



LAND USE APPLICATION FORM

<u>Type I (OCMC 17.50.030.A)</u>	<u>Type II (OCMC 17.50.030.B)</u>	<u>Type III / IV (OCMC 17.50.030.C)</u>
<input type="checkbox"/> Compatibility Review	<input type="checkbox"/> Extension	<input type="checkbox"/> Annexation
<input type="checkbox"/> Lot Line Adjustment	<input type="checkbox"/> Detailed Development Review	<input type="checkbox"/> Code Interpretation / Similar Use
<input type="checkbox"/> Non-Conforming Use Review	<input type="checkbox"/> Geotechnical Hazards	<input type="checkbox"/> Concept Development Plan
<input type="checkbox"/> Natural Resource (NROD) Verification	<input type="checkbox"/> Minor Partition (<4 lots)	<input type="checkbox"/> Conditional Use
	<input type="checkbox"/> Minor Site Plan & Design Review	<input type="checkbox"/> Comprehensive Plan Amendment (Text/Map)
	<input type="checkbox"/> Non-Conforming Use Review	<input type="checkbox"/> Detailed Development Plan
	<input type="checkbox"/> Site Plan and Design Review	<input type="checkbox"/> Historic Review
	<input type="checkbox"/> Subdivision (4+ lots)	<input type="checkbox"/> Municipal Code Amendment
	<input type="checkbox"/> Minor Variance	<input type="checkbox"/> Variance
	<input type="checkbox"/> Natural Resource (NROD) Review	<input type="checkbox"/> Zone Change

File Number(s): _____

Proposed Land Use or Activity: Add a 28' x 64' modular building to existing school site, for the purpose of a library and media center.

Project Name: _____ Number of Lots Proposed (If Applicable): _____

Physical Address of Site: 19575 Sebastian Way, Oregon City, OR 97045

Clackamas County Map and Tax Lot Number(s): 32E-08DA-06400

Applicant(s):

Applicant(s) Signature: Roseann Johnson

Applicant(s) Name Printed: Roseann Johnson, Bluestone Homes Date: _____

Mailing Address: 16081 S. Moore Rd.

Phone: 971-221-6734 Fax: 503-632-5950 Email: Roseann@bluestonehomes.net

Property Owner(s):

Property Owner(s) Signature: Doug VanZanten

Property Owner(s) Name Printed: North Clackamas Christian School Society Date: _____

Mailing Address: 19575 Sebastian Way, Oregon City, OR 97045

Phone: 503-655-5961 Fax: 503-655-4875 Email: doug-vanzanten@nccchristianschool.com

Representative(s):

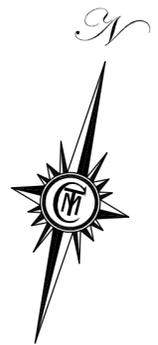
Representative(s) Signature: _____

Representative (s) Name Printed: _____ Date: _____

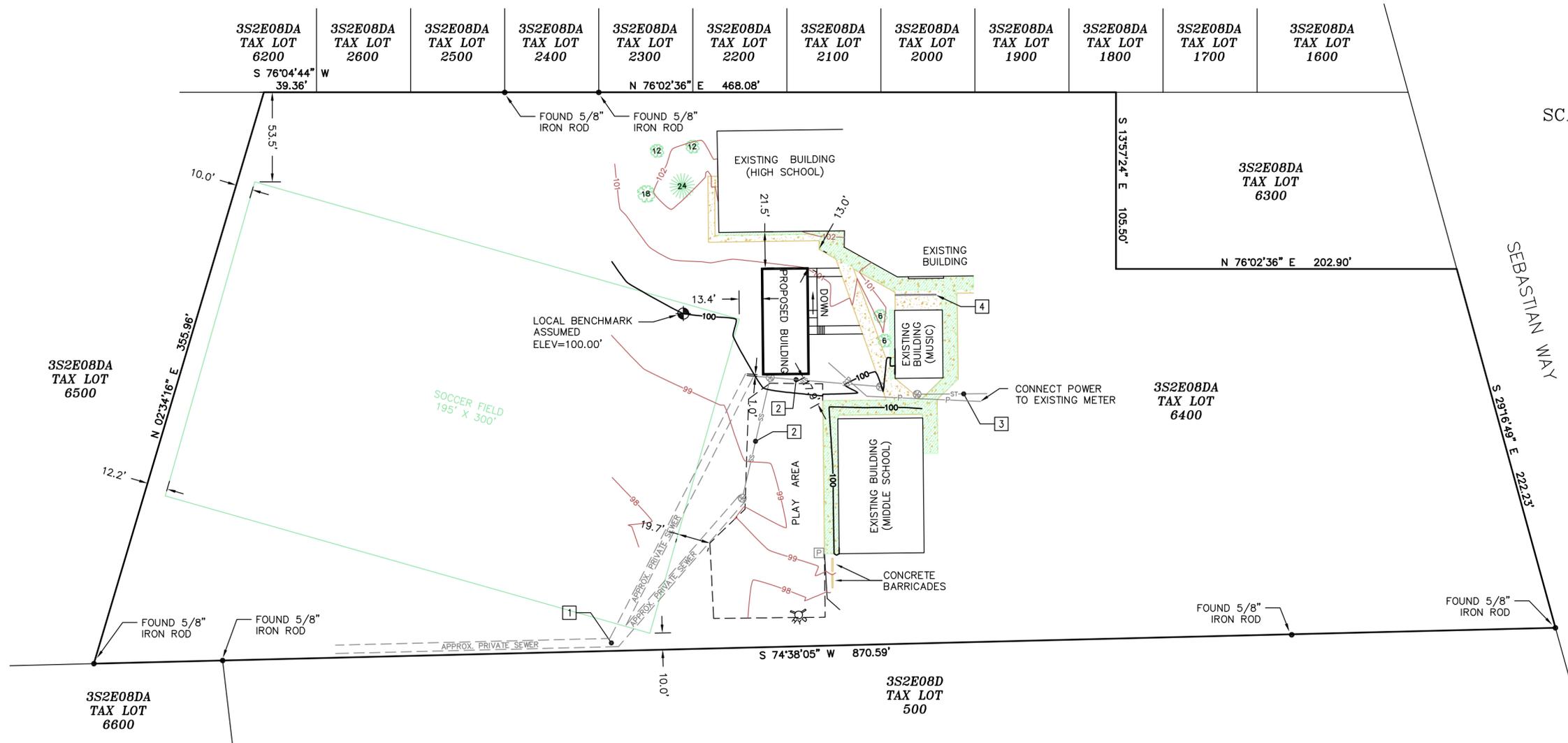
Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.



SCALE 1" = 50'



LEGEND

- EXISTING DECIDUOUS TREE W/ TRUNK DIAMETER (INCHES)(CL=CLUSTER)
- EXISTING CONIFEROUS TREE W/ TRUNK DIAMETER (INCHES)(CL=CLUSTER)
- UNDERGROUNDING LOCATION OF EXISTING ELECTRICAL CONDUIT
- EXISTING FIRE HYDRANT
- EXISTING CLEANOUT
- EXISTING SANITARY SEWER LINE
- EXISTING STORM SEWER LINE
- FOUND MONUMENTS
- LOCAL BENCHMARK ESTABLISHED
- EXISTING EAVES
- EXISTING CONCRETE
- PROPOSED UNDERGROUND POWER LINES

UTILITY NOTES

- 1 APPROXIMATE LOCATION OF BURIED PRIVATE SEWER PIPE AS DESCRIBED BY SCHOOL PERSONNEL AND ABOVE GROUND EVIDENCE. FOR MORE INFORMATION, CONTACT SCHOOL BUSINESS MANAGER.
- 2 LOCATION OF BURIED PRIVATE SEWER PIPE RUNS BETWEEN CLEANOUTS, AS DESCRIBED BY SCHOOL PERSONNEL. FOR MORE INFORMATION, CONTACT SCHOOL BUSINESS MANAGER.
- 3 LOCATION OF BURIED PRIVATE STORM PIPE RUNS EASTERLY TO SWALE, AS DESCRIBED BY SCHOOL PERSONNEL. FOR MORE INFORMATION, CONTACT SCHOOL BUSINESS MANAGER.
- 4 24.5 LF FRENCH DRAIN RUNS EAST-WEST

NOTES

1. THE PURPOSE OF THIS MAP WAS TO SHOW THE EXISTING CONDITIONS FOR 19575 SEBASTIAN WAY.
2. THE BASIS OF BEARINGS WAS PER RECORD OF SURVEY NO. PS-25846 CLACKAMAS COUNTY RECORDS.
3. LOCAL DATUM WAS ESTABLISHED USING AN ASSUMED BENCHMARK: 5/8" IRON ROD BEARS S09°38'29"W 52.85' FROM THE SOUTHWEST CORNER OF EXISTING BUILDING (HIGH SCHOOL), ELEVATION = 100.00.
4. THIS MAP WAS PREPARED FOR THE EXCLUSIVE USE OF BLUESTONE HOMES FOR ARCHITECTURAL & CIVIL ENGINEER DESIGN.
5. THIS MAP WAS PREPARED BY PLAT RECORDS, CALCULATED DATA, AND FIELD MEASUREMENTS, A RECORDED BOUNDARY SURVEY WILL NOT BE FILED.
6. DESCRIPTION OF THE EXISTING LOCATIONS OF ONSITE PRIVATE SEWER AND STORM PIPES WAS PROVIDED BY DOUG VAN ZANTEN, THE BUSINESS MANAGER FOR NORTH CLACKAMAS CHRISTIAN SCHOOL. HE MAY BE ABLE TO PROVIDE RECORDS FROM THE INSTALLATION OF THESE PIPE NETWORKS, AND CAN BE REACHED BY PHONE AT 503-655-5961 OR BY EMAIL AT DOUG_VANZANTEN@NCCCHRISTIANSCHOOL.COM
7. ALL UTILITY LOCATIONS ARE SHOWN BY ABOVE GROUND FEATURES, INFO FROM SCHOOL PERSONNEL, AND LOCATION OF PAINT MARKS SUPPLIED BY THE LOCAL UTILITY COMPANIES. CMT TAKES NO RESPONSIBILITY OF UNDERGROUND LOCATION. PLEASE NOTIFY THE UTILITY NOTIFICATION CENTER BEFORE ANY DIGGING 1-800-332-2344.

EXISTING CONDITIONS

19575 SEBASTIAN WAY
SE 1/4 SEC 8, T3S, R2E, W.M.

CITY OF OREGON CITY
CLACKAMAS COUNTY, OREGON
JANUARY 9, 2017

DRAWN: SRN CHECKED: DMR
SCALE 1"=50' ACCOUNT # 250
Y:\250-005\DWG\250005BASE.DWG



CMT SURVEYING AND CONSULTING

9136 SE ST HELENS ST, SUITE J
PO BOX 3251
CLACKAMAS, OR 97015
PHONE (503) 850-4672 FAX (503) 850-4590

DOOR SCHEDULE			
MARK	QTY.	DESCRIPTION	COMMENTS
101	SEE FLR PLAN	3'-0" x 6'-8" METAL INSUL DOOR W/16 GA KD HM FRAME DEFAULT U=60 THOLD - PEMCO #172A W/STRIP/SWEEP - PEMCO #321CN HINGES - 4-1/2x 4-1/2x BBx NRP (1.5 PAIR) CLOSER - LCN 1461 EXIT DEVICE - VON DUPRIN 221 EXIT DEVICE WITH SCHLAGE CYLINDER INSTALL EXTRA PRESSURE LUG AT STRIKE PLATE	EXTERIOR RO: 38" x 81 1/4" WALL THK: 8 3/16" SWING: 101 - LHR 102 - RHR
102			

WINDOW SCHEDULE			
MARK	QTY.	DESCRIPTION	COMMENTS
A	4	46"x 48" PHILLIPS #830 HORIZONTAL VINYL SLIDER, LOW E - U=35, SHGC=.33 NFRIC LABELED W/ LOCKS & SCREENS, INDIAN OAK LINER & CASING; 1" MINI BLINDS	R.O. 46"x 48" MATCH DOOR HEAD HEIGHT

MISC SCHEDULE			
MARK	QTY.	DESCRIPTION	COMMENTS
M-1	4	8'-0" x 4'-0" WHITE BOARD W/ CHALK TRAY & MAP RAIL	

NOTES:
MULTIPLE STATE OREGON BCD
 1. THIS PLAN IS IN ACCORDANCE WITH OSSC APPENDIX CHAPTER 29, TOILET FACILITIES ARE PROVIDED IN AN ADJACENT BUILDING, UNDER THE SAME OWNERSHIP OR CONTROL. MAXIMUM TRAVEL DISTANCE OF 500 FT. PER OSSC 2902.4.1
 2. ALL NEW FACILITIES SHALL BE BUILT IN ACCORDANCE WITH OSSC CHAPTER 11 FOR BARRIER FREE ACCESS.
 3. ALL BUILDINGS THAT RELY ON ADJACENT FACILITIES FOR RESTROOMS SHALL HAVE AN N.L.E.A. W/ EA. INSIGNIA, AND A COPY POSTED IN A CONSPICUOUS LOCATION OF THE BUILDING.
 4. EXTERIOR LIGHTING SHALL BE COMPACT FLOURESCENT W/ A MAX OF 40va PER FIXTURE.
 5. SERVICE SINKS AND POTABLE DRINKING WATER TO BE SUPPLIED BY OTHERS AT SITE. RESTROOMS, SERVICE SINKS AND DRINKING FOUNTAINS SHALL COMPLY WITH 2003 IBC TABLE 2902.1 AND SECTION 2902.4.1.

OREGON P.R.R 4

FINISH/COLOR SCHEDULE		
SURFACE	MANUFACTOR	COLOR
ROOFING		
SIDING		
SKIRTING		
CORNER TRIM		
FASCIA		
DOOR		
DOOR/WINDOW TRIM		
WINDOWS		
BLINDS		
INTERIOR TRIM		

FASTNER SCHEDULE	
CONNECTION	NAILING
JOIST TO SILL OR GIRDER, TOENAIL	3-8d
SOLE PLATE TO JOIST OR BLOCKING, TYPICAL FACE NAIL	16d @ 16" O.C.
SOLE PLATE TO JOIST OR BLOCKING, AT BRACE WALL PANELS	3-16d PER 16"
TOP PLATE TO STUD, END NAIL	2-16d
STUD TO SOLE PLATE	2- 16d END NAIL
DOUBLE STUDS, FACE NAIL	16d @ 24" O.C.
DOUBLE TOP PLATES, TYPICAL FACE NAIL	16d @ 16" O.C.
DOUBLE TOP PLATES, LAP SPLICE	8-16d
RIM JOIST TO TOP PLATE, TOENAIL	8d @ 6" O.C.
TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL	2-16d
CONTINUOUS HEADER, TWO PIECES	16d @ 16" O.C. ALONG EACH EDGE
CEILING JOIST TO PLATE, TOENAIL	3-8d
CONTINUOUS HEADER TO STUD, TOENAIL	4-8d
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	3-16d
CEILING JOISTS, TO PARALLEL RAFTERS, FACE NAIL	3-16d
RAFTER TO PLATE, TOENAIL	3-8d
BUILT-UP CORNER STUDS	16d @ 24" O.C.
WOOD STRUCTURAL PANELS AND PARTICALBOARD SUBFLOOR, ROOF AND WALL SHEATHING TO FRAMING 1/2" AND LESS	8d ³ OR 8d ⁴
19/32" - 3/4"	8d ³
7/8" - 1"	10d OR 8d
FIBERBOARD SHEATHING (OSB) 1/2"	NO. 11 GA ⁴ 6d ⁴ NO. 16 GA ¹¹
ALUMINUM DRIP RAIL	#6 x 3/4" HEX HEAD SCREWS AT 4 1/4" O.C.
MEMBRANE ROOFING	MECH FASTENED PER MANF SPEC'S

Common or box nails may be used except where otherwise stated.
² Nails spaced at 16 inches on center at edges. 12 inches at intermediate support except 6 inches at all supports where spans are 48" or more.
 For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2315.3.3 & 2315.4 Nails for wall sheathing may be common, box or casing.
³ Common or deformed shank
⁴ Common
⁵ Deformed shank.
⁶ Corrosion-resistant roofing nails with 7/16-inch-diameter (11 mm) head and 1 1/2" length for 1/2-inch sheathing and 1 3/4-inch length for 25/32" sheathing conforming to the requirements of Section 2304.3
⁸ Corrosion-resistant staples with 7/16-inch-diameter (11 mm) crown and 1 1/8" length for 1/2-inch sheathing and 1 1/2-inch length for 25/32" sheathing conforming to the requirements of Section 2304.3.
¹⁰ Panel supports at 16" (20 inches) if strength axis is the long direction of the panel, unless otherwise maked. Casing or finish nails spaced 6 inches on panel edges. 12 inches at intermediate supports.

ENERGY CODE / MECHANICAL SYSTEM
 1. PROVIDE MICROPROCESSOR CONTROLLED THERMOSTAT WITH NIGHT SETBACK, 5 DEGREE DEADBAND MIN., SEVEN DIFFERENT DAY TYPES. MOUNT @ 54" A.F.F. TO TOP OF CONTROLS MAX. (WSEC 1412)
 2. THERMOSTAT SHALL BE RATED FOR EXTERIOR WALL INSTALLATION.
 3. SEAL ALL TRANSVERSE DUCT JOINTS (WSEC 1414.1)
 4. SUPPLY AIR DIFFUSERS SHALL BE PROVIDED WITH MANUAL DAMPERS FOR BALANCING THE SYSTEM (WSEC 1412.7).
 5. DUCTS SHALL BE SEALED IN ACCORDANCE WITH SMACNA, METAL DUCT AND FLEXIBLE CONSTRUCTION STANDARDS 1ST ADDITION (WSEC RS-18)
 6. DUCT SMOKE DETECTORS INSTALLED IN ACCORDANC WITH O.S.M.C. 606.2.1

ELECTRICAL / LIGHTING
 1. LIGHTING CONTROLS SHALL BE PROVIDED FOR EACH SEPARATE AREA, READILY ACCESSIBLE AT THE POINT OF ENTRY/EXIT. CONTROLS SHALL BE CAPABLE OF TURNING OFF ALL LIGHTS WITHIN THE SPACE (WSEC 1513.1)
 2. MAXIMUM LIGHTING POWER THAT MAY BE CONTROLLED FROM A SINGLE SWITCH OR CONTROL SHALL NOT EXCEED A 20 AMPERE CIRCUIT LOADED TO 80% CAPACITY (WSEC 1513.2)
 3. ALL LIGHTS WITHIN DAY LIGHTED ZONES SHALL PROVIDED WITH INDEPENDENT CONTROLS SEPARATE FROM THE GENERAL LIGHTING (WSEC 1513.3)
 4. EXTERIOR LIGHTS NOT INTENDED FOR 24 HOUR USE SHALL BE CONTROLLED BY A TIMER OR PHOTOCELL. (WSEC 1513.5)

STRUCTURAL
 1. HEADERS SHALL BE (3) 2x4 STUD (MAX. SPAN = 3.15') OR (3) 2x6 STUD (MAX. SPAN = 4.15') (UNLESS NOTED OTHERWISE)
 2. WINDOW AND DOORS SHALL HAVE (2) STUDS AT EACH SIDE w/ (1) KING AND (1) TRIMMER
 3. MINIMUM LAP SPLICE OF TOP PLATE = (1) 2x6 CHORD W/ 16 - 12d NAILS EA. SIDE OF 2x6 SPLICE
 4. ALL NAILING AND FASTENERS NOT CALLED OUT IN PLANS SHALL BE PER IBC 2304.9.1 NAILING SCHEDULE
 5. SKIRTING BY WHITLEY. 1/2" PRIMED & PAINTED P.T. CDX W/ CORNER TRIM, VENTS AND ACCESS DOOR, NO FRAMING; SHIP LOOSE FOR INSTALLATION AT SITE

GENERAL NOTES
 1. THIS PLAN IS IN ACCORDANCE WITH WAC 51-50-2900 AND OSSC APPENDIX CHAPTER 29. TOILET FACILITIES SHALL BE PROVIDED IN AN ADJACENT BUILDING SEPARATE FACILITIES FOR EACH GENDER SHALL BE PROVIDED.
 2. ALL NEW FACILITIES SHALL BE BUILT IN ACCORDANCE WITH WAC-51-50-1100 FOR BARRIER FREE ACCESS.
 3. NOTE: ALL STAIRS, RAMPS, LANDING, AND HANDRAILS TO BE SUPPLIED AND INSTALLED ON SITE BY OTHERS (UNLESS OTHERWISE SPECIFIED)
 4. ALL BUILDINGS THAT RELY ON ADJACENT FACILITIES FOR RESTROOMS SHALL HAVE AN N.L.E.A. W/ EA. INSIGNIA, AND A COPY POSTED IN A CONSPICUOUS LOCATION.
 5. SERVICE SINKS AND POTABLE DRINKING WATER IS TO BE SUPPLIED BY OTHERS AT THE SITE. RESTROOMS, SERVICE SINKS AND DRINKING FOUNTAINS SHALL COMPLY WITH (IDAHO) 2003 IBC TABLE 2902.1 AND SECTION 2902.4.1.
 6. ICE DAM PROTECTION SHALL COMPLY WITH THE REQUIREMENTS OF THE 2003 IBC SECTION 1507.2.8.2
 7. IN ACCORDANCE WITH 2003 IBC 804.5 (IN GROUP A OR E OCCUPANCIES) DRAPES, HANGINGS OR OTHER DECORATIVE COVERINGS SUSPENDED FROM WALLS OR CEILINGS SHALL BE FLAME RESISTANT IN ACCORDANCE W/ SECTION 805.2 & NFPA 701 OR NONCOMBUSTABLE

ENERGY CODE / BUILDING ENVELOPE
 1. BUILDING HEATED W/ HEAT PUMP, ELECTRIC RESISTANCE HEAT NOT ALLOWED.
 2. ALL WINDOWS AND DOORS SHALL BE SEALED, CAULKED, GASKETED, OR WEATHER STRIPPED TO MINIMIZE AIR LEAKAGE. (WSEC 1314.1)
 3. ALL VAPOR BARRIERS SHALL BE A MAXIMUM OF 1 PERM. INSTALLED TO WARM SIDE OF BLDG. ASSYS.
 4. BUILDING ASSEMBLIES USED AS DUCTS OR PLENUMS SHALL BE SEALED, CAULKED AND GASKETED TO LIMIT AIR LEAKAGE. (WSEC 1314.3)
 5. THIS BUILDING SHALL MEET THE REQUIREMENTS OF WSEC 2005 1416 COMPLETION REQUIREMENTS

ELECTRICAL
 1. THIS BUILDING MEETS THE REQUIREMENTS OF THE 2005 NEC
 2. BUILDING TO BE WIRED IN MIC, FMC, EMT, LFMC
 3. TYPICAL WIRE SIZES:
 15 AMP - #14 CU 30 AMP - #10 CU
 20 AMP - #12 CU 35 AMP - # 8 CU
 4. SERVICE ENTRANCE - BY OTHERS
 5. ALL RECEPTACLES TO BE INSTALLED 18" A.F.F. TO CENTER OF RECEPTACLE, UNLESS OTHERWISE SPECIFIED.
 6. GROUND FAULT CIRCUIT PROTECTION REQUIRED FOR ALL RECEPTACLES IN WET AREAS.
 7. ALL CONDUCTORS AND CONDUITS SHALL BE SIZED AND INSTALLED TO COMPLY WITH THE 2005 N.E.C.

MODULE DESIGN SUMMARY
 A. DESIGN CRITERIA: SEE CODE ANALYSIS
 B. SHEATHING:
 1/2" NOMINAL APA RATED STRUCTURAL SHEATHING OVER JOISTS/ TRUSSES @ 24" O.C. OK BY INSPECTION
 C. ROOF JOISTS:
 2X10 HF#2 JOISTS @ 24" O.C.
 D. MATE LINE BEAM:
 1.75 X 24 LVL BEAM EACH MODULE
 SUPPORT MATELINE BEAMS @ 2'-0" O.C. 4" FROM BOTTOM W/ THRU BOLTS, PROVIDE BRACES FROM BOTTOM OF BEAM TO ROOF @ COLUMN AND 8'-0" O.C.
 E. END COLUMNS:
 (1) 2X6 HF STUD PER MODULE AS EXTERIOR COLUMNS.
 1 MSTA18 STRAP TOP AND BOTTOM PER COLUMN, OR EQUIVALENT, ADDITIONAL BEARING NOT REQUIRED
 F. INTERMEDIATE COLUMNS:
 (1) TS3X3X3/16 PER MODULE AS INTERIOR COLUMNS.
 STEEL COLUMNS - 1.75X8-3/4" STEEL BEARING PLATE W/ (4) SDS 1/4X2" TOP AND BOTTOM
 G. EXTERIOR WALL STUDS:
 2X6 HF STUD @ 16" O.C. OK BY INSPECTION
 H. MATELINE WALL STUDS:
 2X4 HF STUD @ 16" O.C.
 I. HEADERS:
 HEADER 1 (3) 2X4 HF STUD MAX. SPAN = 3.15 FT.
 HEADER 2 (3) 2X6 HF STUD MAX. SPAN = 4 FT.
 J. MATELINE BEAM SUPPORT HEADER: NOT USED (CONT.)

CODE ANALYSIS
 THIS STRUCTURE MEETS CONSTRUCTION REQUIREMENTS OF THE WAC 51-50 (IBC 2003), THE 2003 INTERNATIONAL BUILDING CODE FOR WASHINGTON STATE GOLD AND GOLD LABEL INSIGNIAS
 THIS PLAN IS SUBMITTED TO WASHINGTON STATE DEPT L&I FOR APPROVAL BY WA & OREGON (OSSC 2005) UNDER RECIPROCITY AGREEMENT FOR GOLD AND GOLD INSIGNIAS
 THIS PLAN IS SUBMITTED TO WASHINGTON STATE DEPT L&I FOR APPROVAL BY WA. & IDAHO (IBC 2003) UNDER RECIPROCITY AGREEMENT FOR GOLD AND GOLD INSIGNIAS

BUILDING TYPE:	VB	DESIGN LOADS:	
OCCUPANCY GROUP:	E	ROOF LIVE:	30 psf
BUILDING USE:	CLASSROOM		
BUILDING AREA: 28'x 64'	1773 sq ft	WIND LOAD:	85 mph
# OF OCCUPANTS:	90	EXPOSURE:	"C"
		BCD ALT. WIND LOAD:	90 mph
		BCD ALT. EXPOSURE:	"B"

2003 IBC: SEISMIC DESIGN Sds = 1.00
 SEISMIC DESIGN CATAGORY = D
 CLASSROOM FLOOR LIVE: 40 psf
 1000# CONCENTRATED FLOOR LOAD ON 30" SQ.

NOTES:
 1. THIS BUILDING MEETS OR EXCEEDS THE ABOVE REQUIREMENTS FOR THE NREC PERSCRITIVE PATH OPTION FOR CLIMATE ZONE 2, THE OSSC PERSCRITIVE PATH AND THE INTERNATIONAL ENERGY CODE FOR IDAHO
 2. PROPOSED GLAZING % OF G.W.A. = 15% (MAX) 3.9% ACTUAL
 3. SEE SCHEDULES AND BUILDING SECTION FOR ACTUAL INSTALLED VALUES

MODULE DESIGN SUMMARY CONT.

K. DECKING:
 3/4" T&G FLOOR SHEATHING (40/20) OVER JOISTS @ 16" O.C.

L. RIM JOISTS:
 1.75X7.25 LVL RIM JOIST(S) AT EACH SIDE W/ SUPPORTS @ 8 FT. O.C. OR FOUNDATION SUPPORT

M. FLOOR JOISTS:
 2X8 HF 2 FLOOR JOISTS @ 16" O.C.

N. DBL. FLOOR JOISTS SUPPORTING MATELINE BEAM HEADER: NOT REQUIRED OR FOUNDATION SUPPORT

O. ROOF SHEATHING:
 1/2" NOMINAL APA RATED STRUCTURAL SHEATHING WITH BLOCKED EDGES 0 FT. FROM EACH END 8D @ 6" O.C. @ BOUNDARY EDGES 6" O.C. @ PANEL EDGES AND 12" O.C. IN THE FIELD

P. DOUBLE TOP PLATE SPLICES:
 (1) 2X6 CHORD MIN. W/ 10 12D NAILS @ EACH SIDE OF 2X6 SPLICE

Q. BUILDING END (SHORT) WALL SHEAR WALLS:
 LINEAR FEET OF SHEARWALLS: 27.66 FT.
 SHEATHING: 5/8 DURA TEMP SIDING W/ 8D NAILS @ 6" O.C. ALONG SIDING EDGES AND 12" O.C. IN THE FIELD. USE (1) STUD MIN. AT ADJOINING PANEL EDGES BLOCK PANEL EDGES.
 HOLD DOWNS: (1) 2X6 W/ 1 REQ. MSTA21 STRAP(S) AT ENDS OF SHEARWALLS

R. BUILDING SIDE (LONG) WALL SHEAR WALLS:
 LINEAR FEET OF SHEARWALLS: 41.7 FT.
 SHEATHING: 5/8 DURA TEMP SIDING W/ 8D NAILS @ 6" O.C. ALONG SIDING EDGES AND 12" O.C. IN THE FIELD. USE (1) STUD MIN. AT ADJOINING PANEL EDGES BLOCK PANEL EDGES.
 HOLD DOWNS: (1) 2X6 W/ NO STRAPS AT ENDS OF SHEARWALLS

DRAWING INDEX	
NO.	DRAWING TITLE
A.0	COVER SHEET - SCHEDULES - NOTES
A.1	FLOOR PLAN
A.2	BUILDING SECTION, DETAILS
A.3	EXTERIOR ELEVATIONS
E.1	ELECTRICAL/MECH PLAN
F.1	FOUNDATION PLAN
F.2	FOUNDATION PLAN DETAILS

MARK	REVISION	DATE

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 Modular Buildings And More.
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CORPORATE OFFICES
 8211 TOWN CENTER DRIVE
 BALTIMORE, MD 21286
 (800) 638-6985
 (410) 851-8000
 www.willscot.com

PACIFIC NORTHWEST MAJOR PROJECTS
 14407 SMOKEY POINT BLVD
 MARYSVILLE, WA 98271-8904
 FAX: 360-951-8549
 (800) 488-0441
 (800) 782-1500

WHITLEY EVERGREEN INC.

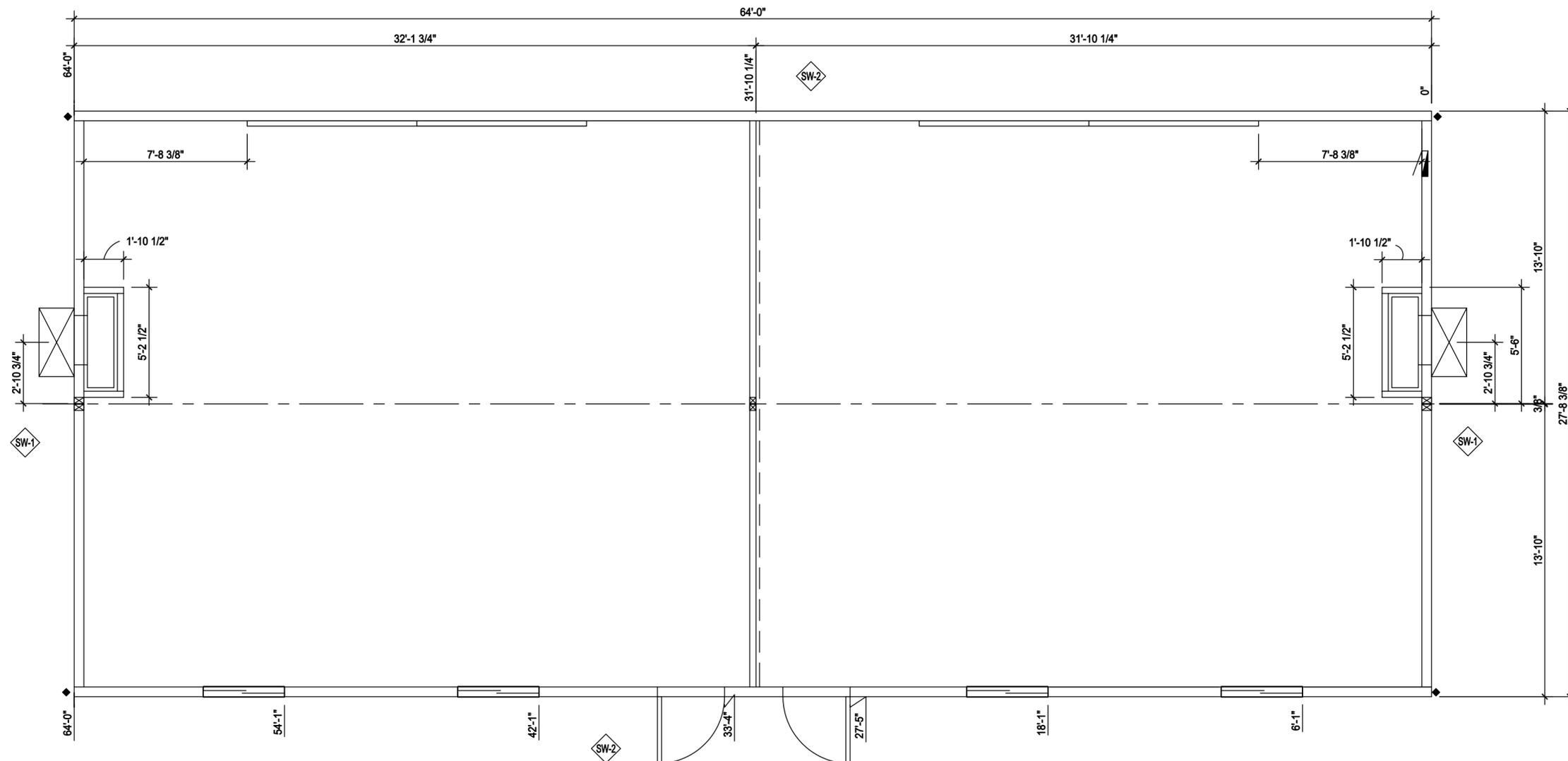
14219 SMOKEY POINT BLVD.
 MARYSVILLE, WA 98271
 (360) 653-5790 (360) 659-7735 FAX.

JOB NAME: 28 X 64 DBL. CLASSROOM
 DESCRIPTION: .
 SHEET TITLE: COVER SHEET, SCHEDULES
 THIS DRAWING CANNOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF WHITLEY EVERGREEN INC.

S/N: ---
 STD PLAN NO: ---
 FILE: 3872 A
 DRAWN BY: MDP RELEASE: FINAL

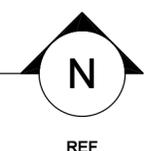
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 DATE: 10-9-06

PLOT STAMP: 12/22/2006 9:27 AM



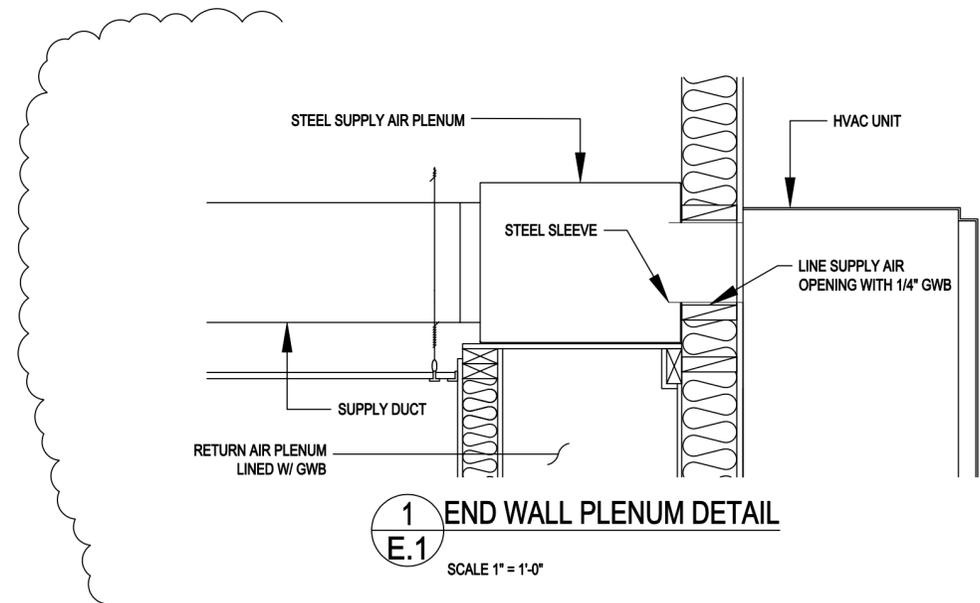
FLOOR PLAN

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



P.R.R. 4

ROOM FINISH SCHEDULE											
ROOM NO.	DESCRIPTION	NORTH WALL	EAST WALL	WEST WALL	SOUTH WALL	CEILING		FLOOR		COMMENTS	
		MAT	MAT	MAT	MAT	MAT	HEIGHT	MAT	BASE		
101	CLASSROOM	VCTB	VCTB	VCTB	VCTB	ACT	8'-0"	NBW	NBW		
102	CLASSROOM	VCTB	VCTB	VCTB	VCTB	ACT	8'-0"	NBW	NBW		
FLOORS		NBW - NOT BY WHITLEY									
WALLS		1/2" VINYL COVERED TACKBOARD									
CEILING		ACT - SUSPENDED ACOUSTICAL CEILING TILE, 2'x 4'x 5/8" LAY-IN (INSTALL PER IBC 803.9.1.1)									



MARK	REVISION	DATE
—	—	—
△	L&I RE-SUBMITTAL	11-30-06
△	L&I SUBMITTAL	10-20-06
△	CUSTOMER SUBMITTAL	10-9-06

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FAX: 360-651-8849
(800) 488-0441
(509) 752-1500

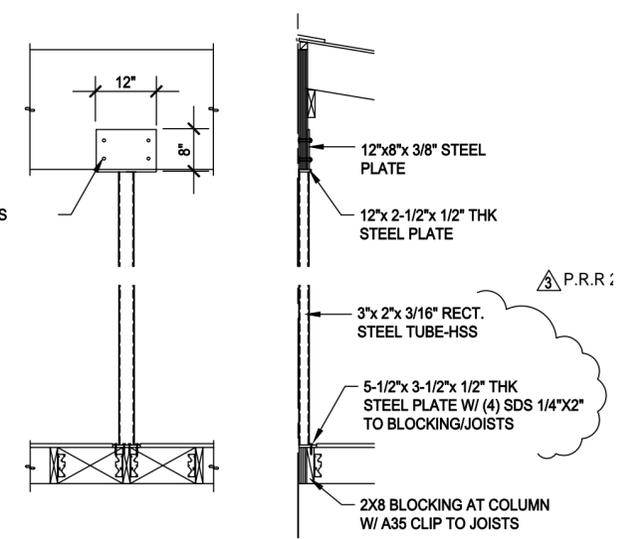
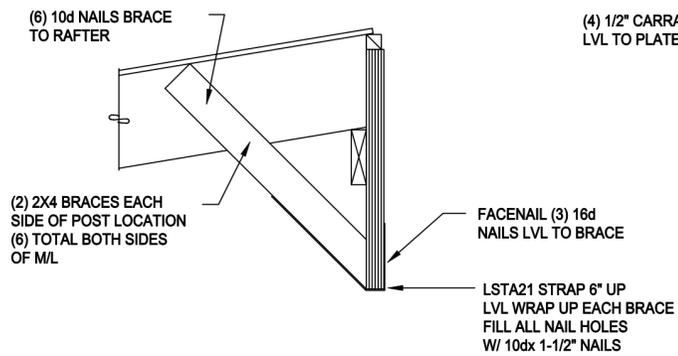
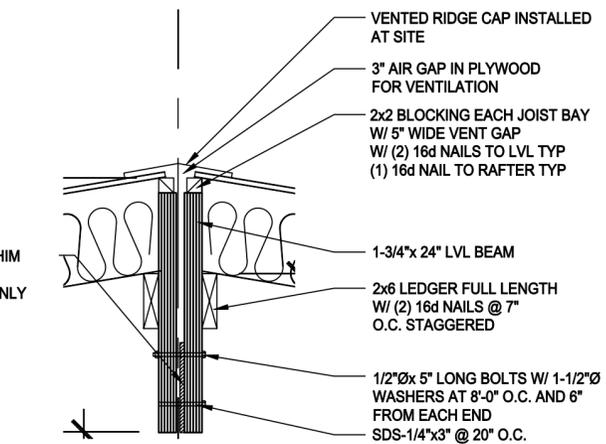
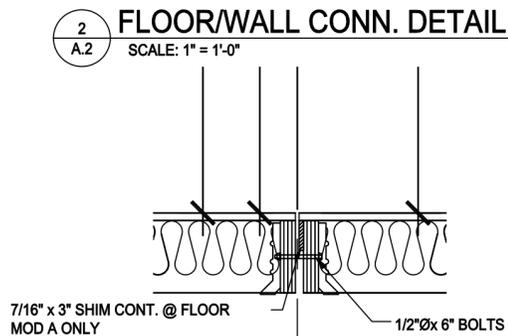
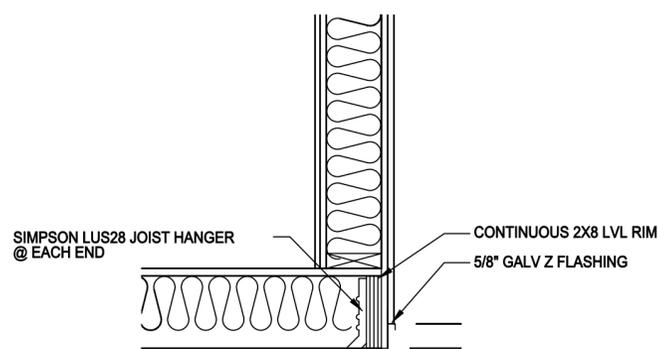
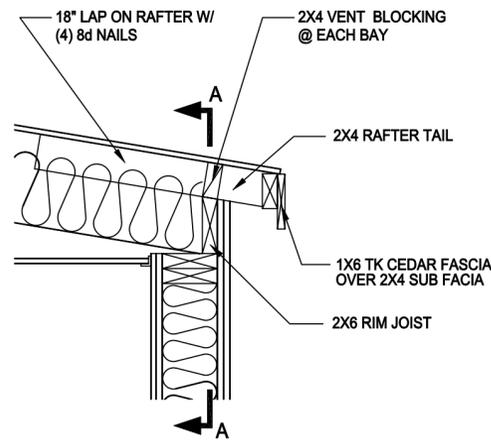
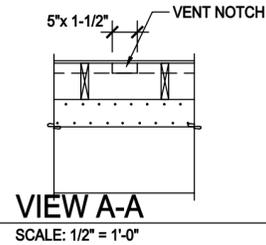
WHITLEY EVERGREEN INC.

14219 SMOKEY POINT BLVD.
MARYSVILLE, WA 98271
(360) 653-5790 (360) 659-7735 FAX.

JOB NAME: **28 X 64 DBL. CLASSROOM**
DESCRIPTION: .
SHEET TITLE: **FLOOR PLAN**
THIS DRAWING CANNOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF WHITLEY EVERGREEN INC.

S/N: —
STD PLAN NO: —
FILE: 3872 A
DRAWN BY: MDP
RELEASE: FINAL

JOB NO: **3912**
SHT: **A.1**
DATE: 10-9-06



ROOF/CEILING ASSY

- PABCO "PREMIER" 25 YEAR ARCHITECTURAL COMPOSITION SHINGLES OVER (2) LAYERS 15# FELT (ICE DAM PROTECTION REQUIRED FOR 24" FROM EAVE TO INSIDE EXT. WALL LINE)
- 7/16" OSB SHEATHING (24/16)
- R30C FIBERGLASS INSULATION BATTS W/ MAX. 1 PERM VAPOR BARRIER
- 2X10 HF#2 RAFTERS AT 24" O.C.
- MOBILE FLEX FS-25 (1) PERM VAPOR BARRIER
- 2X4' SUSPENDED T-BAR GRID (INSTALLED PER IBC 803.9.1.1 & IBC 2506.2.1, ASTM C635 & C636 & ASCE SECTION 9.6.2.6)

INTERIOR WALL ASSY

- 1/2" VINYL WRAP TACK BOARD "CALCUTTA TAN" W/ VINYL WRAPPED CORNER TRIM OVER 5/8" TYPE X GYPSUM WALLBOARD
- 2X4 HF STUD GRADE STUDS AT 16" O.C. W/ SINGLE BOTTOM AND DOUBLE TOP PLATE
- R-11 FIBERGLASS SOUND ATTENUATION BATTS (CROSSWALL ONLY) TO 8' HIGH
- 5/8" TYPE X GYPSUM WALL BOARD
- 1/2" VINYL WRAP TACK BOARD "CALCUTTA TAN" W/ VINYL WRAPPED CORNER TRIM

FLOOR ASSY

- NONE, INSTALLED AT SITE BY OTHERS
- 3/4" T&G UDLX PLYWOOD SUB-FLOOR, 1 PERM MAX. VAPOR BARRIER, GLUED AND NAILED
- 2X8 HF#2 JOISTS AT 16" O.C. W/ SIMPSON LUS28 JOIST HANGER EACH END
- SINGLE 1-3/4"x 7-1/4" LVL LONGITUDINAL RIM JOISTS
- MOIST-STOP WATER BARRIER APPLIED TO PERIMETER RIMS AND END JOISTS
- R-19 FIBERGLASS INSULATION BATTS W/ POLYCORD AT 16" O.C. (HELD IN SUBSTANCIAL CONTACT W/ FLOOR SHEATHING)
- FS-25 MOBILE FLEX (BOTTOM CLOSURE)

EXTERIOR WALL ASSY

- 1/2" VINYL WRAP TACK BOARD "CALCUTTA TAN" W/ VINYL WRAPPED CORNER TRIM OVER 5/8" TYPE X GYPSUM WALLBOARD (UNFINISHED)
- R-19 FIBERGLASS INSULATION BATTS W/ (1) PERM VAPOR BARRIER
- 2X6 HF STUD GRADE STUDS @ 16" O.C. W/ SINGLE 2X6 BOTTOM PLATE & DOUBLE TOP PLATE
- 15# BUILDING PAPER APPLIED FROM FLOOR TO ROOF AT ALL CORNERS UNDER SHEATHING
- 5/8" TYPE X GYPLAP
- 5/8" DURATEMP T1-11 W/ SHALLOW GROOVES 8" O.C. (4x 9' SHEETS; NO BREAKS IN SIDING EXCEPT AT ENDWALLS)

CROSS SECTION
Scale: 1/2" = 1'-0"

REVISION	DATE
L&I RE-SUBMITTAL	11-30-06
L&I SUBMITTAL	10-20-06
CUSTOMER SUBMITTAL	10-9-06

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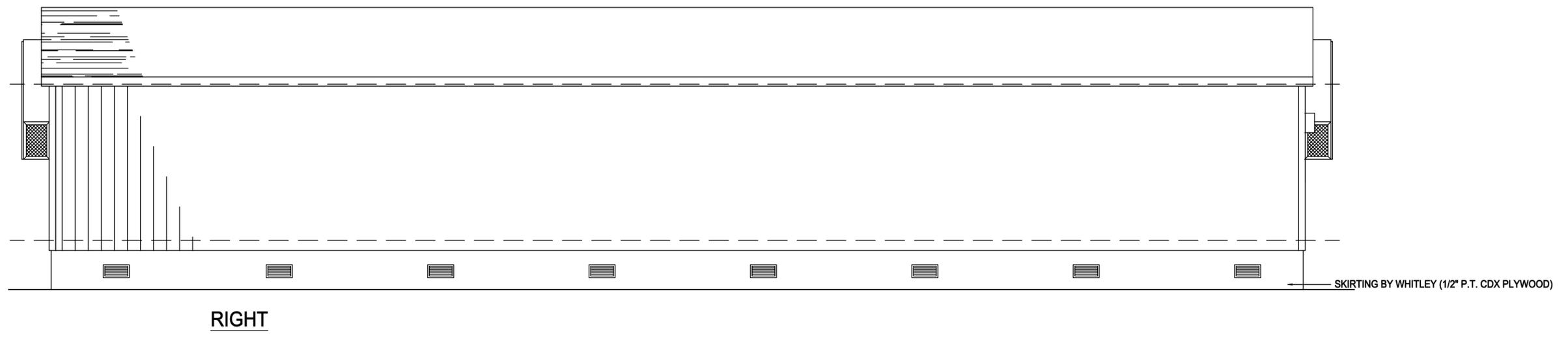
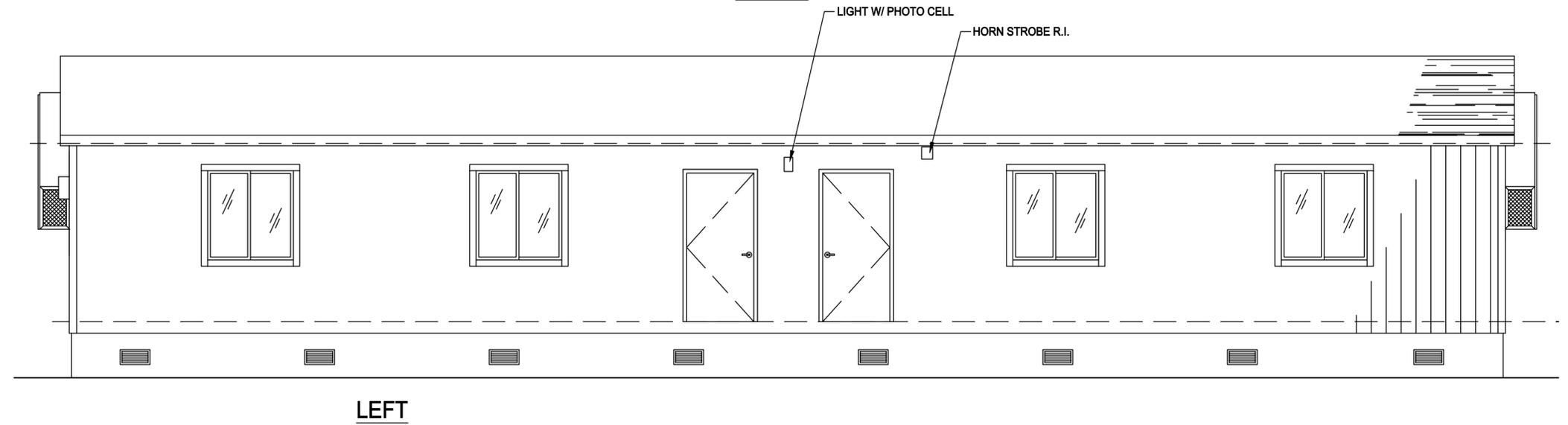
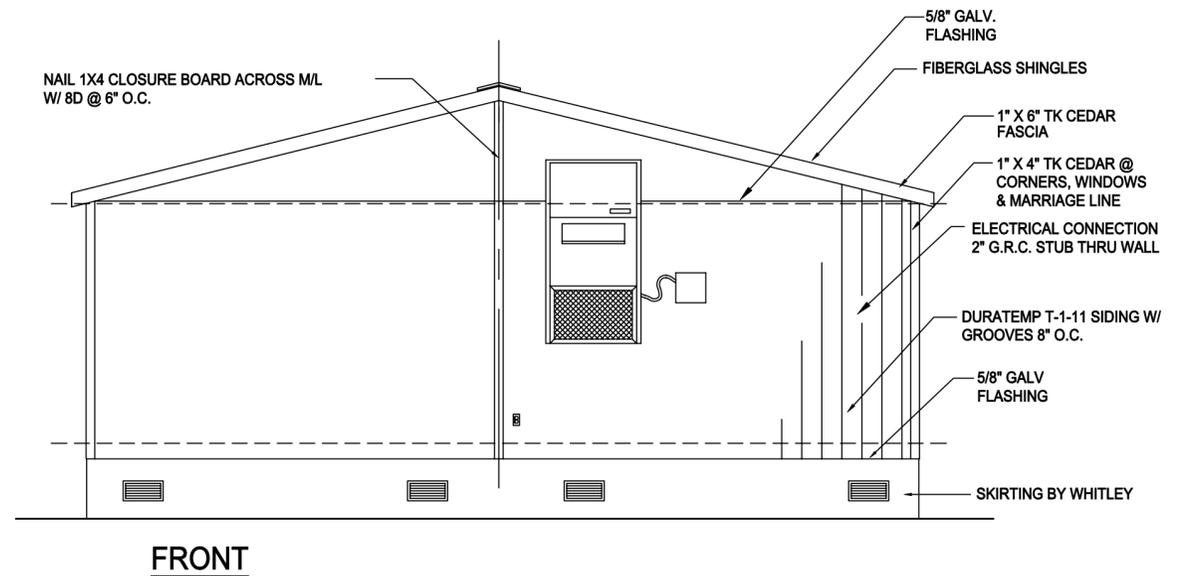
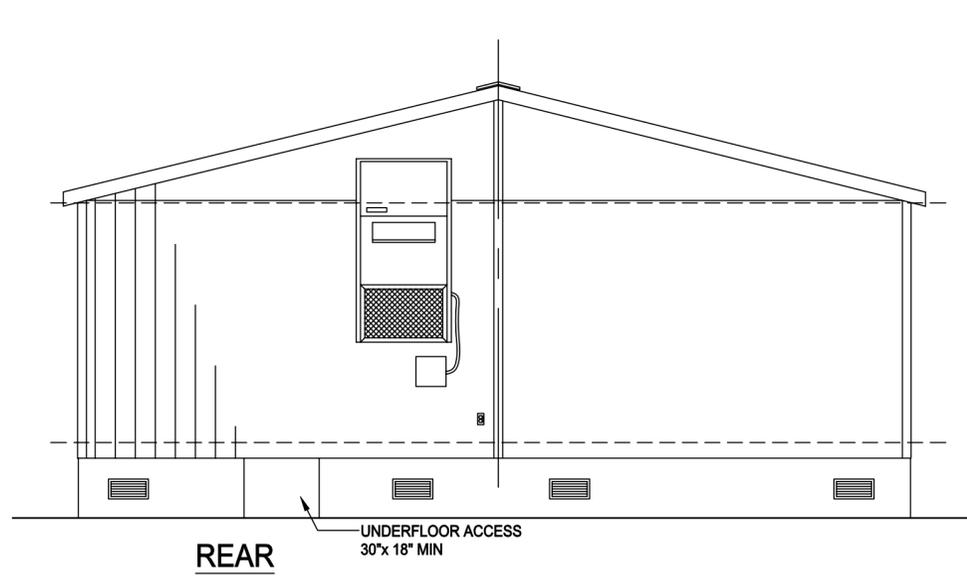
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JOB NAME: 28 X 64 DBL. CLASSROOM
DESCRIPTION:
SHEET TITLE: SECTION
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STD PLAN NO: ---
FILE: 3872 A
DRAWN BY: MDP RELEASE: FINAL

JOB NO: 3912
SHT: A.2
DATE: 10-9-06



GABLE END VENTING IN ACCORDANCE W/ 2003 IBC 1203.1
SEE CALCULATION BELOW

28' X 64' = 1792 SQ FT
300 = 5.97 SQ FT X 144 = 860 SQ IN

VENTING REQUIRED:
= 860 SQ IN

128 VENT NOTCHES X 7 1/2 SQ IN = 960 SQ IN

VENTING PROVIDED:
= 960 SQ IN

FOUNDATION VENT CALCULATION:
28' x 64' = 1792 sq ft
150 = 11.94 sq ft X 144 = 1720.32 sq in

FOUNDATION VENTS PROVIDED:
24 VENTS AT 75 sq in EACH = 1800 sq in

EXTERIOR ELEVATIONS

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

MARK	REVISION	DATE
△	—	—
△	L&I RE-SUBMITTAL	11-30-06
△	L&I SUBMITTAL	10-20-06
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JOB NAME: 28 X 64 DBL. CLASSROOM
DESCRIPTION: .
SHEET TITLE: EXTERIOR ELEVATIONS
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STD PLAN NO: —
FILE: 3872 A
DRAWN BY: MDP
RELEASE: FINAL

JOB NO: 3912
SHT: A.3
DATE: 10-9-06

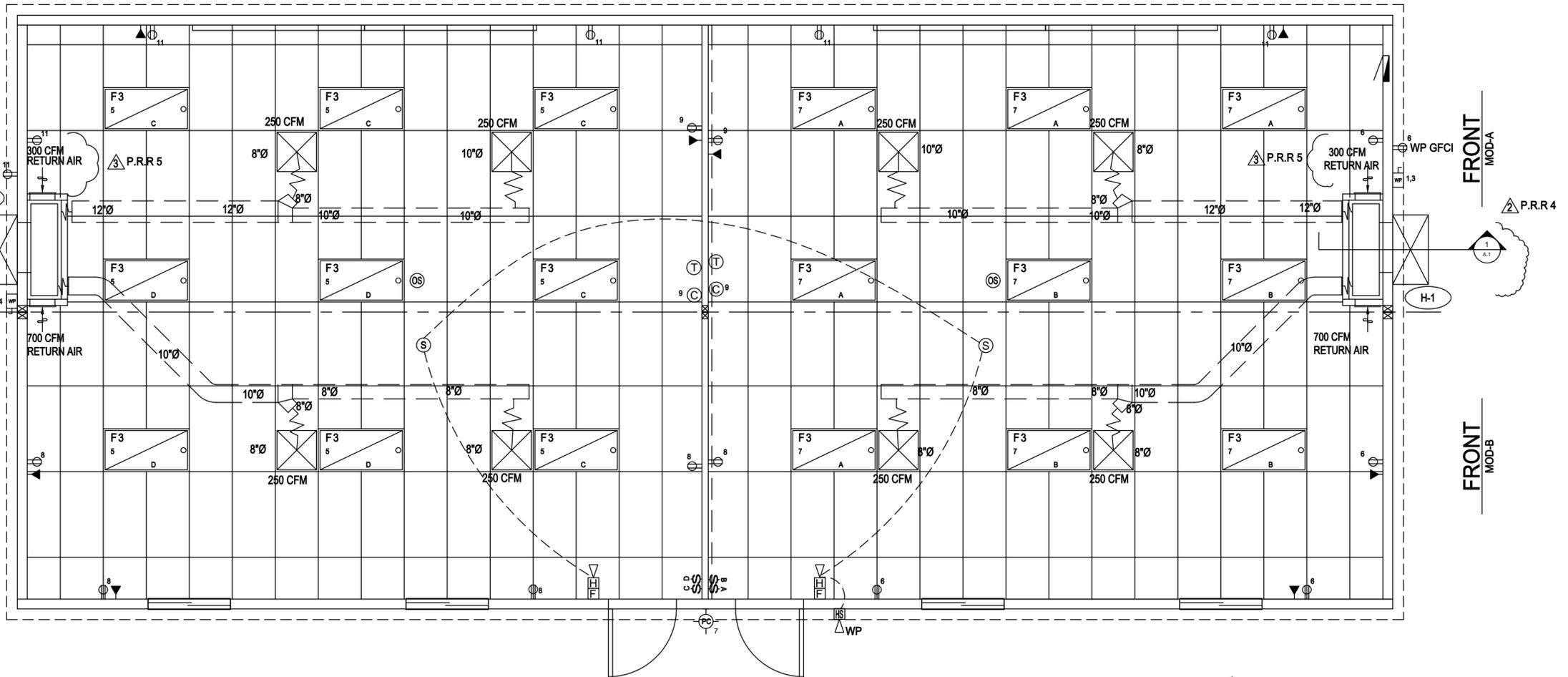
MECHANICAL NOTE:
16"x20"x32" SHEET METAL SUPPLY AIR PLENUM BOX TO BE
INSTALLED ABOVE RETURN AIR PLENUM

FIRE ALARM SYMBOLS

- FIRE ALARM PULL BOX @ 48" A.F.F. (ROUGH-IN)
- HORN STROBE @ 82" A.F.F. TO CENTER (ROUGH-IN)
- STROBE @ 82" A.F.F. TO CENTER (ROUGH-IN)
- EXTERIOR WEATHER PROOFED HORN STROBE @ 82" A.F.F. TO CENTER (ROUGH-IN)
- SMOKE DETECTOR @ CEILING (ROUGH-IN)

ELECTRICAL SYMBOLS

- 2x4' TROFFERS W/ PRISMATIC DIFFUSERS
(3) F32 T-8 TUBES - W/ ELECTRONIC BALLAST
96 VA
- 40W FLOURESCENT W/ LEXAN COVER W/INTEGRAL
PHOTO CELL
- LEVITON SWITCH, SINGLE POLE WITH COVER PLATE
- OCCUPANCY SENSOR:
CONTROL UNIT - WATT STOPPER, B-120-E
SENSOR - WATT STOPPER, CI-200
- DUPLEX RECEPT. +18" A.F.F. (UNLESS OTHERWISE
NOTED)
- CLOCK RECEPTACLE, 90" A.F.F.
- HVAC DISCONNECT
- ELECTRICAL PANEL WITH REQ'D. BREAKERS
- DATA JACK @ 18" AFF UNLESS NOTED OTHERWISE
ROUGH IN ONLY WITH 3/4" FLEX. UP TO CEILING
SPACE



LIGHTING/POWER/MECH PLAN

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

* EQUIPMENT
BY SCHOOL DISTRICT

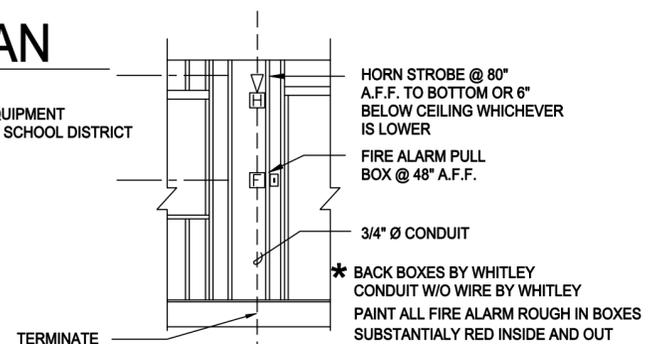
HVAC EQUIPMENT SCHEDULE

MARK	QTY.	DESCRIPTION	COMMENTS
H-1	2	BARD #WH301-A10 - 2 1/2 TON WALL MOUNTED HEAT PUMP W/ 10 kw HEAT STRIP - PROGRAMMABLE T'STAT. 30,000 BTUH COOLING - 8.70 EER 28,000 HEATING - 3.00 COP 1395 CFM @ 0 ESP DRY COIL	ECONOMIZER WITH CAPABILITY AND CONTROLS FOR 100% OSA

PANEL SCHEDULE

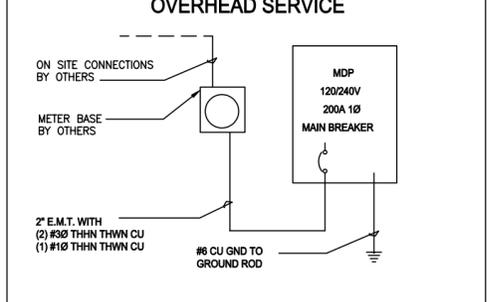
CK	DESCRIPTION	KVA	PHASE	DESCRIPTION	CK
1	HEAT PUMP	7.0	2	HEAT PUMP	2
3		7.0	*		4
5	LIGHTS	1.0	1	RECEP(5), COMP(2)	6
7	LIGHTS, EXT	1.0	1	RECEP(5), COMP(2)	8
9	RECEP(2), COMP(2), CLK	1.5	1	SPACE	10
11	RECEP(6), COMP(2)	1.9	1		12
13	SPACE		*		14
15			*		16
17			*		18
19			*		20
21			*		22
23			*		24
25			*		26
27			*		28
29			*		30

CONTRIBUTION FROM PANEL	PHASE A: 18.2	TOTAL CONNECTED	KVA: 36.8
	PHASE B: 18.6		AMPS: 153.4
	SUBTOTAL: 36.8	TOTAL DEMAND	KVA: 38.1
			AMPS: 158.8



ALARM ROUGH-IN DETAIL

ONE LINE DIAGRAM OVERHEAD SERVICE



LIGHTING/POWER BUDGET

AREA	TYPE	SQ.FT.	VA/SQ.FT.	BUDGET
	# CLASS-RM	1,680.0	1.35	2,268.0
	EXTERIOR	183.3	7.5	1,374.8

DESCRIPTION	CONNECTED VA	CODE FACTOR	DEMAND VA	
			WASH	OREGON
INT. LIGHTING				
WSEC	2,016.0	1.25	2,520.0	1,680.0
EXEMPT	0.0	1.25	0.0	3.5
NEC(OREGON)				5,880.0
SUB-TOTAL	2,016.0		2,520.0	

DESCRIPTION	CONNECTED VA	CODE FACTOR	WASH	OREGON
EXTERIOR LIGHTING				
NON-EXEMPT	40.0	1.25	50.0	50.0

RECEPTACLES	CONNECTED VA	CODE FACTOR	WASH	OREGON
THRU 10,000	3,240.0	1.00	3,240.0	3,240.0

MOTORS	CONNECTED VA	CODE FACTOR	WASH	OREGON
LARGEST	3,096.0	1.25	3,870.0	3,870.0
REMAINING	4,872.0	1.00	4,872.0	4,872.0

SPACE HEATING	CONNECTED VA	CODE FACTOR	WASH	OREGON
	20,000.0	1.00	20,000.0	20,000.0

MISC.	CONNECTED VA	CODE FACTOR	WASH	OREGON
	3,560.0	1.00	3,560.0	3,560.0
TOTAL WATTS	36,824.0		38,112.0	41,472.0
TOTAL AMPS	153.4		158.8	172.8
125% DEMAND FACTOR (IDAHO ONLY)			198.5	

- ELECTRICAL / LIGHTING**
- THIS BUILDING MEETS THE REQUIREMENTS OF THE 2005 NEC AND AMMENDMENTS WAC 296-46A
 - THIS BUILDING MEETS THE REQUIREMENTS OF THE 2005 WA STATE ENERGY CODE
 - ENTIRE BUILDING TO BE WIRED IN MC, FLEX AND E.M.T
 - SERVICE ENTRANCE - BY OTHERS
 - LIGHTING CONTROLS SHALL BE PROVIDE FOR EACH SEPARATE AREA, READILY ACCESSIBLE AT THE POINT OF ENTRY/EXIT. CONTROLS SHALL BE CAPABLE OF TURNING OFF ALL LIGHTS WITHIN THE SPACE (WSEC 1513.1) (WSEC 1513.2)
 - MAXIMUM LIGHTING POWER THAT MAY BE CONTROLLED FROM A SINGLE SWITCH OR CONTROL SHALL NOT EXCEED A 20 AMPERE CIRCUIT LOADED TO 80% CAPACITY
 - ALL LIGHTS WITHIN DAY LIGHTED ZONES SHALL BE PROVIDED WITH INDEPENDENT CONTROLS SEPARATE FROM THE GENERAL LIGHTING (WSEC 1513.3)
 - EXTERIOR LIGHTS SHALL BE CONTROLLED BY A PHOTOCELL (WSEC 1513.5)
 - ALL LIGHTING CONTROLS WHICH INCLUDE OCCUPANT OR DAYLIGHT SENSING, AUTOMATIC CONTROLS OR TIME SWITCHES SHALL BE TESTED TO ENSURE THAT SYSTEMS OPERATE PER DESIGN PLANS AND SPECIFICATIONS. A COMPLETE REPORT OF TEST PROCEDURES AND RESULTS SHALL BE PREPARED AND FILED WITH OWNER. (WSEC 1513.7)
 - HVAC CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT, AND SYSTEMS ARE CALIBRATED, ADJUSTED, AND OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. A COMPLETE REPORT OF TEST PROCEDURES AND RESULTS SHALL BE FILED WITH THE OWNER. COMMISSIONING REPORT SHALL COMPLY WITH WSEC 1416.4.2.2 (WSEC 1414.4.1)

MARK	REVISION	DATE
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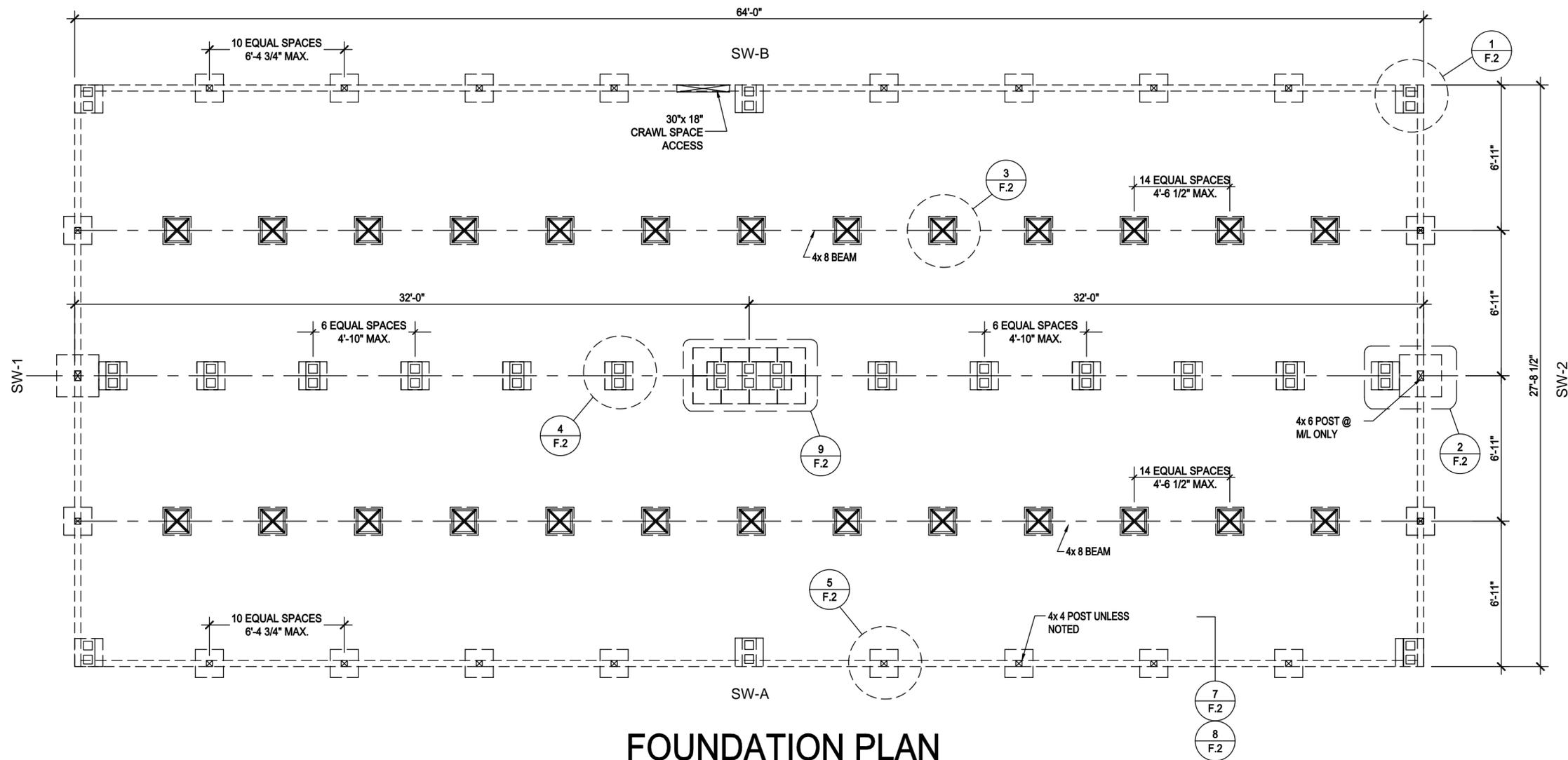
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JOB NAME: 28 X 64 DBL. CLASSROOM
DESCRIPTION:
SHEET TITLE: ELECTRICAL, MECHANICAL PLAN
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S/N: ---
STD PLAN NO: ---
FILE: 3872 A
DRAWN BY: MDP
RELEASE: FINAL

JOB NO: 3912
SHT: E.1
DATE: 10-9-06



FOUNDATION PLAN

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

NOT REVIEWED BY ORE. BCD

FOUNDATION NOTES:

1. PROVIDE 30"x 18" UNDER FLOOR ACCESS W/ COVER
2. INSTALL 6 MIL BLACK VISQUEEN VAPOR BARRIER OVERLAPPED 12" MIN.

FOUNDATION VENT CALCULATION:

$$28' \times 64' = 1792 \text{ sq ft} \div 150 = 11.95 \text{ sq ft} \times 144 = 1722.2 \text{ sq in}$$

FOUNDATION VENTS PROVIDED:

- 18 VENTS AT 98 sq in EACH = 1764 sq in
- 70 LIN FT OF 2" CONTINUOUS VENT SCREEN = 1728 sq. in.

△	—	—
△	L&I RE-SUBMITTAL	11-30-06
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JOB NAME: **28 X 64 DBL. CLASSROOM**

DESCRIPTION: .

SHEET TITLE: **FOUNDATION PLAN**

THIS DRAWING CANNOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF WHITLEY EVERGREEN INC.

S/N: —

STD PLAN NO: —

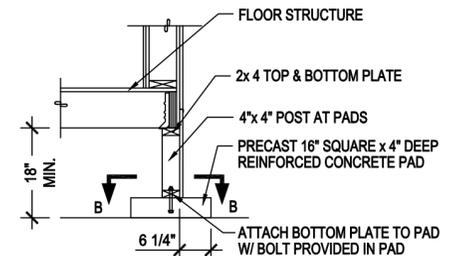
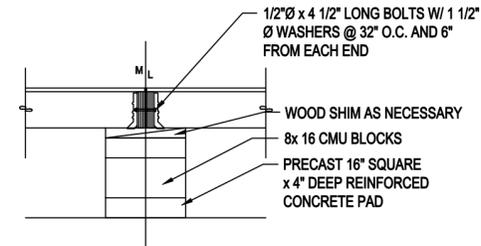
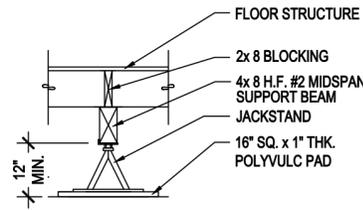
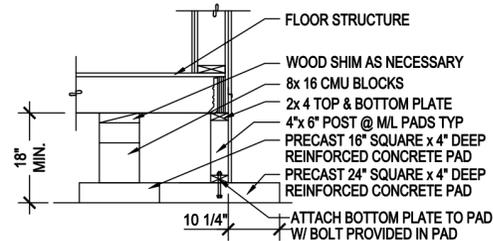
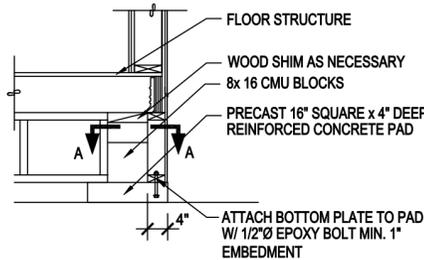
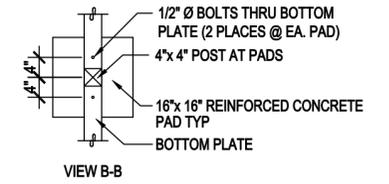
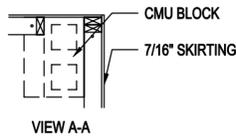
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JOB NO: **3912**

SHT. **F.1**

DATE: 10-9-06



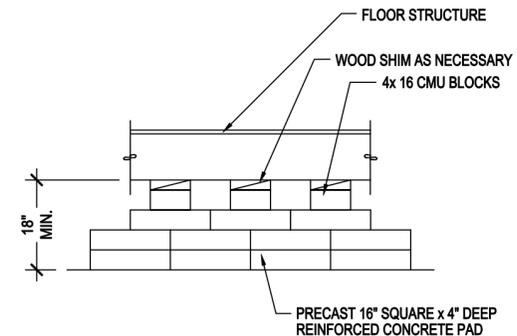
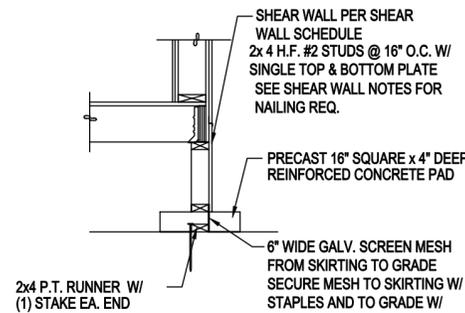
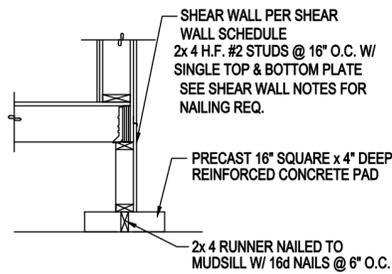
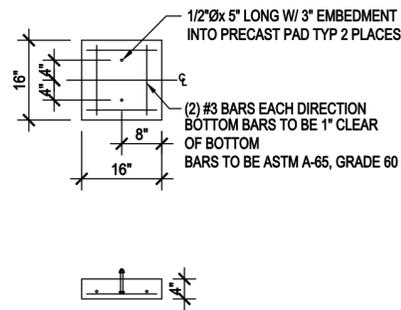
1 CORNER DETAIL
Scale: 1/2" = 1'-0"

2 M/L DETAIL
Scale: 1/2" = 1'-0"

3 MID SPAN BEAM DETAIL
Scale: 1/2" = 1'-0"

4 M/L DETAIL
Scale: 1/2" = 1'-0"

5 EXT. PAD DETAIL
Scale: 1/2" = 1'-0"



6 PRECAST PAD DETAIL
Scale: 1/2" = 1'-0"

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

8 ALT. SKIRTING DETAIL
Scale: 1/2" = 1'-0"

9 M/L POST SUPPORT DETAIL
Scale: 1/2" = 1'-0"

NOT REVIEWED BY ORE. BCD

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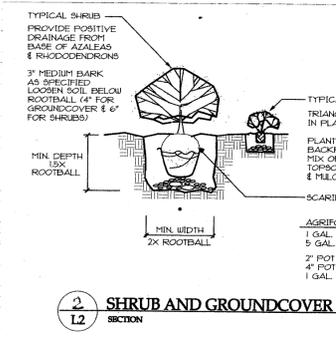
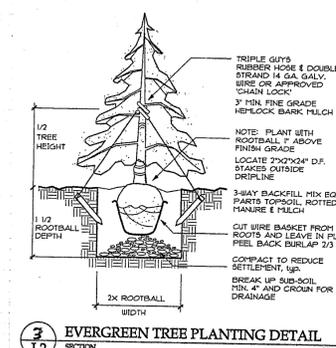
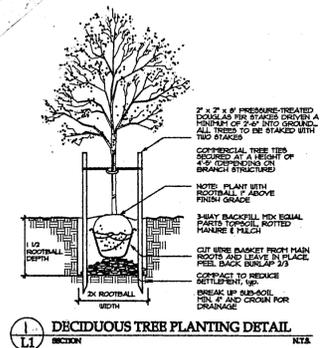
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JOB NAME: 28 X 64 DBL. CLASSROOM
DESCRIPTION: .
SHEET TITLE: **FOUNDATION DETAILS**
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S/N: ---
STD PLAN NO: ---
FILE: 3872 A
DRAWN BY: MDP
RELEASE: FINAL

JOB NO: 3912
SHT: F.2
DATE: 10-9-06



KEY	BOTANICAL NAME	COMMON NAME	MATURE HT.	SIZE	QUAN.	COMMENTS
AC	ACER CORCINATUM	VINE MAPLE	15'	5'-6" HT	3	MULTI-TRUNKED SPECIMEN
AU	ARCTOSTAPHYLOS 'UVA URSI'	KINNIKINNICK	12"	1 GAL	72	WELL BRANCHED - 3' OC SPECIMEN
COG	CHAMAECYPARIS OBTUSA 'GRACILIS'	SLENDER HINOKI CYPRESS	20'	5'-6" HT	2	
CS	CORNUS STOLONIFERA 'KELSEYI'	'KELSEY' RED TWIG DOGWOOD	3'	2 GAL	25	WELL BRANCHED
EAC	EUONYMUS ALATA 'COMPACTA'	COMPACT BURNING BUSH	5'	3 GAL	9	" "
MS	MAGNOLIA STELLATA	STAR MAGNOLIA	15'	5'-6" HT	1	SPECIMEN
OG	ORNAMENTAL GRASS	DWARF FOUNTAIN GRASS	3'	1 GAL	20	WELL BRANCHED
PJ	PIERIS JAPONICA 'MOUNTAIN FIRE'	'MOUNTAIN FIRE' ANDROMEDA	5'	3 GAL	17	" "
SB	SPIRAEA BUMALDA 'GOLDFLAME'	'GOLDFLAME' SPIREA	4'	2 GAL	28	" "
SP	SALIX PURPUREA 'NANA'	DWARF PURPLE OSIER WILLOW	3'	1 GAL	29	" "
PM	POLYSTICHUM MUNIUM	SWORD FERN	3'	1 GAL	3	" "

GENERAL NOTES: LANDSCAPE PLAN

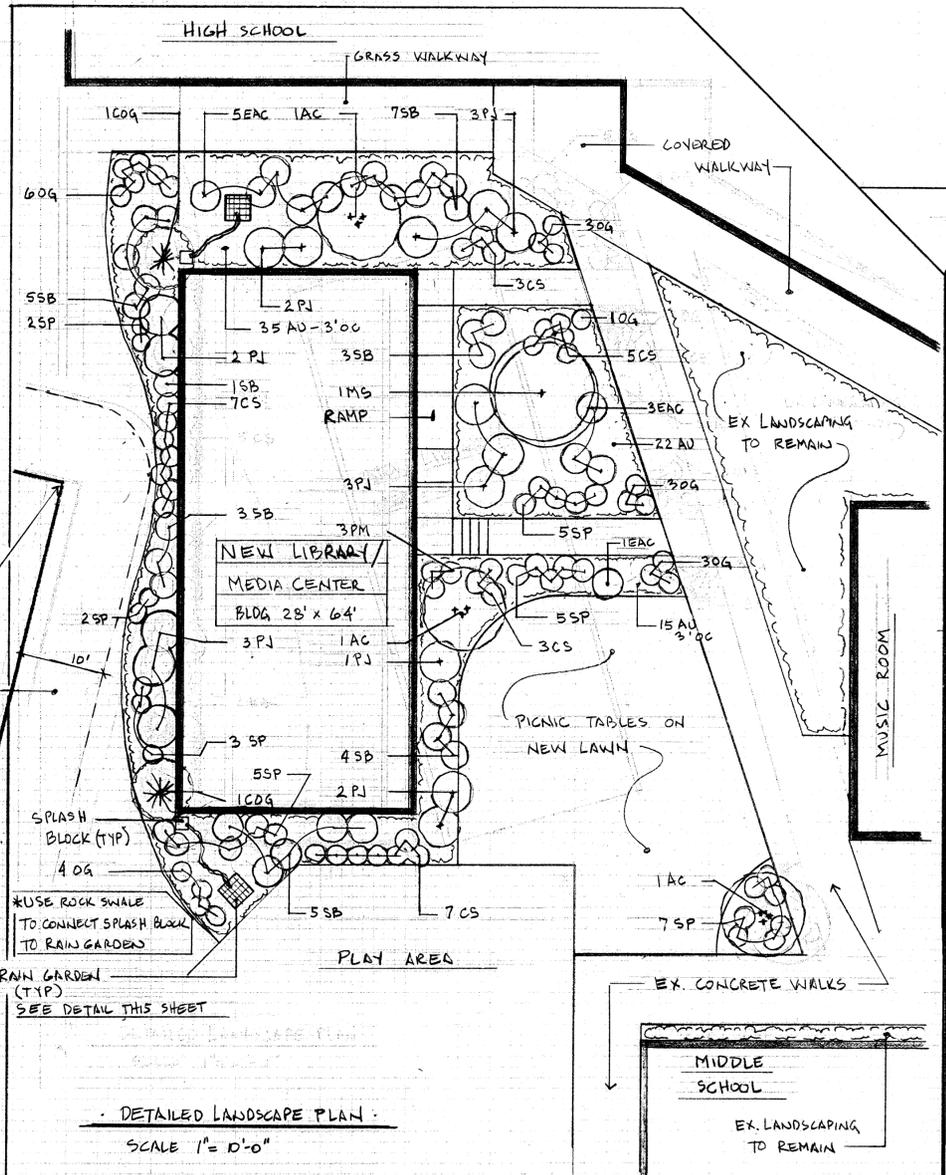
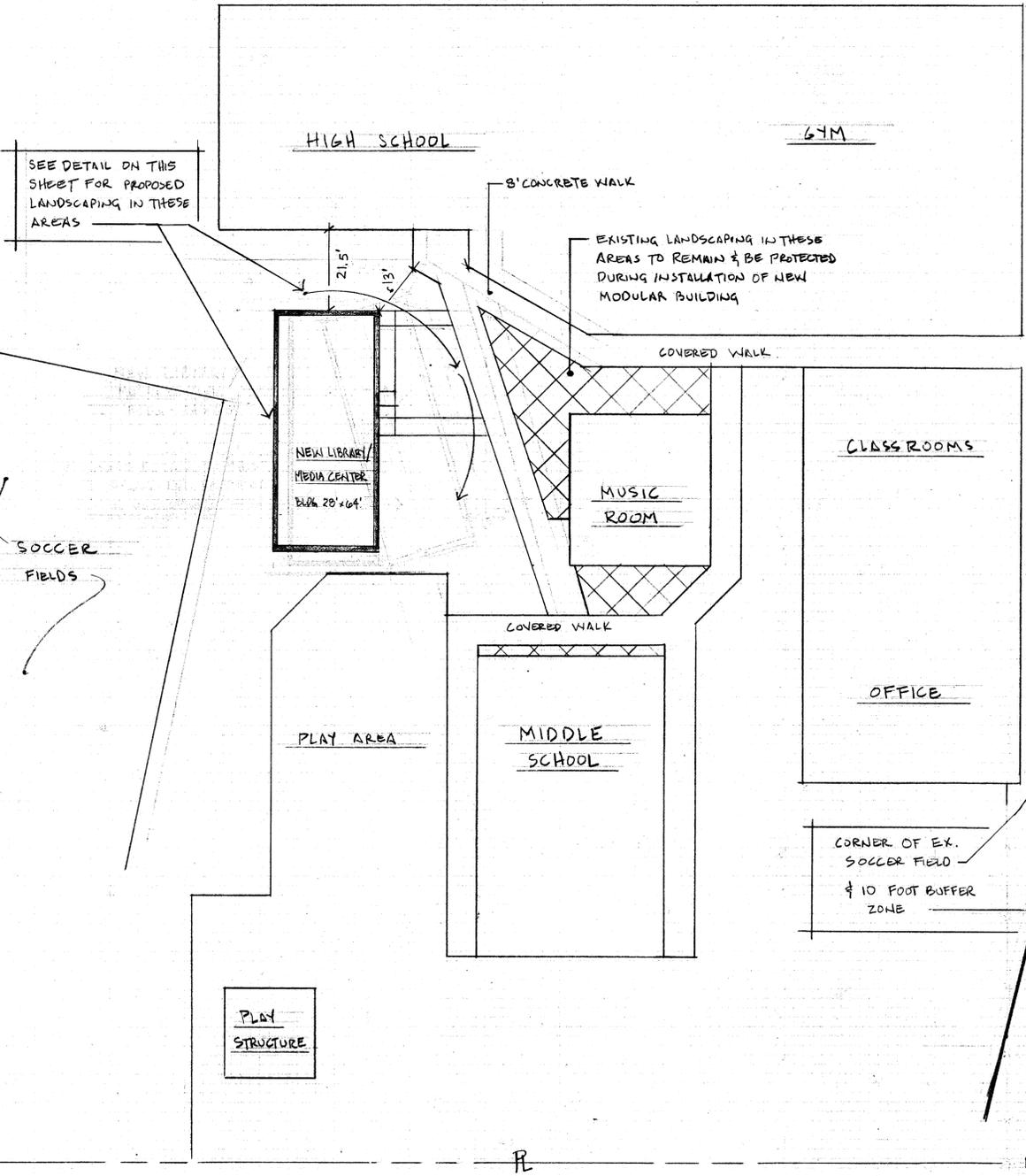
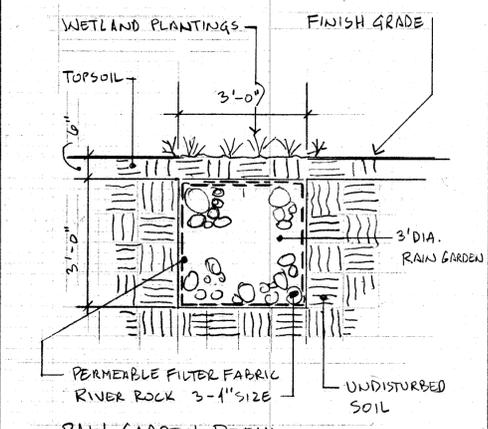
- CONTRACTOR TO VERIFY WITH OWNER AND UTILITY COMPANIES THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION. TO DETERMINE IN THE FIELD THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL CALL UTILITY PROTECTION SERVICE 24 HOURS PRIOR TO CONSTRUCTION.
- EXAMINE FINISH SURFACE GRACES, TOPSOIL QUALITY AND DEPTH. DO NOT START ANY WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.
- CONTRACTOR TO REPORT ALL DAMAGES TO EXISTING CONDITIONS AND INCONSISTENCIES WITH PLANS TO LANDSCAPE ARCHITECT.
- ALL PLANT MASSSES TO BE CONTAINED WITHIN A BARK MULCH BED, UNLESS NOTED OTHERWISE.
- BED EDGE TO BE NO LESS THAN 2" AND NO MORE THAN 18" FROM OUTER EDGE OF PLANT MATERIAL, BRANCHING WHERE GROUND-COVER OCCURS, PLANT TO LIMITS OF AREA AS SHOWN.
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN ALL LANDSCAPE BEDS AND ALL LAWN AREAS.
- CONTRACTOR TO FINE GRADE AND ROCK-HOLD ALL TURF AREAS PRIOR TO BEING TO PROVIDE A SMOOTH AND CONTINUAL SURFACE, FREE OF IRREGULARITIES (BUMP'S OR DEPRESSIONS).
- QUANTITIES SHOWN ARE INTENDED TO ASSIST CONTRACTOR IN EVALUATING THEIR OWN TAKE OFFS AND ARE NOT GUARANTEED AS ACCURATE REPRESENTATIONS OF REQUIRED MATERIALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS BID QUANTITIES AS REQUIRED BY THE PLANS AND SPECIFICATIONS.
- CO-ORDINATE LANDSCAPE INSTALLATION WITH INSTALLATION OF UNDERGROUND SPRINKLER AND DRAINAGE SYSTEMS.
- CONTRACTOR SHALL NOT REMOVE ANY TREES DURING CONSTRUCTION WITHOUT THE EXPRESS WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT. EXISTING VEGETATION TO REMAIN SHALL BE PROTECTED AS DIRECTED BY THE LANDSCAPE ARCHITECT.

ADDITIONAL NOTES:

- THE EXISTING IRRIGATION SYSTEM ON SITE SHALL BE MODIFIED TO IRRIGATE THE NEW LANDSCAPING AROUND THE NEW MODULAR BUILDING.
- ALL NEW LANDSCAPE MATERIAL ARE NATIVE OR HARDY PLANT MATERIAL. MINIMUM SIZE OF ALL SHRUBS TO BE 24" TALL WHEN INSTALLED.
- FINAL LOCATIONS OF RAIN GARDENS TO DETERMINED BY PROJECT ENGINEER.

RAIN GARDEN NOTES:

- NUMBER & FINAL LOCATION OF RAIN GARDENS TO BE DETERMINED BY CIVIL ENGINEER. SUGGESTED LOCATIONS ARE SHOWN ON LANDSCAPE PLAN - (RG)
- WETLAND PLANTINGS TO BE PLANTED ON TOP OF EACH RAIN GARDEN WITHIN A 4' DIA. CIRCLE. PLANTINGS TO INCLUDE 16 1-GAL PLANTS PER RAIN GARDEN. USE: COLUMBIA SEDGE - 6 PLANTS, SOFT RUSH - 5 PLANTS, SPREADING RUSH - 5 PLANTS.



SITE PLAN
SCALE 1"=20'-0"

DETAILED LANDSCAPE PLAN
SCALE 1"=0'-0"



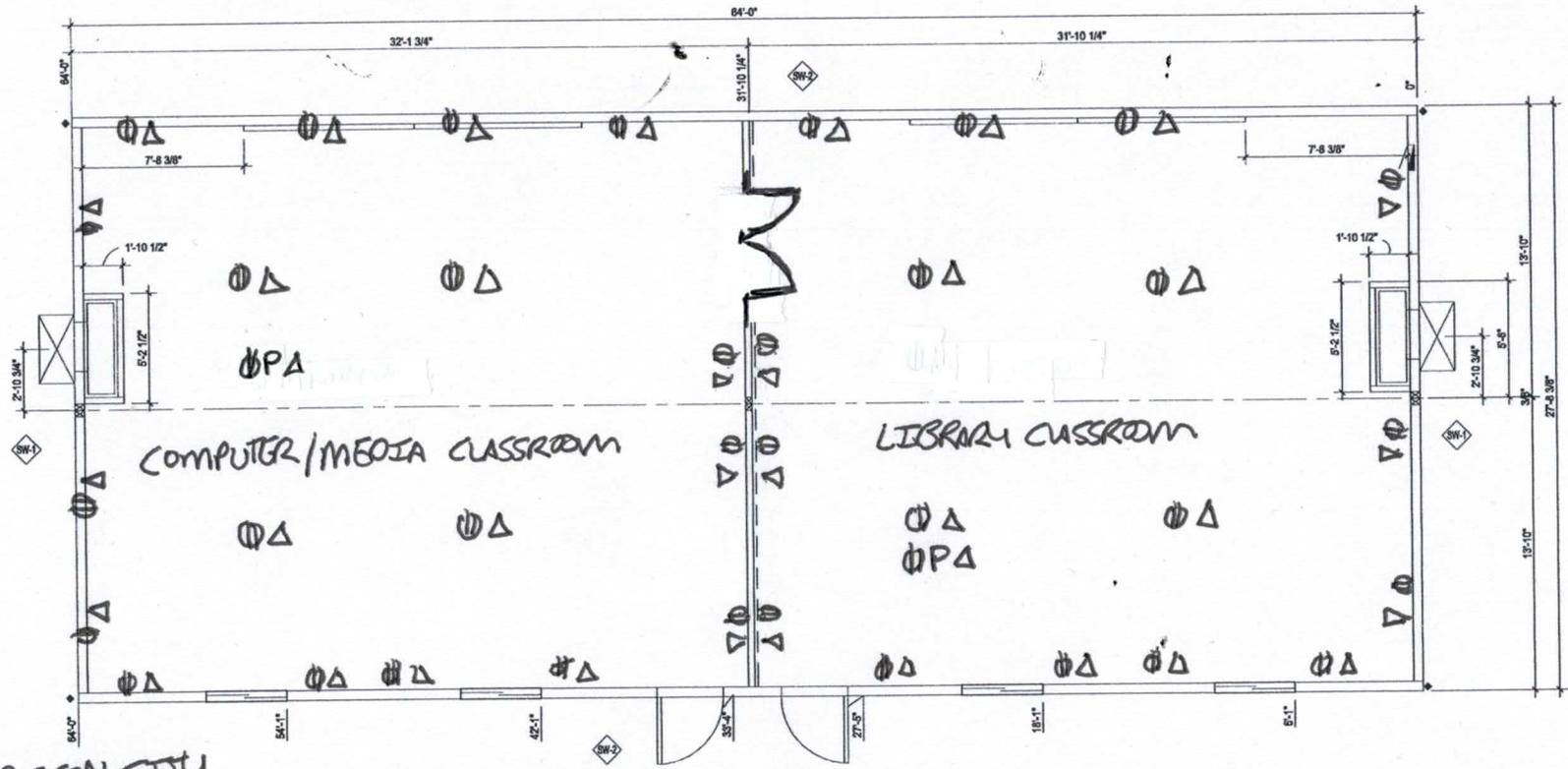
REVISIONS

NO.	DESCRIPTION

NORTH CLACKAMAS
CHRISTIAN SCHOOL
19975 SEBASTIAN VIST
OREGON CITY OREGON 97045
32088AD0400

LANDSCAPE PLAN

PROJECT 2-17
DRAWN BY: BRUCE BIERI
DATE 2-6-2017



NCCS OREGON CITY
 100 # FLOOR LOAD THROUGHOUT
 ADOGO WALL OUTLETS (WITH USB)
 FLOOR OUTLETS
 PROJECTOR OUTLETS
 DATA OUTLETS
 (1) INTERIOR DOUBLE DOOR
 REV# 1 10/12/16 BK.

FLOOR PLAN

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

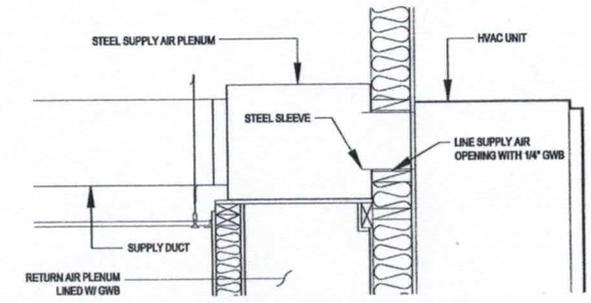


REF

PRR 4

ROOM FINISH SCHEDULE							
ROOM NO.	DESCRIPTION	NORTH WALL	EAST WALL	WEST WALL	SOUTH WALL	CEILING	FLOOR
101	CLASSROOM	VCTB	VCTB	VCTB	VCTB	ACT 8'-0"	NRW NRW
102	CLASSROOM	VCTB	VCTB	VCTB	VCTB	ACT 8'-0"	NRW NRW

FLOORS: NRW - NOT BY WHITLEY
 WALLS: 1/2" VINYL COVERED TACKBOARD
 CEILING: ACT - SUSPENDED ACOUSTICAL CEILING TILE, 2x4x5/8" LAY-IN (INSTALL PER IBC 903.9.1.1)



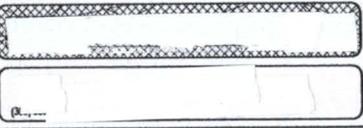
1 END WALL PLENUM DETAIL
 E.1
 SCALE 1" = 1'-0"

MARK	REVISION	DATE
△	---	---
△	LAI RE-SUBMITTAL	11-30-06
△	LAI SUBMITTAL	10-20-06
△	CUSTOMER SUBMITTAL	10-6-06

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 Modular Buildings And More.
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 4511 YORK CORRIDOR DRIVE
 BETHLEHEM, PA 18018
 610-863-4400
 www.williams-scotsman.com

PACIFIC NORTHWEST ARCHITECTS
 1000 BROADWAY, SUITE 1000
 SEASIDE, WA 98148
 360-526-4400
 360-526-1000



JOB NAME: 28 X 64 DBL. CLASSROOM
 DESCRIPTION:
 SHEET TITLE: **FLOOR PLAN**
 THIS DRAWING CANNOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF WHITLEY EVERGREEN INC.

SR: ---
 STD PLAN NO: ---
 FILE: 3872 A
 DRAWN BY: MDP
 RELEASE: FINAL

JOB NO: 3912
 SH: A.1
 DATE: 10-9-06

ALUMINUM MODULAR RAMP & STAIR SYSTEM CONFIGURATION OPTIONS



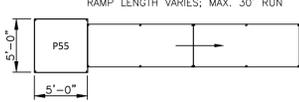
Welcome Ramp Systems, Inc.
 Component Aluminum Ramp System for
 Safe, User-Friendly Building Access.
 www.welcomerampsystems.com

TYPICAL COMPONENT SIZES

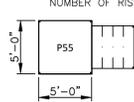
- LANDINGS: 5'x5', 5'x6' OR 7'x7'; CAN BE BOLTED TOGETHER FOR LARGER PLATFORMS
- RAMP: 4', 8' OR 10' LONG x 48" WIDE; CAN BE BOLTED TOGETHER TO FORM A MAXIMUM 30' RAMP RUN
- STAIRS: MAX. 6"-7" RISE x 12" TREAD x 48" WIDE

NOTE: WHERE DOOR CLEARANCE ALLOWS, STAIRS CAN BE ADDED TO ANY/ALL OF THE CONFIGURATIONS SHOWN BELOW.

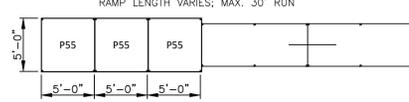
A TYPICAL SINGLE DOOR CONFIGURATION



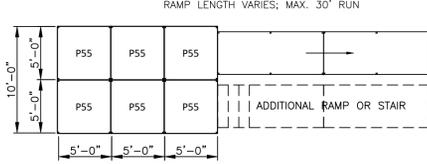
B TYPICAL SINGLE DOOR CONFIGURATION



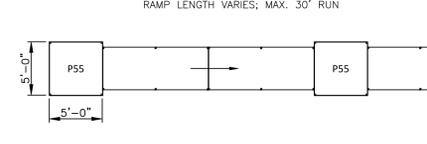
C TYPICAL DOUBLE DOOR CONFIGURATION



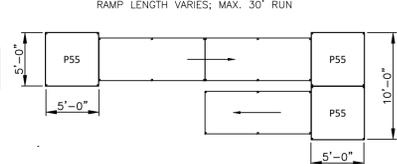
D TYPICAL TWO-BUILDING COMMON LANDING CONFIGURATION



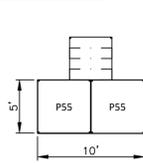
E TYPICAL INTERMEDIATE LANDING CONFIGURATION



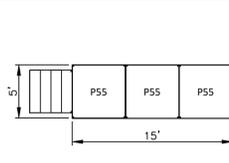
F TYPICAL SWITCHBACK CONFIGURATION



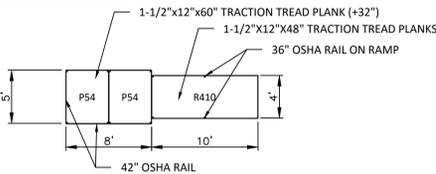
G DOUBLE DOOR EXIT 1/8" = 1'-0"



H ALTERNATE DOUBLE DOOR EXIT 1/8" = 1'-0"



I DUMPSTER RAMP 1/8" = 1'-0"



J CUSTOM CONFIGURATION

1/8" = 1'-0"

CODE COMPLIANCE

1. IBC 2012, CHAPTER 10 COMPLIANT
2. ANSI A117.1-2009 COMPLIANT
3. RAMP SLOPE, MAX. RISE = 1:12 (VERT/HORZ)
4. CROSS SLOPE, MAX. = 2%
5. STAIR RISE = 7" MAX., 4" MIN.
6. DESIGN LOADING:
 - 6.1. DECK/RAMP 100 PSF
 - 6.2. STAIR TREAD 300 LBS./TREAD
 - 6.3. RAILING 50 PLF/200 LBS. CONC.
 - 6.4. LATERAL LOAD 600# PEDESTRIAN DYNAMIC LOADING PER 30"-FT RAMP
 - 6.5. WIND LOAD 120 MPH, EXP. B, Kzt=2.0
 - 6.6. SEISMIC LOAD Sds=1.0, "D"
7. DOOR CLEARANCE PER IBC
8. STANDARD 3 LINE RAIL FOR COMPONENTS 30" OR LESS FROM GRADE TO WALKING SURFACE OF RAMP, LANDING, OR STAIR.
9. 42" VERTICAL PICKET GUARDRAIL FOR COMPONENTS OVER 30" FROM GRADE TO WALKING SURFACE OF RAMP, LANDING, OR STAIR.
10. GRASPABLE CONTINUOUS HANDRAIL AT 36" OFF RAMP, PLATFORM, OR STAIR NOSING. INSTALL BOTH SIDES OF STAIRS AND RAMP.
11. HANDRAILS TO EXTEND 12" HORIZONTALLY OVER WALKING SURFACE AND RETURN TO WALL OR RAIL COLUMN.
12. RAMP AND RAILINGS TO HAVE CURBS WHICH DO NOT ALLOW PASSAGE OF 4" SPHERE WHERE ORIGINAL POSITION OF SPHERE IS WITHIN 4" OF THE WALKING SURFACE
13. FOOTING INFORMATION: 2"x12"x12" P.T. WOOD OR ABS PAD REQUIRED UNDER ALL ADJUSTABLE LEGS

GENERAL NOTES:

1. THESE PLANS AND SPECIFICATIONS ARE NOT VALID FOR ANY OTHER THAN WELCOME RAMP SYSTEMS, INC. PRODUCT PRODUCED THE STANDARDS SET FORTH IN THESE DRAWINGS AND ACCOMPANYING DESIGN.
 2. THE RAMP SYSTEM, STAIRS AND PLATFORM HAVE BEEN DESIGNED TO MEET IBC REQUIREMENTS. THE DESIGN LOADING CRITERIA IS 100 PSF LIVE LOAD.
 3. RAMP DESIGN LIMITS: THE SLOPE SHALL BE 1:12. THE MAXIMUM CROSS SLOPE SHALL BE 2%. THE MAXIMUM RUN SHALL BE 30'. THE MAXIMUM HEIGHT WITHOUT ADDITIONAL ENGINEERING JUSTIFICATION SHALL BE 48" FROM THE PLATFORM TO FINISHED GRADE.
 4. WELCOME RAMP, PLATFORMS, AND STAIRS ARE DESIGNED TO BE FREE STANDING.
- MATERIAL SPECIFICATIONS**
- PLANKING:**
- THIS DESIGN IS LIMITED TO GS METALS PLANKING MATERIALS.
 - RAMP: ALL PLANKING SHALL BE 13 GA. 12"W x 1 1/2" DEEP.
 - PLATFORM: ALL PLANKING SHALL BE 13 GA. 12"W x 1-1/2" D. SEE PLAN FOR LENGTH.
 - STAIRS: ALL PLANKING SHALL BE 11 GA. 12"W x 2" DEEP.
- LEGS:**
- LEVELING FEET ASSUMED TO BE PLACED ON SUITABLE FIRM BEARING GROUND.
 - LEG MATERIAL SHALL BE 1-1/2" SQ. X .120" AL TUBING.
 - LEG POCKETS SHALL BE 1.781" SQ. X .125" AL TUBING.
 - ADJUSTING BOLT - 3/8" X 2-1/4" GRADE 5 CAP SCREW W/NYLON LOCK NUT, ZINC PLATED
- ALUMINUM:**
- THE 1-1/2" AL. HANDRAIL SHALL BE 6063-T5 WITH A YIELD STRESS OF 16 KSI.
 - ALL OTHER ALUMINUM PARTS SHALL BE 6061-T6 ALUMINUM WITH A YIELD STRESS OF 35 KSI.
- HAND RAILS:**
- STAIRS AND RAMP: USE 1-1/2" SQ. X 5/32" THICK WALLED TUBING FOR POSTS AND HORIZONTAL RAILS EXCEPT THE TOP 1-1/2" ROUND HAND RAIL.
 - STANDARD HANDRAIL (W/O PICKETS) IS ALLOWED ON FINISHED PLATFORM HEIGHTS OF 30" AND LESS. ALL PLATFORM HEIGHTS ABOVE 30" SHALL USE PICKET STYLE HANDRAILS.
 - PLATFORM: USE 1-1/2" SQ. X 5/32" THICK WALLED TUBING FOR POSTS AND ALL HORIZONTAL RAILS.
 - HEIGHT: TOP OF GRIPPING SURFACES OF HANDRAILS SHALL BE 36 INCHES VERTICALLY ABOVE WALKING SURFACES.
- WELDING:**
- ALL REFERENCES TO WELDING ON PLAN SET REFER TO IN-PLANT FABRICATION. NO ON-SITE WELDING IS REQUIRED.
 - FABRICATION PLANT WELDING BY WELDERS CERTIFIED BY A THIRD PARTY INSPECTOR AND IN ACCORDANCE WITH ANSI/AWS D1.2 CODE.
 - WELD SIZES ARE EQUAL OR LARGER THAN THE ELEMENT BEING WELDED.
 - WELDING IS ALL AROUND UNLESS OTHERWISE NOTED. CARE IS TAKEN TO AVOID EXCESS WARPING OF WELDED ELEMENTS.
 - FABRICATOR TO CERTIFY ASSEMBLED PART ARE PER THE DRAWINGS PER IBC 1704.2.2.
- BOLTS:**
- ALL BOLTS SHALL BE GRADE 5 ZINC PLATED, UNLESS OTHERWISE SPECIFIED. PROVIDE LOCKING WASHERS UNDER ALL NUTS AND ANCHOR BOLTS UNLESS OTHERWISE SPECIFIED.
 - HIGH STRENGTH BOLTS ARE DESIGNED AT LESS THAN 50% CAPACITY FOR ADDITIONAL FACTOR OF SAFETY AND DO NOT REQUIRE SPECIAL INSPECTION.
- TECH. SCREWS:**
- ZINC PLATED #10x1 1/2", SELF TAPPING.



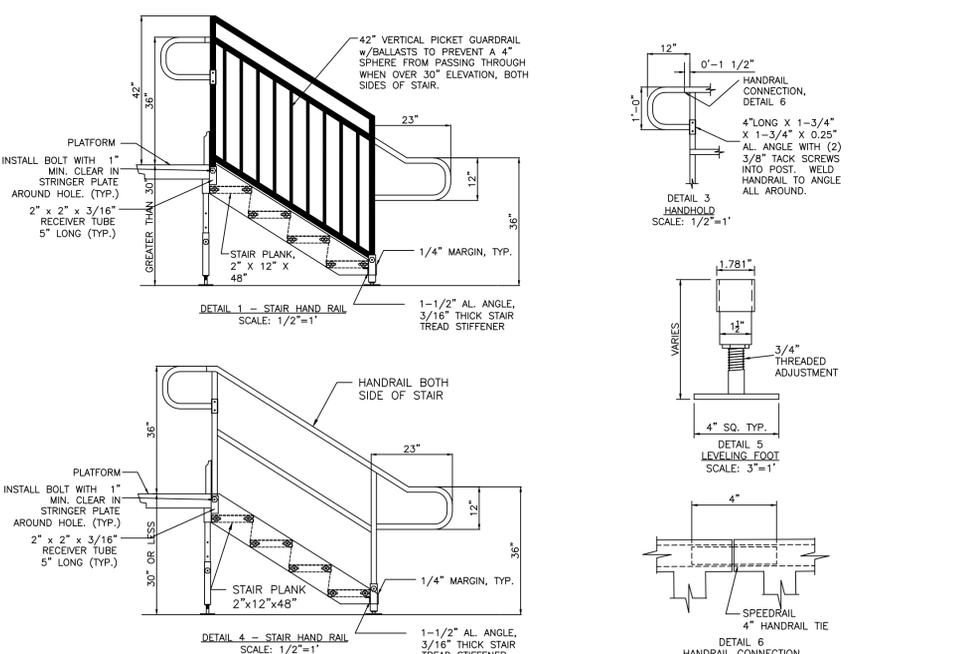
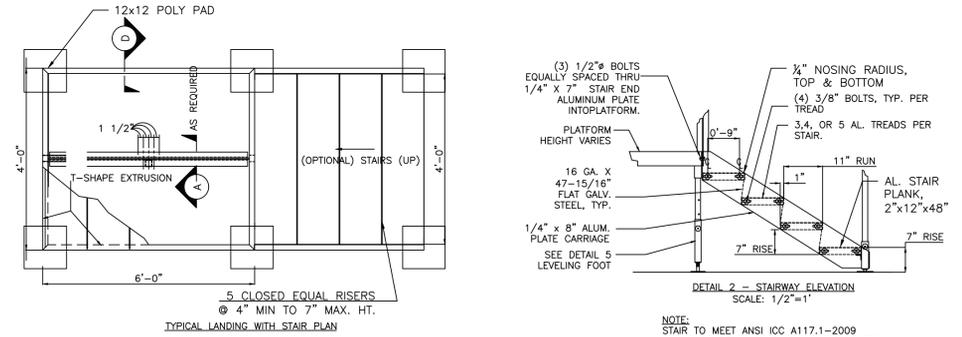
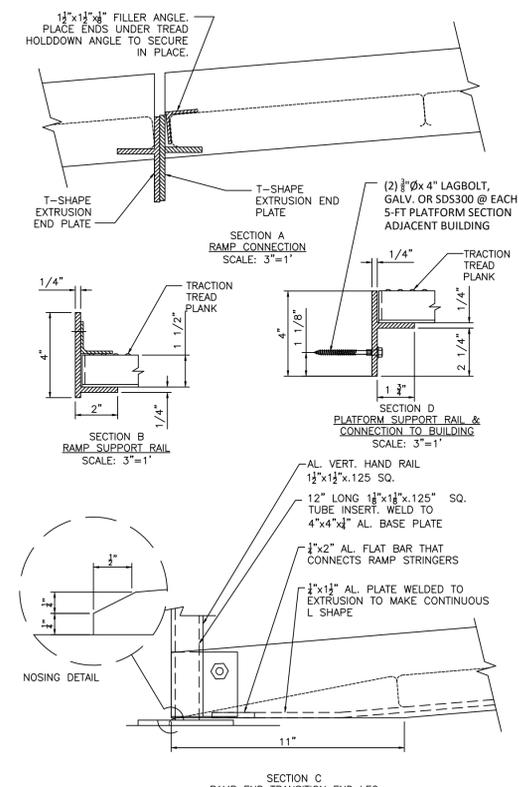
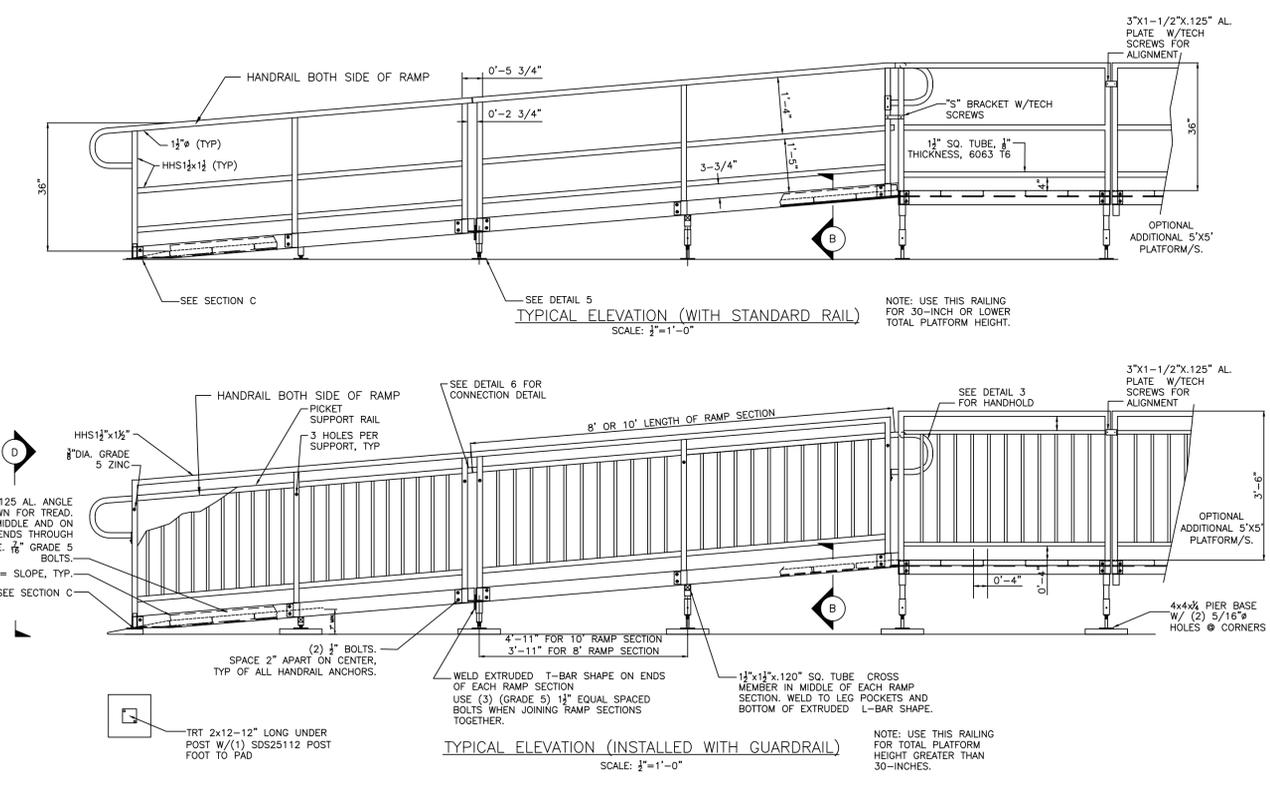
RENEWS: 09/27/2017

PROJECT NAME: STANDARD ACCESS PLANS DECK, RAMP & STAIRS

DATE: 08/27/2015
 BY: DB/TG
 SHEET 1 OF 1

WELCOME RAMP SYSTEMS, INC.
 ACCESS RAMPS & STAIRS
 STANDARD PLANS/DETAILS/NOTES

THESE DRAWINGS AND THE INCORPORATED DESIGN ARE THE PROPERTY OF WELCOME RAMP SYSTEMS, INC. USE OF THESE DRAWINGS FOR OTHER THAN WELCOME RAMP SYSTEMS, INC. WILL NOT BE LABEL FOR THE USE OF THESE PLANS BY OTHERS. THE USER OF THESE PLANS SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE SYSTEMS AND MAY PROSECUTE THE USER OF THESE PLANS TO THE FULLEST EXTENT OF THE LAW.



WELCOME RAMP, INC.

STRUCTURAL ANALYSIS

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Alternate 7'-0" Landing Design	26-40
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WELCOME RAMP, INC.

STRUCTURAL ANALYSIS

Ramp System Design Criteria and Analysis

- 1) Reference Design Criteria:
 - a) International Building Code, 2012 Edition
 - b) ANSI A 117.1, 2009 Edition
- 2) Site Specific Criteria:
 - a) Building Occupancy Classifications: II
 - b) Vertical Loading: 100 psf for Landings, 300 lbs. concentrated loads for steps
 - c) Horizontal Loading:
 - i) Wind Loads: 115 mph, Exposure B, $K_z=0.85$, $K_{zt}=1.0$; Design Wind Pressure = 20 psf (At less than 15 feet above grade)
 - ii) Seismic Loads: $S_{ds} = 1.00$, $S_1=0.51$, $I=1.0$, $R=3.25$, $\Omega_0=2$, $C_d=3.25$, $C_s=0.307$
 - d) Soil Bearing: 1,500 psf, Unless verified by Geotechnical Report or Building Official
- 3) Material Specifications:
 - a) Aluminum:
 - i) Handrail ASTM 6063-T5, 16 ksi, minimum yield strength
 - ii) Structural ASTM 6061-T5, 35 ksi, minimum yield strength
 - b) Density 170 lbs. per cubic foot
- 4) Connectors:
 - a) Bolts Grade 5 zinc-coated (Design), ASTM A-325 may be substituted.
 - b) Screws #10x1.25" zinc plated Self-Tapping Screw (STS)
 - c) Welding Per AWS D1.2 and size as shown on the drawings
 - d) Sleeves Length of snug-fitting sleeves designed resist moment and shear of sleeved connection.
- 5) Design Basis:
 - a) Each side of the assembly is a framed made rigid by either welding or sleeving parts to resist movement. Base connections are a pinned condition.
 - b) Each frame is connected together with landing or ramp frames and planking to distribute dead and live loads to the frames. Railing is added to the frame assembly
 - c) Basic Dead Load is 6 psf for frame, ramp & landing surfaces. 2 psf is added for railing.
 - d) A 300 lb. lateral load is used in the design to simulate seismic, wind and pedestrian lateral loading for each frame. This results in an effective Design C_s for a 30-foot ramp and 5x10 platform of 0.5 and a design wind load of 30 psf without consideration for stress duration. Seismic and wind loads do not govern lateral loading for standard configurations. For those configurations longer than 40', soil anchors shall be installed at the rate of (1) anchor for each length of landing 60' longer than 40'. See Typical Soil Anchor Detail.

WELCOME RAMP, INC.

STRUCTURAL ANALYSIS

Ramp System Design

Member Data

Member Label	I Joint	J Joint	Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb	End Releases		End Offsets		Inactive Code	Length (ft)
							I-End AVM	J-End AVM	I-End (in)	J-End (in)		
M1	N1	N10		SEC1	AL	Y		PIN				4.768
M2	N10	N11		SEC1	AL	Y			PIN			4.768
M3	N11	N9		SEC1	AL	Y						4.768
M4	N9	N6		SEC1	AL	Y			PIN			5.012
M5	N6	N8		SEC2	AL	Y						5
M6	N7	N8		SEC3	AL	Y						1.599
M7	N5	N6		SEC3	AL	Y						1.599
M8	N4	N9		SEC3	AL	Y						1.25
M9	N3	N11		SEC3	AL	Y						.833
M10	N2	N10		SEC3	AL	Y						.417

Sections

Section Label	Database Shape	Material Label	Area (in) ²	SA (0,180)	SA (90,270)	I (90,270) (in ⁴)	I (0,180) (in ⁴)	T/C Only
SEC1	Welcome Ramp	AL	1.438	1.2	1.2	.421	2.02	
SEC2	Welcome Deck	AL	1.438	1.2	1.2	.421	1.378	
SEC3	TU2X2X2	AL	.897	1.2	1.2	.513	.513	

Basic Load Case Data

BLC No.	Basic Load Case Description	Category Code	Category Description	Gravity		Load Type Totals		
				X	Y	Joint	Point	Direct Dist.
1	w1 - Dead Load	DL	Dead Load		-1			5
2	w2 - Pedestrian Load	LLS	Live Load Special (public as..			1		5

Member Direct Distributed Loads, Category : DL, BLC 1 : w1 - Dead Load

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M1	Y	-.014	-.014	0	0
M2	Y	-.014	-.014	0	0
M3	Y	-.014	-.014	0	0
M4	Y	-.014	-.014	0	0
M5	Y	-.018	-.018	0	0

Member Direct Distributed Loads, Category : LLS, BLC 2 : w2 - Pedestrian Load

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M1	Y	-.2	-.2	0	0
M2	Y	-.2	-.2	0	0
M3	Y	-.2	-.2	0	0
M4	Y	-.2	-.2	0	0
M5	Y	-.25	-.25	0	0

Load Combinations

Num	Description	Env	WS	PD	SRSS	CD	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DL + Ped. Load	y				1	1	1	2	1				
2	Ped. Load Only	y				1	2	1						

Load Combinations (continued)

Num	Description	Env	WS	PD	SRSS	CD	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
3						1								
4						1								
5						1								

Envelope Member Stresses

Member Label	Section		Axial (ksi)		Shear (ksi)		Bending top (ksi)		Bending bot (ksi)	
			Lc		Lc		Lc		Lc	
M1	1	max	.023	1	.319	1	0	1	0	1
		min	.022	2	.299	2	0	1	0	1
	2	max	.003	1	.036	1	4.933	1	-2.906	2
		min	.003	2	.034	2	4.625	2	-3.1	1
	3	max	-.017	2	-.23	2	2.009	1	-1.197	2
		min	-.018	1	-.247	1	1.906	2	-1.262	1
	4	max	-.036	2	-.494	2	-8.157	2	5.513	1
		min	-.039	1	-.53	1	-8.774	1	5.125	2
M2	1	max	.059	2	.531	1	-8.355	2	5.589	1
		min	.053	1	.497	2	-8.895	1	5.25	2
	2	max	.04	2	.248	1	1.928	1	-1.114	2
		min	.032	1	.232	2	1.773	2	-1.211	1
	3	max	.02	2	-.032	2	4.893	1	-2.864	2
		min	.011	1	-.035	1	4.558	2	-3.074	1
	4	max	.001	2	-.296	2	0	1	0	1
		min	-.009	1	-.318	1	0	1	0	1
M3	1	max	.2	1	.359	1	-2.64	2	1.752	1
		min	.199	2	.337	2	-2.789	1	1.659	2
	2	max	.18	2	.077	1	3.268	1	-1.91	2
		min	.18	1	.072	2	3.039	2	-2.053	1
	3	max	.16	2	-.192	2	1.467	1	-.864	2
		min	.159	1	-.206	1	1.375	2	-.922	1
	4	max	.141	2	-.456	2	-7.633	2	5.147	1
		min	.138	1	-.489	1	-8.192	1	4.796	2
M4	1	max	.029	1	.55	1	-8.455	2	5.68	1
		min	.026	2	.514	2	-9.04	1	5.313	2
	2	max	.012	1	.252	1	2.667	1	-1.564	2
		min	.01	2	.236	2	2.489	2	-1.676	1
	3	max	-.006	1	-.043	2	5.681	1	-3.334	2
		min	-.006	2	-.046	1	5.307	2	-3.589	1
	4	max	-.022	2	-.321	2	0	1	0	1
		min	-.023	1	-.343	1	0	1	0	1
M5	1	max	.152	1	.56	1	-5.456	2	6.538	1
		min	.141	2	.523	2	-5.832	1	6.116	2
	2	max	.152	1	.188	1	6.427	1	-6.715	2
		min	.141	2	.175	2	5.99	2	-7.205	1
	3	max	.152	1	-.173	2	6.464	1	-6.765	2
		min	.141	2	-.185	1	6.035	2	-7.246	1
	4	max	.152	1	-.52	2	-5.322	2	6.414	1
		min	.141	2	-.558	1	-5.721	1	5.966	2
M6	1	max	.745	1	.523	1	0	1	0	1
		min	.695	2	.487	2	0	1	0	1
	2	max	.745	1	.523	1	2.717	1	-2.527	2

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)		Shear (ksi)		Bending top (ksi)		Bending bot (ksi)		
			Lc	Lc	Lc	Lc	Lc	Lc			
M7	3	min	.695	2	.487	2	2.527	2	-2.717	1	
		max	.745	1	.523	1	5.435	1	-5.055	2	
	4	min	.695	2	.487	2	5.055	2	-5.435	1	
		max	.745	1	.523	1	8.152	1	-7.582	2	
	M8	1	min	.695	2	.487	2	7.582	2	-8.152	1
			max	1.208	1	-.499	2	0	1	0	1
		2	min	1.129	2	-.533	1	0	1	0	1
			max	1.208	1	-.499	2	-2.591	2	2.77	1
3		min	1.129	2	-.533	1	-2.77	1	2.591	2	
		max	1.208	1	-.499	2	-5.182	2	5.54	1	
4		min	1.129	2	-.533	1	-5.54	1	5.182	2	
		max	1.208	1	-.499	2	-7.774	2	8.31	1	
M9	1	min	1.129	2	-.533	1	-8.31	1	7.774	2	
		max	1.367	1	-.108	2	0	1	0	1	
	2	min	1.275	2	-.112	1	0	1	0	1	
		max	1.367	1	-.108	2	-.44	2	.454	1	
	3	min	1.275	2	-.112	1	-.454	1	.44	2	
		max	1.367	1	-.108	2	-.879	2	.907	1	
	4	min	1.275	2	-.112	1	-.907	1	.879	2	
		max	1.367	1	-.108	2	-1.319	2	1.361	1	
M10	1	min	1.275	2	-.112	1	-1.361	1	1.319	2	
		max	.93	1	-.521	2	0	1	0	1	
	2	min	.87	2	-.55	1	0	1	0	1	
		max	.93	1	-.521	2	-1.411	2	1.49	1	
	3	min	.87	2	-.55	1	-1.49	1	1.411	2	
		max	.93	1	-.521	2	-2.822	2	2.98	1	
	4	min	.87	2	-.55	1	-2.98	1	2.822	2	
		max	.93	1	-.521	2	-4.233	2	4.471	1	
M11	1	min	.87	2	-.55	1	-4.471	1	4.233	2	
		max	1.424	1	-.048	1	0	1	0	1	
	2	min	1.332	2	-.078	2	0	1	0	1	
		max	1.424	1	-.048	1	-.065	1	.106	2	
	3	min	1.332	2	-.078	2	-.106	2	.065	1	
		max	1.424	1	-.048	1	-.129	1	.212	2	
	4	min	1.332	2	-.078	2	-.212	2	.129	1	
		max	1.424	1	-.048	1	-.194	1	.318	2	
5	min	1.332	2	-.078	2	-.318	2	.194	1		

Envelope Member Section Forces

Member Label	Section		Axial (k)		Shear (k)		Moment (k)	
			Lc	Lc	Lc	Lc		
M1	1	max	.034	1	.382	1	0	1
		min	.031	2	.358	2	0	1
	2	max	.004	1	.043	1	-.317	2
		min	.004	2	.041	2	-.338	1
	3	max	-.024	2	-.276	2	-.131	2
		min	-.026	1	-.296	1	-.138	1
	4	max	-.052	2	-.592	2	.601	1
		min	-.056	1	-.634	1	.559	2
M2	1	max	.085	2	.636	1	.61	1
		min	.076	1	.595	2	.573	2
	2	max	.057	2	.297	1	-.122	2

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear (k)	Lc	Moment (k)	Lc	
M3	3	min	.046	1	.278	2	-.132	1	
		max	.029	2	-.038	2	-.312	2	
	4	min	.016	1	-.042	1	-.335	1	
		max	.002	2	-.355	2	0	1	
	M4	1	min	-.013	1	-.38	1	0	1
			max	.288	1	.431	1	.191	1
		2	min	.286	2	.403	2	.181	2
			max	.258	2	.092	1	-.208	2
3		min	.258	1	.087	2	-.224	1	
		max	.231	2	-.23	2	-.094	2	
4		min	.229	1	-.247	1	-.101	1	
		max	.203	2	-.547	2	.561	1	
M5	1	min	.199	1	-.586	1	.523	2	
		max	.042	1	.659	1	.62	1	
	2	min	.038	2	.616	2	.58	2	
		max	.017	1	.302	1	-.171	2	
	3	min	.015	2	.282	2	-.183	1	
		max	-.008	1	-.051	2	-.364	2	
	4	min	-.009	2	-.055	1	-.389	1	
		max	-.032	2	-.384	2	0	1	
M6	1	min	-.033	1	-.411	1	0	1	
		max	.218	1	.671	1	.355	1	
	2	min	.203	2	.627	2	.332	2	
		max	.218	1	.225	1	-.365	2	
	3	min	.203	2	.21	2	-.391	1	
		max	.218	1	-.207	2	-.368	2	
	4	min	.203	2	-.222	1	-.394	1	
		max	.218	1	-.623	2	.348	1	
M7	1	min	.203	2	-.669	1	.324	2	
		max	.669	1	.218	1	0	1	
	2	min	.623	2	.203	2	0	1	
		max	.669	1	.218	1	-.108	2	
	3	min	.623	2	.203	2	-.116	1	
		max	.669	1	.218	1	-.216	2	
	4	min	.623	2	.203	2	-.232	1	
		max	.669	1	.218	1	-.324	2	
M8	1	min	.623	2	.203	2	-.348	1	
		max	1.084	1	-.208	2	0	1	
	2	min	1.012	2	-.222	1	0	1	
		max	1.084	1	-.208	2	.118	1	
	3	min	1.012	2	-.222	1	.111	2	
		max	1.084	1	-.208	2	.237	1	
	4	min	1.012	2	-.222	1	.222	2	
		max	1.084	1	-.208	2	.355	1	
M9	1	min	1.012	2	-.222	1	.332	2	
		max	1.226	1	-.045	2	0	1	
	2	min	1.144	2	-.047	1	0	1	
		max	1.226	1	-.045	2	.019	1	
	3	min	1.144	2	-.047	1	.019	2	
		max	1.226	1	-.045	2	.039	1	
	4	min	1.144	2	-.047	1	.038	2	
		max	1.226	1	-.045	2	.058	1	
5	min	1.144	2	-.047	1	.056	2		

Envelope Member Section Forces, (continued)

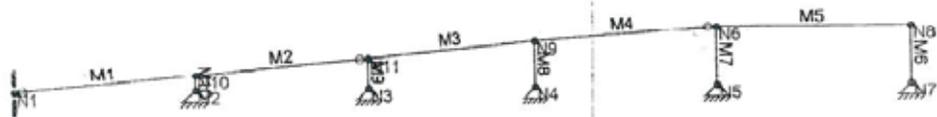
Member Label	Section		Axial (k)	Lc	Shear (k)	Lc	Moment (k)	Lc
M9	1	max	.834	1	-.217	2	0	1
		min	.78	2	-.229	1	0	1
	2	max	.834	1	-.217	2	.064	1
		min	.78	2	-.229	1	.06	2
	3	max	.834	1	-.217	2	.127	1
		min	.78	2	-.229	1	.121	2
4	max	.834	1	-.217	2	.191	1	
	min	.78	2	-.229	1	.181	2	
M10	1	max	1.277	1	-.02	1	0	1
		min	1.195	2	-.033	2	0	1
	2	max	1.277	1	-.02	1	.005	2
		min	1.195	2	-.033	2	.003	1
	3	max	1.277	1	-.02	1	.009	2
		min	1.195	2	-.033	2	.006	1
	4	max	1.277	1	-.02	1	.014	2
		min	1.195	2	-.033	2	.008	1

Envelope Member Deflections

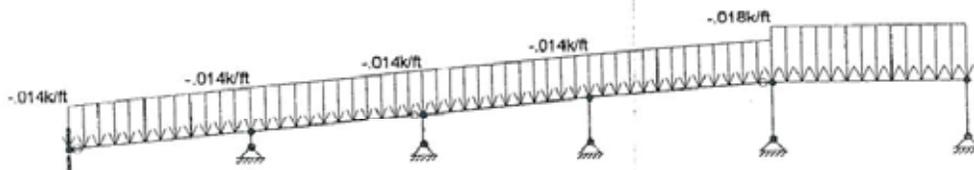
Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	(n) L/y Ratio	Lc
M1	1	max	0	1	0	2	NC	
		min	0	2	0	1	NC	
	2	max	0	1	-.046	2	1243.875	2
		min	0	2	-.049	1	1169.664	1
	3	max	0	1	-.033	2	1756.299	2
		min	0	2	-.035	1	1659.338	1
4	max	0	1	0	2	NC		
	min	0	2	0	1	NC		
M2	1	max	0	1	0	2	NC	
		min	0	2	0	1	NC	
	2	max	0	1	-.032	2	1848.986	2
		min	0	2	-.034	1	1708.638	1
	3	max	0	1	-.045	2	1280.237	2
		min	0	2	-.049	1	1189.011	1
	4	max	0	1	0	2	NC	
		min	0	2	0	1	NC	
M3	1	max	0	1	0	2	NC	
		min	0	2	0	1	NC	
	2	max	0	1	-.029	2	2063.401	2
		min	-.001	2	-.031	1	1919.616	1
	3	max	-.001	1	-.021	2	2931.998	2
		min	-.002	2	-.022	1	2735.504	1
	4	max	-.002	1	-.002	2	NC	
		min	-.002	2	-.002	1	NC	
M4	1	max	-.002	1	-.002	2	NC	
		min	-.002	2	-.002	1	NC	
	2	max	-.002	1	-.047	2	1336.222	2
		min	-.002	2	-.05	1	1247.236	1
	3	max	-.002	1	-.062	2	996.057	2
		min	-.002	2	-.067	1	930.197	1
	4	max	-.002	1	-.002	2	NC	
		min	-.002	2	-.002	1	NC	

Envelope Member Deflections, (continued)

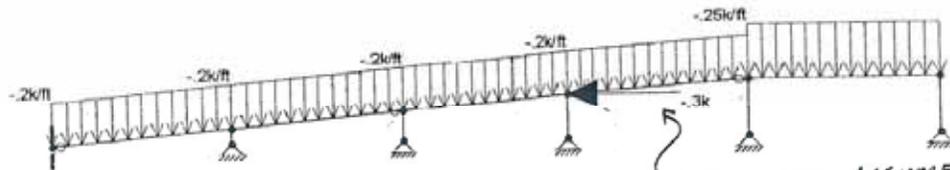
Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	(n)	L/y Ratio	Lc
M5	1	max	-.001	1	-.002	2	NC		
		min	-.002	2	-.002	1	NC		
	2	max	-.002	1	-.109	2	559.623	2	
		min	-.002	2	-.117	1	521.856	1	
	3	max	-.002	1	-.109	2	557.976	2	
		min	-.002	2	-.117	1	520.674	1	
4	max	-.002	1	-.001	2	NC			
	min	-.003	2	-.001	1	NC			
M6	1	max	0	1	0	1	NC		
		min	0	1	0	1	NC		
	2	max	0	2	-.013	2	1392.207	2	
		min	0	1	-.014	1	1294.941	1	
	3	max	0	2	-.016	2	1113.766	2	
		min	0	1	-.017	1	1035.953	1	
	4	max	-.001	2	.003	2	NC		
		min	-.001	1	.002	1	NC		
M7	1	max	0	1	0	1	NC		
		min	0	1	0	1	NC		
	2	max	0	2	.016	1	1270.353	1	
		min	0	1	.015	2	1357.940	2	
	3	max	-.001	2	.02	1	1016.282	1	
		min	-.002	1	.019	2	1086.359	2	
	4	max	-.002	2	.002	2	NC		
		min	-.002	1	.001	1	NC		
M8	1	max	0	1	0	1	NC		
		min	0	1	0	1	NC		
	2	max	0	2	.002	2	NC		
		min	0	1	.002	1	9920.451	1	
	3	max	-.001	2	.003	2	8189.633	2	
		min	-.001	1	.003	1	7936.361	1	
	4	max	-.002	2	.002	2	NC		
		min	-.002	1	.001	1	NC		
M9	1	max	0	1	0	1	NC		
		min	0	1	0	1	NC		
	2	max	0	2	.002	1	4529.485	1	
		min	0	1	.002	2	4784.344	2	
	3	max	0	2	.003	2	3827.475	2	
		min	0	1	.003	1	3623.588	1	
	4	max	0	2	0	2	NC		
		min	0	1	0	1	NC		
M10	1	max	0	1	0	1	NC		
		min	0	1	0	1	NC		
	2	max	0	2	0	2	NC		
		min	0	1	0	1	NC		
	3	max	0	2	0	2	NC		
		min	0	1	0	1	NC		
	4	max	0	2	0	2	NC		
		min	0	1	0	1	NC		



Solution: Envelope

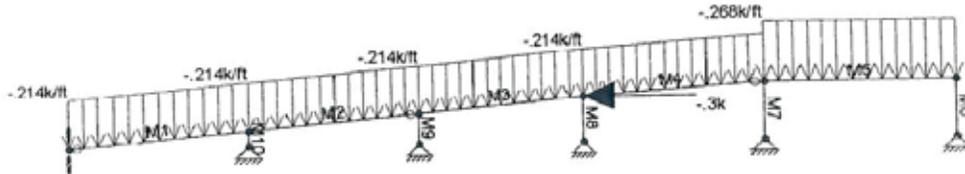


Loads: Bl.C 1, w1 - Dead Load
Solution: Envelope



HORIZONTAL ASSUMED
LIVE LOAD SIMULATING
PEOPLE BUNCHED UP
ON RAMP WALKING
UP HILL.

Loads: BLC 2, w2 -Pedestrian Load
Solution: Envelope



Loads: LC 1, DL + Ped. Load
Solution: Envelope

Section:Welcome Ramp

Section Properties:

Number of Shapes	= 2	
Total Width	= 2.00	in
Total Height	= 4.00	in
Center, X _o	= 0.304	in
Center, Y _o	= -0.457	in
X-bar (Right)	= 1.571	in
X-bar (Left)	= 0.429	in
Y-bar (Top)	= 2.457	in
Y-bar (Bot)	= 1.543	in

Equivalent Properties:

Area, A _x	= 1.438	in ²
Inertia, I _{xx}	= 2.02	in ⁴
Inertia, I _{yy}	= 0.4212	in ⁴
Inertia, I _{xy}	= -0.4565	in ⁴
Torsional, J	= 0.0299	in ⁴

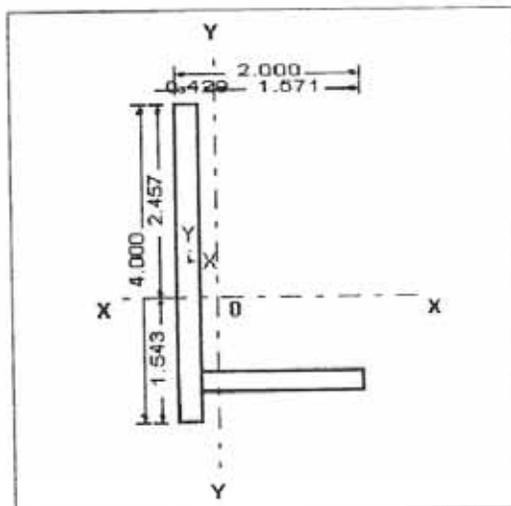
Modulus, S _x (Top)	= 0.8225	in ³
Modulus, S _x (Bot)	= 1.309	in ³
Modulus, S _y (Left)	= 0.981	in ³
Modulus, S _y (Right)	= 0.2682	in ³

Plastic Modulus, Z _x	= 1.4921	in ³
Plastic Modulus, Z _y	= 0.4852	in ³

Radius, r _x	= 1.186	in
Radius, r _y	= 0.541	in

Summary of Section Properties

Sh. No.	Section	Width in	Height in	X _o in	Y _o in	A _x in ²	I _{xx} in ⁴	I _{yy} in ⁴
1	Welcome Ramp	2.00	4.00	0.304	-0.457	1.438	2.02	0.4212



Section Diagram

Section: Welcome Deck

Section Properties:

Number of Shapes	= 2	
Total Width	= 2.00	in
Total Height	= 4.00	in
Center, Xo	= 0.304	in
Center, Yo	= 0.114	in
X-bar (Right)	= 1.571	in
X-bar (Left)	= 0.429	in
Y-bar (Top)	= 1.886	in
Y-bar (Bot)	= 2.114	in

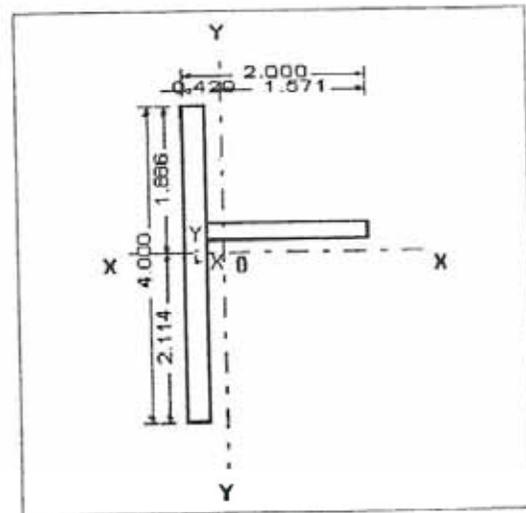
Equivalent Properties:

Area, Ax	= 1.438	in ²
Inertia, Ixx	= 1.378	in ⁴
Inertia, Iyy	= 0.4212	in ⁴
Inertia, Ixy	= 0.1141	in ⁴
Torsional, J	= 0.0299	in ⁴

Modulus, Sx(Top)	= 0.7309	in ³
Modulus, Sx(Bot)	= 0.652	in ³
Modulus, Sy(Left)	= 0.981	in ³
Modulus, Sy(Right)	= 0.2682	in ³

Plastic Modulus, Zx	= 1.0532	in ³
Plastic Modulus, Zy	= 0.4852	in ³

Radius, rx	= 0.9792	in
Radius, ry	= 0.5413	in



Section Diagram

Summary of Section Properties

Sh. No.	Section	Width in	Height in	Xo in	Yo in	Ax in ²	Ixx in ⁴	Iyy in ⁴
1	Welcome Deck	2.00	4.00	0.304	0.114	1.438	1.378	0.4212

Member Stress Results

Access the **Member Section Stresses** spreadsheet by selecting the **Results** menu and then selecting **Members** ▸ **Stresses**.

These are the member stresses calculated along each active member. The number of sections for which stresses are reported is controlled by the **Number Of Sections** specified on the Global window. The actual number of segments is this **Number Of Sections** minus 1. The incremental length of each segment is the same. For example, if you specify 5 sections, the member is divided into 4 equal pieces, and the stresses are reported for each piece.

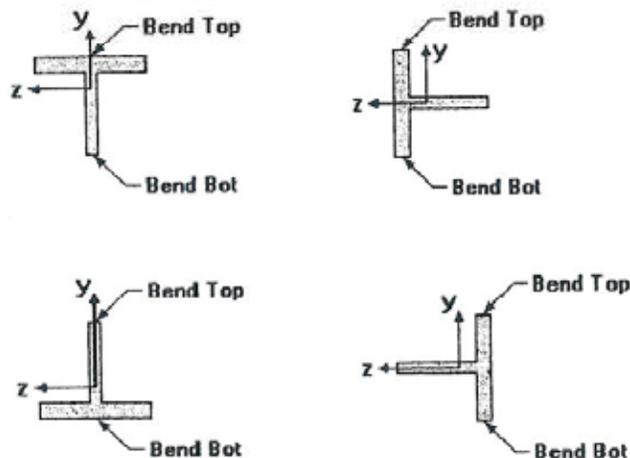
There will be four stress values listed for each section location along the member taking into account any member offsets. The units for the stresses are shown at the top of each column. As for the sign convention, the signs of these results correspond to the signs of the forces. These line up as positive or negative according to the member local axis directions.

The axial stress is the ratio P/A , where P is the section axial force. A positive stress is compressive, since the sign of the stress follows the sign of the force.

The shear stress is calculated as $V/S.A.$, where $S.A.$ is the effective shear area. For members not defined with a section set a value of 1.2 is used for the shear area coefficient $S.A.$

The bending stresses are calculated using the familiar equation $M * c / I$, where " M " is the bending moment, " c " is the distance from the neutral axis to the extreme fiber and " I " is the moment of inertia. The stress for the section's extreme edge is listed with respect to the positive and negative directions of the local y and z axes. A positive stress is compressive and a negative stress is tensile.

Some shapes are not symmetrical about both local axes. For example Tee and Channel shapes. Thus the stress at the positive and negative edges may not be the same. The locations for the calculated stresses are illustrated in this diagram:

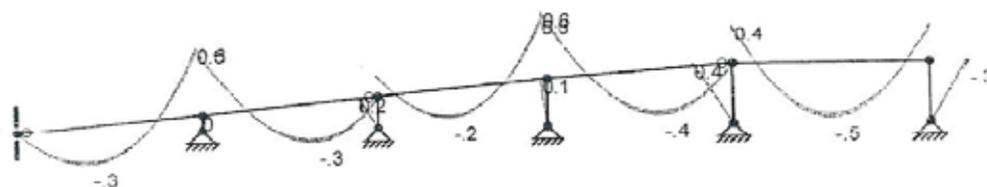


So, the y-top location is the extreme fiber of the shape in the positive local y direction, y-bot is the extreme fiber in the negative local y direction, etc. The y-top,bot stresses are calculated using M_z .

For enveloped results the maximum and minimum value at each location is listed. The load combination producing the maximum or minimum is also listed, in the "lc" column. To include a particular Load Combination in the envelope analysis, open the **Load Combinations** spreadsheet and check the box in the "Env" column.

Note

- A special case is bending stress calculations for single angles. The bending stresses for single angles are reported for bending about the principal axes.
- To view the results for a particular member, use the Find option. To view the maximums and minimums, use the Sort option.



Solution: Envelope
Member Bending Moments (k-ft)
Reaction units are k and k-ft

96-230

TABLE 20-II-A—MINIMUM MECHANICAL PROPERTIES FOR ALUMINUM ALLOYS—(Continued)
Values Are Given in Units of ksi (1,000 lb/in²)

ALLOY AND TEMPER	PRODUCT ¹	THICKNESS RANGE ¹ (inch) × 25.4 for mm	TENSION		COMPRES- SION	SHEAR		BEARING		COMPRESSIVE MODULUS OF ELASTICITY ² E ksi	
			F_u^3 ksi	F_u^3 ksi	F_c ksi	F_{su} ksi	F_{su} ksi	F_{br} ksi	F_{br} ksi		
			× 6.89 for MPa								
5086-H111	Extrusions	up to 0.500	36	21	18	21	12	70	36	10,400	
	Extrusions	0.501 and over	36	21	18	21	12	70	34	10,400	
	-H112	Plate	0.250-0.499	36	18	17	22	10	72	31	10,400
	-H112	Plate	0.500-1.000	35	16	16	21	9	70	28	10,400
	-H112	Plate	1.001-2.000	35	14	15	21	8	70	28	10,400
	-H112	Plate	2.001-3.000	34	14	15	21	8	68	28	10,400
-H32	Sheet and plate	All	40	28	26	24	16	78	48	10,400	
-H34	Drawn tube	All	44	34	32	26	20	84	58	10,400	
5154-H38	Sheet	0.006-0.128	45	35	33	24	20	81	56	10,300	
5454-H111	Extrusions	up to 0.500	33	19	16	20	11	64	32	10,400	
	Extrusions	0.501 and over	33	19	16	19	11	64	30	10,400	
	-H112	Extrusions	up to 5.000	31	12	13	19	7	62	24	10,400
	-H32	Sheet and plate	0.020-2.000	36	26	24	21	15	70	44	10,400
	H34	Sheet and plate	0.020-1.000	39	29	27	23	17	74	49	10,400
5456-H111	Extrusions	up to 0.500	42	26	22	25	15	82	44	10,400	
	Extrusions	0.501 and over	42	26	22	24	15	82	42	10,400	
	-H112	Extrusions	up to 5.000	41	19	20	24	11	82	38	10,400
	-H321	Sheet and plate	0.188-1.250	46	33	27	27	19	87	56	10,400
	-H321	Plate	1.251-1.500	44	31	25	25	18	84	53	10,400
	-H321	Plate	1.501-3.000	41	29	25	25	17	82	49	10,400
	-H323	Sheet	0.051-0.249	48	36	34	28	21	94	61	10,400
	-H343	Sheet	0.051-0.249	53	41	39	31	24	101	70	10,400
6005-T5	Extrusions	up to 0.500	38	35	35	24	20	80	56	10,100	
6061-T6	Sheet and plate	0.010-4.000	42	35	35	27	20	88	58	10,100	
-T651	Extrusions	up to 3.000	38	35	35	24	20	80	56	10,100	
-T6510 ¹	Extrusions	up to 3.000	38	35	35	24	20	80	56	10,100	
-T6	Rolled rod and bar	up to 8.000	42	35	35	27	20	88	56	10,100	
-T651	Extrusions	up to 3.000	38	35	35	24	20	80	56	10,100	
-T6	Drawn tube	0.025-0.500	42	35	35	27	20	88	56	10,100	
-T6	Pipe	up to 0.999	42	35	35	27	20	88	56	10,100	
-T6	Pipe	over 0.999	38	35	35	24	20	80	56	10,100	

MAIN RAILS

HAND RAILS

6063-T5	Extrusions	up to 0.500	22	16	16	13	9	46	26	10,100
-T5	Extrusions	over 0.500	21	15	15	12	8.5	44	24	10,100
-T6	Extrusions	All	30	25	25	19	14	63	40	10,100
6351-T5	Extrusions	up to 1.00	38	35	35	24	20	80	56	10,100

¹Values also apply to -T6511 temper.
² F_u and F_y are minimum specified values (except for Alclad 3004-H14, -H16 and F_y for Alclad 3003-H18). Other strength properties are corresponding minimum expected values.
³For deflection calculations an average modulus of elasticity is used; numerically this is 100 ksi (689 MPa) lower than the values in this column.

TABLE 20-II-B—MINIMUM MECHANICAL PROPERTIES FOR WELDED ALUMINUM ALLOYS¹
(Gas Tungsten Arc or Gas Metal Arc Welding with No Postweld Heat Treatment)

ALLOY AND TEMPER	PRODUCT AND THICKNESS RANGE (inch) × 25.4 for mm	TENSION		COMPRES- SION	SHEAR		BEARING	
		F_u^2 ksi	F_u^2 ksi	F_c^2 ksi	F_{su} ksi	F_{su} ksi	F_{br} ksi	F_{br} ksi
		× 6.89 for MPa						
1100-H12, -H14	All	11	4.5	4.5	8	2.5	23	8
3003-H12, -H14, -H16, -H18	All	14	7	7	10	4	30	12
Alclad 3003-H12, -H14, -H16, -H18	All	13	6	6	10	3.5	30	11
3004-H32, -H34, -H36	All	22	11	11	14	6.5	46	20
Alclad 3004-H32, -H34, -H14, -H16	All	21	11	11	13	6.5	44	19
3005-H25	Sheet 0.013-0.050	17	9	9	12	5	36	15
5005-H12, -H14, -H32, -H34	All	14	7	7	9	4	28	10

F_{bw} = bearing yield strength within 1.0 inch (25.4 mm) of a weld, ksi (MPa)
 F_c = allowable compressive stress, ksi (MPa)
 F_{cy} = compressive yield strength, ksi (MPa)
 F_{cyw} = compressive yield strength across a butt weld (0.2 percent offset in 10-inch (254 mm) gage length), ksi (MPa)
 F_{ec} = $\pi^2 E / (kl_r)^2$, where kl_r is slenderness ratio for member considered as a column tending to fail in the plane of the applied bending moments, ksi (MPa)
 F_a = allowable stress for cross section 1.0 inch (25.4 mm) or more from weld, ksi (MPa)
 F_{aw} = allowable stress on cross section, part of whose area lies within 1.0 (25.4 mm) inch of a weld, ksi (MPa)
 F_t = allowable shear stress for members subjected only to torsion or shear, ksi (MPa)
 F_{tu} = shear ultimate strength, ksi (MPa)
 F_{tw} = shear ultimate strength within 1.0 inch (25.4 mm) of a weld, ksi (MPa)
 F_{ty} = shear yield strength, ksi (MPa)
 F_{tw} = shear yield strength within 1.0 inch (25.4 mm) of a weld, ksi (MPa)
 F_{tu} = tensile ultimate strength, ksi (MPa)
 F_{tw} = tensile ultimate strength across a butt weld, ksi (MPa)
 F_{ty} = tensile yield strength, ksi (MPa)
 F_{tw} = tensile yield strength across a butt weld (0.2 percent offset in 10-inch (254 mm) gage length), ksi (MPa)
 F_y = either F_D or F_{cy} , whichever is smaller, ksi (MPa)
 f = calculated stress, ksi (MPa)
 f_a = average compressive stress on cross section of member produced by axial compressive load, ksi (MPa)
 f_b = maximum bending stress (compressive) caused by transverse loads or end moments, ksi (MPa)
 f_s = shear stress caused by torsion or transverse shear, ksi (MPa)
 G = modulus of elasticity in shear, ksi (MPa)
 g = spacing of rivet or bolt holes perpendicular to direction of load, inches (mm)
 h = clear height of shear web, inches (mm)
 I = moment of inertia, inches⁴ (mm⁴)
 I_s = moment of inertia of horizontal stiffener, inches⁴ (mm⁴)
 I_t = moment of inertia of transverse stiffener to resist shear buckling, inches⁴ (mm⁴)
 I_x = moment of inertia of a beam about axis perpendicular to web, inches⁴ (mm⁴)
 I_y = moment of inertia of a beam about axis parallel to web, inches⁴ (mm⁴)
 I_{yc} = moment of inertia of compression element about axis parallel to vertical web, inches⁴ (mm⁴)
 J = torsion constant, inches⁴ (mm⁴)
 k_1 = coefficient for determining slenderness limit S_2 for sections for which the allowable compressive stress is based on crippling strength
 k_2 = coefficient for determining allowable compressive stress in sections with slenderness ratio above S_2 for which the allowable compressive stress is based on crippling strength
 k_c = coefficient for compression members
 k_t = coefficient for tension members
 L = length of compression member between points of lateral support, or twice the length of a cantilever column (except where analysis shows that a shorter length can be used), inches (mm)

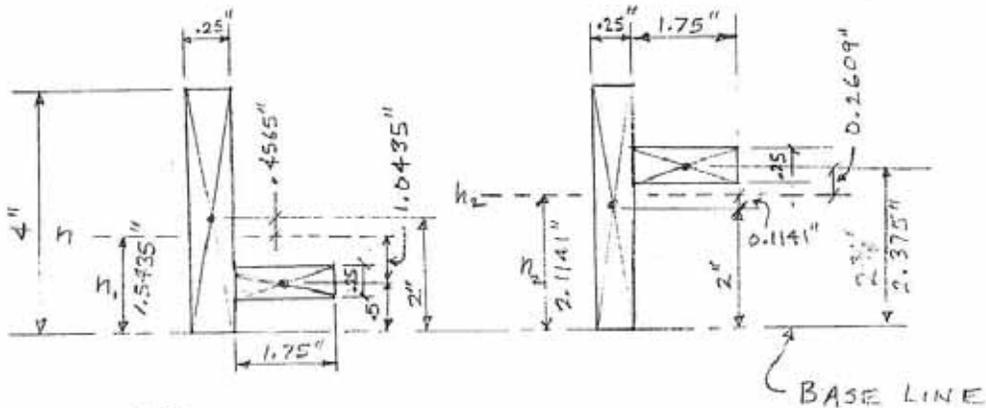
2

L_b = length of beam between points at which the compression flange is supported, or length of cantilever beam from free end to point at which flange is supported against lateral movement, inches (mm)
 L_w = total length of portion of column lying within 1.0 inch (25.4 mm) of welds at ends of columns that are supported at both ends, inches (mm)
 L_w = increased length to be substituted in column formula to determine welded column, inches (mm)
 l/r = slenderness ratio for columns
 M = bending moment, inch-kips (kN-m)
 M_c = bending moment at center of span resulting from applied bending (kN-m)
 M_m = maximum bending moment in span resulting from applied bending (kN-m)
 M_1, M_2 = bending moments at two ends of a beam, inch-kips (kN-m)
 N = length of bearing at reaction or concentrated load, inches (mm)
 n_b = factor of safety on appearance of buckling
 n_u = factor of safety on ultimate strength
 n_y = factor of safety on yield strength
 P = local load concentration on bearing stiffener, kips (kN)
 P_c = allowable reaction or concentrated load per web, kips (kN)
 P_t = allowable tensile load per fastener, sheet to pulpin or girt, kips (kN)
 R = outside radius of round tube or maximum outside radius for an oval tube
 R_b = radius of curvature of tubular members, inches (mm)
 R_t = transition radius, the radius of an attachment of the weld detail
 r = least radius of gyration of a column, inches (mm)
 r_L = radius of gyration of lip or bulb about face of flange from which lip projects
 r_y = radius of gyration of a beam (about axis parallel to web), inches (mm) (for unsymmetrical about the horizontal axis, r_y should be calculated as though were the same as the compression flange)
 S_x = section modulus of a beam, compression side, inches³ (mm³)
 SR = stress ratio, the ratio of minimum stress to maximum stress
 S_y = section modulus of a beam, tension side, inches³ (mm³)
 S_1, S_2 = slenderness limits
 s = spacing of transverse stiffeners (clear distance between stiffeners for stiffeners consisting of a pair of members, one on each side of the web, center-to-center distance or bolt holes parallel to direction of load, inches (mm) or thickness of flange, plate, web or tube, inches (mm). (For tapered flange thickness.)
 V = shear force on web at stiffener location, kips (kN)
 α = a factor equal to unity for a stiffener consisting of equal members or bolt and equal to 3.5 for a stiffener consisting of a member on one side only
 θ = angle between plane of web and plane of bearing surface ($0 \leq \theta < 90$), deg

2001.4 Identification. Aluminum for structural elements shall at all times be as wise handled in the fabricator's plant so that the separate alloys and tempers are

(1.) CALC. I_{xx}

FOR TWO AL. SECTIONS.



$$h = \frac{\sum M}{\sum A}$$

$$h_1 = \frac{(2)(.25)(4.0) + (.5)(.25)(1.75)}{(.25)(4.0) + (.25)(1.75)} = \frac{2.2188}{1.4375} = 1.5435''$$

$$h_2 = \frac{(2)(.25)(4.0) + (2.375)(.25)(1.75)}{(.25)(4.0) + (.25)(1.75)} = \frac{3.0391}{1.4375} = 2.1141''$$

$$I_i = I + Ad^2 + I + Ad_n^2 = \frac{bd^3}{3} + bd(d_n^2) + \dots$$

$$I_1 = \frac{.25(4)^3}{12} + .25(4)(.4565)^2 + \frac{1.75(.25)^3}{12} + 1.75(.25)(1.0435)^2$$

$$I_1 = 1.333 + 0.2084 + 0.0023 + 0.4764 = \underline{\underline{2.0201 \text{ in}^4}}$$

$$I_2 = \frac{.25(4)^3}{12} + .25(4)(0.1141)^2 + \frac{1.75(.25)^3}{12} + 1.75(.25)(0.2609)^2$$

$$I_2 = 1.333 + 0.0130 + 0.0023 + 0.0298 = \underline{\underline{1.3784 \text{ in}^4}}$$

(3.) CALC. RAMP:
(USING PISA-2L)

$$A_{\frac{1}{42}} = .25(4) + 1.75(.75) = 1.4375 \text{ m}^2$$

$$I_1 = 2.0201 \text{ m}^4$$

$$I_2 = 1.3784 \text{ m}^4$$

$$I_1 = \text{RAMP}$$

$$I_2 = \text{PLATFORM}$$

$$6061\text{-T6 AL, } F_y = 35 \text{ KSI}$$

$$\text{DEAD LOAD} = 7 \text{ PSF}$$

$$\text{LIVE LL} = 100 \text{ PSF}$$

$$\text{PEDESTRIAN WALK} = (\text{UB7 TABLE 16-A})$$

$$\text{RAMP BEAM DL} = 7\left(\frac{4}{2}\right) = 14 \text{ PLF}$$

$$\text{RAMP BEAM LL} = 100\left(\frac{4}{2}\right) = 200 \text{ PLF}$$

$$\text{PLATFORM DL} = 7\left(\frac{5}{2}\right) = 17.5 \text{ PLF}$$

$$\text{PLATFORM LL} = 100\left(\frac{5}{2}\right) = 250 \text{ PLF}$$

WELCOME RAMP, INC.

STRUCTURAL ANALYSIS

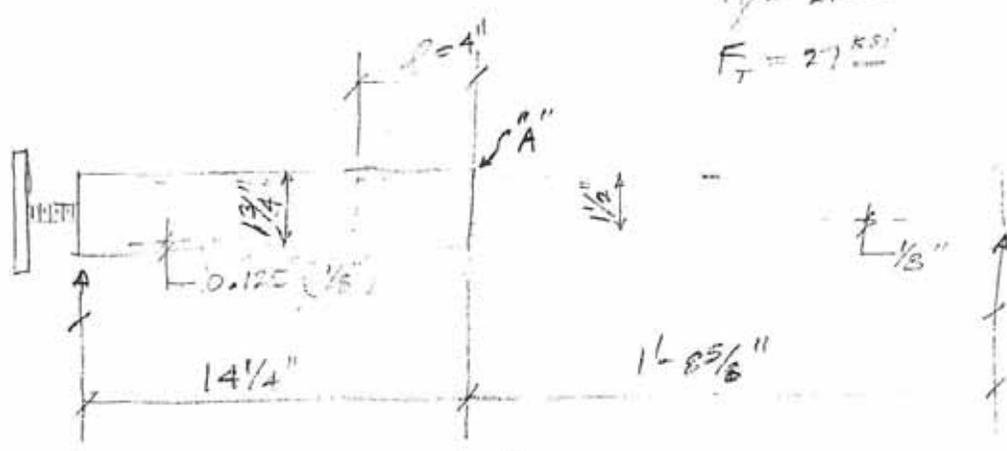
Adjustable Leg Design

425-754-4108
(client)

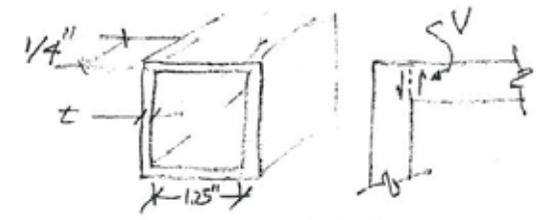
ASSUME 2
6063-T5 AL (ASTM B 221)

$$F_y = 21 \frac{\text{KSI}}{\text{IN}^2}$$

$$F_T = 27 \frac{\text{KSI}}{\text{IN}^2}$$



(1.) Check Point "A" FOR MAX. V OF WALL - 2
ASSUME 1/4" BEARING
IN SHEAR = V
(IGNORE BENDING OF 1/4" SECT.)
z = 0.125"



ASSUME 1/2" 1/4" OF SHEAR = V

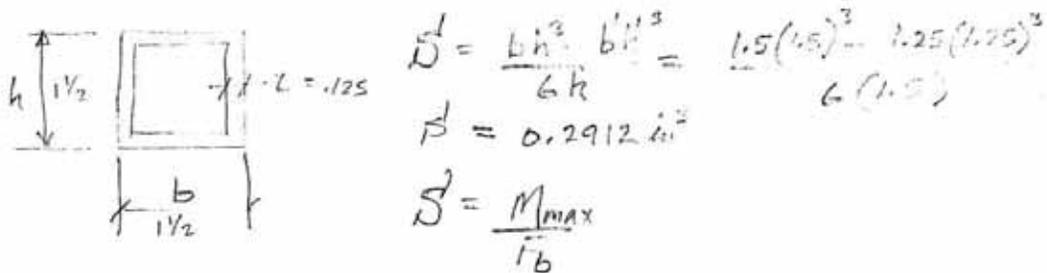
$$F_T = 27 \frac{\text{KSI}}{\text{IN}^2} \therefore V = 3/4 F_T = 20.25 \frac{\text{KSI}}{\text{IN}^2} \text{ (ASSUMED)}$$

$$0.125 \text{ (0.25") (2 sides) (20.25 \frac{\text{KSI}}{\text{IN}^2}) = 1.2656 \text{ K} = 1,265 \text{ lb MAX.}$$

(2.) Check Point "A" FOR MAX. BENDING OF 1/2" Q.

$$F_b = 2/3 F_y = 2/3 (21) = 14 \frac{\text{KSI}}{\text{IN}^2}$$

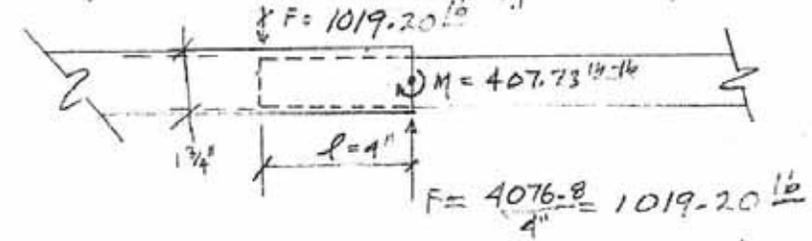
(2.) CONT.



$$M_{\max} = (0.2912 \text{ in}^4) \left(14 \frac{\text{lb}}{\text{in}^2} \right) (1000) = 4076.80 \frac{\text{in} \cdot \text{lb}}{\text{in}^2}$$

∴ THE MAX. BENDING OF THE 1 1/2" x 1 1/2" = 4076.80 ^{in·lb}
 BUT THE ABILITY OF THE 1 3/4" x 1 3/4" AT POINT "A"
 TO ACCEPT SHEAR IS 1,265 ^{lb}.

(3.) NEXT, CALC. MAX. FORCE APPLIED BY 1 1/2" x 1 1/2" & COMPRIK.



$$F = \frac{4076.8}{4} = 1019.20 \text{ lb}$$

∴ 1,019.20 ^{lb} < 1,265 ^{lb} OK!

THEREFOR, THE POST WILL FAIL IN BENDING PRIOR TO FAILING IN SHEAR AT POINT "A". l = 4 IS THE MINIMUM ALLOWABLE LEG OVERLAP FOR ANY LEG OF THE PREVIOUS DESIGNS

WELCOME RAMP, INC.

STRUCTURAL ANALYSIS

Alternate 7-foot Landing Design

→ INCLUDED IS THE NEW DESIGN FOR A 7' SECTION PLATFORM.

1) FOR A SINGLE POST AND DOUBLE ANGLE BEAM.

2) FOR A DOUBLE POST AND DOUBLE BEAM BEAM CONFIGURATION.

- THIS CHECKS ONLY WHAT HAS BEEN CHANGED FOR THE 7'-0" PLATFORM. ASSUMES TREADS ARE ADAPTED ON STAIRS TO SPAN 7'-0".

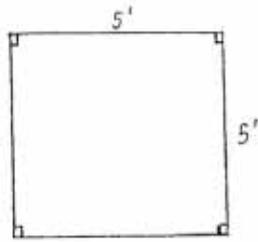
SUMMARY

USE CURRENT POST IN CENTER.

POST WILL BE PLACED ON A 16'X16' FOOTING.

NEW DOUBLE ANGLE FOR BEAM SECTION IS A 4X2X $\frac{3}{16}$ ANGLE PLACED BACK TO BACK.

DESIGN OF 7' SECTION USING SINGLE POST IN CENTER OF NEW DOUBLE ANGLE BEAM.



Existing Design

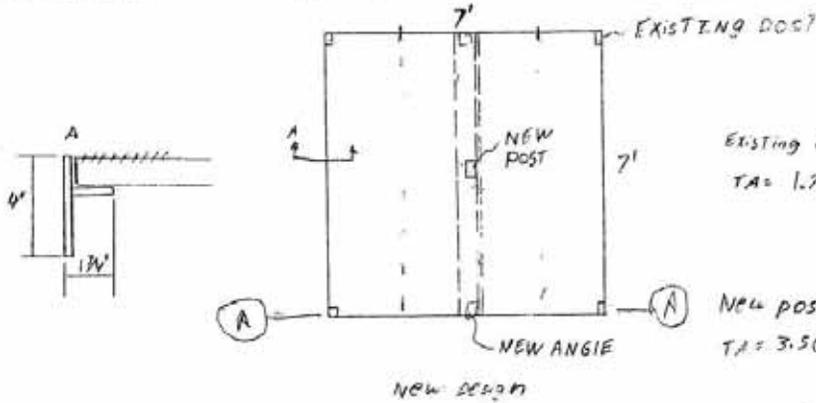
post Load Existing

$$TA = 2.5 \times 2.5 = 6.25 \text{ FT}^2$$

100 psf LL

7 psf DL

service load per post = 669 lb



EXISTING POST NEW load

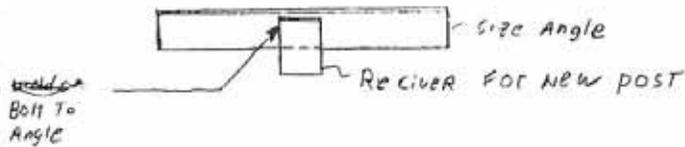
$$TA = 1.75 \times 3.5 = 6.125 \text{ FT}^2$$

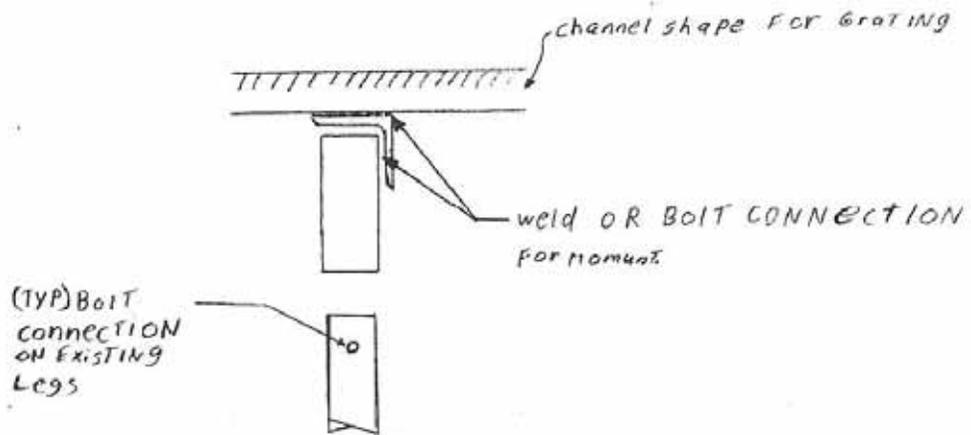
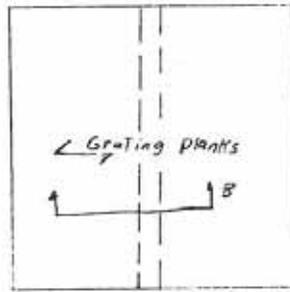
NEW POST LOAD

$$TA = 3.5(7') = 24.5 \text{ FT}^2$$

service load = 2622 lb 400% increase

NOT Including Angle member wt.





Typical Post Calculations.

TABLE 20-11-A Pg 2-296
 PIPING = 6061-T6 EXTRUSIONS

Tension $F_{tu} = 38 \text{ ksi}$; $F_{ty} = 35 \text{ ksi}$
 Compression $F_{cy} = 35 \text{ ksi}$
 Shear $F_{su} = 24 \text{ ksi}$; $F_{sy} = 20 \text{ ksi}$
 Bearing $F_{bu} = 80 \text{ ksi}$; $F_{by} = 56 \text{ ksi}$
 $E = 10,100 \text{ ksi}$

Square structural tubing pg 111 section 4
 Leg material = 1 1/2" sq X .12" AL Tubing WT per FT = 2.252 lb/ft

ITEM 1. BUCKLING LOAD

For Buckling assuming 48" with NO Eccentricity

$$F_{cr} = \frac{\pi^2 E}{(K L/r)^2} \quad r = \sqrt{I/A} = \sqrt{\frac{2.118}{.6624}} = .5655 \quad K=1$$

$$= \frac{\pi^2 (10,100 \text{ ksi})}{(1 \cdot 48" / .5655)^2} = \underline{13.84 \text{ kips}} < \overset{\text{service load}}{262216}$$

ITEM 2. AXIAL LOAD

AXIAL BEARING $P/A_5 = \text{service Load} = \frac{2622}{.6624} = \underline{3958 \text{ psi}}$

ITEM 3. BEARING.

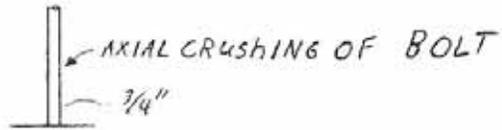
allow comp = 35 ksi

Bolt Bearing - Aluminum will fail before Bolt Bearing

Tube thickness = .12 in Bolt size = 3/8 = .375 $F_{bu} = 80 \text{ ksi}$

$$F_b = (.375(.12))2 \times 80 \text{ ksi} = \underline{7.2 \text{ kips}} < 2.6 \text{ k}$$

ITEM 4. AXIAL Load on Rod AT BASE



$$\text{Area } A = \pi (0.375)^2 = .4418 \text{ in}^2$$

$$\text{Load} = \frac{2622 \text{ lb}}{.4418 \text{ in}^2} = 5934 \text{ psi} < F_{cy} = 35 \text{ ksi} \quad \text{OK}$$

ITEM 5. Base PLATE Bering

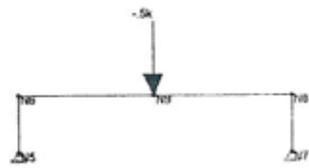
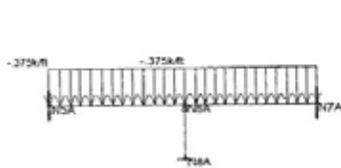
Base plate = $2' \times 2'$

$$\frac{2622 \text{ lb}}{4 \text{ in}^2} = 655 \text{ psi} \quad \text{NOT OK}$$

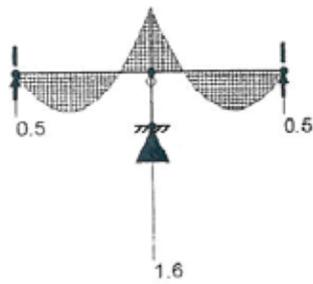
allowable load = 4000 psf AT FOOT OR 27.7 psi

Try a 16" BLOCK = 1.78 FT²

$$4000 \text{ psf } (1.78 \text{ FT}^2) = 7111 \text{ lb} > 2622 \text{ lb} \quad \text{OK!} \leftarrow$$



Load: MLC 1 w/1 - Dead Load
Results for LC 1, DL + Prod. Load



Results for LC 1, DL + Ped. Load
Member Bending Moments (k-ft)
Reaction units are k and k-ft

Member Data

Member Label	I Joint	J Joint	Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb	End Releases		End Offsets		Inactive Code	Length (ft)
							I-End AVM	J-End AVM	I-End (in)	J-End (in)		
M1	N6	N9		SEC2	AL	Y						3.5
M2	N7	N8		SEC3	AL	Y						1.599
M3	N5	N6		SEC3	AL	Y						1.599
M4	N5A	N6A		SEC4	AL	Y						3.5
M5	N6A	N7A		SEC4	AL	Y						3.5
M6	N8A	N6A		SEC3	AL	Y		PIN				1.5
M7	N9	N8		SEC2	AL	Y						3.5

Sections

Section Label	Database Shape	Material Label	Area (in) ²	SA (0,180)	SA (90,270)	I (90,270) (in ⁴)	I (0,180) (in ⁴)	T/C Only
SEC1	Welcome Ramp	AL	1.438	1.2	1.2	.421	2.02	
SEC2	Welcome Deck	AL	1.438	1.2	1.2	.421	1.378	
SEC3	TU2X2X2	AL	.897	1.2	1.2	.513	.513	
SEC4	WT4X10.5	AL	3.08	1.2	1.2	4.89	3.9	

Member Deflections, By Combination

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	(n) Uy Ratio
1	M1	1	0	0	NC
		2	0	-.086	3035.648
		3	0	-.174	1377.517
		4	0	-.214	NC
1	M2	1	0	0	NC
		2	0	-.013	1458.898
		3	0	-.016	1167.118
		4	0	0	NC
1	M3	1	0	0	NC
		2	0	.013	1458.898
		3	0	.016	1167.118
		4	0	0	NC
1	M4	1	0	0	NC
		2	0	-.015	3103.087
		3	0	-.012	4257.729
		4	0	-.003	NC
1	M5	1	0	-.003	NC
		2	0	-.012	4257.729
		3	0	-.015	3103.087
		4	0	0	NC
1	M6	1	0	0	NC
		2	-.001	0	NC
		3	-.002	0	NC
		4	-.003	0	NC
1	M7	1	0	-.214	NC
		2	0	-.174	1377.517
		3	0	-.086	3035.648
		4	0	0	NC

Member Stresses, By Combination

LC	Member Label	Section	Axial (ksi)	Shear (ksi)	Bending top (ksi)	Bending bot (ksi)
1	M1	1	.135	.21	-5.078	5.693
		2	.135	.21	-.271	.304
		3	.135	.21	4.536	-5.085
		4	.135	.21	9.343	-10.474
1	M2	1	.279	.464	0	0
		2	.279	.464	2.412	-2.412
		3	.279	.464	4.824	-4.824
		4	.279	.464	7.236	-7.236
1	M3	1	.279	-.464	0	0
		2	.279	-.464	-2.412	2.412
		3	.279	-.464	-4.824	4.824
		4	.279	-.464	-7.236	7.236
1	M4	1	0	.579	0	0
		2	0	.072	.838	-3.338
		3	0	-.435	.371	-1.479
		4	0	-.942	-1.401	5.577
1	M5	1	0	.942	-1.401	5.577
		2	0	.435	.371	-1.479
		3	0	-.072	.838	-3.338
		4	0	-.579	0	0
1	M6	1	1.812	0	0	0
		2	1.812	0	0	0
		3	1.812	0	0	0
		4	1.812	0	0	0
1	M7	1	.135	-.21	9.343	-10.474
		2	.135	-.21	4.536	-5.085
		3	.135	-.21	-.271	.304
		4	.135	-.21	-5.078	5.693

Section:RShape1

Section Properties:

Number of Shapes = 2
 Total Width = 4.014 in
 Total Height = 4.01 in
 Center, X_o = 14.995 in
 Center, Y_o = -1.605 in

X-bar (Right) = 2.007in
 X-bar (Left) = 2.007in
 Y-bar (Top) = 2.617in
 Y-bar (Bot) = 1.393in

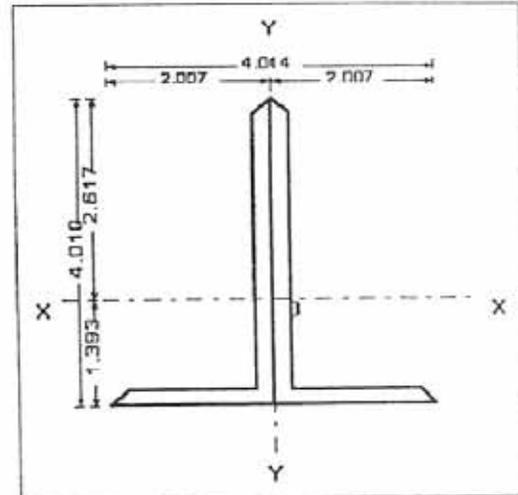
Equivalent Properties:

Area, A_x = 2.24 in²
 Inertia, I_{xx} = 3.607 in⁴
 Inertia, I_{yy} = 0.9487 in⁴
 Inertia, I_{xy} = 0.000 in⁴
 Torsional, J = 0.0304 in⁴

Modulus, S_x(Top) = 1.378 in³
 Modulus, S_x(Bot) = 2.589 in³
 Modulus, S_y(Left) = 0.473 in³
 Modulus, S_y(Right) = 0.473 in³

Plastic Modulus, Z_x = 2.492 in³
 Plastic Modulus, Z_y = 16.794 in³

Radius, r_x = 1.269 in
 Radius, r_y = -0.651 in



Section Diagram

Basic Properties of Shapes in Section:

Sh. No.	Shape	Factor	Width in	Height in	X _o in	Y _o in	A _x in ²	I _{xx} in ⁴	I _{yy} in ⁴
1	Unequal L	1	2.00	4.00	14.60	-1.60	1.12	1.004	0.30
2	Unequal L	1	2.00	4.00	15.39	-1.61	1.12	1.804	0.30

Additional Properties of Shapes in Section:

Sh. No.	Shape	J in ⁴	S _x in ³	S _y in ³	Z _x in ³	Z _y in ³	r _x in	r _y in
1	Unequal L	0.0152	0.6905	0.1859	1.246	0.533	1.269	0.517
2	Unequal L	0.0152	0.6905	0.1859	1.246	0.533	1.269	0.517

Summary of Properties

Sh. No.	Section	Width in	Height in	X _o in	Y _o in	A _x in ²	I _{xx} in ⁴	I _{yy} in ⁴
1	RShape1	4.014	4.01	14.995	-1.605	2.24	3.607	0.949

Calculation Procedure

- 1) **Closed Shapes:**
The geometric properties for closed shapes are computed by using the Polygon method. All closed shapes are represented by closed polygons. Curvilinear and circular shapes or edges are represented by several straight line segments. The properties the overall shape are computed by geometric summation of the properties of a trapezoid defined by projection of two consecutive points of the cross-section on to the x and y axis.
- 2) **Open Shapes:**
The geometric properties for open (thin walled) shapes are computed by using the Polyline method. All open shapes are represented by polylines. Curvilinear and circular shapes or edges are represented by several straight line segments. The properties the overall shape are computed by geometric summation of the properties of a line defined by projection of two consecutive points of the cross-section on to the x and y axis
For details refer to the User's Manual

FOOTING SIZING CALCULATIONS

1) **LOADING**

Dead Load=	7 psf
Live Load =	100 psf
Total Load, RAMP_TL =	107 psf

2) **FOOTING ON SOIL**

Soil Allowable Bearing Pressure =	1500 psf
7' Platform Center Column, Area =	12.25 psf
Max Load =	1311 #
Min. Footing Area =	0.87 sf
Footing Pad w/ minimum Size =	11.22 inch

USE: 12-INCH, MIN. SQUARE PAD UNDER COLUMN ON SOIL

3) **FOOTING ON PAVEMENT (Based on 8-inch Depth Pavement+Base)**

Allowable Bearing Pressure =	8831 psf
7' Platform Center Column, Area =	12.25 psf
Max Load =	1311 #
Min. Footing Area =	0.15 sf
Footing Pad w/ minimum Size =	4.62 inch

USE: 5-INCH, MIN. SQUARE PAD UNDER COLUMN ON PAVEMENT

D. DEFLECTION CHECK FOR ALUMINUM TUBES

$$\text{ALLOWABLE } \delta = \frac{L}{240} = .175''$$

$$\delta = \frac{5 W L^4}{384 E I} = \frac{5 (374.5/12) (3.5' \times 12)^4}{384 (10,100 \times 1000) (2.074 \text{ in}^4)}$$

Load = 107(3.5) = 374.5 PLF

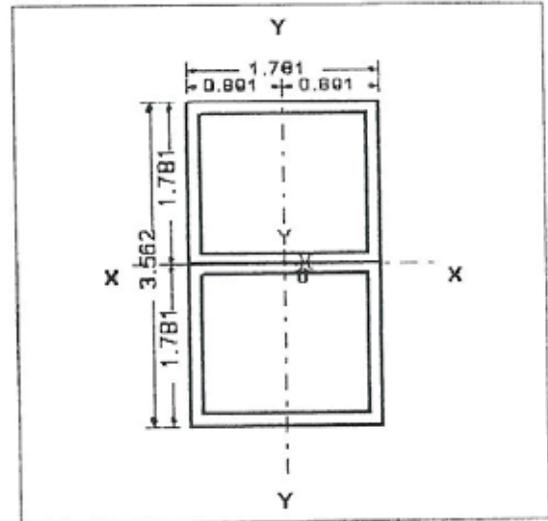
$$= .064'' < .175 \text{ OK} \leftarrow$$

USE 2-1.781" TUBES STACKED.

Section:Section1

Section Properties:

Number of Shapes	= 2	
Total Width	= 1.781	in
Total Height	= 3.562	in
Center, Xo	= 0.00	in
Center, Yo	= 0.00	in
X-bar (Right)	= 0.891	in
X-bar (Left)	= 0.891	in
Y-bar (Top)	= 1.781	in
Y-bar (Bot)	= 1.781	in
Equivalent Properties:		
Area, Ax	= 1.656	in ²
Inertia, Ixx	= 2.074	in ⁴
Inertia, Iyy	= 0.7612	in ⁴
Inertia, Ixy	= 0.000	in ⁴
Torsional, J	= 1.2688	in ⁴
Modulus, Sx(Top)	= 1.164	in ³
Modulus, Sx(Bot)	= 1.164	in ³
Modulus, Sy(Left)	= 0.855	in ³
Modulus, Sy(Right)	= 0.855	in ³
Plastic Modulus, Zx	= 1.568	in ³
Plastic Modulus, Zy	= 1.029	in ³
Radius, rx	= 1.119	in
Radius, ry	= 0.678	in



Section Diagram

Basic Properties of Shapes in Section: (Local Axis, for n=1)

Sh. No.	Shape	Modular Ratio(n)	Width in	Height in	Xo in	Yo in	Ax in ²	Ixx in ⁴	Iyy in ⁴
1	Tube	1.00	1.781	1.781	0.00	-0.891	0.828	0.3806	0.3806
2	Tube	1.00	1.781	1.781	0.00	0.89	0.828	0.3806	0.3806

Additional Properties of Shapes in Section: (Local Axis, for n=1)

Sh. No.	Shape	J in ⁴	Sx-Top in ³	Sy-Right in ³	Zx in ³	Zy in ³	rx in	ry in
1	Tube	0.6344	0.4274	0.4274	0.5144	0.5144	0.678	0.678
2	Tube	0.6344	0.4274	0.4274	0.5144	0.5144	0.678	0.678

Summary of Section Properties

Sh. No.	Section	Width in	Height in	Xo in	Yo in	Ax in ²	Ixx in ⁴	Iyy in ⁴
1	Section1	1.781	3.562	0.00	0.00	1.656	2.074	0.7612

Calculation Procedure

- 1) Closed Shapes:
The geometric properties for closed shapes are computed by using the Polygon method. All closed shapes are represented by closed polygons. Curvilinear and circular shapes or edges are represented by several straight line segments. The properties of the overall shape are computed by geometric summation of the properties of a trapezoid defined by projection of two consecutive points of the cross-section on to the x and y axis.
- 2) Open Shapes:
The geometric properties for open (thin walled) shapes are computed by using the Polyline method. All open shapes are represented by polylines. Curvilinear and circular shapes or edges are represented by several straight line segments. The properties of the overall shape are computed by geometric summation of the properties of a line defined by projection of two consecutive points of the cross-section on to the x and y axis.
For details refer to the User's Manual

WELCOME RAMP, INC.

STRUCTURAL ANALYSIS

Manufacturer Information - Planks

TRACTION TREAD LOAD TABLES

PLANKING

Plank Description
 Plank: Traction Tread
 Width: 12"
 Gauge: 13 GA

2" Channel Height
 Se: 0.27 in³
 Mmax: 5335 lb-in

1 1/2" Channel Height
 Se: 0.174 in³
 Mmax: 3438 lb-in

2" Channel Height

	2'-0	3'-0	4'-0	5'-0	6'-0	7'-0	8'-0	9'-0	10'-0
U	889	395	222	142	99	73	56	44	36
D	0.057	0.129	0.229	0.357	0.514	0.7	0.915	1.158	1.429
C	889	593	445	356	298	254	222	198	178
D	0.045	0.103	0.183	0.286	0.412	0.56	0.732	0.926	1.143

1 1/2" Channel Height

	2'-0	3'-0	4'-0	5'-0	6'-0	7'-0	8'-0	9'-0	10'-0
U	573	255	143	92	64	47	36	28	23
D	0.07	0.157	0.279	0.436	0.627	0.854	1.115	1.411	1.742
C	573	382	287	229	191	164	143	127	115
D	0.056	0.125	0.223	0.348	0.502	0.683	0.892	1.129	1.394

Notes:

- U = Uniform Load, psf
- C = Concentrated Load, psf
- D = Deflection, in.

Ⓢ 4'-8" u = 109 OK!

- 1.) Allowable loads are based on the latest edition of AISI, 1986 Edition w/ 12/1/89 Addendum.
- 2.) This table is a theoretical calculation of the allowable loads and deflections for the specified spans. There are no test results to verify the actual load carrying capabilities. This table should be used as a reference only.
- 3.) Loads and deflections are based on side channel deflection only, and does not account for strut loading of the grating surface.

TRACTION TREAD LOAD TABLES

STAIRS

Plank Description
 Plank: Traction Tread
 Width: 12"
 Gauge: 11 GA

2" Channel Height
 Se: 0.541 in³
 Mmax: 10690 lb-in

1 1/2" Channel Height
 Se: 0.331 in³
 Mmax: 6541 lb-in

	2" Channel Height		4'-0"		5'-0"		6'-0"		7'-0"		8'-0"		9'-0"		10'-0"	
	2'-0"	3'-0"	4'-0"	5'-0"	5'-0"	6'-0"	6'-0"	7'-0"	7'-0"	8'-0"	8'-0"	9'-0"	9'-0"	10'-0"	10'-0"	10'-0"
U	1782	792	445	285	198	145	111	88	71							
D	0.028	0.064	0.113	0.177	0.254	0.346	0.452	0.572	0.706							
C	1782	1188	891	713	594	509	445	396	356							
D	0.023	0.051	0.09	0.141	0.203	0.277	0.362	0.458	0.565							

	1 1/2" Channel Height		4'-0"		5'-0"		6'-0"		7'-0"		8'-0"		9'-0"		10'-0"	
	2'-0"	3'-0"	4'-0"	5'-0"	5'-0"	6'-0"	6'-0"	7'-0"	7'-0"	8'-0"	8'-0"	9'-0"	9'-0"	10'-0"	10'-0"	10'-0"
U	1090	484	273	174	121	89	68	54	44							
D	0.035	0.079	0.14	0.219	0.315	0.429	0.561	0.71	0.876							
C	1090	727	545	436	363	311	273	242	218							
D	0.028	0.063	0.112	0.175	0.252	0.343	0.449	0.568	0.701							

Notes:

- U = Uniform Load, psf
- C = Concentrated Load, psf
- D = Deflection, in.

- 1.) Allowable loads are based on the latest edition of AISI, 1986 Edition w/ 12/11/89 Addendum.
- 2.) This table is a theoretical calculation of the allowable loads and deflections for the specified spans. There are no test results to verify the actual load carrying capabilities. This table should be used as a reference only.
- 3.) Loads and deflections are based on side channel deflection only, and does not account for strut loading of the grating surface.

PRE-FABRICATED MODULAR BUILDING - FOUNDATION CALCULATIONS - STANDARD SHEARWALL				IBC 2012
Client:	Williams Scotsman	Occupant:	North Clackamas Christian School (NCCS)	Bldg Type: 28x64-Library
Date:	22-Oct-16	Location	- 19575 Sebastian Way, Oregon City OR 97045	Fdn.Type: KCDA Standard Shearwall w/Concrete Pads
Project #:	201604	Task #	12.1-1 E2016229	State(s): WA 97405

Table of Contents

MULTI-UNIT MODULAR BUILDINGS

KCDA' Style Foundation

28x64-Library

(2) 14x64 UNITS - CLASSROOM BUILDING, North Clackamas Christian School (NCCS), - 19575 Sebastian Way, Oregon City OR 97045



PRE-FABRICATED MODULAR BUILDING - FOUNDATION CALCULATIONS - STANDARD SHEARWALL			IBC 2012
Client:	Williams Scotsman	Occupant:	North Clackamas Christian Building: 28x64-Library
Date:	October 22, 2016	Location	- 19575 Sebastian Way, Oregon City OR 97045
Project #:	201604	Task #	12.1-1
		FDN Criteria	25,100,110B,D,0.683,1500
		State(s):	WA 97405

I. DESIGN CRITERIA:

Building Risk Category, BRC	II	ASCE 7-10 Table 1-1 & IBC 2012
Dead Load: Roof, RDL =	12 psf	
Floor, FDL =	10 psf	
Wall, WDL =	9 psf	
Roof Live Load:	SEAW-"SNOW LOAD ANALYSIS FOR WASHINGTON"	Elev SL Coef GSL
		392 0.025 20.00
Snow Load, RLL =	25 psf	35.7 Ground Snow Load
Load Duration Factor, Cd =	1.15 %	25 psf
Floor Load:	Library	100 psf ASCE 7-10 Table 4-1
Concentrated Live Load, p =	2000 lbs.	ASCE 7-10 Table 4-1
Partition, PDL =	0 psf	ASCE 7-10 Section 4.3.2
Wind Load: Basic Wind Speed, V =	110 mph	ASCE 7-10, Figure 26.5-1B
"a" Edge Pressure Distance =	3.60 ft	ASCE 7-10, Figure 28.6-1
Roof Slope = 2 :12 =	9.46 Degrees	
Edge Wind Pressure, Wep =	21.6 psf	ASCE 7-10, Figure 28.6-1
Interior Wind Pressure, Wip =	14.4 psf	ASCE 7-10, Figure 28.6-1
Average Wind Pressure, Wp =	16.27 psf	ASCE 7-10, Figure 28.6-1
Exposure Category = B Exposure Factor, λ	1.00	ASCE 7-10, Figure 28.6-1
Wind Topographic Factor, Kz = Seattle Wind Study	1.00	ASCE 7-10, Figure 26.8-1
Design Wind Pressure, Pw = Wp*λ*Iw*Kz =	16.3 psf	ASCE 7-10 Equation 28.6-1
Seismic: - 19575 Sebastian Way, Oregon City OR 97045		45.322311 E
Total Weight, Wtot =	33.42 psf	-122.579465 W
Snow Load % Used in Seismic Design =	0%	ASCE 7-10 Section 12.7.2
Seismic Site Class =	D	ASCE 7-10 Section 20.3
Mapped Spectral Accelerations, short periods, Ss =	0.897 0.390	ASCE 7-10, Figure 22-1
Site Coefficient, Fa =	1.141 1.620	ASCE 7-10 Table 11.4-1
Max. Spectral Response, SMS = Fa*Ss =	1.02 0.63	ASCE 7-10 Equation 11.4-1
Design Spectral Response, SDS = 2/3*SMS =	0.683 0.421	ASCE 7-10 Equation 11.4-3
Response Modification Coefficient, Rw =	6.5	ASCE 7-10 Section 12.14-1
Seismic Design Category =	D	ASCE 7-10 Table 11.6-1
Redundancy Factor, ps =	1.00	ASCE 7-10, 12.3.4
Seismic Importance Factor, Ie	1	ASCE 7-10, Table 1.5-2
Total Shear, pst = F*SDS*Wtot/Rw =	3.51 psf	ASCE 7-10 EQ 12.8-1

PRE-FABRICATED MODULAR BUILDING - FOUNDATION CALCULATIONS - STANDARD SHEARWALL			IBC 2012
Client:	Williams Scotsman	Occupant:	North Clackamas Christian Building: 28x64-Library
Date:	October 22, 2016	Location	- 19575 Sebastian Way, Oregon City OR 97045
Project #:	201604	Task #	12.1-1
		FDN Criteria	25,100,110B,D,0.683,1500
		State(s):	WA 97405

Dimensions:	Unit Length, L =	64	ft.
	Module Width, MW =	13.85	ft.
	Width, W = # Units = 2	27.70	ft.
	Wall Height, Wht =	9.00	ft.
	Roof Height, Rht = 2 :12 Slope	2.31	ft.
	Floor Height above NG, Fht = 29	2.42	ft.
	Building Ht Coeff, Htc = Rht+Wht+Fht-15	1.00	
	# of Floor Spans per Module	2.00	
	Clear Distance between supports, L2a =	6.93	feet

II. FOUNDATION DESIGN

A. Foundation Components

Individual Bearing Pads - Precast Concrete Bearing Pads OR P.T. Wood Pads

Depth of Structural Base or Paved Surface	4	inches	
Width, wbp =	16	inches	11.25
Length, lbp =	16	inches	24.00
Minimum Bearing Area, BA =	576	Sq. Inches	616
IBC-T.18.4.2 Allowable Soil Bearing Pressure, [Class 4] Q =	1500	psf.	By Others
Allowable Load, Pbp = (BA)/144*Q =	6000	pounds	6416.7 #

Anchors - Auger Anchors OR (2) Cross-Drive W/Stabil'X' Plate

Allowable Anchor Capacity, Anchc =	4725	lbs. (Ultimate)	
Sheathing Attachment, End Walls - 7d Nails Sheathing to Rim Joist,	4	in. o.c.	312
Sheathing Attachment, Side Walls - 7d Nails Sheathing to Rim Joist,	6	in. o.c.	254
Spacing	6	ft.	8

B. Exterior Pads - Library (Floor and Roof Loads, Around Perimeter)

Exterior Uniform Floor Load, ufl = (FLLu+FDL+PDL)L2a/2+(RLL+RDL)*MW/	718	lb/ft.	
Max. Pad Spacing, Mps = Pfla/ufl =	6.00	ft.	6.00 ft.

Use: (11) 16-inch x 16-inch pad @ 6-ft o.c. supporting exterior frames on 4-inches of Structural Base of Pavement.

C. Interior Pads -Library (Floor Loads Only)

Interior Uniform Floor Load, ifll = (FLL+FDL)*MW/2 =	762	lb/ft.	
Max. Pad Spacing, Mps = Pfla/ifll =	7.88	ft.	8.00 ft.

Use: (8) 16-inch x 16-inch pad @ 7.87-ft o.c. supporting interior frames on 4-inches of Structural Base of Pavement.

D. Column Pads (Roof Loads Only)

Mateline Roof Beams Uniform Roof Load, mbrl = (RLL+RDL)*MW =	512	lb/ft.	
Effective Mateline Beam Span, Mps = Pfla/mbrl =	11.71	ft.	12.52 ft.

Use: (1) 16-inch x 16-inch pads for every 11.7-ft effective Mateline Beam Span.

Use: Exterior Column Support	16	ft	2 Pads
Use: Interior Column Support	32	ft	3 Pads

PRE-FABRICATED MODULAR BUILDING - FOUNDATION CALCULATIONS - STANDARD SHEARWALL			IBC 2012
Client:	Williams Scotsman	Occupant:	North Clackamas Christian Building: 28x64-Library
Date:	October 22, 2016	Location	- 19575 Sebastian Way, Oregon City OR 97045
Project #:	201604	Task #	12.1-1
		FDN Criteria	25,100,110B,D,0.683,1500
		State(s):	WA 97405

E. Lateral Design

1. Longitudinal Walls Anchors (Front & Back, Long Module Walls Loaded, End Shearwalls)

Unit Wind Load, UWL = $(W_{ht} + R_{ht} + F_{ht}/2) * P_w * L =$	13035 lbs	Governs
Unit Seismic Load, USL = $W * p_{st} =$	6225 lbs	
Effective Soil Anchor Resistance, ESAR @ $Asa^\circ =$	4725 lbs.	
Building Weight =	59244 lbs	
Building Weight Factor =	0.00	
Foundation Friction Factor =	0.40	
Gravity Resistance, GR = Building WT * Friction Factor =	0 lbs.	
OTM = Lateral Load * $w_{ht}/2 +$ Uplift	458174 Ft-lbs	
RM = $0.9 * \text{Building } W_t * W/2$	738470 Ft-lbs	
Factor of Safety = RM/OTM	1.61	No Uplift Anchors Required

Use: (3) Anchors, Min., Sheathing w/ 0.092x1-7/8 Siding Nail @ 4 in o.c.

2. Lateral Walls Anchors (End, Short Walls Loaded, Longitudinal Shearwalls)

Unit Wind Load, UWL = $(W_{ht} + R_{ht}/2 + F_{ht}/2) * P_w * W =$	5121 lbs.	
Unit Seismic Lateral Load, USLL = $L * p_{st} =$	6225 lbs.	Governs
Effect. End Soil Anchor Resist..., ELSAR @ $Asa^\circ =$	4725 lbs.	
Building Weight Factor =	0.00	
Gravity Resistance, GR = Building WT * Friction Factor =	0 lbs.	
OTM = Lateral Load * $w_{ht}/2 +$ Uplift	951089 Ft-lbs	
RM = $0.9 * \text{Building } W_t * W/2$	1706213 Ft-lbs	
Factor of Safety = RM/OTM	1.79	No Uplift Anchors Required

Use: (2) Anchors, Min., Sheathing w 0.092x1-7/8 Siding Nail @ 6 in o.c.

TYPE II –SITE PLAN AND DESIGN REVIEW
Applicant’s Submittal
February 13, 2017

APPLICANT: Roseann Johnson, Bluestone Homes
16081 S. Moore Rd
Oregon City, OR 97045

OWNER: North Clackamas Christian School Society
Douglas Van Zanten, Business Officer
19575 Sebastian Way, Oregon City, OR 97045

REQUEST: Add 28’ X 64’ modular building west of existing school site, for library and media center.

LOCATION: 19575 Sebastian Way, Oregon City, OR 97045
3-2E-08DA-06400

I. BACKGROUND:

- 1. Existing Conditions:** North Clackamas Christian School (NCCS) is 5.44 acres and located at 19575 Sebastian Way in Oregon City. It is zoned R-10 with a previous conditional use (27-73) for a school in a residential zone. The school has a current enrollment of 262: 26 in Pre-School; 125 in elementary (K-6); and 110 in secondary (7-12). There are 27 daily staff. The school requires a dedicated media center and enlarged library space and is therefore proposing a modular building to accommodate such needs.
- 2. Project Description:** The applicant requests conditional use permit approval for placement of a 28’ X 64’ modular building on the North Clackamas Christian School campus. The modular building will be used for a media center and library. No additional classroom space is being generated and therefore there is no anticipated increase in student enrollment or staff. The applicant also requests site plan and design review and variance approvals for the project.

II. RESPONSES TO THE OREGON CITY MUNICIPAL CODE:

CHAPTER 17.62 SITE PLAN AND DESIGN REVIEW

17.62.015 - Modifications that will better meet design review requirements. The review body may consider modification of site-related development standards. These modifications are done as part of design review and are not required to go through the Variance process pursuant to [section 17.60.020](#). Adjustments to use-related development standards (such as floor area ratios, intensity of use, size of the use, number of units, or concentration of uses) are required to go through the Variance process pursuant to [section 17.60.020](#). Modifications

that are denied through design review may be requested as Variance through the Variance process pursuant to [section 17.60.020](#). The review body may approve requested modifications if it finds that the applicant has shown that the following approval criteria are met:

- A. The modification will result in a development that better meets design guidelines; and
 - B. The modification meets the intent of the standard. On balance, the proposal will be consistent with the purpose of the standard for which a modification is requested.
- Applicant's Response: The applicant requests variances per 17.62.055.**

17.62.020 - Preapplication conference.

Prior to filing for site plan and design review approval, the applicant shall confer with the community development director pursuant to [Section 17.50.030](#). The community development director shall identify and explain the relevant review procedures and standards.

Applicant's Response: NCCS submitted a pre-application and took part in the pre-application conference March 23, 2016.

17.62.030 - When required.

Site plan and design review shall be required for all development of real property in all zones except the R-10, R-8, R-6, R-5 and R-3.5 zoning districts, unless otherwise provided for by this title or as a condition of approval of a permit. Site plan and design review shall also apply to all conditional uses, cottage housing development, multi-family and non-residential uses in all zones. No building permit or other permit authorization for development shall be issued prior to site plan and design review approval. Parking lots and parking areas accessory to uses regulated by this chapter also shall require site plan and design review approval. Site plan and design review shall not alter the type and category of uses permitted in zoning districts.

Applicant's Response: Site plan and design review applies given the elements of the application's conditional use.

17.62.040 - Plans required.

A complete application for site plan and design review shall be submitted. Except as otherwise in subsection I of this section, the application shall include the following plans and information:

A. A site plan or plans, to scale, containing the following:

1. Vicinity information showing streets and access points, pedestrian and bicycle pathways, transit stops and utility locations;
2. The site size, dimensions, and zoning, including dimensions and gross area of each lot or parcel and tax lot and assessor map designations for the proposed site and immediately adjoining properties;
3. Contour lines at two-foot contour intervals for grades zero to ten percent, and five-foot intervals for grades over ten percent;
4. The location of natural hazard areas on and within one hundred feet of the boundaries of the site, including:
 - a. Areas indicated on floodplain maps as being within the one hundred-year floodplain,
 - b. Unstable slopes, as defined in Section 17.44.020,
 - c. Areas identified on the seismic conditions map in the comprehensive plan as subject to earthquake and seismic conditions;

5. *The location of natural resource areas on and within one hundred feet of the boundaries of the site, including fish and wildlife habitat, existing trees (six inches or greater in caliper measured four feet above ground level), wetlands, streams, natural areas, wooded areas, areas of significant trees or vegetation, and areas designated as being within the natural resources overlay district;*
6. *The location of inventoried historic or cultural resources on and within one hundred feet of the boundaries of the site;*
7. *The location, dimensions, and setback distances of all existing permanent structures, improvements and utilities on or within twenty-five feet of the site, and the current or proposed uses of the structures;*
8. *The location, dimensions, square footage, building orientation and setback distances of proposed structures, improvements and utilities, and the proposed uses of the structures by square footage;*
9. *The location, dimension and names, as appropriate, of all existing and platted streets, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle accessways and other pedestrian and bicycle ways, transit street and facilities, neighborhood activity centers, and easements on and within two hundred fifty feet of the boundaries of the site;*
10. *The location, dimension and names, as appropriate, of all proposed streets, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle accessways and other pedestrian and bicycle ways, transit streets and facilities, neighborhood activity centers, and easements on and within two hundred fifty feet of the boundaries of the site;*
11. *All parking, circulation, loading and servicing areas, including the locations of all carpool, vanpool and bicycle parking spaces as required in [Chapter 52](#) of this title;*
12. *Site access points for automobiles, pedestrians, bicycles and transit;*
13. *On-site pedestrian and bicycle circulation;*
14. *Outdoor common areas proposed as open space;*
15. *Total impervious surface created (including buildings and hard ground surfaces).*
16. *The proposed location, dimensions and materials of fences and walls.*
- B. *A landscaping plan, drawn to scale, showing the location and types of existing trees (six inches or greater in caliper measured four feet above ground level) and vegetation proposed to be removed and to be retained on the site, the location and design of landscaped areas, the varieties, sizes and spacings of trees and plant materials to be planted on the site, other pertinent landscape features, and irrigation systems required to maintain plant materials.*
- C. *Architectural drawings or sketches, drawn to scale and showing floor plans, elevations accurately reflected to grade, and exterior materials of all proposed structures and other improvements as they will appear on completion of construction.*
- D. *A materials board, no larger size than eleven inches by seventeen inches clearly depicting all building materials with specifications as to type, color and texture of exterior materials of proposed structures. An electronic version may be accepted as an alternative if approved by the community development director.*
- E. *An erosion/sedimentation control plan, in accordance with the requirements of Chapter 17.47 and the Public Works Erosion and Sediment Control Standards, and a drainage plan developed in accordance with city drainage master plan requirements, [Chapter 13.12](#) and the Public Works Stormwater and Grading Design Standards. The drainage plan shall identify the location of*

drainage patterns and drainage courses on and within one hundred feet of the boundaries of the site. Where development is proposed within an identified hazard area, these plans shall reflect concerns identified in the hydrological/geological/geotechnical development impact statement.

F. The legal description of the site.

G. An exterior lighting plan, drawn to scale, showing type, height, and area of illumination.

H. Archeological Monitoring Recommendation. For all projects that will involve ground disturbance, the applicant shall provide:

1. A letter or email from the Oregon State Historic Preservation Office Archaeological Division indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the Oregon State Historic Preservation Office and that the Oregon State Historic Preservation Office had not commented within forty-five days of notification by the applicant; and

2. A letter or email from the applicable tribal cultural resource representative of the Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and the Confederated Tribes of the Yakama Nation indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the applicable tribal cultural resource representative and that the applicable tribal cultural resource representative had not commented within forty-five days of notification by the applicant.

If, after forty-five days notice from the applicant, the Oregon State Historic Preservation Office or the applicable tribal cultural resource representative fails to provide comment, the city will not require the letter or email as part of the completeness review. For the purpose of this section, ground disturbance is defined as the movement of native soils.

I. Such special studies or reports as the community development director may require to obtain information to ensure that the proposed development does not adversely affect the surrounding community or identified natural resource areas or create hazardous conditions for persons or improvements on the site. The community development director shall require an applicant to submit one or more development impact statements, as described in [Section 16.12.050](#), upon determination that (1) there is a reasonable likelihood that traffic safety or capacity improvements may be required; (2) the proposal could have significant adverse impacts on identified natural resource areas, including areas designated as being within the natural resources overlay district; or (3) the proposal would be located on or could have significant adverse impacts on natural hazard areas, including the geologic hazard and flood plain overlay districts. The community development director shall determine which types of development impact statements are necessary and provide written reasons for requiring the statement(s). The development impact statements shall include the information described in [Sections 16.12.070](#), [16.12.080](#), and [16.12.120](#) [and this Section] [17.62.040](#).

J. The community development director may waive the submission of information for specific requirements of this section or may require information in addition to that required by a specific provision of this section, as follows:

1. The community development director may waive the submission of information for a specific requirement upon determination either that specific information is not necessary to evaluate the application properly, or that a specific approval standard is not applicable to the

application. If submission of information is waived, the community development director shall, in the decision, identify the waived requirements, explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority. If the matter is forwarded to the planning commission for initial review, the information required by this paragraph shall be included in the staff report;

2. The community development director may require information in addition to that required by a specific provision of this section upon determination that the information is needed to evaluate the application properly and that the need can be justified on the basis of a special or unforeseen circumstance. If additional information is required, the community development director shall, in the decision, explain the reasons for requiring the additional information.

K. If the applicant has not already done so as some other part of the land use review process, the applicant shall submit an erosion control plan that complies with the applicable requirements of Chapter 17.74 of this code.

Applicant's Response: All applicable plans are submitted with this application.

17.62.050 - Standards.

A. All development shall comply with the following standards:

1. Landscaping, A minimum of fifteen percent of the lot shall be landscaped. Existing native vegetation shall be retained to the maximum extent practicable. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.

Applicant's Response: Approximately 60% of the site is currently landscaped. With the addition of a modular, approximately 59% of the site will be landscaped. Existing native vegetation will be retained aside from the grass that will be removed during clearing and grading.

a. Except as allowed elsewhere in the zoning and land division chapters of this Code, all areas to be credited towards landscaping must be installed with growing plant materials. A reduction of up to twenty-five percent of the overall required landscaping may be approved by the community development director if the same or greater amount of pervious material is incorporated in the non-parking lot portion of the site plan (pervious material within parking lots are regulated in OCMC [17.52.070](#)).

Applicant's Response: The applicant proposes growing plant material along with some rock in the rain garden.

b. Pursuant to Chapter 17.49, landscaping requirements within the Natural Resource Overlay District, other than landscaping required for parking lots, may be met by preserving, restoring and permanently protecting native vegetation and habitat on development sites.

Applicant's Response: N/A

c. The landscaping plan shall be prepared by a registered landscape architect and include a mix of vertical (trees and shrubs) and horizontal elements (grass, groundcover, etc.) that within three years will cover one hundred percent of the Landscape area. No mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy

of shrubs and within two feet of the base of trees. The community development department shall maintain a list of trees, shrubs and vegetation acceptable for landscaping.

Applicant's Response: The landscape plan is prepared by Bruce Bieri, licensed landscape architect. The plan includes a mix of horizontal and vertical elements.

d. For properties within the Downtown Design District, or for major remodeling in all zones subject to this chapter, landscaping shall be required to the extent practicable up to the ten percent requirement.

Applicant's Response: N/A

e. Landscaping shall be visible from public thoroughfares to the extent practicable.

Applicant's Response: Landscaping is visible from pedestrian walkways that circumnavigate the buildings in the back of school, including music room, middle school, and high school.

f. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum, unless otherwise permitted by the dimensional standards of the underlying zone district.

Applicant's Response: The site achieves the 15% minimum exclusive of the interior parking lot landscaping.

2. Vehicular Access and Connectivity.

a. Parking areas shall be located behind buildings, below buildings, or on one or both sides of buildings.

Applicant's Response: On this site, the parking areas are located in front of the buildings.

b. Ingress and egress locations on thoroughfares shall be located in the interest of public safety. Access for emergency services (fire and police) shall be provided.

Applicant's Response: Ingress and egress is situated for public safety. Access for emergency services is provided.

c. Alleys or vehicular access easements shall be provided in the following Districts: R-2, MUC-1, MUC-2, MUD and NC zones unless other permanent provisions for access to off-street parking and loading facilities are approved by the decision-maker. The corners of alley intersections shall have a radius of not less than ten feet.

Applicant's Response: N/A

d. Sites abutting an alley shall be required to gain vehicular access from the alley unless deemed impracticable by the community development director.

Applicant's Response: N/A

e. Where no alley access is available, the development shall be configured to allow only one driveway per frontage. On corner lots, the driveway(s) shall be located off of the side street (unless the side street is an arterial) and away from the street intersection. Shared driveways shall be required as needed to accomplish the requirements of this section. The location and design of pedestrian access from the sidewalk shall be emphasized so as to be clearly visible and

distinguishable from the vehicular access to the site. Special landscaping, paving, lighting, and architectural treatments may be required to accomplish this requirement.

Applicant's Response: NCCS has two wide driveways for site access and exit on the east portions of the site. The northeast driveway has a circular one-way flow which allows for a smooth traffic circulation particularly during school drop-off and pick up times.

f. Driveways that are at least twenty-four feet wide shall align with existing or planned streets on adjacent sites.

Applicant's Response: N/A per pre-application conference notes.

g. Development shall be required to provide existing or future connections to adjacent sites through the use of vehicular and pedestrian access easements where applicable. Such easements shall be required in addition to applicable street dedications as required in [Chapter 12.04](#).

Applicant's Response: N/A per pre-application conference notes.

h. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker only where dedication of a street is deemed impracticable by the city.

Applicant's Response: N/A per pre-application conference notes.

i. Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements.

Applicant's Response: N/A

j. In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future.

Applicant's Response: N/A

k. Parcels larger than three acres shall provide streets as required in [Chapter 12.04](#). The streets shall connect with existing or planned streets adjacent to the site.

Applicant's Response: N/A per pre-application conference notes.

l. Parking garage entries shall not dominate the streetscape. They shall be designed and situated to be ancillary to the use and architecture of the ground floor. This standard applies to both public garages and any individual private garages, whether they front on a street or private interior access road.

Applicant's Response: N/A

m. Buildings containing above-grade structured parking shall screen such parking areas with landscaping or landscaped berms, or incorporate contextual architectural elements that complement adjacent buildings or buildings in the area. Upper level parking garages shall use articulation or fenestration treatments that break up the massing of the garage and/or add visual interest.

Applicant's Response: N/A

3. Building structures shall be complimentary to the surrounding area. All exterior surfaces shall present a finished appearance. All sides of the building shall include materials and design characteristics consistent with those on the front. Use of inferior or lesser quality materials for side or rear facades or decking shall be prohibited.

a. Alterations, additions and new construction located within the McLoughlin Conservation District, Canemah National Register District, and the Downtown Design District and when abutting a designated Historic Landmark shall utilize materials and a design that incorporates the architecture of the subject building as well as the surrounding district or abutting Historic Landmark. Historic materials such as doors, windows and siding shall be retained or replaced with in kind materials unless the community development director determines that the materials cannot be retained and the new design and materials are compatible with the subject building, and District or Landmark. The community development director may utilize the Historic Review Board's Guidelines for New Construction (2006) to develop findings to show compliance with this section.

b. In historic areas and where development could have a significant visual impact, the review authority may request the advisory opinions of appropriate experts designated by the community development director from the design fields of architecture, landscaping and urban planning. The applicant shall pay the costs associated with obtaining such independent professional advice; provided, however, that the review authority shall seek to minimize those costs to the extent practicable.

Applicant's Response: N/A

4. Grading shall be in accordance with the requirements of [Chapter 15.48](#) and the public works stormwater and grading design standards.

Applicant's Response: Minor grading for a temporary foundation (no excavated footings) will be addressed during building permit review phase.

5. Development subject to the requirements of the Geologic Hazard overlay district shall comply with the requirements of that district.

Applicant's Response: N/A

6. Drainage shall be provided in accordance with city's drainage master plan, [Chapter 13.12](#), and the public works stormwater and grading design standards.

Applicant's Response: The applicant proposes to mitigate stormwater from the modular building via downspouts to splash guards. The splash guards will feed into a rain garden off the southwest corner of the modular.

7. Parking, including carpool, vanpool and bicycle parking, shall comply with city off-street parking standards, [Chapter 17.52](#).

Applicant's Response: NCCS vehicular parking complies with city off-street parking standards, see 17.52 applicant response. The applicant requests an exception to the bicycle parking standard; no students or staff currently bike to school. Note: while bicycle parking areas

could be explored, the school does not currently have a demand for this as it is not practicable for the students and staff to bike to and from this rural location.

8. Sidewalks and curbs shall be provided in accordance with the city's transportation master plan and street design standards. Upon application, the community development director may waive this requirement in whole or in part in those locations where there is no probable need, or comparable alternative location provisions for pedestrians are made.

Applicant's Response: N/A per pre-application conference notes.

9. A well-marked, continuous and protected on-site pedestrian circulation system meeting the following standards shall be provided:

a. Pathways between all building entrances and the street are required. Pathways between the street and buildings fronting on the street shall be direct. Exceptions may be allowed by the director where steep slopes or protected natural resources prevent a direct connection or where an indirect route would enhance the design and/or use of a common open space.

Applicant's Response: The pedestrian circulation system is well-marked, continuous and protected.

b. The pedestrian circulation system shall connect all main entrances on the site. For buildings fronting on the street, the sidewalk may be used to meet this standard. Pedestrian connections to other areas of the site, such as parking areas, recreational areas, common outdoor areas, and any pedestrian amenities shall be required.

Applicant's Response: The pedestrian circulation system connects all main entrances on the site and to a recreational area via sidewalks; it connects to parking areas via a marked pedestrian walkway.

c. Elevated external stairways or walkways, that provide pedestrian access to multiple dwelling units located above the ground floor of any building are prohibited. The community development director may allow exceptions for external stairways or walkways located in, or facing interior courtyard areas provided they do not compromise visual access from dwelling units into the courtyard.

Applicant's Response: N/A

d. The pedestrian circulation system shall connect the main entrances of adjacent buildings on the same site.

Applicant's Response: The pedestrian circulation system currently connects to and will continue to connect the main entrances of all adjacent buildings on the NCCS site.

e. The pedestrian circulation system shall connect the principal building entrance to those of buildings on adjacent commercial and residential sites where practicable. Walkway linkages to adjacent developments shall not be required within industrial developments or to industrial developments or to vacant industrially-zoned land.

Applicant's Response: There is a pathway that connects to the adjacent commercial development to the south.

f. On-site pedestrian walkways shall be hard surfaced, well drained and at least five feet wide. Surface material shall contrast visually to adjoining surfaces. When bordering parking spaces other than spaces for parallel parking, pedestrian walkways shall be a minimum of seven feet in width unless curb stops are provided. When the pedestrian circulation system is parallel and adjacent to an auto travel lane, the walkway shall be raised or separated from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps for each direction of travel. Pedestrian walkways that cross drive isles or other vehicular circulation areas shall utilize a change in textual material or height to alert the driver of the pedestrian crossing area.

Applicant's Response: The pedestrian walkway in front of the main entrances borders non-parallel parking spaces and is a raised sidewalk with curb stops. The sidewalk is 3'9" wide with an additional 4' of landscape width between the sidewalk and the building. The pedestrian walkway that connect to the commercial development to the south is approximately 6' wide and separated from bus parking by a raised grassy on the southern end of said walkway. Moving north, it is also adjacent to a marked no-parking area that extends east from the basketball/recreation area approximately 50'. This no-parking area is kept clear at all times and was previously used for buses to drive to their storage area on said basketball/recreation area. The pedestrian pathways that cross the vehicular circulation area are clearly marked with a change in textual material (white outline and diagonal white striping). The school implements a systematic dismissal routine such that students wait at the no parking area east of the basketball/recreation area and are dismissed via the textually marked pedestrian pathway to an authorized individual for pickup.

10. There shall be provided adequate means to ensure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.

Applicant's Response: NCCS has adequate means to ensure continued and necessary maintenance of the grounds and associated private infrastructure.

11. Site planning shall conform to the requirements of OCMC [Chapter 17.41](#) Tree Protection.

Applicant's Response: No trees are proposed for removal. Existing trees are far enough away from the modular placement area, which is proposed for minimal clearing and grading and no excavated footings for the modular foundation.

12. Development shall be planned, designed, constructed and maintained to protect water resources and habitat conservation areas in accordance with the requirements of the city's Natural Resources Overlay District, Chapter 17.49, as applicable.

Applicant's Response: N/A

13. All development shall maintain continuous compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or

building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.

Applicant's Response: The modular addition will maintain compliance with applicable federal, state and city standards per above.

14. Adequate public water and sanitary sewer facilities sufficient to serve the proposed or permitted level of development shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. Service providers shall be presumed correct in the evidence, which they submit. All facilities shall be designated to city standards as set out in the city's facility master plans and public works design standards. A development may be required to modify or replace existing offsite systems if necessary to provide adequate public facilities. The city may require over sizing of facilities where necessary to meet standards in the city's facility master plan or to allow for the orderly and efficient provision of public facilities and services. Where over sizing is required, the developer may request reimbursement from the city for over sizing based on the city's reimbursement policy and fund availability, or provide for recovery of costs from intervening properties as they develop.

Applicant's Response: No additional sewer or water facilities are needed or proposed for the modular addition.

15. Adequate right-of-way and improvements to streets, pedestrian ways, bike routes and bikeways, and transit facilities shall be provided and be consistent with the city's transportation master plan and design standards and this title. Consideration shall be given to the need for street widening and other improvements in the area of the proposed development impacted by traffic generated by the proposed development. This shall include, but not be limited to, improvements to the right-of-way, such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. Compliance with [Chapter] 12.04, Streets, Sidewalks and Public Places shall be sufficient to achieve right-of-way and improvement adequacy.

Applicant's Response: No increased traffic is anticipated to be generated by the proposed modular addition. No associated right-of-way, transportation, or pedestrian circulation improvements are proposed per the pre-application conference notes.

16. If a transit agency, upon review of an application for an industrial, institutional, retail or office development, recommends that a bus stop, bus turnout lane, bus shelter, accessible bus landing pad, lighting, or transit stop connection be constructed, or that an easement or dedication be provided for one of these uses, consistent with an agency adopted or approved plan at the time of development, the review authority shall require such improvement, using designs supportive of transit use. Improvements at a major transit stop may include intersection

or mid-block traffic management improvements to allow for crossings at major transit stops, as identified in the transportation system plan.

Applicant's Response: No improvements related to transit are proposed, per the pre-application conference notes.

17. All utility lines shall be placed underground.

Applicant's Response: The modular building will be connected to on-site electric meter via private underground electrical connection.

18. Access and facilities for physically handicapped people shall be incorporated into the site and building design consistent with applicable federal and state requirements, with particular attention to providing continuous, uninterrupted access routes.

Applicant's Response: The proposed modular has an ADA ramp.

19. For a residential development, site layout shall achieve at least eighty percent of the maximum density of the base zone for the net developable area. Net developable area excludes all areas for required right-of-way dedication, land protected from development through Natural Resource or Geologic Hazards protection, and required open space or park dedication.

Applicant's Response: N/A. There is a previously granted (1973) conditional use to operate as a school (institution) and the current application includes conditional use expansion.

20. Screening of Mechanical Equipment:

a. Rooftop mechanical equipment, including HVAC equipment and utility equipment that serves the structure, shall be screened. Screening shall be accomplished through the use of parapet walls or a sight-obscuring enclosure around the equipment constructed of one of the primary materials used on the primary facades of the structure, and that is an integral part of the building's architectural design. The parapet or screen shall completely surround the rooftop mechanical equipment to an elevation equal to or greater than the highest portion of the rooftop mechanical equipment being screened. In the event such parapet wall does not fully screen all rooftop equipment, then the rooftop equipment shall be enclosed by a screen constructed of one of the primary materials used on the primary facade of the building so as to achieve complete screening.

Applicant's Response: No rooftop mechanical equipment is proposed.

b. Wall-mounted mechanical equipment shall not be placed on the front facade of a building or on a facade that faces a right-of-way. Wall-mounted mechanical equipment, including air conditioning or HVAC equipment and groups of multiple utility meters, that extends six inches or more from the outer building wall shall be screened from view from streets; from residential, public, and institutional properties; and from public areas of the site or adjacent sites through the use of (a) sight-obscuring enclosures constructed of one of the primary materials used on the primary facade of the structure, (b) sight-obscuring fences, or (c) trees or shrubs that block at least eighty percent of the equipment from view or (d) painting the units to match the building. Wall-mounted mechanical equipment that extends six inches or less from the outer building wall shall be designed to blend in with the color and architectural design of the subject building.

Applicant's Response: Wall-mounted mechanical equipment is located on the north and south ends of the proposed modular building and extends more than 6" from the outer building walls. This mechanical equipment will be screened by painting the units to match the building as well as by trees on the NW and SW corners of the building, per the landscape plan.

c. Ground-mounted above-grade mechanical equipment shall be screened by ornamental fences, screening enclosures, trees, or shrubs that block at least eighty percent of the view. Placement and type of screening shall be determined by the community development director.

Applicant's Response: No ground-mounted above-grade mechanical equipment is proposed.

d. All mechanical equipment shall comply with the standards in this section. If mechanical equipment is installed outside of the site plan and design review process, planning staff shall review the plans to determine if additional screening is required. If the proposed screening meets this section, no additional planning review is required.

Applicant's Response: No mechanical equipment will be installed outside the site plan and design review process.

e. This section shall not apply to the installation of solar energy panels, photovoltaic equipment or wind power generating equipment.

Applicant's Response: No solar, photovoltaic or wind power equipment is proposed.

21. Building Materials.

a. Preferred building materials. Building exteriors shall be constructed from high quality, durable materials. Preferred exterior building materials that reflect the city's desired traditional character are as follows:

i. Brick.

ii. Basalt stone or basalt veneer.

iii. Narrow horizontal wood or composite siding (generally five inches wide or less); wider siding will be considered where there is a historic precedent.

iv. Board and baton siding.

v. Other materials subject to approval by the community development director.

vi. Plywood with battens or fiber/composite panels with concealed fasteners and contiguous aluminum sections at each joint that are either horizontally or vertically aligned.

vii. Stucco shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.

Applicant's Response: The modular building materials include narrow horizontal composite siding per the manufacturer's specifications.

b. Prohibited materials. The following materials shall be prohibited in visible locations unless an exception is granted by the community development director based on the integration of the material into the overall design of the structure.

i. Vinyl or plywood siding (including T-111 or similar plywood).

ii. Glass block or highly tinted, reflected, translucent or mirrored glass (except stained glass) as more than ten percent of the building facade.

iii. Corrugated fiberglass.

iv. Chain link fencing (except for temporary purposes such as a construction site or as a gate for a refuse enclosure).

[v.] Crushed colored rock/crushed tumbled glass.

[vi.] Non-corrugated and highly reflective sheet metal.

Applicant's Response: The applicant proposes to keep the chain link fencing that surrounds the site, in its current condition.

c. *Special material standards: The following materials are allowed if they comply with the requirements found below:*

1. *Concrete block. When used for the front facade of any building, concrete blocks shall be split, rock- or ground-faced and shall not be the prominent material of the elevation. Plain concrete block or plain concrete may be used as foundation material if the foundation material is not revealed more than three feet above the finished grade level adjacent to the foundation wall.*

2. *Metal siding. Metal siding shall have visible corner moldings and trim and incorporate masonry or other similar durable/permanent material near the ground level (first two feet above ground level).*

3. *Exterior Insulation and Finish System (EIFS) and similar toweled finishes shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.*

4. *Building surfaces shall be maintained in a clean condition and painted surfaces shall be maintained to prevent or repair peeling, blistered or cracking paint.*

Applicant's Response: 1-3: N/A. 4: Building and painted surfaces will be maintained for cleanliness and to prevent paint deterioration.

22. *Conditions of Approval. The review authority may impose such conditions as it deems necessary to ensure compliance with these standards and other applicable review criteria, including standards set out in city overlay districts, the city's master plans, and city public works design standards. Such conditions shall apply as described in Sections 17.50.310, 17.50.320 and 17.50.330. The review authority may require a property owner to sign a waiver of remonstrance against the formation of and participation in a local improvement district where it deems such a waiver necessary to provide needed improvements reasonably related to the impacts created by the proposed development. To ensure compliance with this chapter, the review authority may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the city attorney.*

Applicant's Response: The applicant understands there may arise such conditions of approval. Per the pre-application notes, it appears that no other improvements are necessary.

17.62.055 - *Institutional and commercial building standards.*

A. *Purpose. The primary objective of the regulations contained in this section is to provide a range of design choices that promote creative, functional, and cohesive development that is compatible with surrounding areas. Buildings approved through this process are intended to serve multiple tenants over the life of the building, and are not intended for a one-time occupant. The standards encourage people to spend time in the area, which also provides safety*

through informal surveillance. Finally, this section is intended to promote the design of an urban environment that is built to human scale by creating buildings and streets that are attractive to pedestrians, create a sense of enclosure, provide activity and interest at the intersection of the public and private spaces, while also accommodating vehicular movement.

Applicant's Response: The addition of a modular building to the existing NCCS site is intended to serve the school's students and staff year over year. The modular is proposed to be situated in an area adjacent and accessible the rest of the site. Pedestrian access is as close to existing buildings as possible and via a walkway off of the existing concrete path. Proposed landscaping softens the new building facades and connects it to existing buildings. Moreover, the reasons for adding the modular-- namely to house an expanded library and media center-- signal progress and institutional advancement. Location, landscaping, and purpose of the building all serve to create an inviting space and destination.

B. Applicability. In addition to [Section 17.62.050](#) requirements, institutional and commercial buildings shall comply with design standards contained in this section.

Applicant's Response: The applicant seeks a variance in a few instances, namely Relationship between zoning district design standards and requirements of this section; Relationship of Buildings to Streets and Parking; Variation in Massing; Minimum Wall Articulation; and Facade Transparency. The modular will otherwise comply with design standards for institutional buildings.

C. Relationship between zoning district design standards and requirements of this section.

1. Building design shall contribute to the uniqueness of the underlying zoning district by applying appropriate materials, elements, features, color range and activity areas tailored specifically to the site and its context.

Applicant's Response: The modular's exterior can be painted a variety of color patterns; standard submitted specs indicate gray. Likewise, windows and doors on the east entrance allow for maximum usable library and media space inside the building, on the north, south and west walls.

2. A standardized prototype or franchise design shall be modified if necessary to meet the provisions of this section.

Applicant's Response: N/A. The modular is not a standardized prototype or franchise design.

3. In the case of a multiple building development, each individual building shall include predominant characteristics, architectural vocabulary and massing shared by all buildings in the development so that the development forms a cohesive place within the underlying zoning district or community.

Applicant's Response: N/A. It is not practical to incorporate the same architectural elements of the larger existing school facility in the proposed modular. Said modular is proposed for placement to the east of (behind) the majority of the existing school buildings and as such has minimal impact on the overall appearance of the school as viewed from public entrances. The single-story design, scale and proposed location of the building serve to form a cohesive site.

4. *With the exception of standards for building orientation and building front setbacks, in the event of a conflict between a design standard in this section and a standard or requirement contained in the underlying zoning district, the standard in the zoning district shall prevail.*

Applicant's Response: N/A. The applicant requests a variance for 17.62.055. C, D, G, H and I. Besides these, there are no conflicts between the underlying zone district requirements and those of this section.

5. *On sites with one hundred feet or more of frontage at least sixty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line, unless a greater setback is accepted under the provisions of Section 17.62.055D. For sites with less than one hundred feet of street frontage, at least fifty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line unless a greater setback is accepted under the provisions of Section 17.62.055D.*

Applicant's Response: The applicant seeks a variance to 17.62.055.C; the current setback is over 100' to the school's front buildings. Existing parking and landscaping are mutually incorporated within this setback.

D. Relationship of Buildings to Streets and Parking.

1. *Buildings shall be placed no farther than five feet from the front property line. A larger front yard setback may be approved through site plan and design review if the setback area incorporates at least one element from the following list for every five feet of increased setback requested:*

a. Tables, benches or other approved seating area.

b. Cobbled, patterned or paved stone or enhanced concrete.

c. Pedestrian scale lighting.

d. Sculpture/public art.

e. Fountains/Water feature.

f. At least twenty square feet of landscaping or planter boxes for each tenant facade fronting on the activity area.

g. Outdoor café.

h. Enhanced landscaping or additional landscaping.

i. Other elements, as approved by the community development director, that can meet the intent of this section.

Applicant's Response: The applicant requests a variance to this subsection D. The current setback is over 200' to the school's front buildings. Parking and landscaping, including large established trees, are mutually incorporated within this setback. Several years ago, enhanced landscaping was designed and implemented in the front triangle portion of the site. It is not practical to place the modular within five feet of the front property line as that would separate it significantly from the existing school facility.

2. *The front most architecturally significant facade shall be oriented toward the street and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined and recessed or framed by a sheltering element such as an awning, arcade or portico in order to provide shelter from the summer sun and winter weather.*

Applicant's Response: The modular building facade is not visible from the street making the first part of this standard not applicable. The primary building entrance is clearly defined and the applicant requests a variance to the framing requirement. There are sheltering eaves north of the middle school and south of the high school which offer sheltering from the summer sun and winter weather.

3. Entryways. The primary entranceway for each commercial or retail establishment shall face the major street. The entrance may be recessed behind the property line a maximum of five feet unless a larger setback is approved pursuant to Section 17.62.055.D.1 and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined, highly visible and recessed or framed by a sheltering element including at least four of the following elements, listed below.

a. Canopies or porticos;

b. Overhangs;

c. Recesses/projections;

d. Arcades;

e. Raised corniced parapets over the door;

f. Peaked roof forms;

g. Arches;

h. Outdoor patios;

i. Display windows;

j. Architectural details such as tile work and moldings which are integrated into the building structure and design;

k. Integral planters or wing walls that incorporate landscaped areas and/or places for sitting.

l. Planter boxes and street furniture placed in the right-of-way shall be approved for use according to materials, scale and type.

Applicant's Response: N/A. The school site is neither commercial nor retail.

4. Where additional stores will be located in the large retail establishment, each such store shall have at least one exterior customer entrance, which shall conform to the same requirements. (Ord. 01-1002 §2, 2001)

Applicant's Response: N/A. The school site is neither commercial nor retail.

5. Trellises, canopies and fabric awnings may project up to five feet into front setbacks and public rights-of-way, provided that the base is not less than eight feet at the lowest point and no higher than ten feet above the sidewalk. Awnings shall be no longer than a single storefront.

Applicant's Response: N/A. N/A. The school site is neither commercial nor retail.

E. Corner Lots.

For buildings located at the corner of intersections, the primary entrance of the building shall be located at the corner of the building or within twenty-five feet of the corner of the building. Additionally, one of the following treatments shall be required:

1. Incorporate prominent architectural elements, such as increased building height or massing, cupola, turrets, or pitched roof, at the corner of the building or within twenty-five feet of the corner of the building.

2. Chamfer the corner of the building (i.e. cut the corner at a forty-five-degree angle and a minimum of ten feet from the corner) and incorporate extended weather protection (arcade or awning), special paving materials, street furnishings, or plantings in the chamfered area.

Applicant's Response: N/A. The site is not on a corner.

F. Commercial First Floor Frontage.

In order to ensure that the ground floor of structures have adequate height to function efficiently for retail uses, the first floor height to finished ceiling of new infill buildings in the mixed use and neighborhood commercial districts shall be no lower than fourteen feet floor to floor. Where appropriate, the exterior facade at the ceiling level of new structures shall include banding, a change of materials or relief which responds to the cornice lines and window location of existing buildings that about new structures.

Applicant's Response: N/A. The site is not commercial.

G. Variation in Massing.

1. A single, large, dominant building mass shall be avoided in new buildings and, to the extent reasonably feasible, in development projects involving changes to the mass of existing buildings.

Applicant's Response: The applicant requests a variance. It is not practical to create a variation in massing due to the modular nature of the building.

2. Horizontal masses shall not exceed a height: width ratio of one-to-three without substantial variation in massing that includes a change in height and projecting or recessed elements.

Applicant's Response: The applicant requests a variance. It is not practical to create this ratio or the substantial variation in massing due to building's modular components and hence requirement to be transported to the site.

3. Changes in mass shall be related to entrances, the integral structure and/or the organization of interior spaces and activities and not merely for cosmetic effect.

Applicant's Response: The applicant requests a variance. It is not practical to create entrance, integral structure and/or interior space changes in massing due to the building's modular components and hence requirement to be transported to the site.

H. Minimum Wall Articulation.

1. Facades shall add architectural interest and variety and avoid the effect of a single, long or massive wall with no relation to human size. No wall that faces a street or connecting walkway shall have a blank, uninterrupted length exceeding thirty feet without including, but not be limited to, at least two of the following:

i. Change in plane,

ii Change in texture or masonry pattern or color,

iii. Windows, treillage with landscaping appropriate for establishment on a trellis.

iv. An equivalent element that subdivides the wall into human scale proportions.

Applicant's Response: No modular walls face a street. The east modular wall, which is 64' and faces connecting walkways, includes windows (iii.) and landscaping (iv.) that creates a more dynamic, human scale facade.

2. *Facades greater than one hundred feet in length, measured horizontally, shall incorporate wall plane projections or recesses having a depth of at least three percent of the length of the facade and extending at least twenty percent of the length of the facade. No uninterrupted length of any facade shall exceed one hundred horizontal feet.*

Applicant's Response: N/A. Facades are proposed to not exceed 64' in length.

3. *Ground floor facades that face public streets shall have arcades, display windows, entry areas, awnings or other such features along no less than sixty percent of their horizontal length.*

Applicant's Response: N/A. The proposed modular does not face a public street.

4. *Building facades must include a repeating pattern that includes any one or more of the following elements:*

a. Color change;

b. Texture change;

c. Material module change.

Applicant's Response: The applicant requests a variance for three of the four building facades. The east facade contains patterns of texture and material module changes as a result of the two doors and four proposed windows. The north, south and west facades are not proposed to have any repeating patterns but will be softened by landscaping. The additional costs of creating repeating patterns contributes to a financial hardship that if beared would serve only aesthetic purposes; the building will be screened largely from view of the north, south and west properties and thus will not diminish their access to light, air or safety. The doors and windows on the east facade will function as a repeating pattern and serve to unify the modular with the rest of the buildings on the campus.

5. *Facades shall have an expression of architectural or structural bays through a change in plane no less than twelve inches in width, such as an offset, reveal or projecting rib.*

Applicant's Response: The applicant requests a variance. It is not possible to have plane changes in the modular composition, but the landscaping serves to break up the building facades.

6. *Facades shall have at least one of elements subsections H.4. or H.5. of this section repeat horizontally. All elements shall repeat at intervals of no more than thirty feet, either horizontally or vertically.*

Applicant's Response: The applicant requests a variance. There are no horizontally repeating patterns but facades will be softened by landscaping.

I. Facade Transparency.

1. *Transparent windows or doors facing the street are required. The main front elevation shall provide at least sixty percent windows or transparency at the pedestrian level. Facades on corner lots shall provide at least sixty percent windows or transparency on all corner-side facades. All other side elevations shall provide at least thirty percent transparency. The transparency is measured in lineal fashion. For example, a one hundred-foot long building elevation shall have at least sixty feet (sixty percent of one hundred feet) of transparency in length. Reflective, glazed, mirrored or tinted glass is limited to ten percent of the lineal footage*

of windows on the street facing facade. Highly reflective or glare-producing glass with a reflective factor of one-quarter or greater is prohibited on all building facades. Any glazing materials shall have a maximum fifteen percent outside visual light reflectivity value. No exception shall be made for reflective glass styles that appear transparent when internally illuminated.

Applicant's Response: The applicant requests a variance. The proposed modular has four proposed windows on the main front elevation, at the pedestrian level, each measuring 46" X 48". This amounts to 16' of window length transparency, or 25% of the main front elevation. The doors are not currently proposed to have transparency. These are the manufacturer's standard specs for windows and doors which the applicant proposes to keep so as to prevent additional costs associated with adding windows. No other side elevations are proposed to have transparency so as to maintain as much interior wall space for library book shelves and computer stations. Additionally, having windows on the south and/or west sides of the modular would increase energy transfer on those sides, thereby increasing cooling and heating costs. This is especially true as minimal landscaping is proposed on the west side due to the soccer field proximity.

2. Side or rear walls that face walkways may include false windows and door openings only when actual doors and windows are not feasible because of the nature of the use of the interior use of the building. False windows located within twenty feet of a right-of-way shall be utilized as display windows with a minimum display depth of thirty-six inches.

Applicant's Response: The applicant does not propose any false windows or doors as these are not part of the standard specifications for the proposed modular building, and would add costs to the project if they were to be ordered.

J. Roof Treatments.

1. All facades shall have a recognizable "top" consisting of, but not limited to:

- a. Cornice treatments, other than just colored "stripes" or "bands," with integrally textured materials such as stone or other masonry or differently colored materials; or*
- b. Sloping roof with overhangs and brackets; or*
- c. Stepped parapets;*
- d. Special architectural features, such as bay windows, decorative roofs and entry features may project up to three feet into street rights-of-way, provided that they are not less than nine feet above the sidewalk.*

Applicant's Response: The proposed modular has a sloping architectural style roof with overhangs on sides of the modular that have non-fire rated facades. According to the building code and discussions with the manufacturer, either parapets or fire-rated roof modules without overhangs would be present on distances 15' and less from the assumed property line between buildings.

2. Mixed use buildings: For flat roofs or facades with a horizontal eave, fascia, or parapet, the minimum vertical dimension of roofline modulation is the greater of two feet or 0.1 multiplied by the wall height (finish grade to top of wall). The maximum length of any continuous roofline shall be seventy-five feet.

Applicant's Response: N/A. The building is not mixed use.

3. Other roof forms consistent with the design standards herein may satisfy this standard if the individual segments of the roof with no change in slope or discontinuity are less than forty feet in width (measured horizontally).

Applicant's Response: N/A

K. Drive-through facilities shall:

1. Be located at the side or rear of the building.
2. Be designed to maximize queue storage on site.

Applicant's Response: N/A

17.62.056 - Additional standards for large retail establishments.

Applicant's Response: N/A

17.62.057 - Multi-family standards.

Applicant's Response: N/A

17.62.059 - Cottage Housing.

Applicant's Response: N/A

17.62.065 - Outdoor lighting.

A. Purpose. The general purpose of this section is to require outdoor lighting that is adequate for safety and convenience; in scale with the activity to be illuminated and its surroundings; directed to the surface or activity to be illuminated; and designed to clearly render people and objects and contribute to a pleasant nighttime environment. Additional specific purposes are to:

1. Provide safety and personal security as well as convenience and utility in areas of public use or traverse, for uses where there is outdoor public activity during hours of darkness;
2. Control glare and excessive brightness to improve visual performance, allow better visibility with relatively less light, and protect residents from nuisance and discomfort;
3. Control trespass light onto neighboring properties to protect inhabitants from the consequences of stray light shining in inhabitants' eyes or onto neighboring properties;
4. Result in cost and energy savings to establishments by carefully directing light at the surface area or activity to be illuminated, using only the amount of light necessary; and
5. Control light pollution to minimize the negative effects of misdirected light and recapture views to the night sky.

Applicant's Response: The proposed modular currently has one 40 watt fluorescent light with lexan cover with integral photo cell, per sheet A3 of the plans.

B. Applicability.

1. General.

- a. All exterior lighting for any type of commercial, mixed-use, industrial or multi-family development shall comply with the standards of this section, unless excepted in subsection B.3.
- b. The city engineer/public works director shall have the authority to enforce these regulations on private property if any outdoor illumination is determined to present an immediate threat to the public health, safety and welfare.

Applicant's Response: The exterior lighting is proposed for the east exterior facade of the modular.

2. Lighting Plan Requirement.

All commercial, industrial, mixed-use, cottage housing and multi-family developments shall submit a proposed exterior lighting plan. The plan must be submitted concurrently with the site plan. The exterior lighting plan shall include plans and specifications for streetlights, parking lot lights, and exterior building lights. The specifications shall include details of the pole, fixture height and design, lamp type, wattage, and spacing of lights.

Applicant's Response: The exterior lighting plan is included on page A3 of the proposed modular building plans.

3. Excepted Lighting.

The following types of lighting are excepted from the requirements of this section.

- a. Residential lighting for single-family attached and detached homes, and duplexes.*
- b. Public street and right-of-way lighting.*
- c. Temporary decorative seasonal lighting provided that individual lamps have a light output of sixty watts or less.*
- d. Temporary lighting for emergency or nighttime work and construction.*
- e. Temporary lighting for theatrical, television, and performance areas, or for special public events.*
- f. Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.*
- g. Lighting required and regulated by the Federal Aviation Administration.*

Applicant's Response: N/A

C. General Review Standard. If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design standards of subsection D. below shall be deemed to not adversely affect adjacent properties or the community.

Applicant's Response: The applicant will comply with design standards of subsection D below.

D. Design and Illumination Standards.

General Outdoor Lighting Standard and Glare Prohibition.

1. Outdoor lighting, if provided, shall be provided in a manner that enhances security, is appropriate for the use, avoids adverse impacts on surrounding properties, and the night sky through appropriate shielding as defined in this section. Glare shall not cause illumination on other properties in excess of a measurement of 0.5 footcandles of light as measured at the property line. In no case shall exterior lighting add more than 0.5 footcandle to illumination levels at any point off-site. Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:

Applicant’s Response: The exterior lighting is only on the east side of the modular, facing the rest of the school site and away from the residential properties to the north and west, and the commercial property to the south.

2. Any light source or lamp that emits more than nine hundred lumens (thirteen watt compact fluorescent or sixty watt incandescent) shall be concealed or shielded with a full cut-off style fixture in order to minimize the potential for glare and unnecessary diffusion on adjacent property. All fixtures shall utilize one of the following bulb types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high pressure sodium with a color rendering index above seventy.

Applicant’s Response: The proposed light source is a 40 watt fluorescent shielded by a lexan cover with integral photo cell, per sheet A3 of the plans.

3. The maximum height of any lighting pole serving a multi-family residential use shall be twenty feet. The maximum height serving any other type of use shall be twenty-five feet, except in parking lots larger than five acres, the maximum height shall be thirty-five feet if the pole is located at least one hundred feet from any residential use.

Applicant’s Response: The exterior light’s height is proposed at approximately 7.5’ above grade.

4. Lighting levels:

Table 1-17.62.065. Foot-candle Levels

Location	Min	Max	Avg
Pedestrian Walkways	0.5	7:1 max/min ratio	1.5
Pedestrian Walkways in Parking Lots		10:1 max/min ratio	0.5
Pedestrian Accessways	0.5	7:1 max/min ratio	1.5
Building Entrances	3		
Bicycle Parking Areas	3		
Abutting property	N/A	.05	

Applicant’s Response: The modular’s exterior light is proposed to illuminate the pedestrian walkway to the east by the minimum, and not to exceed the maximum, number of footcandles of light.

5. Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize pedestrian scale lighting that defines the space without glare.

Applicant's Response: N/A. The proposed modular's light has no impact on the parking lots, or other background or foreground spaces of the NCCS site.

6. Any on-site pedestrian circulation system shall be lighted to enhance pedestrian safety and allow employees, residents, customers or the public to use the walkways at night. Pedestrian walkway lighting through parking lots shall be lighted to light the walkway and enhance pedestrian safety pursuant to Table 1.

Applicant's Response: The current NCCS pedestrian circulation system is adequately lighted for pedestrian safety. There is no additional pedestrian walkway lighting proposed.

7. Pedestrian Accessways. To enhance pedestrian and bicycle safety, pedestrian accessways required pursuant to OCMC 12.28 shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances. Lamps shall include a high-pressure sodium bulb with an unbreakable lens.

Applicant's Response: Pedestrian accessways are illuminated with pedestrian scale lighting. There is a public street light between the north and south entrance/exit sets.

8. Floodlights shall not be utilized to light all or any portion of a building facade between ten p.m. and six a.m.

Applicant's Response: No floodlights are used between these hours.

9. Lighting on automobile service station, convenience store, and other outdoor canopies shall be fully recessed into the canopy and shall not protrude downward beyond the ceiling of the canopy.

Applicant's Response: N/A

10. The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.

Applicant's Response: The light style and fixture proposed is adequate given the modular style and architectural character of the existing buildings.

11. In no case shall exterior lighting add more than one foot-candle to illumination levels at any point off-site.

Applicant's Response: The exterior lighting is only on the east side of the modular, facing the rest of the school site and away from the residential properties to the north and west, and the commercial property to the south. Illumination levels off-site will not be increased by more than one foot-candle.

12. All outdoor light not necessary for security purposes shall be reduced, activated by motion sensor detectors, or turned off during non-operating hours.

Applicant's Response: The exterior light on the east facade of the modular is proposed to remain illuminated for security purposes.

13. Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object.

Applicant's Response: N/A. No light fixtures of this type are proposed.

14. For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roofline.

Applicant's Response: N/A. No lighting is directed upward.

15. No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.

Applicant's Response: N/A. No flickering or flashing lights are proposed.

16. Wireless Sites. Unless required by the Federal Aviation Administration or the Oregon Aeronautics Division, artificial lighting of wireless communication towers and antennas shall be prohibited. Strobe lighting of wireless communication facilities is prohibited unless required by the Federal Aviation Administration. Security lighting for equipment shelters or cabinets and other on-the-ground auxiliary equipment on wireless communication facilities shall be initiated by motion detecting lighting.

Applicant's Response: N/A.

17. Lighting for outdoor recreational uses such as ball fields, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards:

i. Maximum permitted light post height: eighty feet.

ii. Maximum permitted illumination at the property line: 0.5 foot-candles.

Applicant's Response: N/A. The school does not propose any lighting for outdoor recreational use.

17.62.080 - Special development standards along transit streets.

A. Purpose. This section is intended to provide direct and convenient pedestrian access to retail, office and institutional buildings from public sidewalks and transit facilities and to promote pedestrian and transit travel to commercial and institutional facilities.

Applicant's Response: While most of this section is not applicable given that neither the NCCS site nor proposed modular front on a transit street, the NCCS site does have access to the commercial site to the south via a pathway and secure, gated fence.

B. Applicability. Except as otherwise provide in this section, the requirements of this section shall apply to the construction of new retail, office and institutional buildings which front on a transit street.

Applicant's Response: N/A. The proposed modular does not front on a transit street.

C. Development Standards.

1. All buildings shall have at least one main building entrance oriented towards the transit street. A main building entrance is oriented toward a transit street if it is directly located on the

transit street, or if it is linked to the transit street by an on-site pedestrian walkway that does not cross off-street parking or maneuvering areas.

Applicant's Response: N/A. The NCCS main building entrance is not directly located on a transit street. It is linked to a commercial parking lot by an on-site pedestrian walkway. The commercial parking lot fronts Highway 213.

a. If the site has frontage on more than one transit street, or on a transit street and a street intersecting a transit street, the building shall provide one main building entrance oriented to the transit street or to the corner where the two streets intersect.

Applicant's Response: N/A. The NCCS site does not have frontage on any transit streets or streets intersecting transit streets.

b. For building facades over three hundred feet in length on a transit street, two or more main building entrances shall be provided as appropriate and oriented towards the transit street.

Applicant's Response: N/A. NCCS has no building facades on a transit street, or over 300' in length.

2. Main building entrances shall be well lighted and visible from the transit street. The minimum lighting level for building entries shall be three foot-candles. Lighting shall be a pedestrian scale with the source light shielded to reduce glare.

Applicant's Response: The proposed modular building's main entrance has a 40 watt fluorescent bulb shielded by a lexan cover and integral photo cell. The lighting level for the modular building entry will be at least three foot-candles.

3. In the event a requirement of this section conflicts with other requirements in [Title 17](#), the requirements of this section shall control.

Applicant's Response: There are no conflicts between this section and other Title 17 requirements.

D. Exemptions. The following permitted uses are exempted from meeting the requirements of subsection C. of this section:

- 1. Heavy equipment sales;*
- 2. Motor vehicle service stations, including convenience stores associated therewith;*
- 3. Solid waste transfer stations; and*
- 4. Truck stops, including convenience stores, eating or drinking establishments, overnight accommodations or other similar services associated therewith. A use found by the community development director to be similar to the exempt uses above.*

Applicant's Response: N/A. The applicant proposes no exempted uses.

17.62.085 - Refuse and recycling standards for commercial, industrial, and multi-family developments.

Applicant's Response: N/A

17.62.090 - Enforcement.

Applicant's Response: N/A

17.62.095 - Performance guarantees.

A. Purpose. This section states the requirements for performance guarantees when they are required of an applicant by this section or as a condition of a site plan and design review approval.

B. Types of guarantees. Guarantees by the applicant may be in the form of a performance bond payable to the city in cash, by certified check, time certificate of deposit, irrevocable letter of credit, or other form acceptable to the city. Indemnity agreements may be used by other governmental agencies. Guarantees must be accompanied by a contract. The form of the guarantee and contract must be approved by the city attorney. The community development director is authorized to accept and sign the contract for the city, and to accept the guarantee. The guarantee must be filed with the city recorder.

C. Amount of guarantee. The amount of the performance guarantee must be equal to at least one hundred ten percent of the estimated cost of performance. The applicant must provide written estimates by three contractors with their names and addresses. The estimates must include as separate items all materials, labor, and other costs of the required action.

D. Completion. An inspection and approval of the action or improvement covered by the performance guarantee is required before the performance guarantee is returned. The inspection is done by the Planning Division or by other appropriate city departments. If the action or improvement is not completed satisfactorily within the stated time limits, the city may have the necessary action or improvement completed and seek reimbursement for the work from the performance guarantee. Any remaining funds will be returned to the applicant.

Applicant's Response: The applicant acknowledges the possibility of performance guarantees associated with this site plan and design review.

17.62.100 - Fees.

Pursuant to Section 17.50.480, a nonrefundable application fee shall accompany the application for site plan and review.

Applicant's Response: The conditional use site plan and design review application is submitted with the appropriate fees.

CHAPTER 17.52 OFF-STREET PARKING AND LOADING

17.52.010 - Applicability.

The construction of a new structure or parking lot, or alterations to the size or use of an existing structure, parking lot or property use shall require site plan review approval and compliance with this chapter. This chapter does not apply to single- and two-family residential dwellings.

Applicant's Response: The applicant does not propose any new parking or alterations to existing parking.

17.52.020 - Number of automobile spaces required.

A. The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet net leasable area unless otherwise stated.

Applicant's Response:

<i>Table 17.52.020</i>				
<i>LAND USE</i>	<i>PARKING REQUIREMENTS</i>		<i>NCCS Enrollment</i>	<i>NCCS PARKING MIN/MAX</i>
	<i>MINIMUM</i>	<i>MAXIMUM</i>		
<i>Preschool Nursery/Kindergarten</i>	<i>2.00</i>	<i>3.00</i>	<i>26</i>	<i>2/3</i>
<i>Elementary/Middle School</i>	<i>1 per classroom</i>	<i>1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium</i>	<i>7 classrooms; 12 admin employees; 200 gym capacity</i>	<i>7/44</i>
<i>High School, College, Commercial School for Adults</i>	<i>0.20 per # staff and students</i>	<i>0.30 per # staff and students</i>	<i>15 staff, 125 students</i>	<i>28/42</i>
<i>Total (Min/Max/Current)</i>				<i>37/89/56</i>

1. Multiple Uses. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately.

Applicant's Response:

The sum of the totals of off-street parking requirements is 37 minimum, 89 maximum. NCCS currently has 56 parking spots, well within the minimum and maximum parking requirements for the sum of the three uses. Please see table 17.52.020.

2. Requirements for types of buildings and uses not specifically listed herein shall be determined by the community development director, based upon the requirements of comparable uses listed.

Applicant's Response:

N/A

3. Where calculation in accordance with the above list results in a fractional space, any fraction less than one-half shall be disregarded and any fraction of one-half or more shall require one space.

Applicant's Response: N/A

4. The minimum required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only, and shall not be used for storage of vehicles or materials or for the parking of vehicles used in conducting the business or use.

Applicant's Response: NCCS parking spaces are available for parking of operable passenger automobiles of students, staff, and school visitors.

5. A change in use within an existing habitable building located in the MUD Design District or the Willamette Falls Downtown District is exempt from additional parking requirements. Additions to an existing building and new construction are required to meet the minimum parking requirements for the areas as specified in Table 17.52.020 for the increased square footage.

Applicant's Response: N/A

B. Parking requirements can be met either onsite, or offsite by meeting the following conditions:

3. *On-Street Parking.* On-street parking may be counted toward the minimum standards when it is on the street face abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it shall not violate any law or street standard. On-street parking for commercial uses shall conform to the following standards:

a. *Dimensions.* The following constitutes one on-street parking space:

1. Parallel parking, each [twenty-two] feet of uninterrupted and available curb;

2. [Forty-five/sixty] degree diagonal, each with [fifteen] feet of curb;

3. Ninety degree (perpendicular) parking, each with [twelve] feet of curb.

4. *Public Use Required for Credit.* On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.

Applicant's Response: There are approximately 8 additional on-street public parking spaces on the street face abutting the subject land use: 6 east of the site along the SE side of Sebastian Way, south of the cul-de-sac on said street; and 2 east of the site NW of the cul-de-sac on Sebastian Way.

2. *Reduction in Parking for Tree Preservation.* The community development director may grant an adjustment to any standard of this requirement provided that the adjustment preserves a regulated tree or grove so that the reduction in the amount of required pavement can help preserve existing healthy trees in an undisturbed, natural condition. The amount of reduction must take into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be approved by the community development director. This reduction is discretionary.

3. *Transportation Demand Management. The community development director may reduce the required number of parking stalls up to twenty-five percent when a parking-traffic study prepared by a traffic engineer demonstrates:*

a. Alternative modes of transportation, including transit, bicycles, and walking, and/or special characteristics of the customer, client, employee or resident population will reduce expected vehicle use and parking space demand for this development, as compared to standard Institute of Transportation Engineers vehicle trip generation rates and further that the transportation demand management program promotes or achieves parking utilization lower than minimum city parking requirements.

b. Transportation demand management (TDM) program has been developed for approval by, and is approved by the city engineer. The plan will contain strategies for reducing vehicle use and parking demand generated by the development and will be measured annually. If, at the annual assessment, the city determines the plan is not successful, the plan may be revised. If the city determines that no good-faith effort has been made to implement the plan, the city may take enforcement actions.

Applicant's Response: NCCS does not propose any reductions in the amount of required parking.

Chapter 17.56 Conditional Uses

17.56.010.A.1. The use is listed as a conditional use in the underlying district;

Applicant's Response: Yes, the use (private and/or public educational or training facilities) is listed as conditional in the underlying district. This proposal is to add a modular building to an existing private educational facility.

17.56.010.A.2 The characteristics of the site are suitable for the proposed use considering size, shape, location, topography, existence of improvements and natural features;

Applicant's Response: The NCCS site is 5.44 acres/236,966 sq ft. It is trapezoidal in shape, has level topography with access off Sebastian Way from Molalla Ave. It is currently developed with a pre-K to 12th grade educational facilities, and students have been attending the school since the 1970's. Conditional Use 27-73 was approved for developing the site as a school. The proposed modular fits behind the existing building on the site, with enough room to maintain required setback distances from existing buildings.

17.56.010.A.3. Development shall demonstrate compliance with Chapter 12.04, Streets, Sidewalks and Public Places;

Applicant's Response: Per the pre-application conference notes, along with email correspondence with Public Works Department personnel regarding the site, Public Works will not require any improvements.

17.56.010.A.4. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs or precludes the use of surrounding properties for the primary uses listed in the underlying district;

Applicant's Response: The modular is proposed to be located behind existing buildings, in a pocket south of the existing high school, north of the play area and middle school, west of the music room, and east of a large field. The modular is adequately placed away from adjacent properties (commercial to the south, multifamily to the west, and single family residential to the north) and is largely shielded from their view by existing trees and foliage on the site's perimeter. The modular is not visible from the street. The Transportation Analysis Letter (TAL) prepared by Kittelson Engineering indicates the transportation system is capable of supporting the current and proposed traffic patterns given the modular is not anticipated to generate an increase in student population. In its proposed location, the modular will not have a significant impact on the surrounding properties and their use of the area.

17.56.010.A.5. The proposal satisfies the goals and policies of the city comprehensive plan which apply to the proposed use.

Applicant's Response: The following Comprehensive Plan policies are applicable to the proposed development site:

Policy 2.4.2: Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.

Response: The NCCS site is positioned between residential, commercial and multi-family properties. Additionally, Clackamas Community College is located across Highway 213, just east of the school. This diversity of uses in the area fosters a dynamic living space, and helps to create a pulsating neighborhood with multiple hubs and offerings that meet the needs of the community.

Policy 2.4.3: Promote connectivity between neighborhoods and neighborhood commercial centers through a variety of transportation modes.

Response: There is a mutually conducive connective pathway between NCCS and the commercial property to the south. OC Pointe to the North is both walkable and driveable, offering goods and services to school students, staff and visitors, as well as to the surrounding neighborhoods. The school itself offers a unique and quality education for those considering the educational options in the vicinity.

Policy 2.4.5: Ensure a process is developed to prevent barriers in the development of neighborhood schools, senior and childcare facilities, parks, and other uses that serve the needs of the immediate area and the residents of Oregon City.

Response: Because of the previously granted conditional use, NCCS was able to establish, grow and thrive in a community that has done likewise. The location of the school between commercial, residential and other educational properties allows for multiple basic needs to be met in the same vicinity.

Policy 6.1.1 Promote land-use patterns that reduce the need for distance travel by single occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.

Response: There is a mutually conducive connective pathway between NCCS and the commercial property to the south. Additionally, OC Pointe to the North is also walkable. Students, staff and their families access goods and services on a daily basis without driving, and businesses gain necessary patrons. Across the public open berm bordering Sebastian Way to the east, Highway 213 has frequent tri-met bus service that provides transportation for individuals traveling along this corridor, including to Clackamas Community College. NCCS and the College have agreements in place for NCCS to use the college track and field, which students and coaches do each spring, as well as to have gatherings in the College's community meeting room.

Goal 6.3: Nightlighting

Response: Minimal yet adequate light is proposed for the eastern portion of the building, thus having no significant impact on neighboring properties, and preserving the night skies.

Goal 11.8: Health and Education

Work with healthcare and education providers to optimize the siting and use of provider facilities.

Response: The NCCS site is owned by the North Clackamas Christian School Society. The proposed modular addition optimizes the site's use of land while providing a crucial media center and expanded library, meeting both the print and digital needs of students and educators in this age.

17.56.010.B. Permits for conditional uses shall stipulate restrictions or conditions which may include, but are not limited to, a definite time limit to meet such conditions, provisions for a front, side or rear yard greater than the minimum dimensional standards of the zoning ordinance, suitable landscaping, off-street parking, and any other reasonable restriction, condition or safeguard that would uphold the spirit and intent of the zoning ordinance, and mitigate adverse effect upon the neighborhood properties by reason of the use, extension, construction or alteration allowed as set forth in the findings of the planning commission.

Applicant's Response: Applicant acknowledges.

17.56.010.C. Any conditional use shall meet the dimensional standards of the zone in which it is to be located pursuant to subsection B of this section unless otherwise indicated, as well as the minimum conditions listed below.

Applicant's Response: The applicant proposes to meet the dimensional standards of the R10 zone, notwithstanding the variances requested in 17.60/17.62.055.

17.56.010.D. In the case of a use existing prior to the effective date of the ordinance codified in this title and classified in this title as a conditional use, any change of use, expansion of lot area or expansion of structure shall conform with the requirements for conditional use.

Applicant's Response: NCCS was established before the conditional use review requirement for schools in a residential zone. The proposed modular expands the conditional use to the point that it requires review.

17.56.010.E. *The planning commission may specifically permit, upon approval of a conditional use, further expansion to a specified maximum designated by the planning commission without the need to return for additional review.*

Applicant's Response: **The applicant does not request approval of a future conditional use expansion.**

17.56.040.A. *Building Openings. The city may limit or prohibit building openings within fifty feet of residential property in a residential zone if the openings will cause glare, excessive noise or excessive traffic which would adversely affect adjacent residential property as set forth in the findings of the planning commission.*

Applicant's Response: **N/A. No portion of the proposed modular is located within 50' of a residential property.**

17.56.040.B *Additional Street Right-of-Way. The dedication of additional right-of-way may be required where the city plan indicates need for increased width and where the street is inadequate for its use; or where the nature of the proposed development warrants increased street width.*

Applicant's Response: **N/A. The street serving NCCS (Sebastian Way) is to standard width. Per the pre-application development services/public works notes, street improvements on Sebastian Way will not be required.**

17.56.040.C *Public Utility or Communication Facility. Such facilities as a utility substation, water storage tank, radio or television transmitter, tower, tank, power transformer, pumping station and similar structures shall be located, designed and installed with suitable regard for aesthetic values. The base of these facilities shall not be located closer to the property line than a distance equal to the height of the structure. Hydroelectric generation facilities shall not exceed ninety megawatts of generation capacity.*

Applicant's Response: **N/A**

17.56.040.D *Schools. The site must be located to best serve the intended area, must be in conformance with the city plan, must have adequate access, and must be in accordance with appropriate State standards.*

Applicant's Response: **The site has been recognized and functioning as a school since the early 1970s. The site acts in part as a buffer between adjacent residential properties that have been developed in the past couple decades to the north, and the commercial development site to the south. The proposed addition allows NCCS to consolidate its library and media space and bring them further toward accepted and expected standards for a small private school. The specific proposed site area for modular placement is not significantly impactful on surrounding properties. The site has adequate access, per the Transportation Analysis Letter. The proposed modular building will meet all applicable State, local and regional standards.**

17.56.060 *Revocation of conditional use permits.*

The Planning Commission or the City Commission may initiate administrative action under Chapter 17.50 to revoke any conditional use permit previously issued by the city or, with regard

to lands annexed by the city, those such permits issued by the county. The Planning Commission or, on review, the City Commission, may revoke such permit upon determining:

A. One or more conditions attached to the grant of the conditional use permit have not been fulfilled; and

B. The unfulfilled condition is substantially related to the issuance of the conditional use permit.

Applicant's Response: N/A. The applicant does not seek any revocation of conditional use permit(s).

CHAPTER 13.12 - STORMWATER CONVEYANCE, QUANTITY AND QUALITY

Applicant's Response: N/A. Stormwater conveyance is not required.

CHAPTER 12.04 - STREETS SIDEWALKS AND PUBLIC PLACES

Applicant Response: Per Development Services/Public Works pre-application meeting notes, and emails with Wendy Marshall, Public Works will not require anything. Per the pre-application conference notes, under 'Engineering - Utilities', under 'Streets', point 2, street improvements on Sebastian Way will not be required.

Chapter 12.08 - PUBLIC AND STREET TREES^[2]

Applicant's Response: Per Development Services/Public Works pre-application meeting notes, and emails with Wendy Marshall, Public Works will not require anything. No new street trees are proposed. The site's frontage currently has numerous established trees.

CHAPTER 15.48 - GRADING, FILLING AND EXCAVATING

15.48.030 Applicability—Grading permit required.

A. A city-issued grading permit shall be required before the commencement of any of the following filling or grading activities:

- 1. Grading activities in excess of ten cubic yards of earth;*
- 2. Grading activities which may result in the diversion of existing drainage courses, both natural and man-made, from their natural point of entry or exit from the grading site;*
- 3. Grading and paving activities resulting in the creation of impervious surfaces greater than two thousand square feet or more in area;*
- 4. Any excavation beyond the limits of a basement or footing excavation, having an unsupported soil height greater than five feet after the completion of such a structure; or*
- 5. Grading activities involving the clearing or disturbance of one-half acres (twenty-one thousand seven hundred eighty square feet) or more of land.*

Applicant's Response: The addition of a modular to this site does not involve any grading or excavation activities listed in these applicable standards.

CHAPTER 17.47 - EROSION AND SEDIMENT CONTROL

17.47.070 Erosion and sediment control plans.

A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.

Applicant's Response: The applicant does not propose to excavate footings for the modular; it will be on a temporary pier pad foundation. For this reason, the applicant does not anticipate applying for an erosion and sediment control permit/plan.

CHAPTER 17.41 - TREE PROTECTION STANDARDS

Applicant's Response: No trees are proposed for removal. No trees are close enough to the development area to necessitate tree protection.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES

17.50.050 Preapplication Conference

Applicant's Response: The pre-application conference for PA 16-09 was held March 23, 2017. On September 15, 2016, the development director granted a 6-month extension, making the site plan and design review application's new due date one year from the pre-application conference date.

17.50.055 Neighborhood Association Meeting

Applicant's Response: The neighborhood association meeting was held April 28, 2016. Mr. Tim Tutty, NCCS Principal, attended and provided information on the proposal to add a modular building to the NCCS site. Approved minutes are listed on the city's website under Gaffney Lane Neighborhood Association, as well as part of this application proposal.

CHAPTER 17.54.100 – FENCES, HEDGES AND WALLS

Applicant's Response: N/A

CHAPTER 17.58 LAWFUL NONCONFORMING USES, STRUCTURES AND LOTS

Applicant's Response: N/A

Variance Review 17-01
Applicant Response to Criteria applicable to 17.62.055, C, D, G, H, I.
March 16, 2017

17.60.030 - Variance—Grounds.

A variance may be granted only in the event that all of the following conditions exist:

- A. That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title;*
- B. That the request is the minimum variance that would alleviate the hardship;*
- C. Granting the variance will equal or exceed the purpose of the regulation to be modified.*
- D. Any impacts resulting from the adjustment are mitigated;*
- E. No practical alternatives have been identified which would accomplish the same purpose and not require a variance; and*
- F. The variance conforms to the comprehensive plan and the intent of the ordinance being varied.*

1. Variance from OCMC 17.62.055.C - Variance of maximum allowed 5' setback from the street for an institutional building.

Section 17.62.055C.5 requires that, on sites with one hundred feet or more of frontage, at least sixty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line; and on sites with less than one hundred feet or more of frontage, at least fifty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line, unless a greater setback is accepted under the provisions of Section 17.62.055D.

Applicant's Response to Variance Criteria (A-F):

- A. The requested variance will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities. The front of North Clackamas Christian School (NCCS) is set back over 200 feet from the site's frontage on Sebastian Way (a dead-end street), and the setback from the proposed modular to the front property line is approximately 386 feet. The school and modular location are necessary in order to allow for the parking lot, and for both efficient and safe vehicular site circulation considering the nature of K-12 drop-off and pick-up on site. The proposed modular is situated in a protected area with existing school structures to the north and east, and over 160 feet and 300 feet of open space to the south and east, respectively. Therefore, the proposed modular location and setback from the does not impact light, air or other desirable qualities on abutting properties.
- B. The variance requested is the minimum variance feasible. Placing the building at the specified 5' setback distance would cause the modular to be removed and out of sync with the rest of the K-12 campus, all grades of which the modular is designed to serve. Students and staff would be required to cross a parking lot and 5 foot setback placement would require multiple large trees to be removed. The proposed location west and south of

existing school buildings is the only feasible spot on the property that will allow for the new modular classroom to be tied into the functions of the existing school building. Short walkways to existing building access points will allow students to move to and from the library/media center in the modular building to other campus locations for other school activities. Placing the building closer to Sebastian Way would not allow for the school to function in a unified manner that effectively serves the students.

- C. The purpose of the five foot maximum setback for institutional buildings is, presumably, to ensure that building placement supports convenient pedestrian access from public streets. In the case of NCCS, students are typically dropped off by parents or, in the case of some high school age students, drive themselves. Buses are also on campus to transport students to specific extra-curricular activities including field trips, sporting events, etc. The availability of these forms of access ensures that the purpose of the standard will be met by alternative means.
- D. The availability of bussing, parent drop-off areas and parking for self-driving students and staff all serve to mitigate for the building being set back farther from the public street than the standard for institutional buildings.
- E. The proposed location is by far the most conducive area on the school property that has open space for a new building. The identified location preserves trees, maintains safe distances for fire code, maintains the school's capacity to conduct soccer practice and host soccer games with a safe industry-standard buffer, and ties into the existing campus via short connecting walkways.
- F. There are no comprehensive plan policies that require a 5-foot maximum setback. The intent of the ordinance, while not specifically stated, is presumably to ensure convenient pedestrian access to institutional buildings. The school's established pedestrian and vehicular circulation, along with buses, provide for safe and convenient student drop-off/pick-up as well as student and staff parking. These measures achieve the same purpose as the ordinance standard.

2. Variance from OCMC 17.62.055.D.1 - Variance of maximum allowed 5' setback from the street for an institutional building, unless elements from 17.62.055.D.1.a-i are incorporated.

17.62.055.D Relationship of Buildings to Streets and Parking.

1. Buildings shall be placed no farther than five feet from the front property line. A larger front yard setback may be approved through site plan and design review if the setback area incorporates at least one element from the following list for every five feet of increased setback requested:

a. Tables, benches or other approved seating area.

b. Cobbled, patterned or paved stone or enhanced concrete.

c. Pedestrian scale lighting.

d. Sculpture/public art.

e. Fountains/Water feature.

f. At least twenty square feet of landscaping or planter boxes for each tenant facade fronting on the activity area.

g. Outdoor café.

h. Enhanced landscaping or additional landscaping.

i. Other elements, as approved by the community development director, that can meet the intent of this section.

Applicant's Response to Variance Criteria (A-F):

The applicant's response to the variance criteria for 17.62.055.D.1 is the same as for 17.62.055.C, above. The applicant would request to use 17.62.055.D.1.i 'other elements, as approved by the community development director, than can meet the intent of this section.' Parking, vehicular/pedestrian circulation, and landscaping, including large established trees, are mutually incorporated within this setback. Several years ago, enhanced landscaping was designed and implemented in a triangular portion in front of the site. It is not practical to place the modular within five feet of the front property line as that would separate it significantly from the existing school facility. The applicant does not propose to fully meet exceptions listed in 17.62.055.D.1.a-h for the setback distance of over 300 feet to the front of the existing school buildings.

3. Variance from OCMC 17.62.055.D.2, sentence two (sheltering element) - Variance to required sheltering element

17.62.055.D.2: The front most architecturally significant façade shall be oriented toward the street and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined and recessed or framed by a sheltering element such as an awning, arcade or portico in order to provide shelter from the summer sun and winter weather.

Applicant's Response to Variance Criteria (A-F):

- A. The requested variance will not reduce light, air or safe access on the site. There are sheltering eaves north of the middle school and south of the high school which offer sheltering from the summer sun and winter weather.
- B. The applicant will meet all other stair, ramp and accessway building codes providing safe pedestrian access to the modular building. Providing a sheltering element on the modular is an optional addition to the project that increases costs, and is seen as unnecessary when there are two other large sections of sheltering eaves within a short walk from the modular. Adding a sheltering element adds permit fees and time for review, as well as construction costs and on-site time separate from that incurred by the modular distributor, all of which does not provide significant value-added for the school population especially given existing sheltering very nearby and in two directions.
- C. The purpose of a sheltering element is to protect individuals from summer sun and winter weather. There are two large existing sheltering eaves, one north of the middle

school and one south of the high school which offer sheltering from the summer sun and winter weather. The availability of these shelters ensures that the purpose of the standard will be met by alternative means.

- D. The availability of two large sheltering eave structures, one north and one south of the proposed modular, serves to mitigate any negative impacts resulting from the requested variance.
- E. Utilizing the already existing sheltering elements, nearby and both north and south from the proposed modular entrances, is the most practical provision to meet this purpose. It allows for students going either direction on campus to have shelter en route to other areas of campus.
- F. There are no comprehensive plan policies that require a sheltering element on a modular addition. The intent of the ordinance is to protect individuals from the effects of harsh summer sun and/or cold/wet winter elements. The large existing nearby sheltering structures to the north and south of the proposed modular serve to meet the intent of the ordinance.

4. Variance from OCMC 17.62.055.G. - Variance of requirement for variation in building massing.

17.62.055.G.

- 1. A single, large, dominant building mass shall be avoided in new buildings and, to the extent reasonably feasible, in development projects involving changes to the mass of existing buildings.*
- 2. Horizontal masses shall not exceed a height: width ratio of one-to-three without substantial variation in massing that includes a change in height and projecting or recessed elements.*
- 3. Changes in mass shall be related to entrances, the integral structure and/or the organization of interior spaces and activities and not merely for cosmetic effect.*

Applicant's Response to Variance Criteria (A-F):

- A. The requirement for variation in massing affects only the appearance of the building. Granting a variance from this standard will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities.
- B. Modular buildings are limited in their ability to provide variation in massing due to the need to be constructed in units that may be moved from the factory to the site on surface streets. This requires that the design be a single story and that roofing heights not vary significantly. NCCS needs to provide a library/media center for use by all students (K-12) and, given the small private school's current economic status, modular construction is the only means to meet this need within the school's budget. For these reasons, the requested variance to not require variation in massing is the minimum necessary.
- C. The purpose of the requirement for varying massing is to ensure that institutional buildings are visually interesting and are appealing in appearance. The proposed design achieves this

purpose by providing windows on the east side main front elevation as well as the manufacturing option to provide varied paint colors to break up the building façades. Placement of the building to the rear of the existing school buildings, coupled with screening by the existing buildings and proposed landscaping, will ensure that the new building does not detract from the appearance of the school campus.

- D. The proposed placement of the building, variation in materials and paint color, and landscape screening will serve to mitigate for any impacts associated with the variance.
- E. Because of the limits imposed by modular building design constraints, no other alternatives have been identified to meet the school's needs while meeting this standard.
- F. There are no comprehensive plan policies that require variation in massing. The intent of the ordinance, to provide for visually appealing institutional buildings, will be met by other means, including windows, variation in paint color, and landscape screening.

5. Variance from OCMC 16.62.055.H.6 -- Variance of Minimum Wall Articulation

17.62.055.H.5. Façades shall have an expression of architectural or structural bays through a change in plane no less than twelve inches in width, such as an offset, reveal or projecting rib.

Applicant's Response to Variance Criteria (A-F):

- A. As with the requirement for variation in massing, this standard is intended to provide for visually appealing institutional building design. This standard affects only the appearance of the building. Granting a variance from it will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities.
- B. Modular buildings are limited in their ability to provide variation in wall plane due to the need to be constructed in standard-sized units that may be moved from the factory to the site on surface streets. NCCS needs to provide a library/media center for use by all students (K-12) and, given the small private school's current economic status, modular construction is the only means to meet this need within the school's budget. For these reasons, the requested variance to not require variation in wall plane is the minimum necessary.
- C. The purpose of the requirement for varying the wall plane is to ensure that institutional buildings are visually interesting and are appealing in appearance. The proposed design achieves this purpose by providing variation in wall plane materials (siding and windows) and paint colors to break up the façade of the building. Placement of the building to the rear of the existing school, along with screening by the existing buildings and proposed landscaping, will ensure that the new building does not detract from the appearance of the school campus.
- D. The proposed placement of the building, variation in materials (siding and windows) and paint colors, and landscape screening will serve to mitigate any impacts associated with the variance.
- E. Because of the limits imposed by modular building design constraints, no other alternatives have been identified to meet the school's needs while meeting this standard.
- F. There are no comprehensive plan policies that require variation in wall plane. The intent of the ordinance, to provide for visually appealing institutional buildings, will be met by other means,

including variation in materials (siding and windows) and paint colors, and landscape screening.

6. Variance to OCMC 17.62.055.I -- Transparency

17.62.055.I.(1): Transparent windows or doors facing the street are required. The main front elevation shall provide at least sixty percent windows or transparency at the pedestrian level. Façades on corner lots shall provide at least sixty percent windows or transparency on all corner-side façades. All other side elevations shall provide at least thirty percent transparency. The transparency is measured in lineal fashion. For example, a one hundred-foot long building elevation shall have at least sixty feet (sixty percent of one hundred feet) of transparency in length. Reflective, glazed, mirrored or tinted glass is limited to ten percent of the lineal footage of windows on the street facing façade. Highly reflective or glare-producing glass with a reflective factor of one-quarter or greater is prohibited on all building façades. Any glazing materials shall have a maximum fifteen percent outside visual light reflectivity value. No exception shall be made for reflective glass styles that appear transparent when internally illuminated.

Applicant's Response to Variance Criteria (A-F):

A. These transparency standards are intended to provide for visually appealing institutional building design. These standards affect only the appearance of the building. Granting a variance from them will not impact adjacent properties by reducing light, air, safe access or other desirable or necessary qualities.

B. The proposed modular's main front elevation is 64' long with four proposed windows, at the pedestrian level, each measuring 46" X 48". This amounts to 16' of window length transparency, or 25% of the main front elevation. The doors are not currently proposed to have transparency. These are the manufacturer's standard specs for windows and doors which the applicant proposes to keep so as to prevent additional costs associated with adding windows. Less than 60% of window transparency on the front elevation also allows the necessary fire code two exit door system in the front, so as to preserve interior wall space on that elevation as well as the other three façades. Furthermore, no other side elevations are proposed to have transparency, so as to maintain as much interior wall space as possible for library bookshelves and computer/other media stations. Additionally, having windows on the south and/or west sides of the modular would increase energy transfer on those sides, thereby increasing cooling and heating costs. This is especially true as minimal landscaping is proposed on the west side due to the soccer field proximity.

Modular buildings are also somewhat limited in their ability to provide variation in window glazing due to the need to be moved from the factory to the site on surface streets. Excessive window glazing could be susceptible to breakage during transport. NCCS needs to provide a library/media center for use by all students (K-12) and, given the small private school's current economic status, modular construction is the only means to meet this need within the school's

budget. For these reasons, the requested variance to 60% front elevation window transparency, and 30% window transparency for other elevations, is the minimum necessary.

- C. The purpose of the requirement for higher than normal window glazing on front elevations is to ensure that institutional buildings are visually interesting and are appealing in appearance. The proposed design does provide windows and doors on the main front elevation, breaking up a blank façade; moreover the proposal meets this purpose for the building overall by providing variation in materials (siding and windows, paint colors) to break up the building façades. Placement of the building to the rear of the existing school, coupled with screening by existing buildings and proposed landscaping, will ensure that the new building does not detract from the appearance of the school campus.
- D. The proposed placement of the building, variation in materials (siding and windows, paint colors), and landscape screening will serve to mitigate any impacts associated with the variance.
- E. The most feasible area on the school site is identified to receive the new building. This area comes with its own set of constraints, including distance between existing buildings/building projections, the soccer field, private sewer line, and general practical east side access to the building. Because of these factors, along with limits imposed by modular building design constraints, no other alternatives have been identified to meet the school's needs while meeting this standard.
- F. There are no comprehensive plan policies that require transparency standards on institutional buildings. The intent of the ordinance, to provide for visually appealing institutional buildings, will be met by other means, including variation in materials (siding and windows, paint colors), as well as existing building and landscape screening.



KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

610 SW Alder Street, Suite 700, Portland, OR 97205 P 503.228.5230 F 503.273.8169

October 25, 2016

Project #: 20723

John Replinger
Replinger & Associates LLC
6330 SE 36th Avenue
Portland, OR 97202

RE: North Clackamas Christian School Traffic Analysis Letter

Dear John,

The following Traffic Analysis Letter (TAL) has been prepared for the proposed addition of a 66'x28' modular building to the North Clackamas Christian School campus in Oregon City, OR. Based on feedback from City staff, it was determined that a TAL was required to support the land use application. The requirements for a TAL are outlined below, followed by an explanation as to how the requirements are being met.

- 1. The expected trip generation of the proposed development including the AM peak hour, the PM peak hour, daily traffic, and other germane periods as may be appropriate, together with appropriate documentation and references.*

The North Clackamas Christian School is proposing to install one 66'x28' modular trailer that will provide new library and technology media center space. Both of these functions are currently located on the existing campus in spaces that are too small to effectively serve their intended purposes. With the proposed modular facility, the existing library space will be converted into a study area/indoor space for students to eat in during inclement weather.

Based on conversations with the school and design team, we understand that no new teachers or students will be added as a function of the new modular building. Rather, the existing education/faculty and students will simply move into the new space when complete. Based on these parameters, the new modular building is not anticipated to generate an increase in daily, weekday AM, or weekday PM peak hour trips after construction, nor will the overall daily trip profile change.

2. *Site plan showing the location of all access driveways or private streets where they intersect with public streets plus driveways of abutting properties and driveways on the opposite side of the street from the proposed development.*

Figure 1 illustrates a preliminary site plan showing the existing North Clackamas Christian School campus and the location of the proposed modular building. Figure 2 illustrates the location of the campus in relation to adjacent properties and their access driveways. As shown, the proposed modular building will be located within the existing campus on west side of the facility. Based on this location, no changes are proposed to the school's two existing site access driveways located at the tip of the Sebastian Way cul-de-sac, nor will overall campus circulation change or be modified.

3. *Documentation that all site access driveways meet Oregon City Private Access Driveway Width Standards.*

Section 12.04.025 of the Oregon City Municipal Code requires that all non-residential driveways be a minimum of 15 feet in width. Both of the existing school driveways along Sebastian Way are approximately 20 feet wide, thereby meeting this requirement. No changes are proposed for these driveways.

4. *Documentation that all site access driveways meet Oregon City's Minimum City Street Intersection Spacing Standards.*

There are two site access driveways located at the end of the Sebastian Way cul-de-sac. While these driveways are located adjacent to each other, a review of existing operations during peak time periods indicates that there are no existing safety or operational concerns that would require modifications.

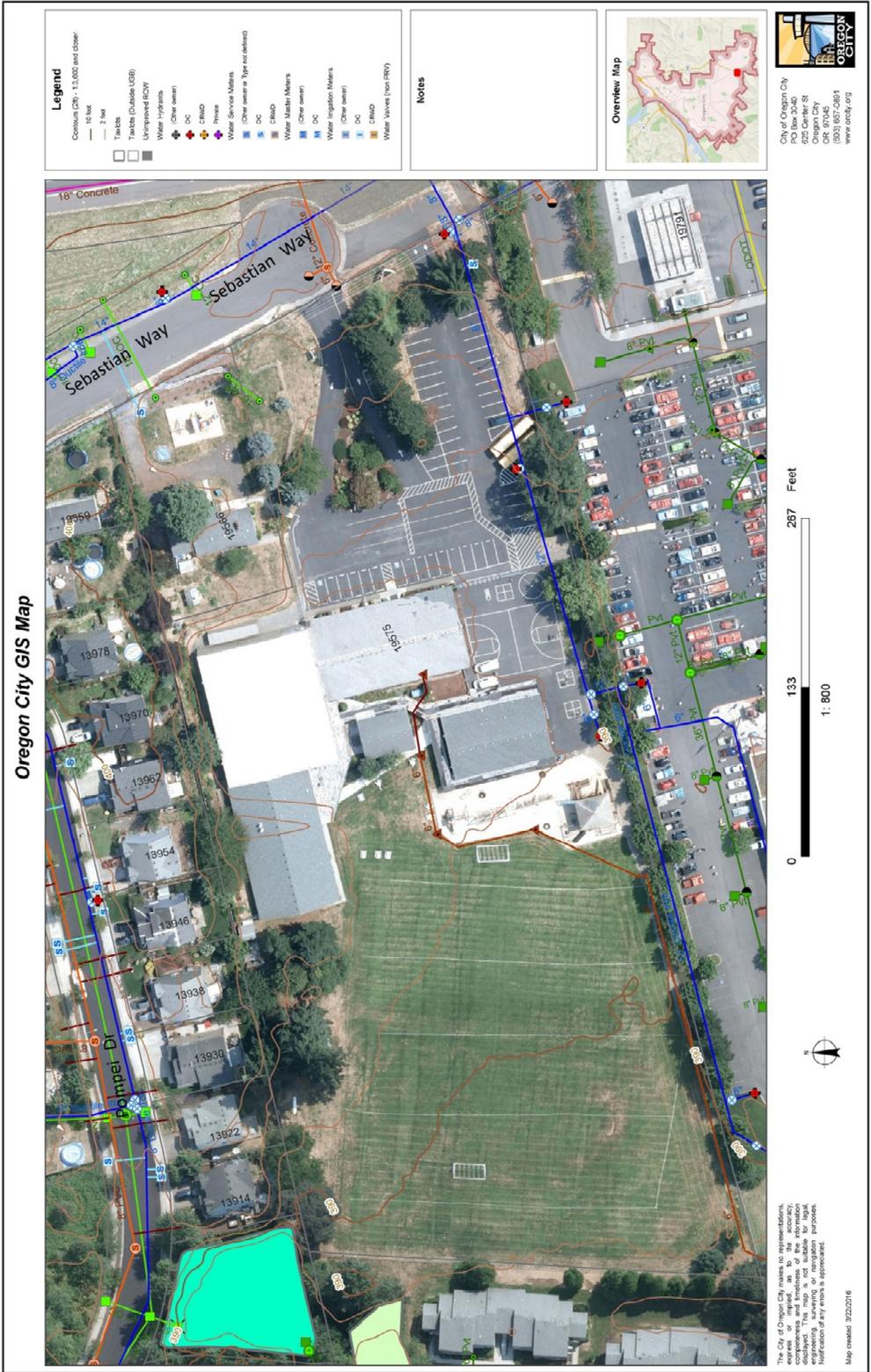
5. *Documentation that all site accesses and/or private street intersections meet AASHTO intersection sight distance guidelines.*

A review of the two existing site access driveways along Sebastian Way indicates that there are no existing or planned physical obstructions that limit sight distance for exiting vehicles. Both driveways are exceeding minimum AASHTO intersection sight distance requirements.

6. *Documentation that there are no inherent safety issues associated with the design and location of the site access driveways.*

Both existing site access driveways have sufficient intersection sight distance and will remain unaltered with construction of the proposed modular building. We observed existing operations during peak time periods and found no existing safety issues associated with the site driveway location and design.

Figure 2 – Aerial Image



7. Documentation that the applicant has reviewed the City's TSP and that proposed streets and frontage improvements do or will comply with any applicable standards regarding the functional classification, typical sections, access management, traffic calming and other attributes as appropriate.

There are no proposed streets, site access driveways, or frontage improvements associated with the proposed modular building. A review of the Oregon City TSP indicates that there are no improvements planned within the immediate vicinity of the existing school campus.

We trust this letter adequately addresses the requirements for a TAL. Please let us know if you have any questions.

Sincerely,
KITTELSON & ASSOCIATES, INC.



Matt Hughart, AICP
Associate Planner



Chris Brehmer, P.E.
Principal Engineer





Gaffney Lane Neighborhood Association

Minutes of the General Meeting April 28, 2016

1. Call to Order – Amy Willhite – 7:01 p.m.

2. In Attendance:

- Amy Willhite – Chair
- Angela Wright – Secretary/Treasurer
- Lois and Denzil McNiece
- Ed Turpin
- Pamalyn Richardson – Meadows Courtyard
- Karen Rohrs
- John Randji
- Tim Tutty – N. Clackamas Christian School
- Martin Montalva – OC Public Works Dept
- Cynthia Gates – OCPD
- John Davis
- Skipper Maine
- Tyler Dickenson - CFD St.16
- Mike Bower - CFD St.16
- Sean McHavey - CFD St.16

3. Old Business

Minutes are now emailed or mailed to all attendees. Copies were circulated to the four new attendees. Ed Turpin proposed that the Minutes of the meeting held on January 28, 2016 be approved and Pamalyn Richardson seconded the motion. Minutes approved unanimously.

4. New Business

Clackamas Fire Station 16 representatives circulated information on the Emergency Radio Replacement Bond that will be decided upon on May 17, 2016. (see attached)
Flier on Water Safety tips circulated (see attached)
Window Fall Safety tips. (see attached)

Ambulance now at Station 16 staffed by firefighters – operating Monday -Thursday 8:00 am to 6:00 pm - peak times.

File for Life – important help in emergency situation.

5. **Tim Tutty – North Clackamas Christian School** – 268 children Preschool through 12th grade. In the process of submitting an application to OC Planning to place a modular unit to the rear of their premises to house a library and computer center. See attached

6. **Martin Montalva – OC Public Works.** Amy had attended a Transportation Advisory Committee meeting and detailed the four main issues that were brought up at our last meeting.
 - (a) Martin explained that the intersection at Caufield Road, 213 and Glen Oak is a complex one with 213 being owned by the State, Caufield by the County and City is the owner/operator for the Glen Oak side. Residents want a left turn light from Caufield but City does not have the right of way. State and County do not have the money for any improvements to the intersection. The Meyers Road extension project should help with this traffic problem.
 - (b) Meyers Road extension is the City's priority over the next four years. City budget of \$5.5 million. If Federal Government gets involved \$8.5 million.
 - (c) Gaffney Lane and Molalla Avenue. Plan is for a dedicated left turn signal. Split phase. Gaffney Lane is tied to 2 other signals - Beaver creek and Clairmont. Consultant will give timing recommendation. \$10,00.00 price tag. Should be able to give an update at next meeting.
 - (d) Molalla and Char Diaz – mid block crosswalk. Transportation consultant looked at situation and recommends it be looked at during the full Molalla Avenue corridor project. \$5.5 to \$7 million cost. Hopeful for Federal funding.
 - (e) Fir Street. Speed signs repositioned and a new one at the stop sign coming south from Beaver creek.
 - (f) 9:00 to noon Saturday, April 30. Public Works open house South Center Street. Longest standing municipal facility in the City. City wants to site a new operations center in same location. Responsible for 135 miles of road, several 100 miles of water and sanitary pipelines, potable water we drink.
 - (g) Caufield Road is not on the 5 year plan for repair. Pavement maintenance fee is used analytically as to priority for repairs.
 - (h) Gaffney Lane Elementary – straightening road to take stub out and reposition utility pole. Construction to be during school summer break.
 - (i) On Caufield Road water lines replaced but still waiting for sewer to be installed. Amy will follow up.
 - (j) Congestion at Gaffney Lane Elementary with school buses and parents' cars. Hazard for emergency crews. Best to work with Principal/Vice Principal and PTA.

7. **Bond Issues**
 - (a) **Wesley Lynn Park** – developer wants to build 9 houses and needs access. Developer to build road. City to maintain. Will take some park land. Parking is an issue.

(b) Marijuana issue – regulations will be on November ballot. Do we want to allow businesses to sell recreational marijuana and medical marijuana within the City and if so where. City web site has a time line of meetings.

8. Berry Hill Apartments. In process of being sold. Contingency of a retaining wall. Ground still shifting. \$800,000 project for 220 feet of wall.
9. Library Update – End of June, library closed to move everything to new building. Will open in July and then old building (Carnegie) will be reconfigured and grand opening in October.
10. Officer Cynthia Gates circulated the crime report. She defined difference between a robbery (jerk purse off your shoulder), burglary (come into your house and take your purse) and a theft (take purse from car). Security on cars and houses as warm weather approaches.

Shred event and Drug Take Back. Drug Take Back bin in the Police Station lobby.

Cross walk event at Washington Street and 12th. Date to be announced.

National Night out – August 2 at Mount Pleasant Elementary – future site of new Police Department.

Disaster preparedness – citizen involvement. There was some discussion on the role of CERT (Community Emergency Response Teams), Neighborhood Watch, Next Door Neighbor, etc. in an emergency.

11. Meeting was adjourned at 8:40 p.m.



PRE-APPLICATION CONFERENCE

MEETING NOTES – PA 16-09

Applicant: North Clackamas Christian School
Address: 19575 Sebastian Way, Oregon City, OR 97045
Clackamas APN: 3-2E-08DA-06400
Proposal: 66' X 28' Modular Building w/ Covered Walkway
Conference Date: March 23, 2016

APPLICATIONS ANTICIPATED	FEE
Conditional Use	\$3,746.00
Site Plan and Design Review <\$500,000	\$2,043.00 +.007 x Project Cost
Transportation Analysis Letter (TAL)	\$464.00
Variance	\$2,467.00
Natural Resources Overlay District	No Charge
Mailing Labels	\$15.00

TIMING AND PROCESS:

The development proposal will be processed as a Type III application. This is a Quasi-Judicial land use decision requiring the approval of the Planning Commission. Type III decisions involve the greatest amount of discretion and evaluation of subjective approval standards, yet are not heard by the city commission, except upon appeal. In the event that any decision is not classified, it shall be treated as a Type III decision. The process for these land use decisions is controlled by ORS 197.763. See [17.50.030 - Summary of the city's decision-making processes](#). - for further explanation.

PRIOR LAND USE APPROVALS

CU-27-73 (Clackamas County) – 1973

Annexation: Boundary Change No. 2044 – October 18, 1984 – (See Metro Annexation Site: [BC2044](#))

PZ 90-01 (Oregon City) - Archived

V 86-13 (Oregon City) – Archived

Note: Archived files may be retrieved through a [Public Records Request](#).

CODE CRITERIA

Staff has prepared an Applicant report template to assist you with preparing a complete application. Please follow this template in order to assure that your application is not delayed due to inadequate code responses.

Additionally, staff has provided a staff report for a modular building at Gardiner Middle School which required a Conditional Use permit, a Variance and a Site Plan and Design Review application, for your reference. This application was approved in 2013. We anticipate that this application will be very similar. See attached Staff Report for Planning Files CU 12-01 / SP 12-19 / VR 12-05.

Conditional Use

Any expansion to, alteration of, or accessory use to a conditional use shall require planning commission approval of a modification to the original conditional use permit.

The expansion requires an Oregon City Conditional Use permit approval by the Planning Commission. The prior conditional use approval issued by Clackamas County (CU-27-73) was prior to the effective date of the Oregon city Conditional Use code. Also, the expansion exceeds the threshold for a minor modification (Minor Site Plan) since it is over 1000 square feet.

D. In the case of a use existing prior to the effective date of the ordinance codified in this title and classified in this title as a conditional use, any change of use expansion of lot area or expansion of structure shall conform with the requirements for conditional use.

Code link:

- [Chapter 17.56 - CONDITIONAL USES](#)

A. The following conditional uses, because of their public convenience and necessity and their effect upon the neighborhood shall be permitted only upon the approval of the planning commission after due notice and public hearing, according to procedure as provided in Chapter 17.50. The planning commission may allow a conditional use, provided that the applicant provides evidence



substantiating that all the requirements of this title relative to the proposed use are satisfied, and demonstrates that the proposed use also satisfies the following criteria:

- 1. The use is listed as a conditional use in the underlying district;*
- 2. The characteristics of the site are suitable for the proposed use considering size, shape, location, topography, existence of improvements and natural features;*
- 3. Development shall demonstrate compliance with Chapter 12.04, Streets, Sidewalks and Public Places;*
- 4. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs or precludes the use of surrounding properties for the primary uses listed in the underlying district;*
- 5. The proposal satisfies the goals and policies of the city comprehensive plan which apply to the proposed use.*

There are specific Oregon City Comprehensive Plan Goals and Policies that pertain to schools. Staff will provide a template to follow for these goals and policies.

- [17.56.040 - Criteria and standards for conditional uses.](#)

D. Schools. The site must be located to best serve the intended area, must be in conformance with the city plan, must have adequate access, and must be in accordance with appropriate State standards.

Site Plan and Design Review

The proposed modular building requires a Full Site Plan and Design Review application.

Code links:

- [Chapter 17.62 - SITE PLAN AND DESIGN REVIEW](#)
- [17.62.010 - Purpose.](#) Applies. Response required.
- [17.62.015 - Modifications that will better meet design review requirements.](#) Applies. Response required.
- [17.62.020 - Preapplication conference.](#) Applies. Response required.
- [17.62.030 - When required.](#) Applies. Response required.
- [17.62.035 - Minor site plan and design review.](#) Not applicable.

- 17.62.040 - Plans required. Applies. Response required.
- 17.62.050 - Standards. Applies. Responses to all sections required.
- 17.62.055 - Institutional and commercial building standards. Applies. Responses to all sections required. A variance is required – see below:
- 17.62.056 - Additional standards for large retail establishments. Not applicable.
- 17.62.057 - Multi-family standards. Not applicable.
- 17.62.059 - Cottage housing. Not applicable.
- 17.62.065 - Outdoor lighting. Applies. Response required.
- 17.62.080 - Special development standards along transit streets.
- 17.62.085 - Refuse and recycling standards for commercial, industrial, and multi-family developments. Not applicable.
- 17.62.090 - Enforcement. Not applicable.
- 17.62.095 - Performance guarantees. Applies. Response required.
- 17.62.100 - Fees.

Variance

Chapter 17.60 - VARIANCES

Due to the existing development pattern of the school, a variance will be required from various site Plan and Design Review requirements since they cannot be met for the new structure. Standards that may require a variance include the following:

- 17.62.055 - Institutional and commercial building standards.
 - D. Relationship of Buildings to Streets and Parking.*
 1. Buildings shall be placed no farther than five feet from the front property line.
 2. The front most architecturally significant facade shall be oriented toward the street.
 - G. Variation in Massing.*
 - H. Minimum Wall Articulation.*
 - I. Facade Transparency.*

For each design standard variance sought under 17.62.055, please explain how the variance criteria listed in [17.60.030 - Variance—Grounds](#). are met.

See attached Staff Report for Planning Files CU 12-01 / SP 12-19 / VR 12-05.

Natural Resources Overlay District (NROD)

[Chapter 17.49 - NATURAL RESOURCE OVERLAY DISTRICT](#)

Staff will make a finding regarding the presence of the NROD on the property, that the project is exempted from the overlay due to a prior land use decision. A prior Water Resource Application was approved when the Haggen Market development site went through land use review. This resource was altered and site mitigation

APPLICATION ITEMS

- ✓ Neighborhood Association Meeting
 - Per [17.50.055 - Neighborhood association meeting](#).
 - Gaffney Lane Neighborhood Association Meeting required prior to submittal.
 - <http://www.oregoncity.org/community/gaffney-lane-neighborhood-association>
- ✓ Provide scaled site plans per [17.62.040 - Plans required](#).
- ✓ Provide a pedestrian circulation plan
- ✓ Provide scaled plans of all façade elevations.
- ✓ Provide colors and materials.
- ✓ Provide a scaled landscaping plan prepared by licensed Landscape Architect.
- ✓ Provide a Traffic Analysis Letter (TAL) – *See comments on transportation analysis below.*
- ✓ Provide a parking analysis based on total number of classrooms existing and proposed.

[Chapter 17.08 - R-10 SINGLE-FAMILY DWELLING DISTRICT](#)

[17.08.010 - Designated.](#)

[17.08.020 - Permitted uses.](#)

[17.08.030 - Conditional uses.](#)

[17.08.040 - Dimensional standards.](#)

[Chapter 17.52 - Off-Street Parking and Loading](#)

17.52.020 - Number of automobile spaces required.

Use	Min	Max
Elementary/Middle School	1 per classroom	1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium

- Please confirm number of spaces, it is anticipated that parking will not be affected.

ENGINEERING / DEVELOPMENT SERVICES DIVISION COMMENTS

Please see attached separate comments by Development Services staff:

Matt Palmer, EIT, Dev. Engineering Associate, (503) 496-1508, Email: mpalmer@orc.org

Wendy Marshall, PE, Development Project Manager, (503) 496-1548, Email: wmarshall@orc.org

TRANSPORTATION COMMENTS

Your application was reviewed by the City's Transportation Consultant:

The applicant will need to have a traffic engineer conduct a transportation study in conformance with the City's Guidelines for Transportation Impact Analyses available on the Oregon City website.

Based on the information provided by the applicant, it appears the transportation analysis associated with this development proposal can be satisfied by submittal of a Transportation Analysis Letter (TAL). This option is available when specific criteria are met. These include a determination that the development generates 24 or fewer AM and PM peak hour trips and fewer than 250 daily trips. Details for a TAL can be found in Section 3.1 of the Guidelines. It is the applicant's responsibility to verify the trip generation characteristics of the proposed development.

The applicant's traffic engineer is welcome to contact the city's traffic engineering consultant,

John Replinger, at Replinger-Associates@comcast.net or at 503-719-3383.

John Replinger, PE, Replinger & Associates LLC



Community Development Department

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

503-719-3383, Email: replinger-associates@comcast.net

BUILDING DIVISION COMMENTS

Contact Mike Roberts, Building Official, (503) 496-1517 Email: mroberts@orcitey.org

CFD#1 COMMENTS

Contact Mike Boumann, Deputy Fire Marshall, (503) 742-2673 Email michaelbou@CCFD1.com



Pre-application conferences are required by Section 17.50.050 of the City Code, as follows:

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the City will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

NOTICE TO APPLICANT: A property owner may apply for any permit they wish for their property. HOWEVER, THERE ARE NO GUARANTEES THAT ANY APPLICATION WILL BE APPROVED. No decisions are made until all reports and testimony have been submitted. This form will be kept by the Community Development Department. A copy will be given to the applicant.

A template for your submittal with the applicable criteria will be emailed by the Planner.

DEVELOPMENT SERVICES**PRE-APPLICATION MEETING NOTES****Date:** 3-23-2016

Planning Project Number: PA 16-09
Address: 19575 Sebastian Way, Oregon City, OR 97045
Map Number(s): 3-2E-08DA
Tax Lot(s): 6400
Project Name: North Clackamas Christian School Modular Building
Meeting Date: March 23, 2016
Reviewer(s): Matthew Palmer

GENERAL COMMENTS

1. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements.
2. The Applicant may be required to sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties.
3. The Applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval.
4. All applicable System Development Charges (SDC) shall be due and payable upon building permit issuance. Applicant will need to complete a SDC request form, found on the City's website, for an estimate of fees.

ENGINEERING - UTILITIES**Streets**

1. The proposed development includes frontage on Sebastian Way, which is functionally classified as a Local (Residential). For a residential local, the code requirements include: 54-foot-wide ROW, 32-foot-wide pavement width, 0.5-foot-wide public access strips, 5-foot-wide sidewalks, 5-foot-wide planter strips. Additional requirements include curb, gutter, street trees, and street lights.
2. It is anticipated that this addition will not generate any additional trips therefore street improvements on Sebastian Way will not be required.

Stormwater

1. The proposed development shall adhere to the requirements of the current Stormwater and Grading Design Standards. The current Standards can be found online here:

http://www.orcity.org/sites/default/files/final_manual_0.pdf

2. The General Threshold(s) for Applicability of the Stormwater and Grading Design Standards:
 - a. *Development activities that result in **5,000 square feet of new or replaced impervious surface**, cumulative over a 5-year period, are subject to the requirements of these standards.*
3. If the above threshold is met, the Applicant will need to submit a preliminary Stormwater Management Plan as required by the Stormwater and Grading Design Standards (Section 1.4.2) as part of the land use application. Submittal of the final Stormwater Management Plan will be required prior to issuance of Public Works permits.

Water

1. There is existing 14-inch water main located within Sebastian Way.
2. There is an existing 12-inch and 8-inch water main located along the southern portion of the school property. Applicant shall confirm if an existing water easement exists along this water main alignment.
3. It is anticipated that the modular building can be served water from the school's existing water service connection.

Sanitary Sewer

1. The site currently has a private lateral which runs out of the west side of the school and discharges into a City-owned sanitary sewer manhole located on the Prince of Life Lutheran Church property (13896 Meyers Road).
2. There is an existing lateral stubbed out to the site along the Sebastian Way frontage.
3. There is no anticipated need for an additional sanitary sewer service.

Other

1. The proposed development is not located within the Geologic Hazards Overlay District.
2. The proposed development is completely within the High Water Table area.



**PUBLIC RECORD REPORT
FOR NEW SUBDIVISION OR LAND PARTITION**

Supplemental

THIS REPORT IS ISSUED BY THE ABOVE-NAMED COMPANY ("THE COMPANY") FOR THE EXCLUSIVE USE OF:

N Clackamas Christian School District
19575 Sebastian Way
Oregon City, OR 97045
Phone: (503)655-5961
Fax:

Date Prepared : February 13, 2017
Effective Date : 8:00 A.M on February 07, 2017
Order No. : 7019-2760180
Reference :

The information contained in this report is furnished by First American Title Insurance Company of Oregon (the "Company") as an information service based on the records and indices maintained by the Company for the county identified below. This report is not title insurance, is not a preliminary title report for title insurance, and is not a commitment for title insurance. No examination has been made of the Company's records, other than as specifically set forth in this report. Liability for any loss arising from errors and/or omissions is limited to the lesser of the fee paid or the actual loss to the Customer, and the Company will have no greater liability by reason of this report. This report is subject to the Definitions, Conditions and Stipulations contained in it.

REPORT

- A. The Land referred to in this report is located in the County of Clackamas, State of Oregon, and is described as follows:

As fully set forth on Exhibit "A" attached hereto and by this reference made a part hereof.

- B. As of the Effective Date, the tax account and map references pertinent to the Land are as follows:

As fully set forth on Exhibit "A" attached hereto and by this reference made a part hereof.

- C. As of the Effective Date and according to the Public Records, we find title to the land apparently vested in:

As fully set forth on Exhibit "B" attached hereto and by this reference made a part hereof.

- D. As of the Effective Date and according to the Public Records, the Land is subject to the following liens and encumbrances, which are not necessarily shown in the order of priority:

As fully set forth on Exhibit "C" attached hereto and by this reference made a part hereof.

EXHIBIT "A"
(Land Description Map Tax and Account)

A tract of land situated in the Robert Caufield Donation Land Claim No. 53, in the SE 1/4 of Section 8, Township 3 South, Range 2 East of the Willamette Meridian, City of Oregon City, County of Clackamas and State of Oregon, being more particularly described as follows:

BEGINNING at a point on the West line of said Caufield Donation Land Claim, that is North 17° 55' 00" East 974.82 feet from the Southeast corner of the Samuel N. Vance Donation Land Claim No. 51, Township 3 South, Range 2 East of the Willamette Meridian; thence continuing along the West line of said Caufield Donation Land Claim North 17° 55' 00" 434.37 feet; thence North 76° 04' 44" East 1683.13 feet to the center of the County road and the TRUE POINT OF BEGINNING; thence tracing the center of the County road a distance of South 29° 27' 37" East 330.66 feet to the Northeast corner of that certain tract conveyed to Orres O. Carrell by deed recorded January 5, 1911 in Book 118, page 126, deed records; thence along the North line of said Carrell tract, South 74° 38' 05" West 901.50 feet; thence North 02° 35' 03" East 355.96 feet to a point on the North line of a tract of land heretofore conveyed to North Clackamas Christian School by deed dated July 1978, Fee No. 78031734, said point being South 76° 04' 44" West 711.50 feet from the center line of Oregon City Molalla Highway No. 40, also known as State Highway 213, as shown on recorded survey PS 14275 filed a Clackamas County Surveyor's office; thence along said North line North 76° 04' 44" East 711.50 feet to the center line of said highway and the TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM that portion lying in the Northeasterly corner heretofore conveyed to North Clackamas Christian School by deed dated July 1978, Fee No. 78031734

ALSO EXCEPTING THEREFROM that portion conveyed to Dannis V. Stuck by deed recorded May 8, 1985 as Fee No. 85015637

TOGETHER WITH that portion conveyed to North Clackamas Christian School by deed recorded May 8, 1985 as Fee No. 85015638

NOTE: This Legal Description was created prior to January 01, 2008.

Map No.: 32E08DA06400
Tax Account No.: 00868145

EXHIBIT "B"
(Vesting)

North Clackamas Christian School, an Oregon corporation

EXHIBIT "C"
(Liens and Encumbrances)

1. Taxes, including the current fiscal year, not assessed because of a Private School Exemption. If the exempt status is terminated an additional tax may be levied. Account No. 00868145.
2. City liens, if any, of the City of Oregon City.
3. The rights of the public in and to that portion of the premises herein described lying within the limits of streets, roads and highways.
4. Deed of Trust and Assignment of Rents.
Grantor/Trustor: North Clackamas Christian School Society, an Oregon non-profit corporation, who acquired title as North Clackamas Christian School, an Oregon corporation
Grantee/Beneficiary: Wells Fargo Bank, National Association
Trustee: Wells Fargo Financial National Bank
Amount: \$200,000.00
Recorded: February 23, 2009
Recording Information: Fee No. 2009 011374

Note: This Deed of Trust contains Line of Credit privileges. If the current balance owing on said obligation is to be paid in full in the forthcoming transaction, confirmation should be made that the beneficiary will issue a proper request for full reconveyance.

Modification and/or amendment by instrument:

Recording Information: April 08, 2010 as Fee No. 2010 021448

Modification and/or amendment by instrument:

Recording Information: July 18, 2011 as Fee No. 2011 039826

Modification and/or amendment by instrument:

Recording Information: November 07, 2013 as Fee No. 2013 076145

5. Unrecorded leases or periodic tenancies, if any.

DEFINITIONS, CONDITIONS AND STIPULATIONS

1. **Definitions.** The following terms have the stated meaning when used in this report:
 - (a) "Customer": The person or persons named or shown as the addressee of this report.
 - (b) "Effective Date": The effective date stated in this report.
 - (c) "Land": The land specifically described in this report and improvements affixed thereto which by law constitute real property.
 - (d) "Public Records": Those records which by the laws of the state of Oregon impart constructive notice of matters relating to the Land.

2. **Liability of the Company.**
 - (a) This is not a commitment to issue title insurance and does not constitute a policy of title insurance.
 - (b) The liability of the Company for errors or omissions in this public record report is limited to the amount of the charge paid by the Customer, provided, however, that the Company has no liability in the event of no actual loss to the Customer.
 - (c) No costs (including, without limitation attorney fees and other expenses) of defense, or prosecution of any action, is afforded to the Customer.
 - (d) In any event, the Company assumes no liability for loss or damage by reason of the following:
 - (1) Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records.
 - (2) Any facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
 - (3) Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.
 - (4) Discrepancies, encroachments, shortage in area, conflicts in boundary lines or any other facts which a survey would disclose.
 - (5) (i) Unpatented mining claims; (ii) reservations or exceptions in patents or in Acts authorizing the issuance thereof, (iii) water rights or claims or title to water.
 - (6) Any right, title, interest, estate or easement in land beyond the lines of the area specifically described or referred to in this report, or in abutting streets, roads, avenues, alleys, lanes, ways or waterways.
 - (7) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use or enjoyment on the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the Public Records at the effective date hereof.
 - (8) Any governmental police power not excluded by 2(d)(7) above, except to the extent that notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the Public Records at the effective date hereof.
 - (9) Defects, liens, encumbrances, adverse claims or other matters created, suffered, assumed, agreed to or actually known by the Customer.

3. **Report Entire Contract.** Any right or action or right of action that the Customer may have or may bring against the Company arising out of the subject matter of this report must be based on the provisions of this report. No provision or condition of this report can be waived or changed except by a writing signed by an authorized officer of the Company. By accepting this form report, the Customer acknowledges and agrees that the Customer has elected to utilize this form of public record report and accepts the limitation of liability of the Company as set forth herein.

4. **Charge.** The charge for this report does not include supplemental reports, updates or other additional services of the Company.



City of Oregon City
Permit Receipt
RECEIPT NUMBER 00035114

Account Number: 010870

Date: 2/14/2017

Applicant: BLUESTONE HOMES

Type: check # 4637

<u>Permit Number</u>	<u>Fee Description</u>	<u>Amount</u>
CU-17-0001	4332 Conditional Use Fee	3,791.00
CU-17-0001	4138 Mailing Labels	16.00
SP-17-0016	4332 SP & DR/Detailed M Plan	2,980.84
SP-17-0016	4346 Traffic Impact Study Fee	469.00
VR-17-0001	4332 Variance/Sign Fee	2,496.00
	Total:	\$9,752.84