# Idaho Career Ready Students Proposal Summary Page

General Information		
Project Name		
School Name		
LEA Name		
Project Type		
Capital Construction Costs	New Program Support	Existing Program Support & Upgrades
Legislative Priorities		
Capital Investments	for In-Demand Careers	Supporting Rural Schools
Addressing Regional	& Community Needs	Addressing Challenges Accessing Resources
Summary		
Meeting Date		
Committee:		
Council:		
Final Award		
Fund as Submitted	Do Not Fund	Fund w/Modifications

#### **GRANT APPLICATION**

General Information	
School Name	
District Name	
School Address	
Point of Contact & Direct Phone Number	
Point of Contact Email	

#### **PROJECT INFORMATION**

Benefits to the Community/Region/State

Please describe how your community, region, or the state will benefit from an ICRS grant:

#### **Industry Partners**

Please identify any partnerships with local industry or other stakeholders including, but not limited to, financial support or donations, equipment, instructor(s), technical help, etc.

#### Is this request to support a new or existing program

This request supports an existing program, pathway, or cluster within the district.

This request supports a program, pathway, or cluster that is new to the district.

#### Grant Request

Please list the items needed to support the ICRS grant request:

	Total Amount	Summarize resources and how they will be used to support the ICRS grant.
Curriculum	\$	
Travel	\$	
Consumables (materials & supplies)	\$	
Equipment	\$	
Capital Costs for Building Programming & Construction	\$	
IDCTE Approved Program w/o Added Cost Funds	\$	
Other Expenses	\$	
Grand Total	\$	

November 30, 2023



Allison Duman, Program Coordinator Idaho Career Ready Students Idaho State Department of Education

Dear Allison and members of the Idaho Career Ready Students Committee,

Attached, please find our application for the Idaho Career Ready Students grant program. This proposal is being submitted by the University of Idaho on behalf of the Idaho Forestry and Natural Resources Collaborative (IFNRC). The IFNRC is a new consortium comprised of the Forest Products industry, the University of Idaho College of Natural Resources, and 8 school districts. working to address critical needs for both students of rural Idaho and the forest products industry. The objective of our proposal is to fill key infrastructure, equipment and curriculum gaps needed to provide Idaho 7-12 students with the necessary skills and abilities needed to move into a variety of forestry and natural resources career paths, particularly in logging and forest products. While we recognize that it is unusual for the University to be applying to this program, we do so on behalf of our industry partners and schools statewide who have identified a need for shared building, equipment, resources and new curriculum to support this workforce training area that is of critical importance to our state economy.

The challenges facing Idaho youth today are many. Our state's youth live in areas heavy with forests and natural resources all around them. Creating a learning environment to support those students is not a simple task. How do we get rural students in Idaho to be Career Ready Students?

Our grant proposal is not for a single solitary school district. It has the capabilities to reach 10% of all high school aged students in the next 3 years and potentially 33% by year 5. In 2021/2022 nearly 50,000 students, almost half of the total high school aged students, participated in a CTE course. Many of those students have been very loosely associated with a natural resources or forestry course through other means. This proposal would connect previously missed curriculum with those students. Natural resource education is growing nationwide. Forestry is a massive part of that. The University of Idaho is strategically placed to host local schools for training opportunities multiple times per year. The new building in this proposal and the equipment associated with it, will be the hub for all forestry\_based education, certificate earning, and job exploration for all Idaho youth.

The University of Idaho has already funded many of the educational opportunities that students will have moving forward. The University of Idaho Experimental Forest (UIEF) and the College of Natural Resources (CNR) have invested over \$1.5 million in state-of-the-art logging equipment to be used in educational opportunities. \$700 thousand was acquired through an Idaho Workforce Development Council (IWDC) grant for workforce training equipment over the last year, led by Dr. Ryer Becker. This equipment, which includes 4 simulators, will be on a trailer going around to Idaho schools, educational fairs, and several regional logging and forestry conferences to provide training and generate interest in logging and forest products career pathways. Our ICRS proposal leverages and builds on and complements this existing IWDC funding for the youth of Idaho and our strong forest products hiring needs among logging contractors, mills, and related industries.

The portable sawmill we are requesting will serve students statewide. It will be transported to as many districts as possible so they can have this career learning opportunity, following the same model being used with logging equipment simulators funded recently through IWDC. Some districts will have their own and the teachers will require training. We will help to facilitate that through a statewide professional development effort. The mill housed at the University of Idaho is for those that do not have one of their own. This provides more opportunities for smaller districts and urban areas that otherwise would not have this type of exposure. In addition, the planer combo will be used for additional training with all districts and for our Forest Products CDE to be hosted at the facility each year. The UIEF has hosted the statewide FFA Forestry CDE on the UI Experimental Forest for over 30 years each June. That event will also be based at the new IFNRC facility in the future with substantially improved equipment and tools.

Our proposal includes both paid time and a vehicle for Blake Manley, who will serve as the primary IFNRC point of contact maintaining regular communications among school districts, the forest products industry and the university. Mr. Manley will serve as point of contact on responsibilities with forestry and forest products CTE program curriculum development and sawmill workshops and instruction for participating schools.

One of the exploding portions of forestry nationwide is the use of drones for planning logging operations, assessment of log inventories at logging jobsites, and scanning of inventories at mills. We have included a set of drones for educational use by high school students who otherwise would not have this opportunity. These will be used in conjunction with the building on the UIEF for training and taken to schools for increased exposure statewide. Technology is developing quickly in the forest products industry. For Idaho students to be career\_ready, they need skills and hands-on experience with cutting-edge technology.

This proposal is aimed at meeting our youth where they are and helping them to get wherever they may be going in the future. Our goal is absolutely not to channel students to the University of Idaho, although the 2-year A.S. Forest Operations and Technology degree may be a career pathway for some, our goal is to provide tools and knowledge to Idaho 7-12 students that have never before been offered on this scale. The Idaho Forestry and Natural Resources Collaborative is a first step toward providing new levels of educational opportunities for young Idahoans and a true team effort to provide career readiness within forestry and natural resources. We see many more opportunities in the future. If funded, we anticipate working with our unified industry stakeholders, school districts, CTE professionals statewide, and the State Dept of Education to seek out additional funding that further leverages this grant to grow more 7-12 opportunities in this field. We greatly appreciate the support from this Career Ready Students review committee in addressing these efforts. They are critical for our industry's continued growth and contributions to Idaho's economy.

Sincerely,



Blake Manley Workforce Training Program Coord. University of Idaho Experimental Forest College of Natural Resources University of Idaho 875 Perimeter Drive Moscow, ID 83844-1133

Robert F. Keefe

Robert F. Keefe Director University of Idaho Experimental Forest Associate Professor of Forest Operations College of Natural Resources University of Idaho 875 Perimeter Drive Moscow, ID 83844-1133

MOSCOW

BOISE

COEUR D'ALENE

IDAHO FALLS

Allison,

I want to answer your questions but will also be sending you a document within the next few days detailing other portions.

- The districts that have already received portions of the ICRS grant are very excited to be tied in with this group. Nearly all of the districts have been awarded large sums of money for capital investments such as building upgrades and equipment needed to safely and properly instruct. These districts are very excited for those upgrades. However, they have all been equally excited that we would tie together the teachers, the basics of what they would be teaching, and that the individual schools would have a centralized location for certificates to be earned. All of these schools being together in a joint Forest Products Education effort also creates a network that teachers can work from. Good teachers don't invent each and every lesson plan on their own. They borrow from those that are being successful teaching what they are teaching and in a similar location where they are teaching. This collaborative, and the tools we have requested, offers that to both the districts that have already been awarded and districts that have not been awarded ICRS money.
- 2. We attached our budget to the original email and I will re-attach it here. Please specify if there is something in that itemized spreadsheet that is not clear.
- 3. I am getting a digital copy of the blueprint within the week. That will get you exactly what you need for the building.
- 4. In our humble opinion the curriculum being developed by Idaho people for Idaho is a crucial part to the ongoing success of forest education in our state. We want school districts to access a curriculum that applies to Idaho for free. There are many options out there that can be purchased but that are not made for our forests and our industry. If this doesn't get funded, it won't impact the success of our proposal in the long term. We will find a way, but that way will take longer.

Meaning, the students of Idaho will have to wait. When you look at other successful CTE programs, Agriculture Education for example, the curriculums that they use have been developed already.

5. I believe that the same answer for number 4 applies here. We would find a way, however that way would take significantly longer, which negatively impacts the students of today. Teachers in established programming already have state funding to pay for professional development. The funding for teacher travel would allow these first couple of years grace to get teachers properly trained in what the industry is in need for. Then as the program develops and is part of a recognized program at the state level, funding would be available for these teachers. Our proposal includes equipment to be transported and used throughout the state of Idaho. For example, the portable sawmill. Several districts are interested in being able to use that as a teaching tool in some capacity. If a vehicle is not included in our proposal, how do we transport it from one place to the next? This vehicle is a one time purchase that would benefit the state by allowing access to the materials that this collaboration would have.

I would like to also add that a central coordinator in Oregon was part of the major springboard from fledging group to the 2<sup>nd</sup> largest Career Student Organization in Oregon. I have been working closely with many schools, more each week, that want to be part of offering more career paths to students. This grant would do just that.

Attached is the spreadsheet and a working document of the certifications and credentials that are available currently and in development stages with industry. These are the skills that are currently not being offered that have been recognized as needs by the Forestry Industry, specifically the Forest Products side of it. The blueprints for the building are also attached. The location will change to a location on the forest, but the blueprints will be the same.

Thanks,

Blake Manley

Certificates.docx UIEF\_ICRS\_Budget\_11\_27\_23B.xlsx

Certificate Development Time to build and Collaboration Meetings with	Quantity	cost/ea.			Sub
industry, post secondary and secondary teachers (now under	er Salary)				
Subcontract - Lesley Comes, LLC		Writer (subcontract)	\$	41,581	
					\$
Salary and Fringe					
Salary - Blake Manley HS travel and curriculum development	600	\$39.43	\$	23,658	
Fringe benefits - Blake Manley	600	\$16.28	\$	9,771	
Summer salary - Keefe	40	\$60.88	\$	2,435	
Fringe benefits - Keefe	40	\$18.87	\$	755	
					\$
Travel School visit	S				
Per Diem	30	\$55.00	Ś	1.650	
Lodging (Schools farthest away from hub/Moscow)		,	Ś	2.285	
			·	,	\$
Other Expenses					
Blades	40	\$115.00	\$	4,600	
2 Person Log Carrier	3	\$125.00	\$	375	
Peavy	3	\$115.00	\$	345	
50' Spencer Tape	5	\$50.00	\$	250	
Carpenters Tape	4	\$25.00	\$	100	
MS 462 Chainsaw	2	\$1,501.00	\$	3,002	
Two Man Crosscut	3	\$400.00	\$	1,200	
Chaps	10	\$100.00	\$	1,000	
Chainsaw Helmets	5	\$100.00	\$	500	
Other Safety Gear, Gloves/Ear Plugs/etc.			\$	3,000	
TV monitors and electronics for learning			\$	2,750	
Drone for HS Learning	5	\$1,250.00	\$	6,250	
Fuel for vehicle (Manley HS travel)	2680	\$3.53		\$9,460	
Stipends - HS teachers	20	\$75.00		\$1,500	\$

ototals	Capital		
	Building Construction		\$320,000
	Building Electric		\$57,000
	Building Septic Install		\$25,000
	Building Well		\$35,000
	Building Wood Stove and Stovepipe		\$8,000
41,581	Woodmizer LT40 hydraulic sawmill w/ debarker		\$70,000
	Planer/molder/jointer		\$10,000
	Vehicle for Transportation to schools (Manley)		\$55,000
		Total capital:	\$580,000
36,619			

Blades	40	\$115.00	\$ 4,600	
2 Person Log Carrier	3	\$125.00	\$ 375	
Peavy	3	\$115.00	\$ 345	
50' Spencer Tape	5	\$50.00	\$ 250	
Carpenters Tape	4	\$25.00	\$ 100	
MS 462 Chainsaw	2	\$1,501.00	\$ 3,002	
Two Man Crosscut	3	\$400.00	\$ 1,200	
Chaps	10	\$100.00	\$ 1,000	
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Other Safety Gear, Gloves/Ear Plugs/etc.			\$ 3,000	
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Drone for HS Learning	5	\$1,250.00	\$ 6,250	
Fuel for vehicle (Manley HS travel)	2680	\$3.53	\$9,460	
Stipends - HS teachers	20	\$75.00	\$1,500	

Total capital:

3,935

34,332

\$580,000

\$ 696,467 Total direct costs:

#### PROJECT COST ESTIMATE SUMMARY

CNR Equipment Storage Building Princeton, Idaho UI Project Number: UI Budget Number: (TBD)

#### **PROJECT FUNDING**

• UI	\$ -
Central Admin	\$ -
<ul> <li>Net Development Campaign</li> </ul>	\$ -
<ul> <li>Net Federal Sources</li> </ul>	\$ -
Department	\$ -
• PBF	\$ -
<ul> <li>Grant, for Equipment</li> </ul>	\$ -
• Other	\$ -

#### TOTAL PROJECT FUNDING

Subt	otal Fees	\$ 8,820
	ACM Lab Analysis Fee	
(	Construction Materials Testing	\$ -
(	Geotechnical Services	\$ -
I	Detail Site Survey	\$ -
I	DBS Plan Check Fees	\$ 570
I	IDEQ Permit Fees	\$ -
	Spec Book Printing	\$ -
	Prints	\$ -
	Printing of RFQ	\$ -
	Advertisement, Daily News	\$ -
	Advertisement, Spokesman	\$ -
	Advertisement, Statesman	\$ -
/	Administrative Support, UI AES	\$ 250
I	Reimbursables - Additional/Other	\$ -
(	Consulting A/E Services - Additional/Other	\$ -
I	Reimbursables Allowance	
(	Consulting A/E Services	\$ 8,000
FEES		 

URNISHINGS / FIXTURES	
Furnishings	\$ -
Artwork	\$ -
Donor Recognition Signage	\$ -
Non-Fixed Equipment	\$ -
Subtotal Furnishings / Fixtures	\$ 

ADDITIONAL MISCELLANEOUS COSTS	 
Chiller Plant Capacity Contribution	\$ -
Move / Swing, Etc.	 
Subtotal Miscellaneous Costs	\$ -

#### **PROJECT COSTS**

• Fees	\$ 8,820
Construction - Contractor	\$ 196,268
Construction - Owner	\$ 300
• Furnishings / Fixtures	\$ -
<ul> <li>Additional Miscellaneous Costs</li> </ul>	\$ -
Subtotal	\$ 205,388
<ul> <li>Project Contingency (3%)</li> </ul>	\$ 6,162
Subtotal	\$ 211,549
<ul> <li>AES Management Fee (3%)</li> </ul>	\$ 6,346
TOTAL PROJECT COST	\$ 217,896

#### **CONSTRUCTION - CONTRACTOR** \$ 145,000 1 General Construction 2 Electrical (allowance) \$ 12,000 3 Plumbing (allowance) \$ 10,000 \$ 4 Sewer (allowance) 10,000 \$ 5 \$ 6 DBS Building Permit 1,425 \$ 7 \$ 8 9 \$ 10 \$ \$ 178,425 **Subtotal Direct Construction** Contingency on Items 1 - 10 Above (10%) \$ 17,843 **Subtotal Contractor Construction** \$ 196,268

CONSTRUCTION - OWNER	
Facilities (Support)	\$ -
Key Shop	\$ 300
Grounds Shop	\$ -
Interiors Shop (Signs)	
Plumbing Shop	\$ -
Electric Shop (Support)	\$ -
HVAC Shop	
Paint Shop	\$ -
Miscellaneous Materials	\$ -
Fixed, Installed Equipment	\$ -
UI ITS	
Miscellaneous Services	\$ -
Asbestos Abatement (Existing Buildings)	
Lead Paint Abatement (Existing Buildings)	\$ -
Soils Testing/Compaction	\$ -
Subtotal Owner Construction	\$ 300

Project Manager:

Redgy &rb;@88ti8914rchEngSvcs\REDGY\000-By College\CNR\Princeton\Princeton Equipment Storage\Budget\CNR-Equip Storage-Princeton-Budget Summary-7-31-18

January 29, 2023

Allison Duman Idaho Career Ready Students Program Idaho Department of Education



Dear Mrs. Duman,

I am writing to provide additional details about the budget for the capital building request included for storage of the portable sawmill and Idaho Forest and Natural Resource Collaborative (IFNRC) forest products facility included in our previously submitted ICRS proposal.

The cost of this building, which is absolutely critical for coordinating and supporting high school forest products training statewide, was estimated using the following methods.

First, to save cost, we are using the exact building design for an existing structure in Princeton, Idaho that currently serves as the main shop building for University of Idaho Experimental Forest operations. Our existing UIEF building was designed in late 2018 and constructed in 2019. I have included the initial cost estimate developed at the University of Idaho. During construction, additional costs associated with a concrete pad and other items added cost, and the final actual building cost was approximately \$267,000. We added 20% (approx.) to that cost to account for inflation in building supplies and other costs as of 2024. Our new, proposed building will require installation of electrical utility lines 0.25-0.5 miles from a neighboring property and we estimated \$53,000. While expensive, the benefit of our planned site location is that it is on the main University of Idaho Experimental Forest where trees, logging equipment and other heavy equipment to support the facility are housed. We estimated 35,000 for drilling a well at this remote site and \$25,000 for septic, and \$8,000 for a large wood stove and stove pipe. This brings the total building construction cost for the Idaho Forestry and Natural Resources Collaborative Forest Products Facility to \$445,000, not including the sawmill and other forest products equipment.

The University recognizes that the primary role of this building is to support Idaho high schools and the ICFNR. As Idaho's Land Grant institution, we are tasked with supporting forestry education statewide and see this as an obvious connection with prior investments of over \$1.5 million the University has made in new logging equipment (grapple skidder, processor, feller-buncher) acquired in the last 24 months to support our 2-year and 4-year forestry degrees. There is a tremendous economy of scale and benefit to Idahoans overall utilizing this equipment, the Experimental Forest, and staff resources (Blake Manley) to support our forestry and forest products education efforts with both ICFNR member schools, additional school districts we expect to join ICFNR in the future, and the University of Idaho. The UIEF has hosted the Idaho FFA Forestry CDE for over 25 years using only our own resources and I have personally administered the CDE for 13 years. This building will provide the facility we need to support and strengthen our existing efforts and new, planned high school forest products career training statewide.

Sincerely,

Robert F. Keefe

Robert F. Keefe Associate Professor of Forest Operations Director, University of Idaho Experimental Forest 875 Perimeter Drive, Moscow, ID, 83844-1133 robk@uidaho.edu

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Sincerely,

Robert F. Keefe

Robert F. Keefe Associate Professor of Forest Operations Director, University of Idaho Experimental Forest 875 Perimeter Drive, Moscow, ID, 83844-1133 robk@uidaho.edu



PRINCETON, ID





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HWY 95

- INDEX OF DRAWINGS T1.0 TITLE SHEET, VICINITY MAP, INDEX OF
- DRAWINGS, GENERAL NOTES, SITE PLAN A1.0 FLOOR PLAN, ENLARGED PLAN, TYPICAL
- RESTROOM ACCESSSORIES MOUNTING HEIGHTS, SPECIFICATIONS
- A2.0 ELEVATIONS, SECTIONS, WALL SECTION M0.0 LEGEND AND SYMBOLS
- M1.0 GENERAL NOTES M2.0 EQUIPMENT SCHEDULES
- M3.0 SCHEMATICS
- M4.1 FIRST FLOOR HVAC M5.0 HVAC DETAILS
- M6.0 UNDERSLAB, PLUMBING M6.1 FIRST FLOOR, PLUMBING
- M7.0 PLUMBING DETAILS
- EX.X ELECTRICAL EX.X ELECTRICAL

#### DEFERRED SUBMITTALS

CONTRACTOR TO SUBMIT STAMPED ENGINEERED SHOP DRAWINGS OF THE BUILDING LAYOUT, STRUCTURAL MEMBERS, AND CONCRETE FOOTINGS AND SLABS TO THE STATE OF IDAHO DIVISION OF BUILDING SAFETY PRIOR TO THE COMMENCEMENT OF WORK. AN APPROVED SET OF PLANS MUST BE KEPT ON THE JOB SITE AT ALL TIMES.

#### **GENERAL NOTES**

- 1. ALL WORK SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES AND REGULATIONS OF THE STATE OF IDAHO AND OTHER AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR SHALL CHECK ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE UNIVERSITY OF IDAHO AES PROJECT
- MANAGER PRIOR TO COMMENCING WORK. DO NOT SCALE DRAWINGS.
- 4. REVIEW DRAWINGS AND IDENTIFY WORK NOT IN THE CONTRACT (N.I.C.). PROVIDE BARRIERS, FLAGMAN, FLASHERS, ETC. FOR THE
- PROTECTION OF THE PUBLIC WHEN NECESSARY (DURING AND AFTER WORK HOURS). PROVIDE POSITIVE DRAINAGE AND SLOPE AWAY FROM THE
- BUILDING TO DIRECT THE RUNOFF OF STORMWATER. COORDINATE ACCESS TO THE SITE AND CONTRACTOR'S STAGING
- AREA WITH THE UNIVERSITY OF IDAHO AES PROJECT MANAGER. THE CONTRACTOR SHALL CONFORM WITH THE CITY OF MOSCOW WORK HOUR AND NOISE RESTRICTIONS. OTHERWISE, THE CONTRACTOR MAY WORK BETWEEN THE HOURS OF 6:00 A.M. AND 9:00 P.M. UNLESS OTHERWISE PERMITTED BY UI CONSTRUCTION
- MANAGEMENT. WEEKEND WORK IS PERMITTED. PRIOR TO ANY EXCAVATION, CONTRACTOR TO VERIFY LOCATION OF UNDERGROUND UTILITIES, CONTACT CALL BEFORE YOU DIG
- AT: (800) 342-1585. CONTRACTOR TO PROVIDE STAMPED ENGINEERED SHOP DRAWINGS OF THE BUILDING LAYOUT AND STRUCTURAL MEMBERS TO THE AUTHORITY HAVING JURISDICTION AS A SUBMITTAL PRIOR TO THE COMMENCEMENT OF WORK.
- ALL SHUTDOWNS OF UTILITIES REQUIRE NOTIFICATION & COORDINATION WITH THE UNIVERSITY OF IDAHO AES PROJECT MANAGER
- 12. CONSTRUCTION WASTE AND EXCAVATION OVERBURDEN SHALL BE HAULED OFF AND AT THE EXPENSE OF THE CONTRACTOR. CONTRACTOR TO DISPOSE OF CONSTRUCTION WASTE AT AN APPROVED LANDFILL.
- 13. THE CONTRACTOR AGREES TO ASSUME SAFE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE DURING THE COURSE OF THE PROJECT.

# PRINCETON - COLLEGE OF NATURAL RESOURCES







#### FLOOR PLAN GENERA 1. STAMPED ENGINEERED SHOP

- BY CONTRACTOR, SEE DEFER SHEET T1. 2. FLOOR PLAN AND ELEVATION BUILDING. CONTRACTOR MA DRAWINGS FOR A STEEL BUI SHALL FOLLOW CRITERIA OF
- SHEET T1. 3. EXTERIOR METAL WALL AND MIN. W/ MANUF. STANDARD SELECTED BY OWNER. GAL SHOULD THE CONTRACTOR'S SHEATHING THE ROOF TO BE ROOF PANELS WILL BE ACCE LOCATIONS WITH SHEATHING 4. ROOF SLOPE TO BE 3:12 SL AND EAVE DETAILS PER MET STANDARDS.
- 5. PROVIDE AND INSTALL POLE BUILDING) ROOF INSULATION PREVENT CONDENSATION AT SYSTEM TO INCLUDE: 2" BL INTEGRATED FIRE RETARDEN MANUFACTURER'S STANDARE CONTRACTOR'S STRUCTURAL DIAPHRAGM TO REQUIRE SH FELT IS PROVIDED OVER THI INSULATION SYSTEM WILL NO SPACES REQUIRE CODE MIN. SECTION SHEET A2 AND SPE

	CATALOG DESCRIPTION
Γ	SEE MECHANICAL
ORIZONTAL GRAB BAR	BOBRICK B-5806 X 42
IORIZONTAL GRAB BAR	BOBRICK B-5806 X 36
ertical grab bar	BOBRICK B-5806 X 18
T TISSUE DISPENSER	BOBRICK B-273
ARY NAPKIN DISPOSAL	BOBRICK B-270
R TOWEL DISPENSER	BOBRICK 262
W/ FAUCET	SEE MECHANICAL
RDRAIN	SEE MECHANICAL
GENCY SHOWER/EYEWASH	SEE MEHCAICAL
RIOR FROST-FREE HOSE BIB	SEE MECHANICAL

	ARCHITECTURAL SPECIFICATIONS	
ERRED SUBMITTALS NOTE,	- MANUFACTURERS: OWENS CORNING	
NS SHOWN AS A WOOD POLE AY ALTERNATELY SUBMIT SHOP JILDING KIT. SHOP DRAWINGS	SCHULLER INTERNATIONAL CERTAINTEED – GLASS FIBER BATT	
F DEFERRED SUBMITTALS NOTE,	TYPE 1, (ASTM C 665), PASSING ASTM-E 136 COMBUSTION REQUIREMENTS	
) FINISH, COLOR TO BE VALUME IS NOT ACCEPTABLE.	2" THICK BLANKET INSULATION 2" THICK BLANKET MANUFACTURER'S STANDARD FLAME SPREAD INDEX	
S STRUCTURAL ENGINEER DEEM BE NECESSARY, 29 GA. METAL	- VAPOR RETARDERS LABORATORY-TESTED VAPOR TRANSMISSION RATING	
G UNDERNEATH. GLOPE. OVERHANGS, RAKE,	THICKNESS: 6 MIL COLOR: WHITE	
TAL ROOFING PANEL MANUF. F BUILDING (OR METAL	08 36 13 – INSULATED OVERHEAD SECTIONAL DOOR – MANUFACTURERS: CLOPAY BUILDING PRODUCTS	
N SYSTEM AS REQ'D TO T OPEN BAYS. INSULATION	OVERHEAD DOOR CORPORATION WAYNE-DALTON INC.	
LANKET INSULATION, AND NT BARRIER PER 'D SHOULD THE	FIMBEL ARCHITECTURAL DOOR SPECIALTIES - OPERATIONAL CYCLES: 10,000 OPEN & CLOSE CYCLES	
L ENGINEER DEEM THE ROOF HEATHING, IF 15# MIN. BUILDING	MIN. – AIR INFILTRATION: MAX. RATE OF 0.08 CFM/S.F. AT 15 & 25 M P H	
IL SHEATHING, THE ROOF OT BE REQ'D. CONDITIONED I. INSULATION. SEE WALL	<ul> <li>R-VALUE: 17.5 DEG. FxhxS.F./BTU. U-VALUE OF 0.057.</li> <li>STEEL SECTIONS: ZINC-COATED (GALVANIZED) STEEL</li> </ul>	
PECIFICATIONS.	SHEET WITH G60 ZINC COATING. – THERMAL BREAK: EPDM OR PVC THERMAL BREAK AND JOINT SEAL AT PANEL EDGES.	
	<ul> <li>TRACK CONFIGURATION: HIGH-LIFT CLEARANCE</li> <li>WEATHER SEALS: FITTED TO BOTTOM AND TOP AND</li> </ul>	
	<ul> <li>ROUND ENTIRE PERIMETER OF DOOR.</li> <li>ROLLER TIRE MATERIAL: CASE HARDENED STEEL.</li> <li>LOCKING DEVICE: EQUIP DOOR WITH LOCKING DEVICE</li> </ul>	
	ASSEMBLY AND CHAIN LOCK KEEPER. – ELECTRIC DOOR OPERATOR: PER ELECTRICAL PLANS. – DOOR FINISH: FACTORY BAKED ENAMEL FINISH MANUE	<b>9 9</b>
	STANDARD COLOR. INTERIOR TO MATCH EXTERIOR. – DESIGN WIND LOAD: UNIFORM PRESSURE (VELOCITY	
	PRESSURE) OF 20 LBF/S.F. ACTING INWARD AND OUTWARD. - DEFLECTION LIMITS:	ng S
	DOOR SECTIONS IN HORIZ. POSITION: SHALL NOT EXCEED 1/120 OF DOOR WIDTH.	neeri 83844 7250
	DOOR HEIGHT.	Engii
	NOTE: ALL INSULATED OVERHEAD SECTIONAL DOOR SUBMITTALS TO BE APPROVED BY UI PROJECT MANAGER PRIOR TO ORDERING.	eral & scow, I (20)
	08 11 13 - EXTERIOR HOLLOW METAL DOORS AND FRAMES	
	- MANUFACTURERS: AMWELD INTERNATIONAL LLC APEX INDUSTRIES	Archi e.dwg
	CECO DOOR PORDUCTS, ASSA ABLOY GROUP CURRIES COMPANY, ASSA ABLOY GROUP	storag
	– EXTRA-HEAVY DUTY DOORS AND FRAMES: SDI A250.4	lent S
	LEVEL 3 - THICKNESS: 1-3/4" - FACE: METALLIC-COATED STEEL SHEET 14 GA A40	quip
	COATING – EDGE CONSTRUCTION: MODEL 1, FULL FLUSH	
	<ul> <li>CORE: POLYISOCYANURATE</li> <li>R-VALUE: NOT LESS THAN 2.1 DEG FxhxS.F./BTU</li> <li>FRAMES: METALLIC COATED STEEL SHEET WITH MIN. A40</li> </ul>	
	COATING - CONSTRUCTION: FULL PROFILE WELDED. - EXPOSED FINISH: PRIME	
	<ul> <li>MATERIALS: COMMERCIAL STEEL, TYPE B, SUITABLE FOR EXPOSURE APPLICATIONS.</li> </ul>	
	ASTM A 153/A 153M.	
	NOTE: ALL HOLLOW METAL DOOR AND FRAME SUBMITTALS TO BE APPROVED BY UI PROJECT MANAGER PRIOR TO ORDERING.	
	08 71 00 – DOOR HARDWARE – HOLLOW METAL MAN DOORS:	RGE RGE
	<ul> <li>LOCKSET: SCHLAGE (LEVER HANDLE) EXTERIOR ENTRY –</li> <li>L9480–L–06B–626</li> <li>HINGES: STANLEY EBB168X0 180–4–1/2" X 4–1/2"</li> </ul>	RCH. & EN
	(BEARING) – CLOSER: LCN 4040XP	T S Numbr:
	<ul> <li>WEATHERSEAL: PEMCO S88D AT HEAD AND JAMB</li> <li>THRESHOLD: PEMCO 2522XG</li> </ul>	
	NOTE: CONTRACTOR TO PROVIDE CONSTRUCTION CYLINDER, PERMANENT CYLINDER TO BE MAILED DIRECTLY TO UI PROJECT MANAGER	
	07 62 00 - SHEET METAL FLASHING AND TRIM	
	- MATERIAL: METALLIC-COATED STEEL SHEET OR ALUMINUM-ZINC ALLOY-COATED STEEL SHEET	
	- THICKNESS: 0.022-INCH NOMINAL THICKNESS FINISH: PREPAINTED, COIL COATING, TO MATCH ROOF FASCIA AND RAKE TRIM	PRO ARCI ISSU
	- PROFILE: MATCH GABLE TRIM, COMPLETE WITH END PIECES, OUTLET TUBES, AND OTHER SPECIAL PIECES AS	
	– GUTTER SUPPORTS: SAME MATERIAL & FINISH AS GUTTERS	• FLOOR PLAN
	- STRAINERS: BRONZE, COPPER, OR ALUMINUM WIRE BALL TYPE. - DOWNSPOLIT MOUNTING STRADS: SAME MATERIAL &	• ELEVATIONS
	FINISH AS DOWNSPOUTS AND GUTTERS.	• SECTION

SHEET NUMBER

A1.0

1 OF 1



## PLUMBING ABBREVIATIONS

ABV	ABOVE	FLR	FLOOR		
AFF	ABOVE FINISHED FLOOR	FP	FIRE PROTECTION	OD	OUTSIDE DIMENSION
AP	ACCESS PANEL	FPM	FEET PER MINUTE	OF	OVERFLOW
-	-	FPS	FEET PER SECOND	OS	OPEN SITE
BFP	BACK FLOW PREVENTOR			ОТ	OFF TOP
BLDG	BUILDING	FS	FLOW SWITCH	oz	OUNCE
BLW	BELOW	FSK	FLOOR SINK	-	-
BSMT	BASEMENT	FT	FEET	PART	PARTIAL
-	-	FTB	FLOOR TO BOTTOM	PDR	PLENUM DRAIN
CFH	CUBIC FEET PER HOUR	FTC	FLOOR TO CENTERLINE	PERF	PERFORATED
CFM	CUBIC FEET PER MINUTE	FPH	FROST PROOF HYDRANT	P-	PLUMBING FIXTURE
CHP	CONCRETE HOUSEKEEPING PAD	FXC	FLEXIBLE CONNECTION		IDENTIFICATION
CI		- GA	- GAUGE	PH	PHASE
ው. ታ		GALV	GALVANIZED	PIV	POST INDICATOR VALVE
Ψ	CENTERLINE	GC	GENERAL CONTRACTOR	POS	POSITIVE
CLG	CEILING	CPD		PRESS	PRESSURE
CO	CLEAN OUT	GFD		PS	PRESSURE SWITCH
COL		GPH	GALLONS PER HOUR	PSI	POUNDS PER SQUARE INCH
		GPM	GALLONS PER MINUTE	PSIG	POUNDS PER SQUARE
COMP	COMPRESSOR	-	-		INCH GAUGE
CONC	CONCRETE	HT	HEIGHT	PSIA	POUNDS PER SQUARE
CONN	CONNECTION	HB	HOSE BIBB	57	
CONT'N	CONTINUATION	HD	HEAD (SEE SCHEDULES)	PI	PRESSURE TRANSMITTER
CONTR	CONTRACTOR	HR	HOUR	PV	PLUG VALVE
CP	CONCRETE PIPE	HTR	HEATER	PVC	POLYVINYL CHLORIDE
CS	CUP SINK	-	-	PVS	POLYVINYL COATED STEEL
°C	DEGREES CENTIGRADE	ID	INTERNAL DIAMETER	PC	PLUMBING CONTRACTOR
				PI	PRESSURE INDICATOR
DF	DRINKING FOUNTAIN	INCL	INCLUDING		
DF				-	-
DF DIA		INCL INV	INCLUDING INVERT	- QUAN	
DF DIA DIAG	DIAMETER DIAGRAM	INCL INV -	INCLUDING INVERT - TYPE OF COPPER TURING	- QUAN QD	- QUANTITY QUICK DISCONNECT
DF DIA DIAG DISCH	DIAMETER DIAGRAM DISCHARGE	INCL INV - K -	INCLUDING INVERT - TYPE OF COPPER TUBING -	- QUAN QD -	- QUANTITY QUICK DISCONNECT -
DF DIA DIAG DISCH DIW	DIAMETER DIAGRAM DISCHARGE DOWN IN WALL	INCL INV - K -	INCLUDING INVERT - TYPE OF COPPER TUBING -	- QUAN QD - RA	- QUANTITY QUICK DISCONNECT - RETURN AIR
DF DIA DIAG DISCH DIW DN	DIAMETER DIAGRAM DISCHARGE DOWN IN WALL	INCL INV - K - LT	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER	- QUAN QD - RA RAC	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING
DF DIA DIAG DISCH DIW DN DWG	DRINKING FOUNTAIN DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING	INCL INV - K - LT LAV	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY	- QUAN QD - RA RAC RAF	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE FLOOR
DF DIA DIAG DISCH DIW DN DWG	DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING	INCL INV - K - LT LAV MAX	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY MAXIMUM	- QUAN QD - RA RAC RAF RATC	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE FLOOR RUN AT CEILING
DF DIA DIAG DISCH DIW DN DWG - (E)	DRINKING FOONTAIN DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING - EXISTING	INCL INV - LT LAV MAX MC	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY MAXIMUM MECHANICAL CONTRACTOR	- QUAN QD - RA RAC RAF RATC RBC	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE FLOOR RUN AT CEILING RUN BELOW CEILING
DF DIA DIAG DISCH DIW DN DWG - (E) EA	DRINKING FOONTAIN DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING - EXISTING EACH	INCL INV - K - LT LAV MAX MC MR	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY MAXIMUM MECHANICAL CONTRACTOR MOP RECEPTOR	- QUAN QD - RA RAC RAF RATC RBC RBF	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE FLOOR RUN AT CEILING RUN BELOW CEILING RUN BELOW FLOOR
DF DIA DIAG DISCH DIW DN DWG - (E) EA ELEV	DRINKING FOONTAIN DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING - EXISTING EACH ELEVATION	INCL INV - LT LAV MAX MC MR MED	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY MAXIMUM MECHANICAL CONTRACTOR MOP RECEPTOR MEDIUM	- QUAN QD - RA RAC RAF RATC RBC RBF RBG	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE FLOOR RUN BELOW CEILING RUN BELOW FLOOR RUN BELOW GRADE
DF DIA DIAG DISCH DIW DN DWG - (E) EA ELEV ENT	DRINKING FOONTAIN DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING - EXISTING EACH ELEVATION ENTERING	INCL INV - LT LAV MAX MC MR MED MFR	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY MAXIMUM MECHANICAL CONTRACTOR MOP RECEPTOR MEDIUM MANUFACTURER	- QUAN QD - RA RAC RAF RATC RBC RBF RBG RBJ	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE FLOOR RUN AT CEILING RUN BELOW CEILING RUN BELOW FLOOR RUN BELOW GRADE RUN BETWEEN JOIST
DF DIA DIAG DISCH DIW DN DWG - (E) EA ELEV ENT FQ	DRINKING FOONTAIN DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING - EXISTING EACH ELEVATION ENTERING FOULI	INCL INV - K - LT LAV MAX MC MR MED MFR MIN	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY MAXIMUM MECHANICAL CONTRACTOR MOP RECEPTOR MEDIUM MANUFACTURER MINIMUM	- QUAN QD - RA RAC RAF RATC RBC RBF RBG RBJ RDD	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE FLOOR RUN AELOW FLOOR RUN BELOW CEILING RUN BELOW FLOOR RUN BELOW GRADE RUN BELOW GRADE
DF DIA DIAG DISCH DIW DN DWG - (E) EA ELEV ENT EQ EQUIP	DRINKING FOONTAIN DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING - EXISTING EACH ELEVATION ENTERING EQUAL EQUIDMENT	INCL INV - K - LT LAV MAX MC MR MED MFR MIN MISC	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY MAXIMUM MECHANICAL CONTRACTOR MOP RECEPTOR MEDIUM MANUFACTURER MINIMUM MISCELLANEOLIS	- QUAN QD - RA RAC RAF RATC RBC RBF RBG RBJ RCP	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE FLOOR RUN AT CEILING RUN BELOW CEILING RUN BELOW FLOOR RUN BELOW GRADE RUN BELOW GRADE
DF DIA DIAG DISCH DIW DN DWG - (E) EA ELEV ENT EQ EQUIP	DRINKING FOONTAIN DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING - EXISTING EACH ELEVATION ENTERING EQUAL EQUIPMENT	INCL INV - K - LT LAV MAX MC MR MED MFR MIN MISC	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY MAXIMUM MECHANICAL CONTRACTOR MOP RECEPTOR MOP RECEPTOR MEDIUM MANUFACTURER MINIMUM MISCELLANEOUS	- QUAN QD - RA RAC RAF RATC RBC RBF RBG RBJ RCP RD	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE FLOOR RUN AT CEILING RUN BELOW FLOOR RUN BELOW FLOOR RUN BELOW GRADE RUN BELOW GRADE RUN BETWEEN JOIST REINFORCED CONCRETE PIPE ROOF DRAIN
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DF DIA DIAG DISCH DIW DN DWG - (E) EA ELEV ENT EQ EQUIP EQUIP EQUIV ETC	DRINKING FOONTAIN DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING - EXISTING EACH ELEVATION ENTERING EQUIPMENT EQUIPMENT EQUIVALENT AND SO FORTH	INCL INV - K - LT LAV MAX MC MR MED MFR MIN MISC MTD	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY MAXIMUM MECHANICAL CONTRACTOR MOP RECEPTOR MOP RECEPTOR MEDIUM MANUFACTURER MINIMUM MISCELLANEOUS MOUNTED TYPE OF COPPER TUBING	- QUAN QD - RA RAC RAF RATC RBC RBF RBG RBJ RCP RD RD REL REQD	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE FLOOR RUN AT CEILING RUN BELOW FLOOR RUN BELOW FLOOR RUN BELOW GRADE RUN BELOW GRADE RUN BELOW GRADE RUN BETWEEN JOIST REINFORCED CONCRETE PIPE REOJ DRAIN
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DF DIA DIAG DISCH DIW DN DWG - (E) EA ELEV ENT EQUIV EQUIV ETC EWC EWC EWC EXT - "F FA FA FB FD FIN FL	DRINKING FOONTAIN DIAMETER DIAGRAM DISCHARGE DOWN IN WALL DOWN DRAWING - EXISTING EACH ELEVATION ENTERING EQUAL EQUIPMENT EQUIVALENT AND SO FORTH ELECTRIC WATER COOLER EYE WASH EXTERNAL - DEGREES FAHRENHEIT FROM ABOVE FROM BELOW FLOOR DRAIN FINISHED FLANGE	INCL INV - K - LT LAV MAX MC MR MED MFR MIN MISC MTD MIN (N) NC NIC NIC NIC NIC NIC NH NO NO NPW NOM NTS	INCLUDING INVERT - TYPE OF COPPER TUBING - LEVEL TRANSMITTER LAVATORY MAXIMUM MECHANICAL CONTRACTOR MOP RECEPTOR MOP RECEPTOR MEDIUM MANUFACTURER MINIMUM MISCELLANEOUS MOUNTED TYPE OF COPPER TUBING NEW NORMALLY CLOSED NOT IN CONTRACT NO HUB NUMBER NORMALLY OPEN NORMALLY OPEN NON-POTABLE WATER NOMINAL NOMINAL NOT TO SCALE	- QUAN QD - RA RAC RAF RBC RBF RBG RBJ RCP RD RCP RD REL REQD RICW RIE RIW RIE RIW ROD - SA SCHEM	- QUANTITY QUICK DISCONNECT - RETURN AIR RUN ABOVE CEILING RUN ABOVE CEILING RUN ABOVE FLOOR RUN AT CEILING RUN BELOW CEILING RUN BELOW FLOOR RUN BELOW FLOOR RUN BELOW GRADE RUN BELOW GRADE RUN BETWEEN JOIST REINFORCED CONCRETE PIPE ROOF DRAIN RELIEF REQUIRED RUN IN CASEWORK RUN IN CASEWORK RUN IN ENCLOSURE RISE IN WALL ROOM ROOF OVERFLOW DRAIN - SHOCK ABSORBER SCHEDULE SCHEMATIC

## HVAC ABBREVIATIONS

EXHAUST REGISTER

ER

AC	AIR CONDITIONING UNIT	ESP	EXTERNAL STATIC PRESSURE	NC	NORMALLY CLOSED
AD	ACCESS DOOR	ET	EXPANSION TANK	NO	NORMALLY OPEN
AFF	ABOVE FINISHED FLOOR	EWT	ENTERING WATER TEMPERATURE	NIC	NOT IN CONTRACT
AH	AIR HANDLER (SPLIT REFRIG)	EWC	ELECTRIC WATER COOLER	NK	NECK
AHU	AIR HANDLING UNIT	FA	FREE AREA	OA	OUTSIDE AIR
AL	ACOUSTICAL LINING	FX	FLEXIBLE CONNECTION	OAI	OUTSIDE AIR INTAKE
AP	ACCESS PANEL	FC	FAN COIL UNIT	OAT	OUTSIDE AIR TEMPERATURE
BB	ELECTRIC BASEBOARD RADIATION	FD	FIRE DAMPER	00	
В	BOILER	FLR	FLOOR		
BDD	BACK DRAFT DAMPER	FOB	FLAT ON BOTTOM		
BFC	BELOW FINISHED CEILING	FOT	FLAT ON TOP	ODD	
BOB	BOTTOM OF BEAM	FOP	FUEL OIL PUMP	PBD	
BOD	BOTTOM OF DUCT	FP	FIRE PUMP	PRV	
BOP	BOTTOM OF PIPE	FPM	FEET PER MINUTE	PIAC	PACKAGED TERMINAL AIR CONDITIONER
С	CHILLER	FTR	FINNED TUBE RADIATION	RA	
CD	CEILING DIFFUSER	GC	GENERAL CONTRACTOR	RAG	
CFM	CUBIC FEET PER MINUTE	GPH	GALLONS PER HOUR	RAR	
CHW	/P CHILLED WATER PUMP	GPM	GALLONS PER MINUTE	RCP	REFLECTED CEILING PLAN
CHW	R CHILLED WATER RETURN	HD	HAND DAMPER	RHC	REHEAT COIL
CHW	VS CHILLED WATER SUPPLY	HP	HEAT PUMP	RF	RETURN FAN
CO		HV	HEATING AND VENTILATING UNIT	SA	SUPPLY AIR
CP	CONDENSATE PUMP	HWC	HOT WATER CONVERTER	SAR	SUPPLY AIR REGISTER
CWF	R CONDENSER WATER RETURN	HWP	HOT WATER PUMP	SCG	SMOKE CONTROL GRILLE
CWS	S CONDENSER WATER SUPPLY	HWR	HEATING HOT WATER RETURN	SD	SMOKE DAMPER
СТ	COOLING TOWER	HWS	HEATING HOT WATER SUPPLY	SEF	SMOKE EXHAUST FAN
CU	CONDENSING UNIT	нх	HEAT EXCHANGER	SF	SUPPLY FAN
CUH	CABINET UNIT HEATER	HZ	HERTZ	SP	STATIC PRESSURE
CVB	CONSTANT VOLUME BOX	ID	INSIDE DIAMETER	TG	
CWF	CONDENSER WATER PUMP	LAT	LEAVING AIR TEMPERATURE	TYP	
DB	DRY BULB	IWT		UH	UNIT HEATER
DS	DUCT SILENCER			UON	UNLESS OTHERWISE NOTED
DWF	DOMESTIC WATER PUMP	L F		VAV	VARIABLE AIR VOLUME UNIT
EAT	ENTERING AIR TEMPERATURE	MC		VD	VOLUME DAMPER
EC	ELECTRICAL CONTRACTOR	MTD	MOUNTED	VTR	VENT THRU ROOF
EF	EXHAUST FAN	MOD		WB	WET BULB
EJ	EXPANSION JOINT	MUA	MAKE-UP AIR UNIT	WMS	WIRE MESH SCREEN

-

## PIPING ELEMENTS/VALVING

SERVICE SINK	, P
SPECIFICATION	
SQUARE	
STAINLESS STEEL	
SUPPORT STEEL	
STANDARD	
STEEL	
STRUCTURAL	<u> </u>
SUPPLY	 *
SYSTEM	<u> </u>
STEAM IN PLACE	б
SAFETY SHOWER	
-	
TOTAL DYNAMIC HEAD	
TEMPERATURE	<i>k</i> ⊢
TOTAL PRESSURE	
TEMPERATURE TRANSMITTER	
TYPICAL	X
TEMPERATURE INDICATOR	Ŕ
URINAL	S
VIBRATION ISOLATOR	
VENT THRU ROOF	₽₽₽
-	ħ
WIDTH	<u>_</u>
WITH	<b>)</b>
WITHOUT	
WATER CLOSET	
WATER CLOSET-HANDICAPPED	¥
WATER METER	
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	CW
	———— HW ————
	——— HWR ———
	SAN
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	PRESSURE REDUCING
N	
	GATE VALVE
	GLOBE VALVE
☆	PLUG VALVE
$-+\!$	BALANCING VALVE
I[	BUTTERFLY VALVE
	VALVE IN RISE OR DROP
—-б—	BALL VALVE
N	SWING CHECK VALVE
<b>_</b>	LIFT CHECK VALVE
<b>k</b> ⊢	GATE VALVE, ANGLE
⊤ _≴⊢	GLOBE VALVE, ANGLE
	THREE WAY CONTROL VALVE
\ \ \$	TWO WAY CONTROL VALVE
S	
	SOLENOID VALVE
TP\$	TEMPERATURE AND PRESSURE
$\mathbf{k}$	RELIEF VALVE
<u> </u>	RELIEF/SAFETY VALVE
_	
<b>)</b>	PUMP
 	PUMP GAS COCK
	PUMP GAS COCK
	PUMP GAS COCK GAS PRESSURE REGULATOR
	PUMP GAS COCK GAS PRESSURE REGULATOR STRAINER
	PUMP GAS COCK GAS PRESSURE REGULATOR STRAINER STRAINER WITH BLOW OFF VALVE
	PUMP GAS COCK GAS PRESSURE REGULATOR STRAINER STRAINER STRAINER WITH BLOW OFF VALVE FLEXIBLE-CONNECTION
	PUMP GAS COCK GAS PRESSURE REGULATOR STRAINER STRAINER WITH BLOW OFF VALVE FLEXIBLE-CONNECTION SPRINKLER HEAD
	PUMP GAS COCK GAS PRESSURE REGULATOR STRAINER STRAINER WITH BLOW OFF VALVE FLEXIBLE-CONNECTION SPRINKLER HEAD DOMESTIC COLD WATER (CW)
	PUMP GAS COCK GAS PRESSURE REGULATOR STRAINER STRAINER STRAINER WITH BLOW OFF VALVE FLEXIBLE-CONNECTION SPRINKLER HEAD DOMESTIC COLD WATER (CW) DOMESTIC HOT WATER (HW)
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	PUMP GAS COCK GAS PRESSURE REGULATOR STRAINER STRAINER STRAINER WITH BLOW OFF VALVE FLEXIBLE-CONNECTION SPRINKLER HEAD DOMESTIC COLD WATER (CW) DOMESTIC HOT WATER (HWR) SANITARY DRAIN
	PUMPGAS COCKGAS PRESSURE REGULATORSTRAINERSTRAINERSTRAINER WITH BLOW OFF VALVEFLEXIBLE-CONNECTIONFLEXIBLE-CONNECTIONSPRINKLER HEADDOMESTIC COLD WATER (CW)DOMESTIC HOT WATER (HW)DOMESTIC HOT WATER RECIR. (HWR)SANITARY DRAINSANITARY VENT
	PUMPGAS COCKGAS PRESSURE REGULATORSTRAINERSTRAINERSTRAINER WITH BLOW OFF VALVEFLEXIBLE-CONNECTIONFLEXIBLE-CONNECTIONOMESTIC COLD WATER (CW)DOMESTIC HOT WATER (CW)DOMESTIC HOT WATER (HW)DOMESTIC HOT WATER RECIR. (HWR)SANITARY DRAINSANITARY VENTSPRINKLER PIPE
Image: Constraint of the second se	PUMPGAS COCKGAS PRESSURE REGULATORSTRAINERSTRAINERSTRAINER WITH BLOW OFF VALVEFLEXIBLE-CONNECTIONFLEXIBLE-CONNECTIONOMESTIC COLD WATER (CW)DOMESTIC HOT WATER (CW)DOMESTIC HOT WATER (CW)DOMESTIC HOT WATER (CW)SANITARY DRAINSANITARY VENTSPRINKLER PIPESTORM WATER
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	PUMPGAS COCKGAS PRESSURE REGULATORSTRAINERSTRAINERSTRAINER WITH BLOW OFF VALVEFLEXIBLE-CONNECTIONFLEXIBLE-CONNECTIONOMESTIC COLD WATER (CW)DOMESTIC HOT WATER (CW)DOMESTIC HOT WATER (HWR)DOMESTIC HOT WATER RECIR. (HWR)SANITARY DRAINSANITARY VENTSPRINKLER PIPESTORM WATERNATURAL GASOXYGEN
	PUMPGAS COCKGAS PRESSURE REGULATORSTRAINERSTRAINERSTRAINER WITH BLOW OFF VALVEFLEXIBLE-CONNECTIONFLEXIBLE-CONNECTIONSPRINKLER HEADDOMESTIC COLD WATER (CW)DOMESTIC HOT WATER (HW)DOMESTIC HOT WATER RECIR. (HWR)SANITARY DRAINSANITARY VENTSPRINKLER PIPESTORM WATERNATURAL GASOXYGENNITROUS OXIDE
Image: Constraint of the second s	PUMPGAS COCKGAS PRESSURE REGULATORSTRAINERSTRAINERSTRAINER WITH BLOW OFF VALVEFLEXIBLE-CONNECTIONFLEXIBLE-CONNECTIONOMESTIC COLD WATER (CW)DOMESTIC COLD WATER (CW)DOMESTIC HOT WATER (HWR)DOMESTIC HOT WATER RECIR. (HWR)SANITARY DRAINSANITARY VENTSPRINKLER PIPESTORM WATERNATURAL GASOXYGENNITROUS OXIDEAIR (DENTAL)
Image: Constraint of the second se	PUMPGAS COCKGAS PRESSURE REGULATORSTRAINERSTRAINERSTRAINER WITH BLOW OFF VALVEFLEXIBLE-CONNECTIONFLEXIBLE-CONNECTIONOMESTIC COLD WATER (CW)DOMESTIC HOT WATER (HWR)DOMESTIC HOT WATER (CW)DOMESTIC HOT WATER RECIR. (HWR)SANITARY DRAINSANITARY VENTSPRINKLER PIPESTORM WATERNATURAL GASOXYGENNITROUS OXIDEAIR (DENTAL)VACUUM (DENTAL)

	PIPE CAP
<del>\</del>	PIPE CONTINUE
O	PIPE RISING UP
)	PIPE DROPPING DOWN
	UNION - SCREWED OR FLANGED
<u>FS</u>	FLOW SWITCH
	TEMPERATURE TRANSMITTER
L_PT/PS	PRESSURE TRANSMITTER OR PRESSURE SWITCH
Ц тн/ті РІ/GA	THERMOMETER/TEMPERATURE
<b>+</b>	GAUGE WITH GAUGE COCK/ PRESSURE INDICATOR
-X- <u>N</u> -X	BACKFLOW PREVENTOR (REDUCED ZONE)
	BACKFLOW PREVENTOR (DOUBLE CHECK VALVE ASSEMBLY)
<sup>SA</sup>	WATER HAMMER ARRESTER
Свv	CIRCUIT SETTING BALANCING VALVE
нв +	HOSE BIBB
rd (0)	ROOF DRAIN
os OC	OPEN SITE DRAIN
FD D	FLOOR DRAIN
adr 🛄 C	AREA DRAIN
co	CLEANOUT
	WALL CLEAN OUT
FCO ()	FLOOR CLEAN OUT
—————[M]————	METER, INLINE

	EQUIPMENT (SEE SCHE
× ×	EQUIPMENT IDENTITY ABBREVIATION
X	EQUIPMENT NUMBER
x	INDICATES DETAIL LETT (APPLIES ONLY WHERE ON DRAWINGS)
××	INDICATES DRAWING O DETAIL APPEARS
	INDICATES SECTION NU
X-	INDICATES ON WHICH E SECTION APPEARS
	INDICATES RISER DESIG
x x	INDICATES PIPE SIZE
X	INDICATES REVISION &
X	LOCATION POINT FOR COORDINATION BETWE PLANS & PIPING DIAGR/ (NUMBER)
	CONNECT NEW TO EXIS
	TERMINATION POINT OF
•	CONNECT TO MANUFAC PREPIPED CONNECTION
	POINT OF BEAM PENET
	PREPURCHASED EQUIF

# DUCTWORK SYMBO

DOUBLE LINE	
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UNDERCUT DOOR

SQUARE FEET)

DOOR LOWER (FREE AREA

REQUIRED INDICATED IN

		SINGLE LINE
(ISTING EQUIPMENT OR DUCTWORK ) BE REMOVED.		\$ <del>////////////</del> \$
SISTING DUCTWORK TO REMAIN		ç
WDUCTWORK		ss
ANUAL VOLUME DAMPER (MVD) DTOR OPERATED DAMPER (MOD)		<del>۲۰۰</del> ۲ ۲۰۰۶
CESS DOOR		ς <u>AD</u> ς
DIUS ELBOW (R=1.5)		Ĩ,
NED ELBOW		Ť
ANCH DUCT TAKE-OFF		<u>ډ</u> ر
SE OR DROP DIRECTION OF R FLOW		ς <mark>  →</mark>   <del>→</del>   ς
EXIBLE CONNECTION (FXC)		st~~ts
FFUSER		S SIZE CFM/BLOW
EILING RETURN/EXHAUST EGISTER (R) OR GRILLE (G)		SIZE CFM
UPPLY AIR GRILLE (G) OR SUPPLY IR REGISTER (R)		NUMBER CFM SIZE
ETURN AND/OR EXHAUST AIR RILLE (G) OR REGISTER (R)		
CONTROL DAMPER- IPPOSED BLADE	×	AIR DEVICE TO BE REMOVED
CONTROL DAMPER- ARALLEL BLADE	$\boxtimes$	SUPPLY AIR
ACKDRAFT DAMPER		SUPPLY AIR, THROUGH FLOOR
		RETURN AIR

 $\square$ 

(s)

EXHAUST AIR

SMOKE DETECTOR

F FIRE DAMPER

LS
SINGLE LINE
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st~~ts
SIZE CFM/BLOW
S SIZE CFM SIZE
NUMBER SIZE NUMBER CFM SIZE

M0.0	INE
M1.0	GE
M2.0	EC
M3.0	SC
M4.1	FIF
M5.0	нν
M6.0	UN
M6.1	FIF
M7.0	PL
EX.X	EL

## **REFERENCE SYMBOLS**

CONNECT NEW TO EXISTING

#### — INDICATES DETAIL LETTER (APPLIES ONLY WHERE INDICATED ON DRAWINGS)

#### - INDICATES DRAWING ON WHICH DETAIL APPEARS

— INDICATES SECTION NUMBER

#### — INDICATES ON WHICH DRAWING

SECTION APPEARS — INDICATES RISER DESIGNATION

INDICATES PIPE SIZE

#### INDICATES REVISION & NUMBER

LOCATION POINT FOR

#### COORDINATION BETWEEN FLOOR PLANS & PIPING DIAGRAMS

TERMINATION POINT OF DEMOLITION

CONNECT TO MANUFACTURER'S PREPIPED CONNECTION

## POINT OF BEAM PENETRATION

PREPURCHASED EQUIPMENT

(X) STACK/VENT THRU ROOF NUMBER

#### SHEET NOTE NUMBER

- IDEX, LEGEND AND SYMBOLS
- ENERAL NOTES
- QUIPMENT SCHEDULES
- CHEMATICS
- IRST FLOOR, HVAC
- VAC DETAILS
- NDERSLAB, PLUMBING
- IRST FLOOR, PLUMBING
- LUMBING DETAILS
- LECTRICAL
- EX.X ELECTRICAL



- 1. SCOPE OF WORK
- A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
- B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE UNIFORM PLUMBING CODE (2015 EDITION), ALL LOCAL CODES, AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE.
- C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
- D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY ENGINEER OR ARCHITECT.
- 2. <u>PERMITS</u>
- A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICA-TIONS AND PAY ANY AND ALL FEES.
- 3. SHOP DRAWINGS
- A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT/FIXTURES TO THE ARCHITECT OR ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT THREE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.
- 4. DOMESTIC WATER SUPPLY PIPING
- A. UNDERGROUND: PROVIDE TYPE "K" SOFT DRAWN COPPER TUBING WITH BRAZED CONNECTIONS. OR AS OTHERWISE ALLOWED IN TABLE 6-4, UPC 2015.
- B. ABOVE GROUND: PROVIDE TYPE "L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS COPPER OR BRASS FITTINGS. ALL SOLDER TO BE "NO LEAD" TYPE. OR AS OTHERWISE ALLOWED IN

TABLE 6-4, UPC 2015.

- C. ALL HOT WATER PIPING TO BE INSULATED WITH 1-1/2" FIBERGLASS INSULATION W/ ASJ.
- D. ALL COLD WATER PIPING TO BE INSULATED WITH 1-1/2" FIBERGLASS INSULATION W/ ASJ.

### PLUMBING NOTES

- 5. SANITARY/STORM DRAINAGE AND VENT PIPING
- A. ABOVE GRADE: -2" AND BELOW: SCH. 40 GALV. STL. PIPE WITH SCREWED ENDS OR AS OTHERWISE ALLOWED IN TABLE 7-1, UPC 2015. ALL SOLDER TO BE "NO LEAD" TYPE.
- -3" AND ABOVE: SERVICE WT. CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS; OR AS ALLOWED IN TABLE 7-1, UPC-2015
- B. BELOW GRADE: SERVICE WT. CAST IRON WITH BELL AND SPIGOT JOINTS OR AS OTHERWISE ALLOWED IN TABLE 7-1, UPC-2015
- C. PVC PIPING SHALL NOT BE USED IN AIR PLENUM CEILINGS AND SHALL NOT CROSS FIRE RATED WALLS, CEILINGS, OR FLOORS.
- D. DRAINAGE PIPING SHALL BE RUN AS STRAIGHT AS POSSIBLE AND SHALL HAVE LONG TURN FITTINGS.
- E. DRAINAGE PIPING 3" SIZE AND SMALLER SHALL RUN AT A UNIFORM GRADE OF AT LEAST 1/4" PER FOOT, AND PIPING LARGER THAN 3" SHALL BE RUN AT A GRADE OF NO LESS THAN 1/4" PER FOOT.
- F. ALL VENT PIPING SHALL BE SLOPED TO DRAIN BACK TO FIXTURES.
- G. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FLASHING OF THE VENT PIPING RUN THROUGH THE ROOF.
- 6. MEDICAL GAS, DENTAL AIR AND VACUUM PIPING
- A. OXYGEN, NITROUS OXIDE: < 185 PSIG: HARD- OR SOFT-DRAWN SEAMLESS COPPER ASTM B 819 MEDICAL GAS TUBE, TYPE L BRAZED JOINTS, MELTING TEMP > 1000 DEG F
- ≥ 185 PSIG OR 3": HARD- OR SOFT-DRAWN SEAMLESS COPPER ASTM B 819 MEDICAL GAS TUBE. TYPE K BRAZED JOINTS, MELTING TEMP

> 1000 DEG F B. DENTAL AIR, VACUUM:

- AIR, VAC: HARD- OR SOFT-DRAWN SEAMLESS COPPER ASTM B 88 TUBE, TYPE L BRAZED JOINTS, MELTING TEMP > 1000 DEG F
- C. PIPING UNDERGROUND WITHIN BUILDINGS OR EMBEDDED IN CONCRETE FLOORS OR WALLS SHELL BE INSTALLED IN A CONTINUOUS CONDUIT.
- D. FOR PIPING UNDERGROUND WITHIN A CONTINUOUS CONDUIT ACCESS SHALL BE PROVIDED AT JOINTS FOR VISUAL INSPECTION AND LEAK TESTING.
- E. REFER TO UPC 2015, CHAPTER 13 FOR OTHER PROVISIONS THAT APPLY TO MEDICAL GAS, DENTAL AIR AND VACUUM PIPING.

SHALL BE SLEEVED.

8. <u>PIPE SUPPORTS</u>

A. ABOVE GRADE STANDARD PLUMBING CODE.

B. BELOW GRADE

ENTIRE LENGTH. AT ANY POINT.

9. MISCELLANEOUS

ROOF PENETRATION.

AT THE JOB SITE.

FIT IN THE AVAILABLE SPACE.

10. TESTING

PRESSURE TESTS.

SECTION 1327

11. GUARANTEE

OF ACCEPTANCE.

#### 7. ALL STUB-INS AND/OR SLAB OR WALL PENETRATION TO BE PER NATIONAL STANDARD PLUMBING CODE. ALL PIPING PENETRATIONS OF BUILDING FOUNDATIONS OR FOOTINGS

ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE AND PERFORMED METAL TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL BE AS SPECIFIED IN CHAPTER 8 OF THE NATIONAL

EARTH SHALL BE EXCAVATED TO A MINIMUM DEPTH WITH AN EVEN SURFACE TO INSURE SOLID BEARING OF PIPE FOR ITS -INTERIOR: THE PIPE SHALL BE INSTALLED (UNLESS OTHER-

WISE SPECIFIED) A MINIMUM OF 4 INCHES BELOW THE BOTTOM OF THE SLAB AND SHALL NOT BE IN ANY DIRECT CONTACT WITH THE CONCRETE -EXTERIOR: THE WATER PIPE SHALL HAVE A MINIMUM OF 42" OF COVER AND THE SANITARY WASTE PIPE SHALL HAVE A MINIMUM OF 24" OF COVER.

A. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT

B. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS

C. THE PLUMBING PLANS ARE INTENDED TO BE DIAGRAMATIC MATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIP-MENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIP-MENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL

A. PLUMBING SYSTEMS SHALL BE FLOW AND PRESSURE TESTED IN ACCORDANCE WITH STANDARD PRACTICE AND THE UNIFORM PLUMBING CODE. THE OWNER SHALL WITNESS THE INITIATION AND CONCLUSION OF ALL

B. MEDICAL GAS, DENTAL AIR AND VACUUM PIPING SHALL BE TESTED AND CERTIFIED ACCORDING TO UPC 2015,

A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE

## 12. PROJECT CLOSE OUT REQUIREMENTS

- A. THE DOCUMENTS DESCRIBED BELOW SHALL BE PROVIDED TO THE BUILDING OWNER OR THE OWNER'S AUTHORIZED AGENT WITHIN 180 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY: B. CONSTRUCTION DOCUMENTS SHALL BE UPDATED TO CONVEY A RECORD OF THE COMPETED WORK. SUCH UPDATES SHALL INCLUDE MECHANICAL, ELECTRICAL, AND CONTROL DRAWINGS RED-LINED OR
- REDRAWN IF SPECIFIED, THAT SHOW ALL CHANGES TO SIZE, TYPE AND LOCATIONS OF COMPONENTS, EQUIPMENT AND ASSEMBLIES. C. AN OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED FOR EACH COMPONENT, DEVICE, PIECE OF EQUIPMENT AND SYSTEM. THE O&M MANUAL SHALL INCLUDE ALL OF THE FOLLOWING:
- SUBMITTAL DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT.
   MANUFACTURER'S OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT, DEVICE, AND SYSTEM DEPUMPING MAINTENANCE.
- REQUIRING MAINTENANCE. I. NAME AND ADDRESS OF AT LEAST ONE SERVICE AGENCY. IV. TEMPERATURE CONTROL SYSTEM INSPECTION SCHEDULE.
- MAINTENANCE AND CALIBRATION INFORMATION, WIRING DIAGRAMS, SCHEMATICS AND CONTROL SEQUENCE DESCRIPTIONS. V. A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE
- INCLUDING RECOMMENDED SETPOINTS.
- D. TRAINING OF THE MAINTENANCE STAFF FOR EQUIPMENT INCLUDED IN THE MANUALS SHALL INCLUDE AS A MINIMUM: I. REVIEW OF OPERATION AND MAINTENANCE MANUALS AND
- PERMANENT CERTIFICATE. II. HANDS-ON DEMONSTRATION OF ALL NORMAL MAINTENANCE PROCEDURES, NORMAL OPERATING MODES AND ALL
- EMERGENCY SHUTDOWN AND START-UP PROCEDURES. III. TRAINING COMPLETION REPORT.

#### 1. SCOPE OF WORK

- A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
- B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE 2015, ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.
- C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
- "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT. 2. PERMITS

D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR

- A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICA-TIONS AND PAY ANY AND ALL FEES.
- 3. <u>SHOP DRAWINGS</u>
- A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ACHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.
- 4. FLEXIBLE TYPE DUCT
- A. SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERIAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L., CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.
- B. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 10 LINEAR FEET PER RUN.
- C. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.
- 5. <u>REFRIGERENT PIPING</u>
- A. CONTRACTOR SHALL PROVIDE AND INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN SUCH A WAY AS TO BE INCONSPICIOUS AND FREE FROM ANY POSSIBLE CONDEN-SATION. INSULATE REFRIGERANT LINES WITH ARMOUR-FLEX TYPE INSULATION.
- B. SHALL BE ACR DRAWN TEMPER COPPER TUBING, WITH COPPER BRAZED TYPE FITTINGS SUITABLE FOR A MAXIMUM WORKING PRESSURE OF 623 PSIG.
- C. REFRIGERANT PIPING SHALL BE PRESSURE TESTED IN ACCORDANCE WITH STANDARD PRACTICE AND THE INTERNATIONAL MECHANICAL CODE. THE OWNER SHALL WITNESS THE INITIATION AND CONCLUSION OF ALL PRESSURE TESTS.

# 6. <u>DUCTWORK</u>

- THE DUCT 7. GREASE DUCT

- 9. HVAC CONTROLS
- 10. <u>ELECTRICAL</u>
- 11. PIPE SUPPORTS

## **GENERAL NOTES** NOT TO SCALE M1.0

## **HVAC NOTES**

A. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA AND IMC (LATEST EDITION). ALL DUCTWORK SHALL BE THE LOW VELOCITY, ROUND SPIRAL WRAPPED TYPE, UNLESS SPECIFIED OTHERWISE.

B. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTI-TION, OR AS OTHERWISE SHOWN ON DRAWINGS.

C. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS.

D. SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.

E. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH SMACNA AND IMC (LATEST EDITION) AND ACCEPTED GOOD PRACTICE.

F. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.

G. ALL SUPPLY AIR DUCTWORK SHALL BE ROUND SPIRAL AND INSULATED WITH 1" (R3.3 MIN) FIBERGLASS LINER WITH FACTORY APPLIED ACRYLIC COATING LOCATED ON THE INTERIOR OF

A. GREASE DUCT SHALL BE FACTORY BUILT COMMERCIAL KITCHEN GREASE DUCT LISTED AND LABELED IN ACCORDANCE WITH UL 1978

B. GREASE DUCT BRACING AND SUPPORTS SHALL BE OF NON COMBUSTIBLE MATERIAL SECURELY ATTACHED TO THE STRUCTURE

C. SLOPE GREASE DUCT 1/4" PER FOOT TOWARD THE HOOD

DRAINAGE PIPING (CONDENSATE)

A. SHALL BE TYPE "K" COPPER PIPE WITH SOLDERED JOINTS. PITCH HORIZONTAL LINES 1/4" IN 1'-0". CONDENSATE DRAINS SHALL BE ROUTED TO FLOOR SINK OR INDIRECT WASTE DRAIN.

A. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.

A. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATION OF WIRING FOR EACH HVAC UNIT.

A. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.

#### 12. GAS PIPING

A. SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MAL-LEABLE IRON FITTINGS. WHERE GAS PIPE CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF THE RUNOUT, A 100% SHUT-OFF VALVE AND A UNION. GAS PIPING CONTAINING PRESSURE GREATER THAN 9" W.G. SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH WELDED JOINTS.

13. MISCELLANEOUS

- A. ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE.
- B. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
- C. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
- D. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAM-MATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIP-MENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIP-MENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

#### 14. TESTING AND BALANCING

A. THE HVAC SYSTEM SHALL BE TESTED AND AND BALANC-ED BY AN INDEPENDENT AGENCY, UNDER THE SUPER-VISION OF A NEBB CERTIFIED PROFESSIONAL. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL. FINAL AIR FLOWS SHALL BE WITHIN 5% OF DESIGN VALUES

#### 15. <u>GUARANTEE</u>

A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE.

#### 16. PROJECT CLOSE OUT REQUIREMENTS

- A. THE DOCUMENTS DESCRIBED BELOW SHALL BE PROVIDED TO THE BUILDING OWNER OR THE OWNER'S AUTHORIZED AGENT WITHIN 180 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY: B. CONSTRUCTION DOCUMENTS SHALL BE UPDATED TO CONVEY A
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- C. AN OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED FOR EACH COMPONENT, DEVICE, PIECE OF EQUIPMENT AND SYSTEM. THE O&M MANUAL SHALL INCLUDE ALL OF THE FOLLOWING:
- I. SUBMITTAL DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT. II. MANUFACTURER'S OPERATION AND MAINTENANCE MANUALS
- FOR EACH PIECE OF EQUIPMENT, DEVICE, AND SYSTEM REQUIRING MAINTENANCE. II. NAME AND ADDRESS OF AT LEAST ONE SERVICE AGENCY, IV. TEMPERATURE CONTROL SYSTEM INSPECTION SCHEDULE,
- MAINTENANCE AND CALIBRATION INFORMATION, WIRING DIAGRAMS, SCHEMATICS AND CONTROL SEQUENCE
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- THE MANUALS SHALL INCLUDE AS A MINIMUM: I. REVIEW OF OPERATION AND MAINTENANCE MANUALS AND
- PERMANENT CERTIFICATE. II. HANDS-ON DEMONSTRATION OF ALL NORMAL MAINTENANCE PROCEDURES, NORMAL OPERATING MODES AND ALL EMERGENCY SHUTDOWN AND START-UP PROCEDURES.
- III. TRAINING COMPLETION REPORT.



UNIT HEATER SCHEDULE												
NO. MFC			SERVICE	AIRFLOW (cfm)	AIR TEMP RISE (deg F)	FAN		ELECTRICAL				
	MFG	MODEL				MOTOR (hp)	HORIZONTAL THROW (ft)	VOLTS / Φ / HZ	CAPACITY (kW)	MCA	MOCP	REMARKS
UH-1	TRANE	UHAA031ATAD	RESTROOM	175	54	5 WATTS	-	208 / 1 / 60	3.0	14.4	20	WALL MOUNTED, INTEGRAL THERMOSTAT
UH-2	TRANE	UHEC-072BACA	SHOP	700	34	1 / 50	22	208 / 3 / 60	5.6	18.1	35	CEILING MOUNTED, 12' AFF
UH-3	TRANE	UHEC-072BACA	SHOP	700	34	1 / 50	22	208 / 3 / 60	5.6	18.1	35	CEILING MOUNTED, 12' AFF
UH-4	TRANE	UHEC-072BACA	SHOP	700	34	1 / 50	22	208 / 3 / 60	5.6	18.1	35	CEILING MOUNTED, 12' AFF

## UNIT HEATER SCHEDULE SCALE: NONE M2.0

	PLUMBING FIXTURE SCHEDULE									
					PIPING CC					
NO.	MFG	MODEL	SERVICE	TRAP (in)	VENT (in)	COLD WATER (in)	HOT WATER (in)	REMARK		
F-1	KOHLER	HIGHLINE K-3493-TR	WATER CLOSET, RESTROOM	3"	2"	3/4"	-	WHITE, FLOOR MOUNTED, MANUALL FLUSHMATE PRESSURE ASSIST, TAI		
F-2	KOHLER	TRESHAM K-2991-4	LAVATORY SINK, RESTROOM	1-1/4"	1-1/4"	1/2"	1/2"	COUNTER MOUNTED, FAUCET HOLES OPERATED FAUCET: MOEN 8413, DF		
F-3	GUARDIAN	GBF1994	EMERGENCY EYEWASH AND DRENCH SHOWER	-	-	1/2"	1/2"	INCLUDE G3800 LF THERMOSTATIC N WATER CONNECTION		
F-4	JAY R SMITH	2005Y	FLOOR DRAIN	4"	2"	1/2"	-	NICKEL BRONZE STRAINER, TRAP PF		
F-5	WATTS	LFTP 300	FLOOR DRAIN TRAP PRIMER	-	-	1/2"	-			
F-6	WATTS	HY-420	NON FREEZE WALL HYDRANT	-	-	3/4"	-			

## PLUMBING FIXTURE SCHEDULE SCALE: NONE

	THERMOSTATIC MIXING VALVE SCHEDULE									
NO.	MFG	MODEL	SERVICE	SIZE (in)	VALVE SPE MAX FLOW (gpm)	CIFICATIONS MIN FLOW (gpm)	OUTLET TEMP (deg F)	REMARKS		
TMV-1	SYMMONS	7-210-CK-D-W	DOMESTIC HOT WATER FIXTURE(S)	3/8"	4.5	0.5	105	INCLUDE COMPRESSION TEE FITTING FOR WATER BYPASS AND WALL MOUNT BRACKET		

5 M2.0

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3

M2.0

# MIXING VALVE SCHEDULE

SCALE: NONE

	EXHAUST FAN SCHEDULE									
							ELECTRICAL			
NO.	MFG MODEL	MODEL	SERVICE	EXHAUSTAIR (cfm)	ESP (in WG)	FAN (qty - speed)	VOLTS / Φ / HZ	MOTOR (watts)	REMARKS	
EF-1	GREENHECK	SP-A70	RESTROOM	74	0.125	1 - 850	120 / 1 / 60	16		



WATER HEATER SCHEDULE								
				WATER	HEATER	RECO	OVERY	
NO.	MFG	MODEL	SERVICE	CAPACITY (gal)	INPUT CAPACITY (kW)	40 DEG F (gph)	90 DEG F (gph)	REMARKS
WH1	AO SMITH	PROLINE EMT-6	RESTROOM, POINT OF USE	6	1.4	-	7	



4	WA	TER	HEA	TER	SCH	EDU
∖ M2.0 /	SCALE:	NONE				













 $\langle 2 \rangle$ 



3 M3.0

SCALE: NONE

(1) CONNECT COLD WATER SUPPLY TO EXISTING WELL, FIELD VERIFY SIZE AND LOCATION

CONNECT SEWER TO EXISTING CITY SEWER LINE IN HATTER CREEK ROAD, FIELD VERIFY SIZE AND LOCATION

## WATER RISER DIAGRAM









1 BATHROOM EXHAUST FAN SHALL BE INTERLOCKED WITH LIGHT SWITCH

2 MOUNT ELECTRIC UNIT HEATERS ACCORDING TO MANUFACTURER'S INSTRUCTIONS, 12' AFF MAX







# BATHROOM EXHAUST FAN

SCALE: NONE



2 BATHROOM HEATER M5.0 SCALE: NONE





# ELECTRIC SHOP HEATER























# SINK AND LOCAL MIXING VALVE

2 M7.0











#### **Forest Products Certificates and Industry Recognized Credentials**

#### **Logging Safety**

- A. Attend a Logging First Aid and Safety ½ day Meeting
  - a. Put on by ALC and Safety
- B. Complete "Safety in Logging" Course offered through UI
  - a. Possible duel credit with associates degree

#### Log Scaling in Idaho Certificate

- A. Complete Logging High School Certification Course
  - a. Correctly Identify the primary commercial species of Idaho
    - i. For log scaling purposes, not by foliage
  - b. Determine Gross scale
    - i. Scribner Decimal C
  - c. Understand common defects (Net Scale)
    - i. Sweep and Crook
    - ii. Checking
      - 1. Frost Crack, Heart Check, Pitch Seam
    - iii. Rot
      - 1. Conk, Stump, Sap, Pocket Rot
- B. Demonstration of Skill
  - a. Within one of the three skill demonstration events a student must demonstrate proficiency to the industry professional at the event, or:
  - b. A student must attend scaling school and pass the written portion of the scalers test.

#### **High School Logging Proficiency Certification**

- A. Submit Supporting Documents of Completion of the UI High School Forestry Curriculum
  - a. Specifically the following sections;
    - i. Logging

- ii. Forest Management
- iii. Forest Health
- B. Demonstration of Skills
  - a. A proficiency of skill must be demonstrated in 4 of the following
    - i. Chainsaw Basics, Line Logging Basics, Machinery Operations,
- C. Safety Logging and First Aid
  - a. Must complete ALC Logger Safety

#### **High School Lumber Production Certificate**

- A. Submit Supporting Documentation of Completion
- B. Demonstration of Skills

#### Firefighting

- A. S130/S190 online through UI CNR
- B. Attend one "Fire School" event

#### **HS Forestry and Natural Resources STATE DEGREE**

- A. This certificate would culminate the entire career of a high school student in forestry and natural resources. Similar to the state FFA degree program, this certificate would allow young people to be recognized throughout the entire region of the skill sets they know and the type of person they are.
- B.



Dear School District,

Over the course of the last 6 months a change has enveloped the education world in the state of Idaho. Funding in Career Technical Education has become available through the Idaho Career Ready Students Grant, through which school districts across the state have begun exploring new opportunities for students in their districts.

One of the focuses of these schools has been introducing and enhancing the educational opportunities withing forestry and natural resource education. In order to develop this programming and enhance student experiences, we have formed the Idaho Forestry and Natural Resources Collaborative. This group, made up of industry, school districts and the University of Idaho, are creating professional development opportunities for teachers, new opportunities for students, and a direct connection to industry in local communities.

If your school district is looking to increase opportunities for your students, please respond to this letter of inquisition at <u>bmanley@uidaho.edu</u> before November 20th. This is a free opportunity to join a collaborative group aiming at helping Idaho youth. This preliminary letter is to fully understand how many districts and schools would benefit from our collaboration and use resources made available by it.

Warm regards,

**Blake Manley** Program Manager of Workforce Development University of Idaho



January 29, 2024

Allison Duman Idaho Career Ready Students Grant Idaho Department of Education

Dear Mrs. Duman,

The purpose of this letter is to document my strong support for the Idaho Career Ready Students Grant request submitted to the ICRS Grant Committee on behalf of the Idaho Forestry and Natural Resources Collaborative (IFNRC) by Dr. Robert Keefe and Blake Manley of the University of Idaho College of Natural Resources.

IDL manages over 1 million acres of productive timberland in Idaho. Idaho trust lands are managed to maximize revenue for the benefit of Idaho's public schools and other beneficiaries. Trust land contributions dispersed over \$100 million to these institutions in 2023. Additionally, our Fire Bureau is responsible for coordinating fire suppression and prevention on over 6 million acres of timberlands. Through enforcement of the Idaho Forest Practices Act, the IDL also works with all loggers through education and enforcement of the Idaho Forest Practices Act on private lands statewide. As such, development of a skilled and vibrant logging and forest products workforce is absolutely critical for the continued success of our operations and Idaho's forest products-based economy. This proposal, which will educate Idaho youth about career paths in the forest products industry, will help develop a pipeline of workers to support the continued success and growth of our state forest products industry for future generations.

Planting, thinning, timber harvesting, scaling and marketing forest products are core activities critical for our forestry operations on trust lands. Because this proposal is specifically focused on the introduction of the forest products industry to young people, we are deeply supportive of the effort. I also serve as Chair of the Forestry Stakeholder Advisory Group for the University of Idaho Experimental Forest and look forward to contributing ideas and support to ensure that Dr. Keefe and Mr. Manley's work benefits Idaho communities, youth, and our entire forest industry statewide. I strongly support the efforts of the new IFNRC and its mission to educate young Idahoans about career opportunities and skills development in the forest products sector.

Sincerely,

David Greenwood Timber Bureau Chief Idaho Department of Lands dgreenwood@idl.idaho.gov

#### January 29, 2024

Allison Duman Idaho Career Ready Students Grant Idaho Department of Education

Dear Mrs. Duman,

The purpose of this letter is to document our strong support for the Idaho Career Ready Students Grant request submitted to the ICRS Grant Committee on behalf of the Idaho Forestry and Natural Resources Collaborative (IFNRC) by Dr. Robert Keefe and Blake Manley of the University of Idaho College of Natural Resources.

Stimson owns and manages over 400,000 acres of timberland in the Inland Northwest and significant acreage in north Idaho. Development of a skilled and vibrant logging and forest products workforce is absolutely critical for the continued success of our business and Idaho's forest products industry. This proposal, which will educate young people about career paths in the forest products industry, will help develop a pipeline of workers to support the continued success and growth of our regional forest products industry for future generations.

Planting, thinning, timber harvesting, hazard management, and marketing forest products are core activities for our business. Because this proposal is specifically focused on the introduction of the forest products industry to young people, we are deeply invested in the effort. Dr. Keefe and Mr. Manley's work will benefit our communities, our youth, and our entire industry. I strongly support the efforts of the new IFNRC and its mission to educate our young people about career opportunities and skills development in the forest products sector.

Sincerely,

Andrew Stockwell Director of Inland Resources Stimson Lumber Company <u>astockwell@stimsonlumber.com</u>



Post office Box 855 Boise, Idaho 83701 Tel: (208) 863-1514 Toll Free: 800-ID-WOODS Edu. (208) 863-1512 Fax (208) 334-3449 email: ifpc@idahoforests.org plt@idahoforests.org www.idahoforests.org

January 30, 2024

David Gabrielsen District 1 - (208) 660-3701

Jack A. Buell District 2 - (208) 245-2501

Jesse D. Short District 3 - (208) 848-2301

Erika Sussi District 4 - (208) 271-6591

Trevor Stone At-Large - (208) 748-2038

Jennifer Okerlund Director

Michelle Youngquist Education Coordinator Superintendent Debbie Critchfield Members of the Idaho Career Ready Students Council Idaho Department of Education Boise, ID 83720

RE: Support for the FNRC - Idaho Career Ready Student Proposal

The Idaho Forest Products Commission (IFPC) supports the grant submission for Forest and Natural Resources Collaborative (FNRC) submitted by University of Idaho College of Natural Resources. The FNRC has a far-reaching, very positive opportunity to provide a framework for all high schools in Idaho seeking to offer or expand an existing forestry and natural resources career technical education (CTE) program of study.

Idaho's Forest Products Industry is a major economic contributor to our state and vital to many rural communities. Our industry is facing an escalating shortage of labor availability without an adequate pipeline of entry-level job seekers and skilled tradespeople. Young Idahoans aren't being exposed to or encouraged to consider and pursue well-paying jobs in the woods and sawmills. Programs like the one being proposed provide an avenue for that exposure.

IFPC is part of a larger, organized effort to identify needs and implement programs to assist our industry and facets within. We cannot do it without programs like the FNRC, a critical component and part of an overall solution we as a group are working towards.

The Idaho Forest Products Commission strongly supports the Forest and Natural Resources Collaborative as a much-needed initiative to prepare students to meet our workforce needs. We urge you to strongly consider approving this grant, which would help maintain and develop a strong forest products industry in Idaho.

nifer Okerlund Director



3759 Highway 6 P.O. Box 130 Princeton, ID 83857

Phone: (208) 875-1121

Fax: (208) 875-0191

January 30,2024

Allison Duman Idaho Career Ready Students Grant Idaho Department of Education

Dear Mrs. Duman

Please accept this letter of support from Bennett Lumber Products Inc. for the Idaho Career Ready Students Grant request submitted to the ICRS Grant Committee on behalf of the Idaho Forestry and Natural Resources Collaborative (IFNRC) by Dr. Robert Keefe and Mr. Blake Manley of the University of Idaho College of Natural Resources.

Bennett Lumber Products owns two sawmills and manages 85,000 acres of sustainably managed timberlands. We are attached to Northern Idaho and all those that live and work here. Our industry is closely tied to our region and depends on dedicated and well educated employees and contractors to produce our products and grow our forests. For that reason, this proposal, which will encourage young people to explore career paths in the forest products industry, is key to the success and continued thriving of our industry and our company for future generations.

Planning and administering tree planting, pre-commercial thinning, forest inventory and timber harvests are core activities for our business. We also market products produced in our sawmills worldwide. Because this proposal specifically focuses on the introduction and training of the forest products industry to young people in our state we are greatly invested in this endeavor. What Dr. Keefe and Mr. Manley are working towards will greatly benefit our local communities and industry. Bennett Lumber Products Inc. whole heartily supports this proposal in its entirety. Bennett Lumber Products will continue to support these new steps toward educating our young people in the forest products sector. Additionally, Bennet Lumber already has a representative on the advisory board for the University Idaho's College of Natural Resources and is part of the IFNRC for which this grant is being submitted.

Thank you for letting Bennett Lumber express its support for this important topic and please feel free to contact us with any questions.

Sincerely,

Tom Biltonen Timber Resource Manager Bennett Lumber Products Inc.

## ASSOCIATED LOGGING CONTRACTORS, INC.



P. O. Box 671 | Coeur d'Alene, Idaho 83816 Phone 208-667-6473 | alc@idahologgers.com www.idahologgers.com

January 29, 2024

Superintendent Debbie Critchfield Members of the Idaho Career Ready Students Council Idaho State Department of Education Boise, Idaho 83720

## Re: Support for the Idaho Natural Resources Collaborative (IFNRC) grant proposal submitted by the University of Idaho

The Associated Logging Contractors of Idaho (ALC) supports this grant proposal. The ALC is a trade organization with over 500 logging and trucking contracting businesses as members who operate in the forested regions of Idaho. We have long supported our Idaho public schools and in particular support programs in our junior and senior high schools that offer skills training that can be applied to our natural resource sector's businesses.

The IFNRC proposal would secure needed funding for creation of an Idaho based curriculum for the skills needed in our forestry, sawmilling, and logging careers. Funding of curriculum through this grant would allow the schools within the IFNRC as well as any Idaho school access to state based and relevant material at no cost to the school districts. In addition, the other components of the proposal would allow for expanded natural resources' careers instruction both on the University of Idaho's Experimental Forest and on location at schools within this consortium and any interested school across the state.

The forest products sector of Idaho adds \$ 2.5 billion to our Gross State Product and \$ 1.738 billion in labor income (*data from 2023*). Our sector employs 17,097 people directly and another 11,793 in support jobs for a total of 28,890 jobs. Our logging and hauling contractor businesses are family owned and operated and are the backbone of our forested rural communities. We are an important component of Idaho's economy, help to sustainably manage our forests while providing the wood and paper products we use every day, and we need skilled workers. Funding for this project from the Idaho Career Ready Students program will help share these career skills and opportunities with our junior and senior high school students.

Thank you for your consideration!

Sincerely,

Shown Leough

Shawn Keough Executive Director



687 W Canfield Ave Ste 100

Coeur d'Alene, ID 83815

IDFG.com

208,255.3200

January 29, 2024

Superintendent Debbie Critchfield Members of the Idaho Career Ready Students Council Idaho Department of Education Boise, ID 83720

RE: Support for the FNRC - Idaho Career Ready Student Proposal

I am writing in support of the grant submission for Forest and Natural Resources Collaborative (FNRC) submitted by University of Idaho College of Natural Resources. The FNRC would serve every high school in Idaho that seeks to expand their capacity to offer a forestry and natural resources career technical education (CTE) program of study.

In the last several years, the Idaho economy has faced an escalating shortage of labor availability. The forest products industry faces an aging workforce without an adequate pipeline of entry-level job seekers and skilled tradespeople. In addition, youth today often overlook training for skilled jobs such as heavy equipment operators, loggers, truck drivers or other forest operations jobs. At the same time, the industry constantly modernizes, which necessitates a critical need for skilled workers to operate and service modern logging, milling, and manufacturing operations.

For the past 18 months, Idaho Forest Group has convened a group of professionals from the Forest Product Industry as well as secondary and post-secondary education in northern Idaho. Our goal is to understand the options for preparing students for jobs in our industry. Most of the forest products industry operates in rural and remote communities, where a variety of technical education opportunities are not available for grades 9 through 12. This fact amplifies the labor shortage issue our industry faces. The FNRC proposal provides a creative way to address the need for programs and curriculum to prepare Idaho students for career ready skills in the forest products industry.

Idaho Forest Group strongly supports the Forest and Natural Resources Collaborative as a muchneeded initiative to prepare students to meet our workforce needs. We urge you to strongly consider approving this grant, which would help maintain and develop a strong forest products industry in Idaho.

Thank you for your consideration.

Sincerely,

Tom Schultz

Tom Schultz Chief of Staff

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