Reynolds School District #7
Alder Elementary School Gymnasium
Structural Seismic Upgrades

REQUEST FOR PROPOSALS
Architecture/Engineering Services

October 3rd, 2017

A. Introduction

Reynolds School District invites written sealed proposals for Architectural/Engineering services for their Alder Elementary School Structural Seismic Upgrades.

Alder Elementary School is located at 17200 SE Alder Street in Portland, Oregon. The campus includes the original classroom structure, a multipurpose structure and gym addition. The building being evaluated is the multipurpose structure. The facility has a footprint of approximately 6,500 sq. ft. and a 2,091 sq. ft. second floor housing a music room. The structure consists of exterior tilt-up concrete walls and interior CMU walls. The roof structure consists of ply wood over 2x decking over open web joists. The second floor consists of 3 ½" concrete fill over steel decking over open-web joists.

The tentative schedule for design process would be from the date of contract award this Fall and completed with the bid phase in early Spring 2018. The construction contract is expected to be executed in the Spring of 2018 with construction during the Summer of 2018 after the end of the 2017/2018 school year.

The A/E Services are anticipated to be provided, but not limited, to the following:

- Architectural
- Structural Engineering
- Mechanical Engineering, (HVAC & Plumbing)
- Electrical Engineering, (Line & Low Voltage)

A more detailed description of the proposed project, including the project's budget is provided in the Structural Seismic Evaluation Report for the Alder Elementary School Gymnasium dated December 2016 is provided in ***Attachment A***.

The District will be providing any geotechnical, site surveying, or hazardous material consulting services necessary on the Projects directly. The A/E firm selected will be expected to cooperate and coordinate as necessary with the District's consultants.

B. RFP Dates and Deadlines

The Reynolds School District has established the following dates and deadlines for this RFP.

RFP issue date	October 3, 2017
Mandatory pre-proposal meeting at 3:30 PM	October 17, 2017
Deadline for proposer questions	October 12, 2017
RFP Addenda issuance	October 13, 2017
Proposals due at 2:00 PM	October 24, 2017
Shortlisted firms identified	October 27, 2017
Proposer interviews	November 2, 2017
District approval of selection	November 8, 2017
Beginning of services	November 15, 2017

C. Pre-Proposal Meeting

A mandatory pre-proposal meeting will be held to answer questions from prospective proposers on ***October 17th 3:30 PM*** prevailing local time at the **Alder Elementary School at 17200 SE Alder Street Portland, Oregon**. The meeting will allow proposers the opportunity to view the construction site, gain a better understanding of the work, and the unique aspects of the project.

D. RFP Terms

1. The Reynolds School District is issuing this RFP for the purposes of obtaining proposals for the provision of architectural and engineering services. The Reynolds School District expects to enter into a contract with one (1) architectural/engineering firm (including partnership or joint venture) for these architectural and engineering services, using the form of professional services contract and statement of work attached as ***Attachment A***. However, the Reynolds School District does not guarantee that it will award any contract pursuant to this RFP.

2. At the Reynolds School District's discretion, any representation made by a proposer in response to this RFP, whether verbal or written, will be incorporated into any contract between the Reynolds School District and the proposer.

3. This RFP provides instructions for the preparation of a proposal that will address all RFP requirements. This RFP is not an offer to contract. Only the execution of a written contract will obligate The Reynolds School District, in accordance with the terms contained in the contract.

4. Proposals that do not meet minimum RFP requirements will be classified as "nonresponsive." The Reynolds School District will disqualify all nonresponsive proposals from further evaluation. Responsive proposals will be evaluated on the basis of the criteria listed in Section G of this RFP.

5. The Reynolds School District will not pay any costs a proposer incurs in preparing and submitting its proposal or in negotiating and signing a contract, all of which will be the sole responsibility of the proposer. Any due diligence conducted by a proposer is

at the proposer's expense. All proposals become the property of Reynolds School District upon delivery to the Reynolds School District.

6. The Reynolds School District reserves the right to amend this RFP in any manner prior to award of a contract.

7. The Reynolds School District reserves the right to postpone or cancel the RFP without liability to the Reynolds School District any time prior to executing contract if the Reynolds School District determines, in its sole discretion, it's in the District's best interest to do so.

8. The Reynolds School District reserves the right to share the RFP and any proposals the Reynolds School District receives with any third party of their choosing, in order to secure expert opinion.

9. The Reynolds School District reserves the right to reject any all proposals.

E. Proposal Requirements

Each proposer's submission in response to this RFP must:

1. Include one original (marked as such), two (2) copies, and one (1) PDF copy on a USB flash drive;

2. Include the completed and executed Proposal Certifications (Attachment C of this RFP) as the first page of the original submission and each copy;

3. Be submitted in a sealed envelope that is plainly marked "Proposal to Provide A/E Services – Alder Elementary School Gym Structural Seismic Upgrades" and bears the proposer's name, address, telephone number, and email address; and

4. Be delivered to the following addressee **not later than 2:00 PM, October 24, 2016:**

Reynolds School District
RE: RFP – Architectural/Engineering Services
1204 NE 201st Avenue
Fairview, OR 97024

5. Additional solicitation information:

a. Questions

Questions pertaining to this RFP shall be presented in writing via email to:

Bob Collins, PMP CCM
Owner Representative
DAY CPM SERVICES (Div of OTAK)
12745 SW Beaverdam Rd. Ste. #120
Beaverton, OR 97005
Email: rcollins@daycpm.com

Questions must be received in electronic format not later than **2:00 PM,** on the date of the "Deadline for Proposer Questions" in Section B above. Questions will be compiled and collectively addressed in writing prior to the deadline RFP Addenda stated in Section B above.

b. Changes to RFP

The Reynolds School District reserves the right to make changes to the RFP. Changes will be made only by written addendum which will be available to all prospective proposers via the City's website link below:

http://www.reynolds.k12.or.us/rfps.

Prospective proposers may request or suggest any change to the RFP by submitting a written request. The request shall specify the provision of the RFP in question and contain an explanation for the requested change. The request must be submitted per the timeline above in Section C of this RFP.

The evaluation team will evaluate all requests submitted but will not be obligated to accept the requested change.

c. Amend or Withdraw Proposal

A proposer may amend or withdraw its proposal any time prior to the time and date established for submission of proposals.

d. Public Disclosure of Proposals

Any information provided to the Reynolds School District pursuant to this RFP is subject to public disclosure pursuant to Oregon's public records laws (ORS 192.410 to 192.505).

The general requirement for public disclosure is subject to a number of exemptions. Each page containing information deemed by the proposer as necessary to remain exempt from public disclosure after proposals have been evaluated (e.g., pages containing trade secret, economic development information, etc.) and should be plainly marked. Marked pages should be placed in a group separate from the remainder of the proposal.

The fact that a proposer marks and segregates certain information as exempt from disclosure does not mean that the information is necessarily exempt. The Reynolds School District will make an independent determination regarding exemptions applicable to information that has been properly marked and segregated. Information that has not been properly marked and segregated may be disclosed in response to a public records request. When exempt information is mixed with nonexempt information, the non-exempt information must be disclosed. The Reynolds School District will redact pages that include both exempt and nonexempt information to allow disclosure of the nonexempt information.

Unless expressly provided otherwise in this RFP or in a separate communication, the Reynolds School District does not agree to withhold from public disclosure any information submitted in confidence by a proposer unless the information is otherwise exempt under Oregon law. The Reynolds School District considers proposals submitted in response to this RFP to be submitted in confidence only until The Reynolds School District's evaluation is complete and has publicly announced the notice of intent to award and the Reynolds School District has acted a Notice of Intent to Award.

6. Proposals must include the following information:

   a. The proposer's complete name, mailing address, physical address, email address, voice telephone, and fax numbers (see Section 7 below);

   b. A description of the ownership structure of the proposer, giving specific details with regard to any parent or affiliates;

   c. The names, titles, and qualifications of the specific individuals (key persons) proposer intends to assign to the work, together with the roles each will play, their current workloads, their qualifications to do the work, and the amount of experience this team has working together;

   d. A list of sub-consultants proposed to be used on the Project as per Section 12 below;

   e. A thorough description of the proposer's experience on seismic rehabilitation projects utilizing collaborative contracting methods such as AE and team-oriented management processes;

   f. A description of at least three (3) projects similar to the work that has been performed within the past ten (10) years by the key persons, description to include a brief project summary, owner information including contact information, start date / finish date, and scope modifications;

   g. Demonstration of your understanding and approach to this project including planning, permitting, design, construction administration, public involvement, and proposers special/unique benefit your firm brings to this project.

   i. Demonstration of experience with local MWESB firms including a list of State of Oregon certified businesses that your firm has partnered or subcontracted within the last two (2) years, identify any MWESB firms that are part of your proposed team, and any innovative/successful measures your firm has undertaken to increase diverse business participation on projects in the Portland Metro area.

   j. Five (5) references whom the Reynolds School District can contact to discuss the proposer's qualifications (see ***Attachment D***).

7. If submitting a proposal with another firm, the proposal must provide the information requested regarding the experience of each firm and also provide the experience of both firms in working in association with other architectural and/or engineering firms. The proposer must explain if either firm will act as a sub-consultant or

whether both firms will operate as a joint venture or partnership. If the proposers will conduct business as a joint venture or partnership the proposal must provide the information requested regarding the experience of the partnership or joint venture in addition to that of each member firm. If the proposers are selected for an interview, they will be required to provide a copy of the partnership or joint venture agreement relating to the Project. Each partner or joint venture must sign the submittal and the contract if selected for award.

8. Proposals must address all of the requirements of this RFP.

9. Proposers may add content in areas where the proposer feels it can offer value to The Reynolds School District in an area that is not specifically requested.

10. Due to the nature of the Project and the complexity of its technical requirements, the Reynolds School District will be involved in the final selection of all sub-consultants and has ultimate discretion on whether the sub-consultant may be a part of the proposer's design team for the Project.
    The proposer must identify the sub-consultant by specialty, and provide the following information:
    - Firm name, address, phone number, website, contact person information including email address.
    - A list of the firm's personnel by discipline that will be available to provide the capacity and capability to perform the required services for the Project
    - A list of the firm's relevant project experience limited to no more than five (3) similar projects in size and complexity.

11. Each proposal must be signed by the proposer (if the proposer is an individual), by an authorized representative of the proposer (if the proposer is a business entity), or by a representative of each partner or joint venture member, if the proposer is a partnership or joint venture, and must include a copy of a signed original of **Attachment C**, in which the proposer certifies that it meets all minimum requirements of Section B of this RFP, the proposer has not colluded with any other proposer in the preparation of its proposal, and the proposer agrees to be bound by the terms and pricing of its proposal, including all attachments.

F. Selection Criteria

1. The Reynolds School District will evaluate proposals based on the following criteria:
   a. Evaluation of technical proposal (Scored);
   b. References (Scored); and
   c. Interviews (Optional, if found to be necessary by the School District), (Scored).

2. Proposal elements that are subject to scoring will be awarded points as follows:
   a. **Evaluation of Technical Proposal (Scored):** The evaluation committee will score all proposals as follows based on **100 points total.**

      (i). Office location where effort applicable to this project will be performed is within fifty (50) miles of the construction site. If work is to be provided, in part, with an associated firm, so note in submittal (5 pts).

      (ii). Skills, experience, and time working together of the proposed project team (20 pts).

(iii). Similar projects completed by the Principal Architect, Principal Engineer, and Project Manager (15 pts).

(iv). Experience of the firm in designing and engineering public works / operations facilities of similar size and character as outlined above (20 pts).

(v). Experience with collaborative contacting methods such as AE and team oriented management process (15 pts).

(vi). Firm's approach and understanding of the Project (20 pts).

(vii). Collective, concise and comprehensive presentation of information (5 pts).

b. **References (Scored): (Max 50 points)** The evaluation committee will follow up with references provided by the proposers.

c. **Interviews (Optional, if found to be necessary by the School District (scored): <u>(max. 100 points)</u>**

d. The evaluation committee will add together the points that each committee member assigns and divide the total points by the total number of evaluation committee members to compute average score for the evaluation questions.

3. The evaluation committee may request additional clarification from a proposer on any portion of a proposal. Proposer may not submit new information or documentation, and a proposer may not use a clarification to rehabilitate a non-responsive proposal. Proposer's point of contact must be available during the evaluation period to respond to requests for additional clarification. Proposers shall submit written signed clarification(s) within 24 hours, Monday through Friday, after receiving the Reynolds School District's request. A proposer's failure to provide clarification may result in a lower score for the proposal.

4. The Reynolds School District reserves the right to request references in addition to those provided by the proposer, to investigate any references or representatives of projects that the proposer worked on whether or not furnished by the proposer, and to investigate the past performance of any proposer. The Reynolds School District investigation of proposer qualifications may include inquiry into the proposer's performance of similar services, compliance with specifications and contractual obligations, completion or delivery of services on schedule, proposer's lawful payment of suppliers, subcontractors, and workers, and other relevant matters.

5. The proposers with the two (2) highest ranking proposals will be invited to interviews; plus others that are within 10 scoring points of the competitive range. The Reynolds School District expects to conduct interviews per schedule noted in Section B. The Reynolds School District anticipates awarding contracts per schedule noted in Section B.

6. The Reynolds School District may postpone the award or execution of the contract after the announcement of the apparent successful proposer in order to complete the Reynolds School District investigation.

H. Minority, Women and Emerging Small Business ("MWESB") Participation

1. As noted in Oregon Governor's Executive Order 12-03: "Minority-owned and women-owned businesses continue to be a dynamic and fast-growing sector of the Oregon economy. Oregon is committed to creating an environment that supports the ingenuity and industriousness of Oregon's Minority Business Enterprise [MBE] and Women Business Enterprise [WBE]. Emerging Small Business [ESB] firms are also an important sector of the state's economy."
2. If there may be opportunities for subcontractors to work on the Project, the Reynolds School District expects the proposer to take reasonable steps to ensure that MWESB certified firms are provided an equal opportunity to compete for and participate in the performance of any contracts or subcontracts resulting from this procurement.

I SECURITY VERIFICATION "SECURITY AND BACKGROUND CHECK REQUIREMENTS

All Reynolds School District sites will be considered an open site for the purposes of this project. This means that a fingerprint based criminal history verification will be conducted on all personnel employed by the successful AE Firm and subcontractors on the project. This means that unsupervised contact between project personnel and students may occur. "Unsupervised contact" with students means contact that provides the person opportunity and probability for personal communication or touch with students when not under direct District supervision. As required by ORS 326.603, AE shall ensure that AE, any subcontractors, and their officers, employees, and agents will have no direct, unsupervised contact with students while on District property. Consultant shall work with District to ensure compliance with this requirement.

Successful AE, (contractor), authorizes District to obtain information about personnel and subcontractor's and its history and to conduct a criminal background check, including analysis of fingerprints of any AE's or subcontractor's officers, employees, or agents. AE shall cause its employees and/or subcontractors, to authorize District to conduct these background checks. AE shall pay $59.00 for processing the background check in addition to required fingerprinting and notary services. AE and its subcontractors must supply fingerprint cards for each employee proposed to work on the project to the District when applying for the security check. District may deduct the cost of such fees from a progress or final payment to AE under their Contract, unless AE elects to pay such fees directly at the time of application for the security check.

All contractors, subcontractors, and their employees whether full time or part time working at District sites must undergo a criminal history verification for disqualifying convictions per ORS 342.143 as mentioned criminal history verification checks will be conducted at the contractor's expense, by RSD. Prior to entry of a AE's or subcontractor's employees onto a jobsite, the AE and the subcontractor shall provide a list of its employees who have successfully undergone the criminal history verification check. Upon Contract execution, the AE will supply a list of projected AE personnel as well as subcontractor personnel during the Construction Phase. These people will be expected to attend a meeting as a group to complete paperwork and undergo mobile fingerprinting services. This District in an effort to expedite the review process will engage a third party company to do a preliminary background checks, while the background and fingerprinting verification is being process through the State of Oregon Department of Education. The cost of this additional background

check is $6.50 per person. There will be a short form to be filled out by the prospective contractor employee with personal identification information checked by District representative on site. The AE will issue a check that the covers the cost for groups of workers. Once the background check comes back without any issue the employee will then receive a temporary badge. This process should be expected to take between 24 – 48 hours. With the final approval there will be the issuance of final badge. All badges will be expected to be turned into the District by any of the badge owners at the conclusion of their participation on the Project.

J. RFP Attachments

1. ***Attachment A*** to this RFP is the form of contract that will be used for any contract issued pursuant to this RFP. The contract includes the statement of work, insurance coverage requirements, and other exhibits associated with the Attachment.

Objections to Proposed Contract: The form of Contract that the successful Contractor will be expected to execute if awarded the contract is included. The Proposer should include in the proposal any objections to the form or terms of the Contract. Any objections shall be considered after a determination of the apparent highest ranked responsive, responsible bidder is made, and the terms shall be subject to negotiation. The Project Manager, in consultation with the City Attorney, shall determine if any proposed modifications to the form of Contract are acceptable to the City and that they do not present material risk to the City or increase the City's costs. If the final negotiated terms are not acceptable to the apparent highest ranked responsive, responsible bidder, that bidder shall be declared not to be responsive, and the next apparent highest ranked responsive, responsible bidder's proposal and objections to form of Contract, if any, shall be considered, and so forth in order, until a responsive, responsible bidder agreeable to execution of a form of Contract acceptable to the City and to the bidder is ascertained.

2. ***Attachment B*** NOT USED
3. ***Attachment C*** to this RFP is a statement that must be signed by the proposer and submitted with the proposal, certifying to the accuracy of all statements made in the proposal and certifying that the proposer meets all minimum qualifications stated in Section B of this RFP and is prepared to enter into a contract on the terms contained in all attachments.
4. ***Attachment D*** to this RFP is a form to be used by proposer for listing references.
5. ***Attachment E*** to this RFP is Structural Seismic Evaluation Report for the Reynolds Alder Elementary Gymnasium dated December 2016, prepared by ZCS Engineering, Inc.

"A complete proposal will include the following materials:

- ✓ A narrative proposal responding to all requirements listed in Section E.6;
- ✓ A copy of a signed and dated Attachment C, filled in and submitted by proposer with the proposal;

- ✓ A completed Attachment D (references), filled in and submitted by proposer with the proposal.

(End of RFP – Attachments follow.)

Attachment A

RSD#7 Assigned Contract#:

REYNOLDS SCHOOL DISTRICT #7
PERSONAL/PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT, entered into by and between the Reynolds School District #7 "RSD" and ..... "Contractor", and in consideration of the following covenants, conditions, and considerations:

WITNESSETH:

1. The contractor shall provide RSD with the following information:
   a. Full Name .....
   b. Mailing Address .....
   c. Telephone Number .....
   d. Federal Tax ID No. ..... Contractor must submit W9 to RSD's Finance Department
   e. Business Designation (check one): ☐ Individual ☐ Sole proprietorship ☐ Partnership ☒ Corporation Other ☐

Payment information will be reported to the IRS under the name and taxpayer I.D. number provided above. We are required by the Internal Revenue Service to obtain this information in order to report income paid to you by the District. If the information is not provided, we will be required to withhold 31 % of all future payments made to you.

1099 Withholding Exemption: If exempt from backup withholding (form 1099 reporting), check here ☐ and check your qualifying reason below:

- ☐ i. Corporation
- ☐ ii. Tax Exempt Charity under 501(a), or IRA
- ☐ iii. The United States or any of its agents or instrumentalities
- ☐ iv. A state, the District of Columbia, a possession of the United States, or any of their political subdivisions
- ☐ v. A foreign government or any of its political subdivisions
- ☐ vi. District will deduct taxes from pay, which will occur monthly

f. Does contractor now have, or have had within the prior year, contracts with other persons or entities to perform services similar to the services being performed hereunder? ☐ Yes ☐ No ☒ N/A

g. Does Contractor have current statutory Worker's Compensation Insurance coverage for all persons performing services under this contract? Yes☐ No ☐ N/A☒

2. **Statement of Work**: Contractor agrees to perform the following services for the District (please be specific as to nature and dates of performance and expected time involved) *Attach an exhibit if needed.*

Use additional sheet if needed.

3. **Contract Term.** This Contract becomes effective on _____. Unless terminated earlier as provided below, this Contract shall continue through _____.

4. Contractor shall be compensated in the manner provided in either subsection (a) or (b) below, whichever is completed.
   a. The entire, agreed-upon compensation for the services to be performed under this contract is $ to be paid according to the following schedule of payments .... *Use additional sheets if needed.*
   b. If services are to be charged at a periodic rate, rate charged and period: $ per . What is the total estimated compensation $; Additional description of pay, if applicable .

If it appears during the course of this contract that the actual compensation will exceed the estimated amount, the contractor shall notify the RSD Fiscal Department in writing. No payment in excess of the total estimated compensation shall be paid unless the Contractor has notified the Fiscal Office of the increase in time required to complete the services, and received approval of Fiscal Office to perform services up to the newly approved contract time.

Exhibits. As a condition to receiving the compensation above, the Contractor shall provide, in addition to the services above stated the following additional documents or reports relating to the service performed:
(Check all that apply)
Exhibit A: Statement of Work ☐; Exhibit B: Contractor's Proposal ☐; Exhibit C: Insurance Requirements ☐;
Other ☐, *describe* .....

If RSD is required by law to withhold any monies from Contractor, e.g., PERS, such withholding shall be deducted from the amount of compensation due to Contractor and the balance shall be paid to Contractor. Contractor must submit an invoice to the RSD Chief Financial Officer as an application for payment. The invoice shall itemize Contractor's charges and expenses.

5. If total compensation is in excess of $150,000, as stated in Section 4a above, or the estimated charges based upon the rate charge and anticipated time involved as stated in Section 4b above exceed $150,000, this contract shall not be binding upon RSD until approved by the RSD Board of Directors.
   If compensation is to be paid as stated in Section 4b, and it appears that the total payments under this Agreement shall exceed $150,000, Contractor shall notify the RSD Chief Financial Officer. The CFO shall present this Agreement to the RSD Board of Directors for approval of compensation in excess of $150,000. No compensation shall be due or payable to Contractor in excess of $150,000 (in the aggregate) unless the RSD Board of Directors approves this Agreement.

6. Unless Contractor is a sole proprietorship, prior to performing any labor for this Contract, Contractor shall file with RSD Chief Financial Officer a certificate of insurance evidencing that the persons performing services under this Contract are covered by the Contractor's statutory worker's compensation insurance. Contractor shall maintain such coverage during the term of this Contract.

7. Contractor is being employed as an independent contractor to provide the services stated in Section 2 above. The compensation paid to Contractor shall be for all materials, supplies, and labor required, necessary or convenient for Contractor to provide services to RSD. Contractor shall be responsible for, and shall indemnify and hold RSD harmless from any governmental assessments resulting from Contractor's services or compensation, including but not limited to income tax, social security, worker's compensation, or employment insurance. RSD shall not have the right to direct or control the manner of Contractor's performance. RSD expressly disclaims any acts by its employees who attempt to direct or control Contractor's manner of performance; Contractor shall notify RSD Chief Financial Officer should any RSD employee make an attempt to exercise direction or control over Contractor.

8. Contractor covenants and warrants to RSD that Contractor is an independent business, has performed such services for others in the past or is now performing such services for others, and is skilled and duly qualified to provide the services required under this Agreement.

9. This provision is required by statute. In addition to applicable federal and state laws, ORS 279B.220 requires that Contractor shall:

   a. Make payment promptly, as due, to all persons supplying to the contractor labor or material for the performance of the work provided for in the contract.
   b. Pay all contributions or amounts due the Industrial Accident Fund from the contractor or subcontractor incurred in the performance of the contract.
   c. c. Not permit any lien or claim to be filed or prosecuted against the state or a county, school district, municipality, municipal corporation or subdivision thereof, on account of any labor or material furnished.
   d. Pay to the Department of Revenue all sums withheld from employees under ORS 316.167.

   If Contractor neglects or refuses to make prompt payment of any claim for labor or services furnished to it by any party in connection with this Contract as such claim becomes due, RSD may pay such claim to the party furnishing the goods or services and subtract the payment amount from funds due or to become due the Contractor. RSD's payment of such a claim shall not relieve Contractor or Contractor's surety, if any, from its obligation to any unpaid claims.

10. Payment for Medical Care: This provision is required by statute. As required by ORS 279B.230 and to the extent any of Contractor's employees are covered by Oregon employment laws, Contractor shall promptly, as due, make payment to any person, co-partnership, association, or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to the employees of Contractor, of all sums that Contractor agrees to pay for such services and all moneys and sums that Contractor collected or deducted from the wages of employees under any law, contract, or agreement for the purpose of providing or paying for such service.

11. Non-Appropriation; Adequate Funding: RSD is prohibited from contracting for services for which it has not received appropriated funds. If payment for work under this Contract extends into RSD's next fiscal year, RSD's obligation to pay for such work shall be subject to approval of future Board of Education ("Board") appropriations to fund this Contract. Moreover, continuation of this Contract at specified levels is specifically conditioned on adequate funding under the RSD's budget adopted in June of each year. RSD reserves the right to adjust the level of services provided for in this Contract in accordance with funding levels adopted by the Board. In the event that the RSD is not adequately funded or funds are cut back, the RSD reserves the right to cancel all, or part of this contract.

12. Contractor shall indemnify, defend, and hold RSD harmless from any claims, actions, demands, losses, or costs (including attorney fees) arising out of or resulting from any act or omission by Contractor.

13. Contractor warrants to RSD that it/he/she has general liability insurance coverage in excess of $2,000,000 per person, $3,000,000 per occurrence, and $50,000 property damage, and that Contractor shall maintain such insurance during the term of this agreement or for such longer time as RSD may request at the time of execution hereof.

    Initial if applicable. Contractor warrants to RSD that it/he/she has professional malpractice insurance coverage for any errors or omissions by Contractor for the type of services being performed under this Agreement, with limits not less than $1,000,000 per occurrence.

    Initial if applicable. Motor Vehicle Liability. If Contractor is providing services that require Contractor to transport RSD personnel, students, or property, then in addition to any legally required insurance coverage, Contractor shall maintain motor vehicle liability insurance of at least $1,000,000 for each claim, incident, or occurrence.

    Certificate of Insurance. Upon RSD request, Contractor shall furnish to RSD a current certificate of insurance for each of the above coverage's within 48 hours of RSD request. Each certificate must state the relevant deductible or retention level. For general liability coverage, the certificate must state that RSD, its agents, officers, and employees are additional insured's with respect to Contractor's services provided under this Contract. The certificate must specify an additional insured endorsement, and Contractor shall attach a copy of the endorsement to the certificate. If requested by RSD, Contractor shall also provide complete copies of insurance policies to RSD.

14. Contractor acknowledges that RSD is a public entity, and that persons or entities contracting with public entities are subject to certain state or federal law, rules, or regulations. To the extent any state or federal law, rule, or regulation is applicable to this Agreement, it is hereby incorporated by reference as if stated herein. It shall be Contractor's responsibility to become acquainted with the applicable laws, rules, and regulations, and Contractor shall indemnify and defend RSD in the event Contractor fails to comply with any applicable state or federal law, rule or regulation.

15. Subcontracts and Assignment. Contractor shall not subcontract, assign, delegate, or transfer any of its duties, rights, or interests under this Contract without the prior written consent of RSD. RSD may withhold such consent for any or no reason. If RSD consents to an assignment or subcontract, then in addition to any other provisions of this Contract, Contractor shall require any permitted subcontractor to be bound by all the terms and conditions of this Contract that would otherwise bind Contractor. The parties agree that any such subcontracts shall be construed as matters solely between the Contractor and its subcontractor and shall have no binding effect on RSD. However, the Contractor may not invoice RSD for more than a 10% markup of the subcontractor's goods or services, nor may the Contractor invoice RSD for any markups of the subcontractor's hard costs (e.g. mileage, supplies, background check fees).

16. Successors in Interest. This Contract shall bind and inure to the benefit of the parties, their successors, and approved assigns, if any.

17. No Third Party Beneficiaries. RSD and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract provides any benefit or right, directly or indirectly, to third parties unless they are individually identified by name in this Contract and expressly described as intended beneficiaries of this Contract.

18. Hours of Labor. This provision is required by statute. As required by ORS 279B.020(5), 279B.235(3), and 279C.540(6), for Contractor's employees subject to Oregon employment laws:
    a. Maximum Hours: Employees shall be paid at least time and a half pay for all time worked in excess of 40 hours in any one week and for work performed on Saturdays, Sundays, New Year's Day (Jan. 1), Memorial Day (last Monday in May), Independence Day (July 4), Labor Day (first Monday in September), Thanksgiving Day (fourth Thursday in November), and Christmas Day (December 25).
    b. Exemption: The requirements of Section 15(a) do not apply to individuals who are excluded under ORS 653.010 to 653.261 or under 29 U.S.C. 201 to 209 from receiving overtime.
    c. Notice to Employees: Contractor must give notice in writing to its employees who perform work on this Contract, either at the time of hire or before commencement of work on this Contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that the employees may be required to work.

19. Time Limitation on Claim for Overtime. This provision is required by statute. For Contractor's employees subject to Oregon employment laws and as required by ORS 279C.545, any worker employed by Contractor shall be foreclosed from the right to collect for any overtime provided in ORS 279C.540 unless a claim for payment is filed with Contractor within 90 days from the completion of this Contract, providing Contractor has: (1) Caused a circular clearly printed in boldfaced 12-point type and containing a copy of this section to be posted in a prominent place alongside the door of the timekeeper's office or in a similar place that is readily available and freely visible to workers employed on the work, and (2) Maintained such circular continuously posted from the inception to the completion of this Contract on which workers are or have been employed.

20. Hazardous Materials. Contractor shall notify RSD before using any products containing hazardous materials to which RSD employees, students, or the general public may be exposed. Products containing hazardous materials are those products defined by Oregon Administrative Rules, Chapter 437. Upon RSD request, Contractor must immediately provide Material Safety Data Sheets to RSD for all materials subject to this provision.

21. Errors. Contractor shall perform any and all additional work necessary to correct errors in the work required under this Contract without undue delays or additional cost to RSD.

22. Access to Records; Contractor Financial Records. Contractor agrees that RSD and its authorized representatives are entitled to review all Contractor books, documents, papers, plans, and records, electronic or otherwise ("Records"), directly pertinent to this Contract for the purpose of making audit, examination, excerpts, and transcripts. Contractor shall maintain all Records, fiscal and otherwise, directly relating to this Contract in accordance with generally accepted accounting principles so as to document clearly Contractor's performance. Following final payment and termination of this Contract, Contractor shall retain and keep accessible all Records for a minimum of three years, or such longer period as may be required by law, or until the conclusion of any audit, controversy, or litigation arising out of or related to this Contract, whichever date is later.

23. Ownership of Work Products. Contractor agrees that any and all goods or services provided by or developed for RSD are intended as "works made for hire" by Contractor for RSD. As a work made for hire, all work products (including intellectual property) created by the Contractor, as part of Contractor's performance under this Contract shall be the exclusive property of the RSD. If any such work products contain Contractor's intellectual property that is or could be protected by federal copyright, patent, or trademark laws, Contractor hereby grants RSD a perpetual, royalty-free, fully-paid, non-exclusive, and irrevocable license to copy, reproduce, deliver, publish, perform, dispose of, and use or re-use, in whole or in part, and to authorize others to do so, all such work products. RSD claims no right to any pre-existing work product of Contractor provided to RSD by Contractor in the performance of this Contract, except to copy, use, or re-use any such work product for RSD use only.

24. Work Performed on RSD Property. Contractor shall comply with the following:
    a. Identification: When performing work on RSD property, Contractor shall be in appropriate work attire (or uniform, if applicable) at all times. If Contractor does not have a specific uniform, then Contractor shall provide identification tags and/or any other mechanism the RSD in its sole discretion determines is required to easily identify Contractor. Contractor and its employees shall (i) display on their clothes the above-

mentioned identifying information and (ii) carry photo identification and present it to any RSD personnel upon request. If Contractor cannot produce such identification or if the identification is unacceptable to RSD, RSD may provide at its sole discretion, RSD-produced identification tags to Contractor, costs to be borne by Contractor.

b. Sign-in Required: As required by schools and other RSD locations, each day Contractor's employees are present on RSD property, those employees must sign into the location's main office to receive an in-school identification/visitors tag. Contractor's employees must display this tag on their person at all times while on RSD property.
c. No Smoking: All RSD properties are tobacco-free zones; Contractor is prohibited from using any tobacco product on RSD property.
d. No Drugs: All RSD properties are drug-free zones as enforced by local law enforcement.
e. No Weapons or Firearms: Except as provided by statute and RSD policy, all RSD properties are weapons- and firearms-free zones; Contractor is prohibited from possessing on its persons or in its vehicles any weapons or firearms while on RSD property.

25. Unsupervised Contact with Students. This provision is required by statute. "Unsupervised contact" with students, means contact that provides the person opportunity and probability for personal communication or touch with students when not under direct RSD supervision. As required by ORS 326.603, Contractor shall ensure that Contractor, any subcontractors, and their officers, employees, and agents will have no direct, unsupervised contact with students while on RSD property. Contractor will work with RSD to ensure compliance with this requirement. If Contractor is unable to ensure through a security plan that none of its officers, employees, or agents or those of its subcontractors will have direct, unsupervised contact with students in a particular circumstance or circumstances, then Contractor shall notify RSD before beginning any work that could result is such contact. Contractor authorizes RSD to obtain information about Contractor and its history and to conduct a criminal background check, including fingerprinting, of any Contractor officers, employees, or agents who will have unsupervised contact with students. Contractor shall cause its employees and/or subcontractors, if any, to authorize RSD to conduct these background checks. Contractor shall pay all fees assessed by Oregon Department of Education for processing the background check. RSD may deduct the cost of such fees from a progress or final payment to Contractor under this Contract, unless Contractor elects to pay such fees directly.

26. Confidentiality; FERPA Re-disclosure. Family Education Rights and Privacy Act ("FERPA") prohibits the re-disclosure of confidential student information. Except in very specific circumstances, Contractor shall not disclose to any other party without prior consent of the parent/guardian any information or records regarding students or their families that Contractor may learn or obtain in the course and scope of its performance of this Contract. Any re-disclosure of confidential student information must be in compliance with the re-disclosure laws of FERPA. Contractor is not to re-disclose information without prior written notification to and written permission of RSD.

27. Security. Any disclosure or removal of any RSD matter or property by Contractor shall be cause for immediate termination of this Contract. Contractor shall bear sole responsibility for any liability including, but not limited to attorney fees, resulting from any action or suit brought against RSD because of Contractor's willful or negligent release of information, documents, or property contained in or on RSD property. RSD hereby deems all information, documents, and property contained in or on RSD property privileged and confidential.

28. Employee Removal. At RSD's request, Contractor shall immediately remove any Contractor employee from all RSD properties in cases where RSD in its sole discretion determines that removal of that employee is in RSD's best interests.

29. Remedies. In case of Contractor breach of this Contract, RSD shall be entitled to any other available legal and equitable remedies. In case of RSD breach, Contractor's remedy shall be limited to termination of the Contract and receipt of Contract payments to which Contractor is entitled.

30. Controlling Law; Venue. The parties agree that Oregon law will govern any dispute related to this Contract, and any litigation arising out of the Contract shall be conducted in courts located in Multnomah County, Oregon.

31. Amendments; Renewal. Any amendments, consents to or waivers of the terms of this Contract must be in writing and signed by both parties. The parties may renew this Contract by their signed, written instrument.

32. Counterparts. The parties may execute this Contract in counterparts, each of which constitutes an original and all of which comprise one and the same Contract. Counterparts may be delivered by electronic means.

33. Entire Agreement. When signed by both parties, this Contract (and any attached exhibits) is their final and entire agreement. As their final and entire expression, this Contract supersedes all prior and contemporaneous oral or written communications between the parties, their agents, and representatives. There are no representations, promises, terms, conditions, or obligations other than those contained herein.

34. Notices. All notices or demands of any kind required or desired to be given by RSD or Contractor must be in writing and shall be deemed delivered upon depositing the notice or demand in the United States mail, certified or registered, postage prepaid, addressed to the respective party at the addresses herein.

35. This contract may be terminated by either party with a 30-day written notice. The RSD can immediately terminate the Agreement if the Contractor and/or any of the Contractor's employees or agents endanger the health or safety of RSD students or employees.

36. Standards. Contractor shall meet the highest standards prevalent in the industry or business most closely involved in providing the appropriate goods or services.

37. Performance. Should the Contractor fail to perform the scope of work or meet the performance standards of the RFP and/or contract, the Contracting Agency may (a) reduce or withhold payment under the contract, (b) require the Contractor to perform, at the Contractor's expense, any additional work necessary to perform the scope of work to meet the performance standards established under the contract, and/or (c) to declare a default of the resulting Contract, to terminate the resulting Contract, and to seek damages and other relief available under the resulting Contract and/or applicable law.

IN WITNESS WHEREOF, the parties do execute this Agreement, and except as provided above, the undersigned warrant to the other that they are executing this agreement pursuant to authority.

Reynolds School District #7	**Contractor**
_____	_____
Rachel Hopper Chief Operating Officer	Contractor Signature
_____	_____
Date Signed	Printed Name
	_____
	Title
	_____
	Date Signed

---------- **Review required for final authorization** ----------

.....	.....
Program Director	Date Signed
.....	.....
Site Manager	Date Signed

☒ Account Code for applicable charges …… … required for revenue, expense and pass thru funds.

☐ *Board approval required if estimated charges exceed $150,000 Board Approval Date.....*
☐ *Background check completed – required if in direct contact with students*
☐ *Certificate of Insurance Provided*

Attachment C
Proposer Certifications

NOTE TO PROPOSER: Each proposal must include a copy of a signed original of this attachment that has been signed by an authorized representative of proposer. Proposals that do not include a scanned signed copy of this attachment will be rejected as nonresponsive.

Proposer represents that each of the following statements is accurate at the time the proposer submits its proposal. Proposer warrants that each of the following statements will remain accurate for a period of 120 days following submission of proposer's proposal and, if proposer's proposal is accepted, each statement will remain accurate throughout the term of any contract between proposer and the Reynolds School District for architectural and engineering services.

1. The key persons named in proposer's proposal are qualified to perform the work described in this RFP and in the proposal, and proposer will assign these key persons to perform the work if the Reynolds School District awards a contract to proposer for these services.

2. Proposer has not colluded or consulted with any other proposer or potential proposer in the preparation and submission of this proposal.

3. Proposer agrees to be bound by the terms and pricing of its proposal, including all attachments to it.

4. The person signing this certification is authorized by proposer to act on behalf of and to make the representations in this certification on behalf of the proposer.

5. Proposer does not discriminate in its employment practices with regard to race, creed, age, religious affiliation, sex, disability, sexual orientation or national origin, nor has proposer or will proposer discriminate against a subcontractor in awarding a subcontract because the subcontractor is a minority, women or emerging small business enterprise certified under ORS 200.055.

6. Proposer has read and understands all instructions, specifications, and terms and conditions contained in the RFP and any addenda to it, and the Reynolds School District is not liable for any claims or subject to any defenses asserted by proposer based upon, resulting from, or related to, proposer's failure to comprehend all requirements of the RFP.

7. If the Reynolds School District awards a contract to proposer for architectural and engineering services, proposer will diligently perform the contract according to its terms.

8. Each of the foregoing representations is accurate and is incorporated into any contract between the Reynolds School District and the proposer for the delivery of the architectural and engineering services.

Proposer Name: _____

By: _____

Title: _____

Date: _____

Attachment D
References
Reynolds School District

Proposer Name: _____

Proposer must provide five references that can rate proposer's performance on similar projects in the last five (5) years and proposer's ability to satisfy the requirements set forth in RFP section D.6, Proposal Requirements. References must include client name, title and contact information.

The Reynolds School District may attempt to contact two (2) sources for each reference given. The committee may make up to three (3) attempts to contact each of the reference sources, which will be made during normal business hours. If the three (3) attempts are unsuccessful, the proposer may receive zero (0) points for that reference source.

(Note: Proposer may supply the required information in a different format, as long as all required information is provided.

Reference 1

Client Name: _____
City, State: _____
Contact Name: _____
Contact Title: _____
Telephone: _____
Email: _____
Description: _____
_____

Type: Public _____ Private _____

Reference 2

Client Name: _____
City, State: _____
Contact Name: _____
Contact Title: _____
Telephone: _____
Email: _____
Description: _____
_____

Type: Public _____ Private _____

Reference 3

Client Name: _____
City, State: _____
Contact Name: _____
Contact Title: _____

Telephone: _____
Email: _____
Description: _____
_____

Type: Public _____ Private _____

Reference 4

Client Name: _____
City, State: _____
Contact Name: _____
Contact Title: _____
Telephone: _____
Email: _____
Description: _____
_____

Type: Public _____ Private _____

Reference 5

Client Name: _____
City, State: _____
Contact Name: _____
Contact Title: _____
Telephone: _____
Email: _____
Description: _____
_____

Type: Public _____ Private _____

Structural Seismic Evaluation Report

for the

Alder Elementary Gymnasium

Prepared for:

Reynolds School District

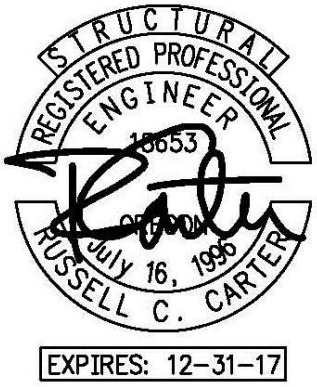
December, 2016

Prepared by:

Zachary A. Stokes, PE
Project Manager

and

Russell C. Carter, PE, SE
Principal in Charge



ZCS ENGINEERING Inc.

900 Klamath Avenue, Klamath Falls, Oregon, 97601

T: 541.884.7421 • F: 541.883.8804

Table of Contents

1.0 Executive Summary

Reynolds School District is located in Fairview, Oregon in Multnomah County. The District operates 18 schools located within the community including the property of interest, Alder Elementary School Gymnasium approximately 3 miles south of Gresham, Oregon. The District has retained ZCS Engineering, Inc. (ZCS) to perform a seismic evaluation of Alder Elementary School Gymnasium that provides the District with an objective, comprehensive analysis of the condition of the building's seismic resisting systems. The purpose of the evaluation is to determine the seismic lateral resisting system deficiencies when compared to buildings designed using modern building codes. This evaluation was performed in accordance with the American Society of Civil Engineers "Seismic Rehabilitation of Existing Buildings ASCE/SEI 41-13".

Alder Elementary School Gymnasium is located at 17200 SE Alder Street in Portland, Oregon. The campus includes the original classroom structure, a multipurpose structure and gym addition. The building being evaluated is the multipurpose structure. The facility has a footprint of approximately 6,500 sq. ft. and a 2,091 sq. ft. second floor housing a music room. The structure consists of exterior tilt-up concrete walls and interior CMU walls. The roof structure consists of plywood over 2x decking over open-web joists. The second floor consists of 3 ½" concrete fill over steel decking over open-web joists.

The evaluation of the facility indicates that rehabilitation of existing lateral system components is necessary to meet the requirements for Life Safety as outlined in ASCE 41-13. The following is a brief list of seismic deficiencies encountered:

- The tilt-up panel walls are slender for their height and therefor are at risk for collapse.
- Tilt up panels are not properly connected to wall footings
- Large unblocked diaphragm span could result in excessive out-of-plan deflection of walls and possible collapse
- Proper in-plane and out-of-plane connections are not present at the tops of the existing walls
- Cross ties are not continuous between diaphragm chords

Recommendations mitigating the known deficiencies determined by our analysis are outlined in section 4.0 of this report. In addition to the rehabilitation recommendations, we prepared schematic seismic retrofit drawings to convey the intent of the rehabilitation effort. These drawings are included in Appendix E.

To help the District understand the magnitude of the rehabilitation effort and secure funding sources for the seismic system rehabilitation of the building, a preliminary construction cost estimate was developed. With the assistance of a seismic retrofit contractor a total construction cost of **$1,071,450** including all soft costs associated with

architecture/engineering, permitting, and District Project Management was developed. Refer to section 5.0 of the report body.

In addition to the construction cost estimation efforts we performed a "Benefit Cost Analysis" using the tool provided by the State of Oregon Infrastructure Finance Authority. The building has a benefit cost score of **1.107**. Refer to Appendix D for BCA worksheets.

It is our final recommendation that given the BCA score and the general condition of the seismic resisting systems, this building is an excellent candidate to be rehabilitated to meet the currently prescribed seismic demands for Life Safety per ASCE 41-13. Once rehabilitated, this building will meet the needs of the District and community for future generations.

2.0 Project Introduction

Reynolds School District (District) is centrally located in Fairview, Oregon in Multnomah County. Alder Elementary School Gymnasium is located at 17200 SE Alder Street in Portland, Oregon.

The District has retained ZCS Engineering, Inc. (ZCS) to perform a seismic evaluation of Alder Elementary School Gymnasium. The purpose of the evaluation is to provide the District with an objective, comprehensive analysis of the condition of the existing seismic force resisting systems of the facility when compared to a building constructed using modern building codes. In addition to evaluating the building's seismic performance, schematic seismic retrofit plans have been developed. The rehabilitation plans have been developed using our extensive knowledge of seismic rehabilitation and are intended to meet the objectives and the level of performance of life safety based on the ASCE 41-13 requirements. Based on the seismic evaluation and schematic rehabilitation design drawings, a preliminary construction cost estimate was developed. Based on the preliminary construction cost estimate, a benefit cost analysis was prepared to help the District determine whether or not the rehabilitation efforts outlined in this report are financially responsible.

This work was conducted at the request of Rachel Hopper, CFO/COO, under an engineering services contract between the District and ZCS.

2.1 Scope of Work

The following scope of work was developed to meet the objectives outlined above.

Seismic Evaluation & Preliminary Rehabilitation Services:

- Review original building construction drawings to determine existing structural systems and areas of concern
- Perform site visits of the structure to observe structural systems and visually review structural condition and deficiencies
- Observe lateral system (seismic) components and load path
- Observe gravity system components and load path
- Observe for damage and failing elements
- Verify original building drawings for use in developing schematic level as-builts
- Evaluate existing construction based on visual observations and available as-constructed documentation against ASCE 41 Tier 1 requirements
- Collate findings and perform preliminary calculations to assist in the determination of each building's seismic deficiencies

- Prepare an evaluation report for the facility identifying the structural integrity and seismic deficiencies stamped by a registered Structural Engineer licensed in the State of Oregon.

Preliminary Construction Cost Consulting Services:

- Develop project base sheets based on the District provided original drawings
- Prepare conceptual rehabilitation drawings based on ASCE 41 guidelines to convey the intent of rehabilitation recommendations
- Prepare a project cost estimate based on historic projects of similar scope and magnitude
- Review constructability and cost estimate with a licensed contractor
- Revise plans based on contractor input as required to optimize the efficiency of the rehabilitation plan and develop final construction cost recommendations
- Prepare cost benefit analysis based on SRGP methodologies
  *Financial and enrollment information has been provided by the District Summarize findings in final report package stamped by a registered Structural Engineer licensed in the State of Oregon

3.0 Structural Evaluation

3.1 Introduction

ZCS was tasked with evaluating the lateral force resisting systems of the facility. The structure reviewed in our analysis includes the multipurpose/cafeteria building. The structure being evaluated has a footprint of 6,355 sq. ft. and was built in 1967. The structure is used primarily as a cafeteria and kitchen but also contains a partial second floor which houses a music room. The structure consists of exterior tilt-up concrete walls and interior CMU walls. The roof structure consists of plywood over 2x decking over open-web joists. The mezzanine floor consists of 3 ½" concrete fill over steel decking over open-web joists.

In addition, the structure under consideration is connected to the main campus by an enclosed wood framed corridor. The corridor is also connected at approximately the height of the second floor.

3.2 Structural Evaluation

The following outlines the evaluation of the existing structural components of the building. The evaluation includes site observations of the existing structural elements and follows the guidelines outlined in the American Society of Civil Engineer's "Seismic Evaluation of Existing Buildings – ASCE 41-13". This manual is the required evaluation tool per the Seismic Rehabilitation Grant Program through Business Oregon Infrastructure Finance Authority. Per ASCE 41-13 a Tier 1 evaluation has been performed. The purpose of a Tier 1 evaluation is to provide "Quick Checks" to properly evaluate a building and determine deficiencies related to the lateral resisting elements.

It is the intent of the District, as part of this study, to determine the structural deficiencies of the building as compared to current prescribed loading and detailing requirements for lateral (wind/seismic) loading to a performance level of "Life Safety" per ASCE 41-13. The level of performance is defined per ASCE 41-13 as:

"Structural performance level, life safety, means post-earthquake damage state in which significant damage to the structure has occurred but some margin against either partial or total structural collapse remains. Some structural elements and components are severely damaged but this has not resulted in large falling debris hazards, either inside or outside the building. Injuries may occur during the earthquake; however, the overall risk of life-threatening injury as a result of structural damage is expected to be low. It should be possible to repair the structure; however, for economic reasons this may not be practical. Although the damaged structure is not an imminent collapse risk, it would be prudent to implement structural repairs or install temporary bracing prior to reoccupancy."

Per ASCE 41-13 a seismic hazard level is required. In order to obtain a performance level of "Life Safety" the seismic hazard shall be BSE-1N as defined in section 2.4.1.2 and C2.4.1.2. The BSE-1N hazard level earthquake has a probability of occurring once in every 475 years, or 10% chance in 50 years. This design level earthquake has a similar rate of occurrence and magnitude as the current state adopted building codes. A 25% reduction in force is recommended by the grant committee. This follows the recommendation of the City of Portland City Code for the evaluation and rehabilitation of existing buildings per chapter 24.85. We feel this provides an appropriate level of performance for this facility.

Lateral resisting systems work in conjunction with gravity framing systems. As such, the existing gravity framing system was also reviewed for structural deficiencies during our site observations. Section 3.2.3 outlines the existing gravity system and its structural deficiencies found during the evaluation.

3.2.1 Lateral Resisting Systems

After reviewing the facility and the existing drawings we have determined the lateral system is defined as a PC1. Per ASCE 41 a PC1 lateral system is defined as: "These buildings have precast concrete perimeter wall panels that are typically cast on-site and tilted into place. Floor and roof consists of wood joists, glulam beams, steel beams, or open web joists. Framing is supported on interior steel or wood columns and perimeter bearing walls. The floors and roof consist of wood sheathing or untopped metal deck

3.2.2 Lateral Resisting Element Deficiencies

The following lateral resisting element deficiencies are based on visual observations of the existing structural elements and the structural analysis performed during the Tier 1 "Quick Checks" of the ASCE 41-13. The Tier 1 checklists are attached in Appendix B. The following outlines the deficiencies for each portion of the facility.

- The tilt-up panel walls are slender for their height and therefore are at risk for collapse.
- Tilt up panels are not properly connected to wall footings
- Large unblocked diaphragm span could result in excessive out-of-plane deflection of walls and possible collapse
- Proper in-plane and out-of-plane connections are not present at the tops of the existing walls
- Cross ties are not continuous between diaphragm chords

3.2.3 Gravity Resisting Systems and General Observations

No gravity deficiencies were found based on visual observations of the existing structural elements. No formal structural analysis was performed during this evaluation of the gravity resisting elements.

3.2.4 Evaluation of Incidental Items

Incidental, non-structural items can play a major role in the overall expense of rehabilitating an existing building. These costs can be significant, and can be very difficult to estimate prior to construction.

- Proper attachment and bracing of storage racks/cabinets/books shelves over 4' tall or 3:1 (height:width) ratio
- Attachment of equipment over 20 lbs. and above 4', and all equipment over 100 lbs.
- Attachment of all emergency lighting, power equipment and associated wiring
- Bracing of piping
- Verification/installation of emergency shutoff valves for gas utilities
- Hazardous material mitigation (floor tiles, roofing, ceiling tiles, etc.)

Based upon ZCS's previous experience and discussions with site personnel the building contains some form of hazardous material. These materials will need to be dealt with on a case-by-case basis as they are encountered during the project.

4.0 Seismic Rehabilitation Recommendations

The following structural improvements are required to resolve the deficiencies noted in section 3.2. These improvements are detailed below and in the attached schematic seismic rehabilitation drawings found in Appendix E. These drawings were prepared to assist in defining the rehabilitation scope of work.

- Slender walls are not able to resist out-of-plane buckling forces. Out of plane bracing will be added to strengthen slender concrete walls.
- Additional hardware will be added to strengthen the connection between precast concrete walls and the foundation.
- New blocking and nailing will be added at plywood diaphragms to ensure complete load path.
- Install new plywood on existing roof decking to provide a diaphragm
- Provide new in-plane shear attachments at precast concrete walls
- Provide continuous crossties between diaphragm chords by installing new blocking and strapping

5.0 Preliminary Construction Cost Estimate

The attached engineer's opinion of probable cost has been developed by ZCS for Alder Elementary School Gymnasium. ZCS has a successful record of completing seismic rehabilitation projects within the State of Oregon. The prices provided in the attached cost estimate have been developed using the extensive list of past projects as a baseline for this project. These prices are based on Oregon BOLI wage rates. The cost estimate is broken down into multiple line items associated with each major task (general conditions, foundation, structural steel, MEP, etc.) associated with the rehabilitation. Additional line items are included for design associated permit costs, and owner construction management.

Following the generation of the preliminary construction cost estimate line item costs, they were reviewed with a local construction company representative who has participated in similar construction projects. This representative is a highly qualified commercial contractor that has worked on multiple educational facilities and performed seismic retrofits to existing structures. They reviewed the values presented in the construction cost estimate, and provided insight into current construction costs from a contractor's perspective. The comments and insight provided have been included in the proposed construction cost estimate. The preliminary opinion of probable cost is **$1,071,450**.

6.0 Benefit Cost Analysis

The provided benefit-cost analysis (BCA) included in Appendix D, has been prepared by ZCS using the BCA tool as provided by the State of Oregon Infrastructure Finance Authority. The costs associated with the building replacement value, contents replacement value, and occupancy values have been developed by District staff using recent data.

The Alder Elementary School Gymnasium is part of an entire school campus surveyed during the state wide assessment of schools performed by Department of Geology, Mineral and Industries' (DOGAMI) Rapid Visual Screening (RVS) process in 2005 as part of senate bill 2. The gymnasium is part of part A of the RVS scoring provided by DOGAMI. The occupancy and budget data provided by the District is for the entire school. Only a percentage of these data points were used in the BCA calculation based on the square footage of the covered play structure compared to the entire building square footage.

The BCA for this project is **1.107**. Given the BCA score of **1.107** is greater than 1.0 this project is a good candidate for the grant program.

7.0 Conclusion and Recommendations

The findings described in this report have been limited to the lateral force-resisting structural system and general assessment of the gravity force-resisting elements. Based on our visual observations, we find the structure to be in good condition and generally safe for occupancy. No significant damage to the existing structural system was discovered.

Given the current condition of the structure, the current code section on existing buildings does not mandate that upgrades are required unless the building is scheduled for repairs, alterations, additions, or change in occupancy. However, it is our understanding the goal of the District is to continue utilizing the existing building as a facility for education, and the District wants the seismic structural system to be compliant with the current code. To clarify, upgrades outlined in this report are strictly at the discretion of the District.

We have attempted to identify all areas requiring upgrades to achieve a scope of work for current code compliance, associated estimated costs and project schedule.

Please contact our office if you would like to discuss our findings. Please review the attached schematic drawings that can be used to refine a scope and budget.

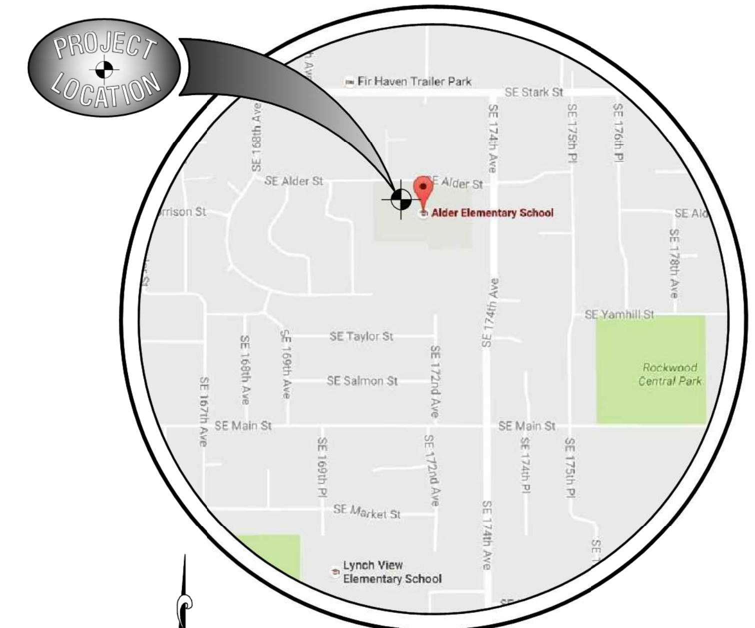
Appendix A: Figures

ALDER ELEMENTARY GYMNASIUM
SEISMIC RETROFIT

17200 SE ALDER ST, PORTLAND, OR 97233

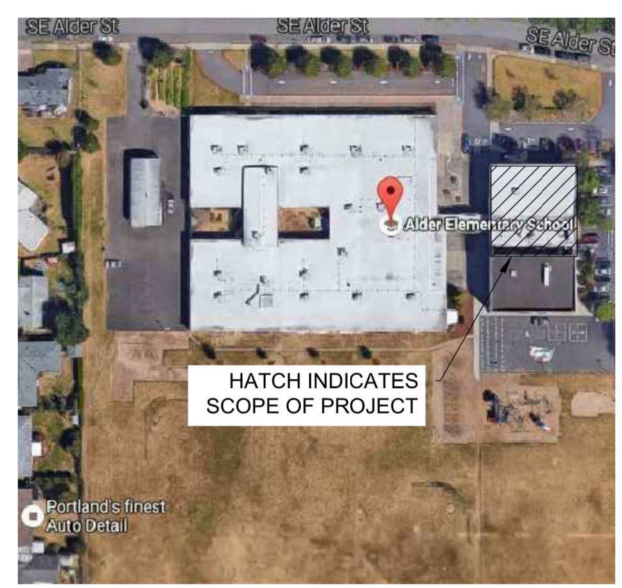
Alder Elementary School

1 / C0.0 **MAIN ENTRANCE** NTS



2 / C0.0 **VICINITY MAP** NTS

3 / C0.0 **STREET VIEW** NTS



4 / C0.0 **AERIAL VIEW** NTS

PROJECT NARRATIVE

INTENT OF THESE DRAWINGS IS TO ILLUSTRATE THE LEVEL OF UNDERSTANDING THE APPLICANT HAS WITH REGARDS TO THE EFFORT THAT WILL BE REQUIRED TO SEISMICALLY REHABILITATE THE BUILDING. THESE SCHEMATIC DRAWINGS HAVE BEEN PREPARED USING THE CURRENT OREGON STRUCTURAL SPECIALITY CODE (OSSC) AND THE ASCE 41 (SEISMIC REHABILITATION OF EXISTING BUILDINGS) AS THE REFERENCES FOR PRESCRIBED LOADING AND BUILDING PERFORMANCE LEVEL RATINGS.

THE DRAWING ILLUSTRATES BOTH EXISTING CONDITIONS AND GENERAL REPAIRS THAT WOULD NEED TO BE ACCOMPLISHED TO REACH AN ACCEPTABLE LEVEL OF PERFORMANCE (LIFE SAFETY) ACCORDING TO CURRENT CODE.

"STRUCTURAL PERFORMANCE LEVEL, LIFE SAFETY, MEANS POST-EARTHQUAKE DAMAGE STATE IN WHICH SIGNIFICANT DAMAGE TO THE STRUCTURE HAS OCCURRED BUT SOME MARGIN AGAINST EITHER PARTIAL OR TOTAL STRUCTURAL COLLAPSE REMAINS. SOME STRUCTURAL ELEMENTS AND COMPONENTS ARE SEVERELY DAMAGED BUT THIS HAS NOT RESULTED IN LARGE FALLING DEBRIS HAZARDS, EITHER INSIDE OR OUTSIDE THE BUILDING. INJURIES MAY OCCUR DURING THE EARTHQUAKE; HOWEVER, THE OVERALL RISK OF LIFE-THREATENING INJURY AS A RESULT OF STRUCTURAL DAMAGE IS EXPECTED TO BE LOW. IT SHOULD BE POSSIBLE TO REPAIR THE STRUCTURE; HOWEVER, FOR ECONOMIC REASONS THIS MAY NOT BE PRACTICAL. ALTHOUGH THE DAMAGED STRUCTURE IS NOT AN IMMINENT COLLAPSE RISK, IT WOULD BE PRUDENT TO IMPLEMENT STRUCTURAL REPAIRS OR INSTALL TEMPORARY BRACING PRIOR TO REOCCUPANCY"

SEISMIC DEFICIENCIES

- THE TILE UP PANEL WALLS ARE SLENDER FOR THEIR HEIGHT AND THEREFOR ARE AT RISK FOR COLLAPSE
- THE TILT-UP PANEL WALLS ARE SLENDER FOR THEIR HEIGHT AND THEREFORE ARE AT RISK FOR COLLAPSE.
- TILT UP PANELS ARE NOT PROPERLY CONNECTED TO WALL FOOTINGS
- LARGE UNBLOCKED DIAPHRAGM SPAN COULD RESULT IN EXCESSIVE OUT-OF-PLANE DEFLECTION OF WALLS AND POSSIBLE COLLAPSE
- PROPER IN-PLANE AND OUT-OF-PLANE CONNECTIONS ARE NOT PRESENT AT THE TOPS OF THE EXISTING WALLS
- CROSS TIES ARE NOT CONTINUOUS BETWEEN DIAPHRAGM CHORDS

REHABILITATION RECOMMENDATIONS

- SLENDER WALLS ARE NOT ABLE TO RESIST OUT-OF-PLANE BUCKLING FORCES. OUT OF PLANE BRACING WILL BE ADDED TO STRENGTHEN SLENDER CONCRETE WALLS.
- ADDITIONAL HARDWARE WILL BE ADDED TO STRENGTHEN THE CONNECTION BETWEEN PRECAST CONCRETE WALLS AND THE FOUNDATION.
- NEW BLOCKING AND NAILING WILL BE ADDED AT PLYWOOD DIAPHRAGMS TO ENSURE COMPLETE LOAD PATH.
- INSTALL NEW PLYWOOD ON EXISTING ROOF DECKING TO PROVIDE A DIAPHRAGM
- PROVIDE NEW IN-PLANE SHEAR ATTACHMENTS AT PRECAST CONCRETE WALLS
- PROVIDE CONTINUOUS CROSSTIES BETWEEN DIAPHRAGM CHORDS BY INSTALLING NEW BLOCKING AND STRAPPING

SHEET INDEX

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

NO.	REVISIONS	BY	DATE
1			

REYNOLDS SCHOOL DISTRICT

ALDER ELEMENTARY GYMNASIUM SRG
17200 SE ALDER ST,
PORTLAND, OR 97233

ZCS ENGINEERING
524 Main Street - Suite 02, Oregon City, OR 97045
(503) 659-2205 phone fax (503) 659-2433

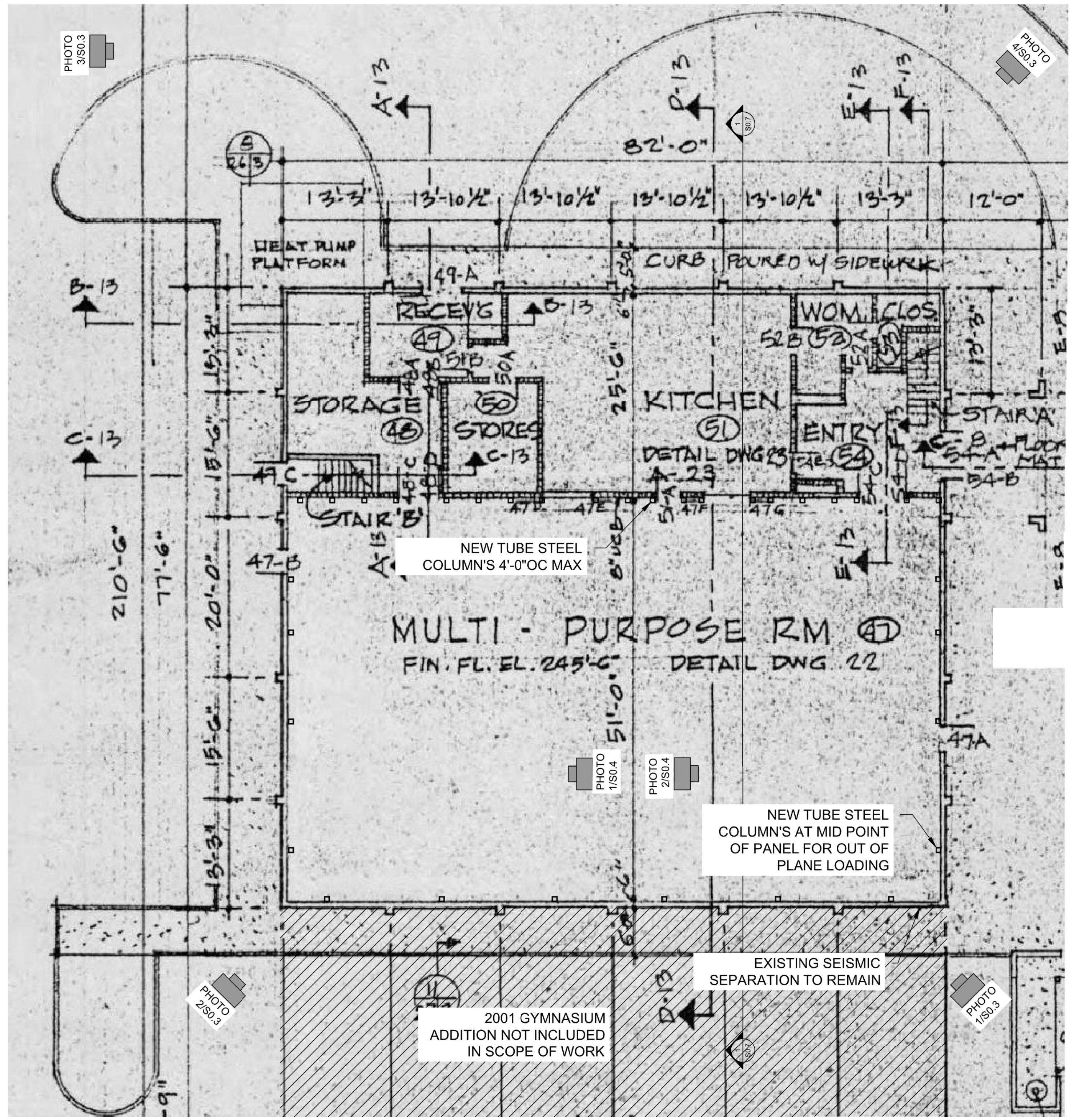
PROJECT NO:	P-2170-16
DRAWN:	JAG
CHECKED:	ZAS
DATE:	12-14-16

REGISTERED PROFESSIONAL ENGINEER OREGON ... 16, 1996 ... L C. CARTER
-PRELIMINARY- NOT FOR CONSTRUCTION
EXPIRES: 12-31-17

COVER SHEET

C0.0

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION



1/S0.1 **GYMNASIUM FLOOR PLAN**
1/8" = 1'-0"

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

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ZCS ENGINEERING
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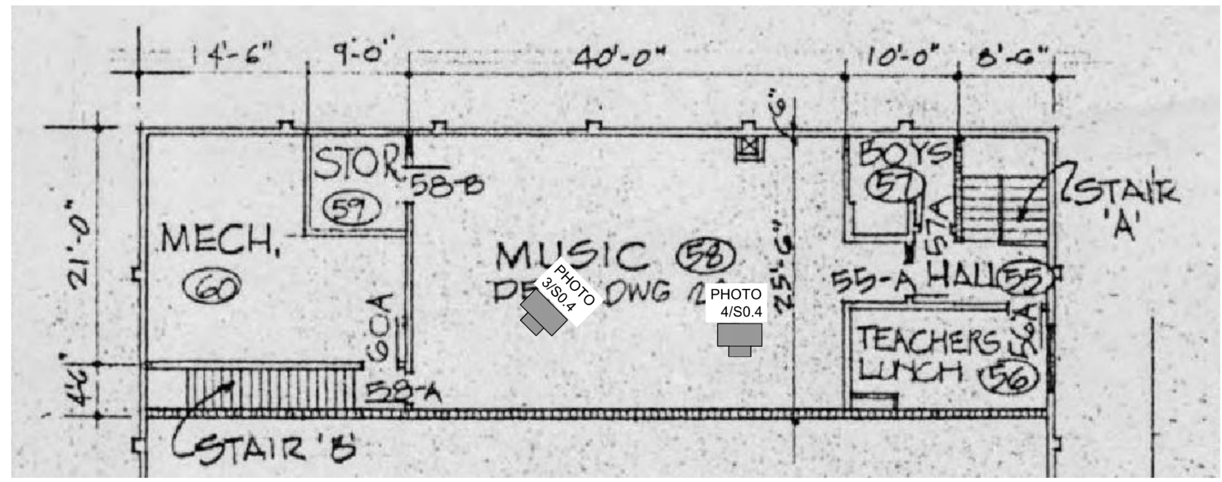
-PRELIMINARY- NOT FOR CONSTRUCTION
EXPIRES: 12-31-17

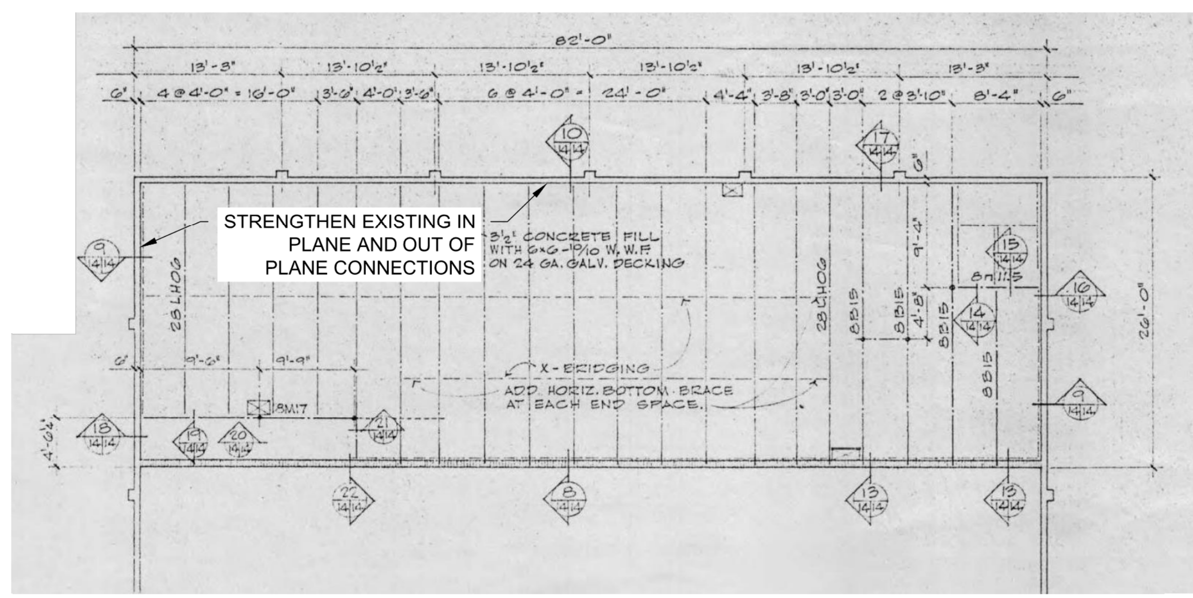
FLOOR PLAN

S0.1

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION



1 S0.2 **MEZZANINE FLOOR PLAN**
1/8" = 1'-0"



2 S0.2 **MEZZANINE FLOOR FRAMING PLAN**
1/8" = 1'-0"

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

NO.	REVISIONS	BY	DATE

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PORTLAND, OR 97233

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524 Main Street - Suite 02, Oregon City, OR 97045
(503) 659-2205 phone (503) 659-2433 fax

PROJECT NO:	P-2170-16
DRAWN:	JAG
CHECKED:	ZAS
DATE:	12-14-16

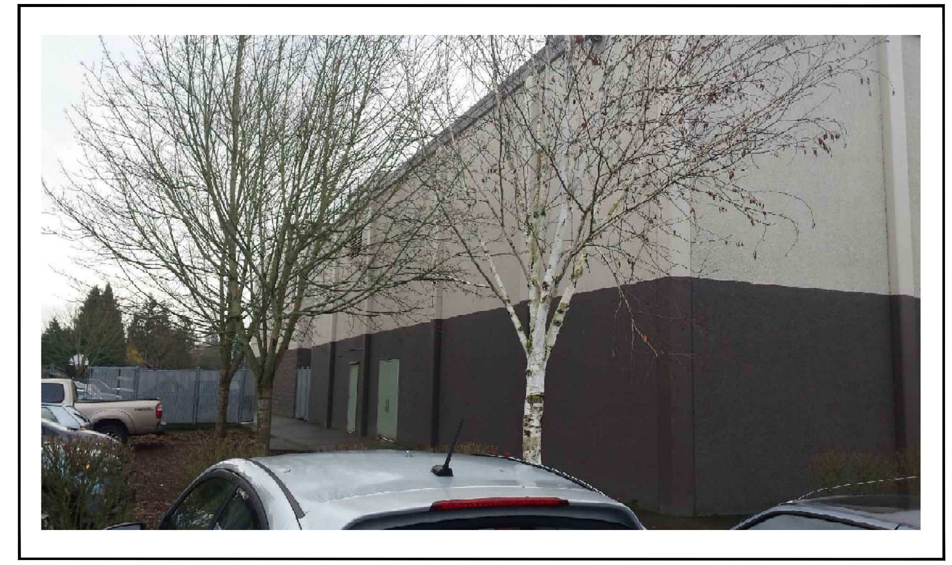
-PRELIMINARY-
NOT FOR CONSTRUCTION
EXPIRES: 12-31-17

MEZZANINE FLOOR & FRAMING PLAN

S0.2

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION

1 / S0.3 **PHOTO**
NTS



2 / S0.3 **PHOTO**
NTS

3 / S0.3 **PHOTO**
NTS

4 / S0.3 **PHOTO**
NTS

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REYNOLDS SCHOOL DISTRICT

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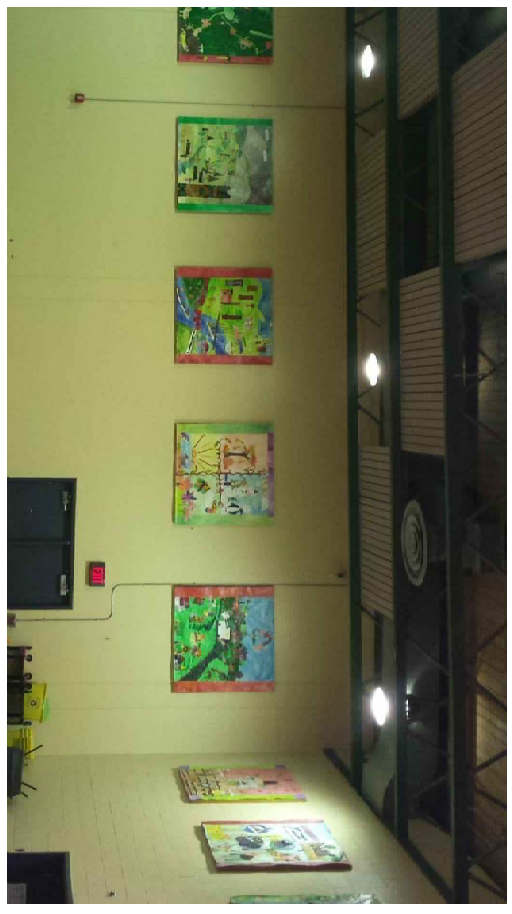
DATE:	12-14-16

-PRELIMINARY- NOT FOR CONSTRUCTION
EXPIRES: 12-31-17

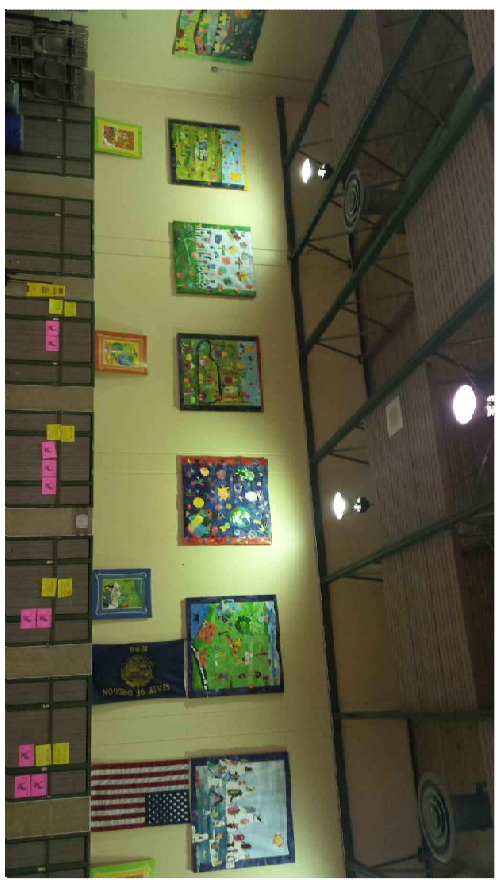
EXTERIOR PHOTOS

S0.3

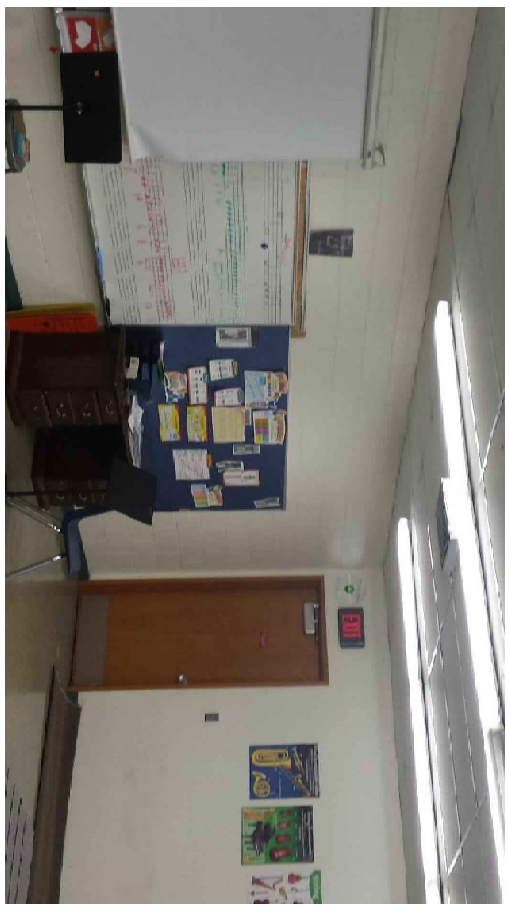
FOR AGENCY REVIEW / NOT FOR CONSTRUCTION



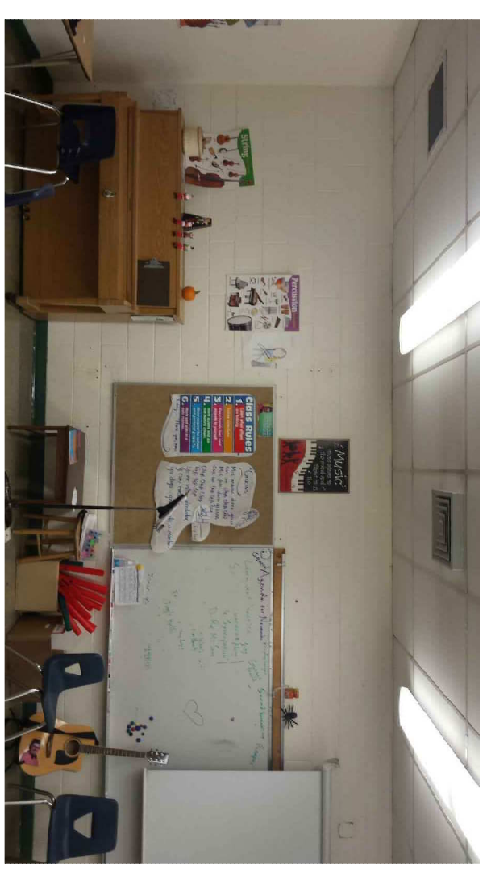
1 S0.4 PHOTO NTS



2 S0.4 PHOTO NTS



3 S0.4 PHOTO NTS



4 S0.4 PHOTO NTS

S0.4

EXTERIOR PHOTOS

PRELIMINARY - NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER — JULY 16, 1996 — JILL C. CARTER — EXPIRES: 12-31-17

PROJECT NO: P-2170-16
DRAWN: JAG
CHECKED: ZAS
DATE: 12-14-16

ZCS ENGINEERING
524 Main Street - Suite 02, Oregon City, OR 97045
(503) 659-2205 phone fax (503) 659-2433

REYNOLDS SCHOOL DISTRICT

ALDER ELEMENTARY GYMNASIUM SRG
17200 SE ALDER ST,
PORTLAND, OR 97233

NO.	REVISIONS	BY	DATE
1			

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION

Appendix B: Structural Tier 1 Check Sheets

Project: Alder Elementary Location: 17200 SE Alder St, Portland, OR 97233

Completed by: STS Date: 12/1/16

16.1.2LS LIFE SAFETY BASIC CONFIGURATION CHECKLIST

Low Seismicity

Building System

General

(C) NC N/A U LOAD PATH: The structure shall contain a complete, well defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)

(C) NC N/A U ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 4% of the height of the shorter building. This statement shall not apply for the following building types: W1, W1a, and W2. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)

(C) NC N/A U MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)

Building Configuration

(C) NC N/A U WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above. (Commentary: Sec. A2.2.2. Tier 2: Sec. 5.4.2.1)

(C) NC N/A U SOFT STORY: The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)

(C) NC N/A U VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 5.4.2.3)

(C) NC N/A U GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)

(C) NC N/A U MASS: There is no change in effective mass more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)

(C) NC N/A U TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)

Moderate Seismicity: Complete the Following Items in Addition to the Items for Low Seismicity.

Geologic Site Hazards

C NC N/A (U) LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance shall not exist in the foundation soils at depths within 50 ft under the building. (Commentary: Sec. A.6.1.1. Tier 2: 5.4.3.1)

(C) NC N/A U SLOPE FAILURE: The building site is sufficiently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: 5.4.3.1)

C NC N/A (U) SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: 5.4.3.1)

High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.

Foundation Configuration

(C) NC N/A U OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than $0.6S_a$. (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)

(C) NC N/A U TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Site Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)

Project: Alder Elementary Location: Portland, OR

Completed by: SRS Date: 12/1/16

16.12LS LIFE SAFETY STRUCTURAL CHECKLIST FOR BUILDING TYPES PC1: PRECAST OR TILT-UP CONCRETE SHEAR WALLS WITH FLEXIBLE DIAPHRAGMS AND PC1A: PRECAST OR TILT-UP CONCRETE SHEAR WALLS WITH STIFF DIAPHRAGMS

Low Seismicity

Connections

C (NC) N/A U WALL ANCHORAGE: Exterior concrete or masonry walls that are dependent on the diaphragm for lateral support are anchored for out-of-plane forces at each diaphragm level with steel anchors, reinforcing dowels, or straps that are developed into the diaphragm. Connections shall have adequate strength to resist the connection force calculated in the Quick Check procedure of Section 4.5.3.7. (Commentary: Sec. A.5.1.1. Tier 2: Sec. 5.7.1.1)

Moderate Seismicity: Complete the Following Items in Addition to the Items for Low Seismicity.

Seismic-Force-Resisting System

(C) NC N/A U REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2. (Commentary: Sec. A.3.2.1.1. Tier 2: Sec. 5.5.1.1)

(C) NC N/A U WALL SHEAR STRESS CHECK: The shear stress in the precast panels, calculated using the Quick Check procedure of Section 4.5.3.3, is less than the greater of 100 lb/in.^{2} or $2\sqrt{f'_c}$. (Commentary: Sec. A.3.2.3.1. Tier 2: Sec. 5.5.3.1.1)

(C) NC N/A U REINFORCING STEEL: The ratio of reinforcing steel area to gross concrete area is not less than 0.0012 in the vertical direction and 0.0020 in the horizontal direction. (Commentary: Sec. A.3.2.3.2. Tier 2: Sec. 5.5.3.1.3)

C (NC) N/A U WALL THICKNESS: Thicknesses of bearing walls shall not be less than 1/40 the unsupported height or length, whichever is shorter, nor less than 4 in. (Commentary: Sec. A.3.2.3.5. Tier 2: Sec. 5.5.3.1.2)

Diaphragms

6" tilt-up walls

C NC (N/A) U TOPPING SLAB: Precast concrete diaphragm elements are interconnected by a continuous reinforced concrete topping slab with a minimum thickness of 2 in. (Commentary: Sec. A.4.5.1. Tier 2: Sec. 5.6.4)

Connections

(C) NC N/A U WOOD LEDGERS: The connection between the wall panels and the diaphragm does not induce cross-grain bending or tension in the wood ledgers. (Commentary: Sec. A.5.1.2. Tier 2: Sec. 5.7.1.3)

C (NC) N/A U TRANSFER TO SHEAR WALLS: Diaphragms are connected for transfer of seismic forces to the shear walls. (Commentary: Sec. A.5.2.1. Tier 2: Sec. 5.7.2)

C NC (N/A) U TOPPING SLAB TO WALLS OR FRAMES: Reinforced concrete topping slabs that interconnect the precast concrete diaphragm elements are doweled for transfer of forces into the shear wall or frame elements. (Commentary: Sec. A.5.2.3. Tier 2: Sec. 5.7.2)

C NC (N/A) U GIRDER–COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.4.1)

High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.

Seismic-Force-Resisting System

C NC (N/A) U DEFLECTION COMPATIBILITY FOR RIGID DIAPHRAGMS: Secondary components have the shear capacity to develop the flexural strength of the components. (Commentary: Sec. A.3.1.6.2. Tier 2: Sec. 5.5.2.5.2)

(C) NC N/A U WALL OPENINGS: The total width of openings along any perimeter wall line constitutes less than 75% of the length of any perimeter wall when the wall piers have aspect ratios of less than 2-to-1. (Commentary: Sec. A.3.2.3.3. Tier 2: Sec. 5.5.3.3.1)

Diaphragms

C NC N/A U CROSS TIES IN FLEXIBLE DIAPHRAGMS: There are continuous cross ties between diaphragm chords. (Commentary: Sec. A.4.1.2. Tier 2: Sec. 5.6.1.2)

C NC N/A U STRAIGHT SHEATHING: All straight sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered. (Commentary: Sec. A.4.2.1. Tier 2: Sec. 5.6.2)

C NC N/A U SPANS: All wood diaphragms with spans greater than 24 ft consist of wood structural panels or diagonal sheathing. (Commentary: Sec. A.4.2.2. Tier 2: Sec. 5.6.2)

C NC N/A U DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 ft and aspect ratios less than or equal to 4-to-1. (Commentary: Sec. A.4.2.3. Tier 2: Sec. 5.6.2)

C NC N/A U OTHER DIAPHRAGMS: The diaphragm does not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Commentary: Sec. A.4.7.1. Tier 2: Sec. 5.6.5)

Connections

C NC N/A U MINIMUM NUMBER OF WALL ANCHORS PER PANEL: There are at least two anchors from each precast wall panel into the diaphragm elements. (Commentary: Sec. A.5.1.3. Tier 2: Sec. 5.7.1.4)

C NC N/A U PRECAST WALL PANELS: Precast wall panels are connected to the foundation. (Commentary: Sec. A.5.3.6. Tier 2: Sec. 5.7.3.4)

C NC N/A U UPLIFT AT PILE CAPS: Pile caps have top reinforcement, and piles are anchored to the pile caps. (Commentary: Sec. A.5.3.8. Tier 2: Sec. 5.7.3.5)

C NC N/A U GIRDERS: Girders supported by walls or pilasters have at least two ties securing the anchor bolts unless provided with independent stiff wall anchors with adequate strength to resist the connection force calculated in the Quick Check procedure of Section 4.5.3.7. (Commentary: Sec. A.5.4.2. Tier 2: Sec. 5.7.4.2)

Project: Alder Elementary Location: Portland, OR

Completed by: STS Date: 12/1/16

16.15LS LIFE SAFETY STRUCTURAL CHECKLIST FOR BUILDING TYPES RM1: REINFORCED MASONRY BEARING WALLS WITH FLEXIBLE DIAPHRAGMS AND RM2: REINFORCED MASONRY BEARING WALLS WITH STIFF DIAPHRAGMS

Low and Moderate Seismicity

Seismic-Force-Resisting System

C NC N/A U REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2. (Commentary: Sec. A.3.2.1.1. Tier 2: Sec. 5.5.1.1)

C NC N/A U SHEAR STRESS CHECK: The shear stress in the reinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 70 lb/in.^{2}. (Commentary: Sec. A.3.2.4.1. Tier 2: Sec. 5.5.3.1.1)

C NC N/A U REINFORCING STEEL: The total vertical and horizontal reinforcing steel ratio in reinforced masonry walls is greater than 0.002 of the wall with the minimum of 0.0007 in either of the two directions; the spacing of reinforcing steel is less than 48 in., and all vertical bars extend to the top of the walls. (Commentary: Sec. ~~A.3.2.4.2. Tier 2: Sec. 5.5.3.1.3~~)

Stiff Diaphragms

C NC N/A U TOPPING SLAB: Precast concrete diaphragm elements are interconnected by a continuous reinforced concrete topping slab. (Commentary: Sec. A.4.5.1. Tier 2: Sec. 5.6.4)

Connections

C NC N/A U WALL ANCHORAGE: Exterior concrete or masonry walls that are dependent on the diaphragm for lateral support are anchored for out-of-plane forces at each diaphragm level with steel anchors, reinforcing dowels, or straps that are developed into the diaphragm. Connections shall have adequate strength to resist the connection force calculated in the Quick Check procedure of Section 4.5.3.7. (Commentary: Sec. A.5.1.1. Tier 2: Sec. 5.7.1.1)

C NC N/A U WOOD LEDGERS: The connection between the wall panels and the diaphragm does not induce cross-grain bending or tension in the wood ledgers. (Commentary: Sec. A.5.1.2. Tier 2: Sec. 5.7.1.3)

C NC N/A U TRANSFER TO SHEAR WALLS: Diaphragms are connected for transfer of seismic forces to the shear walls. (Commentary: Sec. A.5.2.1. Tier 2: Sec. 5.7.2)

C NC N/A U TOPPING SLAB TO WALLS OR FRAMES: Reinforced concrete topping slabs that interconnect the precast concrete diaphragm elements are doweled for transfer of forces into the shear wall or frame elements. (Commentary: Sec. A.5.2.3. Tier 2: Sec. 5.7.2)

C NC N/A U FOUNDATION DOWELS: Wall reinforcement is doweled into the foundation. (Commentary: Sec. A.5.3.5. Tier 2: Sec. 5.7.3.4)

C NC N/A U GIRDER–COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.4.1)

High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.

Stiff Diaphragms

C NC N/A U OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls are less than 25% of the wall length. (Commentary: Sec. A.4.1.4. Tier 2: Sec. 5.6.1.3)

C NC N/A U OPENINGS AT EXTERIOR MASONRY SHEAR WALLS: Diaphragm openings immediately adjacent to exterior masonry shear walls are not greater than 8 ft long. (Commentary: Sec. A.4.1.6. Tier 2: Sec. 5.6.1.3)

Flexible Diaphragms

C NC N/A U CROSS TIES: There are continuous cross ties between diaphragm chords. (Commentary: Sec. A.4.1.2. Tier 2: Sec. 5.6.1.2)

C NC N/A U OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls are less than 25% of the wall length. (Commentary: Sec. A.4.1.4. Tier 2: Sec. 5.6.1.3)

C NC N/A U OPENINGS AT EXTERIOR MASONRY SHEAR WALLS: Diaphragm openings immediately adjacent to exterior masonry shear walls are not greater than 8 ft long. (Commentary: Sec. A.4.1.6. Tier 2: Sec. 5.6.1.3)

C NC N/A U STRAIGHT SHEATHING: All straight sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered. (Commentary: Sec. A.4.2.1. Tier 2: Sec. 5.6.2)

C NC N/A U SPANS: All wood diaphragms with spans greater than 24 ft consist of wood structural panels or diagonal sheathing. (Commentary: Sec. A.4.2.2. Tier 2: Sec. 5.6.2)

C NC N/A U DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 ft and aspect ratios less than or equal to 4-to-1. (Commentary: Sec. A.4.2.3. Tier 2: Sec. 5.6.2)

C NC N/A U OTHER DIAPHRAGMS: The diaphragm shall not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Commentary: Sec. A.4.7.1. Tier 2: Sec. 5.6.5)

Connections

C NC N/A U STIFFNESS OF WALL ANCHORS: Anchors of concrete or masonry walls to wood structural elements are installed taut and are stiff enough to limit the relative movement between the wall and the diaphragm to no greater than 1/8 in. before engagement of the anchors. (Commentary: Sec. A.5.1.4. Tier 2: Sec. 5.7.1.2)

Project: Alder Elementary Location: Portland, OR

Completed by: SRS Date: 12/1/16

16.17 NONSTRUCTURAL CHECKLIST

Life Safety Systems

C NC N/A (U) LS-LMH; PR-LMH. FIRE SUPPRESSION PIPING: Fire suppression piping is anchored and braced in accordance with NFPA-13. (Commentary: Sec. A.7.13.1. Tier 2: Sec. 13.7.4)

C NC N/A (U) LS-LMH; PR-LMH. FLEXIBLE COUPLINGS: Fire suppression piping has flexible couplings in accordance with NFPA-13. (Commentary: Sec. A.7.13.2. Tier 2: Sec. 13.7.4)

C NC N/A (U) LS-LMH; PR-LMH. EMERGENCY POWER: Equipment used to power or control life safety systems is anchored or braced. (Commentary: Sec. A.7.12.1. Tier 2: Sec. 13.7.7)

C NC (N/A) U LS-LMH; PR-LMH. STAIR AND SMOKE DUCTS: Stair pressurization and smoke control ducts are braced and have flexible connections at seismic joints. (Commentary: Sec. A.7.14.1. Tier 2: Sec. 13.7.6)

C NC N/A (U) LS-MH; PR-MH. SPRINKLER CEILING CLEARANCE: Penetrations through panelized ceilings for fire suppression devices provide clearances in accordance with NFPA-13. (Commentary: Sec. A.7.13.3. Tier 2: Sec. 13.7.4)

C NC N/A (U) LS-not required; PR-LMH. EMERGENCY LIGHTING: Emergency and egress lighting equipment is anchored or braced. (Commentary: Sec. A.7.3.1. Tier 2: Sec. 13.7.9)

Hazardous Materials

C NC N/A (U) LS-LMH; PR-LMH. HAZARDOUS MATERIAL EQUIPMENT: Equipment mounted on vibration isolators and containing hazardous material is equipped with restraints or snubbers. (Commentary: Sec. A.7.12.2. Tier 2: 13.7.1)

C NC N/A (U) LS-LMH; PR-LMH. HAZARDOUS MATERIAL STORAGE: Breakable containers that hold hazardous material, including gas cylinders, are restrained by latched doors, shelf lips, wires, or other methods. (Commentary: Sec. A.7.15.1. Tier 2: Sec. 13.8.4)

C NC N/A (U) LS-MH; PR-MH. HAZARDOUS MATERIAL DISTRIBUTION: Piping or ductwork conveying hazardous materials is braced or otherwise protected from damage that would allow hazardous material release. (Commentary: Sec. A.7.13.4. Tier 2: Sec. 13.7.3 and 13.7.5)

C NC N/A (U) LS-MH; PR-MH. SHUT-OFF VALVES: Piping containing hazardous material, including natural gas, has shut-off valves or other devices to limit spills or leaks. (Commentary: Sec. A.7.13.3. Tier 2: Sec. 13.7.3 and 13.7.5)

C NC N/A (U) LS-LMH; PR-LMH. FLEXIBLE COUPLINGS: Hazardous material ductwork and piping, including natural gas piping, has flexible couplings. (Commentary: Sec. A.7.15.4, Tier 2: Sec.13.7.3 and 13.7.5)

C NC N/A (U) LS-MH; PR-MH. PIPING OR DUCTS CROSSING SEISMIC JOINTS: Piping or ductwork carrying hazardous material that either crosses seismic joints or isolation planes or is connected to independent structures has couplings or other details to accommodate the relative seismic displacements. (Commentary: Sec. A.7.13.6. Tier 2: Sec.13.7.3, 13.7.5, and 13.7.6)

Partitions

C NC (N/A) U LS-LMH; PR-LMH. UNREINFORCED MASONRY: Unreinforced masonry or hollow-clay tile partitions are braced at a spacing of at most 10 ft in Low or Moderate Seismicity, or at most 6 ft in High Seismicity. (Commentary: Sec. A.7.1.1. Tier 2: Sec. 13.6.2)

(C) NC N/A U LS-LMH; PR-LMH. HEAVY PARTITIONS SUPPORTED BY CEILINGS: The tops of masonry or hollow-clay tile partitions are not laterally supported by an integrated ceiling system. (Commentary: Sec. A.7.2.1. Tier 2: Sec. 13.6.2)

(C) NC N/A U LS-MH; PR-MH. DRIFT: Rigid cementitious partitions are detailed to accommodate the following drift ratios: in steel moment frame, concrete moment frame, and wood frame buildings, 0.02; in other buildings, 0.005. (Commentary A.7.1.2 Tier 2: Sec. 13.6.2)

C NC N/A U LS-not required; PR-MH. LIGHT PARTITIONS SUPPORTED BY CEILINGS: The tops of gypsum board partitions are not laterally supported by an integrated ceiling system. (Commentary: Sec. A.7.2.1. Tier 2: Sec. 13.6.2)

C NC N/A U LS-not required; PR-MH. STRUCTURAL SEPARATIONS: Partitions that cross structural separations have seismic or control joints. (Commentary: Sec. A.7.1.3. Tier 2. Sec. 13.6.2)

C NC N/A U LS-not required; PR-MH. TOPS: The tops of ceiling-high framed or panelized partitions have lateral bracing to the structure at a spacing equal to or less than 6 ft. (Commentary: Sec. A.7.1.4. Tier 2. Sec. 13.6.2)

Ceilings

C NC N/A U LS-MH; PR-LMH. SUSPENDED LATH AND PLASTER: Suspended lath and plaster ceilings have attachments that resist seismic forces for every 12 ft^2 of area. (Commentary: Sec. A.7.2.3. Tier 2: Sec. 13.6.4)

C NC N/A U LS-MH; PR-LMH. SUSPENDED GYPSUM BOARD: Suspended gypsum board ceilings have attachments that resist seismic forces for every 12 ft^2 of area. (Commentary: Sec. A.7.2.3. Tier 2: Sec. 13.6.4)

C NC N/A U LS-not required; PR-MH. INTEGRATED CEILINGS: Integrated suspended ceilings with continuous areas greater than 144 ft^2, and ceilings of smaller areas that are not surrounded by restraining partitions, are laterally restrained at a spacing no greater than 12 ft with members attached to the structure above. Each restraint location has a minimum of four diagonal wires and compression struts, or diagonal members capable of resisting compression. (Commentary: Sec. A.7.2.2. Tier 2: Sec. 13.6.4)

C NC N/A U LS-not required; PR-MH. EDGE CLEARANCE: The free edges of integrated suspended ceilings with continuous areas greater than 144 ft^2 have clearances from the enclosing wall or partition of at least the following: in Moderate Seismicity, 1/2 in.; in High Seismicity, 3/4 in. (Commentary: Sec. A.7.2.4. Tier 2: Sec. 13.6.4)

C NC N/A U LS-not required; PR-MH. CONTINUITY ACROSS STRUCTURE JOINTS: The ceiling system does not cross any seismic joint and is not attached to multiple independent structures. (Commentary: Sec. A.7.2.5. Tier 2: Sec. 13.6.4)

C NC N/A U LS-not required; PR-H. EDGE SUPPORT: The free edges of integrated suspended ceilings with continuous areas greater than 144 ft^2 are supported by closure angles or channels not less than 2 in. wide. (Commentary: Sec. A.7.2.6. Tier 2: Sec. 13.6.4)

C NC N/A U LS-not required; PR-H. SEISMIC JOINTS: Acoustical tile or lay-in panel ceilings have seismic separation joints such that each continuous portion of the ceiling is no more than 2500 ft^2 and has a ratio of long-to-short dimension no more than 4-to-1. (Commentary: Sec. A.7.2.7. Tier 2: 13.6.4)

Light Fixtures

C NC N/A U LS-MH; PR-MH. INDEPENDENT SUPPORT: Light fixtures that weigh more per square foot than the ceiling they penetrate are supported independent of the grid ceiling suspension system by a minimum of two wires at diagonally opposite corners of each fixture. (Commentary: Sec. A.7.3.2. Tier 2: Sec. 13.6.4 and 13.7.9)

C NC N/A U LS-not required; PR-H. PENDANT SUPPORTS: Light fixtures on pendant supports are attached at a spacing equal to or less than 6 ft and, if rigidly supported, are free to move with the structure to which they are attached without damaging adjoining components. (Commentary: A.7.3.3. Tier 2: Sec. 13.7.9)

C NC N/A U LS-not required; PR-H. LENS COVERS: Lens covers on light fixtures are attached with safety devices. (Commentary: Sec. A.7.3.4. Tier 2: Sec. 13.7.9)

Cladding and Glazing

C NC N/A U LS-MH; PR-MH. CLADDING ANCHORS: Cladding components weighing more than 10 lb/ft^2 are mechanically anchored to the structure at a spacing equal to or less than the following: for Life Safety in Moderate Seismicity, 6 ft; for Life Safety in High Seismicity and for Position Retention in any seismicity, 4 ft. (Commentary: Sec. A.7.4.1. Tier 2: Sec. 13.6.1)

C NC N/A U LS-MH; PR-MH. CLADDING ISOLATION: For steel or concrete moment frame buildings, panel connections are detailed to accommodate a story drift ratio of at least the following: for Life Safety in Moderate Seismicity, 0.01; for Life Safety in High Seismicity and for Position Retention in any seismicity, 0.02. (Commentary: Sec. A.7.4.3. Tier 2: Section 13.6.1)

C NC N/A U LS-MH; PR-MH. MULTI-STORY PANELS: For multi-story panels attached at more than one floor level, panel connections are detailed to accommodate a story drift ratio of at least the following: for Life Safety in Moderate Seismicity, 0.01; for Life Safety in High Seismicity and for Position Retention in any seismicty, 0.02. (Commentary: Sec. A.7.4.4. Tier 2: Sec. 13.6.1)

C NC N/A U LS-MH; PR-MH. PANEL CONNECTIONS: Cladding panels are anchored out-of-plane with a minimum number of connections for each wall panel, as follows: for Life Safety in Moderate Seismicity, 2 connections; for Life Safety in High Seismicity and for Position Retention in any seismicity, 4 connections. (Commentary: Sec. A.7.4.5. Tier 2: Sec. 13.6.1.4)

C NC N/A U LS-MH; PR-MH. BEARING CONNECTIONS: Where bearing connections are used, there is a minimum of two bearing connections for each cladding panel. (Commentary: Sec. A.7.4.6. Tier 2: Sec. 13.6.1.4)

C NC N/A U LS-MH; PR-MH. INSERTS: Where concrete cladding components use inserts, the inserts have positive anchorage or are anchored to reinforcing steel. (Commentary: Sec. A.7.4.7. Tier 2: Sec. 13.6.1.4)

C NC N/A U LS-MH; PR-MH. OVERHEAD GLAZING: Glazing panes of any size in curtain walls and individual interior or exterior panes over 16 ft^2 in area are laminated annealed or laminated heat-strengthened glass and are detailed to remain in the frame when cracked. (Commentary: Sec. A.7.4.8: Tier 2: Sec. 13.6.1.5)

Masonry Veneer

C NC N/A U LS-LMH; PR-LMH. TIES: Masonry veneer is connected to the backup with corrosion-resistant ties. There is a minimum of one tie for every 2-2/3 ft^2, and the ties have spacing no greater than the following: for Life Safety in Low or Moderate Seismicity, 36 in.; for Life Safety in High Seismicity and for Position Retention in any seismicity, 24 in. (Commentary: Sec. A.7.5.1. Tier 2: Sec. 13.6.1.2)

C NC N/A U LS-LMH; PR-LMH. SHELF ANGLES: Masonry veneer is supported by shelf angles or other elements at each floor above the ground floor. (Commentary: Sec. A.7.5.2. Tier 2: Sec. 13.6.1.2)

C NC N/A U LS-LMH; PR-LMH. WEAKENED PLANES: Masonry veneer is anchored to the backup adjacent to weakened planes, such as at the locations of flashing. (Commentary: Sec. A.7.5.3. Tier 2: Sec. 13.6.1.2)

C NC N/A U LS-LMH; PR-LMH. UNREINFORCED MASONRY BACKUP: There is no unreinforced masonry backup. (Commentary: Sec. A.7.7.2. Tier 2: Section 13.6.1.1 and 13.6.1.2)

C NC N/A U LS-MH; PR-MH. STUD TRACKS: For veneer with metal stud backup, stud tracks are fastened to the structure at a spacing equal to or less than 24 in. on center. (Commentary: Sec. A.7.6.1. Tier 2: Section 13.6.1.1 and 13.6.1.2)

C NC N/A U LS-MH; PR-MH. ANCHORAGE: For veneer with concrete block or masonry backup, the backup is positively anchored to the structure at a horizontal spacing equal to or less than 4 ft along the floors and roof. (Commentary: Sec. A.7.7.1. Tier 2: Section 13.6.1.1 and 13.6.1.2)

C NC N/A U LS-not required; PR-MH. WEEP HOLES: In veneer anchored to stud walls, the veneer has functioning weep holes and base flashing. (Commentary: Sec. A.7.5.6. Tier 2: Section 13.6.1.2)

C NC N/A U LS-not required; PR-MH. OPENINGS: For veneer with metal stud backup, steel studs frame window and door openings. (Commentary: Sec. A.7.6.2. Tier 2: Sec. 13.6.1.1 and 13.6.1.2)

Parapets, Cornices, Ornamentation, and Appendages

C NC N/A U LS-LMH; PR-LMH. URM PARAPETS OR CORNICES: Laterally unsupported unreinforced masonry parapets or cornices have height-to-thickness ratios no greater than the following: for Life Safety in Low or Moderate Seismicity, 2.5; for Life Safety in High Seismicity and for Position Retention in any seismicity, 1.5. (Commentary: Sec. A.7.8.1. Tier 2: Sec. 13.6.5)

C NC N/A U LS-LMH; PR-LMH. CANOPIES: Canopies at building exits are anchored to the structure at a spacing no greater than the following: for Life Safety in Low or Moderate Seismicity, 10 ft; for Life Safety in High Seismicity and for Position Retention in any seismicity, 6 ft. (Commentary: Sec. A.7.8.2. Tier 2: Sec. 13.6.6)

C NC N/A U LS-MH; PR-LMH. CONCRETE PARAPETS: Concrete parapets with height-to-thickness ratios greater than 2.5 have vertical reinforcement. (Commentary: Sec. A.7.8.3. Tier 2: Sec. 13.6.5)

C NC N/A U LS-MH; PR-LMH. APPENDAGES: Cornices, parapets, signs, and other ornamentation or appendages that extend above the highest point of anchorage to the structure or cantilever from components are reinforced and anchored to the structural system at a spacing equal to or less than 6 ft. This checklist item does not apply to parapets or cornices covered by other checklist items. (Commentary: Sec. A.7.8.4. Tier 2: Sec. 13.6.6)

Masonry Chimneys

C NC (N/A) U LS-LMH; PR-LMH. URM CHIMNEYS: Unreinforced masonry chimneys extend above the roof surface no more than the following: for Life Safety in Low or Moderate Seismicity, 3 times the least dimension of the chimney; for Life Safety in High Seismicity and for Position Retention in any seismicity, 2 times the least dimension of the chimney. (Commentary: Sec. A.7.9.1. Tier 2: 13.6.7)

C NC (N/A) U LS-LMH; PR-LMH. ANCHORAGE: Masonry chimneys are anchored at each floor level, at the topmost ceiling level, and at the roof. (Commentary: Sec. A.7.9.2. Tier 2: 13.6.7)

Stairs

C NC (N/A) U LS-LMH; PR-LMH. STAIR ENCLOSURES: Hollow-clay tile or unreinforced masonry walls around stair enclosures are restrained out-of-plane and have height-to-thickness ratios not greater than the following: for Life Safety in Low or Moderate Seismicity, 15-to-1; for Life Safety in High Seismicity and for Position Retention in any seismicity, 12-to-1. (Commentary: Sec. A.7.10.1. Tier 2: Sec. 13.6.2 and 13.6.8)

C NC (N/A) U LS-LMH; PR-LMH. STAIR DETAILS: In moment frame structures, the connection between the stairs and the structure does not rely on shallow anchors in concrete. Alternatively, the stair details are capable of accommodating the drift calculated using the Quick Check procedure of Section 4.5.3.1 without including any lateral stiffness contribution from the stairs. (Commentary: Sec. A.7.10.2. Tier 2: 13.6.8)

Contents and Furnishings

C NC N/A (U) LS-MH; PR-MH. INDUSTRIAL STORAGE RACKS: Industrial storage racks or pallet racks more than 12 ft high meet the requirements of ANSI/MH 16.1 as modified by ASCE 7 Chapter 15. (Commentary: Sec. A.7.11.1. Tier 2: Sec. 13.8.1)

C NC N/A (U) LS-H; PR-MH. TALL NARROW CONTENTS: Contents more than 6 ft high with a height-to-depth or height-to-width ratio greater than 3-to-1 are anchored to the structure or to each other. (Commentary: Sec. A.7.11.2. Tier 2: Sec. 13.8.2)

C NC N/A (U) LS-H; PR-H. FALL-PRONE CONTENTS: Equipment, stored items, or other contents weighing more than 20 lb whose center of mass is more than 4 ft above the adjacent floor level are braced or otherwise restrained. (Commentary: Sec. A.7.11.3. Tier 2: Sec. 13.8.2)

C NC (N/A) U LS-not required; PR-MH. ACCESS FLOORS: Access floors more than 9 in. high are braced. (Commentary: Sec. A.7.11.4. Tier 2: Sec. 13.8.3)

C NC (N/A) U LS-not required; PR-MH. EQUIPMENT ON ACCESS FLOORS: Equipment and other contents supported by access floor systems are anchored or braced to the structure independent of the access floor. (Commentary: Sec. A.7.11.5. Tier 2: Sec. 13.7.7 and 13.8.3)

C NC (N/A) U LS-not required; PR-H. SUSPENDED CONTENTS: Items suspended without lateral bracing are free to swing from or move with the structure from which they are suspended without damaging themselves or adjoining components. (Commentary. A.7.11.6. Tier 2: Sec. 13.8.2)

Mechanical and Electrical Equipment

C NC N/A (U) LS-H; PR-H. FALL-PRONE EQUIPMENT: Equipment weighing more than 20 lb whose center of mass is more than 4 ft above the adjacent floor level, and which is not in-line equipment, is braced. (Commentary: A.7.12.4. Tier 2: 13.7.1 and 13.7.7)

C NC N/A (U) LS-H; PR-H. IN-LINE EQUIPMENT: Equipment installed in-line with a duct or piping system, with an operating weight more than 75 lb, is supported and laterally braced independent of the duct or piping system. (Commentary: Sec. A.7.12.5. Tier 2: Sec. 13.7.1)

C NC N/A (U) LS-H; PR-MH. TALL NARROW EQUIPMENT: Equipment more than 6 ft high with a height-to-depth or height-to-width ratio greater than 3-to-1 is anchored to the floor slab or adjacent structural walls. (Commentary: Sec. A.7.12.6. Tier 2: Sec. 13.7.1 and 13.7.7)

C NC (N/A) U LS-not required; PR-MH. MECHANICAL DOORS: Mechanically operated doors are detailed to operate at a story drift ratio of 0.01. (Commentary: Sec. A.7.12.7. Tier 2: Sec. 13.6.9)

C NC N/A U LS-not required; PR-H. SUSPENDED EQUIPMENT: Equipment suspended without lateral bracing is free to swing from or move with the structure from which it is suspended without damaging itself or adjoining components. (Commentary: Sec. A.7.12.8. Tier 2: Sec. 13.7.1 and 13.7.7)

C NC N/A U LS-not required; PR-H. VIBRATION ISOLATORS: Equipment mounted on vibration isolators is equipped with horizontal restraints or snubbers and with vertical restraints to resist overturning. (Commentary: Sec. A.7.12.9. Tier 2: Sec. 13.7.1)

C NC N/A U LS-not required; PR-H. HEAVY EQUIPMENT: Floor-supported or platform-supported equipment weighing more than 400 lb is anchored to the structure. (Commentary: Sec. A.7.12.10. Tier 2: 13.7.1 and 13.7.7)

C NC N/A U LS-not required; PR-H. ELECTRICAL EQUIPMENT: Electrical equipment is laterally braced to the structure. (Commentary: Sec. A.7.12.11. Tier 2: 13.7.7)

C NC N/A U LS-not required; PR-H. CONDUIT COUPLINGS: Conduit greater than 2.5 in. trade size that is attached to panels, cabinets, or other equipment and is subject to relative seismic displacement has flexible couplings or connections. (Commentary: Sec. A.7.12.12. Tier 2: 13.7.8)

Piping

C NC N/A U LS-not required; PR-H. FLEXIBLE COUPLINGS: Fluid and gas piping has flexible couplings. (Commentary: Sec. A.7.13.2. Tier 2: Sec. 13.7.3 and 13.7.5)

C NC N/A U LS-not required; PR-H. FLUID AND GAS PIPING: Fluid and gas piping is anchored and braced to the structure to limit spills or leaks. (Commentary: Sec. A.7.13.4. Tier 2: Sec. 13.7.3 and 13.7.5)

C NC N/A U LS-not required; PR-H. C-CLAMPS: One-sided C-clamps that support piping larger than 2.5 in. in diameter are restrained. (Commentary: Sec. A.7.13.5. Tier 2: Sec. 13.7.3 and 13.7.5)

C NC N/A U LS-not required; PR-H. PIPING CROSSING SEISMIC JOINTS: Piping that crosses seismic joints or isolation planes or is connected to independent structures has couplings or other details to accommodate the relative seismic displacements. (Commentary: Sec. A7.13.6. Tier 2: Sec.13.7.3 and Sec. 13.7.5)

Ducts

C NC N/A U LS-not required; PR-H. DUCT BRACING: Rectangular ductwork larger than 6 ft^2 in cross-sectional area and round ducts larger than 28 in. in diameter are braced. The maximum spacing of transverse bracing does not exceed 30 ft. The maximum spacing of longitudinal bracing does not exceed 60 ft. (Commentary: Sec. A.7.14.2. Tier 2: Sec. 13.7.6)

C NC N/A U LS-not required; PR-H. DUCT SUPPORT: Ducts are not supported by piping or electrical conduit. (Commentary: Sec. A.7.14.3. Tier 2: Sec. 13.7.6)

C NC N/A U LS-not required; PR-H. DUCTS CROSSING SEISMIC JOINTS: Ducts that cross seismic joints or isolation planes or are connected to independent structures have couplings or other details to accommodate the relative seismic displacements. (Commentary: Sec. A.7.14.5. Tier 2: Sec. 13.7.6)

Elevators

C NC N/A U LS-H; PR-H. RETAINER GUARDS: Sheaves and drums have cable retainer guards. (Commentary: Sec. A.7.16.1. Tier 2: 13.8.6)

C NC N/A U LS-H; PR-H. RETAINER PLATE: A retainer plate is present at the top and bottom of both car and counterweight. (Commentary: Sec. A.7.16.2. Tier 2: 13.8.6)

C NC N/A U LS-not required; PR-H. ELEVATOR EQUIPMENT: Equipment, piping, and other components that are part of the elevator system are anchored. (Commentary: Sec. A.7.16.3. Tier 2: 13.8.6)

C NC N/A U LS-not required; PR-H. SEISMIC SWITCH: Elevators capable of operating at speeds of 150 ft/min or faster are equipped with seismic switches that meet the requirements of ASME A17.1 or have trigger levels set to 20% of the acceleration of gravity at the base of the structure and 50% of the acceleration of gravity in other locations. (Commentary: Sec. A.7.16.4. Tier 2: 13.8.6)

C NC N/A U LS-not required; PR-H. SHAFT WALLS: Elevator shaft walls are anchored and reinforced to prevent toppling into the shaft during strong shaking. (Commentary: Sec. A.7.16.5. Tier 2: 13.8.6)

C NC N/A U LS-not required; PR-H. COUNTERWEIGHT RAILS: All counterweight rails and divider beams are sized in accordance with ASME A17.1. (Commentary: Sec. A.7.16.6. Tier 2: 13.8.6)

C NC N/A U LS-not required; PR-H. BRACKETS: The brackets that tie the car rails and the counterweight rail to the structure are sized in accordance with ASME A17.1. (Commentary: Sec. A.7.16.7. Tier 2: 13.8.6)

C NC N/A U LS-not required; PR-H. SPREADER BRACKET: Spreader brackets are not used to resist seismic forces. (Commentary: Sec. A.7.16.8. Tier 2: 13.8.6)

C NC N/A U LS-not required; PR-H. GO-SLOW ELEVATORS: The building has a go-slow elevator system. (Commentary: Sec. A.7.16.9. Tier 2: 13.8.6)

Appendix C: Construction Cost Estimate Worksheets

ENGINEER'S OPINION OF PROBABLE COST - ALDER ELEMENTARY GYM SEISMIC REHABILITATION

Description	Quanity	Units	Unit Price	Total Price for Construction Item
GENERAL CONDITIONS				
General Conditions	5%	%		$29,300.00
Preconstruction Services	1%	%		$6,100.00
Safety Measures	0.5%	%		$3,100.00
Equipment Rental	3	Month	$ 5,000.00	$15,000.00
Toilet Rental	3	Month	$ 1,800.00	$5,400.00
Cleanup Continuous	3	Month	$ 4,000.00	$12,000.00
Clean Up Dumpsters	3	Month	$ 2,400.00	$7,200.00
Temporary Conditions		Lump Sum		
Final Clean UP	8446	Square Foot	$ 0.35	$3,000.00
Foundation Layou	8446	Square Foot	$ 0.40	$3,378.40
Roofing Framing Layou	8446	Square Foot	$ 0.50	$4,223.00
Interior Finishes Layou	8446	Square Foot	$ 0.50	$4,223.00
Escalation	3%	%		$18,800.00
Bonding & Insurance	3%	%		$18,800.00
Contractor Profit & Overhead	7%	%		$46,500.00
			General Conditons Subtotal	$177,000.00
Demolition & Asbestos Abatement				
Soft Demolition	8446	Square Foot	$ 4.00	$33,784.00
Abatement	8446	Square Foot	$ 3.00	$25,338.00
			Demolition & Asbestos Subtotal	$ 59,122.00
Foundation / Floor Strengthening Construction				
Spread Footings for Columns	34	Each	$ 650.00	$22,100.00
Concrete Repair & Patching	476	Square Foot	$ 15.00	$7,140.00
Floor Finish Reinstallatio	476	Square Foot	$ 13.00	$6,188.00
Flooring Protectior	6355	Square Foot	$ 3.00	$19,065.00
Bolting of Extg Walls to footings	540	Linear Foot	$ 150.00	$81,000.00
			Foundation Level Subtotal	$ 135,493.00
Wall Strengthening Construction				
New Steel Columns	34	EA	$ 2,600.00	$88,400.00
Painting of Wall	8446	Square Foot	$ 3.00	$25,338.00
			Wall Strengthening Subtotal	$ 113,738.00
Roof Strengthening Construction				
New Roof Sheathing	4180	Square Foot	$ 6.50	$27,170.00
Diaphragm Attachments - Out-of-Plane	540	Linear Foot	$ 50.00	$27,000.00
Diaphragm Attachments - In-Plane Shea	1620	Square Foot	$ 3.00	$4,860.00
New 3" polyisociurinate rigid insulatio	6355	Square Foot	$ 3.75	$23,831.25
New roofing	6355	Square Foot	$ 18.00	$114,390.00
New Drag Beam Attachments	4	EA	$ 2,340.00	$9,360.00
			Roof Strengthening Subtotal	$ 206,611.25
Miscellaneous Elements				
Misc Electrical / HVAC / Plumbing	1	Lump Sum	$75,000.00	$75,000.00
			Miscellaneous Subtotal	$ 75,000.00
			Sub-Total Construction Cost	**$767,000.00**
			Contingency 15.0%	**$115,050.00**
			Total Construction Cost	**$882,050.00**
Associated Design / Soft Costs				
Architectural Consulting				$13,200.00
Structural / Rehailitaiton Engineering				$92,600.00
Geotechnical Consulting				$4,400.00
Special Inspection Services for Construction				$4,400.00
Structural Observations during Construction				$4,400.00
Materials Testing for Desigr				$4,400.00
Construction Management / Owner Representatio				$26,500.00
Permitting Fees				$26,500.00
Seismic Feasibility Study Reimbursmen				$5,000.00
Relocation of FF&E				$8,000.00
			Design / Soft Cost Subtotal	**$189,400.00**
			Total Project Funding Requirement	**$1,071,450.00**

Appendix D: Benefit Cost Analysis Worksheets

Oregon Seismic Rehabilitation Grant Application: Benefit-Cost Analysis

Entity:	**Reynolds School District**		
Point of Contact	**Rachel Hopper**		
Telephone:	**(503)661-7200**		
E-Mail:	rhopper@rsd7.net		
BCA File Name:	**BCA-Alder Gym.xls**	**BCA Date:**	**11/29/2016**

Building Name:	**Alder Elementary Gymnasium**
Site ID:	**Mult_sch138**
Facility Use:	**School**

Is the Building in the Oregon BCA Tool Database: Yes or No? **Yes**

How Many Structurally Different Building Parts Are There?

User-Defined	Database
	3

Unique Building ID Number	Building Part Square Footage	Percent of Total SF	Percent of Occupancy	Percent of Budget	Building Part Being Retrofitted?
Mult_sch138A	47,100	77.79%	78.00%	78.00%	**No**
Mult_sch138B	8,446	13.95%	14.00%	14.00%	**Yes**
Mult_sch138C	5,000	8.26%	8.00%	8.00%	**No**
Totals:	**60,546**	**100.00%**	**100.00%**	**100.00%**	

Seismic Retrofit Cost Estimate per SRGP Application: **$1,071,450**

Benefit-Cost Analysis: Summary Results

Alder Elementary Gymnasium

Building Part	Benefits
Mult_sch138A	
Mult_sch138B	$1,185,725
Mult_sch138C	
Total Benefits	**$1,185,725**
Total Cost	**$1,071,450**
Benefit-Cost Ratio	**1.107**

Benefits by Category Avoided Damages and Losses	
Building Damage	$136,561
Contents Damage	$34,140
Displacement Costs	$15,936
Loss of Function Costs	$7,353
Casualties	$991,736
Total	**$1,185,725**

Occupancy Data

For benefit-cost analysis, the average occupancy on a 24/7/365 basis is used for casualty calculations.
Enter data below ONLY for the occupancy categories applicable to this building - all other green cell entries should be left blank.
There are entries below for: employees, visitors, students, meetings or special events and patients.

NOTE: for buildings with similar occupancies each month, complete the tables on the left side only.

NOTE: For buildings with different summer occupancies, complete the tables both on the left and right sides. If this does not apply, enter "0" for number of summer months

Employees: 12 Months per Year or Academic Year for Schools				
Day of Week	Time of Day	Hours per Day	Average Employees in Building	Calculated 24/7/365 Occupancy
Monday - Friday	Day	8.5	60	11.353
Monday - Friday	Evening	4.5	18	1.803
Monday - Friday	Night	6.5	6	0.868
Saturday	Day	8	12	0.427
Saturday	Evening			
Saturday	Night			
Sunday	Day			
Sunday	Evening			
Sunday	Night			
			Subtotal:	14.451

Employees: Summer Months			Number of Months:	3
Day of Week	Time of Day	Hours per Day	Average Employees in Building	Calculated 24/7/365 Occupancy
Monday - Friday	Day	5.5	24	0.979
Monday - Friday	Evening	2.5	16	0.297
Monday - Friday	Night	2.5	2	0.037
Saturday	Day			
Saturday	Evening			
Saturday	Night			
Sunday	Day			
Sunday	Evening			
Sunday	Night			
			Subtotal:	1.313

Visitors: 12 Months per Year or Academic Year for Schools			
Day of Week	Average Number of Visitors Per Day	Average Time in Building (Minutes)	Calculated 24/7/365 Occupancy
Monday - Friday	105	1.5	0.058
Saturday	50	2	0.007
Sunday			
		Subtotal:	0.066

Visitors: Summer Months		Number of Months:	3
Day of Week	Average Number of Visitors Per Day	Average Time in Building (Minutes)	Calculated 24/7/365 Occupancy
Monday - Friday	40	1.5	0.007
Saturday	20	2	0.001
Sunday			
		Subtotal:	0.008

K-12 Students: Academic Year	
Average Daily Number of Students:	485
Hours per Day:	7
Days per Year:	170
Calculated 24/7/365 Occupancy:	65.885

K-12 Students: Summer School	
Average Daily Number of Students:	150
Hours per Day:	4
Days per Year:	30
Calculated 24/7/365 Occupancy:	2.055

College Students: Academic Year				
Number of Weeks per Year of Classes:				
Course	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Calculated 24/7/365 Occupancy
1 Hr. Courses	1			
1.5 Hr. Courses	1.5			
2 Hr. Courses	2			
3 Hr. Courses	3			
Other	N/A			
Other	N/A			
			Subtotal:	

College Students: Summer School				
Number of Weeks per Year of Classes:				
Course	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Calculated 24/7/365 Occupancy
1 Hr. Courses	1			
1.5 Hr. Courses	1.5			
2 Hr. Courses	2			
3 Hr. Courses	3			
Other	N/A			
Other	N/A			
			Subtotal:	

Occupancy Data

Meetings, Sports Events etc.				
Event	Events per Year	People per Event	Average Duration per Event (hours)	Calculated 24/7/365 Occupancy
SUN Evening Progra	24	100	2	0.548
Monthly Family Nigh	10	200	2	0.457
Soccer Games	40	24	2	0.219
Basketball Games	20	20	2	0.091
Cultural Dance Pract	24	15	2	0.082
School Registration a	4	600	6	1.644
Musical Concerts	4	150	2	0.137
Kinder and Grade 5	2	150	2	0.068
Backpack Bash and	4	500	6	1.370
			Subtotal:	**4.616**

Patients			
Total Number of In-Patient Beds:			
Average Daily Number of In-Patients			
Average Percentage Occupancy			
Day of Week	**Average Number of Out-Patients per Day**	**Average Time in Building (Hours)**	**Calculated 24/7/365 Occupancy**
Monday - Friday			
Saturday			
Sunday			
		Out-Patients:	
		In-Patients:	
		Total Patients:	

Occupancy Data

SUMMARY OCCUPANCY DATA:
Average 24/7/365 Occupancy

Occupancy Category	12 Months or Academic Year	Summer
Employees	14.451	1.313
Visitors	0.066	0.008
Students: K-12	65.885	2.055
Students: College		
Meetings & Special Events	4.616	N/A
Patients		N/A
Subtotals:	85.018	3.376
Avg 24/7/365 Occupancy:	88.395	

DATA DOCUMENTATION: OCCUPANCY	
Provide brief documentation below and/or references to other documents included with your application (with page number), for the sources of the occupancy data and estimates.	
Employees: Numbers	See attached Alder Employee Location Report
Employees: Hours Per Day	
Visitors: Number Per Day	These are estimations from Alder SUN and other partnerships
Visitors: Average Time in Building	These are estimations from Alder SUN and other partnerships
K-12 Students: Number	See ODE 2015-16 Alder School Report Card
K-12 Students: Hours Per Day	See ODE 2015-16 Alder School Report Card
K-12 Students: Days Per Year	See ODE 2015-16 Alder School Report Card
Additional Comments Re: above Occupancy Data	
College Student Occupancy Data	

Meetings, Sports Events and Other Special Events	
NOTES:	**It is NOT necessary to provide separate documentation for every special event listed. Rather, provide an Overview Statement of the sources of special event occupancy estimates.**
	Provide specific documentation for high occupancy events or very frequent events with high Calculated 24/7/365 Occupancy, especially for occupancies that appear "unusual" or potentially "out of bounds."
Overview Statement Re: Sources of Special Events Occupancy Estimates	The gymnasium at Alder Elemenary School is commonly used as hub for after school and evening actibities common to a school who is committed to enrichment programming and community engagement options for local families.

Hospital Patient Data	
Number of Patient Beds	
Average Daily Number of In-Patients	
Average Daily Number of Out-Patients	
Average Time in Building for Out-Patients	

College Student Occupancy Data

These tables calculate the inputs required to determine the average 24/7/365 occupancy for the classes in the building. The tables are organized by course duration (1 hr, 1.5 hr, etc) with two additional tables provided to capture different course lengths.

Do not duplicate information that has already been provided on the Occupancy worksheet.

Instructions

Enter requested course data into the green shaded cells. Tables for the Academic Year are in Row 9, Tables for Summer School are in Row 64. Use the Other / Additional Courses tables for class durations that aren't specified elsewhere or if additional space is required.

Occupancy data entered on this page are generally available for and entered for the entire school or facility and then allocated to building parts on the Main Page

However, if you enter data on the Main Page for only parts of a facility, then the occupancy data on this page _must_ also be _only_ for those facility parts entered on the Main Page.

See: USER GUIDE PAGES 16-17 for further guidance

Academic Year: 1 Hour Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
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	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	Totals:	0	0.00	0.0

Academic Year: 1.5 Hour Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
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	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	Totals:	0	0.00	0.0

Academic Year: 2 Hour Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
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	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	Totals:	0	0.00	0.0

Academic Year: 3 Hour Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
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	3			0.0
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	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	Totals:	0	0.00	0.0

Academic Year: Other / Additional Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
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				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
	Totals:	0	0.00	0.0

Academic Year: Other / Additional Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
				0.0
				0.0
				0.0
				0.0
				0.0
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				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
	Totals:	0	0.00	0.0

Summer School: 1 Hour Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
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	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	1			0.0
	Totals:	0	0.00	0.0

Summer School: 1.5 Hour Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
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	1.5			0.0
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	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	1.5			0.0
	Totals:	0	0.00	0.0

Summer School: 2 Hour Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
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	2			0.0
	2			0.0
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	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	2			0.0
	Totals:	0	0.00	0.0

Summer School: 3 Hour Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
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	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	3			0.0
	Totals:	0	0.00	0.0

Summer School: Other / Additional Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
				0.0
				0.0
				0.0
				0.0
				0.0
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				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
	Totals:	0	0.00	0.0

Summer School: Other / Additional Courses

Course Name	Class Duration (hours)	Number of Class Periods per Week	Average Number of Students per Class	Student Hours per Week
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
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				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
				0.0
	Totals:	0	0.00	0.0

Annual Operating Budget for this Facility

Employees:

	Classification	Number of FTEs[1]	Average Annual Salary per Employee	Total Benefits as Percent of Salary	Annual Salary and Benefits
1	Teachers	34.08	$49,352	47.00%	**$2,472,415**
2	Administration	2	$104,100	49.00%	**$310,218**
3	Other	14.9	$18,956	61.00%	**$454,726**
4					**$0**
5					**$0**
6					**$0**
7					**$0**
8					**$0**
9					**$0**
10					**$0**
	Total Number of FTEs:	**50.98**		**Subtotal:**	**$3,237,359**

[1] FTEs: Full time equivalents

Other Building Expenses

Category		Annual Cost
Supplies		$47,265
Building Maintenance		$148,889
Utilities		$90,994
Insurance		$10,520
Rent		$0
Average Annual Capital Goods		$0
OTHER: specify below		
Percent of District Office/Headquarters Annual Operating Budget Attributed to This Building:	4.46%	**$287,646**
If rent is zero (building owned), a proxy rent is calculated automatically, based on the value of the building:		**$1,059,555**
	Subtotal:	**$1,644,869**

Total Building Annual Operating Budget:	**$4,882,228**

Annual Operating Budget for this Facility

For entities with multiple facilities, a fraction of the operating budget for a District Office of Headquarters building may be attributed to the building being retrofitted. That is, the annual operating budget for the building above may include part of the operating budget for the District Office or Headquarters Building. If so, complete the following tables:

District Office/Headquarters Building Employees

	Classification	Number of FTEs[1]	Average Annual Salary per Employee	Total Benefits as Percent of Salary	Annual Salary and Benefits
1	Superintendent	1	$255,830	10.10%	**$281,669**
2	Business Manager	1	$223,346	17.30%	**$261,985**
3	Maintenance Director	1	$149,241	18.80%	**$177,298**
4	Director of Human Resources	1	$168,320	12.40%	**$189,192**
5	Safety Officer	1	$121,115	14.30%	**$138,434**
6	Maintenance Staff	9	$69,429	23.90%	**$774,203**
7	Director of Equities	1	$155,331	6.50%	**$165,428**
8					**$0**
9					**$0**
10					**$0**
	Total Number of FTEs:	**15.00**		**Subtotal:**	**$1,988,208**

District Office/Headquarters Building Expenses

Category		Annual Cost
Supplies		$202,419
Building maintenance		$2,535,780
Utilities		$0
Insurance		$585,482
Rent		$0
Average Annual Capital Goods		$0
OTHER: specify below		
Telephone		$35,186
Miscellaneous equipment leases and postage		$389,200
Alarm Services		$68,000
Enter replacement value of building:	$9,217,051	
If rent is zero (building owned), a proxy rent is calculated		**$645,194**
	Subtotal:	**$4,461,261**

Total Annual Operating Budget for District Office/Headquarters Building:	**$6,449,469**

DOCUMENTATION: ANNUAL OPERATING BUDGET	
NOTE:	**The Annual Operating Budget is used as a "proxy" for the value of services provided from a building and is used to count the benefits of avoiding loss of service in future earthquake events.**
Operating Budget by Categories	
Percent of District Office or Headquarters Annual Operating Budget Attributed to the Facility	

Building Part A: Data for Benefit-Cost Analysis

Building Name:	**Alder Elementary Gymnasium**
Building ID:	**Mult_sch138A**
Building Part Name / Description:	

Evaluation for Building Part A

Seismic Hazard Data		
Region of Seismicity	Moderately High	
PGA Ground Motion (g)	2% in 50 year	0.412
	5% in 50 year	0.293
	10% in 50 year	0.202
	20% in 50 year	0.119
Spectral Accelerations (g)	S_{xs}, 2% in 50 year	0.956
	S_{x1}, 2% in 50 year	0.492
	S_{xs}, 10% in 50 year	0.441
	S_{x1}, 10% in 50 year	0.213

Data Entry Item	User Entered Values	Default Values	Used for BCA
Site Data			
County		Multnomah	Multnomah
Decimal Latitude		45.51714	45.51714
Decimal Longitude		122.48648	122.48648
Soil Type		C	C
Construction Data			
Primary Structure Type (FEMA 154)		C2	C2
Number of Stories		1	1
Year Built		1965	1965
Rapid Visual Screening Data			
Severe Vertical Irregularity		No	No
Moderate Vertical Irregularity		Yes	Yes
Plan Irregularity		Yes	Yes
Pre-Code		No	No
Post-Benchmark		No	No
Building Data			
Historic Importance		None	None
Historic Adjustment Modifier	N/A	N/A	1.00
Building Square Footage - SF	47,100	N/A	47,100
Building Replacement - $/SF		$250.00	$250.00
Building Replacement Value - $	N/A	N/A	$11,775,000
Historic Building Replacement - $/SF	N/A	N/A	$250.00
Historic Building Replacement Value - $	N/A	N/A	$11,775,000
Contents Value - % of Building Value		25%	25%
Displacement Costs - $/SF/month		$1.50	$1.50
Displacement Costs - One Time		$1.35	$1.35
Average Annual Occupancy	68.95	68.76	68.95
Annual Operating Budget	$3,808,138	$3,797,988	$3,808,138
Seismic Fragility Curves			
Before Mitigation			
Slight Damage State		0.09	0.09
Moderate Damage State		0.12	0.12
Extensive Damage State		0.20	0.20
Complete Damage State		0.35	0.35
Beta		0.66	0.66
After Mitigation			
Retrofit Building Type		C2	C2
Retrofit Performance Objective		LS	LS
Slight Damage State		0.09	0.09
Moderate Damage State		0.12	0.12
Extensive Damage State		0.20	0.20
Complete Damage State		0.35	0.35
Beta		0.66	0.66

Data Documentation: Building Part A	
Provide brief documentation below and/or references to other documents included with your application (with page number), but ONLY for data entries in Column C, which replace the default values in Column D.	
Soil Type	
Primary Structure Type	
Number of Stories	
Year Built	
Severe Vertical Irregularity	
Moderate Vertical Irregularity	
Plan Irregularity	
Pre-Code	
Post-Benchmark	
Historic Importance (if not none)	
Building Square Footage	
Building Replacement Value $/SF	
Contents Value % of Building Value	
Displacement Costs One Time	
Displacement Costs $/SF/month	
Fragility Curve Parameters Before Mitigation	
Fragility Curve Parameters After Mitigation	
Other Comments	

Building Part B: Data for Benefit-Cost Analysis

Building Name:	**Alder Elementary Gymnasium**
Building ID:	**Mult_sch138B**
Building Part Name / Description:	

Evaluation for Building Part B

Seismic Hazard Data		
Region of Seismicity	Moderately High	
PGA Ground Motion (g)	2% in 50 year	0.412
	5% in 50 year	0.293
	10% in 50 year	0.202
	20% in 50 year	0.119
Spectral Accelerations (g)	S_{xs}, 2% in 50 year	0.956
	S_{x1}, 2% in 50 year	0.492
	S_{xs}, 10% in 50 year	0.441
	S_{x1}, 10% in 50 year	0.212

Data Entry Item	User Entered Values	Default Values	Used for BCA
Site Data			
County		Multnomah	Multnomah
Decimal Latitude		45.51717	45.51717
Decimal Longitude		122.4857	122.4857
Soil Type		C	C
Construction Data			
Primary Structure Type (FEMA 154)	PC1	C2	PC1
Number of Stories		1	1
Year Built		1965	1965
Rapid Visual Screening Data			
Severe Vertical Irregularity		No	No
Moderate Vertical Irregularity		No	No
Plan Irregularity		No	No
Pre-Code	Yes	No	Yes
Post-Benchmark		No	No
Building Data			
Historic Importance		None	None
Historic Adjustment Modifier	N/A	N/A	1.00
Building Square Footage - SF	8,446	N/A	8,446
Building Replacement - $/SF		$250.00	$250.00
Building Replacement Value - $	N/A	N/A	$2,111,500
Historic Building Replacement - $/SF	N/A	N/A	$250.00
Historic Building Replacement Value - $	N/A	N/A	$2,111,500
Contents Value - % of Building Value		25%	25%
Displacement Costs - $/SF/month		$1.50	$1.50
Displacement Costs - One Time		$1.35	$1.35
Average Annual Occupancy	12.38	12.33	12.38
Annual Operating Budget	$683,512	$681,057	$683,512
Seismic Fragility Curves			
Before Mitigation			
Slight Damage State		0.11	0.11
Moderate Damage State		0.14	0.14
Extensive Damage State		0.21	0.21
Complete Damage State		0.35	0.35
Beta		0.66	0.66
After Mitigation			
Retrofit Building Type		PC1	PC1
Retrofit Performance Objective		LS	LS
Slight Damage State		0.18	0.18
Moderate Damage State		0.28	0.28
Extensive Damage State		0.55	0.55
Complete Damage State		0.93	0.93

Beta		0.62	0.62

Data Documentation: Building Part B	
Provide brief documentation below and/or references to other documents included with your application (with page number), but ONLY for data entries in Column C, which replace the default values in Column D.	
Soil Type	
Primary Structure Type	
Number of Stories	
Year Built	
Severe Vertical Irregularity	
Moderate Vertical Irregularity	
Plan Irregularity	
Pre-Code	
Post-Benchmark	
Historic Importance (if not none)	
Building Square Footage	
Building Replacement Value $/SF	
Contents Value % of Building Value	
Displacement Costs One Time	
Displacement Costs $/SF/month	
Fragility Curve Parameters Before Mitigation	
Fragility Curve Parameters After Mitigation	
Other Comments	

Building Part C: Data for Benefit-Cost Analysis

Building Name:	**Alder Elementary Gymnasium**
Building ID:	**Mult_sch138C**
Building Part Name / Description:	

Evaluation for Building Part C

Seismic Hazard Data		
Region of Seismicity	Moderately High	
PGA Ground Motion (g)	2% in 50 year	0.412
	5% in 50 year	0.293
	10% in 50 year	0.202
	20% in 50 year	0.119
Spectral Accelerations (g)	S_{xs}, 2% in 50 year	0.956
	S_{x1}, 2% in 50 year	0.492
	S_{xs}, 10% in 50 year	0.441
	S_{x1}, 10% in 50 year	0.213

Data Entry Item	User Entered Values	Default Values	Used for BCA
Site Data			
County		Multnomah	Multnomah
Decimal Latitude		45.51694	45.51694
Decimal Longitude		122.48571	122.48571
Soil Type		C	C
Construction Data			
Primary Structure Type (FEMA 154)		RM1	RM1
Number of Stories		1	1
Year Built		1965	1965
Rapid Visual Screening Data			
Severe Vertical Irregularity		No	No
Moderate Vertical Irregularity		No	No
Plan Irregularity		Yes	Yes
Pre-Code		No	No
Post-Benchmark		No	No
Building Data			
Historic Importance		None	None
Historic Adjustment Modifier	N/A	N/A	1.00
Building Square Footage - SF	5,000	N/A	5,000
Building Replacement - $/SF		$250.00	$250.00
Building Replacement Value - $	N/A	N/A	$1,250,000
Historic Building Replacement - $/SF	N/A	N/A	$250.00
Historic Building Replacement Value - $	N/A	N/A	$1,250,000
Contents Value - % of Building Value		25%	25%
Displacement Costs - $/SF/month		$1.50	$1.50
Displacement Costs - One Time		$1.35	$1.35
Average Annual Occupancy	7.07	7.30	7.07
Annual Operating Budget	$390,578	$403,183	$390,578
Seismic Fragility Curves			
Before Mitigation			
Slight Damage State		0.12	0.12
Moderate Damage State		0.14	0.14
Extensive Damage State		0.22	0.22
Complete Damage State		0.39	0.39
Beta		0.66	0.66
After Mitigation			
Retrofit Building Type		C2	C2
Retrofit Performance Objective		LS	LS
Slight Damage State		0.12	0.12
Moderate Damage State		0.14	0.14
Extensive Damage State		0.22	0.22
Complete Damage State		0.39	0.39

Beta		0.66	0.66

Data Documentation: Building Part C	
Provide brief documentation below and/or references to other documents included with your application (with page number), but ONLY for data entries in Column C, which replace the default values in Column D.	
Soil Type	
Primary Structure Type	
Number of Stories	
Year Built	
Severe Vertical Irregularity	
Moderate Vertical Irregularity	
Plan Irregularity	
Pre-Code	
Post-Benchmark	
Historic Importance (if not none)	
Building Square Footage	
Building Replacement Value $/SF	
Contents Value % of Building Value	
Displacement Costs One Time	
Displacement Costs $/SF/month	
Fragility Curve Parameters Before Mitigation	
Fragility Curve Parameters After Mitigation	
Other Comments	

Appendix E: Schematic Seismic Retrofit Drawings

ALDER ELEMENTARY GYMNASIUM SEISMIC RETROFIT

17200 SE ALDER ST, PORTLAND, OR 97233

1 / C0.0 **MAIN ENTRANCE**
NTS

2 / C0.0 **VICINITY MAP**
NTS

3 / C0.0 **STREET VIEW**
NTS

4 / C0.0 **AERIAL VIEW**
NTS

PROJECT NARRATIVE

INTENT OF THESE DRAWINGS IS TO ILLUSTRATE THE LEVEL OF UNDERSTANDING THE APPLICANT HAS WITH REGARDS TO THE EFFORT THAT WILL BE REQUIRED TO SEISMICALLY REHABILITATE THE BUILDING. THESE SCHEMATIC DRAWINGS HAVE BEEN PREPARED USING THE CURRENT OREGON STRUCTURAL SPECIALITY CODE (OSSC) AND THE ASCE 41 (SEISMIC REHABILITATION OF EXISTING BUILDINGS) AS THE REFERENCES FOR PRESCRIBED LOADING AND BUILDING PERFORMANCE LEVEL RATINGS.

THE DRAWING ILLUSTRATES BOTH EXISTING CONDITIONS AND GENERAL REPAIRS THAT WOULD NEED TO BE ACCOMPLISHED TO REACH AN ACCEPTABLE LEVEL OF PERFORMANCE (LIFE SAFETY) ACCORDING TO CURRENT CODE.

"STRUCTURAL PERFORMANCE LEVEL, LIFE SAFETY, MEANS POST-EARTHQUAKE DAMAGE STATE IN WHICH SIGNIFICANT DAMAGE TO THE STRUCTURE HAS OCCURRED BUT SOME MARGIN AGAINST EITHER PARTIAL OR TOTAL STRUCTURAL COLLAPSE REMAINS. SOME STRUCTURAL ELEMENTS AND COMPONENTS ARE SEVERELY DAMAGED BUT THIS HAS NOT RESULTED IN LARGE FALLING DEBRIS HAZARDS, EITHER INSIDE OR OUTSIDE THE BUILDING. INJURIES MAY OCCUR DURING THE EARTHQUAKE; HOWEVER, THE OVERALL RISK OF LIFE-THREATENING INJURY AS A RESULT OF STRUCTURAL DAMAGE IS EXPECTED TO BE LOW. IT SHOULD BE POSSIBLE TO REPAIR THE STRUCTURE; HOWEVER, FOR ECONOMIC REASONS THIS MAY NOT BE PRACTICAL. ALTHOUGH THE DAMAGED STRUCTURE IS NOT AN IMMINENT COLLAPSE RISK, IT WOULD BE PRUDENT TO IMPLEMENT STRUCTURAL REPAIRS OR INSTALL TEMPORARY BRACING PRIOR TO REOCCUPANCY"

SEISMIC DEFICIENCIES

- THE TILE UP PANEL WALLS ARE SLENDER FOR THEIR HEIGHT AND THEREFOR ARE AT RISK FOR COLLAPSE
- THE TILT-UP PANEL WALLS ARE SLENDER FOR THEIR HEIGHT AND THEREFORE ARE AT RISK FOR COLLAPSE.
- TILT UP PANELS ARE NOT PROPERLY CONNECTED TO WALL FOOTINGS
- LARGE UNBLOCKED DIAPHRAGM SPAN COULD RESULT IN EXCESSIVE OUT-OF-PLANE DEFLECTION OF WALLS AND POSSIBLE COLLAPSE
- PROPER IN-PLANE AND OUT-OF-PLANE CONNECTIONS ARE NOT PRESENT AT THE TOPS OF THE EXISTING WALLS
- CROSS TIES ARE NOT CONTINUOUS BETWEEN DIAPHRAGM CHORDS

REHABILITATION RECOMMENDATIONS

- SLENDER WALLS ARE NOT ABLE TO RESIST OUT-OF-PLANE BUCKLING FORCES. OUT OF PLANE BRACING WILL BE ADDED TO STRENGTHEN SLENDER CONCRETE WALLS.
- ADDITIONAL HARDWARE WILL BE ADDED TO STRENGTHEN THE CONNECTION BETWEEN PRECAST CONCRETE WALLS AND THE FOUNDATION.
- NEW BLOCKING AND NAILING WILL BE ADDED AT PLYWOOD DIAPHRAGMS TO ENSURE COMPLETE LOAD PATH.
- INSTALL NEW PLYWOOD ON EXISTING ROOF DECKING TO PROVIDE A DIAPHRAGM
- PROVIDE NEW IN-PLANE SHEAR ATTACHMENTS AT PRECAST CONCRETE WALLS
- PROVIDE CONTINUOUS CROSSTIES BETWEEN DIAPHRAGM CHORDS BY INSTALLING NEW BLOCKING AND STRAPPING

SHEET INDEX

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

NO.	REVISIONS	BY	DATE

REYNOLDS SCHOOL DISTRICT

ALDER ELEMENTARY GYMNASIUM SRG
17200 SE ALDER ST,
PORTLAND, OR 97233

ZCS ENGINEERING
524 Main Street - Suite 02, Oregon City, OR 97045
(503) 659-2205 phone
fax (503) 659-2433

PROJECT NO:	P-2170-16
DRAWN:	JAG
CHECKED:	ZAS
DATE:	12-14-16

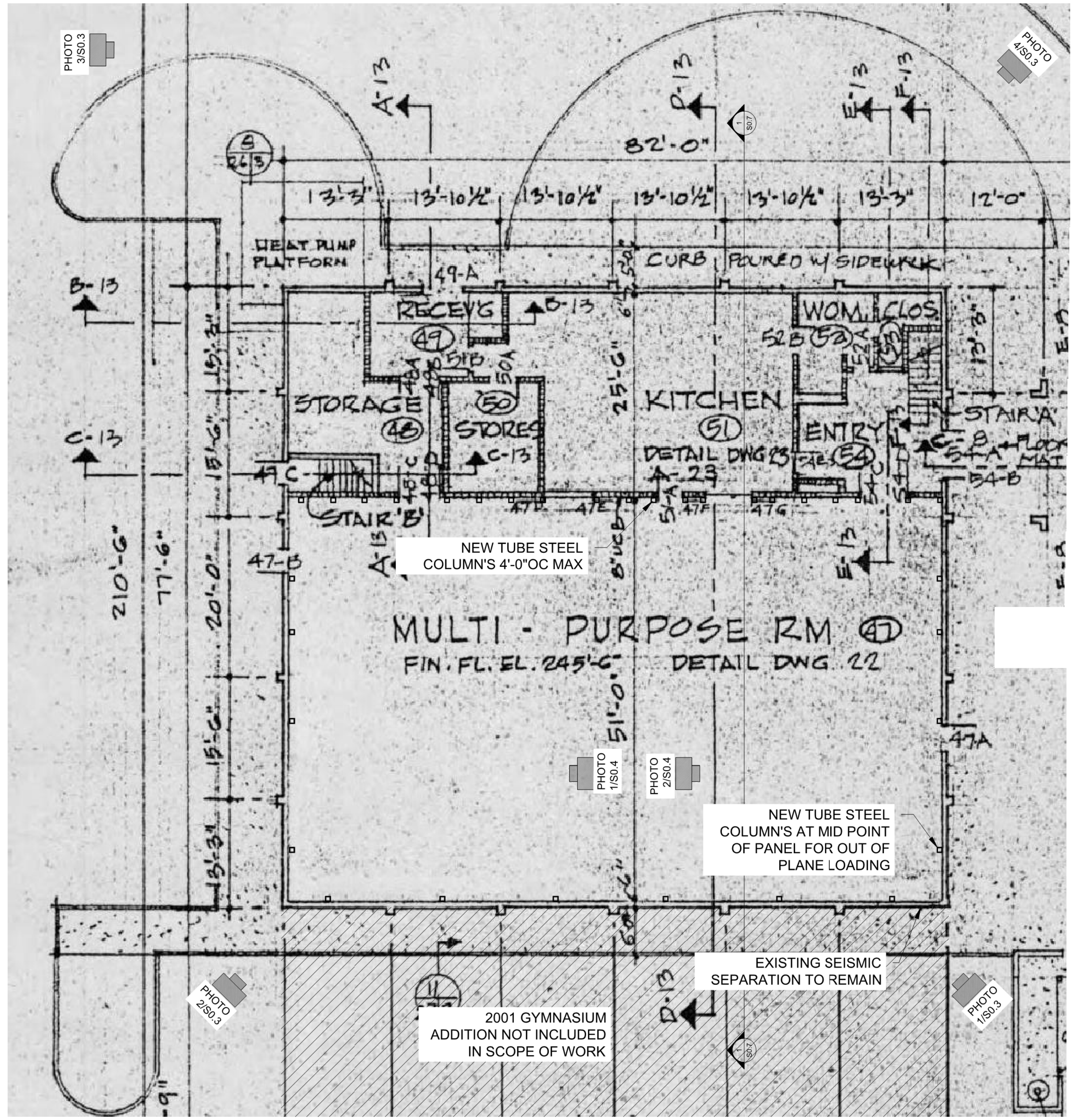
REGISTERED PROFESSIONAL ENGINEER 18655PE OREGON ... 16, 1996 RUSSELL C. CARTER
EXPIRES: 12-31-17

-PRELIMINARY- NOT FOR CONSTRUCTION

COVER SHEET

C0.0

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION



1 / S0.1 **GYMNASIUM FLOOR PLAN**
1/8" = 1'-0"

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

NO.	REVISIONS	BY	DATE

REYNOLDS SCHOOL DISTRICT

ALDER ELEMENTARY GYMNASIUM SRG
17200 SE ALDER ST,
PORTLAND, OR 97233

ZCS ENGINEERING
524 Main Street - Suite 02, Oregon City, OR 97045
(503) 659-2205 phone fax (503) 659-2433

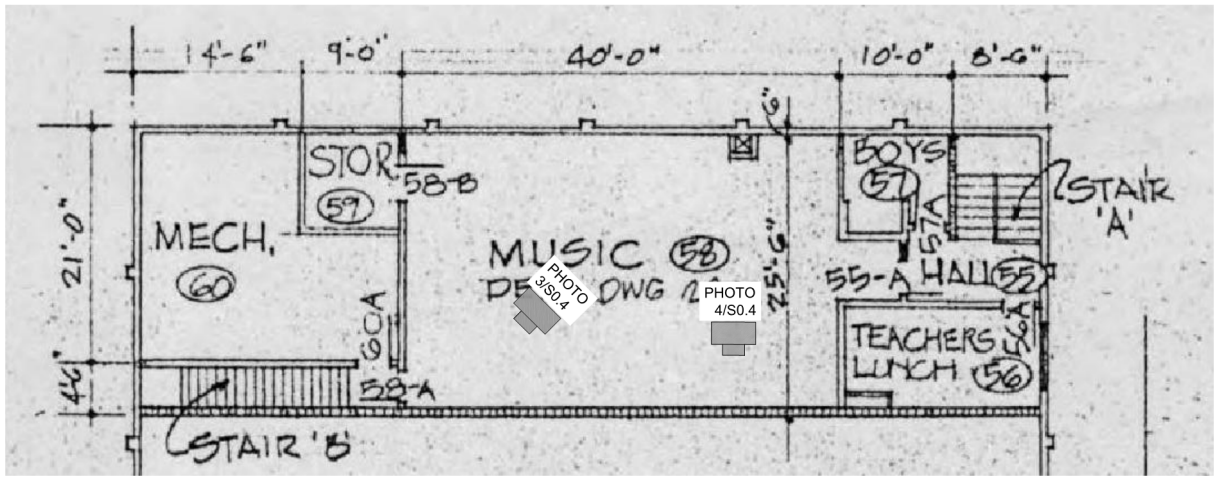
PROJECT NO:	P-2170-16
DRAWN:	JAG
CHECKED:	ZAS
DATE:	12-14-16

-PRELIMINARY-
NOT FOR CONSTRUCTION
EXPIRES: 12-31-17

FLOOR PLAN

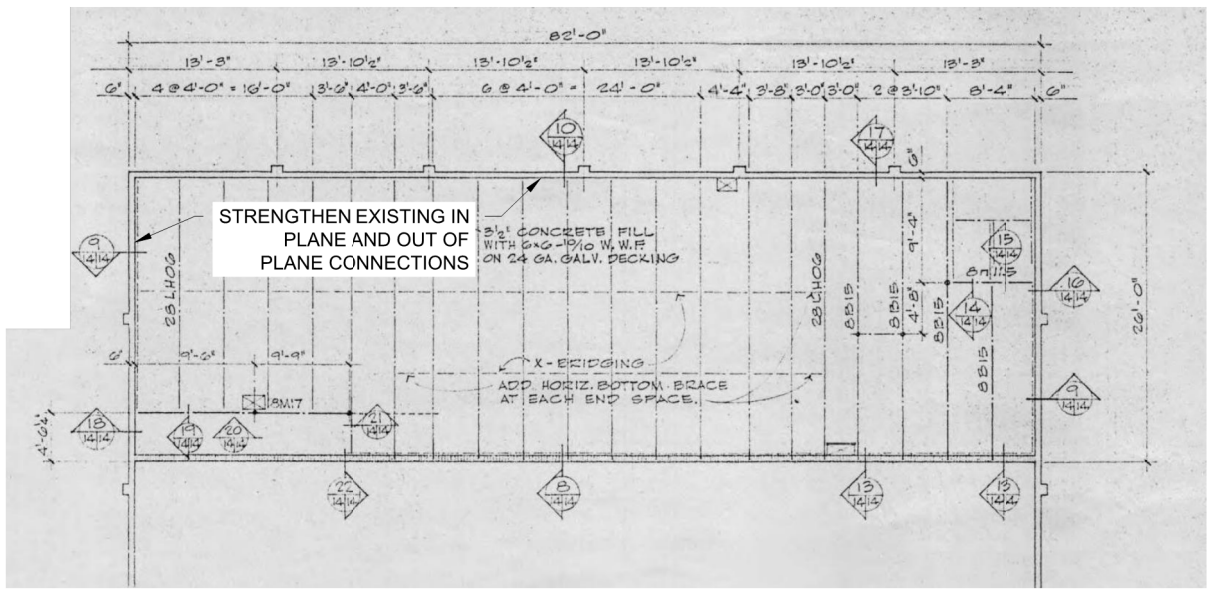
S0.1

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION



1 S0.2 **MEZZANINE FLOOR PLAN**

1/8" = 1'-0"



2 S0.2 **MEZZANINE FLOOR FRAMING PLAN**

1/8" = 1'-0"

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

NO	REVISIONS	BY	DATE

REYNOLDS SCHOOL DISTRICT

ALDER ELEMENTARY GYMNASIUM SRG
17200 SE ALDER ST.,
PORTLAND, OR 97233

ZCS ENGINEERS
524 Main Street - Suite 02, Oregon City, OR 97045
(503) 659-2255 phone
fax (503) 659-2433

PROJECT NO:	P-2170-16
DRAWN:	JAG
CHECKED:	ZAS
DATE:	12-14-16

REGISTERED PROFESSIONAL ENGINEER
OREGON
DEC. 16, 1986
ZAC C. CARTER
EXPIRES: 12-31-17

PRELIMINARY - NOT FOR CONSTRUCTION

MEZZANINE FLOOR & FRAMING PLAN

S0.2

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION

1 S0.3 **PHOTO** NTS

2 S0.3 **PHOTO** NTS

3 S0.3 **PHOTO** NTS

4 S0.3 **PHOTO** NTS

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

NO.	REVISIONS	BY	DATE

REYNOLDS SCHOOL DISTRICT

ALDER ELEMENTARY GYMNASIUM SRG
17200 SE ALDER ST,
PORTLAND, OR 97233

ZCS ENGINEERING
524 Main Street - Suite 02, Oregon City, OR 97045
(503) 659-2205 phone (503) 659-2433 fax

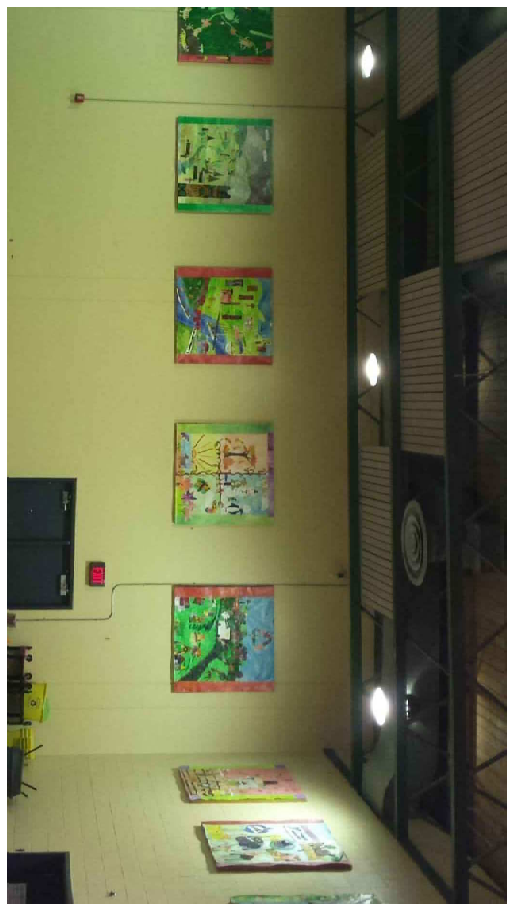
PROJECT NO:	P-2170-16
DRAWN:	JAG
CHECKED:	ZAS
DATE:	12-14-16

-PRELIMINARY- NOT FOR CONSTRUCTION
EXPIRES: 12-31-17

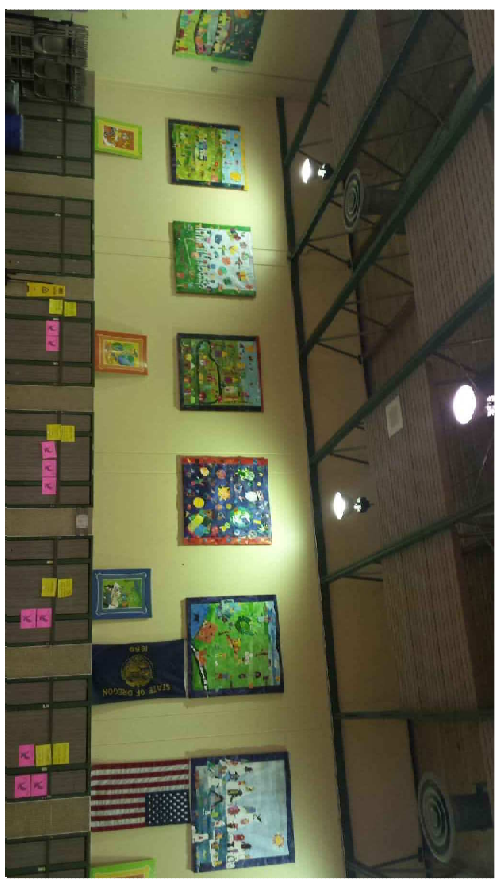
EXTERIOR PHOTOS

S0.3

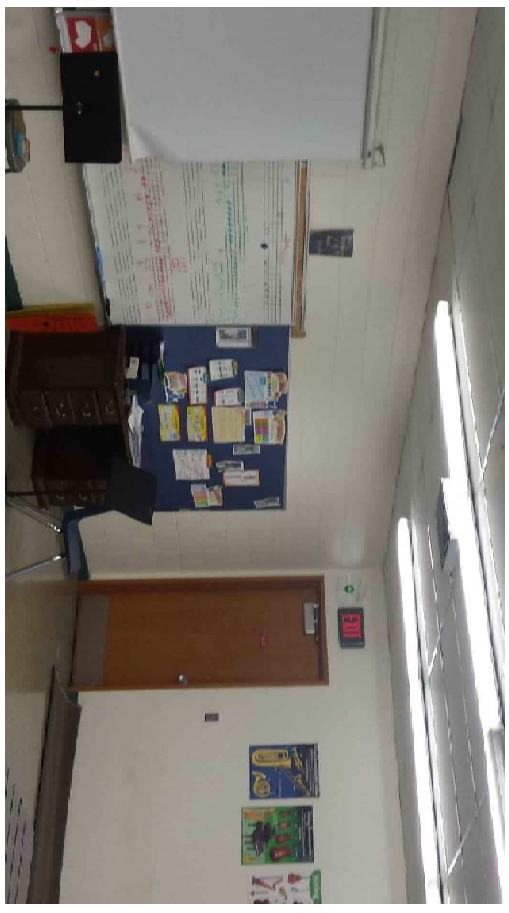
FOR AGENCY REVIEW / NOT FOR CONSTRUCTION



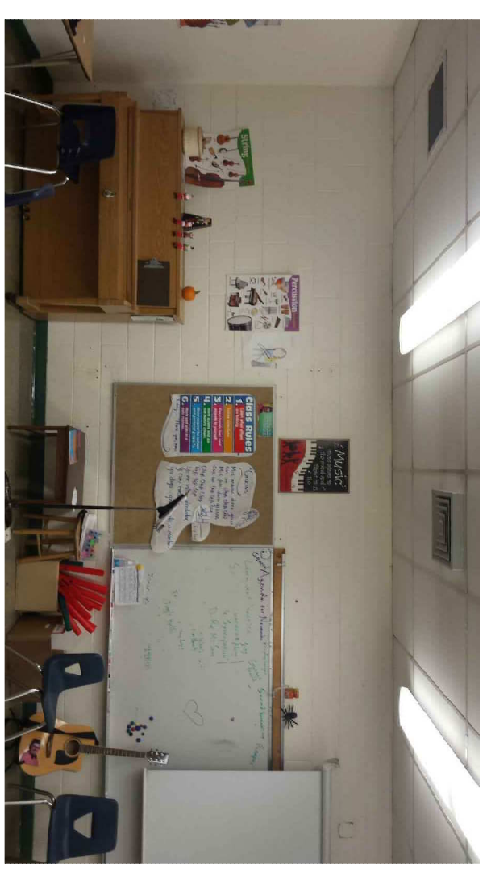
1 S0.4 PHOTO NTS



2 S0.4 PHOTO NTS



3 S0.4 PHOTO NTS



4 S0.4 PHOTO NTS

S0.4

EXTERIOR PHOTOS

PRELIMINARY - NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER — JULY 16, 1996 — JILL C. CARTER — EXPIRES: 12-31-17

PROJECT NO: P-2170-16
DRAWN: JAG
CHECKED: ZAS
DATE: 12-14-16

ZCS ENGINEERING
524 Main Street - Suite 02, Oregon City, OR 97045
(503) 659-2205 phone fax (503) 659-2433

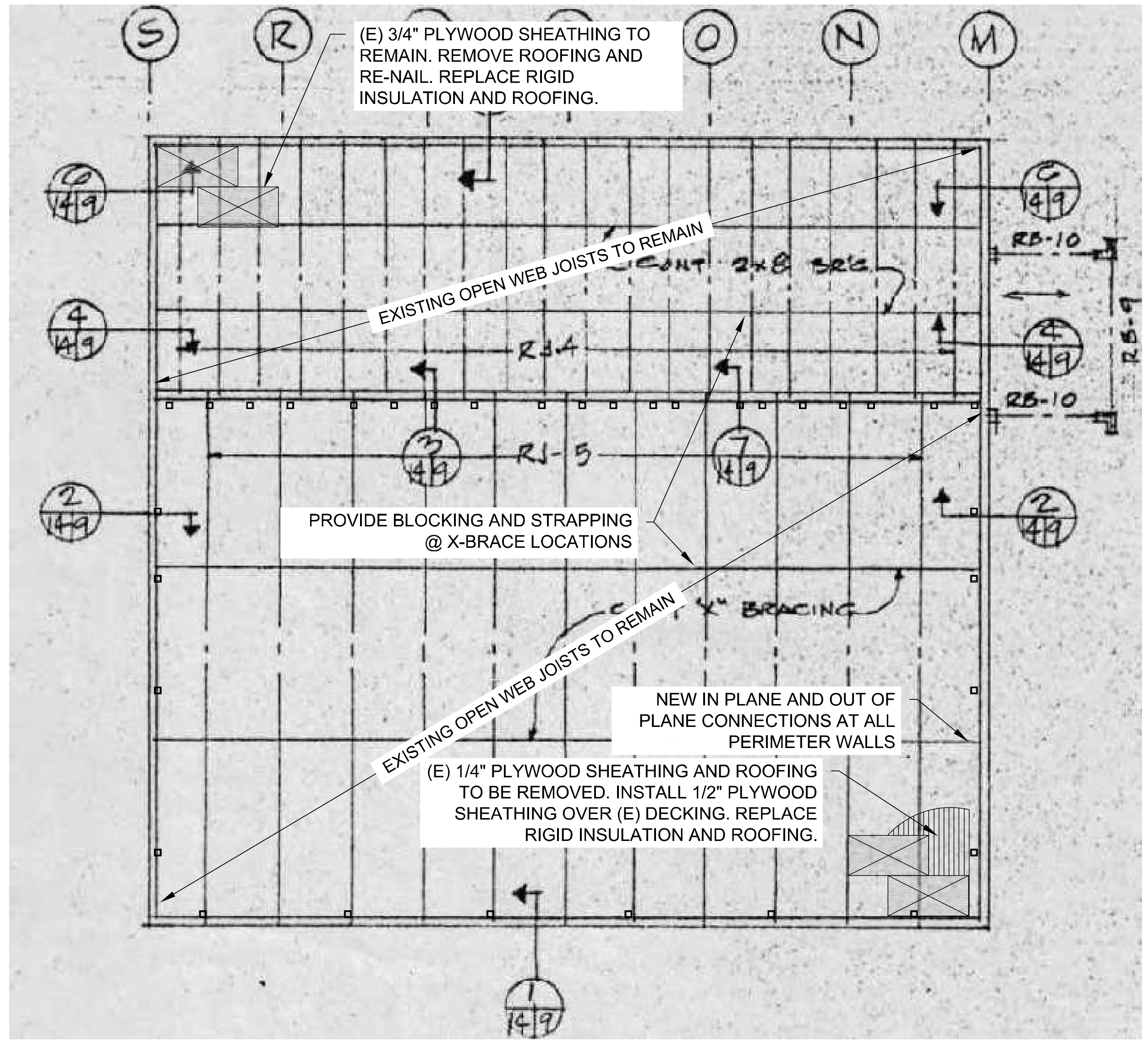
REYNOLDS SCHOOL DISTRICT

ALDER ELEMENTARY GYMNASIUM SRG
17200 SE ALDER ST,
PORTLAND, OR 97233

NO.	REVISIONS	BY	DATE
1			

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION



1 S0.5 **ROOF FRAMING PLAN**
1/8" = 1'-0"

IF THIS BAR DOES NOT MEASURE 1-INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

NO.	REVISIONS	BY	DATE

REYNOLDS SCHOOL DISTRICT

ALDER ELEMENTARY GYMNASIUM SRG
17200 SE ALDER ST,
PORTLAND, OR 97233

ZCS ENGINEERING
524 Main Street - Suite 02, Oregon City, OR 97045
(503) 659-2205 phone (503) 659-2433 fax

PROJECT NO:	P-2170-16
DRAWN:	JAG
CHECKED:	ZAS
DATE:	12-14-16

-PRELIMINARY- NOT FOR CONSTRUCTION
EXPIRES: 12-31-17

ROOF FRAMING PLAN

S0.5

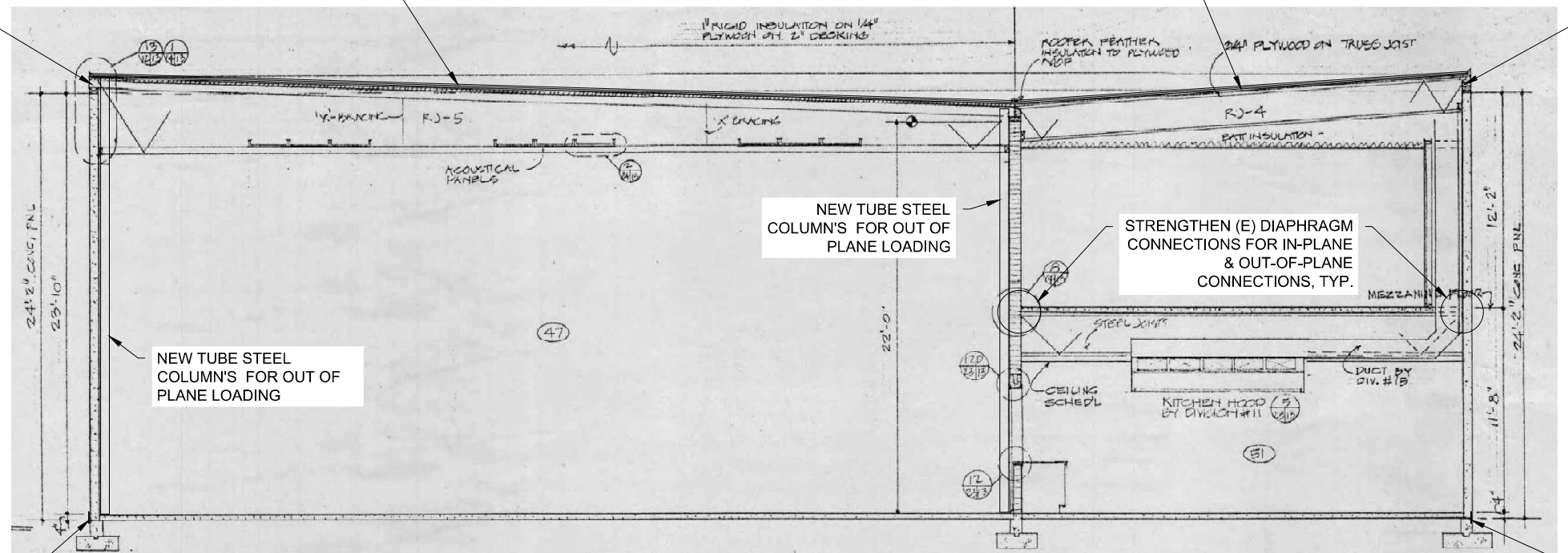
FOR AGENCY REVIEW / NOT FOR CONSTRUCTION

(E) 1/4" PLYWOOD SHEATHING AND ROOFING TO BE REMOVED. INSTALL 1/2" PLYWOOD SHEATHING OVER (E) DECKING. REPLACE RIGID INSULATION AND ROOFING.

REPAIR DIAPHRAGM PER PLAN

NEW IN PLANE AND OUT OF PLANE CONNECTIONS

NEW IN PLANE AND OUT OF PLANE CONNECTIONS



CONNECT TILT WALLS TO FOOTING USING STEEL STRAPS

CONNECT TILT WALLS TO FOOTING USING STEEL STRAPS

1 S0.6 **SECTION VIEW**
1/8" = 1'-0"

IF THIS BAR DOES NOT MEASURE 1/INCH IN LENGTH, THEN THE DRAWING IS NOT TO SCALE

NO.	REVISIONS	BY	DATE

REYNOLDS SCHOOL DISTRICT

ALDER ELEMENTARY GYMNASIUM SRG
17200 SE ALDER ST.,
PORTLAND, OR 97233

ZCS ENGINEERING
524 Main Street • Suite 102, Oregon City, OR 97045
(503) 659-2235 phone

PROJECT NO:	P-2170-16
DRAWN:	JAG
CHECKED:	ZAS
DATE:	12-14-16

REGISTERED PROFESSIONAL ENGINEER
OREGON
DECEMBER 16, 1998
ZELL C. CARTER
EXPIRES: 12-31-17

-PRELIMINARY- NOT FOR CONSTRUCTION

SECTION VIEW

S0.6

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION