



Lookingglass Rural Fire District

Response to:
Request for Proposals for Engineering Services for
Fire Station Seismic Rehabilitation



October 6, 2022

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Lookingglass Rural Fire District
Attn: Chief Rhodes & Members
of the Selection Committee
7173 Lookingglass Road
Roseburg, OR 97471

Request for Proposals for:
Engineering Services for
Fire Station Seismic Rehabilitation

Dear Chief Rhodes & Members of the Selection Committee,

ZCS Engineering & Architecture appreciates the opportunity to present the following proposal for the seismic rehabilitation of the Lookingglass Fire Station. We believe our extensive history and experience completing seismic retrofit and rehabilitation projects in Roseburg and across the state, has given us the unique experience necessary to deliver this project and exceed the District's time, budget, communication, and objective expectations. Additionally, the seismic rehabilitation evaluation we prepared for Lookingglass Fire Rural Fire Protection District has already exposed us to the seismic challenges associated with this project. ZCS has already inspected the building and developed a conceptual seismic mitigation program. Should ZCS be selected to assist the District on this project, we are prepared to continue the work we have already started.

In addition to the large number of emergency service facility design projects we have completed over the past 44 years, ZCS Engineering has successfully designed and administered the construction of 20 seismic retrofits for fire stations & public safety buildings under the Seismic Rehabilitation Grant Program. In a process that has included grant application preparation, retrofit system design, and construction administration, our engineers and architects have been exposed to the countless design, budgetary, scheduling and constructibility challenges that these unique projects can present.

We also understand the District has limited funds available to accomplish additional projects outside the seismic grant scope. We have taken the time to understand the goals of these projects to address both immediate and future needs of the Station and will keep these goals at the forefront of our minds as we begin design. Should ZCS be selected to assist on this project, we are committed to delivering a successful project for the District.

We would be honored to team with Lookingglass RFD to bring this very important project to fruition for you and the community. Please feel free to contact us if you have any questions or would like any additional information. Again, we appreciate your consideration and the opportunity to work for you and the District.

Sincerely,



Sylls Allen, PE
Managing Principal, President



ZCS Engineering & Architecture
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ZCS Engineering and Architecture (ZCS) is a collaborative design firm comprised of engineers and architects working collectively across disciplines and office locations that can efficiently service the entire state. From concept through project completion, we will draw upon our diverse experience and background to resolve challenging design and construction issues in a timely and cost-effective manner.

While we specialize in the seismic retrofit of school and public safety buildings, we work on projects across all sectors of the building design industry. We strive to expose our staff to different types of construction for different types of user groups. This helps us create well rounded engineers and architects that are up to speed with current construction techniques but also have specialized knowledge of what it takes to rehabilitate an existing structure. To our clients this means that we are nimble and resourceful. When partnering with ZCS our clients get a team that has seen a lot over the years and can pull from experiences on different project types to ensure that we provide the best consultation possible.

We are proud that much of our work is in designing, planning, and building our local communities and have built long standing relationships with our school districts, higher education institutions, local government, hospitals and healthcare facilities, the building community, and local residents. We believe our relationship with our clients has been the foundation of our success.

ZCS Facts



Number of Offices:
**4; Grants Pass, Medford,
Klamath Falls, Oregon City**



Service Area:
Oregon + Pacific Northwest



Services Offered:
Civil and Structural Engineering, Architecture



Number of Staff:
**50+ comprised of engineers, architects,
designers, drafters, and administrative staff**

Our History

In 1978 Richard “Dick” Zbinden founded ZCS as a structural engineering firm in Klamath Falls, OR. As a professor of engineering at Oregon Institute of Technology (OIT), Dick offered professional engineering experience with local clients to promising OIT students. With help from Russ Carter (president emeritus), Sy Allen, Zach Stokes, and Matt Smith (all OIT graduates) the business has expanded to offer civil engineering and architecture from our four offices throughout the state.

Our Resources

ZCS has over 50 staff made up of civil engineers, structural engineers, architects, technical designers, drafters and support staff. Our size allows us to shift workloads amongst offices so that the staff members assigned to these projects are available once they begin. You can be assured we always have the proper staff in place to complete your project milestones on time.

Our Philosophy

We like to work collaboratively. We believe collaboration improves a project by strengthening the communication and ownership of a project, ultimately driving its success. At ZCS we have integrated the disciplines of architecture, civil engineering, and structural engineering in our firm in order to establish a cohesive and collaborative project team right at the start of a project. We believe strongly that this approach creates more seamless and efficient design solutions. Communication is a critical component to our collaborative approach and to successful projects. At ZCS, we operate as one unified office in four different locations in Oregon and are networked to work and communicate seamlessly. We carry this philosophy into our project management style to keep the project team, including the client representatives, consultants, and our in-house staff, updated with access to current documents, apprised of the design schedule and milestones, and aware of key action items to reach the project goals.



Working with Public Agencies

As a small town consultant, ZCS has been exposed to many public safety facilities over the last 44 years. Either assisting districts with minor improvements, re-roofing entire facilities, designing full seismic rehabilitations of existing stations, or large-scale additions and complete building replacements and new construction, ZCS has experience with all sizes of projects. We have completed these projects as the prime consultant, or as part of a larger design team in the role of the structural and civil engineer.

This background will enable our structural engineers to serve the project efficiently and with results that align with the District's goals. In our work with public agencies, we have learned the importance of a thorough process to understand the user groups current and future needs to shape the plan. While grant funds do have spending limitations, there are ways to maximize these dollars to bring the most benefit to the staff utilizing the buildings. ZCS designers are able to simultaneously focus on the most efficient & effective seismic retrofit designs and maintain the overall project budget, schedule, & scope, while also integrating the designs with the existing building architecture and identify how to get the most out of the seismic retrofit designs.

Additionally, we understand that not all communities have infrastructure in place to allow stations to be vacated during construction. Many times in these scenarios we work with the contractor to develop a phasing plan during design in order to keep these essential services functioning while undergoing construction. A great example of this can be found on page 13—*Gaston Fire Station No. 11 Seismic Retrofit*.

In the past 10 years we've worked with the following Public Safety Districts on various levels of projects:

- Butte Falls Fire Department
- Chiloquin Fire and Rescue
- City of Coquille Fire Department
- City of Garibaldi Fire Department
- City of Jacksonville Fire Department
- City of Newport Fire Department
- City of Reedsport Fire Department
- City of Roseburg Fire Department
- Coos Bay Fire & Police
- Coquille Sheriff's Department
- Depoe Bay Rural Fire District
- Gaston Rural Fire Protection District
- Grants Pass Fire Department
- Halsey-Shedd Rural Fire District
- Jackson County Fire District
- Josephine County Fire District
- Klamath County Fire District
- Lane Fire Authority
- Langlois Rural Fire Protection District
- Riddle Fire Protection District
- South Lane County Fire & Rescue
- Sweet Home Fire & Ambulance District
- Vernonia Rural Fire Protection District
- Yachats Rural Fire District
- Yamhill Fire District



Project Team

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Staffing Plan

ZCS Engineering & Architecture has four local office locations in Oregon that allow us to efficiently serve our clients. The Lookingglass Fire Station seismic retrofit project would be delivered by our Oregon City and Grants Pass staff with assistance from key personnel from our other branch offices, as needed.

We have a complex internal system to monitor staff workloads, availability, and backlog. We have developed this project team specifically for your project to ensure the right resources are present to deliver the project successfully. Furthermore, this design team was chosen for this specific project based on their qualifications, availability to begin work immediately, and projected availability to continually focus on this project throughout its duration. We feel the expertise of our Oregon City staff in managing Fire Station projects and the close proximity of our Grants Pass office will benefit in the efficient delivery of this project, especially during construction.

The team roster has been engineered for success. Our internal structure is as follows:

Sylas Allen, PE *Project Principal*

The buck stops with the Project Principal. We set up our projects with multiple levels of responsibility but the Project Principal is responsible for ensuring that the project is a success for the District and for ZCS. This is accomplished by facilitating the necessary internal and external resources needed for the team to successfully perform the work, regularly tracking the project internally, efficiently communicating with the District team and attending major deliverable milestone meetings. The Project Principal is always available if our client has a concern and is charged with ensuring our client relationships are stronger at project completion than at the start.

Mark Smith, PE *Project Manager*

The ZCS Project Manager (PM) assigned to this project is in charge of schedules, budgets, resources and deliverables; monitors the team to make sure goals and objectives are being met; maintains a comprehensive knowledge of the project without neglecting granular details while tracking project health, managing risk, and resolving issues as they arise; and maintains project quality expectations.

Kyle Mullen *Structural Design Lead*

The Structural Designer (Designer) will participate in project development throughout the design process and perform structural calculations and prepare calculation packages for jurisdictional approval. The Designer coordinates with our in-house architectural staff and reports to the EOR and PM.

Matthew Smith, PE/SE *Engineer of Record*

On our SRGP projects we assign a technical specialist, the engineer of record (EOR), to ensure that the technical components of the work meet the project performance expectations. We deliver projects that protect the public's welfare. We assign an Engineer of Record on our projects that is committed to ensuring our designs are correct and the scope of work is achieved. The EOR is responsible for reviewing and stamping the drawings, reports, and documents for the project and will provide the certification letter at the completion of the project stating that the project meets the State's requirements.

Tim Lee *Architectural Design*

While the structural team focuses on the most efficient and effective seismic retrofit designs, our project architect focuses on taking advantage of the structural work to improve the usability, durability, and/or appearance of the space being affected. They are an invaluable part of the team and take our seismic retrofits from good and safe to truly wonderful. They help identify how to get the most out of the seismic retrofit designs and maximize the grant funds giving the District the most impactful project possible.



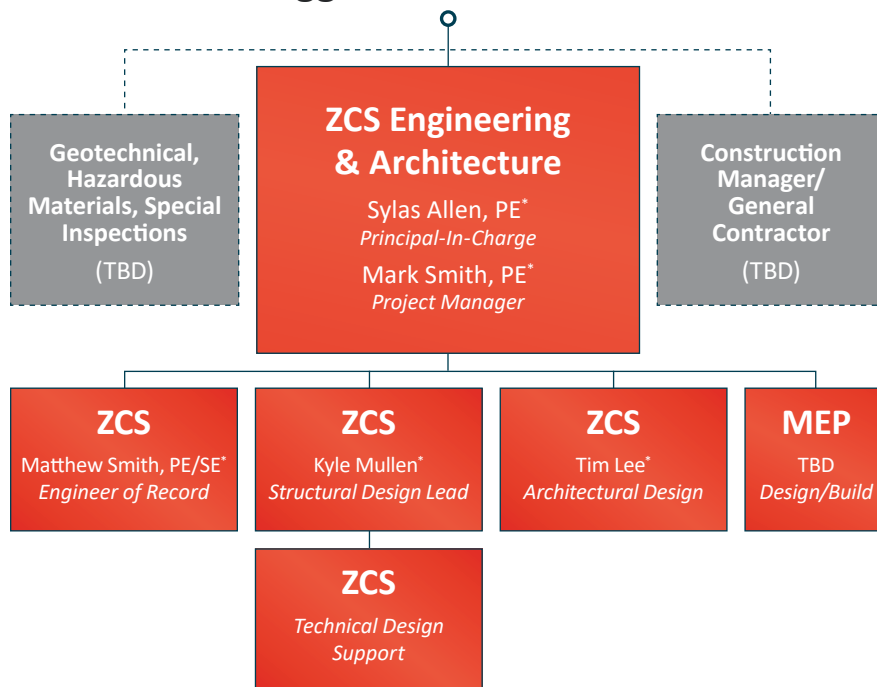
ZCS Scope of Services

ZCS has designed and helped districts throughout the state implement 149 seismic rehabilitation projects using project team structures of many different configurations. Sometimes this may include external architects, mechanical, electrical, and plumbing engineers, or even acoustical engineers and envelope specialists. In most circumstances we have found that delivering seismic retrofit projects with a small and specialized team results in a better process and finished product than larger teams consisting of non-specialty consultants. For the Lookingglass Fire Station we are confident in our ability to deliver a successful project with our in-house staff. Our structural engineering team will lead the design and manage the project through construction, while our architectural staff develop architectural and demolition sheets that capture the scope of work while identifying how to get the most out of the retrofit designs. As items surface where we need specific assistance from specialists, we have those resources to pull from. We rely on our in-house architectural staff and industry partners in MEP and acoustics. The Project Manager and Structural Designer work to identify specialty areas as the work progresses and then call on specialty sub-consultants as needed to deliver the best project.

Additional Sub-Consultant Procurement

Typically, on a project of this magnitude there are additional consultants outside of those noted above necessary to develop a comprehensive set of construction documents. This set of consultants investigate items that exist in the building's current state and require physically testing to inform the design rather than generating the design. In this case, these consultants consist of geotechnical engineers, hazardous materials inspectors, and materials testers. These consultants are typically procured directly by the owner and the owners project manager as they relate to actual construction type activities on the building being investigated. In this case, ZCS is proposing to act as the District's project manager, we are prepared to help the District procure these services. This approach ensures that the District procures these services competitively to receive the best value and eliminate markup that would be present if they are hired directly by the prime consultant. The majority of our work is in the public sector, and we understand Oregon's model rules and how they apply to the District. As the District's project manager, we will facilitate the process of obtaining three quotes from qualified consultants and manage the procurement in compliance with your requirements. We will only reach out to consultants that we know and trust ensuring that the District's funds are well spent.

Lookingglass Rural Fire District



*See appended resumes for background, licensure, and relevant experience of individual Key Staff.



Clarkes Elementary School, Molalla School District

Experience with State of Oregon SRGP

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SRGP Experience

ZCS has completed design and construction on 149 seismic retrofit projects funded by the Seismic Rehabilitation Grant Program (SRGP), totaling \$220M in construction. We have a long history working with school and safety districts throughout the state on seismic rehabilitation grant applications or grant-funded projects and are intimately familiar with the region’s seismic rehabilitation methodologies, along with items such as general contractor and subcontractor availability. This knowledge will aid in delivering your project in the most effective manner possible.

History

Our involvement with the SRG program started in 2009 when the program first began. During the first funding round we successfully completed three projects and have now been contracted for over 175 SRGP projects through the program. In addition to our successful record of design and construction projects, ZCS has helped 76 school districts and 31 emergency service districts obtain grants for a total of \$370 million. This represents 61% of the total \$603 million of awarded funds through the SRG Program from 2009 – 2022.

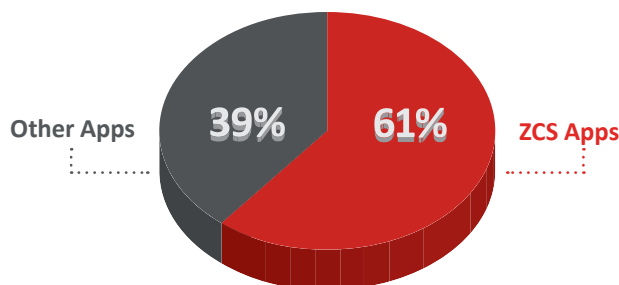
Design Techniques

The experience ZCS has in performing seismic assessments and completing seismic rehabilitation projects has exposed our team to many different structures and the historic local construction techniques that will need to be accounted for throughout the design process. Our design of numerous seismic rehabilitations throughout the state has kept us up to date with the most current technologies utilized in these projects as well as a significant toolbox of solutions and understanding when designing seismic retrofits for public safety facilities.

Administrative

ZCS is well versed in working with the Grant program and has extensive experience with the requirements, paperwork, and reporting involved. While the documentation requirements of this grant are not particularly arduous, we are there to help the District gather and submit the necessary documentation throughout the project and to close-out the project so the District receives the last reimbursement. ZCS has built strong working relationships with the SRGP administrative staff and coordinates with them closely to navigate project specific situations that can arise.

Funds Secured by ZCS SRGP Applications • 2009–2022



\$370M
Grant Funds Obtained



149
SRGP
Projects Complete



75+
School Districts



30+
Emergency
Service Districts

Experience with State of Oregon SRGP

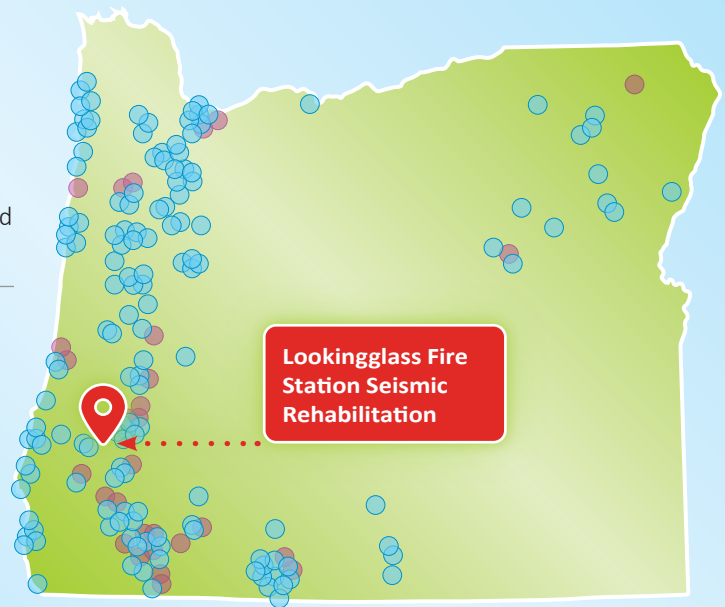
ZCS has over 40 years of seismically rehabilitating buildings in Oregon.

We were among the first firms to participate in designing retrofits through the Seismic Rehabilitation Grant Program (SRGP) in 2009 and have now completed 149 projects through the program.

Right: Seismic rehabilitation projects completed over the past 13 years either through the SRG Program or projects with major seismic rehabilitation components associated with them.

Key: ● Completed SRGP Projects
● SRG Projects in Design/Construction

Note: Seismic evaluations performed are not included for clarity.



Recent Performance on SRGP Projects

Project, Client, Location, Contact Information	Building Function	Completion Date	Size (SF)	Delivery	Budget	Within Budget	Within Schedule
Jacksonville Fire Station Seismic Retrofit & Building Addition City of Jacksonville, Jacksonville, OR Jeff Alvis, City Administrator, 541.899.1231	Public Safety Facility	Estimated Fall 2022	6,500	CM/GC	\$2.2M	On-Track	On-Track
Klamath Falls Fire Station No. 1 Seismic Retrofit & Renovation Klamath County Fire District, Klamath Falls, OR Greg Davis, Fire Chief, 541.885.2056	Public Safety Facility	2021	12,000	CM/GC	\$1.5M	Yes	Yes
Gaston Fire Station No. 11 Seismic Retrofit Gaston Rural Fire Protection District, Gaston, OR Patrick Wineman, Division COO & Training, 503.992.3243	Public Safety Facility	2021	9,650	CM/GC	\$1.98M	<i>Under Final \$1.84M</i>	Yes
Halsey-Shedd Fire Station #51 Seismic Retrofit Halsey-Shedd Rural Fire District Travis Hewitt, Fire Chief, 541.602.0814	Public Safety Facility	2021	9,000	CM/GC	\$2.5M	Yes	Yes
Chiloquin Fire Station #1 Seismic Retrofit Chiloquin Fire & Rescue Michael Cook, Fire Chief, 541.783.3860	Public Safety Facility	2021	4,130	CM/GC	\$864K	Yes	Yes
Butte Falls Fire Station Seismic Retrofit Butte Falls Fire Department, Butte Falls, OR Jeff Gorman, Fire Chief, 541.890.6939	Public Safety Facility	2019	1,700	CM/GC	\$340K	Yes	Yes
Lane Fire Station No. 111 Seismic Retrofit Lane Fire Authority, Crow, OR Jon Jasper, Lane Fire Authority, 541.935.2226 ext. 273	Public Safety Facility	2019	4,160	CM/GC	\$864K	Yes	Yes
Fire Station No. 2 Seismic Retrofit & Remodel City of Roseburg, Roseburg, OR Ryan Herinckx, Design & Construction Manager, 541.492.6884	Public Safety Facility	2019	3,780	CM/GC	\$780K	Yes	Yes



After



Before



Gaston Fire Station No. 11 Seismic Retrofit • *Gaston Rural Fire Protection District*

- Location:** Gaston, OR
- Function:** Public Safety Facilities
- Construction Cost:** \$1.84m (Original Budget: \$1.98m)
- Size:** 9,650 sf
- Completion Date:** 2021
- Delivery Method:** CM/GC
- On Time/On Budget:** Yes/Under Budget
- Owner Contact:** Patrick Wineman, Division Chief of Operations & Training, 503.992.3243

Description: Seismic retrofits are challenging projects in unoccupied buildings. Unfortunately, not all communities have the infrastructure in place to allow stations to be vacated during construction. In Gaston, when they received an SRG for their fire station, this was exactly the case; the fire station needed to be seismically retrofit and there was nowhere else for the fire fighters and apparatus to go. Phasing of construction became a key item in the development of the design and the execution of the construction. As with many of our SRG projects, ZCS recommended that the District utilize the CM/GC contractor procurement methodology. This allowed ZCS to work with the contractor during design and develop a phasing scheme that worked for both the design and construction operations. The contractor’s crews concentrated construction efforts in half the apparatus bays and a portion of the station to allow for the fire crews to continue working their work unimpeded. Phase 2 flipped fire operations to the Phase 1 construction areas and the District was able to maintain their ability to respond to calls throughout construction.



Klamath Falls Fire Station No. 1 Seismic Retrofit & Renovation • *Klamath County Fire District*

Built in the 1930's, Station 1 had received a myriad of improvements over the years, including a second story addition. ZCS was hired to design a renovation that improved the form and function of the station while addressing its seismic deficiencies through a State of Oregon SRGP grant. Through a collaborative design process we were able to maintain the station's original historic brick façade while establishing a contemporary balance using modern materials and methods.

Due to the number of additions and alterations over the years, many different floor elevations were found throughout the station which limited access for those with disabilities or injuries and created structural deficiencies. After finding the second floor was built over the original roof structure, we worked with Modoc Contracting to determine that demolishing two-thirds of the second floor would be the most economical solution to meet the demands of the seismic grant program. This effort allowed us to improve the overall quality of life for those fire fighters living in the facility by updating the sleeping rooms, common areas, and kitchen.

Location: Klamath Falls, OR
Function: Public Safety Facility
Construction Cost: \$1.5m
Size: 12,000 sf
Completion Date: In-Construction
Delivery Method: CM/GC
On Time/On Budget: Yes/Yes
Owner Contact: Greg Davis, Fire Chief, 541.885.2056



Roseburg Fire Station No. 2 Seismic Retrofit • *City of Roseburg*

The City of Roseburg was looking for assistance with the evaluation of their existing stations to determine major facility upgrades and major maintenance needs for the buildings and associated budget impact(s). They were also interested in appropriate remodeling and/or facility upgrades to bring Station No. 2 (pictured here) and Station No. 3 into conformance with contemporary fire station standards.

ZCS served as the structural engineer of record and provided construction administration services on this seismic retrofit and renovation project. PIVOT assisted ZCS with all architectural and public safety aspects.

Location: Roseburg, Or
Function: Public Safety, Fire Station
Construction Cost: \$779,618
Size: 3,780 sf
Completion Date: April 2019
Delivery Method: CM/GC
On Time/On Budget: Yes / Yes
Owner Contact: Ryan Herinckx, 541.492.6884



Nestucca K-8 School, Nestucca Valley School District

Record of Performance and References

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Record of Performance

ZCS has worked with many governmental and government run agencies over the years including several county and city agencies throughout the state, the Department of Defense, the Oregon Department of Transportation, the US Forest Service, the Bureau of Reclamation, school districts and higher education organizations. We understand and respect the importance learning and adhering to the established processes on which these agencies run. We understand how important budgets, schedules and quality assurance can be when public funds are involved. It is not uncommon to be held to non-negotiable budgets and schedules on public projects resulting from predetermined budget allocation and the facility needs of the public. Furthermore, we know how important it is to maintain a high level of diligence in regards to agreement administration so that a comprehensive and well organized project record exists at completion.

The references provided are for school districts where ZCS acted as the prime consultant for the seismic rehabilitation on one or more projects of similar size to the Lookingglass Fire Station Seismic Rehabilitation Project.

Please see Letters of Recommendation appended to this proposal.

“The Team at ZCS showed diligence and dedication throughout the entire project, working seamlessly with the Project Manager Kelsie Randall, Modoc Contracting, and our staff.”

—Greg Davis, Fire Chief
Klamath County Fire District No. 1

Provided Fire and School District References

Klamath County Fire District No. 1

Greg Davis
Fire Chief

kcf1@kcf1.com
541.885.2056

Powers Public Schools #31

Matt Shorb

Superintendent/Principal

mshorb@powerschools.com
541.439.2291

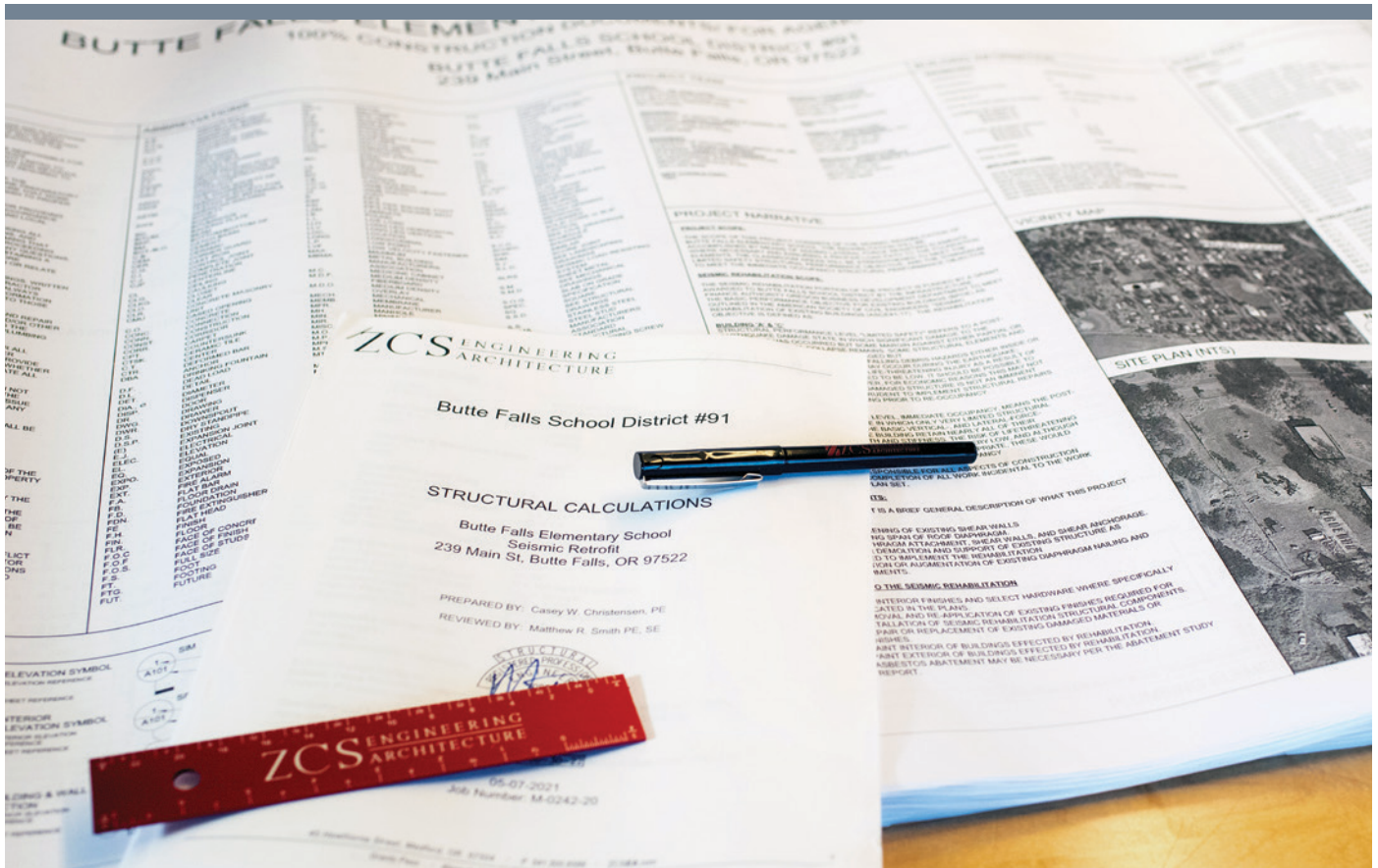
Medford School District

Ron Havniear

Director of Facilities, Security,
and Leadership

ron.havniear@medford.k12.or.us
541.840.4315





Project Approach

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ZCS Project Approach

Our approach to your project began in 2021 after ZCS was hired to perform a seismic evaluation of the Lookingglass Fire Station in hopes of obtaining a seismic rehabilitation grant. As a result of that work a grant was awarded in May 2022.

As with all our projects, we visited the station, investigated existing conditions, and learned as much as possible about your facility. After our reconnaissance we set out to develop a preliminary design concept for seismic retrofit of the structure. In the SRGP world, safe often means a lot of things. When we say safe, we mean it is a system we are confident standing behind as engineers committed to stewardship over the public's safety. We do not take this commitment lightly. We also mean that the project can be built. At application time we cannot vet all systems and have to be confident that the selected system can physically be installed. Safe also means that we are confident, based on successful projects, that the scope of work can be completed for the grant amount. We work primarily in rural districts with no access to additional funding if projects go over budget. We want project costs that we can stand behind if a project is funded.

The solutions determined during the application phase are developed quickly, vetted during multiple internal reviews, and obtain buy-off from all our senior engineering staff. Unfortunately, these solutions are not always glamorous or elegant, but they work. They are safe. As we move forward into the design phase of the project we take a step back. The safe solutions presented in our applications are not always the right fit for the building or the community.

Example:

In La Grande we prepared an application prior to the passage of a bond showing removal of windows in exterior walls to install new shear walls. We knew this solution was safe but, by the time the project was funded, the windows had just been replaced with bond money and could not be removed. We went back to the drawing board and developed a solution using structural steel braced frames on the outside of the building that allowed us to retain the recently installed windows.

Similarly, with this project, we will take a step back, investigate other options, evaluate solutions that may have different pros and cons, and ensure that as we move out of preliminary design the structural solution prescription fits the District's needs, is reliable, and can be built on budget.

Adjusting design solutions necessitates intimate understanding of the bones of the building through destructive investigation while also spending time with District representatives to understand how the building is used, what areas can be impacted through the retrofit, and what is most important to the District in the finished product. Early and aggressive destructive investigation is key to minimizing surprises during construction. The only way to truly know what is inside a wall or hidden by a roof is to open it up and see what is inside. The information is invaluable and can be utilized to properly detail the retrofit and develop the best solutions. It will be critically important for us to understand the makeup of the existing exterior walls. We'll work with the contractor to perform destructive investigation and determine exactly what the existing construction looks like.

The solutions in the grant application for Lookingglass Fire Station address seismic issues associated with the roof diaphragm, bay door openings, strengthening of the existing mezzanine, and resolving any liquefaction that may occur. To resolve issues at the roof level a new roof and insulation is proposed to be installed which can also address any water drainage issues that may be present. If a new roof is not desired, we could look at alternative solutions to help resolve the roof diaphragm at the underside of the concrete planks. A new lateral element will need to be added at the app bay doors. Based on the solutions in the application, this will be a new CMU wall to match the rest of the building where an existing apparatus bay is no longer used. A new exterior CMU wall allows for new paint at the interior and exterior of the building. New garage doors are often required when dealing with an older building where the garage doors are not seismically rated. Strengthening of the existing mezzanine will likely result in new footings, ceiling finishes, wall finishes, and painting. New garage doors can result in faster openings times and reduced maintenance. Piles are shown to be required in the application, in the result that the liquefaction hazard does not exist it would give the design team alternate options to deal with the roof and lateral elements required.

Continued on page 19.



Continued from page 18

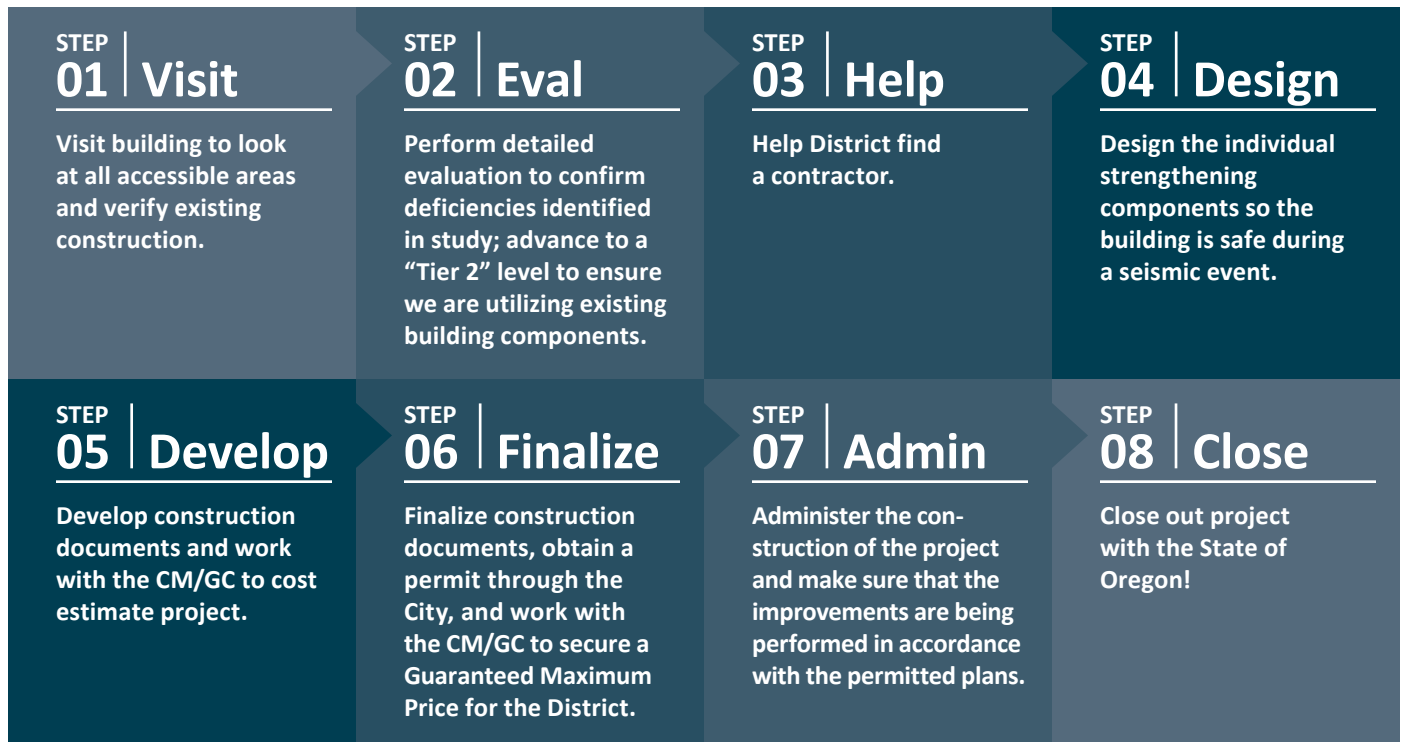
During the design process we'll check in with the District regularly to report on progress and review the design approach to ensure that our planning aligns with the District's needs. In addition to working through the design we'll help the District navigate the required reporting to the state like preparing and submitting quarterly reports and any consultant and contractor procurement that is necessary to execute the design.

When the team moves the project into construction, you'll have a set of plans that you understand and that meet the grant requirement to ensure the building meets the "Immediate Occupancy" requirement, as outlined in ASCE 41-17. You'll also have a team member in ZCS that will understand your needs and the project specifics intimately. Your project will be staffed to ensure we are prepared to respond to your needs and the contractor's needs timely to keep the project on track. We anticipate regularly scheduled monthly meetings during design and on-site, weekly meetings during construction to review

progress, work through challenges, and check in with the rest of the project team. Beyond the regularly scheduled meetings we respond as needed to keep the project moving in the right direction. During the development of a solution to a tough challenge you'll find us on site looking at the problem with the contractor to find the best solution whether it overlaps with our weekly meeting or not.

Our approach and philosophy are geared towards supplying our clients with completed, successful projects. We view successful projects as projects that we are proud of, that the client is happy with, that are completed on time, and are on budget. For this reason, our team maintains a firm grip and understanding on the project's scope of work, making sure that it's within the budget set forth in the grant application while maintaining a quality that meets our clients expectations. When a project's budget or schedule is compromised, we work hard to make sure all aspects of the client's expectations are realized.

Step-By-Step Process to Complete a Seismic Rehabilitation Project



Project Schedule

ZCS recognizes the District’s wish to complete project construction by September 2023. We have prepared a tentative project schedule below to have the Lookingglass Fire Station Seismic Rehabilitation completed within that time-frame.

	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Notice of Intent	10/14/22											
Schematic Design	10/15/22 – 12/5/22											
CM/GC RFP Solicitation/ Selection	10/15/22 – 1/3/23											
Design Development			12/6/22 – 1/25/23									
Construction Review/ Cost Estimate					1/26 – 2/20/23							
Construction Documents						1/26 – 4/17/23						
Bid Period Services								4/20 – 5/13/23				
CM/GC Max Price									6/20 – 6/23/23			
Construction Period										6/21/23 – 9/19/23		



Riverside Elementary School Seismic Retrofit, 2018

Cost Management

Each project is unique, and ZCS has developed the necessary skills to remedy unforeseen challenges. With our extensive experience, we’ve been able to meet each situation head-on, delivering solutions that have resulted in our previous SRGP construction projects meeting budget and scope expectations. We understand the necessity to maximize every dollar invested by the District and provided by the Seismic Rehabilitation Grant Program.

We have implemented the use of 3D cameras early in the design phase. We will document the entire building using a 3D camera. This starts us down the road toward a retrofit with the right information. Implementing this as part of our process helps to relieve the need to travel as frequently during the design phase, ultimately minimizing travel costs and allowing more valuable time to be spent in the studio.

ZCS has a policy in place to assign a peer review engineer, not associated with the project, to provide a thorough review with fresh eyes. By including staff engineers and principal engineers from our team in the checklist/review process, we ensure that the final design is accurate and understandable for contractors in the field. We know that even the best designs can fail to be implemented if the plans are not understood during the construction process. Although no finished design product is perfect, this process eliminates fundamental errors and lends to the refinement of the design solutions so that if errors are discovered late in the design process or during the construction phase, they are manageable and of little impact to budget and schedule. We also place a great deal of emphasis on constructability in our designs, knowing that a design can only be successful if it can be executed efficiently in the field.

Combatting Current Market Volatility

Times are tough. Inflation is high and still on the rise and the COVID pandemic has not gone easy on construction pricing. That said, when ZCS submitted the application for the fire station we endeavored to take into account the cost increases that have been seen over the last several years. From that standpoint we are optimistic that the fire station project is set up for success. That’s the first line of defense in our strategy to ensure that short term volatility does not negatively affect our projects.

As previously mentioned, during the application phase we make sure that our solutions can be completed for the grant amount. Sometimes material costs change and resource availability necessitates an alternate approach. We take this knowledge into the design process and begin making educated decisions with respect to the design approach and challenge our staff to find the best solution for the district and community and deliver it at the best price.

From there, we find that it is best to have close and early contact with the contractor that will be in charge of getting the work done. We recommend the use of the Construction Manager/General Contractor (CM/GC) process to enable us

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Collaboration

Innovative Thinking

Quality Control Checklists

Clear Communication

Current Technology

Peer Review



Continued from page 22.

to use the contractor's expertise during design. While we have experience completing seismic rehabilitation projects using design-build and design-bid-build methods, using the CM/GC procurement methodology allows the District to solicit a contractor based on qualifications before the design is complete. Hiring a contractor using CM/GC is an alternative contracting method and needs to be approved by the District's Contract Review Board. We'll help you through the process and find the right contractor for your job. By doing this, the contractor becomes available during design to help us understand the construction market. They are in tune with subcontractor challenges, material lead times, products experiencing particularly volatile cost fluctuations, and local markets and they help us to navigate around pitfalls that may otherwise be in our design.

Another benefit of having a CM/GC is utilizing them to get realistic cost estimates and constructibility feedback during the progression of the design documents. We like to see cost estimates and constructibility feedback from the CM/GC at the 100% design development and 50% construction document levels to ensure the project is on track with respect to the stated budget. After the project is cost estimated at the completion of each phase the contractor also assists with value engineering to ensure the project comes in on budget. By cost estimating the project at each design phase and reconciling the budget with current market conditions we are able to accurately track the budget throughout the design process. We have found the CM/GC process has achieved some of the best results in controlling costs while providing a quality product during the current period of substantial construction cost inflation.

Example:

At Nestucca High School we worked with the contractor during design on the constructibility of some ground strengthening techniques for an under-supported existing retaining wall. We were able to find the right solution for the project by working with the contractor and their subcontractor to determine what equipment could fit in the basement to accomplish the work.

Projects with limited budgets all present unique challenges. Many of these challenges tend to surface toward the end of design and are related to budgetary constraints. The process outlined above is proactive to avoid as many challenges as

possible through proper investigations, planning, District involvement, and early involvement with the contractor during the CM/GC process. Despite these efforts, sometimes challenges surface. All too often in new construction, when faced with budget shortfalls, consultants look to scope reductions to reduce project costs. In the case of an SRGP-funded seismic retrofit we have a specific scope of work that must be performed; cutting scope entirely is not an option. As a design team we are required to perform true value engineering and find new approaches to the same problems that reduce overall project costs.

Example:

In Prairie City where our initial design intent at the High School gym was to support concrete walls for out-of-plane forces using structural steel columns and spandrels. This solution worked but was obtrusive inside the gym at the column locations and was expensive. During design we worked with the CM/GC to develop an alternate solution using FRP on the inside and outside of the building in lieu of the structural steel. This is a surface treatment that strengthens concrete and necessitates new architectural finishes where applied. This allowed us to lower costs while also necessitating a fresh coat of paint on the inside and outside of the building paid for by the grant.

Quality Control

ZCS has carefully designed our team's structure to ensure clear areas of responsibility and open lines of communication for all those involved in the project. We have detailed internal quality assurance and control processes in place to ensure the accuracy of our projects. ZCS has developed quality control checklists used at every phase of the project to be sure all aspects of the design are included and coordinated with sub-consultants. Our team understands that even a single mistake can mean countless hours lost for the Owner and the contractor as well as unexpected cost impacts during construction.



Project Location

Project Location.....	24
Local Participation.....	24

Project Location



City of Roseburg, OR

Project Location

Our Oregon City office is located under 3 hours from the Lookingglass Fire Station and our Grants Pass office is located approximately one hour from the project site. This close distance will allow us the ability to efficiently serve your project through design and construction with availability to be on-site within 24 hours' notice if needed.

ZCS performed the previous Seismic Rehabilitation Evaluation for Lookingglass RFD that resulted in the grant being awarded for the Lookingglass Fire Station seismic rehabilitation. This experience has exposed us to the seismic challenges associated with this particular facility. Through the evaluation process of the facility, we were exposed to the construction of the building and understand its deficiencies. While every building is unique, the deficiencies found in this building are not terribly uncommon. The deficiencies at this project are similar to those present on SRGP projects we have designed for projects and Seismic Rehabilitations in the area. ZCS has completed seismic rehabilitations for Roseburg Fire

Stations #2 & #3 for the City of Roseburg and various seismic retrofits for Roseburg Public Schools. These projects have allowed us to become familiar with design and construction techniques, local contractors, and the most efficient seismic retrofit measures in your region.

Additionally, we've completed projects for many neighboring Districts including Camas Valley, Winston-Dillard, Grants Pass, and Creswell. These Districts, along with Lookingglass RFD, have an advantage of being located directly off the I-5 corridor. This makes finding skilled contractors and specialty labor easier. Additionally, many of these schools also have similar deficiencies because they were built in the same general area with similar materials. While each building's needs are specific, having worked on many similar facilities up and down the I-5 corridor gives us a significant toolbox of solutions to pull from to ensure the right solution is selected for the Lookingglass Fire Station retrofit.

Local Participation

We are committed to including the local community in the construction process. It is our opinion that the grant dollars awarded to Lookingglass RFD should remain as close to your community as possible in order to have the largest impact. Should we be selected for this project we will encourage the use of local products, services, and materials.

CM/GC and Local Contractor

One approach to these projects includes the use of the Construction Manager/General Contractor (CM/GC) procurement methodology. Our typical CM/GC procurement paperwork

includes scoring criteria to ensure that the selected firm reaches out to local contractors. This methodology allows you to place importance on the contractor's ability to enlist local subcontractors encouraging their participation.

Often times during the design process, additional information is needed that is not available based on field observations and record drawings. If this circumstance arises, our approach would be to solicit the assistance of a local contractor to perform any necessary minor demolition and repair needed during the design phase.



Appendix

Resumes 26–30

Letters of Recommendation..... 31–33



Sylas Allen, PE · Managing Principal, President

Sylas began working for ZCS as an intern while attending Oregon Institute of Technology. He completed his degree in Civil Engineering in 2002 and was then hired on full time at ZCS where he became a licensed Professional Engineer. After four years of managing the (former) Bend office, Sy moved back to his home town in Southern Oregon to open a Grants Pass branch where he eventually took partial ownership in the company and became Vice President/COO. While his role in the leadership structure of ZCS has contributed to the growth and success of the company, Sy continues to work on both individual projects and client & corporate development. Sy has built trusted relationships with local school districts, completing many renovation, new construction, and seismic retrofit projects. In his new role as Managing Principal/President, Sy enjoys working on Public Safety and Educational project and is eager to strengthen ZCS’s advancement in Southern Oregon.

Project Principal

Registered Professional Engineer:
Oregon 70775

EDUCATION

BS Civil Engineering,
Minor in Technical Communications
Oregon Institute of Technology

TENURE

20 Years

COMMUNITY INVOLVEMENT

Southern Oregon Chapter of
the International Code Council
American Society of Civil Engineers
Professional Engineers of Oregon

Relevant Experience

CIVIC / PUBLIC SAFETY

City of Newport

Newport Fire Station Seismic Retrofit

City of Garibaldi

Garibaldi Fire Station Seismic Retrofit

Grants Pass Fire & Rescue

Hillcrest Fire Station Seismic Retrofit
Parkway Fire Station
Redwood Fire Station

City of Coos Bay

City Hall/Police Station Seismic
Retrofit & Renovation
Egyptian Theatre Seismic
Rehabilitation

City of Medford

City Hall Structural Retrofit & Building
Renovation

Coos County Sheriffs Office

Coquille EOC Dispatch Building

Jackson County Fire District No. 3

Scenic Avenue Fire Station

City of Reedsport

Turner Fire Station Seismic Retrofit &
Renovation
Police & Fire Station Seismic Retrofit &
Renovation

City of Coquille

Coquille Fire Station Master Plan

City of Jacksonville

Jacksonville Fire Station Seismic
Retrofit & Renovation

Josephine County

911 Dispatch Building Seismic Retrofit

Langlois Rural Fire District

Langlois Station Seismic Retrofit

Riddle Rural Fire District

Riddle Fire Station Seismic Retrofit

EDUCATION

Roseburg Public Schools

Fullerton Elementary Seismic Retrofit
Hucrest Elementary Seismic Retrofit
Melrose Elementary Seismic Retrofit
Roseburg High School Gym
Seismic Retrofit
John C Fremont Middle School Gym
Seismic Retrofit*
*TAP Seismic Assessment**

Grants Pass School District

Allen Dale Elementary Seismic Retrofit
South Middle School Seismic Retrofit
Riverside Elementary Seismic Retrofit
Highland Elementary Seismic Retrofit
District Wide Assessment
N. Middle School Classroom Additions
S. Middle School Classroom Additions





Mark Smith, PE

After obtaining his Bachelors of Science in Engineering from George Fox University in May of 2016, Mark began working for ZCS Engineering at the Oregon City office. While at ZCS he has worked on the drafting, design, and construction administration for several school district projects, including various seismic rehabilitations.

Relevant Experience

K-12 EDUCATION

Nestucca Valley School District

Nestucca Valley Elementary School Seismic Retrofit
Nestucca JR. SR. High Seismic Retrofit

Tillamook County School District

Liberty Elementary School Gymnasium Seismic Retrofit
East Elementary School Seismic Retrofit
Tillamook High School
District Office Improvements

Oregon City School District

Barclay School Basement TI

Powers School District

Powers High School Seismic Retrofit

Neah-Kah-Nie School District

Nehalem Elementary School Seismic Retrofit
Nehalem Elementary School Gymnasium Seismic Retrofit
Garibaldi Grade School Seismic Retrofit

Scio School District

Scio High School Gym Seismic Retrofit

Project Manager

Registered Civil Engineer:
Oregon 96967

EDUCATION

BS Civil Engineering
George Fox University

TENURE

6 Years





Kyle Mullen, Lead Designer

After obtaining his Bachelors of Science in Engineering from George Fox University in May of 2016, Mark began working for ZCS Engineering at the Oregon City office. While at ZCS he has worked on the drafting, design, and construction administration for several school district projects, including various seismic rehabilitations.

Relevant Experience

CIVIC / PUBLIC SAFETY

Roseburg Fire District

Roseburg Fire Station 3 Seismic Retrofit

Lookingglass Rural Fire District

Fire Station SRG Evaluation Application

Halsey-Shedd Rural Fire Protection

Halsey-Shedd Fire Station Seismic Retrofit

City of Reedsport

Turner Fire Station Seismic Retrofit & Renovation
Police & Fire Station Seismic Retrofit & Renovation

City of Coquille

Coquille Fire Station Master Plan

City of Jacksonville

Jacksonville Fire Station Seismic Retrofit & Renovation

Gaston Rural Fire District

Station No. 11 Seismic Retrofit

K-12 EDUCATION

North Marion School District

North Marion Middle School Seismic Retrofit
North Marion High School Seismic Retrofit
North Marion High School Addition & Renovation

Nestucca School District

Nestucca K-8 Addition

Santiam Canyon School District

Santiam High School Gym
Santiam Elementary School Cafeteria Renovation

Marcola School District

Marcola CTE Building Addition

Bethel School District

Bond Improvements

Structural Design Lead

EDUCATION

BS Civil Engineering
Portland State University

TENURE

6 Years





Tim Lee, Lead Designer

Tim joined ZCS early in 2022 with 10 years of experience designing various types of projects for various types of clients. Tim excels at analyzing and categorizing the decision-making process so it's approachable for each client. Tim believes the power of design comes from the collaborative nature of the people who worked together and listen to all aspects. Prior to working with ZCS, Tim worked on projects of all types and scales for firms in the northwest region.

Relevant Experience

Department of Veteran's Affairs, Butte, MT*

VA Out-Patient Clinic- TI

DeSmet Public School, Missoula, MT*

Bond Procurement

Farran Group, Missoula, MT*

Fox Triangle Master Planning
Fox Triangle Convention Center

Logjam Presents, Bonner, MT*

Kettlehouse Amphitheatre

Missoula County Public Schools, Seeley Lake, MT*

Seeley Swan High School

Partnership Health Clinic, Missoula, MT*

Medical Office Building

Diversified Contractors Inc. - Klamath Falls, OR

VA Clinic Conceptual Plan

City of Grants Pass

Water Treatment Plant

City of Coquille

Coquille Fire Station Master Plan

*Prior to ZCS

Architectural Designer

EDUCATION

Master's in Architecture
Montana State University

Bachelor's Environmental Design
Montana State University

INDUSTRY EXPERIENCE

10 Years





Matthew Smith, PE/SE · Principal

Matt graduated from Oregon Institute of Technology with a Bachelor of Science in Civil Engineering in 2002. Matt joined the ZCS Engineering & Architecture team in early 2003 where he displayed an aptitude for structural engineering and designing low to mid-rise structures. Matt showed strong leadership skills in training new staff members and ultimately became the Director of Structural Engineering where he oversees the development of the structural engineering group and product quality.

In 2009, Matt helped ZCS obtain three seismic grants to rehabilitate an ES school, a police station, and a fire station. Since then, Matt has helped expand ZCS’s involvement to become a leader in the Seismic Rehabilitation Grant Program with 149 projects seismically rehabilitated to date. Now a Principal at ZCS, Matt continues to help with staff development and quality assurance while managing and expanding the structural group.

Engineer of Record

Registered Structural Engineer:
Oregon 70888

EDUCATION

BS Civil Engineering
Oregon Institute of Technology

TENURE

20 Years

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

Relevant Experience

CIVIC/PUBLIC SAFETY

City of Reedsport (in-design)

Turner Fire Station Seismic Retrofit/Renovation
Police Station Seismic Retrofit/Renovation

Klamath County Fire District #1

New Fire Station #5
Station 6, Seismic Retrofit & Building Renovation
Station 1, Seismic Retrofit & Building Renovation

Yachats Rural Fire Protection District

New Fire Station

Gaston Rural Fire District

Gaston Station 11 Seismic Retrofit

Halsey-Sheds Fire District

Station #51 Seismic Retrofit

City of Langlois

Langlois Fire Station Seismic Retrofit

K-12 EDUCATION

Reedsport School District

Highland Elementary School Seismic Retrofit
Reedsport Community Charter School Main Gym Seismic Retrofit
Reedsport Community Charter School Secondary Gym Seismic Retrofit

North Clackamas School District

Sunnyside ES Addition/Renovation and Seismic Retrofit
Alder Creek Middle School Addition/Renovation and Seismic Retrofit
Alder Creek Middle School Stadium Rehabilitation

Klamath Falls City Schools

Klamath Union High School Bond and Seismic Retrofit
Klamath County School District Peterson ES Seismic Retrofit
Henley Middle School Seismic Retrofit

Greater Albany School District

South Albany High School Additions
West Albany High School Old Gym Seismic Retrofit

Ashland School District

Walker ES Addition & Renovation
Walker ES Seismic Retrofit
Ashland High School Science & Humanities Building Renovation
Ashland High School Science & Humanities Building Seismic Retrofit

Tillamook School District

Bond Work & Seismic Retrofits
Cafeteria addition at South Prairie
Liberty ES Gym Seismic Retrofit

Lincoln County School District

Newport High School Gymnasium Seismic Retrofits
Toledo High School Gymnasium Seismic Retrofits
Sam Case ES Seismic Retrofits





Klamath County Fire District No. 1
143 North Broad Street • Klamath Falls, Oregon 97601
Phone: (541) 885-2056 • Fax: (541) 884-6920 • kcf1@kcf1.com

February 10, 2021

Mr. Russ Carter, President
ZCS Engineering and Architecture
900 Klamath Avenue
Klamath Falls, OR 97601

Dear Mr. Carter:

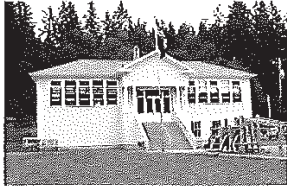
It was a pleasure to work with the ZCS Engineering team on the seismic rehabilitation project at our Fire Station 1 facility on Gettle Street.

The Team at ZCS showed diligence and dedication throughout the entire project, working seamlessly with Project Manager Kelsie Randall, Modoc Contracting, and our staff. We appreciate the time that was taken to work within the seismic grant guidelines, to listen to our ideas and vision, and to build on that information to create a beautiful and efficiently designed fire station.

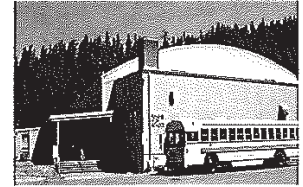
Klamath County Fire District 1 appreciates the interest taken by ZCS Engineering to create a fire station the Klamath Falls community can be proud of for years to come.

Regards,

Greg Davis
Fire Chief



Powers Public Schools #31
PO Box 479
100 High School Hill Road
Powers, OR 97466
Phone: 541-439-2291
Fax: 541-439-2875



Email: mshorb@powersschools.com

Mr. Matt Shorb – Superintendent/Principal

September 20, 2022

To Whom It May Concern,

It is my pleasure to write this letter of endorsement for ZCS Engineering. As the superintendent of Powers School District, I have worked with ZCS and their team of professionals over the past few years on a few different projects.

ZCS was instrumental in helping us receive a seismic rehabilitation grant from the state for making improvements to our high school building. They worked closely with us to help us make sound planning decisions that helped us make the most of the funds allotted in the grant and also to plan our own budget to supplement those areas that the grant wouldn't cover. The end results were a very successful project that not only completed our seismic upgrade needs, but also provided much needed general improvements to the facilities that will have long-term benefits to the district.

Since that initial project, I have used ZCS for other smaller projects and they have always been very resourceful and willing to help. We have also applied for and received a second seismic rehabilitation grant for our elementary school building. We have teamed up with ZCS again for this major project that will take place during the summer of 2023. I expect this project to be just as successful as the high school project and I am looking forward to making that happen with their team.

I have recommended ZCS to several people since my initial introduction to their services. Their people very skilled and professional and are also excellent communicators and dedicated to making things work for their clients. I have worked most closely with Stephen Chase and he has exemplified professionalism and support in his work with our school. He has gone above and beyond the requirements of his role to help our school in numerous ways. He is the type of person that gets things done and is fun to work with.

I hope that my shared experience with ZCS and their team are helpful.

Sincerely,

Matt Shorb
Superintendent



Ron Havniar
Executive Director of Facilities, Security and Leadership
900 Kenyon Street Medford OR 97501
(541) 842-3646

Selection Committee,

It is with great confidence and gratitude that I take a moment to endorse ZCS Engineering. We have partnered with ZCS on many projects over the years and their expertise and commitment to excellence have always yielded successful projects.

We have worked with ZCS on seismic retrofit projects at Ruch Outdoor School, Howard Elementary, Hoover Elementary and Oakdale Middle School.

There are several strengths/examples that resonate with me when I think ZCS:

- **They are community oriented.** It's evident that they genuinely care about seismically upgrading our community with an interest beyond mere profit. At events like the Ruch Spring Festival, they take the time to educate parents and community members about upcoming seismic retrofit projects and what they will do for the school and the safety of its occupants.
- **They know the Seismic Rehabilitation Grant Program (SRGP.)** We would not be where we are today, without ZCS and their partnership. They have submitted all of our seismic applications resulting in six sites being awarded more than \$12M in seismic funding. Their assessments, their expertise and their "big picture" strategy have been instrumental to our success.
- **They are creative in their solutions.** On multiple sites, we have worked with them to help us craft an approach to upgrade the entire site in one mobilization. This involves funding, details, scope of work and timelines. It has saved us time and money and helped us achieve seismic resiliency with minimal impact on the students and staff.
- **They think to the future.** We have worked with them extensively to develop a district-wide seismic assessment for more than 25 sites. It is exceptional and has helped us to prioritize effectively and employ resources judiciously in pursuit of seismic preparedness.

ZCS is a strong organization that has made a huge impact on the MSD.

We continue to work with them as we speak and intend to do so into the future.

If you would like to discuss further, please, feel free to reach out to me.

Ron Havniar

Ron Havniar
Medford School District
Executive Director of Facilities, Security and Leadership
(541) 840-4315
ron.havniar@medford.k12.or.us





Grants Pass
541.479.3865

Klamath Falls
541.884.7421

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541.500.8588

Oregon City
503.659.2205