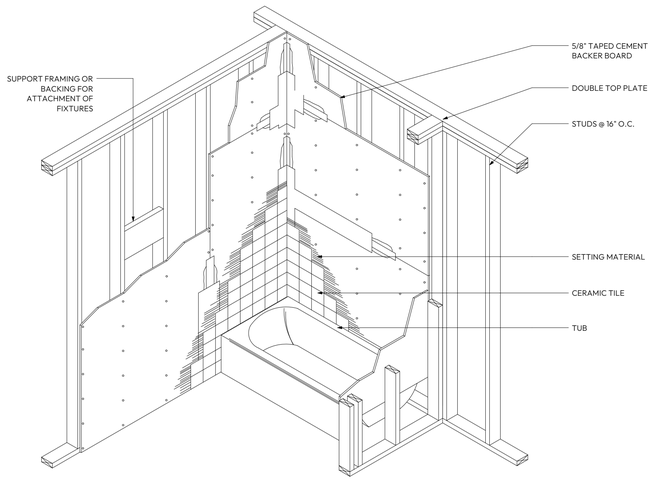




BASE FLASHING AT ROOF







No.	Date	Notes
1	11/6/2025	Permit Set

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Project ID
20251001

Project date: 10.20.2025
Sheet Date: 11/6/2025

Sheet Title
MISC. DETAILS

Scale
As Noted

Sheet No.
A-8
of
11

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DIVISION 00 00 00. PROCUREMENT AND CONTRACTING REQUIREMENTS

1. 00 26 00 - PROCUREMENT SUBSTITUTION PROCEDURES
   CONTRACTOR TO INVESTIGATE PROPOSED PRODUCTS AND DETERMINE THAT THEY ARE EQUAL OR SUPERIOR IN ALL RESPECTS TO PRODUCTS SPECIFIED. COORDINATE INSTALLATION OF ACCEPTED SUBSTITUTIONS INTO THE WORK, MAKING SUCH CHANGES AS MAY BE REQUIRED FOR THE WORK TO BE COMPLETE IN ALL RESPECTS. MEET WITH CLIENTS AND GET CHANGE ORDER REQUEST SIGNED.

DIVISION 01 00 00. GENERAL REQUIREMENTS

1. 01 50 00 - TEMPORARY FACILITIES AND CONTROLS
   THIS WORK SHALL CONSIST OF THE APPLICATION OF TEMPORARY MEASURES THROUGHOUT THE LIFE OF THE PROJECT.
2. 01 51 00 - TEMPORARY UTILITIES
   ALL CONNECTIONS AND EXTENSIONS REQUIRED TO PROVIDE TEMPORARY UTILITIES SHALL BE MADE BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
3. 01 51 13 - TEMPORARY ELECTRICITY
   CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY POWER FOR CONSTRUCTION SITE. CONNECT TO EXISTING POWER SERVICE WITHOUT DISRUPTING LOCAL SERVICE REQUIREMENTS. POWER FEEDER SERVICE CHARACTERISTICS SHALL BE COMPATIBLE WITH THE SERVICE FROM WHICH IT IS TAKEN. SIZE, TYPE AND LOADING SHALL BE PER REQUIREMENTS AS ESTABLISHED BY THE NATIONAL ELECTRIC CODE (NEC). THE CONTRACTOR SHALL PROVIDE MAIN SERVICE DISCONNECT AND OVER-CURRENT PROTECTION AT A CONVENIENT LOCATION IN ACCORDANCE WITH THE NEC. THE CONTRACTOR SHALL PROVIDE POWER OUTLETS FOR CONSTRUCTION OPERATIONS, WITH BRANCH WIRING AND DISTRIBUTION BOXES LOCATED AS NECESSARY AND SHALL PROVIDE FLEXIBLE POWER CORDS AS REQUIRED. PROVIDE AND INSTALL DISTRIBUTION EQUIPMENT, WIRING AND OUTLETS TO PROVIDE SINGLE PHASE BRANCH CIRCUITS FOR POWER AND LIGHTING.
4. 01 51 23 - TEMPORARY HEATING, COOLING, AND VENTILATING
   CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY HEATING, COOLING AND VENTILATION FOR CONSTRUCTION SITE. CONTRACTOR TO MAINTAIN SYSTEM DURING CONSTRUCTION, WHILE EXERCISING MEASURES TO CONSERVE ENERGY. VENTILATE ENCLOSED AREAS TO ASSIST CURE OF MATERIALS, TO DISSIPATE HUMIDITY AND TO PREVENT ACCUMULATION OF DUST, FUMES, VAPORS OR GASES. SUPPLEMENT WITH TEMPORARY FAN UNITS AS REQUIRED TO MAINTAIN CLEAN AIR FOR CONSTRUCTION OPERATION.
5. 01 51 26 - TEMPORARY LIGHTING
   CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY LIGHTING FOR CONSTRUCTION SITE. PROVIDE AND INSTALL TEMPORARY LIGHTING IN ALL WORK AREAS SUFFICIENT TO MAINTAIN A LIGHTING LEVEL DURING WORKING HOURS NOT LESS THAN THE LIGHTING LEVEL REQUIRED BY OSHA STANDARDS. AS PERMANENT LIGHTING FACILITIES ARE COMPLETED, THEY MAY BE USED IN LIEU OF TEMPORARY FACILITIES. PROVIDE TEMPORARY LIGHTING AS REQUIRED TO SATISFY SAFETY AND SECURITY REQUIREMENTS. MAINTAIN A MINIMUM ILLUMINATION LEVEL OF 30 FOOT-CANDLES MEASURED 3 FT. ABOVE FLOOR IN AREAS WHERE FINISH TRADES ARE PERFORMING WORK. AT EXTERIOR AREAS, PROVIDE 1 FOOT-CANDLE OF LIGHT AFTER DARK FOR SECURITY PURPOSES.
6. 01 51 33 - TEMPORARY TELECOMMUNICATIONS
   CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY TELEPHONE FOR CONSTRUCTION SITE.
7. 01 51 36 - TEMPORARY WATER
   CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY WATER FOR CONSTRUCTION SITE. CONNECT TO AN EXISTING WATER SOURCE FOR CONSTRUCTION OPERATIONS.
8. 01 52 00 - CONSTRUCTION FACILITIES
   FIELD OFFICES AND SHEDS SHALL BE PORTABLE OR MOBILE BUILDINGS, OR BUILDINGS CONSTRUCTED WITH FLOORS RAISED ABOVE THE GROUND, SECURELY FIXED TO FOUNDATIONS, WITH STEPS AND LANDINGS AT ENTRANCE DOORS. STRUCTURALLY SOUND, SECURE, WEATHER TIGHT ENCLOSURES FOR OFFICE AND STORAGE SPACES SHALL BE MAINTAINED DURING PROGRESS OF WORK AND REMOVED AT COMPLETION OF WORK. SIZE OF FIELD OFFICES AND SHEDS SHALL DEPEND ON CONTRACTORS NEEDS. INSTALL APPROPRIATE FIRE EXTINGUISHER. HVAC SHALL BE ADEQUATE TO MAINTAIN COMFORTABLE CONDITIONS. AT COMPLETION OF WORK, ALL TEMPORARY FACILITIES SHALL BE REMOVED AND AREA RESTORED TO NEW CONDITION.
9. 01 52 19 - SANITARY FACILITIES
   EXISTING FACILITIES SHALL NOT BE USED. CONTRACTOR SHALL PROVIDE AND MAINTAIN IN A NEAT AND SANITARY CONDITION SUCH ACCOMMODATIONS FOR THE USE OF HIS EMPLOYEES AS WILL COMPLY WITH LAWS AND REGULATIONS. TEMPORARY TOILET FACILITIES MAY CONSIST OF PORTABLE TOILETS. THE NUMBER SHALL BE BASED ON NUMBER OF WORKERS, 1 TOILET PER 15 WORKERS. TOILET FACILITIES SHALL BE KEPT SUPPLIED AND CLEAN AND IN SANITARY CONDITION UNTIL THE COMPLETION OF THE WORK AND THEN SHALL BE REMOVED FROM THE SITE. UPON REMOVAL THE SITE SHALL BE PROPERLY CLEANED AND GRADED.
10. 01 53 00 - TEMPORARY CONSTRUCTION
    THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FOR DURATION OF WORK ALL REQUIRED TEMPORARY STAIRS, LADDERS, RAMPS, RUNWAYS AND HOISTS FOR USE OF ALL TRADES.
11. 01 54 00 - CONSTRUCTION AIDES
    THE CONTRACTOR TO PROVIDE ALL CONSTRUCTION AIDS NEEDED DURING CONSTRUCTION WHICH SHALL INCLUDE BUT NOT LIMITED TO; ELEVATORS, HOISTS, CRANES, ETC.
12. 01 54 23 - TEMPORARY SCAFFOLDING AND PLATFORMS
    THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FOR DURATION OF WORK ALL REQUIRED TEMPORARY STANDING SCAFFOLDING. 'INDEPENDENT TIED' SCAFFOLDS WILL NORMALLY BE PROVIDED FOR PAINTING, POINTING OR OTHER MAINTENANCE WORK. 'PUTLOG SCAFFOLDS', USED FOR THE CONSTRUCTION OF BRICK WALLS, HAVE ONLY ONE ROW OF STANDARDS WHICH ARE USUALLY ERECTED SOME 900MM FROM THE FACE OF THE WALL, WITH THE BOARDS CARRIED ON HORIZONTAL MEMBERS KNOWN AS 'PUTLOGS'. WHEN USED IN NEW CONSTRUCTION, THE FLATTENED ENDS OF THE PUTLOGS ARE BUILT INTO THE BED JOINTS AS WORK PROCEEDS AND THEN WITHDRAWN ON COMPLETION, THE RESULTING HOLE BEING POINTED UP.
13. 01 55 00 - VEHICULAR ACCESS AND PARKING
    CONSTRUCT AND MAINTAIN TEMPORARY ROADS ACCESSING PUBLIC THOROUGHFARES TO SERVE CONSTRUCTION AREA. ARRANGE PARKING AREAS TO ACCOMMODATE CONSTRUCTION PERSONNEL. DO NOT ALLOW VEHICLE PARKING ON EXISTING PAVEMENT. WHEN SITE SPACE IS NOT ADEQUATE PROVIDE ADDITIONAL OFF-SITE PARKING.
14. 01 56 00 - TEMPORARY BARRIERS AND ENCLOSURES
    THE CONTRACTOR SHALL PROVIDE BARRIERS TO PREVENT UNAUTHORIZED ENTRY INTO CONSTRUCTION AREAS AND TO PROTECT EXISTING FACILITIES AND ADJACENT PROPERTIES FROM DAMAGE FROM CONSTRUCTION OPERATIONS AND DEMOLITION. INSTALL BARRICADES AND COVERED WALKWAYS REQUIRED BY GOVERNING AUTHORITIES FOR PUBLIC RIGHT OF WAYS. WHEN NECESSARY INSTALL CHAIN LINK FENCE AROUND JOB SITE.
15. 01 57 00 - TEMPORARY CONTROLS
    THIS WORK SHALL CONSIST OF THE APPLICATION OF TEMPORARY MEASURES THROUGHOUT THE LIFE OF THE PROJECT TO CONTROL EROSION AND SILTATION. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE USE OF BERMS, DIKES, DAMS, SEDIMENT BASINS, FIBER MATS, SILT FENCES, STRAW BALES, WASHED GRAVEL OR CRUSHED STONE, MULCH, GRASSES, SLOPE DRAINS, TEMPORARY SEEDING AND OTHER METHODS. TEMPORARY EROSION AND SILTATION CONTROL MEASURES AS DESCRIBED HEREIN, SHALL BE APPLIED TO ERODIBLE MATERIAL EXPOSED BY ANY ACTIVITY ASSOCIATED WITH THE CONSTRUCTION AND CONSISTENT WITH STATE AND LOCAL CONTROL STANDARD.
16. 01 58 00 - PROJECT IDENTIFICATION
    WITHIN 15 DAYS AFTER THE COMMENCEMENT OF WORK, PROVIDE ONE PROJECT IDENTIFICATION SIGN AT THE LOCATIONS INDICATED. MAINTAIN SIGN THROUGHOUT THE LIFE OF THE PROJECT. ON THE SIGN, LIST TWO POINTS OF CONTACT BY NAME AND TELEPHONE NUMBER.
17. 01 60 00 - PRODUCT REQUIREMENTS (SCOPE OF WORK)
    ALL MATERIALS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS OR MATERIAL'S INSTITUTE STANDARDS. WHERE THE MANUFACTURER'S RECOMMENDED DETAILS ARE USED, THE MANUFACTURER SHALL BE RESPONSIBLE FOR THE PERFORMANCE OF THEIR PRODUCT. ALL ITEMS NOT SPECIFICALLY MENTIONED THAT ARE REQUIRED TO MAKE THE WORK COMPLETE AND OPERATIONAL SHALL BE INCLUDED. INSTALLATION AND STORAGE - ALL MATERIALS, SUPPLIES AND EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PER APPLICABLE CODES AND REQUIREMENTS. MATERIAL STORED ON SITE SHALL BE PROTECTED FROM DAMAGE BY MOISTURE, WIND, SUN, ABUSE OR ANY OTHER HARMFUL EFFECTS.
18. 01 64 00 - OWNER-FURNISHED PRODUCTS
    CONTRACTOR IS NOT RESPONSIBLE FOR PRODUCTS FURNISHED BY THE OWNER THAT ARE DAMAGED PRIOR TO OPENING OR RECEIVING. ADDITIONAL WORK REQUIRED TO INSTALL OWNER FURNISHED PRODUCTS WILL BE CHARGED TO THE OWNER AND DUE UPON INSTALLATION.
19. 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS
    THE EXECUTION OF ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THESE SPECIFICATIONS AND MANUFACTURER'S WRITTEN SPECIFICATIONS OR MATERIAL'S INSTITUTE STANDARDS. WHERE THE MANUFACTURER'S RECOMMENDED DETAILS ARE USED, THE MANUFACTURER SHALL BE RESPONSIBLE FOR THE PERFORMANCE OF THEIR PRODUCT. ALL WORK NOT SPECIFICALLY MENTIONED THAT IS REQUIRED TO MAKE THE WORK COMPLETE AND OPERATIONAL SHALL BE INCLUDED.
    CODES - CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL BUILDING CODES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND OWNER TO INSURE COMPLIANCE WITH SAID CODES AND MODIFY THE SPECIFICATIONS AS NEEDED TO COMPLY WITH SUCH CODES.
    MEASUREMENTS - THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION. DO NOT SCALE DRAWINGS. NOTED DIMENSIONS TAKE PRECEDENCE.
    WORKMANSHIP - WORKMANSHIP SHALL CONFORM TO THE BEST AND HIGHEST STANDARDS OF QUALITY IN EACH TRADE AND SHALL INCLUDE ALL ITEMS OF FABRICATION, CONSTRUCTION AND INSTALLATION. ALL WORK SHALL BE COMPLETED BY SKILLED TRADESMEN AND MECHANICS. INSTALLATION OF ALL EQUIPMENT AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
    INSURANCE - BUILDERS RISK INSURANCE SHALL BE MAINTAINED BY THE CONTRACTOR DURING THE COURSE OF CONSTRUCTION UNTIL FINAL ACCEPTANCE BY THE OWNER. ALL BONDING AND INSURANCE REQUIREMENTS SHALL BE COORDINATED WITH THE OWNER PRIOR TO BEGINNING CONSTRUCTION. ALL CONTRACTORS SHALL PROVIDE AND BE SOLELY RESPONSIBLE FOR NECESSARY BARRICADES AND SAFETY PRECAUTIONS, AND STRICTLY ADHERE TO ALL GOVERNING CODES ON SAFETY, INCLUDING THE OSHA ACT.
    SQUARE FOOTAGE - INTERIOR FINISHED SQUARE FOOTAGE FIGURES REPRESENT HEATED AND COOLED FLOOR AREA ONLY AND DO NOT INCLUDE ADDITIONAL AREA FOR TWO-STORY OR VAULTED SPACES, GARAGES, DECKS, PORCHES OR ANY OTHER UNFINISHED AREAS. THESE DIMENSIONS ARE GENERALLY MEASURED FROM THE OUTSIDE FACE OF THE STUD.
20. 01 74 00 - CLEANING AND WASTE MANAGEMENT
    THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REGARDING THE REMOVAL AND DISPOSAL OF ALL MATERIALS & EQUIPMENT.
    UNLESS NOTED OTHERWISE, ALL MATERIALS AND ITEMS REMOVED BY THE CONTRACTOR BECOME HIS PROPERTY AND ARE TO BE REMOVED FROM THE SITE IN CLOSED CONTAINERS ON A DAILY BASIS OR IN A MANNER ACCEPTABLE TO THE OWNER AT NO ADDITIONAL COST.
    CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT EACH SUBCONTRACTOR CLEANS UP AND REMOVES, DAILY, ANY AND ALL DEBRIS GENERATED BY CONSTRUCTION OPERATIONS, MAKING READY FOR ALL SUBSEQUENT SUBCONTRACTORS.
    CONSTRUCTION SITE TO BE IN A CLEAN AND ORDERLY CONDITION THROUGHOUT THE CONSTRUCTION PROCESS. CLEAN INTERIOR SPACES PRIOR TO THE START OF FINISH PAINTING AND THE APPLICATION OF OTHER FINISHES. AT THE CONCLUSION OF CONSTRUCTION, THE PROJECT SHALL BE PROPERLY CLEANED. THIS SHOULD INCLUDE BUT NOT BE LIMITED TO; CLEANING THE INTERIOR AND EXTERIOR GLASS, SURFACES EXPOSED TO VIEW, REMOVE TEMPORARY LABELS, STAINS AND FOREIGN SUBSTANCES, POLISH TRANSPARENT AND GLOSSY SURFACES, VACUUM CARPETED AND SOFT SURFACE AREAS, SWEEP AND MOP ALL TILED SURFACES, ETC. REPLACE FILTERS OF OPERATING EQUIPMENT. CLEAN EQUIPMENT AND FIXTURES TO A SANITARY CONDITION. CLEAN EXTERIOR SUCH AS DEBRIS FROM ROOF, GUTTERS, LANDSCAPE AREAS, DRIVEWAYS AND WALKS, ETC. REMOVE ALL WASTE AND SURPLUS MATERIALS.
21. 01 76 00 - PROTECTING INSTALLED CONSTRUCTION
    CONTRACTOR TO PROTECT ALL INSTALLED CONSTRUCTION. IF PRODUCTS OR MATERIALS COME WITH A PROTECTIVE COATING, CONTRACTOR SHALL MAINTAIN PROTECTIVE COATING UNTIL CONSTRUCTION IS COMPLETE. CONTRACTOR SHALL REPLACE ANY ITEMS THAT BECOME DEFECTIVE OR DAMAGED.

DIVISION 02 00 00. EXISTING CONDITIONS

1. 02 00 00 - EXISTING CONDITIONS
   THE DEMOLITION WORK SHOWN ON THIS PLAN IS INTENDED TO BE A GENERAL OVERVIEW OF MAJOR
   CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS AND PROVIDE NECESSARY SITE WORK, EXCAVATION AND GRADING AS REQUIRED TO CONSTRUCT SAID PROJECT.
2. 02 41 00 - DEMOLITION
   DEMOLITION WORK SHOWN ON THIS PLAN IS INTENDED TO BE A GENERAL OVERVIEW OF MAJOR DEMOLITION WORK REQUIRED. IT IS NOT A COMPLETE AND EXCLUSIVE REPRESENTATION OF ALL DEMOLITION WORK NEEDED FOR EXECUTION OF THE PROJECT.
   THE CONTRACTORS SHALL TAKE INTO ACCOUNT THEIR METHODS OF CONSTRUCTION FOR THE NEW WORK AND INCLUDE IN THE BID THE COST OF ADDITIONAL DEMOLITION WORK NECESSARY TO FACILITATE THE CONSTRUCTION.
   NO DEMOLITION SHALL BEGIN UNTIL PROPER PROTECTION IS IN PLACE (SUCH AS SHORE, BRACE, ETC OF ANY LOAD BEARING WALL, COLUMN, BEAM, ETC.) TO ENSURE THE SAFETY OF THE PUBLIC, THE BUILDING OCCUPANTS, CONSTRUCTION WORKERS.
   PRIOR TO PERFORMING DEMOLITION WORK, ALL PLUMBING, MECHANICAL OR ELECTRICAL DISCONNECTS SHALL BE MADE BY THE RESPECTIVE TRADES AS REQUIRED FOR NEW INSTALLATION. NOTE: THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DIMINISHED NOR SHALL EXISTING FIRE ALARM DEVICES BE REMOVED UNTIL NEW DEVICES ARE READY FOR SWITCHOVER.
   CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND CONTINUOUS MAINTENANCE OF ALL WORK FROM DAMAGE AND SHALL PROTECT THE OWNER'S PROPERTY FROM DAMAGE OR LOSS BY DUST, DIRT, WATER, THEFT, FIRE OR ANY OTHER PHYSICAL DAMAGE IN CONNECTION WITH THE CONTRACT.
   PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO PERFORM THE REQUIRED DEMOLITION OF EXISTING PAVEMENT NO LONGER NEEDED FOR ACCESS OR PARKING, ABANDONED UTILITIES AND STRUCTURES WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION. WHEN REQUIRED INSTALL CHAIN LINK FENCING AROUND THE AREA OF DEMOLITION WORK. PROTECT ALL ADJACENT AREAS NOT TO BE DEMOLISHED. REMOVE ALL DEBRIS FROM JOB SITE BEFORE CONSTRUCTION BEGINS.
   IF NOT OTHERWISE NOTED OR DETAILED, ALL SURFACES LEFT ROUGH OR UNFINISHED BY CONTRACTOR AND/OR SUBCONTRACTOR'S DEMOLITION AND WHICH ARE EXPOSED TO VIEW, SHALL BE PATCHED TO MATCH ADJACENT SURFACES AND FINISHED TO PROVIDE A UNIFORM APPEARANCE WITH REGARD TO SIZE, SHAPE, COLOR, TEXTURE AND MATERIAL.
   ALL PENETRATIONS IN RATED ASSEMBLIES, WHETHER NEW OR EXISTING, SHALL BE SEALED WITH UL/FM APPROVED MATERIALS AND PROCEDURES. NOTIFY ARCHITECT OF QUESTIONABLE CONDITIONS.
   IF THERE ARE SOME SPECIFIC ITEMS DESIGNATED BY THE ARCHITECT FOR SALVAGE. THESE ITEMS ARE INTENDED FOR REUSE IN THE NEW CONSTRUCTION. THE CONTRACTOR MUST TAKE CARE IN THE REMOVAL AND STORAGE OF THESE ITEMS UNTIL THEY ARE NEEDED IN THE NEW CONSTRUCTION.
3. 02 80 00 - FACILITY REMEDIATION
   CONTRACTOR TO ABATE ANY HAZARDOUS MATERIAL OR SUBSTANCE BEFORE BEGINNING CONSTRUCTION. CONTACTOR SHALL CONTRACT WITH A PROPERLY LICENSED AND QUALIFIED HAZARDOUS MATERIAL CONTRACTOR.
   THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REGARDING THE REMOVAL AND DISPOSAL OF ALL MATERIALS & EQUIPMENT.
4. 02 81 00 - TRANSPORTATION AND DISPOSAL OF HAZARDOUS MATERIALS
   REMOVE AND DISPOSE OF ANY HAZARDOUS MATERIAL BEFORE BEGINNING CONSTRUCTION. CONTACTOR SHALL CONTRACT WITH A PROPERLY LICENSED AND QUALIFIED HAZARDOUS MATERIAL CONTRACTOR.

DIVISION 03 00 00. CONCRETE

1. 03 00 00 - CONCRETE
   CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS AND PROVIDE LABOR AND MATERIALS PERTAINING TO CONCRETE AND FOUNDATIONS AS REQUIRED IN SAID DOCUMENTS AND AS SPECIFIED HEREIN, WHILE COMPLYING WITH ALL APPLICABLE BUILDING CODES.
2. 03 05 00 - COMMON WORK RESULTS FOR CONCRETE
   ALL CONCRETE WORK SHALL BE DESIGNED ON THE BASIS OF "STRENGTH DESIGN" IN ACCORDANCE WITH ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE." AND BE IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE FOR DETAILING OF REINFORCED CONCRETE STRUCTURE (ACI 315). CONCRETE WORK SHALL BE PROPORTIONED IN ACCORDANCE WITH ACI 301 " SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI 211.1 " RECOMMENDED PRACTICE FOR SELECTING PROPORTIONS FOR NORMAL WEIGHT CONCRETE". CONCRETE SLABS, PATIOS, DRIVEWAYS, WALLS AND FOUNDATIONS SHALL BE CONSTRUCTED OF A MINIMUM 3500 PSI CONCRETE, 28 DAY TEST, WITH A 4" MINIMUM TO 5" MAXIMUM SLUMP MAXIMUM, AIR-ENTRAINED TO 5 - 8%. NO ADDITIONAL WATER SHALL BE ADDED TO CONCRETE AFTER SLUMP TEST IS RECORDED. CYLINDERS SHALL BE TAKEN FROM EVERY BATCH TRUCK AND TESTED FOR COMPRESSIVE STRENGTH AT 7 AND 28 DAYS. CONCRETE SHOULD BE A MIX OF HIGH GRADE PORTLAND CEMENT, CLEAN SAND OR GRANULAR FILL AND WASHED GRAVEL OR CRUSHED STONE AS COARSE AGGREGATE PER ACI 530. MAXIMUM AGGREGATE SIZE SHALL BE ◊". ALL AGGREGATES SHALL CONFORM TO ASTM C33. GRAVEL SHOULD BE WELL GRADED AND NOT EXCEED 1 1/2" IN SIZE. WATER SHALL NOT EXCEED 5 1/2 GALLONS FOR EACH BAG, UNLESS SAND IS VERY DRY. CONCRETE SHALL BE MIXED USING AN APPROVED BATCH MACHINE OR MOBILE MIXER UNTIL UNIFORM IN COLOR AND PROVIDING A 4" MINIMUM TO 5" MAXIMUM SLUMP.
3. 03 10 00 - CONCRETE FORMING AND ACCESSORIES
   PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THE PLAIN AND REINFORCED CONCRETE CALLED FOR ON THE PLANS. CONCRETE WHEN DEPOSITED SHALL HAVE A TEMPERATURE RANGING BETWEEN A MINIMUM OF 50 DEGREES FAHRENHEIT AND A MAXIMUM OF 90 DEGREES FAHRENHEIT.
   CONSTRUCTION OF FORMS - CONSTRUCT WOOD FORMS OF SOUND MATERIAL, AND OF THE CORRECT SHAPE AND DIMENSIONS, CONSTRUCTED TIGHTLY AND OF SUFFICIENT STRENGTH. BRACE AND TIE THE FORMS TOGETHER. MAKE JOINTS AND SEAMS MORTAR TIGHT. INSTALL LEAKAGE CONTROL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
   CHAMFERED CORNERS - UNLESS OTHERWISE NOTED, PROVIDE CHAMFERED CORNERS ON ALL EXPOSED CORNERS. PROVIDE 3/4 INCH MOLDINGS IN FORMS FOR ALL CHAMFERING REQUIRED.
   EMBEDDED ITEMS - MAKE PROVISIONS FOR SLEEVES, ANCHORS, INSERTS, WATER-STOPS AND OTHER FEATURES.
   FORM TIES - USE FORM TIES OF SUFFICIENT STRENGTH AND IN SUFFICIENT QUANTITIES TO PREVENT SPREADING OF THE FORMS. PLACE TIES AT LEAST 1 INCH AWAY FROM THE FINISHED SURFACE OF THE CONCRETE. DO NOT USE TIES CONSISTING OF TWISTED WIRE LOOPS. LEAVE INNER RODS IN CONCRETE WHEN FORMS ARE STRIPPED. SPACE ALL FORM TIES EQUIDISTANT AND SYMMETRICAL AND LINE UP BOTH VERTICALLY AND HORIZONTALLY.
   CLEANOUTS AND ACCESS PANELS - PROVIDE REMOVABLE CLEANOUT SECTIONS OR ACCESS PANELS AT THE BOTTOM OF ALL FORMS TO PERMIT INSPECTION AND EFFECTIVE CLEANING OF LOOSE DIRT, DEBRIS AND WATER MATERIAL. CLEAN ALL FORMS AND SURFACES TO RECEIVE CONCRETE OF ALL CHIPS, SAWDUST, AND OTHER DEBRIS AND THOROUGHLY BLOW OUT WITH COMPRESSED AIR JUST BEFORE CONCRETE IS PLACED.
4. 03 15 13 - CONCRETE ACCESSORIES
   PROVIDE 1/2" THICK BY 4" WIDE BITUMINOUS EXPANSION JOINT MATERIAL AT ALL SURFACES WHERE SLABS ADJOIN RAISED SLAB, CRAWLSPACE OR BASEMENT STEM-WALL CMU OR POURED FOUNDATIONS.
5. 03 21 00 - REINFORCING STEEL
   REINFORCING STEEL (REBAR) SHALL BE MINIMUM ASTM A615, GRADE 60. ALL REINFORCEMENT SPLICES SHALL BE AS FOLLOWS: #5 BARS 25" MINIMUM, #7 BARS 35" MINIMUM. WHERE REBARS ARE TO BE OVERLAPPED LEAVE AT LEAST 2 BAR DIAMETERS BETWEEN BARS. LOCATE VERTICAL REBAR (REINFORCING STEEL) 4'-0" ON CENTER (OC). ALL REINFORCEMENT SPLICES SHALL BE IN ACCORDANCE WITH ACI 318 FOR "STRENGTH DESIGN.". ALL REINFORCEMENT STEEL SHALL BE ACCURATELY PLACED, RIGIDLY SUPPORTED, AND FIRMLY TIED IN PLACE WITH BAR SUPPORTS AND SPACERS IN ACCORDANCE WITH ACI 301 AND ACI 318.
   THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT: [CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: (3")] [CONCRETE EXPOSED TO EARTH OR WEATHER: (#6 THROUGH #8 BARS: 2") (#5 BAR, W31 OR D31 WIRE AND SMALLER: 1 1/2")] [CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: (#14 AND #18 BARS: 1 1/2") (#11 BAR AND SMALLER: 3/4") (BEAMS AND COLUMNS PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS: 1 1/2")]
6. 03 22 00 - WELDED WIRE FABRIC REINFORCING
   WELDED WIRE FABRIC SHALL CONFORM TO ASTM A82 AND A185 AND BE LOCATED IN THE CENTER OF THE DEPTH. INSTALL AT SLAB ON GRADE CONDITION
7. 03 30 00 - FOOTINGS
   CENTER ALL FOOTINGS ON WALLS, PIERS, OR COLUMNS ABOVE UNLESS OTHERWISE NOTED. ALL FOOTINGS SHALL REST ON UNDISTURBED VIRGIN SOIL WITH MINIMUM SOIL BEARING ALLOWABLE OF 4000 PSF, TESTED FOR 95 PERCENT COMPACTION, OR 3/4" STONE COMPACTED IN 12" LIFTS TO 95 PERCENT DENSITY IF FILL IS REQUIRED. FOOTINGS AT BUILDING PERIMETER SHALL BE A MINIMUM OF 12" BELOW FROST LINE AND 24" WIDE, (ALL BOTTOM OF FOOTINGS TO BE MINIMUM 3'-6" BELOW FINISHED GRADE) CONSTRUCTED OF 3000 PSI CONCRETE. PROVIDE 3 - #5 REBAR (REINFORCING STEEL) CONTINUOUS THROUGH FOOTERS AND #5 BARS 12" O.C. PERPENDICULAR TO FOOTING. PROVIDE #5 REBAR (REINFORCING STEEL) CORNER BARS AT ALL CORNERS AND INTERSECTIONS OF FOOTERS, BEAMS AND WALLS. EACH SIDE SHOULD OVERLAP 2'-0", WITH A 90 DEGREE BEND. FOOTERS SHALL BEAR ON UNDISTURBED SOIL AND KEPT FREE FROM GROUND WATER. UNDERNEATH LOAD-BEARING WALLS AND INTERIOR OR EXTERIOR COLUMN FOOTINGS, THICKEN SLABS WITHIN A 1' RADIUS TO 12"THICK. ALL PLUMBING SLOTS TO BE FILLED WITH CONCRETE TO THE SAME DEPTH AS THE SLAB AFTER PIPING IS INSTALLED.
8. 03 30 01 - SLAB FOUNDATIONS
   CONCRETE FLOOR SLABS SHALL BE CONSTRUCTED OF 3500 PSI CONCRETE, 4" THICK REINFORCED WITH 10 GAUGE 6" X 6" WELDED-WIRE MESH CONTINUOUS AND REBAR (REINFORCING STEEL) AS PER PLANS. PLACE SLABS OVER WELL-COMPACTED GRANULAR FILL COMPACTED IN 12 INCH LIFTS TO 95 PERCENT DENSITY PER AASHTO T-180 PROCTOR, AND A 15 MIL VAPOR BARRIER (STEGO WRAP). CONSTRUCTION OR CONTROL JOINTS SHALL BE PROVIDED IN SLABS ON GRADE SO THAT THE MAXIMUM AREA BETWEEN JOINTS SHALL BE 400 SQ. FT. AND THE LENGTH OF THAT AREA IS NOT MORE THAN TWICE THE WIDTH. PROVIDE SMOOTH STEEL TROWEL FINISH FOR ALL INTERIOR SLAB AREAS AND GARAGE SURFACES. PROVIDE BROOM FINISH TEXTURE FOR ALL EXTERIOR SLABS. SLOPE EXTERIOR PATIO OR PORCH SLABS AWAY FROM BUILDING AT 1/4" OF DROP IN ELEVATION FOR EVERY 1'-0" IN DISTANCE. AT GARAGE SLAB, PROVIDE POSITIVE DRAINAGE AND TAPER LIP AT GARAGE/OVERHEAD DOOR.
9. 03 35 00 - CONCRETE FINISHING
   REPAIR OF SURFACE DEFECTS SHALL BEGIN IMMEDIATELY AFTER REMOVAL OF FORM OR POURING OF SLAB FOUNDATION. PROVIDE SMOOTH STEEL TROWEL FINISH FOR ALL INTERIOR SLAB AREAS AND GARAGE SURFACES. PROVIDE BROOM FINISH TEXTURE FOR ALL EXTERIOR SLABS. SLOPE EXTERIOR PATIO OR PORCH SLABS AWAY FROM BUILDING AT 1/4" OF DROP IN ELEVATION FOR EVERY 1'-0" IN DISTANCE. AT GARAGE SLAB, PROVIDE POSITIVE DRAINAGE AND TAPER LIP AT GARAGE/OVERHEAD DOOR. PATCH ALL VOIDS AND DEPRESSIONS EXCEEDING 3/8 INCH IN ANY DIRECTION.
10. 03 40 00 - PRECAST CONCRETE
    PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO PROVIDE CONCRETE STRUCTURES AS CALLED FOR ON THE PLANS. ERECT PRE-CAST CONCRETE UNITS AND ACCURATELY INSTALL IN PLACE WITH HOISTING EQUIPMENT MORE THAN ADEQUATE FOR THE LOADS. AT COMPLETION, UNITS SHALL BE PLUMB, LEVEL AND SQUARE, TRUE TO LINE, WITH ANGLES AND EDGES PARALLEL WITH RELATED BUILDING LINES.
    ALL CONCRETE USED IN THE MANUFACTURE OF PRECAST CONCRETE FOUNDATIONS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI (34 470 KPA) AT 28 DAYS. CONCRETE EXPOSED TO A FREEZING AND THAWING ENVIRONMENT SHALL BE AIR ENTRAINED WITH A MINIMUM TOTAL AIR CONTENT OF 5 PERCENT.
    STRUCTURAL REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF ASTM A 615, A 706 OR A 996. THE MINIMUM YIELD STRENGTH OF REINFORCING STEEL SHALL BE 40,000 PSI (GRADE 40) (276 MPA). STEEL REINFORCEMENT FOR PRECAST CONCRETE FOUNDATION WALLS SHALL HAVE A MINIMUM CONCRETE COVER OF 3/4 INCH (19.1 MM).
    PANEL-TO-PANEL CONNECTIONS SHALL BE MADE WITH GRADE II STEEL FASTENERS.
    THE USE OF NONSTRUCTURAL FIBERS SHALL CONFORM TO ASTM C 1116.
    GROUT USED FOR BEDDING PRECAST FOUNDATIONS PLACED UPON CONCRETE FOOTINGS SHALL MEET ASTM C 1107.
    CLEAN CRUSHED STONE SHALL BE FREE FROM ORGANIC, CLAY OR SILTY SOILS.CRUSHED STONE SHALL BE ANGULAR IN NATURE AND MEET ASTM C 33, WITH THE MAXIMUMSIZE STONE NOT TO EXCEED 1/2 INCH (12.7MM)AND THE MINIMUM STONE SIZE NOT TO BE SMALLER THAN 1/16-INCH (1.6 MM). CRUSHED STONE FOOTINGS FOR PRECAST FOUNDATIONS SHALL BE INSTALLED IN ACCORDANCE WITH FIGURE R403.4(1) AND TABLE R403.4. CRUSHED STONE FOOTINGS SHALL BE CONSOLIDATED USING A VIBRATORY PLATE IN A MAXIMUM OF 8-INCH LIFTS. CRUSHED STONE FOOTINGS SHALL BE LIMITED TO SEISMIC DESIGN CATEGORIES A, B AND C.
    PRECAST CONCRETE FOUNDATION WALL DESIGN DRAWINGS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND ARCHITECT AND APPROVED PRIOR TO INSTALLATION. DRAWINGS SHALL INCLUDE, AT A MINIMUM, THE INFORMATION SPECIFIED BELOW:
    1. DESIGN LOADING AS APPLICABLE;
    2. FOOTING DESIGN AND MATERIAL;
    3. CONCENTRATED LOADS AND THEIR POINTS OF APPLICATION;
    4. SOIL BEARING CAPACITY;
    5. MAXIMUM ALLOWABLE TOTAL UNIFORM LOAD;
    6. SEISMIC DESIGN CATEGORY; AND
    7. BASIC WIND SPEED.
    PRECAST CONCRETE FOUNDATION WALL PANELS SHALL BE IDENTIFIED BY A CERTIFICATE OF INSPECTION LABEL ISSUED BY AN APPROVED THIRD PARTY INSPECTION AGENCY.
11. 03 50 00 - CAST DECKS AND UNDERLAYMENT
    INSTALL CEMENTITIOUS BACKER-BOARD UNDER CERAMIC TILE, MARBLE AND STONE FINISHES. USE STRAIGHT EDGE AS GUIDE TO SCORE SHEET'S FACE WITH CARBIDE TIPPED SCORING KNIFE AND SNAP UPWARD ALONG THE SCORE LINE. LARGE CUTOUTS USE A CIRCULAR SAW WITH CARBIDE TIPPED BLADE.
    FLOOR INSTALLATION - INSTALL OVER INTERIOR WOOD OR CONCRETE SUB-FLOORS ENSURE SUB-FLOOR IS STRUCTURALLY SOUND. ENSURE THE SUB-FLOOR IS NOT DAMAGED. REPLACE ANY LOOSE, WARPED OR DAMAGED BOARDS. MAKE CERTAIN SUB-FLOOR IS CLEAN AND FLAT. EXTERIOR GRADE PLYWOOD OR HARDWOOD SUB-FLOOR SHOULD BE AT LEAST 1 1//4" THICK (5/8" MINIMUM) IN ORDER TO PROVIDE FOR A STRUCTURALLY SOLID, MOVEMENT FREE FOUNDATION. IN ADDITION, THE SPACE BETWEEN THE JOISTS SHOULD NOT EXCEED 16" ON CENTER. IN ANY CASE, THE MAXIMUM ALLOWABLE CONCENTRATED DEFLECTION OF YOUR SUB-FLOOR MAY NOT EXCEED L/360 OF THE SPAN. STAGGER JOINTS. DO NOT ALIGN WITH PLYWOOD JOINTS. NEVER ALLOW ALL FOUR CORNERS OF SHEETS TO MEET AT ONE POINT. APPLY A DRY SET MORTAR OR MODIFIED THINSET TO SUB-FLOOR PER MANUFACTURER'S RECOMMENDATIONS. FASTEN BACKER-BOARD SHEETS WITH PROPER NAILS OR SCREWS EVERY 8" OVER THE ENTIRE SURFACE. KEEP THE FASTENERS BETWEEN 3/8" AND 3/4" FROM SHEET EDGES AND 2" IN FROM SHEET CORNERS. PROVIDE EXPANSION JOINTS WHERE REQUIRED.
    COUNTERTOP INSTALLATION - ENSURE CABINETS ARE LEVEL AND SECURE. USE MINIMUM 1/2" EXTERIOR GRADE PLYWOOD POSITIONED ACROSS THE WOOD CABINET. SPACE BETWEEN PLYWOOD SUPPORTS IS NOT TO EXCEED 16" ON CENTER. SO NOT ALIGN BACKER-BOARD WITH PLYWOOD JOINTS. SHEET ENDS AND EDGES MUST BE SUPPORTED BY PERIMETER FRAMING. APPLY A DRY SET MORTAR OR MODIFIED THINSET TO PLYWOOD PER MANUFACTURER'S RECOMMENDATIONS. FASTEN BACKER-BOARD SHEETS WITH PROPER NAILS OR SCREWS EVERY 8" OVER THE ENTIRE SURFACE. KEEP THE FASTENERS BETWEEN 3/8" AND 3/4" FROM SHEET EDGES AND 2" IN FROM SHEET CORNERS. PROVIDE EXPANSION JOINTS WHERE REQUIRED.
    WALL INSTALLATION - ENSURE FRAMING IS STRUCTURALLY SOUND. NOMINAL 2" X 4" WOOD OR MINIMUM 20 GAUGE METAL STUDS MUST BE STRAIGHT PROPERLY ALIGNED AND SPACED A MAXIMUM OF 16" ON CENTER. IN TUB AND SHOWER ENCLOSURES, ENSURE THAT THE FRAMING IS ADEQUATELY REINFORCED AT THE CORNERS. SHEETS MAY BE INSTALLED VERTICALLY OR HORIZONTALLY. SCORE AND SNAP SHEETS TO REQUIRED SIZES AND MAKE NECESSARY CUT OUTS. ALL JOINT ENDS AND EDGES MUST BE SUPPORTED BY A STRUCTURAL FRAMING MEMBER OR ADDED BLOCKING. IN WET AREAS, INSTALL A MOISTURE BARRIER (SUCH AS 15 LB. FELT) BETWEEN STUDS AND BACKER-BOARD. INSTALL SHEETS 1/4" ABOVE FLOOR, TUB OR SHOWER PAN. FASTEN BACKER-BOARD SHEETS WITH PROPER NAILS OR SCREWS EVERY 8" OVER THE ENTIRE SURFACE. KEEP THE FASTENERS BETWEEN 3/8" AND 3/4" FROM SHEET EDGES AND 2" IN FROM SHEET CORNERS. SET FASTENER HEADS FLUSH WITH THE SURFACE, WITHOUT OVERDRIVING. PROVIDE EXPANSION JOINTS WHERE REQUIRED.
12. 03 60 00 - GROUTING
    CONCRETE SURFACES TO RECEIVE GROUT SHALL BE PREPARED BY REMOVING DEFECTIVE CONCRETE, DIRT, OIL, GREASE AND OTHER FOREIGN MATTER TO ACHIEVE SOUND, CLEAN CONCRETE SURFACES.
    GROUTING- MIX UP GROUT PER MANUFACTURERS RECOMMENDATIONS. USE A PADDED GROUT FLOAT TO SPREAD THE GROUT OVER A WORKABLE SECTION OF TILE. PUSH THE GROUT DIAGONALLY ACROSS THE JOINTS TO FORCE IT DOWN INTO THE GAPS. GROUT ALL THE JOINTS EXCEPT THOSE NEEDED TO ALLOW FOR EXPANSION JOINTS SPECIFICALLY ALONG FIXTURES, BETWEEN THE FLOOR AND WALLS, OR JOINTS IN CORNERS IN BETWEEN WALLS. EXPANSION JOINTS WILL BE SEALED WITH CAULK AFTER THE GROUTING PROCESS. ONCE THE APPROPRIATE JOINTS ARE PACKED WITH GROUT, SCRAP THE EXCESS GROUT OFF THE SURFACE OF THE TILE WITH THE GROUT FLOAT. HOLD THE FLOAT AT A SHARP ANGLE AND AGAIN USE DIAGONAL STROKES TO KEEP FROM DIGGING GROUT OUT OF THE JOINTS. CLEAN UP THE EXCESS GROUT WITH A DAMP SPONGE AND A COUPLE BUCKETS OF CLEAN WATER. WIPE EXCESS GROUT OFF THE SURFACE OF THE TILES USING A CLEAN SPONGE IN CIRCULAR STROKES. ONCE THE TILE SURFACE IS CLEAN, MAKE ANOTHER PASS PARALLEL TO THE GROUT LINES TO SHAPE THE GROUT LINES IN THE JOINTS. SMOOTH THE JOINTS DOWN A LITTLE BELOW THE SURFACE OF THE TILE. CLEAN THE REMAINING HAZE OFF THE SURFACE OF THE TILE WITH A SPONGE OR A SOFT RAG. IN 24 TO 48 HOURS AFTER THE GROUT HAS HARDENED, CAULK USING A CLEAR TUB/SHOWER CAULK OR ONE IN A COLOR THAT MATCHES THE GROUT IN THE AREAS THAT YOU ALLOWED FOR YOUR EXPANSION JOINTS AND OVER JOINTS THAT MAY CRACK BECAUSE OF MOVEMENT. SPECIFICALLY AREAS BETWEEN FLOOR TILE AND CABINET TOEKICK; BETWEEN FLOOR OR WALL TILE AND BATHTUB OR SHOWER; BETWEEN FLOOR AND WALL TILE; AND AT THE INSIDE CORNER WHERE TWO WALLS MEET. FILL THE JOINTS COMPLETELY THEN SMOOTH THEM OUT WITH A DAMP RAG OR APPROPRIATE TOOL. CAULK AROUND PLUMBING VALVES, SINKS AND FAUCETS TO SEAL THEM FROM WATER PENETRATION. GLAZED CERAMIC TILE SURFACES ONLY REQUIRE GROUT JOINTS TO BE SEALED WHICH WILL PROVIDE AN ENHANCED WATER AND MILDEW RESISTANT SURFACE. APPLY A SILICONE OR WATER-BASED GROUT SEALER TO ALL JOINTS PER MANUFACTURER'S RECOMMENDATIONS A MINIMUM OF 14 DAYS AFTER GROUT HAS BEEN INSTALLED.
    NONSHRINK GROUT - GROUT FOR STEEL COLUMN BASES TO BE NON-SHRINK WITH F 'C=5,000 P.S.I.. NONMETALLIC, SHRINKAGE-RESISTANT GROUT: ASTM C 1107, FACTORY-PACKAGED, NONMETALLIC AGGREGATE GROUT, NONCORROSIVE AND NONSTAINING, MIXED WITH WATER TO CONSISTENCY SUITABLE FOR APPLICATION AND A 30-MINUTE WORKING TIME. LIGHTLY ROUGHEN CONCRETE SURFACE FOR MAXIMUM BONDING PER MANUFACTURER'S RECOMMENDATIONS. COVER CONCRETE AREAS WITH PROTECTIVE WATERPROOF COVERING UNTIL READY TO PLACE GROUT. ALIGN AND LEVEL COMPONENTS TO BE GROUTED AND MAINTAIN IN FINAL POSITION UNTIL GROUT PLACEMENT IS COMPLETE AND ACCEPTED. INSTALL FORMS FOR GROUT AROUND BASES AND OTHER SPACES TO BE GROUTED. THE TOPS OF SUCH FORMS SHALL BE ONE INCH ABOVE THE SURFACES TO BE GROUTED. PLACE GROUT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. POUR GROUT FROM ONE SIDE ONLY UNTIL GROUT RISES AT LEAST ONE INCH ABOVE THE PLATE ON OPPOSITE SIDE OR SAID PLATE. NEATLY TROWEL EDGES OF GROUT BASE, TAPERED AT AN ANGLE OF 60 DEGREES.

DIVISION 04 00 00. MASONRY

1. 04 00 00 - MASONRY
   CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS AND PROVIDE LABOR AND MATERIALS PERTAINING TO MASONRY WORK AS REQUIRED IN SAID DOCUMENTS AND AS SPECIFIED HEREIN, WHILE COMPLYING WITH ALL APPLICABLE BUILDING CODES.
2. 04 01 20.52 - UNIT MASONRY CLEANING
   DRY BRUSH MASONRY SURFACE AT THE END OF EACH DAY'S WORK AND AFTER FINAL POINTING USING WIRE BRUSHES TO REMOVE MORTAR BUT EXERCISE CARE NOT TO SCRATCH OR DAMAGE WORK. FOR FINAL CLEANING, SCHEDULE AT LEAST SEVEN DAYS AFTER THE BRICK MASONRY IS COMPLETED. REMOVE LARGER MORTAR PARTICLES BY HAND WITH WOODEN PADDLES AND NON-METALLIC SCRAPE HOES OR CHISELS. PROTECT METAL, GLASS, WOOD, LIMESTONE AND CAST STONE SURFACES. MASK OR OTHERWISE PROTECT WINDOWS, DOORS, AND ORNAMENTAL TRIM FROM CLEANING SOLUTIONS. PRESOAK OR SATURATE THE AREA TO BE CLEANED. FLUSH WITH WATER FROM THE TOP DOWN. STARTING AT TOP APPLY THE CLEANING SOLUTION BASED ON THE TYPE OF BRICK INSTALLED. USE A LONG HANDLED STIFF FIBER BRUSH OR OTHER TYPE AS RECOMMENDED BY THE CLEANING SOLUTION MANUFACTURER. ALLOW THE SOLUTION TO REMAIN ON THE BRICK FOR 5 TO 10 MINUTES. RISE THOROUGHLY. FLUSH WALLS WITH LARGE AMOUNTS OF CLEAN WATER FROM THE TOP TO BOTTOM BEFORE THEY CAN DRY.
3. 04 05 13 - MASONRY MORTARING
   MORTAR SHALL BE TYPE "S" IN ACCORDANCE WITH ASTM C270, 2500 PSI. GROUT SHALL BE IN ACCORDANCE WITH ASTM C270, TYPE M, 2500 PSI CONCRETE USING PEA GRAVEL FOR COARSE AGGREGATE WITH A MAXIMUM AGGREGATE SIZE OF 3/8" AND AN 8" MINIMUM TO 11" MAXIMUM SLUMP. LIME SHALL BE HYDRATED TYPE S AS PER ASTM C207. SAND SHALL CONFORM TO ATM C144. WATER SHALL BE CLEAN AND POTABLE. MORTAR JOINTS SHALL BE 3/8" THICK, FINISHED TO PRODUCE A CONCAVE FORM. MORTAR OR GROUT NOT USED WITHIN 2 1/2 HOURS AFTER MIXING SHALL NOT BE USED IN MASONRY WORK. IN HOT WEATHER ADD WATER AS NEEDED TO SUPPLEMENT EVAPORATION LOSSES. IN COLD WEATHER, WHEN AIR TEMPERATURES RANGE BETWEEN 32 DEGREES AND 40 DEGREES FAHRENHEIT, HEAT MIXING WATER OR AGGREGATE TO BETWEEN 70 DEGREES AND 160 DEGREES FAHRENHEIT MAXIMUM. WHEN AIR TEMPERATURE IS BELOW 32 DEGREES FAHRENHEIT HEAT BOTH THE MISSING WATER AND AGGREGATE TO BETWEEN 70 DEGREES AND 160 DEGREES FAHRENHEIT MAXIMUM.
   BRICK MORTAR: MANUFACTURER AND COLOR TO BE DETERMINED BY OWNER
   CONCRETE MORTAR: MANUFACTURER AND COLOR TO BE DETERMINED BY OWNER
4. 04 05 19 - MASONRY ANCHORAGE AND REINFORCING
   BRICK TIES - INSTALL CORRUGATED METAL, METAL WIRE BRICK TIES. THE BRICK VENEER MUST BE SECURELY ATTACHED TO THE EXISTING CONSTRUCTION. PROVIDE ONE TIE FOR EACH 2 2/3 SQ FT OF WALL AREA. THE MAXIMUM SPACING OF TIES, EITHER HORIZONTALLY OR VERTICALLY, SHOULD NOT EXCEED 24 INCHES. THIS TIE SPACING APPLIES ABOVE AND BELOW GRADE. THE ABOVE GRADE SPACING MAY BE REDUCED TO ONE TIE FOR EACH 3 1/4 SQ FT OF WALL AREA FOR ONE AND TWO FAMILY DWELLINGS NOT EXCEEDING ONE STORY IN HEIGHT.
   TIE FASTENERS - WOOD FRAME - INSTALL CORROSION RESISTANT NAILS TO ATTACH THE CORRUGATED METAL TIES TO WOOD FRAME CONSTRUCTION. THE NAILS SHOULD PENETRATE AT LEAST 1 1/4" INTO THE WOOD STUDS.
   METAL - CORROSION RESISTANT, SELF TAPPING METAL SCREWS SHOULD BE USED TO ATTACH METAL WIRE TIES TO METAL CONSTRUCTION. SCREWS SHOULD PENETRATE AT LEAST 1/2 INCH INTO THE METAL STRUCTURE.
   CONCRETE OR MASONRY - INSTALL TIES WITH LAG BOLTS AND EXPANSION SHIELD OR MASONRY NAILS. THE FASTENERS AND ANCHORS SHOULD BE CORROSION RESISTANT. WHEN INSTALLING A CONTINUOUS STEEL ANGLE IT SHOULD CONFORM TO ASTM A36 AND BE TREATED TO RESIST CORROSION. STEEL ANGLES FOR LINTELS SHOULD BE A MINIMUM 1/4" THICK WITH AT LEAST 3 INCH LEGS.
5. 04 05 23 - MASONRY ACCESSORIES
   FLASHING - FLASHING MATERIALS MAY BE BITUMINOUS MEMBRANES, PLASTICS, SHEET METALS OR A COMBINATION OF THESE. CONTINUOUS FLASHING SHALL BE INSTALLED AT THE BOTTOM OF THE AIR SPACE. FLASHING MUSH BE AT OR ABOVE GRADE. FLASHING SHOULD BE INSTALLED AT THE HEADS AND SILLS OF ALL OPENINGS AND WHEREVER THE AIR SPACE IS INTERRUPTED. FLASHING SHOULD EXTEND THROUGH THE FACE OF THE BRICK VENEER TO FORM A DRIP EDGE. WHERE THE FLASHING IS NOT CONTINUOUS, SUCH AS AT HEADS AND SILLS, THE ENDS SHOULD BE TURNED UP APPROXIMATELY 1 INCH.
   WEEPHOLES - MASONRY WEEPHOLES, EACH HAVING AN AREA OF AT LEAST 70 MM (0.1 SQ.IN.), ARE REQUIRED ABOVE FLASHING IN MASONRY CAVITY WALL CONSTRUCTION. WEEPHOLES SHOULD BE LOCATED IN THE HEAD JOINTS IMMEDIATELY ABOVE THE FLASHING, AND SPACED AT 16" ON CENTER. IF OPEN HEAD JOINTS ARE USED, A 24" ON CENTER SPACING IS PERMITTED; HOWEVER, OPEN JOINTS ARE NOT RECOMMENDED BECAUSE THE SMALL OPENINGS ARE EASILY OBSTRUCTED BY MORTAR DROPPINGS. OPEN JOINTS ALSO PERMIT INSECTS TO ENTER THE BUILDING ENVELOPE.
   MORTAR NET - 12" HIGH OPEN MESH TO COLLECT AND SUSPEND MORTAR DROPPINGS IN MASONRY CAVITY WALLS SHALL BE INSTALLED AT THE LEVEL OF WEEP HOLES
   SCREENS - FILL CELLS IN TOP COURSE WITH GROUT AND PLACE SCREENS UNDERNEATH THE TOP COURSE TO RETAIN GROUT.
6. 04 20 00 - CRAWLSPACE/BASEMENT FOUNDATIONS
   ALL CONCRETE BLOCK COURSES SHALL START FROM TOP OF FLOOR SLAB UNLESS OTHERWISE NOTED. STEM-WALLS (FOUNDATION WALLS) SHALL BE CONSTRUCTED WITH 12" X 8" X 16" CMU UNLESS OTHERWISE NOTED. COMPLETELY BED CMU WITH TYPE "M" MORTAR. FILL ALL CELLS CONTAINING VERTICAL REBAR (REINFORCING STEEL) WITH 3000 PSI CONCRETE. REINFORCE MASONRY WALLS WITH 9 GAUGE STEEL "H" WIRE TRUSS-DESIGN MASONRY HORIZONTAL WALL REINFORCEMENT (DUR-O-WALL) A MINIMUM OF EVERY SECOND COURSE, AND REBAR (U.O.N. #4 VERTICAL REINFORCING STEEL SHALL BE INSTALLED AT 48" O.C.). INSTALL REINFORCING MEMBERS AS RECOMMENDED BY MANUFACTURER. ALL MASONRY UNITS BELOW GRADE TO BE FULLY GROUTED. MASONRY WALLS PARALLEL TO WOOD JOISTS ARE TO BE ANCHORED BY 11/4X1 1/4 METAL ANCHORS AT 8'-0" O.C. MAX. AND ENGAGE AT LEAST THREE JOISTS. PROVIDE 1 SF VENTILATION WITH INSECT SCREEN THROUGH STEM-WALL TO CRAWLSPACE WITHING 3FT OF CORNERS OF THE STEM-WALL. PROVIDE A 24" X 48" MINIMUM ACCESS DOOR TO CRAWLSPACE. BOND BEAMS SHALL BE CONTINUOUS ACROSS ALL JOINTS AND GROUTED SOLID OVER A METAL LATH GROUT BARRIER WITH MAXIMUM GROUT LIFTS OF 4.0 FEET WITHOUT CLEAN-OUTS. ROD ALL FILLED CELLS IN BOND BEAMS FOR PROPER DENSITY. SEE WATERPROOFING AND DAMPPROOFING IN DIVISION 7 FOR WATERPROOFING INFORMATION.
7. 04 22 00 - CONCRETE UNIT MASONRY
   SHALL BE IN ACCORDANCE WITH ASTM C90 OR C145, 2000 PSI COMPRESSIVE STRENGTH, GRADE N, TYPE 1, HOLLOW CORE LOAD BEARING CMU AND SHALL HAVE A MINIMUM NET COMPRESSION STRENGTH OF 2000 PSI. USE GRADE N, TYPE 1, SPECIALTY SHAPES LOAD BEARING CONCRETE MASONRY UNITS AS SPECIFIED. STANDARD WIDTH OF MORTAR JOINTS FOR BOTH HORIZONTAL AND VERTICAL JOINTS SHALL BE 3/8 INCH JOINTS SHALL HAVE A FULL MORTAR COVERAGE. LAY CMU PLUMB WITH ALL COURSES LEVEL USING APPROPRIATE CORNER BLOCKS AT CORNERS, WINDOW AND DOOR JAMBS. REINFORCING MESH SHALL BE INSTALLED IN THE THREE COURSES ABOVE ALL OPENINGS AND SHALL EXTEND 3 FEET 9 INCHES BEYOND EACH SIDE OF OPENING. MESH SHALL BE INSTALLED IN EVERY THIRD COURSE OF ALL MASONRY UNIT WALLS. CUT BLOCK WITH A CARBORUNDUM SAW. USE SOLID LOAD-BEARING BLOCK WHEN REQUIRED FOR STRUCTURAL PURPOSE.
8. 04 43 00 - STONE MASONRY
   INSTALL EXTERIOR STONE VENEER PER MANUFACTURER'S RECOMMENDATIONS. SEE CONSTRUCTION DOCUMENTS FOR LOCATION AND DETAILING OF STONE VENEER. STONE BUDGET SHALL BE DETERMINED BY AN ALLOWANCE AS STATED IN THE CONTRACT DOCUMENTS.
   STONE VENEER: MANUFACTURER, COLOR AND TYPE TO BE DETERMINED BY OWNER

DIVISION 05 00 00. METALS

1. 05 00 00 - METALS
   CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS AND PROVIDE LABOR AND MATERIALS PERTAINING TO METAL WORK AS REQUIRED IN SAID DOCUMENTS AND AS SPECIFIED HEREIN, WHILE COMPLYING WITH ALL APPLICABLE BUILDING CODES. SUBMIT SHOP DRAWINGS AND PERTINENT TECHNITCAL DATA FOR ARCHITECTS REVIEW: INCLUDING BUT NOT LIMITED TO PRODUCT DATA, CUTS CONNECTIONS, HOLES ETC.
   COORDINATE SELECTION OF SHOP PRIMERS WITH TOP COATS TO BA APPLIED OVER THEM. COMPLY WITH PAINT AND COATING MFR'S RECOMMENSATIONS TO ENSURE THAT SHOP PRIMERS AND TOP COATS ARE COMPATIBLE WITH ONE ANOTHER
   CLEANING: CLEAN AND PREPARE STEEL SURFACES THAT ARE TO REMAIN UNPAINTED ACCORDING TO SSPC-SP 1, "SOLVENT CLEANING AND SSPC-SP 2, "HAND TOOL CLEANING OR SSPC-SP 3, "POWER TOOL CLEANING
   PRIMING: IMMEDIATELY AFTER SURFACE PREPARATION, APPLY PRIMER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND AT RATE RECOMMENDED BY SSPC TO PROVIDE A MINIMUM DRY FILM THICKNESS OF 1.5 MILS. USE PRIMING METHODS THAT RESULT IN FULL COVERAGE OF JOINTS, CORNERS, EDGES, AND EXPOSED SURFACES.
   1. STRIPE PAINT CORNERS, CREVICES, BOLTS, WELDS, AND SHARP EDGES.
   2. APPLY TWO COATS OF SHOP PAINT TO SURFACES THAT ARE INACCESSIBLE AFTER ASSEMBLY OR ERECTION. CHANGE COLOR OF SECOND COAT TO DISTINGUISH IT FROM FIRST
   PROTECT METALS AGAINST GALVANIC ACTION BY SEPARATING DISSIMILAR METALS FROM CONTACT WITH EACH OTHER OR WITH CORROSIVE SUBSTRATES BY PAINTING CONTACT SURFACES WITH PERMANENT SEPARATION AS RECOMMENDED BY MANUFACTURER.
   PRIMER:
   A:COMPLY WITH DIVISION 09 SECTION "HIGH PERFORMANCE COATINGS"
   B: FABRICATOR'S STANDARD LEAD- AND CHROMATE- FREE, NONASPHALTIC, RUST INHIBITING PRIMER COMPLYING WITH MPI#79 AND COMPATIBLE WITH TOP COAT
2. 05 05 23 - METAL FASTENINGS
   PROVIDE 1/2" DIAMETER X 15" LONG ANCHOR BOLTS IN FILLED CELLS AND POURED CONCRETE WALLS AT 42" ON CENTER (OC) MAXIMUM, 12" MIN FROM BUILDING CORNERS, AT ALL WINDOW LOCATIONS AND ON EACH SIDE OF EXTERIOR DOORS. FOR SLABS, INSTALL APPROPRIATE TIE DOWNS OR STRAPS AS REQUIRED BY APPLICABLE BUILDING CODES.
3. 05 10 10 - STRUCTURAL METAL FRAMING
   SET STRUCTURAL STEEL ACCURATELY IN LOCATIONS AND TO ELEVATIONS INDICATED AND ACCORDING TO AISC 303 AND AISC 360. FABRICATION AND ERECTION SHALL CONFORM TO THE "SPECIFICATIONS OF STRUCTURAL STEEL BUILDINGS" AND "THE CODE OF STANDARD PRACTICES FOR STEEL BUILDINGS AND BRIDGES" (AISC). ALL STRUCTURAL METAL FOR BEAMS AND PLATES SHALL BE IN ACCORDANCE WITH ASTM A-36. ALL STRUCTURAL STEEL FOR STEEL COLUMNS SHALL COMPLY WITH ASTM SPECIFICATION A-53 GRADE B OR A-501. STRUCTURAL STEEL COLUMNS SHALL BE 4" MINIMUM INSIDE DIAMETER, UNLESS NOTED OTHERWISE. ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST AISC SPECIFICATIONS AND LATEST REVISIONS. PROVIDE ALL REQUIRED ANCHOR BOLTS, BEARING PLATES AND METAL TIES REQUIRED BY STANDARD PRACTICE AND AS NOTED BELOW. ALL WELDING TO BE PERFORMED BY CERTIFIED WELDER
   W-SHAPES ASTM A992/A 992M , FY 50KSI , FU 65KSI
   CHANNELS, ANGLES, M, AND S SHAPES AND PLATES SHALL BE ASTM A36, FY 36KSI E:29,000 KSI
   ANCHOR BOLTS SHALL BE ASTM A307
   TUBULAR STEEL HSS SHALL CONFORM TO ASTM A 500, GRADE B , STRUCTURAL TUBING , FY 36KSI E:29,000 KSI
   STEEL PIPE SHALL BE IN CONFORMANCE WITH ASTM A-53, TYPE E OR S, GRADE A OR B.
   CAST IRON SHALL BE IN CONFORMANCE WITH ASTM A-48, CLASS 30, UNLESS OTHERWISE NOTED.
   WELDING ELECTRODES SHALL BE BE SERIES E70 AS PERMITTED BY AWS CODE D1.1/D1.1M

DIVISION 06 00 00. WOOD, PLASTICS, AND COMPOSITES

1. 06 00 00 - WOOD, PLASTICS, AND COMPOSITES
   CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS AND PROVIDE LABOR AND MATERIALS PERTAINING TO CARPENTRY WORK AS REQUIRED IN SAID DOCUMENTS AND AS SPECIFIED HEREIN, WHILE COMPLYING WITH ALL APPLICABLE BUILDING CODES.
2. 06 10 00 - ROUGH CARPENTRY
   LUMBER SHALL BE OF LIVE, SOUND STOCK AND PROPERLY DRIED. PRESSURE TREATED LUMBER SHALL BE USED WHERE ANY LUMBER SHALL COME INTO CONTRACT WITH CONCRETE, MASONRY BLOCK OR SOIL AND WHEN USING AS SUPPORT MEMBERS FOR DECKS, PORCHES OR BALCONIES. LUMBER FOR USE AT EXTERIOR SHALL HAVE A MAXIMUM 12 PERCENT MOISTURE CONTENT. PROVIDE ADEQUATE BRACING AND SHORING DURING THE CONSTRUCTION PROCESS. STUDS AND JOISTS CUT TO INSTALL PLUMBING AND/OR WIRING SHALL BE REINFORCED BY ADDING METAL OR WOOD STRUCTURAL REINFORCING TO STRENGTHEN MEMBER BACK TO ORIGINAL CAPACITY AND MAINTAIN STRUCTURAL INTEGRITY. HOLES BORED SHALL NOT BE LARGER THAN 1/3 THE DEPTH AND NOT CLOSER THAN 2" TO THE TOP OR BOTTOM OF THE JOIST.
   WOOD SPECIES: UNLESS OTHERWISE NOTED IN ARCHITECTURAL PLANS AND DETAILS ALL STRUCTURAL WOOD MEMBERS SHALL BE DOUGLAS FIR LARCH NO.2 (F 'B=900 PSI, E=1,600 KSI AND F 'V=180) SUBMIT WOOD SUPPLIERS CERTIFICATE TO ARCHITECT FOR APPROVAL PRIOR TO WOOD DELIVERY ON SITE.
3. 06 11 00 - WOOD FRAMING
   FLOOR FRAMING - INFORMATION BELOW PERTAINS TO CONVENTIONAL STICK FRAMING, IF PRE-ENGINEERED TRUSSES ARE USED FOLLOW MANUFACTURES GUIDELINES FOR INSTALLATION. PRESSURE TREATED LUMBER SHALL BE USED WHERE ANY LUMBER SHALL COME INTO CONTRACT WITH CONCRETE, MASONRY BLOCK, ROOF CURBING, ROOF BLOCKING OR IS CLOSER THAN 8" TO FINISH GRADE
   GIRDERS: SIZE AND TYPE TO BE AS PER CONSTRUCTION DOCUMENTS. INSTALL GIRDERS IN POCKETS FORMED IN THE FOUNDATION OR ON TOP OF THE SILL PLATE. THE POCKET SHOULD ALLOW A MINIMUM OF 1/2" ON BOTH SIDES FOR CIRCULATION.
   SILLS: INSTALL SINGLE 2"X 6" SOLID PRESSURE TREATED LUMBER HORIZONTALLY ON FOUNDATION. BORE HOLES IN SILLS FOR ANCHOR BOLTS. SILL PLATE SHALL RUN CONTINUOUSLY OVER OPENINGS AND SHALL BE NAILED TO RIM JOIST AND OPENING HEADERS. ROLLED FOAM SEALER SHALL BE INSTALLED BETWEEN SILL PLATE AND TOP OF FOUNDATION WALL AND UNDERNEATH ALUMINUM TERMITE SHIELD.
   FLOOR JOISTS: FLOOR JOIST SIZE AND LOCATION SHALL BE AS PER PLAN. DIMENSIONAL LUMBER JOISTS MAY BE HUNG BY USING GALVANIZED HANGERS MODEL LU28, USE 10D NAILS. PRE-ENGINEERED LUMBER AS MANUFACTURED BY TRUS JOIST MAY BE HUNG BY USING GALVANIZED HANGER MODEL ITS AS MANUFACTURED BY SIMPSON, USE 10D NAILS AS SPECIFIED BY MANUFACTURER. U.O.N. JOISTS SHALL REST ON A MINIMUM 1 1/2" OF BEARING WOOD OR 3" OF MASONRY. CUT JOISTS FLUSH WITH THE OUTSIDE EDGE OF SILL. IF JOISTS ARE LAPPED OVER GIRDER, THE MINIMUM AMOUNT OF LAP IS 4" AND MAXIMUM OVERHANG IS 12". DO NOT LAP AT WOOD I-BEAMS. JOISTS SHALL BE INSTALLED SO THAT THE END OF THE SUB-FLOOR SHEETS FALL DIRECTLY ON THE CENTER OF THE FLOOR JOISTS. NAIL JOISTS AT EACH BEARING POINT USING 10D NAIL ON EACH SIDE. NAILS SHALL BE AT LEAST 1 1/2" FROM ENDS. WOOD CROSS BRIDGING SHALL BE AT LEAST NOMINAL 1" X 3" LUMBER WITH TWO 6D NAILS AT EACH END. INSTALL ONE ROW OF BRIDGING AT 8'-0" ON CENTER. PRE-ENGINEERED JOIST AS MANUFACTURED BY TRUS JOIST MAY BE USED. WHERE PARTITIONS ARE PARALLEL WITH FLOOR JOISTS DOUBLE SUCH MEMBERS UNDER PARTITION. U.O.N. PROVIDE (2) 2X10 HEADER OVER ALL OPENINGS EXCEPT AS OTHERWISE NOTED. DOUBLE ALL FLOOR JOIST FRAMING UNDER BATHTUB. DOUBLE ALL FRAMING AROUND ALL OPENINGS. DOUBLE ALL FRAMING UNDER ALL PARALLEL PARTITIONS. ALL JOISTS AND HEADERS SHALL BEAR 4" MIN.
   RIM JOIST - SINGLE RIM JOIST SHALL BE SAME AS DIMENSIONAL LUMBER JOIST. IF PRE-ENGINEERED USE 1-1/4" THICK RIM BOARD NAILED TO SILL PLATE W/ 16D BOX @ 12" O.C. TO DECK W/ 8D COMMON @ 6" O.C. AND TOE WALL W/ 10D BOX @ 16" O.C.
   WALLS: U.O.N. ALL WALL STUDS TO BE CONTINUOUS FROM BOTTOM PLATE TO TOP PLATE. AT EXTERIOR WALLS WHERE FLOOR TO CEILING HEIGHT IS GREATER THAN 12 FEET, USE EITHER (3) 2X4 @ 16" O.C. OR (2) 2X6 @ 16" O.C.
   EXTERIOR WALLS - U.O.N. WALL CONSTRUCTION SHALL BE 2"X 6" WOOD STUD AT 16" O.C. WITH SINGLE BOTTOM PLATE AND DOUBLE TOP PLATES OVERLAPPING AT INTERSECTION. END JOIST IN TOP PLATES SHALL BE OFFSET MIN. 48". NOTCHING SHALL BE LIMITED TO 25% OF WIDTH OF STUDS IN ALL INSTANCES. DRILLED HOLES MAY NOT BE LARGER THAN 40% OF WIDTH OF STUD AND SHALL NOT BE CLOSER THAN 5/8" TO EDGE OF MEMBER. WITH SINGLE BOTTOM PLATES AND DOUBLE TOP PLATES THROUGHOUT. PROVIDE SOLID BLOCKING AT MID-HEIGHT OF ALL WALLS AND AT SHEATHING EDGES. FOR EXTERIOR CORNER JOINTS, INSTALL (3) 2"X 6"'S NAILED TOGETHER. WHERE INTERIOR PARTITIONS MEET EXTERIOR WALLS, INSTALL 2 STUDS FASTENED TOGETHER WITH 2"X 6" BLOCKS APPROXIMATELY ONE FOOT LONG. ONE BLOCK IS PLACED AT THE BOTTOM, ONE AT THE TOP AND ONE ABOUT CENTER OF THE STUDS.
   WHERE EXTERIOR OPENINGS OCCUR ON 2"X 4" EXTERIOR WALLS, PROVIDE STRUCTURAL HEADERS DESIGNED WITH (2) 2" X 12"'S WITH A 1/2" CONTINUOUS PLYWOOD FLITCH PLATE GLUED AND NAILED BETWEEN THE 2"X12"S. (FOR 2"X 6" EXTERIOR WALLS PROVIDE (3) PIECES OF 2"X 12" LUMBER FASTENED SECURELY TOGETHER.) AT WINDOW SILLS, PROVIDE A SINGLE PIECE OF 2"X 4", OR 2"X 6" LUMBER AS REQUIRED TO MATCH THE THICKNESS OF THE WALL. PROVIDE DOUBLE JACKS OR LINERS FOR OPENINGS 6'-0"WIDE OR GREATER, UNLESS OTHERWISE NOTED. PROVIDE 5/8" PLYWOOD SHEATHING AT EXTERIOR WALL CORNERS FOR SHEAR WALL STRENGTH AND STIFFNESS.
   FASCIA AND SOFFIT - PROVIDE AND INSTALL WOOD, ALUMINUM OR VINYL FASCIA AND SOFFIT. SEE CONSTRUCTION DOCUMENTS FOR COMPLETE ARCHITECTURAL DETAILS. WOOD FASCIA BOARD SHALL BE A 1"X 6" FINGER-JOINT CEDAR OR FIR SET ON 2"X 4" SUB-FASCIA STRUCTURE. FOR WOOD SOFFIT INSTALL 3/8"THICK A-C FINISH PLYWOOD, 2 5/8" CROWN MOULDING, 1"X 6" FRIEZE BOARD AND LOUVERED OR CONTINUOUS SCREEN SOFFIT VENTS AS REQUIRED BY APPLICABLE BUILDING CODES AND ROOFING MANUFACTURES GUIDELINES FOR VENTILATION. FOR ALUMINUM AND VINYL VENTED SOFFIT AND FASCIA, WRAP ALL EXPOSED EDGES TO FULLY ENCLOSE SUB-FASCIA STRUCTURE. SEE MANUFACTURERS RECOMMENDATIONS FOR COMPLETE INSTALLATION GUIDELINES.
   LOCATION: EXTERIOR PERIMETER
   FINISH, PATTERN AND COLOR: SATIN FINISH, CONTINUOUS MOLDED SOFFIT, WHITE TO BE DETERMINED BY OWNER
   MANUFACTURER, STYLE TO BE DETERMINED TO BE DETERMINED BY OWNER
   INTERIOR WALLS: UON INTERIOR WALLS SHALL BE 2X4 WOOD STUD AT 16" O.C.WITH SINGLE BOTTOM PLATE AND DOUBLE TOP PLATES OVERLAPPING AT INTERSECTION. END JOIST IN TOP PLATES SHALL BE OFFSET MIN.. 48". NOTCHING SHALL BE LIMITED TO 25% OF WIDTH OF STUDS IN ALL INSTANCES. DRILLED HOLES MAY NOT BE LARGER THAN 40% OF WIDTH OF STUD AND SHALL NOT BE CLOSER THAN 5/8" TO EDGE OF MEMBER.
   CEILING JOISTS: SIZE AND SPACING AS SPECIFIED ON CONSTRUTION DOCUMENTS. CHECK APPROPRIATE SPANNING CHARTS WITH LOCAL BUILDING OFFICIALS. AT OPENINGS IN CEILINGS, DOUBLE JOISTS FOR STRUCTURAL RIGIDITY.
   ROOF FRAMING: SOLID SAWN ROOF FRAMING SIZE AND SPACING SHALL BE AS PER PLAN. RAFTERS SHALL BE NAILED TO CEILING JOIST AND EXTERIOR WALL WITH 10D NAILS. RIDGE BOARD ALL BE 2" THICK AND DEPTH SHALL BE NOT LESS THAN CUT END OF RAFTER. NOTCHING SHALL BE LIMITED TO 1/6 DEPTH OF MEMBER AND SHALL NOT BE LOCATED IN THE MIDDLE 1/3 OF THE SPAN . HOLES SHALL BE LIMITED TO WITHIN TWO INCHES OF TOP AND BOTTOM OF THE MEMBERS AND SHALL NOT EXCEED 1/3 DEPTH OF MEMBER. BRIDGING SHALL BE DIAGONAL METAL MEMBERS AT 8'-0" O.C. MAX.
   ROOF DECKING - ROOF SHEATHING TO BE EXTERIOR TYPE, STRUCTURAL I, 5/8" THICKNESS, WITH MAXIMUM SPAN OF 16" AND SHALL BE NAILED TO RAFTERS USING 10D NAILS, 1 5/8" MIN. PENETRATION, SHANK NAILS AT 6" O.C. AT EDGES AND 10 O.C. OVER THE FIELD OF THE PANEL. GAPS BETWEEN PANELS SHALL BE 1/8". PROVIDE AND INSTALL EXTERIOR SHEATHING OF APA RATED AND CODE CERTIFIED CDX PLYWOOD PANELS. SHEATHING SHALL BE INSTALLED WITH THE FACE GRAIN RUNNING ACROSS THE RAFTERS, VERTICAL JOINTS STAGGERED. NAILS SHALL BE 8D COMMON SMOOTH, RING-SHANK NAILS SPACED 6" APART ON THE ENDS AND 10" APART INSIDE. INSTALL WITH PLYWOOD "H" CLIPS BETWEEN EACH PIECE OF DECKING, EVERY 48". INSTALL ONE LAYER OF MOISTURE BARRIER 30# FELT, OVERLAPPED A MINIMUM OF 6".
   DECKS, PORCHES, BALCONIES - EXTERIOR GRADE LUMBER SHALL BE USED FOR EXTERIOR DECKS, PORCHES OR BALCONIES. PROVIDE AND INSTALL GALVANIZED JOIST HANGERS TO CONNECT FLOOR JOISTS TO THE MAIN STRUCTURE. ALL HANDRAILS SHALL BE CONSTRUCTED SO AS TO PREVENT PASSAGE OF A 4" SPHERE. PROVIDE HANDRAIL AND DETAILING AS SHOWN IN CONSTRUCTION DOCUMENTS. STAIN AND SEAL WOOD A MINIMUM OF 6 MONTHS AFTER INSTALLATION TO ALLOW FOR PROPER CURING. WOOD TYPE SHALL BE: REDWOOD, CEDAR, TREATED PINE, ETC. AS SELECTED BY OWNER
   CONNECTORS - SHALL BE AS MANUFACTURED BY THE SIMPSON CO. OR APPROVED EQUAL.
   NAILING - UNLESS OTHERWISE NOTED NAILS SHALL BE CORROSION RESISTANT AND SHALL BE PER TABLE R602.3(1) OF LATEST EDITION OF IRC
4. 06 16 00 - SHEATHING
   EXTERIOR WALL SHEATHING TO BE EXTERIOR TYPE, STRUCTURAL I, 23/32" THICKNESS, SPAN FOR MAXIMUM OF 16". USE 10D NAILS, 1 5/8" MIN. PENETRATION, AT 6" O.C. AT EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. PROVIDE BLOCKING AS REQ. GAPS AT EDGES OF SHEATHING SHALL BE 1/8".
5. 06 16 23 - SUBFLOORING
   LOOR SHEATHING TO BE STRUCTURAL I, 3/4" THICKNESS, SPAN FOR MAXIMUM OF 16", GLUED AND NAILED TO JOISTS, 10D NAIL SIZE, 1 5/8" MIN. PENETRATION, 6" O.C. AT EDGES AND 10 O.C. OVER THE FIELD OF THE PANEL. GAPS BETWEEN PANELS SHALL BE 1/8". INSTALL TWO LAYERS WHERE FLOOR IS TO RECEIVE CARPETING AS A FLOOR FINISH. FOR ATTIC ACCESS, INSTALL NECESSARY PLYWOOD WALKWAYS TO MEET APPLICABLE BUILDING CODES.
6. 06 18 13 - GLUED-LAMINATED BEAMS
   CONTRACTOR TO FOLLOW MANUFACTURER'S HANDLING AND INSTALLATION SPECIFICATIONS FOR ALL ENGINEERED LUMBER. FOR LARGE SPANS, STRUCTURAL LAMINATED BEAMS WILL BE REQUIRED AS SET FORTH IN THE CONSTRUCTION DOCUMENTS OR BY APPLICABLE BUILDING CODES. LAMINATED TIMBER IS HEREBY DEFINED TO INCLUDE ENGINEERED STRESS-RATED PRODUCTS OF WOOD MEMBERS FABRICATED FROM 1.75" HICKNESS LUMBER GLUED FACE TO FACE TO A DEPTH OF FOUR LAMINATIONS OR MORE. CONTRACTOR TO FOLLOW MANUFACTURER'S MIN. FASTENING SPECIFICATIONS WHEN FASTENING/SISTERING MULTIPLE-PLY GP LAM LVL MEMBERS.
   MICROLAM LUMBER (LVL) TO BE GPLAM 2.0 E BY GEORGIA PACIFIC, FB=2850 PSI, FV=285, E =2000KSI
   DO NOT CUT, NOTCH OR DRILL GP LAM LVL EXCEPT AS SHOWN BY MANUFATURER'S SPECIFICATIONS
   U.O.N. ALL LVL BEAMS TO HAVE MINIMUM 3.5" BEARING LENGTH
   EXPOSED GLUED-LAMINATED MEMBERS TO BE ARCHITECTURAL GRADE
   ALL GP LAM LVL MEMBERS TO BE CONNECTECTED BY METAL CONNECTORS MANUFACTURED BY SIMPSON STRONG-TIE.
7. 06 20 00 - FINISH CARPENTRY
   ALL ARCHITECTURAL TRIM AND WOODWORK SHALL BE NO. 1 GRADE MATERIAL SUITABLE FOR APPROPRIATE FINISHES. WOOD THAT WILL BE STAINED SHALL BE CLEAR OF KNOTS WITH CONCEALED JOINTS.
8. 06 22 00 - MILLWORK
   MOISTURE CONTENT FOR INTERIOR WOODWORK SHALL BE 8-10 PERCENT TO REDUCE EXCESS SHRINKING. PROVIDE AND INSTALL INTERIOR WOOD TRIM AS SHOWN IN CONSTRUCTION DOCUMENTS. INSTALL QUARTER ROUND MOLDING BETWEEN HARDWOOD FLOOR, CERAMIC TILE OR OTHER HARD SURFACE MATERIAL AND BASEBOARD TRIM.
   BASE MOLDING: TO BE DETERMINED BY OWNER
   CROWN MOLDING: TO BE DETERMINED BY OWNER
   CHAIR RAIL: TO BE DETERMINED BY OWNER
   WINDOW CASING: TO BE DETERMINED BY OWNER
9. 06 40 00 - ARCHITECTURAL WOODWORK
   PROVIDE AND INSTALL CUSTOM WOODWORK AS DETERMINED BY OWNER. PRE-FABRICATED WOODWORK SHOULD BE SPECIFIED BELOW.
   FIREPLACE MANTEL: MANUFACTURER, STYLE TO BE DETERMINED BY OWNER
   PANELING: MANUFACTURER, STYLE TO BE DETERMINED BY OWNER
   BOOKSHELVES: MANUFACTURER, STYLE TO BE DETERMINED BY OWNER
   COLUMNS: MANUFACTURER, STYLE TO BE DETERMINED BY OWNER
10. 06 41 00 - ARCHITECTURAL WOOD CASEWORK
    PROVIDE CONCEALED HINGES AND CABINET HARDWARE AS SPECIFIED BELOW. FINISH TO BE DETERMINED BY OWNER (BRONZE, CHROME, BLACK, WHITE, ETC.) KNOB TO BE DETERMINED BY OWNER (ROUND, SQUARE, PULL HANDLE, ETC.)
    KITCHEN: MANUFACTURER, ITEM NUMBER, FINISH TO BE DETERMINED BY OWNER
    POWDER: MANUFACTURER, ITEM NUMBER, COLOR TO BE DETERMINED BY OWNER
    MASTER BATH: MANUFACTURER, ITEM NUMBER, COLOR TO BE DETERMINED BY OWNER
    BATH: MANUFACTURER, ITEM NUMBER, COLOR TO BE DETERMINED BY OWNER
    LAUNDRY: MANUFACTURER, ITEM NUMBER, COLOR TO BE DETERMINED BY OWNER
11. 06 42 00 - WOOD PANELING
    PROVIDE AND INSTALL WOOD OR COMPOSITE PANELING IN AREAS AS INDICATED BY OWNER. PANEL SEAMS SHALL BE BUTT-JOINTED WITHOUT OVERLAPPING. WOOD SPECIES AND GRAIN SHALL MATCH UP AND BE FREE OF DEFECTS. ALL PANELING SHALL BE APPLIED OVER GYPSUM WALLBOARD.
    PANEL STYLE: TONGUE AND GROOVE, PRE-FABRICATED PANEL, SLAT FINISH, BOARD AND BATTEN, SHEET PANELING TO BE DETERMINED BY OWNER
    TYPE: RAISED PANEL, FLUSH, ETC. TO BE DETERMINED BY OWNER
    MATERIAL: REDWOOD, FIR, OAK, BIRCH, CEDAR, ETC. TO BE DETERMINED BY OWNER
    SIZE, DESCRIPTION, SPECIFICATION (MANUFACTURER AND MODEL NUMBER) TO BE DETERMINED BY OWNER
12. 06 43 00 - WOOD STAIRS AND RAILINGS
    MINIMUM WIDTH OF STAIR TO BE 3'-0" WITH AT LEAST ON HANDRAIL AT 3'-0" ABOVE TREAD
    MAXIMUM RISER HEIGHT 8 1/4"
    MINIMUM TREAD DEPTH 9" TREAD MEASUREMENT MUST BE MADE FROM NOSING TO NOSING
    HEADROOM REQUIRES A MINIMUM OF 6'-8"MEASURED FROM THE FRONT EDGE OF THE TREAD TO A LINE PARALLEL TO THE STAIR RUN. STAIR TREADS SHALL BE CONSTRUCTED OF 5/4" THICK LUMBER, RISERS SHALL BE CONSTRUCTED OF 3/4" FINISH GRADE LUMBER, STRUCTURAL STAIR STRINGERS SHALL BE CONSTRUCTED OF 2"X12"S. GLUE AND NAIL STAIR ASSEMBLY TOGETHER. PROVIDE AND INSTALL AS PER MANUFACTURER'S SPECIFICATIONS.
    GUARD RAILS SHALL BE LOCATED ALONG OPEN-SIDED WALKING SURFACES, INCLUDING STAIRS, RAMPS AND LANDINGS, THAT ARE LOCATED MORE THAN 30 INCHES MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36 INCHES HORIZONTALLY TO THE EDGE OF THE OPEN SIDE
    GUARD RAILS SHALL BE 36 INCHES HIGH ABOVE WALKING SURFACE AND SHALL NOT HAVE OPENINGS FROM THE WALKING SURFACE TO THE REQUIRED GUARD HEIGHT WHICH ALLOW PASSAGE OF A SPHERE 4 INCHES IN DIAMETER
    HANDRAILS SHALL BE CIRCULAR CROSS-SECTION OF MIN. 1 1/4" AND MAX 1 1/2" LOCATED AT 36" ABOVE TREAD WITH CLEAR SPACE DROM ADJACENT WALL OF NOT MORE THAN 1 1/2". HANDRAILS SHALL BE ANCHORED TO WALL OR STAIR STRUCTURE. PROVIDE BLOCKING FOR REINFORCEMENT AS REQUIRED.
13. 06 60 00 - PLASTIC FABRICATIONS
    PROVIDE AND INSTALL PLASTIC FABRICATIONS AS SPECIFIED BY OWNER. INSTALL TO MEET ALL APPLICABLE BUILDING CODES, WITH APPROPRIATE DETAILING AND PATTERNS AS SHOWN IN CONSTRUCTION DOCUMENTS. PLASTIC FABRICATIONS SHALL BE SHOP BUILT, ATTACHED TOGETHER, CLEANED THOROUGHLY AND PAINTED WITH TWO COATS OF A PRIMER. AFTER INSTALLATION, APPLY AN ADDITIONAL COAT AND PRIMER IN PREPARATION FOR FINISH COATS.

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I No.	Date	Notes

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DIVISION 07 00 00. THERMAL AND MOISTURE PROTECTION

1. 07 00 00 - THERMAL AND MOISTURE PROTECTION
CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS AND PROVIDE LABOR AND MATERIALS PERTAINING TO THERMAL AND MOISTURE PROTECTION WORK AS REQUIRED IN SAID DOCUMENTS AND AS SPECIFIED HEREIN, WHILE COMPLYING WITH ALL APPLICABLE BUILDING CODES.
2. 07 10 00 - DAMPPROOFING AND WATERPROOFING
ALL JOINTS AND PENETRATIONS IN WALLS, FLOORS, AND ROOFS SHALL BE MADE WATERTIGHT USING APPROVED METHODS AND MATERIALS. WATERPROOFING AND DAMPPROOFING RECOMMENDATIONS CONTAINED HEREIN ARE MINIMUM, CHECK WITH LOCAL CODE OFFICIALS FOR ADDITIONAL REQUIREMENTS.
SLAB FOUNDATIONS - INSTALL A MINIMUM (15 MIL) POLYETHYLENE VAPOR BARRIER (STEGO WRAP) OVER 6" GRAVEL IN ALL SLABS, DIRECTLY UNDERNEATH CONCRETE. LAP JOINTS NOT LESS THAN 12 INCHES AND TAPE AND SEAL IN ACCORDANCE WITH MANUFACTURERS GUIDELINES.
CRAWLSPACE FOUNDATIONS - INSTALL A MINIMUM (15 MIL) POLYETHYLENE VAPOR BARRIER OVER 6" GRAVEL (STEGO WRAP) IN ALL CRAWLSPACE AREAS DIRECTLY UNDER 2" RAT SLAB. LAP JOINTS NOT LESS THAN 12 INCHES AND SEAL IN ACCORDANCE WITH MANUFACTURERS GUIDELINES.
BASEMENT WALLS - INSTALL NECESSARY HEAVY COAT OF BITUMINUS DAMPPROOFING MATERIAL SYSTEM TO EXTERIOR BASEMENT WALLS AND FOUNDATION SURFACES, FROM A POINT 12" BELOW THE LOWEST SLAB TO NOT LESS THAN 6" ABOVE FINISH GRADE. INSTALL AS RECOMMENDED BY MANUFACTURERS GUIDELINES. INSTALL A MINIMUM 5" SLOTTED DRAIN PIPE WITH A POSITIVE OUTFLOW AROUND EXTERIOR BASEMENT WALL FOOTINGS, IMBEDDED IN A LOOSE FILL GRAVEL, MINIMUM 12" DEEP. SLOTTED DRAIN PIPE SHOULD BE WRAPPED WITH AN APPROPRIATE GEO-TECHNICAL FABRIC TO PREVENT SILT BUILDUP. INSTALL OTHER DRAINS NECESSARY FOR POSITIVE SITE DRAINAGE. INSTALL 3/4" DRAINAGE MAT OVER DAMPPROOFING
U.O.N. INSTALL 1" X 3/4" X 16'8" ROLLS OF A FLEXIBLE STRIP OF BENTONITE AND BUTYL RUBBER COMPOUND AS PER MANUFACTURER'S SPECIFICATIONS AT ALL CONCRETE SLAB AND JOINTS. (NOT DESIGNED FOR EXPANSION JOINTS)
3. 07 13 13 - FELT
ON ALL ROOF SURFACES INSTALL A MINIMUM 30 # ASPHALT IMPREGNATED ROOTING FELT. FOR ROOFS THAT ARE STEEPER THAN A 6:12 PITCH USE A SINGLE LAYER OF FELT. FOR ROOFS WITH LESS THAN A 6:12 PITCH INSTALL A DOUBLE LAYER OF FELT AND OVERLAP A MINIMUM OF 18". OVERLAP FELT A MINIMUM OF 4" VERTICALLY AND 12" HORIZONTALLY. CONTINUE FELT 6" UP ALL VERTICAL SURFACES AND 4" OVER GUTTER AND VALLEY METAL. FASTEN ALL EDGES WITH LARGE HEADED GALVANIZED NAILS ON 6" CENTERS. LAY COURSES PARALLEL WITH EAVES. DO NOT STRETCH COURSES.
4. 07 20 00 - THERMAL PROTECTION
EFFECTIVE R VALUES SHALL BE IN ACCORDANCE WITH LOCAL AND STATE ENERGY CODES. FLOOR, WALLS AND CEILINGS INSULATION SHALL BE CONSTRUCTED WITH: FACED BATT OR WOOL INSULATION. INSULATION SHALL NOT BE COMPRESSED. PROVIDE HIGH DENSITY INSULATION AT SPECIFIED R-VALUES DESIGNED TO FIT BETWEEN THE SPECIFIED STUDS, JOIST, RAFTER DEPTH. ALL INSULATION TO HAVE FOIL FACING THAT SHALL PROVIDE A VAPOR TRANSMISSION (PERMEANCE) RATING OF 0.5 OR LESS. FOIL FACE TO BE INSTALLED ON INSIDE (WARM SIDE) OF BUILDING. INSTALL INSULATION AS PER MANUFACTURER'S SPECIFICATIONS. ALL PLUMBING CHASES IN INTERIOR AND EXTERIOR WALLS SHALL BE INSULATED WITH BATT INSULATION FOR SOUND ATTENUATION.
ON REHAB PROJECTS: ALL EXPOSED EXTERIOR WALLS, FLOORS AND CEILINGS TO BE INSULATED. IN THE EVENT THAT INSULATION MEETING THE REQUIRED R-VALUES CANNOT BE INSTALLED BETWEEN EXISTING RAFTERS AND STUDS DUE TO SPACE CONSTRAINTS, INSULATION THAT FILLS THE CAVITIES OF THE FRAMED ASSEMBLY SHALL BE INSTALLED.
EXTERIOR WALLS - U.O.N. WALL INSULATION SHALL BE 3 1/2" HIGH DENSITY FACED BATT INSULATION WITH AN R VALUE OF 15 AT 2X4 WALLS AND R10 RIGID INSULATION ON EXTERIOR OF WEATHER BARRIER (5 1/2"= HIGH DENSITY R-21 AT 2X6 WALLS AND R5 RIGID INSULATION ON EXTERIOR OF WEATHER BARRIER).
INTERIOR WALLS - U.O.N. INSTALL 3 1/2", WOOL SOUND AROUND BATHS, LAUNDRY ROOMS AND OTHERWISE SPECIFIED FOR SOUND ATTENUATION.
FLOORS - U.O.N. BETWEEN CRAWLSPACE AND FIRST FLOOR, INSTALL FACED BATT INSULATION WITH AN R VALUE OF 30. OPTIONAL: INSTALL 3 1/2" WOOL SOUND INSULATION IN FLOOR SYSTEM BETWEEN FIRST AND SECOND FLOOR FOR SOUND ATTENUATION.
CEILINGS JOISTS OR RAFTERS - U.O.N. ATTIC CEILING INSULATION SHALL BE FACED BATT INSULATION WITH AN R VALUE OF 60 (PROVIDE 1" BAFFLE VENTS AT ROOF EAVES). AT CATHEDRAL OR VAULTED CEILINGS, PROVIDE MIN 1" BAFFLE VENT AT UNDERSIDE OF ROOF SHEATHING FROM EAVES TO RIDGE VENT FOR VENTILATION AND HIGH-DENSITY FACED BATT INSULATION WITH AN R VALUE OF 38 BETWEEN RAFTERS. VAULTED CEILING TO NOT EXCEED 20% OF FLOOR AREA OR 500 SF WHICHEVER IS LESS
FOUNDATION - U.O.N. FOR CONCRETE SLAB FOUNDATION, PROVIDE 2"THICK X 24"HIGH AND 48"WIDE X 2"THICK L-SHAPED R-10 STYROFOAM FROST BARRIER AROUND PERIMETER OF STRUCTURE. SLOPE AWAY FROM BUILDING AT 1" PER FOOT. INSTALL FROST WALL 48" BELOW FINISHED GRADE, ALONG GARAGE/OVERHEAD DOOR OPENING.
SILL SEALER: 1" THICKESS, 4" WIDTH
SUPPLY DUCTS: R8
HEATING AND COOLING PIPING: R3
5. 07 24 00 - EXTERIOR INSULATION AND FINISH SYSTEMS
EIFS SHALL NOT BE USED
6. 07 30 00 - STEEP SLOPE ROOFING
PROVIDE AND INSTALL ROOF SYSTEM IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND MANUFACTURERS GUIDELINES. DO NOT SET TILES IN MORTAR WHEN THE AMBIENT TEMPERATURE IS LESS THAN 4 ° C (40 ° F). DO NOT START INSTALLATION UNTIL OTHER TRADES REQUIRING TRAFFIC ON ROOF HAVE COMPLETED THEIR WORK. DO NOT START INSTALLATION UNTIL VENT PIPES AND OTHER PROJECTIONS THROUGH ROOFS AND FLASHING MATERIALS ARE IN PLACE. MAIN ROOF SLOPE SHALL BE AS PER CONSTRUCTION DOCUMENTS.
INSTALLATION - SNAP CHALK LINES PARALLEL TO EAVE LINE. SET OUT AS SHOWN IN APPLICABLE MANUFACTURER INSTALLATION GUIDE DETAILING ROOF LAYOUT AND COURSING. IF INSTALLING BATTENS, FIX BATTENS TO CONFORM TO CHALK LINES SECURING TO DECK AT NOT MORE THAN 24 INCHES (600MM) ON CENTER USING 8 PENNY CORROSION RESISTANT NAILS. SIZE AND CONFIGURATION SHALL SUIT TILE SYSTEM. BATTENS SHALL BE INSTALLED IN SUCH A MANNER AS TO PROVIDE DRAINAGE PAST OR BENEATH THEM AT A MAXIMUM OF 4'-0" INTERVALS BY USING PACKERS BENEATH BATTENS. LAY UP FIELD TILE IN STRAIGHT BOND WITH SIDE LAP OF SUCCESSIVE COURSES ALIGNED. ALIGN EACH TILE SO THAT HORIZONTAL LINES ARE PARALLEL TO EAVE LINE AND VERTICAL LINES ARE AT RIGHT ANGLES AND BATTEN LUGS ARE FIRMLY ENGAGED ON SHEATHING OR BATTENS. REMOVE FOREIGN MATTER FROM INTERLOCKING RIBS TO ENSURE CORRECT FIT AND INTERLOCK. CRACKED OR BROKEN TILE SHALL NOT BE INSTALLED NOR ALLOWED TO REMAIN ON THE ROOF. ALIGN EACH TILE SO AS TO ALLOW AT LEAST 1/16 INCH (1.5MM) BETWEEN TILES WHILE ENSURING THE TILES DO INTERLOCK COMPLETELY. DO NOT ABUT TILES TIGHTLY. CUT TILES AT ROOF PENETRATIONS, TO MATCH ANGLE OF HIPS, VALLEYS AND ELSEWHERE AS REQUIRED IN A MANNER NOT TO DAMAGE OR WEAKEN TILES. DISCARD CRACKED, BROKEN, CHIPPED OR OTHERWISE DAMAGED TILE. WHERE PIECES OF CUT TILES, ESPECIALLY IN HIP AND VALLEY AREAS, ARE TOO SMALL TO NAIL, THEY SHOULD BE SECURED WITH AN APPROVED ADHESIVE SUBSTANCE AND/OR WIRED. NAIL PERIMETERS TO INCLUDE THREE TILE COURSES AND NOT LESS THAN 36 INCHES (915MM) FROM EITHER SIDE OF HIPS OR RIDGE AND EDGES OF EAVES AND GABLE RAKES. NAILS SHALL BE DRIVEN SNUG TO TILE SURFACES. LAY HIP AND RIDGE TILE SNUG TO ABUTTING SHOULDER. NAIL TO SUPPORTING MEMBER USING ONE CORROSION RESISTANT NAIL OF SUFFICIENT LENGTH TO PENETRATE 3/4 INCHES INTO SUPPORTING MEMBER. INSTALL RAKE TILE TO OVERLAP FIELD TILE AND BARGE BOARD FITTING OVER BARREL OF TILE. SECURE WITH TWO CORROSION RESISTANT NAILS OF SUFFICIENT LENGTH TO PENETRATE 3/4 INCHES INTO SUPPORTING MEMBER. PAINT FLASHINGS, ROOF PROJECTIONS ASSOCIATED WITH ROOF WITH TILE MANUFACTURER'S COLOR COORDINATED PAINT TO MATCH TILES.
7. 07 31 13 - ASPHALT SHINGLES
PROVIDE 30 YEAR COMPOSITE/ASPHALT THREE TAB, DIMENSIONAL, SHADOW LINE SHINGLES OVER TWO LAYER(S) OF 30# FELT AS SHOWN ON CONSTRUCTION DOCUMENTS. MINIMUM RECOMMENDED PITCH IS A 4:12 SLOPE. SUPPORT ROOF SYSTEM WITH JOIST/RAFTER SYSTEM OR PRE-ENGINEERED TRUSS SYSTEM TO MEET DEAD AND LIVE LOAD REQUIREMENTS AS SPECIFIED BY MANUFACTURER. MANUFACTURER, STYLE, COLOR, THICKNESS TO BE DETERMINED BY OWNER
8. 07 40 00 - ROOFING AND SIDING PANELS - COPPER
INSTALL 50 YEAR WARRANTY RAISED RIB OR STANDING SEAM METAL ROOF SYSTEM WITH CONCEALED FASTENERS AS SHOWN ON CONSTRUCTION DOCUMENTS. INSTALL A LAYER OF FIRE-RETARDANT PAPER BETWEEN ROOF STRUCTURE AND METAL. MINIMUM RECOMMENDED PITCH IS A 3:12 SLOPE. SUPPORT ROOF SYSTEM WITH JOIST/RAFTER SYSTEM OR PRE-ENGINEERED TRUSS SYSTEM TO MEET DEAD AND LIVE LOAD REQUIREMENTS AS SPECIFIED BY MANUFACTURER. MANUFACTURER, STYLE, COLOR, THICKNESS TO BE DETERMINED BY OWNER
9. 07 46 00 - SIDING
PROVIDE AND INSTALL SIDING EXTERIOR IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND MANUFACTURERS GUIDELINES.
VINYL SIDING - INSTALL 30 YEAR WARRANTY HORIZONTAL OR VERTICAL VINYL SIDING AS SPECIFIED IN CONSTRUCTION DOCUMENTS. INSTALL TYVEK HOMEWRAP VAPOR BARRIER BETWEEN THE SHEATHING AND SIDING AT EXTERIOR WALLS. PROVIDE ALL NECESSARY STARTER STRIPS, DRIP CAP, CORNER DETAILING, ETC. REQUIRED BY MANUFACTURER AND AS STATED IN CONSTRUCTION DOCUMENTS. WIDTH, DETAILING, COLOR TO BE DETERMINED BY OWNER
10. 07 60 00 - FLASHING AND SHEET METAL
FLASH AND CAULK ALL WINDOWS AND DOORS AS PER WINDOWS FLASHING DETAILS. INSTALL APPROPRIATE FLASHING AT ALL JOINTS OF CHIMNEYS, DORMERS, WALLS, VENT PIPES AND OTHER CONNECTION POINTS TO PREVENT THE INFILTRATION OF WATER. FLASHING SHALL BE ASSEMBLED OF 26 GAUGE MINIMUM GALVANIZED, CORROSION RESISTANT SHEET METAL. VALLEYS SHALL BE WRAPPED WITH 20" WIDE GALVANIZED FLASHING AND EXTEND 10" IN EACH DIRECTION FROM CENTER-LINE OF VALLEY. USE 4"WIDE X 4"HIGH X 10'LONG GALVANIZED FLASHING BETWEEN WALL SIDING AND ROOF SURFACES AND STEP FLASHING BETWEEN MASONRY AND ROOF SURFACES. KEEP FLASHING CONCEALED EXCEPT WHERE EXPOSED ON VERTICAL SURFACES OR COUNTER FLASHING. FLASHING COLOR TO MATCH ADJACENT MATERIALS.
IF COPPER IS USED, INSTALL 16 OUNCE HARD COPPER.
11. 07 71 23 - MANUFACTURED GUTTERS AND DOWNSPOUTS
INSTALL 5" WIDE ALUMINUM OR COPPER GUTTERS AND 4" DOWNSPOUTS. ATTACH EVERY 2'-6" ON CENTER (OC) WITH STRAPS AND/OR FASTENERS. METAL SHOULD BE 25 GAUGE ALUMINUM SLIGHTLY SLOPED TO DOWNSPOUT AND DISCHARGED TO A STORM SEWER, DRY WELL OR OTHER ADEQUATE OUTLET AS APPROVED BY THE LOCAL BUILDING DEPARTMENT. WHERE NO EXISTING STORM SYSTEM EXISTS OR IS CALLED FOR, A 12"X30" CONCRETE SPLASH BLOCK SHALL BE PLACED AT EACH ROOF LEADER AND SLOPED AND DISCHARGED 10FT AWAY FROM FOUNDATION
12. 07 72 00 - ROOF ACCESSORIES
VENTS - PROPER ROOF VENTILATION REQUIRES A MINIMUM 1 SQ INCH OF VENT AREA FOR EVERY 1.0416 SQUARE FEET OF ATTIC FLOOR AREA. PROVIDE A MINIMUM OF 144 SQUARE INCHES OF FREE AIR VENTILATION FOR EVERY 150 SQUARE FEET OF ATTIC FLOOR AREA. THE ROOF VENTILATION SHOULD BE LOCATED ADJACENT THE ROOF PEAK AND IN THE SOFFIT AREA UNDER THE EAVES TO PROVIDE NATURAL CONVECTION THROUGHOUT THE ATTIC AREA. CHECK VENTILATION REQUIREMENTS WITH ROOF SYSTEM MANUFACTURER.
SOFFIT VENTS - INSTALL CONTINUOUS SOFFIT VENTS.
GABLE END VENTS - INSTALL WOOD, METAL, FIBERGLASS GABLE END VENTS AS NOTED ON DRAWINGS.
RIDGE VENTS - INSTALL RIDGE VENTS AT TOP OF RIDGE FOR THE REMOVAL OF HEATED ATTIC AIR. SEE CONSTRUCTION DOCUMENTS FOR LOCATION.
13. 07 84 13 PENETRATION FIRESTOP
U.O.N. PIPE AND DUCT PENETRATIONS INTO GARAGE TO BE PROTECTED WITH FIRE RATED CONSTRUCTION AS PER R302.5 IF IRC 2015 AND OTHER APPLICABLE BUILDING CODES
14. 07 92 00 - JOINT SEALANTS
USE A 50 YEAR WARRANTY SILICON BASED CAULK AT HIGH EXPANSION/COMPRESSION AREAS, SUCH AS AROUND CHIMNEYS, TILE, CERAMIC, AND AROUND ENAMEL AND PRE-FABRICATED TUBS AND SHOWERS. FOR EXTERIOR WINDOWS, DOOR FRAMES, INTERIOR TRIM, WOODWORK AND OTHER PAINTABLE SURFACES USE A COLORED LATEX BASED CAULK. COLOR SHALL MATCH WOOD STAIN OR PAINT.

DIVISION 08 00 00. OPENINGS

1. 08 00 00 - OPENINGS
CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS AND PROVIDE LABOR AND MATERIALS PERTAINING TO THE DOORS AND WINDOWS AS REQUIRED IN SAID DOCUMENTS AND AS SPECIFIED HEREIN, WHILE COMPLYING WITH ALL APPLICABLE BUILDING CODES. IN ALL SLEEPING AREAS PROVIDE AN OPERABLE EGRESS STANDARD WINDOW OR DOOR DIRECTLY TO EXTERIOR.
2. 08 11 01 - EXTERIOR DOORS
ALL EXTERIOR DOORS SHALL BE SOLID CORE, INSULATED (U.O.N. MAX. U VALUE 0.32) AND SWING INSIDE WITH WEATHER-TIGHT THRESHOLDS. INSTALL BROWN OR BLACK, WHITE WEATHER-STRIPPING AROUND ALL DOORS TO MATCH ADJACENT MATERIALS. MAXIMUM DOOR U VALUE TO BE AS PER RESCHECK CALCULATIONS. DOOR SIZE, LOCATION, SWING TO BE AS INDICATED ON PLANS AND DOOR SHEDULE. INSTALL DOORS AS PER MFR'S INSTRUCTIONS. DOOR TRIM AND COLOR TO BE SELECTED BY OWNER.
3. 08 14 00 - INTERIOR DOORS
U.O.N. INTERIOR DOORS SHALL BE 6 PANEL HOLLOW CORE BY MASONITE. DOOR SIZE, LOCATION, SWING TO BE AS INDICATED ON PLANS AND DOOR SHEDULE. INSTALL DOORS AS PER MFR'S INSTRUCTIONS. DOOR TRIM AND COLOR TO BE SELECTED BY OWNER. INTERIOR DOORS SHALL BE PRE-HUNG SPLIT-JAMB UNITS, INCLUDING CASING ON BOTH SIDES OF THE DOOR. CASING SHALL BE WM 445, 11/16" X 3 1/4" (OR 5 1/4" AS REQUIRED) FINGER JOINT FOR PAINT FINISH OR CLEAR/CONCEALED JOINT FOR STAIN FINISH
LAUNDRY ROOM OR LAUNDRY CLOSET DOORS: DOORS TO BE LOUVERED AS SELECTED BY ONWER
OPENINGS FROM A PRIVATE GARAGE DIRECTLY INTO A ROOM USED FOR SLEEPING PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL BE EQUIPPED WITH SOLID WOOD DOORS NOT LESS THAN 13/8 INCHES (35 MM) IN THICKNESS, SOLID OR HONEYCOMB CORE STEEL DOORS NOT LESS THAN 13/8 INCHES (35 MM) THICK, OR 20-MINUTE FIRE-RATED DOORS.
INTERIOR DOOR FRAMES - INSTALL PRE-HUNG SPLIT-JAMB UNITS WITH INTERIOR CASING, WM 445, 11/16" X 3 1/4" (OR 5 1/4" AS REQUIRED) FINGER JOINT FOR PAINT FINISH OR CLEAR/CONCEALED JOINT FOR STAIN FINISH
4. 08 31 00 - ATTIC ACCESS DOOR
INSTALL AN R-38 INSULATED ACCESS DOOR AS SHOWN ON CONSTRUCTION DOCUMENTS. TRIM OPENING WITH APPROPRIATE WINDOW CASING TO MATCH INTERIOR TRIM. THE ROUGH-FRAMED OPENING SHALL BE NOT LESS THAN 22 INCHES BY 30 INCHES AND SHALL BE LOCATED IN A HALLWAY OR OTHER READILY ACCESSIBLE LOCATION. WHERE THE ACCESS IS LOCATED IN A CEILING, MINIMUM UNOBSTRUCTED HEADROOM IN THE ATTIC SPACE SHALL BE 30 INCHES (AT SOME POINT ABOVE THE ACCESS MEASURED VERTICALLY FROM THE BOTTOM OF CEILING FRAMING MEMBERS.
5. 08 32 00 - SLIDING GLASS DOORS
DOOR SIZE AND TYPE TO BE AS PER DOOR SCHEDULE. INSTALL STAINLESS STEEL, ALUMINUM TRACK AND ROLLERS WITH WEATHER-TIGHT THRESHOLDS. PROVIDE NECESSARY HARDWARE PER OWNER' SELECTION.
EXTERIOR DOOR FRAMES - INSTALL PRE-HUNG DOOR UNITS.
EXTERIOR CASING: BRICK MOLD WM180, 1 1/4" X 2", FINGER JOINT FOR PAINT FINISH OR CLEAR/CONCEALED JOINT FOR STAIN FINISH
INTERIOR CASING: WM 445, 11/16" X 3 1/4" FINGER JOINT FOR PAINT FINISH OR CLEAR/CONCEALED JOINT FOR STAIN FINISH
6. 08 36 00 - PANEL DOORS
INSTALL OVERHEAD (8'-0", 9'-0", 16'-0", 18'-0" AS PER DOOR SCHEDULE) WIDE X 7'-0" HIGH R-18 INSULATED FIBERGLASS GARAGE/OVERHEAD DOOR(S) WITH ELECTRIC OPENER(S) AND DUAL REMOTE CONTROL UNITS. INSTALL WEATHER-STRIPPING AROUND EACH DOOR OPENING.GARAGE DOORS TO BE SELECTED BY OWNER.
7. 08 50 00 - WINDOWS
ALL WINDOWS TO BE ANDERSEN. SEE WINDOW SCHEDULE FOR MODEL NUMBERS. MAXIMUM WINDOW U VALUE TO BE AS PER RESCHECK CALCULATIONS (U.O.N. MAX. U VALUE 0.32). CONFIRM THAT OPENINGS ARE COMPLIANT WITH ALL APPLICABLE BUILDING CODES CONCERNING EGRESS, LIGHTING AND VENTILATION REQUIREMENTS. WINDOW SIZE, LOCATION AND MODEL TO BE AS INDICATED ON PLANS. INSTALL WINDOWS AS PER MFR'S INSTRUCTIONS. WINDOWS TO HAVE EXTERIOR APPLIED MUNTINS, TRIM DETAIL AS GRAPHICALLY INDICATED ON THE ELEVATIONS.
BEDROOM WINDOWS SHALL COMPLY WITH CODE REQUIREMENTS FOR EMERGENCY ESCAPE WITH APPROPRIATE EGRESS HARDWARE. MINIMUM NET CLEAR OPENING SHALL BE 5.7 SQ.FT., MINIMUM NET CLEAR WIDTH SHALL BE 20", MINIMUM NET CLEAR HEIGHT SHALL BE 24" AND SILL HEIGHT SHALL BE BETWEEN 24" - 44" ABOVE FLOOR.
8. 08 51 66 - METAL WINDOW SCREENS
EXTERIOR FRAMES SHALL BE A (WHITE, BRONZE ANODIZED, SILVER METAL) FINISH SELECTED BY OWNER WITH JOINTS WELDED AND SANDED SMOOTH. WIRE MESH SHALL BE STAINLESS STEEL OR FIBERGLASS AS SELECTED BY OWNER. SCREENS WILL BE INSTALLED FOR EASY REMOVAL AS RECOMMENDED BY MANUFACTURER'S GUIDELINES.
9. 08 60 00 - ROOF WINDOWS AND SKYLIGHTS
INSTALL VELUX TAMPERED REMOTE CONTROLLED METAL OR VINYL, SINGLE OR DOUBLE PANE FIXED OR OPERABLE (AS SELECTED BY OWNER) SKYLIGHTS AS PER MANUFACTURERS SPECIFICATIONS. PROVIDE AND INSTALL NECESSARY HARDWARE TO OPERATE SKYLIGHTS.
10. 08 71 00 - DOOR HARDWARE
FINISH HARDWARE SHALL INCLUDE KEYED DEADBOLT LOCKSETS AT ALL EXTERIOR DOORS. INTERIOR DOORS SHALL BE A COMBINATION OF PRIVACY AND PASSAGE LOCKS. HARDWARE SHALL BE SELECTED BY OWNER. ALL EXTERIOR LOCKSETS SHALL BE KEYED THE SAME. ALL DOOR HARDWARE TYPE, FINISH, OPERATION TO BE SELETED BY OWNER
11. 08 71 01 - DOOR HARDWARE - THRESHOLDS
PROVIDE AND INSTALL (BRONZE ANODIZED, BRUSHED ALUMINUM) THRESHOLDS AS SELECTED BY OWNER AND APPROPRIATE DOOR SWEEPS AT EXTERIOR DOORS.
12. 08 75 00 - WINDOW HARDWARE
FINISH HARDWARE SHALL INCLUDE LOCKSETS AT ALL EXTERIOR WINDOWS. INSTALL AS SPECIFIED BY MANUFACTURER. ALL WINDOW HARDWARE TYPE, FINISH AND STYLE TO BE DETERMINED BY OWNER
13. 08 80 00 - GLAZING
U.O.N. ALL GLAZING IN HAZARDOUS LOCATION AS DEFINED BY IRC 2015 R308.4.1 THROUGH R308.4.7 SHALL BE SAFETY GLAZED AND TESTED IN ACCORDANCE WITH CPSC 16 CFR 1201. GLAZING SHALL COMPLY WITH THE TEST CRITERIA FOR CATEGORY II UNLESS OTHERWISE INDICATED IN TABLE R308.3.1(1).
R308.1 IDENTIFICATION. EXCEPT AS INDICATED IN SECTION R308.1.1 EACH PANE OF GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED IN SECTION R308.4 SHALL BE PROVIDED WITH A MANUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, DESIGNATING THE TYPE OF GLASS AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES, WHICH IS VISIBLE IN THE FINAL INSTALLATION. THE DESIGNATION SHALL BE ACID ETCHED, SANDBLASTED, CERAMIC-FIRED, LASER ETCHED, EMBOSSED, OR BE OF A TYPE THAT ONCE APPLIED CANNOT BE REMOVED WITHOUT BEING DESTROYED. A LABEL SHALL BE PERMITTED IN LIEU OF THE MANUFACTURER'S DESIGNATION.
UON PROVIDE SAFETY GLAZING AS PER R308.4.1 GLAZING IN DOORS, R308.4.2 GLAZING ADJACENT TO DOORS, R308.1.3 GLAZING IN WINDOWS, R308.1.4 IN GUARDS AND RAILINGS, R308.1.5 IN WET SURFACES, R308.1.6 ADJACENT TO STAIR AND RAMPS, R308.1.7 ADJACENT TO BOTTOM OF STAIR LANDING
INSTALL FROSTED GLAZING AS SPECIFIED BY OWNER
14. 08 83 00 - MIRRORS
INSTALL MIRRORS AS SPECIFIED BY OWNER. INSTALL WITH SILICON SEALANT AND SPACER STRIPS PER MANUFACTURERS RECOMMENDATIONS.

DIVISION 09 00 00. FINISHES

1. 09 00 00 - FINISHES
CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS CONSULT WITH OWNER AND PROVIDE LABOR AND MATERIALS PERTAINING TO THE FINISHES AS REQUIRED IN SAID DOCUMENTS AND AS SPECIFIED HEREIN, WHILE COMPLYING WITH ALL APPLICABLE BUILDING CODES.
2. 09 29 00 - GYPSUM BOARD
GYPSUM BOARD MUST BE HELD FIRMLY AGAINST THE FRAMING WHILE FASTENING TO AVOID LATER MOVEMENT OF GYPSUM BOARD ON THE SHANK OF THE NAILS OR SCREWS.
NAILS OR SCREWS: NAILS AND SCREWS SHALL BE A MINIMUM 3/8" AND A MAXIMUM OF 1/2" FROM EDGES AND ENDS OF WALLBOARD AND THE HEADS SHALL BE SEATED SLIGHTLY BELOW THE SURFACE WITHOUT BREAKING THE PAPER. NAILS SHALL BE SPACED NOT TO EXCEED 7" ON CEILINGS OR 8" ON SIDEWALLS. HEAD DIAMETER SHALL BE A NOMINAL 1/4" WITH THE LENGTH 1 1/2" TO PENETRATE A MINIMUM OF 7/8" INTO NAILING MEMBER. NAILS SHALL MEET THE MINIMUM REQUIREMENTS OF ASTM C514 AND MAY INCLUDE COATED, ETCHED TREATED OR ANNULAR RING SHANKS TO IMPROVE WITHDRAWAL RESISTANCE. DRYWALL SCREWS SHALL MEET THE MINIMUM REQUIREMENTS OF ASTM C1002. BUGLE-SHAPED HEADS SHALL BE 0.315" IN NOMINAL DIAMETER AND CONTAIN A NO. 2 PHILLIPS DRIVING RECESS. TYPE "W" SCREWS ARE DESIGNED FOR EASIER FASTENING IN WOOD.
JOINTS: AT GYPSUM WALLBOARD JOINTS INSTALL A 2" STRONG, CROSS THREADED TAPE WITH A CROSS TENSILE STRENGTH OF 45 LBS PER LINEAL INCH. PRESS A STRONG, GOOD QUALITY TAPE FIRMLY ONTO SHEATHING JOINTS AND AROUND OPENINGS, IMBEDDED IN JOINT CEMENT. AT CORNERS AND ANGLES, INSTALL METAL CORNER BEADS AS SPECIFIED BY MANUFACTURER. IF CORNERS ARE ROUNDED, INSTALL CORNER REINFORCEMENT AS REQUIRED. SPREAD GYPSUM WALLBOARD MUD AT ALL TAPE JOINTS, CORNER BEADS, NAILS AND SCREW PENETRATIONS AND WHERE A SMOOTH SURFACE IS NEEDED. APPLY SECOND COAT OF WALLBOARD MUD AFTER A MINIMUM 24 HOURS. AFTER DRYING (MINIMUM 48 HOURS), SAND ALL JOINTS AND OTHER AREAS TO A SMOOTH CONSISTENT SURFACE.
INTERIOR WALLS: SHEATH WALLS AND CEILINGS WITH 1/2" GYPSUM WALLBOARD, EITHER VERTICALLY WITH LONG EDGES PARALLEL TO FRAMING, OR HORIZONTALLY WITH LONG EDGES AT RIGHT ANGLES TO FRAMING MEMBERS. APPLY ONE LAYER OF 1/2" X 4' X , 8' FOOT LENGTHS TO ALL WALL SURFACES. OFFSET JOINTS BETWEEN LAYERS AT LEAST 10".
CEILINGS: APPLY A SINGLE LAYER OF 1/2" GYPSUM WALLBOARD ACROSS THE SUPPORTS AND FASTEN WITH NAILS OR SCREWS. OFFSET JOINTS BETWEEN LAYERS AT LEAST 10". NAILS ARE SPACED 6"ON CENTER (OC) WITH 1 1/4" HEADS. SCREWS ARE SPACED 12" ON CENTER (OC). CEILING FINISH SHALL BE SMOOTH, STIPPLED, BLOWN, ETC.
FIRE-RATED GYPSUM WALLBOARD: IN GARAGES, AROUND GAS WATER HEATERS AND AS REQUIRED BY APPLICABLE BUILDING CODES, INSTALL 5/8" TYPE "X" FIRE-RATED GYPSUM WALLBOARD ON WALLS AND (2) 5/8" TYPE "X" FIRE-RATED GYPSUM WALLBOARD ON CEILINGS, BEAMS AND GIRDER. NAILS SHALL BE 1 3/4" LONG, SPACED A MAXIMUM OF 4" ON CENTER (OC) AROUND PERIMETER AND 8" ON CENTER (OC) IN THE FIELD OF THE BOARD.
WATER RESISTANT GYPSUM WALLBOARD: IN ALL WET AREAS I.E., TOILETS, SHOWER ROOMS, TUB ROOMS, SOILED UTILITY ROOMS, KITCHENS, ETC. AS REQUIRED BY APPLICABLE BUILDING CODES, INSTALL 1/2" WATER RESISTANT DRYWALL.
3. 09 30 00 - TILING
TILE, MARBLE, SATE SHALL BE APPROPRIATE GRADE AND FINISH IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND OWNER REQUIREMENTS. CONTRACTOR SHALL PROPERLY CLEAN ALL SURFACES TO BE COVERED AND INSTALL APPROPRIATE UNDERLAYMENT PER MANUFACTURERS RECOMMENDATIONS. INSTALLATION SHOULD BE CARRIED OUT WITH A SLOW SETTING CEMENT ADHESIVE, WELL MIXED PER MANUFACTURER RECOMMENDATIONS. GROUTING OF CONTROL JOINTS CAN BE EXECUTED EITHER WITH CEMENT BASED GROUT OR WITH RESIN BASED ORGANIC MATERIALS.
FLOORS: CONTRACTOR SHALL PROPERLY CLEAN ALL SURFACES TO BE COVERED AND INSTALL APPROPRIATE UNDERLAYMENT PER MANUFACTURERS RECOMMENDATIONS. CONTRACTOR TO PROVIDE TILE FLOORING AS SLECTED BY OWNER AT ALL BATHROOMS, MUDROOM AND LAUNDRY ROOM
HEARTH/MANTEL: INSTALL FIRE-RESISTANT MARBLE, CERAMIC TILE, SLATE, ETC HEARTH AS SELECTED BY OWNER, A MINIMUM OF 18" FROM FIREPLACE AND 6" EACH SIDE OF OPENING. STONE CAN BE INSTALLED FLUSH WITH THE GROUND OR BUILT UP ON PLATFORM. CHECK LOCAL BUILDING CODES FOR SPECIFIC REQUIREMENTS.
THRESHOLDS: INSTALL MARBLE THRESHOLDS AS SELECTED BY OWNER BATHROOM, MUD ROOM, LAUNDRY ROOM AT DOOR OPENINGS.
4. 09 50 00 - CEILINGS
CEILINGS SHALL HAVE A SMOOTH ETC. FINISH. SEE CONSTRUCTION DOCUMENTS FOR INFORMATION ON LOCATION OF TRAY, VAULTED, COFFERED CEILINGS.
5. 09 60 00 - FLOORING
CONTRACTOR SHALL PROPERLY CLEAN ALL SURFACES TO BE COVERED AND INSTALL APPROPRIATE UNDERLAYMENT OR PREPARATION PER MANUFACTURERS RECOMMENDATIONS. SEE ABOVE FOR TILE AND STONE FLOOR SPECIFICATIONS.
6. 09 64 00 - WOOD FLOORING
UON ALL FLOORING AT HEATED AREAS TO BE FINISHED OR UNFINISHED WOOD AS SELECTED BY OWNER. INSTALL A SINGLE LAYER OF 15 LB FELT VAPOR BARRIER BETWEEN SUB-FLOOR DECKING AND HARDWOOD FLOORS. WHEN INSTALLING HARDWOODS OVER A CONCRETE SLAB INSTALL A LAYER OF 3/4" PLYWOOD AS UNDERLAYMENT OVER 6 MIL POLYETHYLENE. ALONG WALLS AND PERMANENT OBJECTS, INSTALL A 1" QUARTER ROUND MOLDING TO CONCEAL EXPANSION AREA.
PRE-FINISHED : WOOD FLOORING SHALL BE TONGUE AND GROOVE CONSTRUCTION AND TRUE SQUARE EDGED FOR A FLAT SMOOTH SURFACE. WOOD FLOORING CAN BE FASTENED WITH APPROPRIATE NAILS, STAPLES OR GLUE. CHECK SPECIFIC MANUFACTURER'S RECOMMENDATIONS.
UNFINISHED: WOOD FLOORING SHALL BE TONGUE AND GROOVE CONSTRUCTION, AS SLECTED BY OWNER, ADHESIVE SHALL BE USED FOR PRE-FINISHED 3/8" PLANK, STRIP AND PARQUET (5/16" AND 3/4"). ADHESIVE FOR END FASTENING 3/4" RANDOM PLANKS SHALL BE AS RECOMMEND BY MANUFACTURER. USE 2" BARBED FASTENERS OF APPROVED STAPLES FOR INSTALLING PLANK OR STRIP FLOORING. AFTER A MINIMUM OF 48 HOURS, SAND AND FINISH, USING A STAIN COAT AND A MINIMUM THREE COATS OF POLYURETHANE AS SPECIFIED BY OWNER.
7. 09 68 00 - CARPETING
INSTALL CARPETING AT LOCATION AS SPECIFIED BY OWNER. INSPECT ALL SUB-FLOORING TO INSURE A CLEAN, DRY AND SECURE SURFACE BEFORE INSTALLATION. IF FILLING COMPOUND IS NEEDED FOR FLOOR LEVELING, A LATEX BASED SUB-FLOOR FILLER WILL BE USED.
PADDING: CUSHION PADDING SHALL BE 1/2" THICK, RESIDENTIAL GRADE INSTALLED IN THE LONGEST POSSIBLE LENGTHS. CUSHION SEAMS SHALL NOT BE LOCATED DIRECTLY UNDER CARPET SEAMS, AND WHEN POSSIBLE SHALL BE ORIENTED AT RIGHT ANGLES TO CARPET SEAMS. ALL PADDING SHALL BE SMOOTH, FLAT AND SECURE WITH SEAMS TIGHTLY BUTTED AND TAPED.
INSTALLATION: CARPET SHALL BE INSTALLED TO PRODUCE A TIGHT, SMOOTH, SECURE AND UNIFORM SURFACE AS INDICATED PER CONSTRUCTION DOCUMENTS AND FINISH SCHEDULES. IN AREAS WHERE MORE THAN ONE WIDTH OF CARPET IS REQUIRED, PRECUT THE CARPET TO THE PROPER LENGTH ALLOWING FOR FLASH UP AT WALLS AND THROUGH DOORWAYS. POSITION FIRST TWO PIECES OF CARPET, AND CUT SEAMS BY ROW CUTTING AND TRACE CUTTING FOR THE SECOND PIECE IN A MANNER THAT WILL PRODUCE A TIGHT, UNIFORM SEAM REQUIRING A MINIMUM AMOUNT OF ADJUSTING WITH A KNEE KICKER.
SEAMS: CARPET SEAMS SHALL BE SECURED BY A NON-RELEASABLE BACKED LOW PROFILE HOT MELT SEAMING TAPE PER CARPET MANUFACTURERS RECOMMENDATIONS.
8. 09 70 00 - WALL FINISHES
WALLS SHALL BE CLEAN AND FREE OF DEFECTS SUCH AS CRACKS OR UNFINISHED JOINTS PRIOR TO INSTALLATION OF WALL FINISHES. IF MILDEW IS EVIDENT, MILDEW MUST BE REMOVED AND SURFACE PROPERLY TREATED TO INHIBIT FURTHER MILDEW GROWTH.
9. 09 72 23 - WALLPAPERING
INSTALL WALLCOVERINGS IN AREAS AS SPECIFIED BY OWNER. INSTALL APPROPRIATE PRIMER ON ALL SURFACES BEFORE INSTALLATION. BUTT-JOINT ALL SEAMS WITHOUT OVERLAPPING. WRAP WALLCOVERINGS 6" AROUND INSIDE AND OUTSIDE CORNERS TO AVOID BRIDGING OR SPANNING. USE APPROPRIATE VINYL ADHESIVE OR PASTE AS SUGGESTED BY MANUFACTURER. AFTER INSTALLATION, REMOVE ALL EXCESS PASTE FROM WALLCOVERING SURFACE WITH A DAMP SPONGE. IF APPLYING A TEXTURED SUB-PAPER THAT WILL BE PAINTED, SEAM GAPS SHOULD BE FILLED WITH A CAULKING COMPOUND PRIOR TO FINISHING.
10. 09 74 00 - INTERIOR PANELING
AS PER OWNER'S SPECIFICATION'S, INSTALL WOOD OR VINYL PANELING IN AREAS AS INDICATED ON FINISH SCHEDULE. BUTT-JOINT ALL SEAMS WITHOUT OVERLAPPING. WOOD SPECIES AND GRAIN SHALL MATCH AND BE FREE OF DEFECTS. APPLY PANELING OVER GYPSUM WALLBOARD.
11. 09 90 00 - PAINTING AND COATING
GWB WOOD TRIM SHALL RECEIVE A PRIME COAT AND 2 COATS OF A SEMI-GLOSS FINISH PAINT (BENJAMIN MOORE). NO "ORANGE PEEL" FINISH WILL BE PERMITTED ON WOODWORK. THE CONTRACTOR SHALL ALLOW FOR TEN COLOR SAMPLES OF COLORS SELECTED BY THE OWNER TO BE PAINTED ON THE WALLS FOR THE OWNER'S REVIEW
12. 09 91 23 - INTERIOR PAINTING
ALL NAIL HEADS SHALL BE SET BELOW THE SURFACE AND FINISHED SMOOTH. JOINTS SHOULD BE TAPED AND COVERED WITH A SUITABLE DRYWALL JOINT COMPOUND. SAND THE SPACKLED NAIL HEADS AND JOINT COMPOUND SMOOTH AND DUST WELL BEFORE PRIMING. INTERIOR WALLS SHALL RECEIVE A PRIMER COAT AND TWO COATS OF EGSHELL PAINT AS SPECIFIED BY OWNER. SURFACES SHALL BE SANDED BEFORE EACH FINISH LAYER IS APPLIED.

DIVISION 10 00 00. SPECIALITIES

1. 10 00 00 - SPECIALTIES
CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS AND PROVIDE LABOR AND MATERIALS PERTAINING TO THE SPECIALTIES AS REQUIRED IN SAID DOCUMENTS AND AS SPECIFIED HEREIN, WHILE COMPLYING WITH ALL APPLICABLE BUILDING CODES.
2. 10 28 16 - BATH ACCESSORIES
CONTRACTOR SHALL INSTALL TOILET PAPER ROLLS, 18" TOWEL BARS AND SOAP DISPENSERS IN ALL 1/2 BATHS. IN FULL BATHS, ADD AN ADDITIONAL 24" TOWEL BAR. INSTALL TOILET PAPER ROLLS 15" ABOVE FINISHED FLOOR (AFF). ALL BATH ACCESORIES TO BE SELECTED BY OWNER AND INSTALLED AT LOCATIONS AS INDICATED BY OWNER.
3. 10 28 19 - TUB AND SHOWER DOORS
SHOWER DOORS SHALL BE CONSTRUCTED OF TEMPERED SAFETY GLASS WITH ALL EXPOSED EDGES POLISHED AND ROUNDED. SWINGING DOORS SHALL HAVE VINYL SEAL AT BOTH THE LATCH JAMB AND HINGE JAMB SIDE OF DOOR. ALL SHOWER DOORS SHALL BE SELECTED BY OWNER AND INSTALLED AT BATHROOMS AS INDICATED BY ONWER.
4. 10 28 23 - LAUNDRY ACCESSORIES
CONTRACTOR SHALL INSTALL BUILT IN IRONING BOARD, SHELVING, CLOTHES DRYING RACK IN LAUNDRY ROOM. ALL LAUNDRY ACCESORIS TO BE SELECTED BY OWNER. THE OWNER SHALL LOCATE THE EQUIPMENT AND IDENTIFY ANY WALL SUPPORT REQUIREMENTS ASSOCIATED WITH INSTALLATION.
5. 10 30 00 - FIREPLACES AND STOVES
PRE-FABRICATED DIRECT VENT ZERO-CLEARANCE FIREPLACE AND ALL ITS COMPONENTS SHALL BE U.L. APPROVED AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS. PROVIDE BRICK, STONE, SHEETROCK OR APPROVED EQUAL MATERIAL FOR THE INTERIOR FINISH. PRE-FABRICATED DIRECT VENT ZERO-CLEARANCE FIREPLACE TO BE SLECTED BY OWNER.
6. 10 55 00 - POSTAL SPECIALTIES
CONTRACTOR SHALL INSTALL STANDARD POSTAL MAILBOX. POSTAL MAILBOX TO BE SELECTED AND LOCATED BY OWNER.
7. 10 57 00 - WARDROBE AND CLOSET SPECIALTIES
INSTALL SHELVING AS INDICATED BY OWNER FOR ALL CLOSETS, STORAGE AREAS AND PANTRIES.

DIVISION 11 00 00. EQUIPMENT

1. 11 00 00 - EQUIPMENT
CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS AND PROVIDE LABOR AND MATERIALS PERTAINING TO THE EQUIPMENT AS REQUIRED IN SAID DOCUMENTS AND AS SPECIFIED HEREIN, WHILE COMPLYING WITH ALL APPLICABLE BUILDING CODES.
2. 11 31 00 - RESIDENTIAL APPLIANCES
INSTALL ELECTRICAL OR GAS APPLIANCES AS SELECTED BY OWNER, INCLUDING ALL VENTING AND SUPPLY REQUIREMENTS PER MANUFACTURERS RECOMMENDATIONS. ALL APPLIANCES INCLUDING BUT NOT LIMITED TO RANGE, OVEN, COOKTOP, VENT HOOD, MICROWAVE, DISHHWASHER, DISPOSAL, REFRIGERATOR, WASHER, DRYER TO BE SELECTED AND LOCATED BY OWNER.
3. 11 33 00 - RETRACTABLE STAIRS
INSTALL A WOOD OR METAL PULL-DOWN STAIR SYSTEM AT THE LOCATION SHOWN ON CONSTRUCTION DOCUMENTS. TRIM OPENING WITH APPROPRIATE WINDOW CASING TO MATCH INTERIOR TRIM. CONFIRM SIZE OF OPENING MEETS LOCAL BUILDING CODES FOR ATTIC ACCESS. PROVIDE APPROPRIATE PULL STRING OR CHAIN FOR ACCESS.

DIVISION 12 00 00. FURNISHINGS

1. 12 00 00 - FURNISHINGS
ALL FURNISHINGS PROVIDED BY THE CONTRACTOR SHALL BE SELECTED BY OWNER. UNLESS SPECIFICALLY DIRECTED OTHERWISE BY THE PROJECT MANAGER, CONTRACTOR SHALL CONSULT WITH OWNER AND PROVIDE THE FOLLOWING FURNISHINGS
2. 12 20 00 - WINDOW TREATMENTS
PROVIDE AND INSTALL WINDOW TREATMENTS AS INDICATED BY OWNER. INSTALL ALL WINDOW TREATMENTS AFTER THE WORK OF OTHER TRADES, INCLUDING PAINTING IS DONE.
3. 12 21 00 - WINDOW BLINDS
AS PER OWNER'S SPECIFICATIONS LOCATE AND INSTALL BLINDS LEVEL AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS AS APPROVED. INSTALL BLINDS TO THE INSIDE OF THE WINDOW FRAMES. INCLUDE ALL HARDWARE BRACKETS, ANCHORS, FASTENERS AND ACCESSORIES FOR A COMPLETE FINISHED INSTALLATION.
4. 12 22 00 - CURTAIN AND DRAPES
AS PER OWNER'S SPECIFICATIONS LOCATE AND PROVIDE COMPLETE ASSEMBLIES PRODUCED BY ONE MANUFACTURER FOR EACH TYPE REQUIRED INCLUDING HARDWARE, ACCESSORY ITEMS, MOUNTING BRACKETS AND FASTENINGS. EXAMINE SUPPORT WORK FOR TRACKS IN PRESENCE OF INSTALLER. CORRECT CONDITIONS THAT WOULD RESULT IN IMPROPER OPERATION OF CURTAIN UNITS. COMPLY WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES FOR INDICATED INSTALLATION CONDITIONS AND AS INDICATED PER CONSTRUCTION DOCUMENTS.
5. 12 23 00 - INTERIOR SHUTTERS
AS PER OWNER'S SPECIFICATIONS LOCATE AND INSTALL SHUTTERS LEVEL AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS AS APPROVED. INSTALL SHUTTERS TO THE INSIDE OF THE WINDOW FRAMES. INCLUDE ALL HARDWARE BRACKETS, ANCHORS, FASTENERS AND ACCESSORIES FOR A COMPLETE FINISHED INSTALLATION.
6. 12 24 00 - WINDOW SHADES
AS PER OWNER'S SPECIFICATIONS LOCATE AND INSTALL SHADES LEVEL AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS AS APPROVED. INSTALL SHADES TO THE INSIDE OF THE WINDOW FRAMES. INCLUDE ALL HARDWARE BRACKETS, ANCHORS, FASTENERS AND ACCESSORIES FOR A COMPLETE FINISHED INSTALLATION.
7. 12 30 00 - CASEWORK
AS PER OWNER'S SPECIFICATIONS LOCATE AND INSTALL PRE-FABRICATED OR CUSTOM CABINETRY AS SPECIFIED IN CONSTRUCTION DOCUMENTS. DIMENSIONS OF BASE CABINETS SHALL BE: 24"DEEP X 36"HIGH. DIMENSIONS OF OVERHEAD CABINETS SHALL BE: 12"DEEP X 42"HIGH. PROVIDE CONCEALED OR DECORATIVE HINGES AND CABINET HARDWARE AS SPECIFIED BY OWNER.
8. 12 36 00 - COUNTERTOPS
AS PER OWNERS SPECIFICATIONS (PLASTIC LAMINATE, CORIAN, SOLID SURFACE, STAINLESS STEEL, STONE OR CERAMIC TILE) COUNTER TOPS SHALL BE PROVIDED AND INSTALLED PER CONSTRUCTION DRAWINGS AND OWNER'S SPECIFICATIONS. COUNTER SURFACES SHALL BE GLUED ONTO 3/4" PLYWOOD OR APPROPRIATE SUBSTRATE AS RECOMMENDED BY MANUFACTURER. EDGES SHALL BE INSTALLED AS PER OWNER'S SPECIFICATIONS. PROVIDE MINIMUM 4" BACKSPLASH BETWEEN COUNTER AND WALL.
9. 12 93 00 - SITE FURNISHINGS
AS PER OWNER'S SPECIFICATIONS PROVIDE AND INSTALL ORNAMENTAL DETAILS AS SPECIFIED IN CONSTRUCTION DOCUMENTS. WEATHER VANES, BENCHES, SUNDIALS, CLOCKS, GARDEN ORNAMENTS, ETC.

DIVISION 15 00 00. MECHANICAL

1. AS A MINIMUM, ALL WORK SHALL CONFORM TO ESTABLISHED BUILDING STANDARDS AND BASE BUILDING SPECIFICATIONS AND STANDARDS, AND TO CODES/STANDARDS OF THE CITY HAVING JURISTICTION
2. ALL MECHANICAL EQUIPMENT AND APPLIANCE GAGES, CONTROLS, FILTERS, ETC SHALL BE ACCESSIBLE AND INSTALLED WITH MINIMUM CLEARANCES
3. MECHANICAL EQUIPMENT AND APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND INSTRUCTIONS FOR THE LABELED EQUIPMENT AND IN ACCORDANCE WITH THE LATEST NATIONAL MECHANICAL CODE AND ALL GOVERNING RULES AND REGULATIONS
4. FIELD VERIFY ALL EXISTING SYSTEMS, INCLUDING: ZONING, HEATING CAPACITIES ETC. WHERE REQUIRED, EXTEND OR REPLACE HEATING LINES, MODIFY POINTS OF CONNECTION, CONTACT OWNER FOR CLARIFICATIONS AS NEEDED.
5. VERIFY ALL LOCATIONS OF DEVICES AND EQUIPMENT. COORDINATE WITH GENERAL CONTRACTOR, OTHER TRADES, AND ARCHITECT/ENGINEER TO AVOID CONFLICTS (E.G. WITH LIGHTS, SMOKE DETECTORS, BORDERS OF CEILING HEIGHT/ TYPE CHANGES, ETC.)"
6. BEFORE GIVING ESTIMATE FOR HEATING AND COOLING SYSTEM RETROFIT, THE CONTRACTOR SHALL EXAMINE EXISTING HEATING AND COOLING SYSTEM TO SEE IF IT HAS ENOUGH CAPACITY TO HANDLE THE ADDITIONAL REQUIREMENTS.
7. IF EXISTING HEATING AND COOLING EQUIPMENT CANNOT BE RETROFITTED AND/OR CANNOT HANDLE THE ADDED LOAD OF NEW SPACES, PROVIDE THE OWNER WITH OPTIONS THAT INCLUDE BUT NOT LIMITED TO THE FOLLOWING: 1. LARGER BOILER OR FURNACE 2. DIVIDING EXISTING AND NEW SPACES INTO NEW ZONES 3. PROPOSE THE USE OF NEW ENERGY EFFICIENT SYSTEMS THAT WILL BE MORE EFFICIENT
8. ALL BATHROOM EXHAUST FANS SHALL BE VENTED TO EXTERIOR. GC TO FURNISH AND INSTALL EXHAUST TERMINATION FLASHING AS PER MANUFACTURER'S SPECIFICATIONS
9. FLEX DUCT RUNS SHALL NOT EXCEED 8 FEET. EXISTING FLEX DUCT MAY BE REUSED PROVIDED IN GOOD CONDITION, OF SUFFICIENT LENGTH, AND DIAMETER EQUALS NECK SIZE.
10. COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE DOOR UNDERCUTS AT ALL ENTRANCES TO EXHAUSTED SPACES. VERIFY ALLOWABLE UNDERCUTS WITH GENERAL CONTRACTOR AND ARCHITECT.
11. UNLESS OTHERWISE INDICATED, MOUNT THERMOSTATS AT 48" A.F.F. TO CENTER LINE. COORDINATE LOCATION WITH OWNER
12. PIPE AND DUCT PENETRATIONS INTO FIRE RATED WALL AND CEILING ASSEMBLY SHALL BE FIRE RATED AS PER IRC 2009

DIVISION 22 00 00. PLUMBING

1. 22 00 00 - PLUMBING
PLUMBING SHALL BE A FULLY OPERATIONAL SYSTEM OF HOT AND COLD WATER. PROVIDE AND INSTALL ALL PIPING, SOIL, VENTS, DRAINS, SEWAGE REMOVAL AND WATER SUPPLY SYSTEMS TO CONNECT WITH APPROPRIATE WATER AND SEWAGE SYSTEMS. ALL PLUMBING SHALL BE CONCEALED WITHIN WALL AND FLOOR ASSEMBLY. CONTRACTOR TO VERIFY LOCATION OF PLUMBING LINES PRIOR TO CONSTRUCTIONS. PROVIDE AND INSTALL APPROPRIATE INSULATION AROUND PIPING. ALL PERMITS AND INSPECTIONS ARE TO BE OBTAINED BY CONTRACTOR AS REQUIRED BY LOCAL BUILDING CODES AND THE UNIFORM PLUMBING CODE.
SEWER AND WASTE PIPING - DRAINAGE SYSTEM SHALL BE SCHEDULE 40 PVC PIPE, OR CAST IRON. ALL CONNECTIONS SHALL HAVE PVC CEMENT OR APPROPRIATE JOINT COMPOUND AND ASSEMBLED TIGHT FOR NO LEAKAGE. CONDENSATE DRAINS SHALL BE CONSTRUCTED OF SCHEDULE 40 PVC. VALVES SHALL BE MILWAUKEE BRAND OR EQUAL. BUILDING SEWER SHALL BE APPROVED SCHEDULE 40 PVC PIPE. CONNECTION TO PUBLIC SEWER SYSTEM SHALL COMPLY WITH ALL LOCAL REQUIREMENTS. CAULK JOINTS OR PROVIDE NEOPRENE GASKETS FOR ALL SEWER LINES. PITCH SHALL BE A MINIMUM 1/8" PER FOOT FOR SOIL LINES LARGER THAN 3" DIAMETER AND A MINIMUM OF 1/4" PER FOOT FOR SOIL LINES 3" DIAMETER OR LESS. INSULATE ALL INTERIOR DRAIN/WASTE PIPING WITH BATT INSULATION FOR SOUND ATTENUATION.
CLAY PIPES MAY BE USED FOR DECORATIVE DRAINAGE IN YARDS.
WATER PIPES - FROM PUBLIC WATER LINE, INSTALL TYPE "L" OR "K" 1.5" (MINIMUM) COPPER PIPES, LOCATED BELOW FROST LINE. FROM THE METER TO THE BUILDING, INSTALL 1.5" SUPPLY WATER LINES. USE 1/2" MINIMUM LINES FROM SUPPLY LINES TO EACH PLUMBING FIXTURE AS REQUIRED. AT WATER HEATERS AND HOSE BIBS INSTALL A MINIMUM 3/4" PIPE. FROM WATER HEATER INSTALL 1" PIPE TO EACH ROOM WITH BRANCHES TO FIXTURES AS DESCRIBED ABOVE. FITTINGS SHALL BE WROUGHT COPPER, SOLDERED WITH 95-5 SOLDER AND SUITABLE FLUX. USE POLISHED CHROME ADJUSTABLE BRASS P-TRAPS WITH WALL ESCUTCHEONS AT ALL EXPOSED LOCATIONS.
PROVIDE SHUT-OFF VALVES AT SINKS, TOILETS, WATER HEATER AND OTHER FIXTURES AS REQUIRED. TEST ALL PIPES UNDER 100 LBS PRESSURE PER BUILDING CODE REQUIREMENTS.
WASTE DRAINAGE - INSTALL SEWAGE CLEAN-OUT AT THE END OF EACH HORIZONTAL DRAINAGE RUN AND EVERY 100 FEET PER BUILDING CODE REQUIREMENTS. VENTS SHALL BE INSTALLED THROUGHOUT PLUMBING CONNECTIONS AND CONNECTED WITH THE VERTICAL STACKS AND VENTED THROUGH THE ROOF. CHECK PLUMBING RISER DIAGRAM.
WATER HEATER - INSTALL ONE OR TWO 80 GALLON ELECTRIC OR GAS WATER HEATER(S) AS SELECTED BY OWNER. WATER HEATER(S) SHALL HAVE APPROPRIATE SAFETY VALVES, BACK FLOW PREVENTERS, PRESSURE RELIEF VALVES AND DRAIN ASSEMBLIES. INSTALL TYPE "X" FIRE-RATED GYPSUM WALLBOARD SURROUNDING GAS WATER HEATERS. FOLLOW MANUFACTURER RECOMMENDATIONS AND BUILDING CODE REQUIREMENTS FOR INSTALLATION AND USE
2. 22 40 00 - PLUMBING FIXTURES
PROVIDE NECESSARY PIPING, WATER AND DRAINS FOR PLUMBING FIXTURES AS SHOWN ON THE CONSTRUCTION DOCUMENTS AND LISTED HEREIN. ALL PLUMBING FIXTURES AND FITTINGS, INCLUDING BUT NOT LIMITED TO KITCHEN SINK, BATHROOM SINKS, FAUCEST, TOILETS, SHOWER TO BE SELECTED BY OWNER

DIVISION 23 00 00. HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

1. 23 09 00 - INSTRUMENTATION AND CONTROL FOR HVAC
INSTALL PNEUMATIC/DIGITAL CONTROL SYSTEMS. ZONE ROOMS TOGETHER AS SPECIFIED BY DRAWINGS OR ELECTRICAL CONTRACTOR. THE LOCATION OF CONTROLS SHALL BE COORDINATED TO AVOID CONFLICTS WITH FURNISHINGS OR USES FOR THE ROOMS IN WHICH CONTROLS ARE LOCATED.
2. 23 31 00 - HVAC DUCTS AND CASINGS
LAYOUTS FOR VENTS AND DIFFUSERS SHALL BE DESIGNED BY HVAC TECHICIAN OR OTHER. ALL HVAC DUCTS SHALL BE CONCEALED WITHIN WALL AND FLOOR ASSEMBLY. SOFFITS SHALL BE PROVIDED AS PER OWNER'S SPECIFICATIONS. CONTRACTOR TO VERIFY ALL HVAC DUCT LOCATIONS WITH OWNER PRIOR TO CONSTRUCTION.
3. 23 54 16 - FUEL-FIRED FURNACE
HVAC GAS FURNACE SHALL BE SELECTED BY OWNER. THE SYSTEM WILL CONTAIN AIR DISTRIBUTION DUCTS, DIFFUSERS AND THERMOSTATS. PROVIDE NECESSARY VENTING AND FIRE-RATED WALL SYSTEM AROUND FURNACE.
4. 23 70 00 - CENTRAL HVAC EQUIPMENT
HVAC SYSTEM AND REQUIREMENTS SHALL BE SPECIFIED BY OWNER, (IF ANY). CONTRACTOR TO CONSULT WITH OWNER PRIOR TO BID. GC TO VERIFY HVAC EQUIPMENT LOCATION WITH OWNER PRIOR TO CONSTRUCTION. HVAC SHALL BE A FULLY OPERATIONAL ENGINEERED SYSTEM DESIGNED TO MEET LOCAL WEATHER CONDITIONS AND BUILDING REQUIREMENTS. ALL PERMITS AND INSPECTIONS SHALL BE OBTAINED BY CONTRACTOR AS REQUIRED BY APPLICABLE BUILDING CODES.
5. 23 70 01 - AIR-CONDITIONING UNIT
HVAC UNIT(S) SHALL SHALL BE SELECTED BY OWNER. THE SYSTEM WILL CONTAIN A CONCRETE PAD FOR THE CONDENSER, POWER DISCONNECTS, CONDENSATE DRAINS, AIR DISTRIBUTION DUCTS, DIFFUSERS AND THERMOSTATS. CENTRAL UNITS FOR AIR CONDITIONING OR VENTILATION SHALL BE ARRANGED SO THAT AIRFLOW IS AS DIRECT AS POSSIBLE. COORDINATE LOCATION OF RETURN AIR UNIT WITH CONTRACTOR.
6. 23 70 02 - ELECTRIC HEAT PUMP SYSTEMS
HEAT PUMP WITH ELECTRIC HEAT SYSTEM TO BE SELECTED BY OWNER. THE SYSTEM WILL CONTAIN A CONCRETE PAD FOR THE CONDENSER, POWER DISCONNECTS, CONDENSATE DRAINS, AIR DISTRIBUTION DUCTS, DIFFUSERS AND THERMOSTATS.

DIVISION 26 00 00. ELECTRICAL

1. THE ELECTRICAL LAYOUT SHOWN IS ONLY DIAGRAMMATIC AND BASED ON MINIMUM CODE REQUIREMENTS. REVIEW WITH OWNER, ROOM BY ROOM, VERIFY LAYOUT AND ACTUAL FIXTURE LOCATION BEFORE AND AFTER ROUGH WIRING.
2. COMPLETE ELECTRICAL WIRING AND INSTALLATION SHALL MEET THE STANDARDS PRESCRIBED BY THE CURRENT NATIONAL ELECTRICAL CODE AND ALL LOCAL AMENDMENTS, ALL APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES, AND LOCAL AND STATE BUILDING CODES. CONSTRUCTION SHALL IN GENERAL BE IN ACCORDANCE WITH STANDARDS AND REQUIREMENTS OF UTILITIES AND AUTHORITIES HAVING JURISDICTION.
3. THE SCOPE OF THE ELECTRICAL WORK INCLUDES FURNISHING AND INSTALLING ALL ELECTRICAL WORK FOR A COMPLETE INSTALLATION.
4. PRIOR TO STARTING CONSTRUCTION EITHER PROVIDE A MONETARY ALLOWANCE TO THE OWNER FOR GOOD QUALITY UL LISTED FINISH LIGHT FIXTURES OR ALLOW OWNER TO PURCHASE THOSE FIXTURES. THIS DECISION TO BE AS PER OWNER'S DIRECTION. PROVIDE OWNER WITH CATALOG CUTS OF PROPOSED FIXTURES.
5. EXISTING ELECTRICAL FIXTURES AND WIRING TO REMAIN UNLESS LOCATED IN DEMOLISHED WALLS. CONSOLIDATE CIRCUITING OF EXISTING OUTLETS TO MAXIMIZE CIRCUIT AVAILABILITY FOR NEW ELECTRICAL DEVICES SHOWN ON PLANS.
6. U.O.N FOR REHAB PROJECTS WHERE EXISTING ELECTRIC PANEL IS TO BE REUSED, PRIOR TO STARTING OF CONSTRUCTION VERIFY THAT EXISTING PANEL HAS ENOUGH CAPACITY TO HANDLE THE ADDITIONAL REQUIREMENTS - OTHERWISE CONTACT ARCHITECT
7. ELECTRICAL CONTRACTOR SHALL PROVIDE AS PART OF THIS CONTRACT LEGIBLE LABELING OF ALL BREAKERS ON PANEL BOARD WITH TYPEWRITTEN OR PLASTIC EMBOSSED LABEL.
8. CONTRACTOR SHALL RELOCATE/RE-INSTALL EXISTING FIXTURES AS SHOWN AND SHALL RE-INSTALL ANY EXISTING FIXTURES REMOVED TO ACCOMPLISH OTHER PORTIONS OF THE WORK.
9. CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND LIGHTING IF AND AS NEEDED FOR THE USE OF ALL TRADES.
10. THERE SHALL BE NO MORE THAN (7) OUTLETS ON 15 AMP BRANCH CIRCUIT AND NO MORE THAN (8) OUTLETS ON A 20 AMP BRANCH CIRCUIT
11. ALL 120-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUN ROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS , OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT.
12. ALL RECEPTACLES WITHIN UNITS TO BE TAMPER PROOF. CENTER ALL RECEPTACLES 18" A.F.F. AND SWITCHES 48" A.F.F. UNLESS NOTED OTHERWISE ON PLAN.
13. ALL OUTLETS AT WET AREAS TO BE GROUND FAULT PROTECTED
14. ALL NEW PIPING AND ELECTRIC CONDUITS SHALL BE CONCEALED WITHIN NEW PARTITIONS.
15. ALL ELECTRICAL FIXTURES LOCATED AT A FIRE RATED WALL SHALL BE FIRE RATED AS WELL, PROVIDE SAME RATING AS THAT WALL. FOLLOW MANUFACTURER'S SPECIFICATIONS AND PROCEDURES FOR INSTALLATION.

DIVISION 28 00 00. ELECTRONIC SAFETY AND SECURITY

1. 28 30 00 - DETECTION AND ALARM
INSTALL AN INTRUSION DETECTION ALARM SYSTEM AS SELECTED BY OWNER WHICH DETECTS ENTRY INTO THE ROOM/BUILDING AND WHICH BROADCASTS A LOCAL ALARM OF SUFFICIENT VOLUME TO CAUSE AN ILLEGAL ENTRANT TO ABANDON A BURGLARY ATTEMPT. INTRUSION DETECTORS MUST HAVE THE FOLLOWING ESSENTIAL FEATURES.
AN INTERNAL, AUTOMATIC CHARGING DC STANDBY POWER SUPPLY AND A PRIMARY AC POWER OPERATIONS.
A REMOTE, KEY OPERATED ACTIVATION/DEACTIVATION SWITCH INSTALLED INSIDE THE RESIDENCE/OFFICE AND ADJACENT TO THE ENTRANCE DOOR FRAME AND/OR A CENTRAL ALARM ON-OFF CONTROL IN THE POLICE OFFICE.
AN AUTOMATIC RESET CAPABILITY FOLLOWING AN INTRUSION DETECTION.
A LOCAL ALARM LEVEL OF 80 DB (MIN) TO 90 DB (MAX) WITHIN THE CONFIGURATION OF THE PROTECTED AREA.
AN INTEGRAL CAPABILITY FOR THE ATTACHMENT OF WIRING FOR REMOTE ALARM AND INTRUSION INDICATOR EQUIPMENT (VISUAL OR AUDIO). SEE INSTALLATION NOTES BELOW.
A LOW NUISANCE ALARM SUSCEPTIBILITY.
2. 28 31 46 - SMOKE DETECTION SENSORS
INSTALL AT LEAST ONE HARDWIRED SMOKE ALARM WITH BATTERY BACKUP ON EVERY FLOOR OF A STRUCTURE (INCLUDING THE BASEMENT) AND OUTSIDE EACH SLEEPING AREA AND INSIDE ALL SLEEPING ROOMS, ACCORDING TO THE NFPA 72, NATIONAL FIRE ALARM CODE®. SMOKE DETECTORS TO BE HARDWIRED IN SUCH A WAY THAT THE ACTIVATION OF ONE WILL ACTIVATE ALL ALARMS. MOUNT THE SMOKE ALARMS ON CEILINGS OR HIGH ON WALLS. CEILING-MOUNTED ALARMS SHOULD BE INSTALLED AT LEAST FOUR INCHES AWAY FROM THE NEAREST WALL; WALL-MOUNTED ALARMS SHOULD BE INSTALLED AT LEAST FOUR INCHES, BUT NOT MORE THAN 12 INCHES AWAY FROM THE CEILING. ON VAULTED CEILINGS, BE SURE TO MOUNT THE ALARM AT THE HIGHEST POINT OF THE CEILING. DON'T INSTALL SMOKE ALARMS NEAR WINDOWS, OUTSIDE DOORS, BATHROOM DOORS, KITCHEN APPLIANCES, OR DUCTS WHERE DRAFTS MIGHT INTERFERE WITH THEIR OPERATION. DO NOT PAINT, APPLY FINISH OR OBSTRUCT SMOKE ALARMS.
3. 28 31 49 - CARBONMONOXIDE DETECTOR
INSTALL AT LEAST ONE HARDWIRED CARBONMONOXIDE DETECTOR WITH BATTERY BACKUP ON EVERY FLOOR OF A STRUCTURE (INCLUDING THE BASEMENT), INSIDE GARAGE AND OUTSIDE EACH SLEEPING AREA. CARBONMONOXIDE DETECTOR TO BE HARDWIRED IN SUCH A WAY THAT THE ACTIVATION OF ONE WILL ACTIVATE ALL ALARMS.

DIVISION 31 00 00. EARTHWORK

1. 31 10 00 - SITE CLEARING
THE AREA OF CLEARING SHALL BE MAINTAINED WITHIN THE LIMITS SHOWN ON THE APPROPRIATE SITE PLANS. REMOVE STUMPS AND MATTED ROOTS TO A DEPTH OF 24 INCHES BELOW EXISTING GROUND SURFACE. DISPOSE OF TREES AND SHRUBS IN ACCORDANCE WITH APPLICABLE GARBAGE, REFUSE OR WEEDS ORDINANCE. DO NOT BURN MATERIALS ON SITE.
SOIL BEARING - FOUNDATION DESIGNS ARE BASED ON A SOIL BEARING VALUE OF 4000 PSF. FOUNDATIONS AND SLABS ARE DESIGNED TO UNIFORMLY BEAR ON WELL-COMPACTED, WELL-DRAINED NON-EXPANSIVE SOILS. A CERTIFIED SOILS ENGINEER SHALL REVIEW FOUNDATION DESIGNS AND BUILDING LOADS AND COMPARE WITH SUBSURFACE SOIL INVESTIGATION. SHOULD ON-SITE OBSERVATIONS SHOW THAT FOUNDATION DESIGNS ARE NOT SATISFACTORY, A STRUCTURAL ENGINEER SHOULD BE CONTACTED IMMEDIATELY TO REDESIGN FOUNDATIONS TO ACCOMMODATE CONDITIONS.
2. 31 11 00 - CLEARING AND GRUBBING
CLEAR AND GRUB THE CONSTRUCTION SITE. GRADE BUILDING SITE WITH APPROPRIATE SOILS. EXISTING TREES TO REMAIN SHALL BE MARKED PRIOR TO CLEARING AND PROTECTED TO PREVENT DAMAGE. IF ANY DAMAGE IS DONE TO WALKWAYS, DRIVEWAYS, ETC, NEEDED REPAIRS SHALL BE PROVIDED BY THE CONTRACTOR. REPAIR OR REPLACE ANY DAMAGED VEGETATION OR TERRAIN THAT IS INDICATED TO BE PROTECTED OR IS MORE THAN EIGHT FEET FROM THE EDGE OF ANY CONSTRUCTION.
3. 31 20 00 - EARTH MOVING
EXCAVATE BOTTOM OF ALL FOUNDATION WALLS AND FOOTINGS AT BUILDING PERIMETER A MINIMUM OF 12" BELOW FROST LINE AND 24" WIDE, (CHECK WITH LOCAL BUILDING OFFICIALS FOR FROST LINE LEVEL REQUIREMENTS). BASE OF FOOTINGS SHALL EXTEND DOWN TO UNDISTURBED VIRGIN SOIL WHICH HAS BEEN COMPACTED TO 95 PERCENT PROCTOR DENSITY. ALL EXCAVATION SHALL BE TO A LEVEL BELOW EXISTING DEMOLITION DEBRIS. BOARD FORM ALL FOOTING AS REQUIRED BY SOIL CONDITIONS.
FOR BASEMENT WALLS, EXCAVATE AREA INDICATED ON CONSTRUCTION DOCUMENTS, ALLOWING AN ADDITIONAL 18" MINIMUM CLEARANCE AROUND THE PERIMETER OF FOUNDATION WALLS FOR PROPER DRAINAGE AND WATERPROOFING ASSEMBLY.
AT SLAB FOUNDATIONS, COMPACT SUB-GRADE UNDER SLABS TO A MINIMUM 95% DENSITY. COMPACT BACKFILL AREAS NOT UNDER SLABS OR FOUNDATION TO A MINIMUM 90% ASTM D-689. SUB-BASE DIRECTLY UNDER CONCRETE SLABS ON GRADE SHALL BE A MINIMUM OF FOUR INCHES OF COMPACTED GRANULAR FILL.
4. 31 22 00 - GRADING
CAREFULLY REMOVE LOAM AND TOPSOIL TO BE INCORPORATED IN THE FINISHED WORK AND STORE SEPARATE FROM THE OTHER EXCAVATED MATERIAL. FAILURE TO ISOLATE LOAM AND TOPSOIL FROM THE OTHER EXCAVATIONS SHALL REQUIRE THAT SAID SOILS NOT BE USED AS TOPSOIL.
WHEN EXCAVATIONS ARE TO BE MADE IN PAVED SURFACES, REMOVE PAVEMENT SO AS TO PROVIDE A CLEAN, UNIFORM EDGE WITH A MINIMUM DISTURBANCE OF REMAINING PAVEMENT. DO NOT MIX PAVEMENT WITH OTHER EXCAVATED MATERIAL UNLESS IT IS BROKEN INTO PIECES MEASURING 3 INCHES OR LESS. DISPOSE LARGE PIECES OF PAVEMENT AWAY FROM THE SITE OF THE WORK IMMEDIATELY.
5. 31 22 13 - ROUGH GRADING
PRIOR TO COMMENCEMENT OF EARTHWORK, PERFORM SUCH SOIL AND ROCK REMOVAL AND FILLING AS MAY BE REQUIRED TO FACILITATE THE PROGRESS OF THE WORK AND BRING ALL ELEVATIONS TO THE ROUGH GRADE LINES INDICATED ON THE CONTRACT DOCUMENTS. FILL OR BACKFILL AS REQUIRED.
6. 31 22 19 - FINISH GRADING
KEEP EXTERIOR FINISHED GRADE A MINIMUM OF 24" BELOW FINISHED FLOOR ELEVATION (SEE CONSTRUCTION DOCUMENTS FOR EXACT LOCATIONS) BY BACKFILLING WITH APPROPRIATE SOILS. PROVIDE SWALES WITH POSITIVE OUTFALL AND SLOPE GRADE AWAY FROM BUILDING TO ALLOW WATER TO DRAIN AWAY FROM THE BUILDING FOUNDATION. DO NOT BACKFILL AGAINST FOUNDATION UNTIL PROJECT IS COMPLETELY FRAMED AND ROOF STRUCTURE IS IN PLACE. ALL CONTROLLED FILL TO BE PLACED UNDER THE DIRECTION OF LICENSED SUPERVISING SOIL ENGINEER RETAINED BY OWNER.
7. 31 23 00 - EXCAVATION AND FILL
BACKFILL MATERIAL TO BE USED FROM THE EXCAVATIONS SHALL BE OF SUCH NATURE THAT AFTER IT HAS BEEN PLACED AND PROPERLY COMPACTED, IT WILL MAKE A DENSE, STABLE FILL. IT SHALL NOT CONTAIN VEGETATION, MASSES OF ROOTS, STONES OVER 3-INCHES IN DIAMETER, OR POROUS MATTER AND SHALL NOT BE SATURATED. ORGANIC MATTER SHALL NOT EXCEED MINOR QUANTITIES AND SHALL BE WELL DISTRIBUTED.
8. 31 23 16 - EXCAVATION
CARRY OUT THE EXCAVATION, DEWATERING, SHEETING AND BRACING IN SUCH MANNER AS TO ELIMINATE ANY POSSIBILITY OF UNDERMINING OR DISTURBING THE FOUNDATIONS OR ANY EXISTING STRUCTURE OR ANY WORK PREVIOUSLY COMPLETED.
EXCAVATE PIPE TRENCHES TO THE NECESSARY DEPTH AS SHOWN ON PLANS. TRENCHES OVER 5 FEET IN DEPTH SHALL BE PROPERLY SLOPED, SHORED, BRACED OR OTHERWISE SUPPORTED IN CONFORMANCE WITH THE OSHA CONSTRUCTION SAFETY AND HEALTH STANDARDS.
EXCAVATE TRENCHES TO PROVIDE A UNIFORM AND CONTINUOUS BEARING AND SUPPORT FOR THE PIPE AND APPURTENANT STRUCTURES ON SOLID AND UNDISTURBED GROUND AND AT THE SPECIFIED GRADE AT EVERY POINT.
EXCAVATION FOR STRUCTURES AND PIPELINES SHALL INCLUDE THE DISPOSAL OF MATERIALS UNSUITABLE FOR REUSE FOR BACKFILL. EXCAVATION ACTIVITIES SHALL INCLUDE THE STOCKPILING OF SUITABLE MATERIALS WHICH SHALL BE INCORPORATED INTO THE PROJECT AT A LATER DATE OF DIFFERENT LOCATION.
9. 31 23 19 - DEWATERING
AT ALL TIMES DURING CONSTRUCTION - PROVIDE, PLACE AND MAINTAIN AMPLE MEANS AND DEVICES WITH WHICH TO REMOVE PROMPTLY ALL WATER ENTERING TRENCHES AND OTHER EXCAVATIONS. KEEP EXCAVATIONS DRY UNTIL THE STRUCTURES, PIPES AND APPURTENANCES TO BE BUILT THEREIN HAVE BEEN COMPLETED AND BACKFILLED. DISPOSE OF ALL WATER PUMPED OR DRAINED FROM THE WORK WITHOUT INTERFERENCE WITH OTHER WORK, TRAFFIC OR INJURY TO PUBLIC OR PRIVATE PROPERTY. PREVENT SILTATION OF STORM WATER FACILITIES OR RECEIVING WATERWAYS.
10. 31 23 23 - SELECT BORROW
MATERIAL NEEDED IN ADDITION TO THAT AVAILABLE FROM CONSTRUCTION OPERATIONS SHALL BE DEFINED AS SELECT BORROW. SELECT BORROW SHALL CONSIST OF DURABLE NATURAL GRANULAR MATERIAL OR GRANULAR AGGREGATES MIXED OR BLENDED WITH SAND, STONE DUST, SOIL OR OTHER FILLER MATERIALS TO PROVIDE A WELL GRADED MIXTURE MEETING THE REQUIREMENTS HEREIN SPECIFIED.
THESE MATERIALS SHALL BE FREE FROM VEGETABLE OR ORGANIC MATTER, LUMPS OR AN EXCESSIVE QUANTITY OR CLAY OR OTHER OBJECTIONABLE OR FOREIGN SUBSTANCES, BUT MAY CONTAIN A MAXIMUM OF TEN PERCENT OF SHALE BY WEIGHT.
THE SIZE AND GRADATION OF THE MATERIAL SHALL RANGE FROM STONE NO LARGER THAN 3 INCHES ACROSS ITS MAXIMUM DIMENSION TO SOIL PASSING A NO 200 SIEVE. THE GRADATION SHALL BE WELL DISPERSED THROUGH THE BORROW.
11. 31 23 23.13 - BACKFILL
CORRECT ANY PART OF THE TRENCH BOTTOM EXCAVATED BELOW THE SPECIFIED GRADE WITH APPROVED MATERIALS AND THOROUGHLY COMPACT.
COMPLETE ALL BACKFILLING TO THE DIMENSIONS AND LEVELS SHOWN ON THE CONSTRUCTION DOCUMENTS. WHERE EXCAVATED MATERIAL OR ANY PORTION THEREOF IS DEEMED UNSUITABLE FOR BACKFILLING MATERIAL, PROCURE AND PLACE APPROVED SELECT BORROW MATERIALS.
BACKFILL AS PROMPTLY AS IS CONSISTENT WITH NON-DAMAGE TO THE INSTALLED STRUCTURES. DO NOT PLACE FROZEN MATERIAL IN THE BACKFILL.
NO MATERIAL SHALL BE PLACED OR COMPACTED WHEN IT IS TOO WET OR FROZEN OR WHEN THE SUB-GRADE OR PREVIOUSLY PLACED MATERIAL IS TOO WET OR FROZEN.
12. 31 25 00 - EROSION AND SEDIMENTATION CONTROLS
CLEAR THE TOP LAYER OF SOIL AND PLACE IN A DESIGNATED AREA FOR USE AT THE END OF THE PROJECT. PROVIDE SWALES WITH POSITIVE OUTFALL, AND SLOPE GRADE AWAY FROM BUILDING TO ALLOW WATER TO DRAIN AWAY FROM THE FOUNDATION. BACKFILL AROUND BUILDING WITH SUBSOIL GRADED FREE OF LUMPS LARGER THAN 6", ROCKS LARGER THAT 3" AND DEBRIS. KEEP FINISHED GRADE ELEVATIONS A MINIMUM OF 6 1/2" BELOW FINISHED FLOOR ELEVATION (SEE CONSTRUCTION DOCUMENTS FOR EXACT LOCATIONS. DO NOT BACKFILL AGAINST FOUNDATION, UNTIL HOME IS COMPLETELY FRAMED AND ROOF STRUCTURE IS IN PLACE.
13. 31 31 16 - TERMITE CONTROL
IF REQUIRED BY OWNER, FOUNDATIONS SHALL BE PRE-TREATED UNDER ALL SLABS AND CRAWLSPACE AREAS BETWEEN VAPOR BARRIER AND GRANULAR SUB-BASE TO CONFORM WITH HUD MINIMUM STANDARDS AND APPLICABLE BUILDING CODES. TREATMENTS SHALL NOT BE MADE WHEN SOIL IS EXCESSIVELY WET OR AFTER HEAVY RAINS. CONTRACTOR SHALL PROVIDE A ONE-YEAR RENEWABLE WARRANTY.
14. 31 31 16.19 - TERMITE CONTROL BARRIERS
AT PIER AND PERIMETER FOUNDATIONS, INSTALL CONTINUOUS FLASHING WITH INSULATION ON ALL SIDES AND TOP SURFACE TO PREVENT SUB-TERRAIN TERMITES FROM PENETRATING THE WOOD STRUCTURE.
15. 31 40 00 - SHORING AND UNDERPINNING
EXISTING FOOTINGS, FOUNDATIONS, PILE CAPS, GRADE BEAMS, RETAINING WALLS OR PAVEMENT WHICH MAY BE AFFECTED BY EXCAVATION OPERATIONS SHALL BE SHORED OR UNDERPINNED ADEQUATELY OR OTHERWISE PROTECTED AGAINST SETTLEMENT AND SHALL BE PROTECTED AGAINST LATERAL MOVEMENT. PROVIDE NECESSARY MATERIALS TO HOLD BACK EARTH AT EXCAVATIONS AND AS REQUIRED TO PREVENT CAVE-INS AND EARTH SLOUGHS.
16. 31 50 00 - EXCAVATION SUPPORT AND PROTECTION
INSTALL EXCAVATION SUPPORT SYSTEMS FOR SAFETY PRESERVATION OF EXISTING IMPROVEMENTS. DESIGN CRITERIA OF SUPPORT SYSTEMS SHALL CONSIDER ALL LOADS IN A MANNER WHICH WILL ALLOW THE SAFE AND EXPEDITIOUS CONSTRUCTION OF PERMANENT STRUCTURES WITHOUT MOVEMENT OR SETTLEMENT OF THE GROUND.

DIVISION 33 00 00. UTILITIES

1. 33 00 00 - UTILITIES
INSTALL NECESSARY UTILITY SERVICES, SUCH AS ELECTRICITY, WATER, GAS AND OIL, SANITARY SEWERAGE AND SUPPORT STRUCTURES FOR POWER AND COMMUNICATIONS. COORDINATE REQUIREMENTS WITH LOCAL UTILITY PROVIDERS. ALL UTILITIES SHALL BE LOCATED UNDERGROUND FROM STREET TO BUILDING, UNLESS OTHERWISE STATED.
2. 33 46 13.13 - FOUNDATION DRAINAGE PIPING
INSTALL A MINIMUM 5" SLOTTED DRAIN PIPE WITH A POSITIVE OUTFLOW AROUND EXTERIOR BASEMENT WALL FOOTINGS, IMBEDDED IN A LOOSE FILL GRAVEL, MINIMUM 12" DEEP. SLOTTED DRAIN PIPE SHOULD BE WRAPPED WITH AN APPROPRIATE GEO-TECHNICAL FABRIC TO PREVENT SILT BUILDUP. INSTALL OTHER DRAINS NECESSARY FOR POSITIVE SITE DRAINAGE. TOP OF PIPE TO BE BELOW THE LEVEL OF BASEMENT FLOOR WITH SLIGHT SLOPE TO A STORM SEWER, DRY WELL OR OTHER ADEQUATE OUTLET AS APPROVED BY THE LOCAL BUILDING DEPARTMENT. COVER THE DRAIN LINE WITH 6" OF GRAVEL OR CRUSHED ROCK

R No.	Date	Notes

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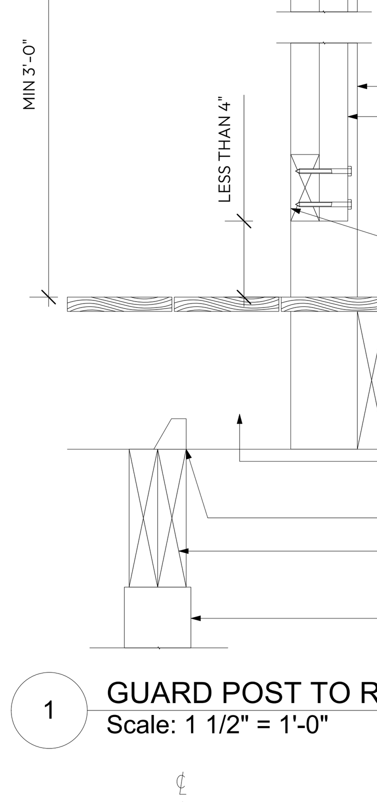
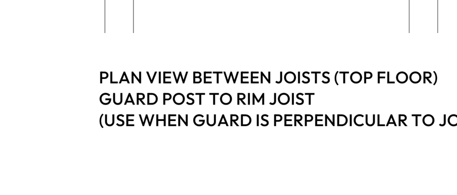
DIVISION 32 00 00. EXTERIOR IMPROVEMENTS

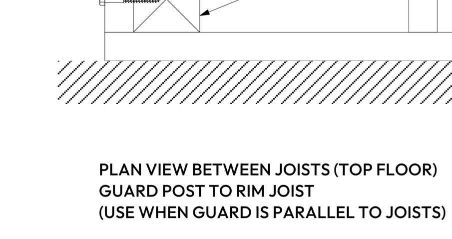
1. 32 01 90 - OPERATION AND MAINTENANCE OF PLANTING
ALL PLANTS SHALL BE KEPT IN HEALTHY, GROWING CONDITION BY REPLACEMENT OF DEAD OR DYING PLANTS WHERE NECESSARY, BY WATERING, WEEDING, CULTIVATING, PRUNING, SPRAYING, TRIMMING, PROTECTION FROM WIND, AND BY PERFORMING ANY OTHER NECESSARY OPERATIONS OR MAINTENANCE FOR A PERIOD OF 30 DAYS OR UNTIL ACCEPTANCE OF THE PLANTING AT THE TIME OF THE FINAL INSPECTION. A FINAL WEEDING OF ALL PLANT AREAS SHALL BE MADE IMMEDIATELY PRIOR TO FINAL INSPECTION. NEWLY PLANTED TREES SHALL BE PRUNED AS NECESSARY. ALL DEAD BRANCHES SHALL BE REMOVED. ROOTSTOCK SHOOTS FROM GRAFTED MATERIAL SHALL BE REMOVED.
2. 32 01 90.13 - FERTILIZING
COMMERCIAL FERTILIZER TO MIX WITH BACKFILL SOIL SHALL BE AMMONIUM PHOSPHATE 16-20-0 APPLIED AT TWENTY (20) POUNDS ACTUAL NITROGEN PER 1000 SQUARE FEET (12.5 POUNDS OF AMMONIUM PHOSPHATE APPLIED TO EACH 1000 SQUARE FOOT AREA). USE AGRIFORM TABLETS AT TWICE LABEL RECOMMENDATIONS FOR TREE AND SHRUB MATERIALS. FERTILIZER WILL BE APPLIED FOR SEEDING AREAS DISTURBED BY CLEARING OPERATIONS. SPREAD SOIL CONDITIONERS AND FERTILIZERS AND THOROUGHLY INCORPORATE BY ROTOTILLING WORK INTO TOPSOIL TO A DEPTH OF 4". RAKE TOPSOIL UNTIL THE SURFACE IS FINELY PULVERIZED AND SMOOTH.
3. 32 12 16 - ASPHALT PAVING
SUB-BASE MATERIALS SHALL BE AS SPECIFIED IN PLANS. THE BASE COURSE SHALL BE BITUMINOUS CONCRETE CONSISTING OF COURSE AND FINE AGGREGATE COMBINED WITH ASPHALT CEMENT, RESULTING IN A MIXTURE OF TYPE BM-2. THE SURFACE COURSE SHALL BE BITUMINOUS CONCRETE CONSISTING OF CRUSHED STONE, CRUSHED SLAG OR CRUSHED GRAVEL AND THE FINE AGGREGATE SLAG OR STONE SCREENINGS OR COMBINATION THEREOF COMBINED WITH ASPHALT CEMENT, RESULTING IN A MIXTURE OF TYPE SM-2A.
GRADING - THOROUGHLY GRADE AND PREPARE THE SUB-GRADE. BASE COAT SHALL BE A MINIMUM UNIFORM THICKNESS AFTER COMPACTION OF DIMENSIONS INDICATED. BASE COURSE SHALL BE PLACED OVER FINISHED SUB-GRADE AND COMPACTED (EX: COMPACTED THICKNESS SHALL BE 6 INCHES FOR PARKING STALLS AND 8 INCHES FOR ROADS, DRIVEWAYS AND AISLES OF PARKING AREAS).
ASPHALT INSTALLATION - AREAS TO BE PAVED SHALL BE COVERED WITH A LAYER OF HOT ASPHALT CONCRETE SURFACING NOT LESS THAN THE THICKNESS INDICATED AFTER COMPACTION (EX: COMPACTED THICKNESS SHALL BE 2 INCHES FOR PARKING STALLS AND 2 1/2 INCHES FOR ROADS, DRIVEWAYS AND AISLES OF PARKING AREAS). PAVING ASPHALTIC CONCRETE SHALL BE DELIVERED, LAID, ROLLED AND FINISHED IN ACCORDANCE WITH LOCAL GUIDELINES. INSTALL A LIQUID ASPHALT PRIME COAT, PAVEMENT REINFORCING FABRIC, A TACK COAT, FINISH COAT AND SEAL COAT. FINISH PAVING SHALL CONFORM TO SLOPES, LINES AND FINISH GRADES INDICATED, AND DRAIN PROPERLY.
32 13 13 - CONCRETE PADS AND WALKS
PROVIDE LIGHT DUTY PAVING AT AUTOMOBILE PARKING AREAS CONSISTING OF A 4"THICK SLAB ON SUB-GRADE COMPACTED TO 98 PERCENT DENSITY WITH 3500 PSI CONCRETE. A 4" THICK CONCRETE WALKWAY WILL BE PROVIDED FROM FRONT DOOR TO THE DRIVEWAY. CONSULT SITE PLAN FOR ADDITIONAL INFORMATION. EXPANSION JOINTS SHALL BE INSTALLED AS IN STANDARD CONCRETE PRACTICES. CONTROL JOINTS SHALL BE INSTALLED AT PRE-DETERMINED LOCATIONS NO LATER THAN 12 HOURS AFTER INSTALLATION.
FOR COLOR, TEXTURE, AND IMPRINTING: WHILE THE CONCRETE IS STILL IN A PLASTIC STATE, APPLY THE DESIRED PATTERN TO THE SURFACE AS SELECTED BY OWNER. TOOLS SHALL BE PROPERLY STAMPED INTO THE SURFACE TO ACHEIVE DESIRED TEXTURE. SEAL AS REQUIRED. SEE SITE PLAN FOR ADDITIONAL INFORMATION.
4. 32 14 40 - STONE PAVING
INSTALL STONE PAVERS AS SLECTED BY OWNER, OVER WELL COMPACTED GROUND AND BACKFILL WITH DENSE GRADED AGGREGATE SUITABLE FOR SUB-BASE MATERIAL (EX: SAND), TYPICALLY 4-6" FOR LIGHT PEDESTRIAN TRAFFIC AND 8-12" FOR HEAVY VEHICULAR USE. SAND SHALL BE SCREENED TO PROPER PITCH AND HEIGHT SO THAT FINAL INSTALLATION WILL RESULT IN PROPER SURFACE DRAINAGE. SET WITH TIGHT JOINTS, UNLESS OTHERWISE NOTED. MAINTAIN PROPER JOINT ALIGNMENT, KEEPING LINES STRAIGHT AND TRUE. CUT PAVING UNITS WITH MASONRY SAW TO FIT ADJACENT STRUCTURES. AFTER INSTALLATION, VIBRATE LIGHTLY WITH RUBBER ROLLER TYPE VIBRATOR TO BRING UNITS TO AN EVEN PLANE. SWEEP CLEAN MASON SAND INTO JOINTS.
32 16 00 - CURBS AND GUTTERS
INSTALL CURB AND GUTTERS WITH PORTLAND CEMENT CLASS A3. JOINT FILLER SHALL BE 1/2" PREFORMED ASPHALT EXPANSION JOINT MATERIAL CONFORMING TO ASTM D994 OR ASTM D1751. CONSTRUCT THE SUB-GRADE TO THE REQUIRED ELEVATION BELOW THE FINISHED SURFACE OF THE GUTTER IN ACCORDANCE WITH DIMENSIONS AND DESIGN AS SHOWN IN CONSTRUCTION DOCUMENTS. REMOVE ALL SOFT AND UNSUITABLE MATERIAL AND REPLACE WITH SUB-BASE MATERIAL, WHICH SHALL BE COMPACTED TO 95% DENSITY AND FINISHED TO A SMOOTH SURFACE. MOISTEN THE SUB-BASE PRIOR TO PLACING THE CONCRETE. CONSTRUCT FORMS OF WOOD OR METAL. PRIOR TO PLACING THE CONCRETE, CHECK THE LINE AND GRADE FOR ACCURACY AND FASTEN THE FACE FORMS OF THE CURB TO THE GUTTER FORMS. SPACE THE CONCRETE AND TAMP SUFFICIENTLY TO BRING THE MORTAR TO THE SURFACE. THE FACE AND TOP SURFACE OF THE GUTTER SHALL BE SMOOTH WITH ROUNDED EDGES. PROVIDE A FINAL FINE BRUSH FINISH TO BOTH TOP AND FACE OF CURB WITH BRUSH STROKES PARALLEL TO THE LINE OF THE CURB SO THAT BOTH TOP AND FROM FACE PRESENT THE SAME UNIFORM APPEARANCE. CONSTRUCT 3/8 INCH TO 1/2 INCH THICK EXPANSION JOINTS AT THE FOLLOWING LOCATIONS:
- IN CURB AND COMBINATION CURB AND GUTTER AT THE LOCATIONS OF EXPANSION JOINTS IN THE CONCRETE ROADWAY.
- IN CURB OR COMBINATION CURB AND GUTTER AT POINTS WHERE CURVED AND TANGENT SECTIONS JOIN.
- BETWEEN CURB OR COMBINATION CURB AND GUTTER, AND ANY DRAIN INLET OR SIMILAR STRUCTURE.
- FORM EXPANSION JOINTS AT INTERVALS OF 100 FEET OR LESS.
- AT CORNERS IN SIDEWALKS, FOLLOWING THE PROJECTIONS OF THE BUILDING LINES FROM THE CORNER OF THE BUILDING TO THE CURB.
- BETWEEN SIDEWALKS AND CURB.
- NO SECTION SHALL BE LESS THAN 6 FEET IN LENGTH.
- CAST-IN-PLACE CURBS - PROVIDE CAST-IN-PLACE CONCRETE CONSTRUCTION, PLAIN OR REINFORCED AS INDICATED. CURBS AND GUTTERS SHALL BE FORMED ACCURATELY TO BUILDING SECTION PROFILE OF SHOP DRAWING OR PLANS. CONSTRUCTION SHALL BE IN SECTIONS OF UNIFORM LENGTHS, PROVIDING TRANSVERSE JOINTS AT APPROXIMATELY 10 FEET INTERVALS
- EXTRUDED CURBS - EXTRUDED CURBS AND GUTTER, PLACED BY AN EXTRUSION MACHINE, MAY BE PROVIDED WHERE SITE CONDITIONS ARE SUITABLE AND THE EXTRUSION PROCESS IS APPROPRIATED FOR THE PURPOSE.

5. 32 31 29 - WOOD FENCES AND GATES
INSTALL CEDAR WOOD FENCE AND GATES AS SPECIFIED BY OWNER. PROVIDE FENCE AND GATE LOCATIONS AS SPECIFED BY OWNER AND PERMITTED BY LOCAL ZONING CODES. SUPPORT AS REQUIRED BY MANUFACTURER.
6. 32 90 00 - PLANTING
PROVIDE AND INSTALL ALL PLANTS, MATERIALS, AND LABOR REQUIRED TO EXECUTE THE LANDSCAPING AS DESCRIBED IN THE CONTRACT DOCUMENTS. LANDSCAPE SITE PER CONSTRUCTION DOCUMENTS WITH APPROPRIATE SOD, PLANTS, TREES, AND SHRUBS SUITABLE FOR LOCAL CLIMATE AND SITE REQUIREMENTS AS LISTED BELOW. LANDSCAPING BUDGET SHALL BE DETERMINED BY AN ALLOWANCE AS STATED IN THE CONTRACT DOCUMENTS.
7. 32 91 13 - SOIL PREPARATION
DO NOT PLANT UNTIL FINISH GRADES ARE ESTABLISHED AND PLANTING AREAS ARE PROPERLY PREPARED AND GRADED. WHEN PRELIMINARY GRADING, INCLUDING WEEDING AND FERTILIZING, HAS BEEN COMPLETED AND THE SOIL MAY BE READILY WORKED, GRADE ALL PLANTING AREAS TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE IN SURFACE. SLOPE SOIL AREAS ADJACENT TO BUILDINGS AWAY FROM THE BUILDINGS, AND DIRECT SURFACE DRAINAGE AS INDICATED ON THE DRAWINGS. GRADING SHALL PROVIDE FOR NATURAL RUNOFF OF WATER WITHOUT LOW SPOT OR POCKETS. FINISH GRADE OF EARTH IN LANDSCAPED AREAS SHALL BE 3 1/2 INCHES BELOW THE TOP OF ADJACENT PAVEMENT, CURBS OR HEADERS.
8. 32 91 13.16 - MULCHING
APPLY MULCH IMMEDIATELY AFTER SEEDING. LOOSEN BALED STRAW AND THOROUGHLY BREAK UP BEFORE PLACING. BEGIN PLACEMENT OF MULCH ON THE WINDWARD SIDE AND FROM THE TOE TO SLOPES. ON SLOPES 2 TO 1 AND GREATER PROVIDE JUTE MATTING STAPLED 18 INCHES TO 3 FEET APART USING CLOSER SPACING AROUND CURVES AND AREAS OF CONCENTRATED STORM WATER RUNOFF. SOIL AMENDMENT AND MULCH SHALL CONSIST OF CEDAR-SOIL OR EQUAL, COMPOSTED, NITROGEN-STABILIZED, WATER-HOLDING MATERIALS WITH LONG RESIDUAL LIFE.
9. 32 91 19.13 - TOPSOIL PLACEMENT AND GRADING
A THREE (3") INCH COVER OF TOPSOIL OR APPROPRIATE SOIL AMENDMENT SHALL BE SPREAD UNIFORMLY OVER THE SOIL (9 YARDS PER 1000 SQ. FT.) AND TILLED INTO THE TOP SIX (6") INCHES OF SOIL. TOPSOIL SHALL BE A NATURAL, FERTILE, FRIABLE SOIL, TYPICAL OF PRODUCTIVE SOIL IN THE VICINITY, OBTAINED FROM NATURALLY WELL DRAINED AREAS. ROTOTILL ALL AREAS INDICATED ON PLANS AND ON AREAS DAMAGED BY CONSTRUCTION, TO DEPTH OF 4", REMOVING STUMPS, ALL FOREIGN OBJECTS AND STONES LARGER THAN ONE INCH DIAMETER. PLACE TOPSOIL ON ALL AREAS AND INCORPORATE BY ROTOTILLING INTO SUBSOIL.
10. 32 92 19 - SEEDING
SEED ONLY WHEN WEATHER CONDITIONS ARE SUITABLE. ALL NEWLY SEEDED TURF AREAS SHALL BE FREE OF BROADLEAF WEEDS. SOW SEED WITH MECHANICAL SPREADERS AT THE SPECIFIED RATE ON A CALM DAY. SOW ONE HALF THE SEED IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES. SEED SHALL BE RAKED LIGHTLY INTO THE SOIL TO A DEPTH OF 1/4 INCH AND ROLLED WITH A ROLLER WEIGHING NOT MORE THAN 100 POUNDS PER LINEAR FOOT OF TREAD. KEEP THE SURFACE MOIST BY A FINE SPRAY UNTIL THE GRASS SHOWS UNIFORM GERMINATION OVER THE ENTIRE AREA. WHEREVER POOR GERMINATION OCCURS IN AREAS LARGER THAN THREE (3) SQUARE FEET, RESEED, ROLL AND WATER AS NECESSARY TO OBTAIN PROPER GERMINATION. INFESTED AREAS SHALL BE TREATED WITH A SELECTIVE BROADLEAF INSECTICIDE; TRIMEC OR APPROVED EQUAL.
11. 32 92 23 - SODDING
PLANT ONLY CERTIFIED SOD ONLY WHEN THE SOIL IS MOIST AND FAVORABLE FOR GROWTH. SHAPE THE AREA TO BE SODDED AND FINISH TO THE LINES AND GRADES INDICATED ON THE PLANS. LOOSEN THE SURFACE PRIOR TO PLACING SOD. KEEP THE GRADE MOIST BY SPRINKLING, IF NECESSARY, SOD ON THE PREPARED SURFACE WITH THE EDGES IN CLOSE CONTACT. EACH PIECE OF SOD LAID SHALL BE FITTED AND TAMPED INTO PLACE WITH HAND TAMPERS NOT LESS THAN ONE HUNDRED SQUARE INCHES IN AREA. APPLY A SUFFICIENT QUANTITY OF WATER TO ALL SOD AFTER LAYING AND TO PREVENT THE SOD FROM DRYING OUT FOR A PERIOD AT LEAST TWO WEEKS TO ENSURE GROWTH.
12. 32 93 00 - PLANTS
SHRUBS AND TREES SHALL BE OF A VARIETY, SIZE AND QUANTITY AS SPECIFIED BY OWNER. CUT BURLAP, TWIN AND WIRE BASKETS FROM TOP 12 INCHES OF ROOT-BALL AND REMOVE FROM SITE. BACKFILL WITH 1/2 CLEAN EXISTING SOIL, 1/4 SAND AND 1/4 PEAT MOSS. PLANTS SHALL BEAR SOME RELATION TO SOIL LEVEL WHEN PLANTED AS THEY DID WHEN IN CONTAINER. PLACE EACH PLANT IN CENTER OF PLANT PIT. FIRMLY TAP BACKFILL MATERIAL INTO PLANT PITS AROUND AND UNDER THE ROOT BALL TO FORCE OUT ALL AIR POCKETS. BACKFILL AS SPECIFIED ON THE PLANS. THOROUGHLY WATER TO SATURATE THE ROOT BALL AND BACKFILL. STAKE ALL TREES WITH HARDWOOD STAKES DRIVEN 2' INTO FIRM GROUND AND SECURE TREE TO STAKE.
13. 32 93 23 - PLANTS AND BULBS
HAND DIG HOLES WITHOUT UNDERMINING EXISTING FACILITIES. DO NOT LOOSEN SOIL AT THE BOTTOM OF HOLE, COMPACT SOIL UNDER ROOT BALL IF LOOSE. DIMENSIONS OF THE HOLE WILL VARY WITH THE SIZE OF THE ROOT BALL. TREE WELLS LOCATED ADJACENT SIDEWALKS, SHALL HAVE THE TOP OF ROOT BALL FOUR INCHES (4") BELOW THE SIDEWALK SURFACE. PLACE EACH PLANT IN AN UPRIGHT AND PLUMB POSITION.
BERMS - A BERM OF EARTH APPROXIMATELY FOUR (4") INCHES HIGH SHALL BE BUILT AROUND THE PERIMETER OF THE BACKFILLED PLANT HOLES TO FORM A SHALLOW BASIN FOR THE RETENTION OF IRRIGATION WATER. EACH BASIN SHALL BE MULCHED WITH TWO (2") INCHES OF MULCH.
DRAINAGE - PLANT HOLES SHALL BE RANDOMLY TESTED FOR DRAINAGE, BY FILLING WITH WATER AND CONFIRMING THAT ALL AREAS HAVE DRAINED WITHIN TWO (2) HOURS AFTER FILLING. THE RANDOM TESTING SHALL BE PERFORMED ON TEN PERCENT (10%) OF THE TOTAL LARGE (15 GALLON) SIZE HOLES FOR THE PROJECT. IF MORE THAN TWENTY PERCENT (20%) OF THESE HOLES FAIL, THEN AN ADDITIONAL TEN (L0) HOLES SHALL BE TESTED. AREAS THAT DO NOT PASS THIS TEST SHALL BE CORRECTED PRIOR TO PLANTING.
BACKFILL - BACKFILL SHALL CONSIST OF THE EXCAVATED MATERIAL WITH ALL STONES LARGER THAN ONE INCH (1") REMOVED, AND WITH SOIL AMENDMENT ADDED IN THE PROPORTION OF ONE (1) PART AMENDMENT TO THREE (3) PARTS SOIL THOROUGHLY MIXED. IF ADDITIONAL SOIL



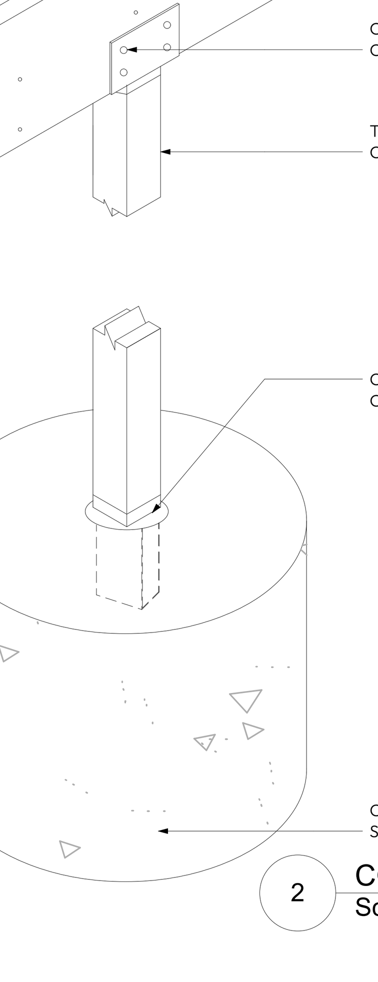


PLAN VIEW BETWEEN JOISTS (TOP FLOOR)
GUARD POST TO RIM JOIST
(USE WHEN GUARD IS PERPENDICULAR TO JOISTS)

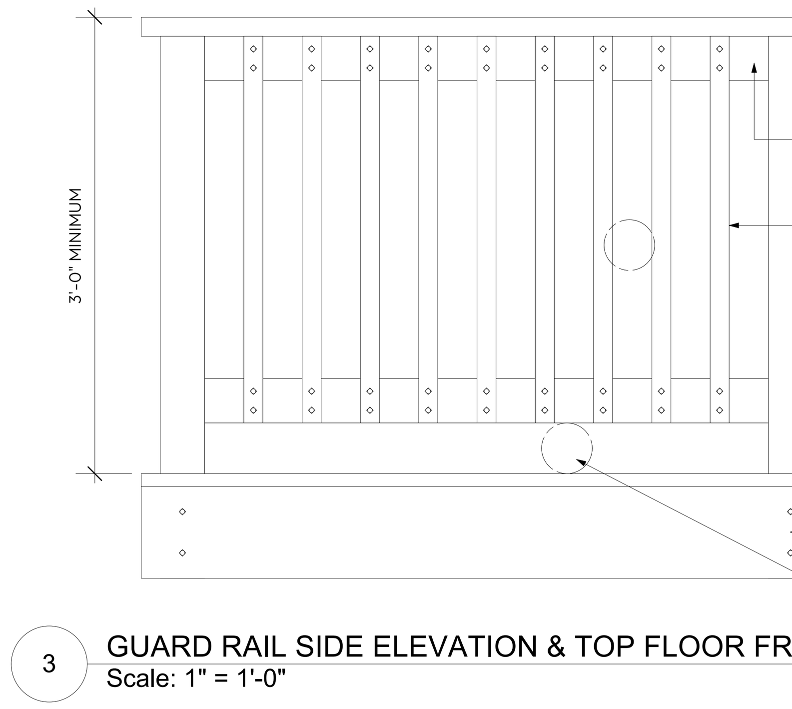


PLAN VIEW BETWEEN JOISTS (TOP FLOOR)
GUARD POST TO RIM JOIST
(USE WHEN GUARD IS PARALLEL TO JOISTS)

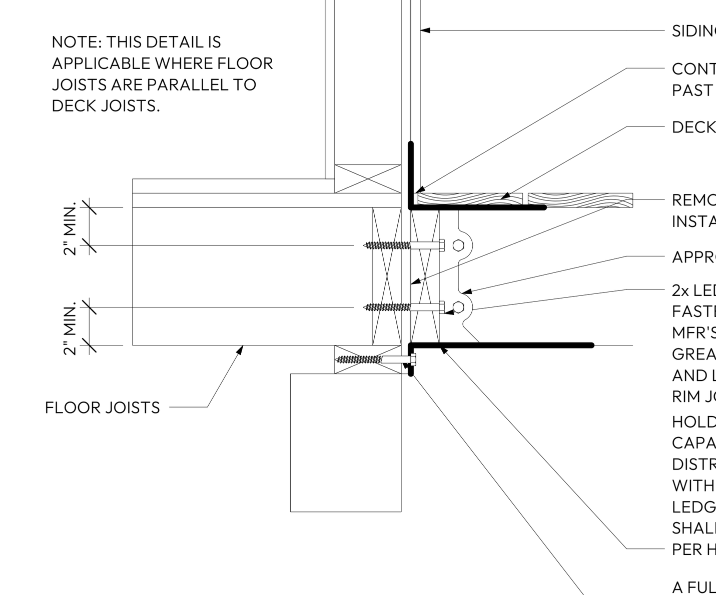
1 GUARD POST TO RIM JOIST
Scale: 1 1/2" = 1'-0"



2 COLUMN DETAIL
Scale: 3/4" = 1'-0"



3 GUARD RAIL SIDE ELEVATION & TOP FLOOR FRONT ELEVATION
Scale: 1" = 1'-0"



4 ATTACHMENT OF LEDGER BOARD TO RIM JOIST
Scale: 1 1/2" = 1'-0"

ALLOWABLE HOLES - TJI® Joists

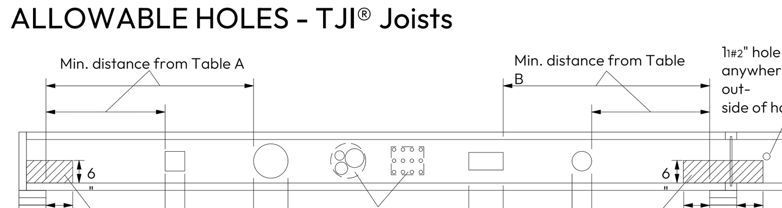


Table A - End Support
Minimum distance from edge of hole to inside face of nearest end support

JOIST DEPTH	TJI®	Round 2"	Round 3"	Round 4"	Round 5"	Round 6 1/2"	Round 7"	Round 8 7/8"	Round 11"	Round 13"	Square 2"	Square 3"	Square 4"	Square 5"	Square 6 1/2"	Square 7"	Square 8 7/8"	Square 11"	Square 13"
9 1/2"	110	1'-0"	1'-6"	2'-0"	3'-0"	5'-0"					1'-0"	1'-6"	2'-6"	3'-6"	4'-6"				
	210	1'-0"	1'-6"	2'-6"	3'-0"	5'-6"					1'-0"	2'-0"	2'-6"	4'-0"	5'-0"				
	230	1'-6"	2'-0"	2'-6"	3'-6"	5'-6"					1'-0"	2'-0"	3'-0"	4'-6"	5'-0"				
	360	1'-6"	2'-0"	3'-0"	4'-0"	6'-0"					1'-6"	2'-6"	3'-6"	5'-0"	5'-6"				
	560	1'-6"	2'-6"	3'-6"	5'-0"	7'-0"					2'-0"	3'-0"	4'-0"	5'-6"	6'-0"				
11 7/8"	110	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	5'-6"			1'-0"	1'-6"	2'-0"	2'-6"	4'-6"	5'-0"	6'-0"		
	210	1'-0"	1'-6"	2'-0"	2'-0"	3'-0"	3'-6"	6'-0"			1'-0"	1'-6"	2'-6"	3'-0"	5'-0"	5'-6"	6'-6"		
	230	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	6'-6"			1'-0"	2'-0"	2'-6"	3'-6"	5'-6"	5'-6"	7'-0"		
	360	1'-6"	2'-0"	3'-0"	3'-6"	4'-6"	5'-0"	7'-0"			1'-6"	2'-6"	3'-6"	4'-6"	6'-6"	6'-6"	7'-6"		
	560	1'-6"	2'-6"	3'-0"	4'-0"	5'-6"	6'-0"	8'-0"			2'-6"	3'-6"	4'-6"	5'-6"	7'-0"	7'-6"	8'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	3'-0"	5'-6"		1'-0"	1'-0"	1'-6"	2'-0"	3'-6"	4'-0"	6'-0"	8'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-6"	6'-0"		1'-0"	1'-0"	2'-0"	2'-6"	4'-0"	4'-6"	6'-6"	8'-6"	
	230	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	2'-6"	4'-0"	7'-0"		1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	7'-0"	9'-0"	
	360	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	4'-0"	5'-6"	8'-0"		1'-0"	1'-6"	2'-6"	4'-0"	6'-0"	6'-6"	8'-0"	9'-6"	
	560	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	6'-6"	9'-0"		1'-6"	3'-0"	4'-0"	5'-0"	7'-0"	7'-6"	9'-0"	10'-0"	

Table B - Intermediate or Cantilever Support
Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

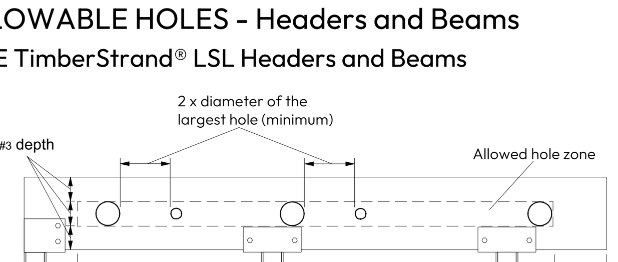
JOIST DEPTH	TJI®	Round 2"	Round 3"	Round 4"	Round 5"	Round 6 1/2"	Round 7"	Round 8 7/8"	Round 11"	Round 13"	Square 2"	Square 3"	Square 4"	Square 5"	Square 6 1/2"	Square 7"	Square 8 7/8"	Square 11"	Square 13"
9 1/2"	110	2'-0"	2'-6"	3'-6"	4'-6"	7'-6"					1'-6"	2'-6"	3'-6"	5'-6"	6'-6"				
	210	2'-0"	2'-6"	3'-6"	5'-0"	8'-0"					2'-0"	3'-0"	4'-0"	6'-6"	7'-6"				
	230	2'-6"	3'-0"	4'-0"	5'-6"	8'-6"					2'-0"	3'-6"	4'-6"	6'-6"	7'-6"				
	360	3'-0"	4'-0"	5'-6"	6'-6"	9'-0"					3'-0"	4'-6"	5'-6"	7'-6"	8'-0"				
	560	3'-6"	5'-0"	6'-0"	7'-6"	10'-0"					4'-0"	5'-6"	6'-6"	8'-0"	9'-0"				
11 7/8"	110	1'-0"	1'-0"	1'-6"	2'-6"	4'-0"	4'-6"	8'-6"			1'-0"	1'-6"	2'-6"	4'-0"	7'-0"	7'-0"	9'-6"		
	210	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	9'-0"			1'-0"	2'-0"	3'-0"	4'-6"	8'-0"	8'-0"	10'-0"		
	230	1'-0"	2'-0"	2'-6"	3'-6"	5'-0"	5'-6"	10'-0"			1'-0"	2'-6"	3'-6"	5'-0"	8'-6"	9'-0"	10'-6"		
	360	2'-0"	3'-0"	4'-0"	5'-6"	7'-0"	7'-6"	11'-0"			2'-0"	3'-6"	5'-0"	7'-0"	9'-6"	9'-6"	11'-0"		
	560	1'-6"	3'-0"	4'-6"	5'-6"	8'-0"	8'-6"	12'-0"			3'-0"	4'-6"	6'-0"	8'-0"	10'-6"	11'-0"	12'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-6"	4'-6"	8'-6"		1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	9'-0"	12'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	3'-0"	5'-6"	9'-6"		1'-0"	1'-0"	2'-0"	3'-6"	6'-0"	7'-0"	10'-0"	13'-0"	
	230	1'-0"	1'-0"	1'-0"	2'-0"	3'-6"	4'-0"	6'-0"	10'-6"		1'-0"	1'-0"	2'-6"	4'-0"	6'-6"	7'-6"	11'-0"	13'-6"	
	360	1'-0"	1'-0"	2'-0"	3'-6"	5'-6"	6'-0"	8'-6"	12'-6"		1'-0"	2'-0"	4'-0"	5'-6"	9'-0"	10'-0"	12'-0"	14'-0"	
	560	1'-0"	1'-0"	1'-6"	3'-6"	5'-6"	6'-6"	9'-6"	13'-6"		1'-0"	3'-0"	5'-0"	7'-0"	10'-0"	11'-0"	13'-6"	15'-0"	

Rectangular holes based on measurement of longest side.

- Leave 1/8" of web (minimum) at top and bottom of hole. **DO NOT cut joist flanges.**
- Tables are based on uniform load tables in current design literature.
- For simple span (5' minimum), uniformly loaded joists used in residential applications, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**

ALLOWABLE HOLES - Headers and Beams

1.55E TimberStrand® LSL Headers and Beams



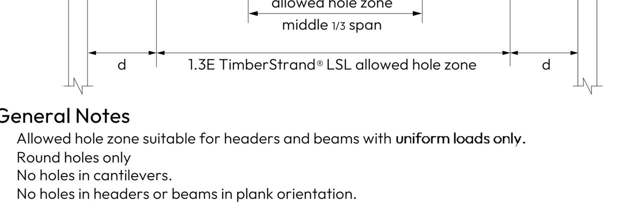
1.55 E TimberStrand® LSL

Header or Beam Depth	Maximum Round Hole Size
9 1/4"-9 1/2"	3"
11 1/4"-11 7/8"	3 5/8"
14"-16"	4 5/8"

See illustration for allowed hole zone

General Notes
- Allowed hole zone suitable for headers and beams with **uniform and/or concentrated loads anywhere along the member.**
- Round holes only
- No holes in headers or beams in plank orientation.

Other Trus Joist® Headers and Beams

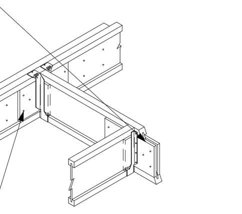


Other Trus Joist® Beams

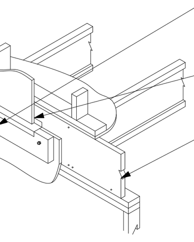
Header or Beam Depth	Maximum Round Hole Size
4 3/8"	1"
5 1/2"	1 3/4"
7 1/4"- 20"	2"

See illustration for Allowed Hole Zone

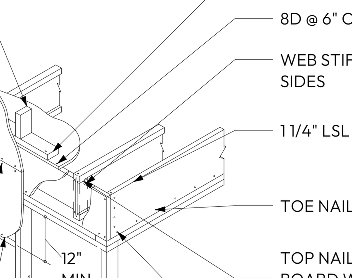
General Notes
Allowed hole zone suitable for headers and beams with **uniform loads only.**
Round holes only
No holes in cantilevers.
No holes in headers or beams in plank orientation.



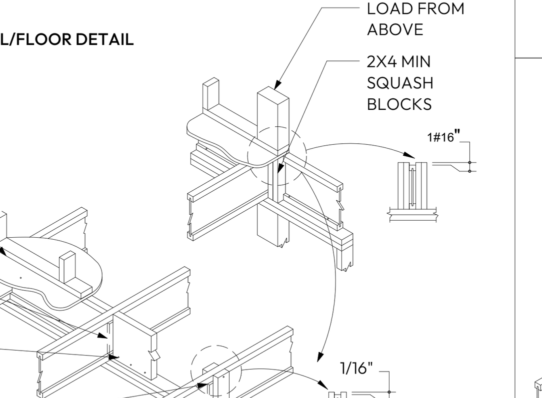
DOUBLE TJI DETAIL



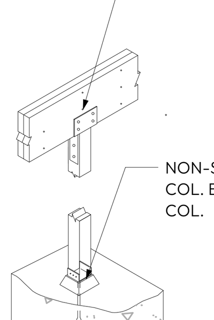
EXTERIOR DECK ATTACHMENT



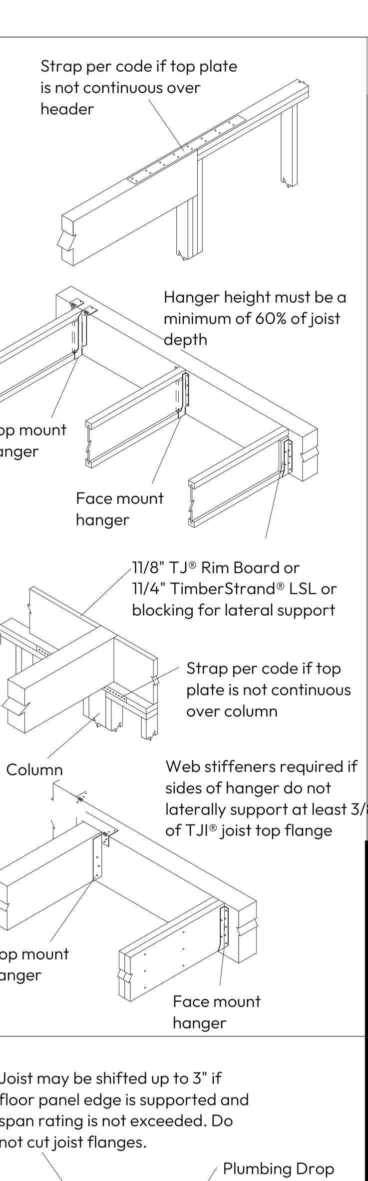
EXTERIOR WALL/FLOOR DETAIL

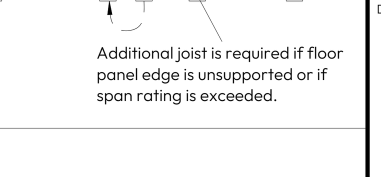


LOAD BEARING WALL/FLOOR DETAIL



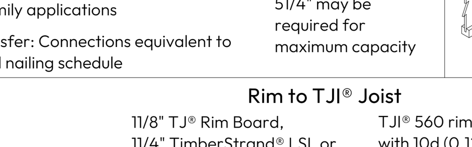
COL. DETAIL





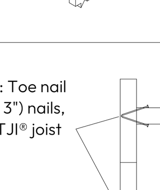
NAILING AT BEARING (FLOOR)

TJI® Joist to Bearing Plate

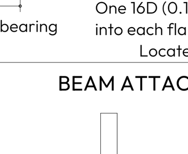


Shear transfer: Connections equivalent to floor panel nailing schedule

Squash Blocks to TJI® Joist (Load bearing wall above)

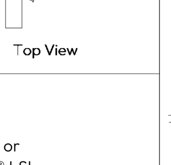


Rim to TJI® Joist



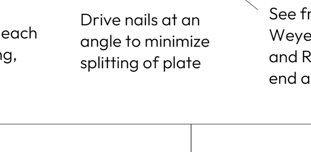
1 1/8" TJ® Rim Board, 1 1/4" TimberStrand® LSL or TJI® 110 rim joist: One 10d (0.131" x 3") nail into each flange
TJI® 210, 230, and 360 rim joist: One 16D (0.135" x 3 1/2") nail into each flange

TJI® 560 rim joist: Toe nail with 10d (0.128" x 3") nails, one each side of TJI® joist flange



Locate rim board joint between joists.

BEAM ATTACHMENT at BEARING



One 10d (0.128" x 3") nail each side of member at bearing, 1 1/2" minimum from end

Drive nails at an angle to minimize splitting of plate

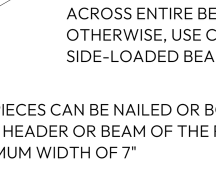
See framing plan (if applicable) or Weyerhaeuser Installation Guide for Floor and Roof Framing, TJ-9000. For minimum end and intermediate bearing lengths.

FASTENER INSTALLATION REQUIREMENTS

PIECE WIDTH	# OF PLIES	FASTENER TYPE (1)	MIN. LENGTH	# ROWS	O.C. SPACING	LOCATION
1 3/4"	2	10D NAILS	3"	3 (2)	12"	ONE SIDE
		12D-16D NAILS	3 1/4"	2 (2)		
		SCREWS	3 3/8" or 3 1/2"	2	24"	
	3	10D NAILS	3"	3 (2)	12"	Both sides
		12D-16D	3 1/4"	2 (2)		
		NAILS	3 3/8" or 3 1/2"	2	24"	Both sides
		SCREWS	5"			One side
	4	10D NAILS (3)	3"	3 (2)	12"	One side (per ply)
		12D-16D (3)	3 1/4"	2 (2)		
		NAILS	5" or 6"	2	24"	Both sides
		SCREWS	6 3/4"			One side
3 1/2"	2	SCREWS	5" or 6"	2	24"	Both sides
			6 3/4"			One side
		1/2" BOLTS	8"	2	24"	-

(1) 10D NAILS ARE 0.128" DIAMETER; 12D-16D NAILS ARE 0.148" - 0.162" DIAMETER; SCREWS ARE SDS, SDW, WS, OR TRUSS-LOK-EWP™.
(2) AN ADDITIONAL ROW OF NAILS IS REQUIRED WITH DEPTHS OF 14" OR GREATER.
(3) WHEN CONNECTING 4-PLY MEMBERS, NAIL EACH PLY TO THE OTHER AND OFFSET NAIL ROWS BY 2" FROM THE ROWS IN THE PLY BELOW.

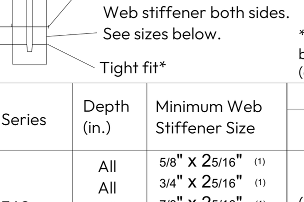
WHEN FASTENERS ARE REQUIRED ON BOTH SIDES, STAGGER FASTENERS ON THE SECOND SIDE SO THEY FALL HALFWAY BETWEEN FASTENERS ON THE FIRST SIDE.



LOAD MUST BE APPLIED EVENLY ACROSS ENTIRE BEAM WIDTH. OTHERWISE, USE CONNECTIONS FOR SIDE-LOADED BEAMS.

MULTIPLE PIECES CAN BE NAILED OR BOLTED TOGETHER TO FORM A HEADER OR BEAM OF THE REQUIRED SIZE, UP TO A MAXIMUM WIDTH OF 7"

1 1/2" for TJI® 560, 560D)



WEB STIFFENER ATTACHMENT

* With point load from above, and no support below, install web stiffener tight to top flange (gap at bottom flange)

TJI® Joist Series	Depth (in.)	Minimum Web Stiffener Size	Nailing Type	Number Nails End	Number Nails Intermediate
110 210 230 & 360	All All All	5/8" x 2 5/16" (1) 3/4" x 2 5/16" (1) 7/8" x 2 5/16" (1)	8d (0.113" x 2 1/2")	3	3
560	All	2x4 (2)	16D (0.135" x 3 1/2")		
560D	18" 20" 22" (3) 24" (3)	2x4 (2)	16D (0.135" x 3 1/2")	4 5 6 6	4 5 11 13

(1) PS1 or PS2 sheathing, face grain vertical
(2) Construction grade or better
(3) Web stiffeners are always required for 22" and 24" TJI® 560D Joists

FASTENING of FLOOR PANELS

Nail Size Guidelines for Closest On-Center Spacing per Row	TJI® (1)(2) 110, 210, and 230	TJI® (1)(2) 360 and 560	Rim Board 1 1/8" TJ® Rim Board	Rim Board 1 1/4" TimberStrand® LSL	1 1/2" TimberStrand® LSL or wider	Microllam® LVL	Parallam® PSL
8d (0.113" x 2 1/2"), 8d (0.131" x 2 1/2")	4"	3"	6"	4"	3"	3"	3"
10d (0.148" x 3"), 12d (0.148" x 3 1/4")	4" (3)	4" (3)	6"	4"	4"	4"	4"
16D (0.162" x 3 1/2")	6"	6"	16" (5)	6" (4)	6" (4)	8"	6"

(1) Stagger nails when using 4" on-center spacing and maintain 1 3/8" joist and panel edge distance. One row of fasteners is permitted (two at abutting panel edges) for diaphragms. Fastener spacing for TJI® joists in diaphragm applications cannot be less than shown in table. When fastener spacing for blocking is less than spacing shown above, rectangular blocking must be used in lieu of TJI® joists.
(2) For non-diaphragm applications, multiple rows of fasteners are permitted if the rows are offset at least ½" and staggered.
(3) With 10d (0.148" x 1½") nails, spacing can be reduced to 3" on-center for light gauge steel straps.
(4) Can be reduced to 4" on-center if nail penetration into the narrow edge is no more than 1 3/8" (to avoid splitting).
(5) Can be reduced to 5" on-center if nail penetration into the narrow edge is no more than 1 3/8" (to avoid splitting).
■ Recommended nailing is 12" on-center in field and 6" on-center along panel edge. Fastening requirements on engineered drawings supersede recommendations listed above.
■ For recommended nailing and adhesives, see INSTALLATION RECOMMENDATIONS on page 2 of the *Weyerhaeuser Installation Guide for Floor and Roof Framing, TJ-9001.*
■ Nailing rows must be offset at least 1/2" and staggered.
■ 14 ga. staples may be substituted for 8d (0.113" x 2 1/2") nails if minimum penetration of 1" into the TJI® joist or rim board is achieved.
■ Maximum nail spacing for TJI® joists is 18" on-center.

FILLER and BACKER BLOCK SIZES

TJI® Joists	110	110	210	210	230 or 360	230 or 360	230 or 360	560	560	560
Depth	9 1/2" or 11 7/8"	14"	9 1/2" or 11 7/8"	14" or 16"	9 1/2" or 11 7/8"	14" or 16"	18" or 20"	11 7/8"	14" or 16"	18" or 20"
Filler Block (1) (Detail H2)	2x6	2x8	2x6 + 3/8" sheathing	2x8 + 3/8" sheathing	2x6 + 1/2" sheathing	2x8 + 1/2" sheathing	2x12 + 1/2" sheathing	Two 2x6	Two 2x8	Two 2x12
Cantilever Filler (Detail E4)	2x6 4'-0" long	2x10 6'-0" long	2x6 + 3/8" sheathing 4'-0" long	2x10 + 3/8" sheathing 6'-0" long	2x6 + 1/2" sheathing 4'-0" long	2x10 + 1/2" sheathing 6'-0" long	Not applicable	Not applicable		
Backer Block (1) (Detail F1 or H2)	5/8" or 3/4"		3/4" or 7/8"		7/8" or 1" Net			2x6	2x8	2x12

(1) If necessary, increase filler and backer block height for face mount hangers and maintain 1/8" gap at top of joist; see detail W. Filler and backer block dimensions should accommodate required nailing without splitting (12" minimum for backer blocks and 24" minimum for filler blocks).

1. DO NOT OVERHANG SEAT CUTS ON BEAMS BEYOND THE INSIDE FACE OF SUPPORT MEMBER.
2. DO NOT BEVEL CUT JOIST BEYOND INSIDE FACE OF WALL.
3. DO NOT USE SAWN LUMBER FOR RIM BOARD OR BLOCKING, AS IT MAY SHRINK AFTER INSTALLATION. USE ONLY ENGINEERED LUMBER.
4. DO NOT CUT OR NOTCH FLANGE
5. DO NOT CUT HOLES IN CANTILEVER REINFORCEMENT.
6. DO NOT CUT, NOTCH OR DRILL HOLES IN HEADERS OR BEAMS EXCEPT AS INDICATED IN ILLUSTRATIONS AND TABLES.

R No.	Date	Notes

No.	Date	Notes
1	11/6/2025	Permit Set

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ARCHITECTURE

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Project Title
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NEW MILFORD, NJ 07646

Project ID
20251001

Project date 10.20.2025
Sheet Date 11/6/2025

Sheet Title
SPECIFICATIONS

Scale
As Noted

Sheet No.
A-11
of
11

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