Oregon Main Street Workshop
Building Revitalization

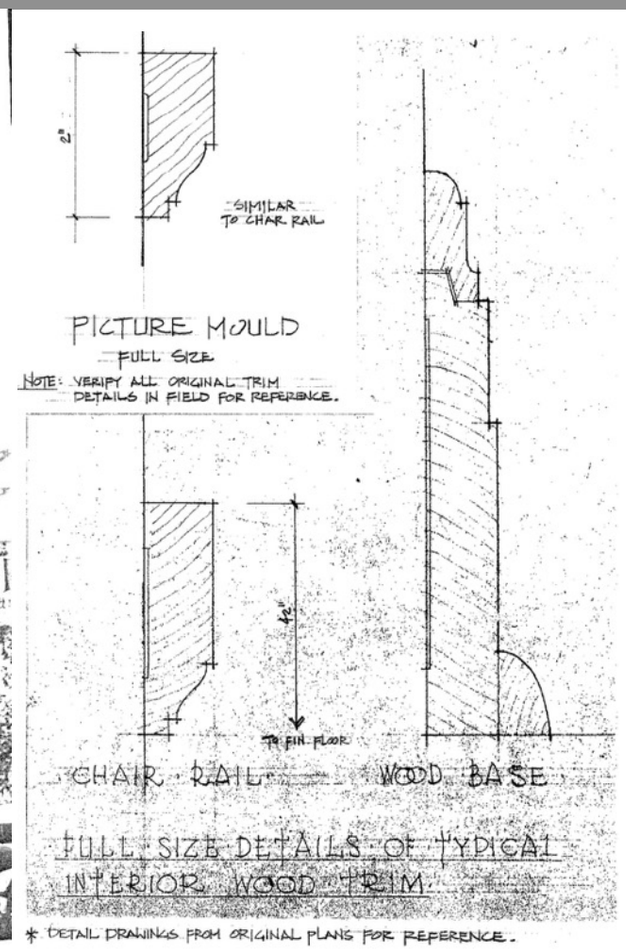
Documenting Existing Conditions

Jay Raskin, FAIA
September 15, 2016

Jay Raskin Architect

SALUS RESILIENCE

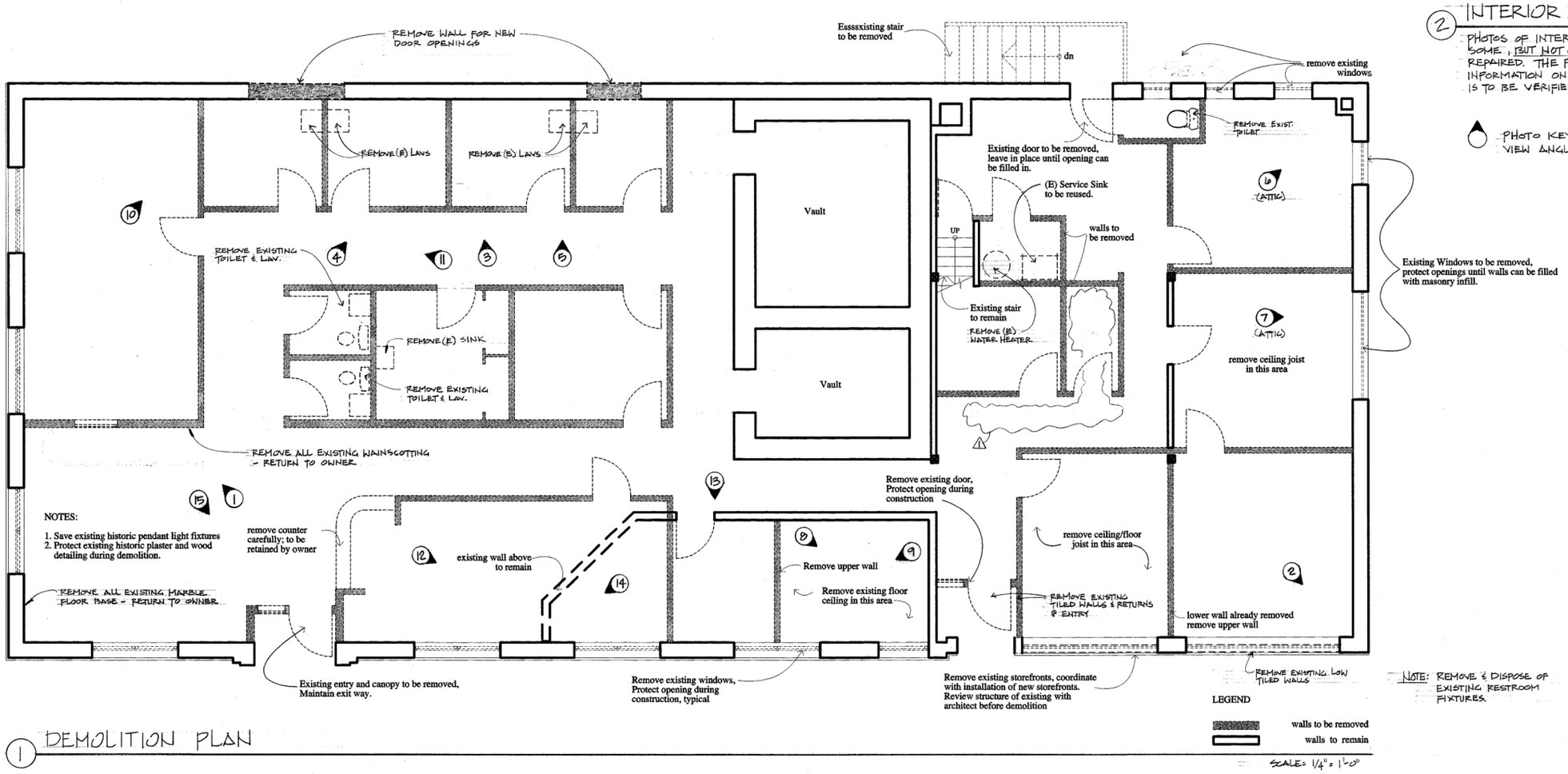
Existing Buildings:
Boyington County Meeting Building



Look for clues outside

Look for clues Inside

Existing Base Plans



1 DEMOLITION PLAN

2 INTERIOR DAMAGE PHOTOS

PHOTOS OF INTERIOR PLASTER DAMAGE SHOWS SOME, BUT NOT ALL, OF THE AREAS TO BE REPAIRED. THE PHOTOS ARE FOR REFERENCE INFORMATION ONLY. ALL DAMAGE TO BE REPAIRED IS TO BE VERIFIED IN FIELD.

PHOTO KEY DENOTES LOCATION AND VIEW ANGLE OF PHOTOGRAPH.

NOTE: REMOVE & DISPOSE OF EXISTING RESTROOM FIXTURES.

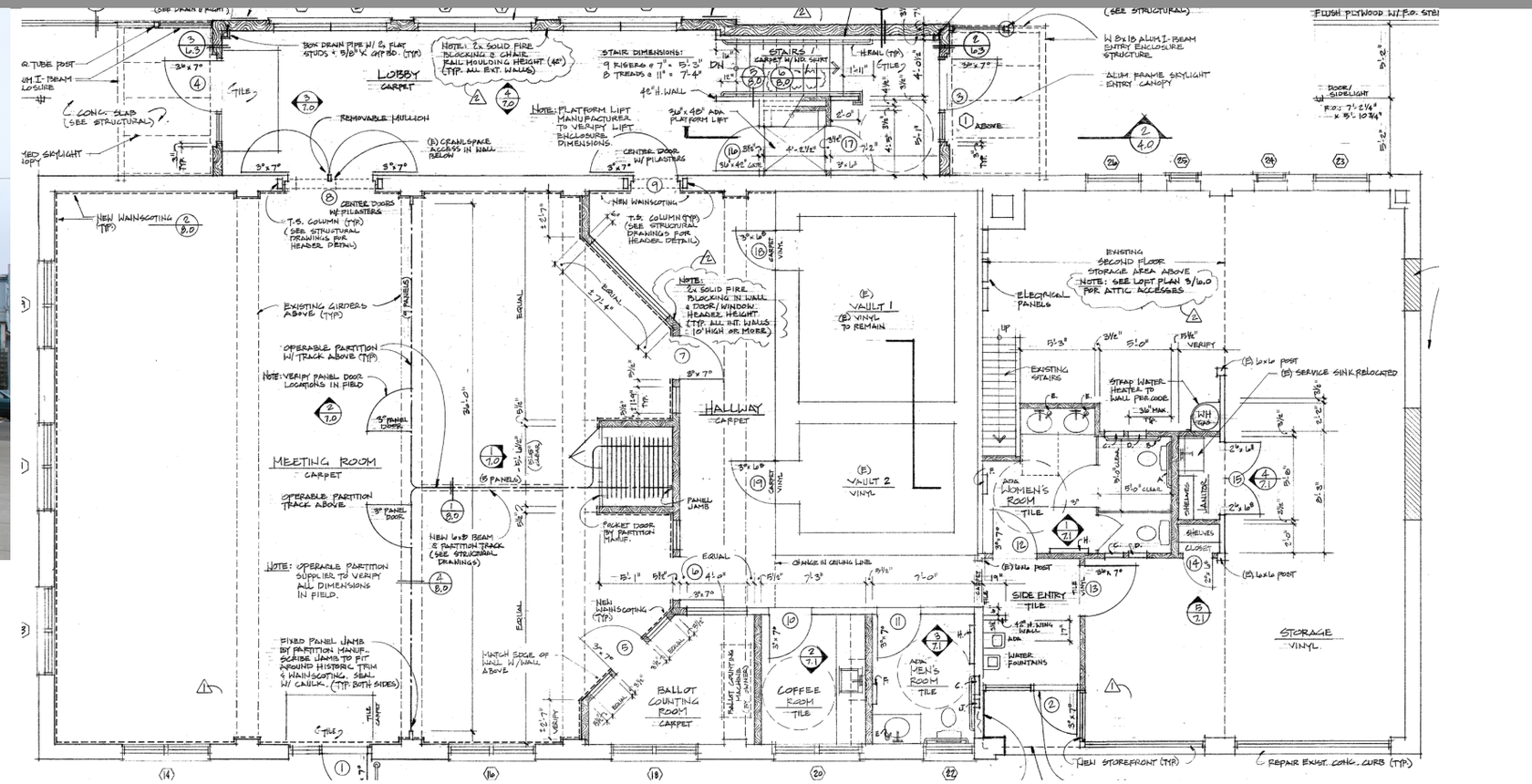
REVISED 7/9/04

REGISTERED ARCHITECT 3274 JAY RASKIN CANNON BEACH, OR STATE OF OREGON

COUNTY MTG. & ELECTIONS BUILDING
857 Commercial Street
Astoria, OR 97103

Client:
Clatsop County
749 Commercial

Rehabilitated Building



Forms

PRELIMINARY BUILDING EVALUATION FORM
FOR HISTORIC RESOURCES

Instructions

Please complete all blanks and write neatly. Provide as much information about the exterior as possible.

Property Information

Historic Name, if know _____
Date of Construction _____
Street Address _____
City/Town _____
County _____

Exterior Description

Siding material(s). Original or replacement?

Window type(s) & material(s). Original or replacement?

General Exterior Description:

Significant Architectural Features: How does your building stand out?

Preliminary Ideas for Rehabilitation

Please explain your rehabilitation ideas for the building (windows, siding, roof, interior, etc.).

Rapid Building and Site Condition Assessment

Inspection

Inspection date time _____ ☐ AM ☐ PM

Inspector _____

Affiliation _____

Area inspected
☐ Exterior Only
☐ Exterior and Interior

Page 1 of ___

Attachments
Sketches ☐ **Documents** ☐
Photographs ☐ **Other** ☐

Property Description

Building name _____

Address _____

_____

Historic district name _____

Number of stories above ground_____ below ground _____

Approx footprint area (square feet)_____

Number of residential units_____

Type of Construction
☐ Wood Frame ☐ Brick ☐ Boat
☐ Steel Frame ☐ Stone ☐ Other
☐ Concrete ☐ Manufactured

Primary Occupancy
☐ Dwelling ☐ Government
☐ Other Residential ☐ Museum
☐ Public Assembly ☐ School
☐ Emergency Services ☐ Religious
☐ Commercial ☐ Cemetery
☐ Offices ☐ Other
☐ Industrial

Occupied? ☐ Yes ☐ No
Repairs begun? ☐ Yes ☐ No
Owner/Contact Info

Characteristics

Building age ☐ 0- 25 yr ☐ 25 - 50 yr ☐ 50 -100 yr ☐ 100+ yr ☐ Verified ☐ Reported ☐ Estimated
Foundation ☐ Pier ☐ Slab ☐ Chain Wall ☐ Basement ☐ Other _____
Roof type ☐ Hipped ☐ Gable ☐ Mansard ☐ Pyramid ☐ Flat ☐ Other _____
Roof covering ☐ Slate ☐ Metal ☐ Tile ☐ Asphalt ☐ Asbestos ☐ Other _____
Wall finish ☐ Stucco ☐ Wood ☐ Vinyl ☐ Masonry ☐ Asbestos ☐ Other _____
Landscape features ☐ Walkway ☐ Driveway ☐ Fences ☐ Sculpture/Fountains ☐ Structures ☐ Other_____
Archaeological site ☐ Yes ☐ No ☐ On SHPO List ☐ Unknown ☐ Other _____
Visible artifacts ☐ Bone ☐ Pottery ☐ Metal ☐ Stone ☐ Glass ☐ Unknown ☐ Other _____
Interior condition ☐ Structural Damage ☐ Mold/Mildew ☐ Falling Plaster ☐ Other _____
Interior contents ☐ Antiques ☐ Archives ☐ Art Work ☐ Other _____
Appears historic? ☐ Yes ☐ No ☐ Don't know Is there a sign or plaque? ☐ Yes ☐ No _____
Historic designation ☐ Nat'l Hist. Landmark ☐ Nat'l Reg/District ☐ State/Local ☐ Eligible ☐ Other _____

Flood Data

Nature of water ☐ Standing ☐ Flowing ☐ Seepage ☐ Water Marks ☐ Other _____
Space where water entered ☐ Basement/Crawl ☐ First Floor ☐ Second Floor
Depth of water measured from main floor (+/-) _____
Sediment deposited ☐ On Site ☐ In Structure Site erosion ☐ Yes ☐ No ☐ Don't know

Evaluation

Investigate the building for the conditions and check the appropriate column.

Collapsed or off foundation	☐ Minor/None	☐ Moderate	☐ Severe
Leaning, other structural damage	☐ Minor/None	☐ Moderate	☐ Severe
Damage to windows, doors	☐ Minor/None	☐ Moderate	☐ Severe
Chimney, parapet, or other falling hazard	☐ Minor/None	☐ Moderate	☐ Severe
Roof damage	☐ Minor/None	☐ Moderate	☐ Severe
Foundation damage	☐ Minor/None	☐ Moderate	☐ Severe
Siding damage	☐ Minor/None	☐ Moderate	☐ Severe
Damage to electrical, mechanical, AC systems	☐ Minor/None	☐ Moderate	☐ Severe
Landscape damage	☐ Minor/None	☐ Moderate	☐ Severe

Potential Hazards ☐ Electrical ☐ Lead ☐ Asbestos ☐ Mold ☐ Other _____

Estimated Building Damage
☐ None
☐ 1-10%
☐ 10-30%
☐ 30-60%
☐ 60-90%
☐ 90-100%

Further Actions

Recommendations ☐ Add Temporary Roof Covering ☐ Board ☐ Shore ☐ Other_____
Detailed evaluation recommended ☐ Structural ☐ Environmental ☐ Archaeological ☐ Historic Significance ☐ Collections
Other recommendations_____
Barricades needed in the following areas_____

Posting

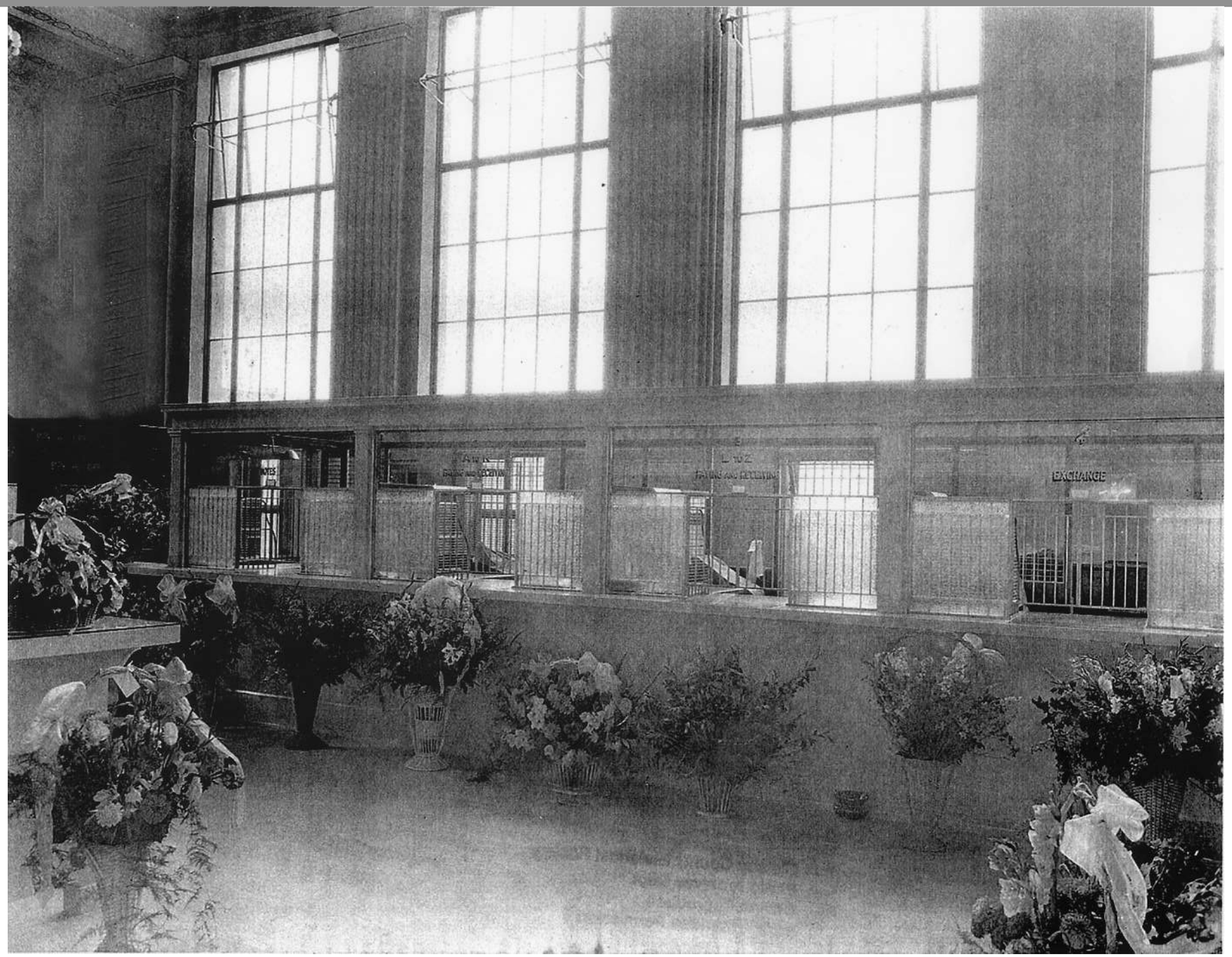
☐ Inspected ☐ Restricted Use ☐ Unsafe ☐ Historic Designation ☐ Detailed Evaluation Needed

Developed for FEMA by the NPS National Center for Preservation Technology and Training in collaboration with the Heritage Emergency National Task Force, 9/2005.

Old photos

Existing Condidtions

Old photos



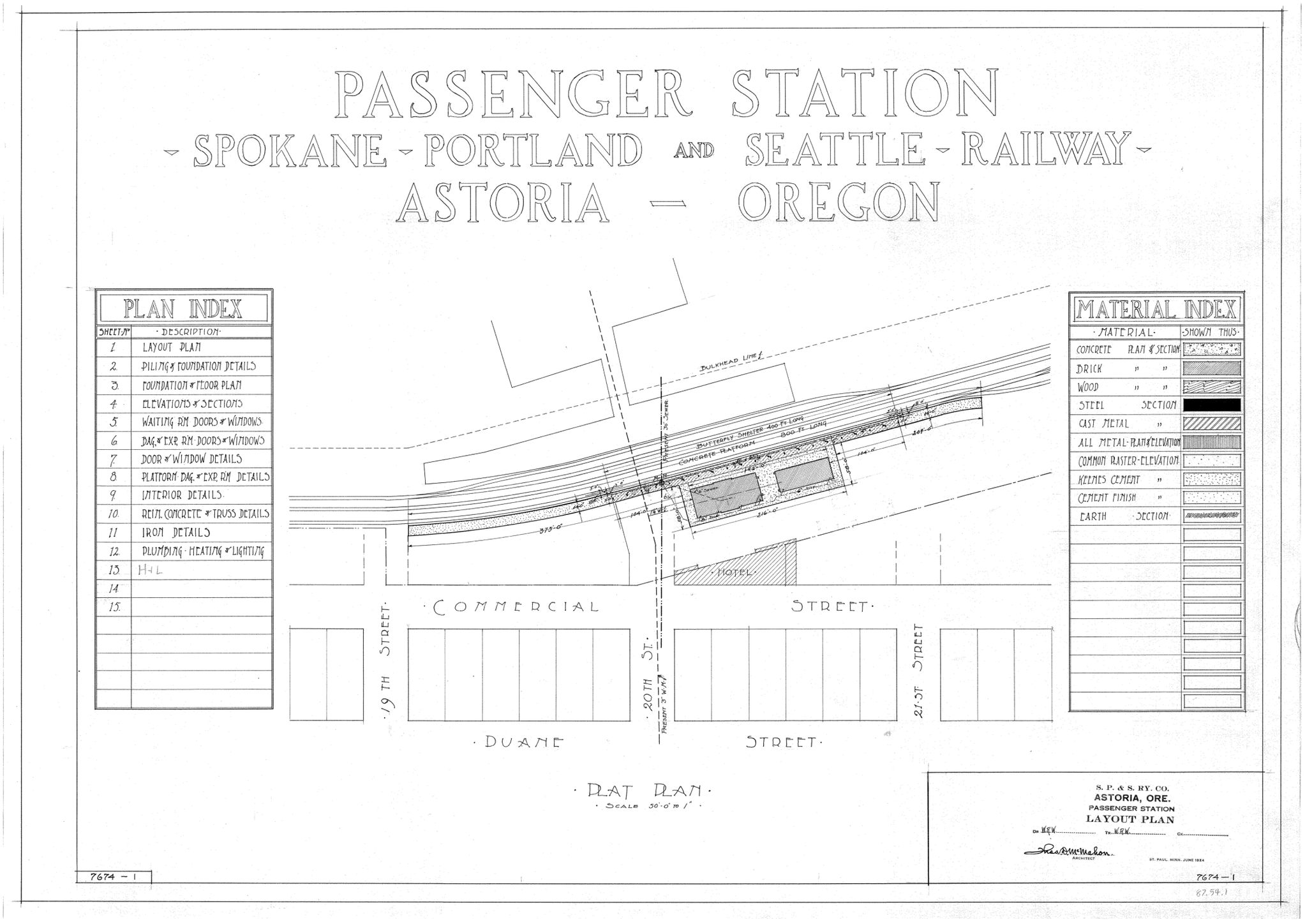
Existing Conditions

Existing Conditions

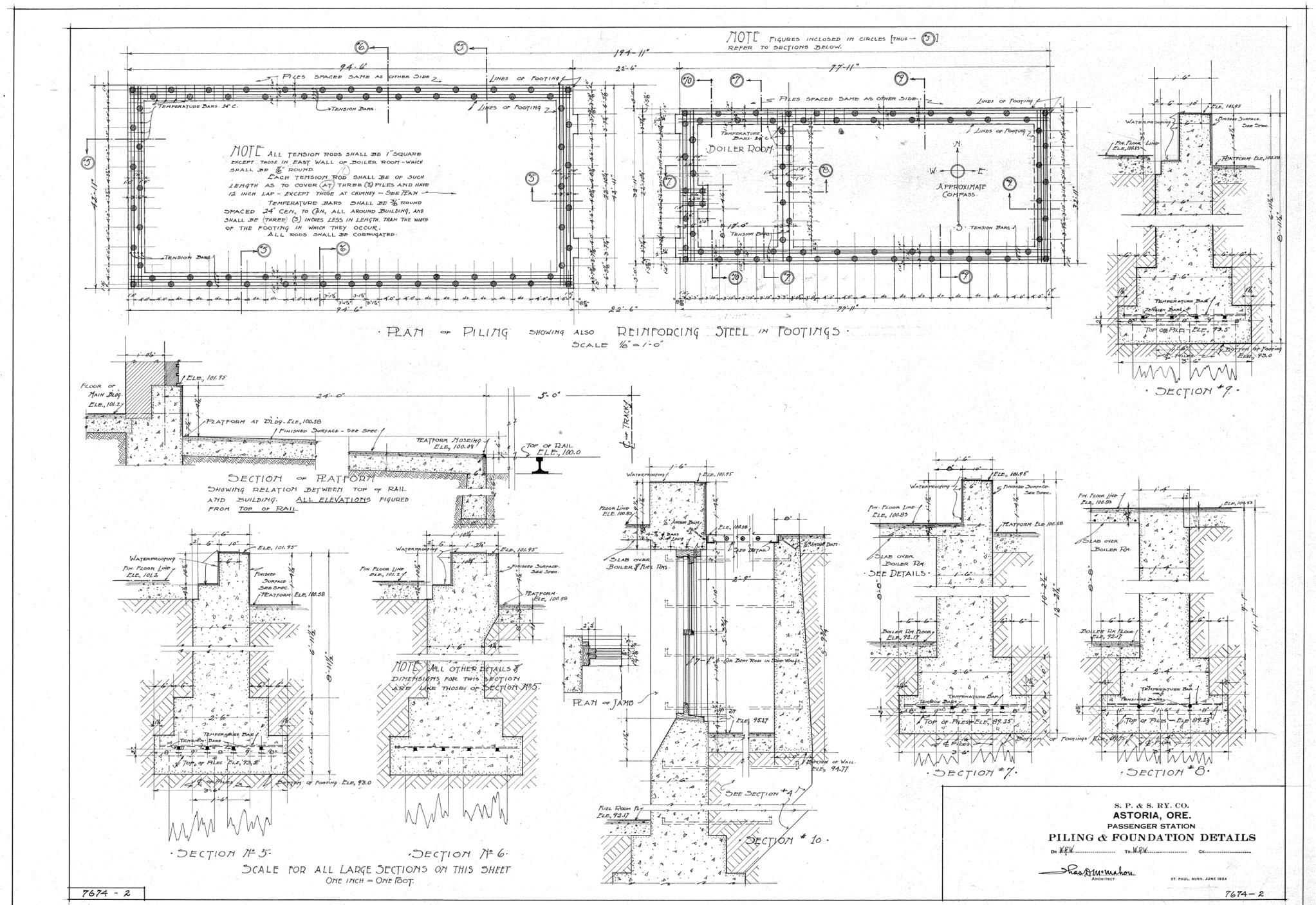
Existing Conditions

Jewell beneath

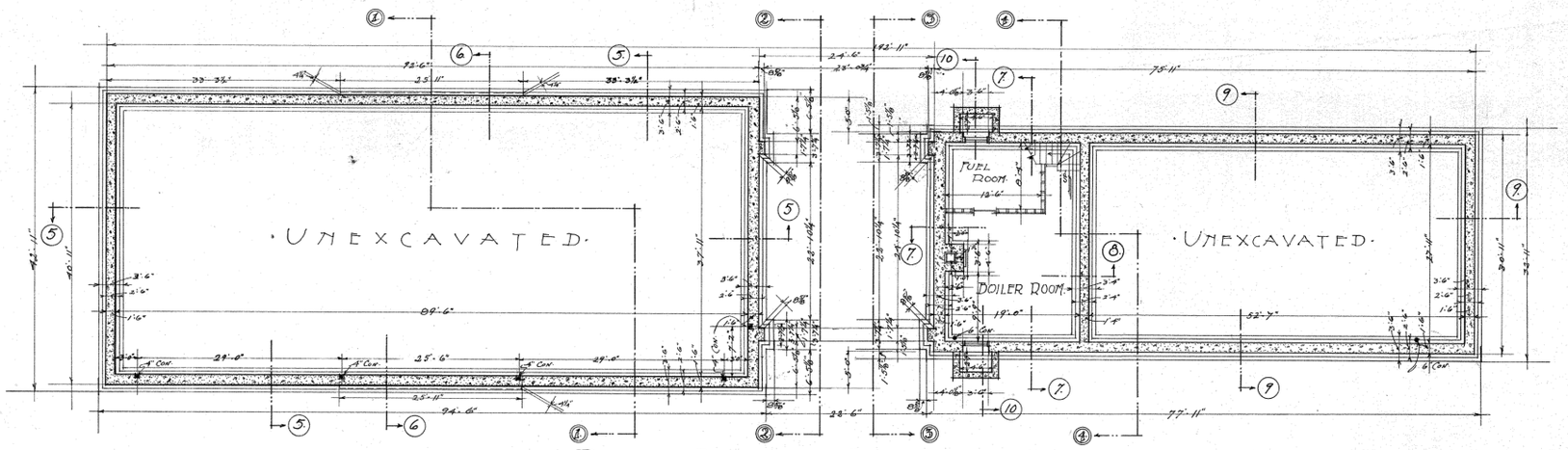
Existing Drawings



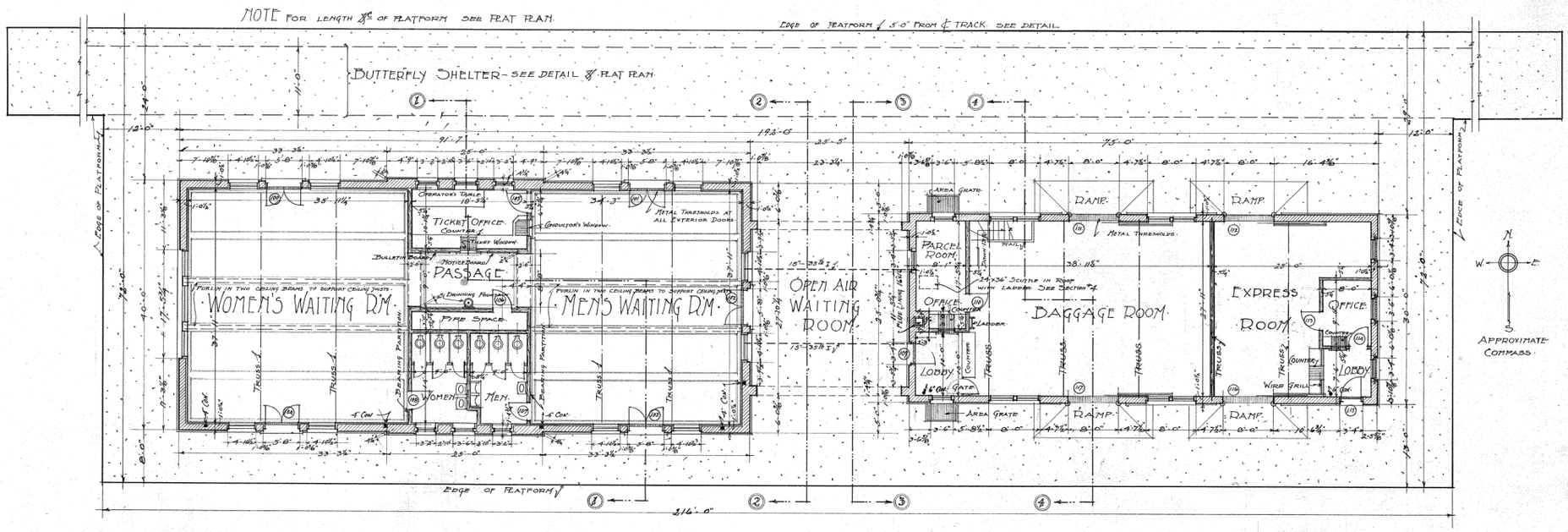
Existing Drawings



Existing Drawings



PLAN OF BASEMENT · FOUNDATION AND FOOTINGS ·
SCALE 1/8"=1'-0"



PLAN OF MAIN FLOOR
SCALE 1/8"=1'-0"

REVISIONS
7/25-24 ADDED ONE ROOF TRUSS BETWEEN BAG & EX. RMS.
7/25-24 ADDED PURLINS IN CRUPE BASEMENT & MAIN WAITING RM.

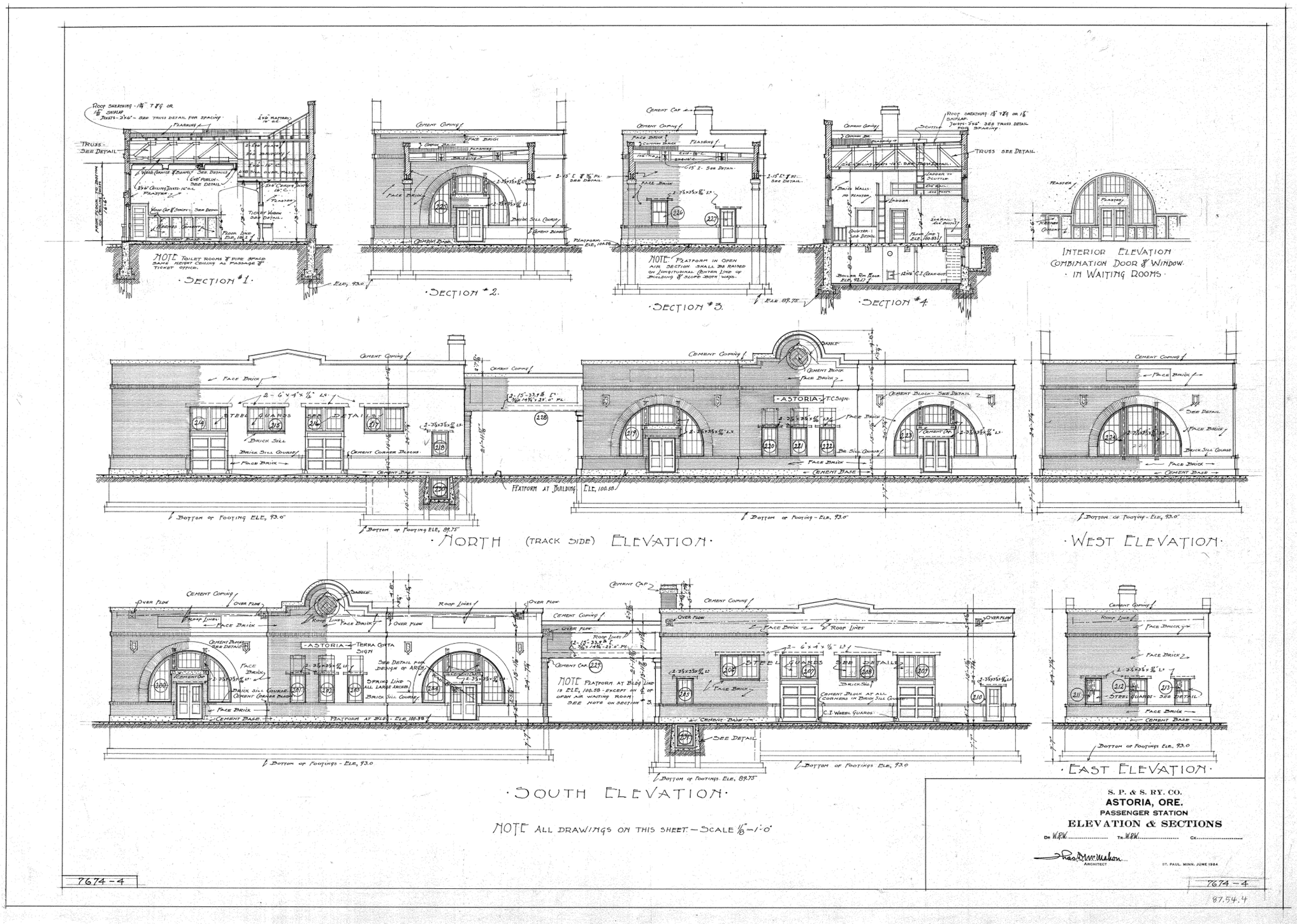
S. P. & S. RY. CO.
ASTORIA, ORE.
PASSENGER STATION
FOUNDATION & FLOOR PLANS
DR. W.R.W. TR. W.R.W. CK.
Rea & McMahon
ARCHITECT
ST. PAUL, MINN. JUNE 1924

7674-3

7674-3.

97.54.3

Existing Drawings

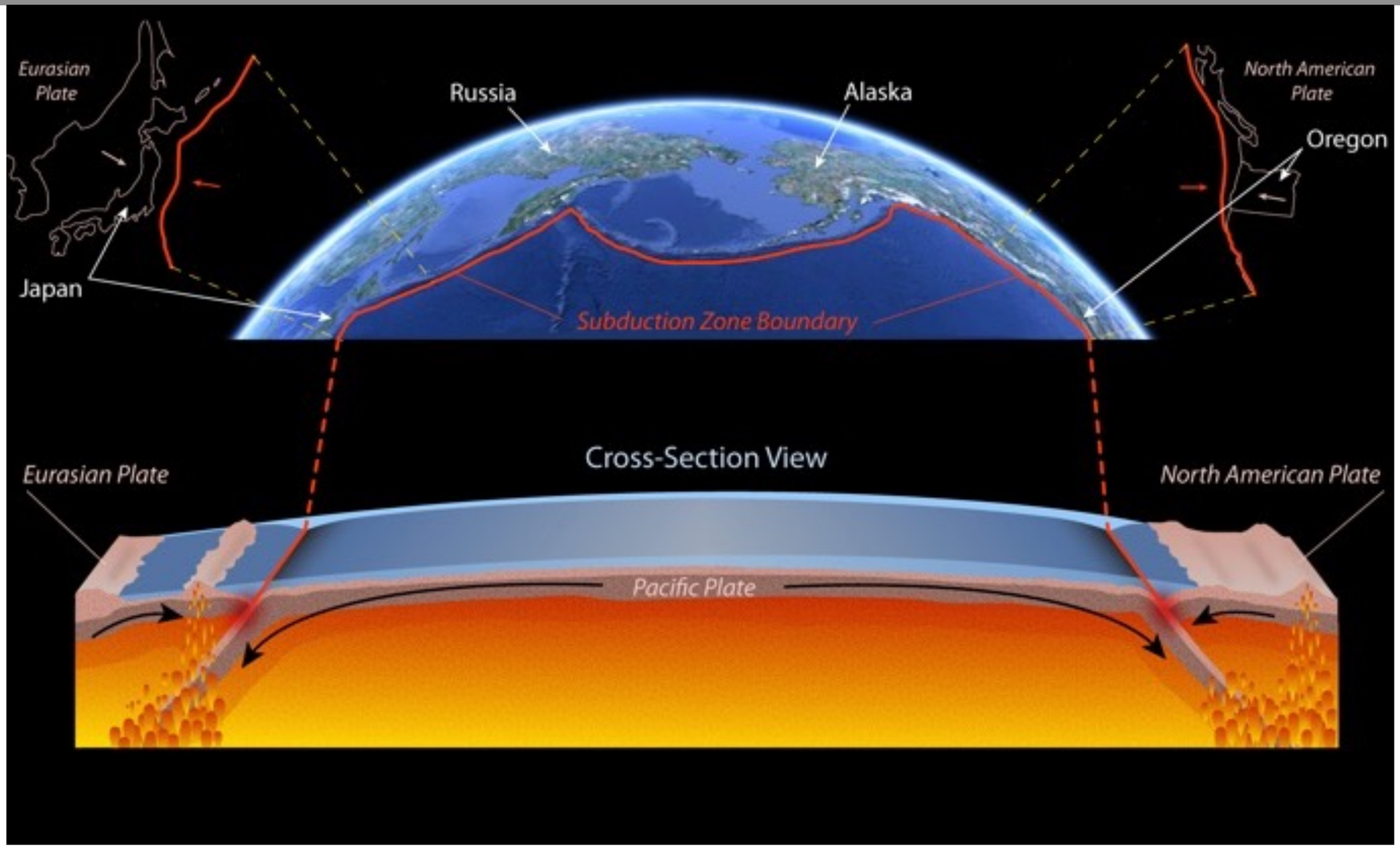


Existing Conditions

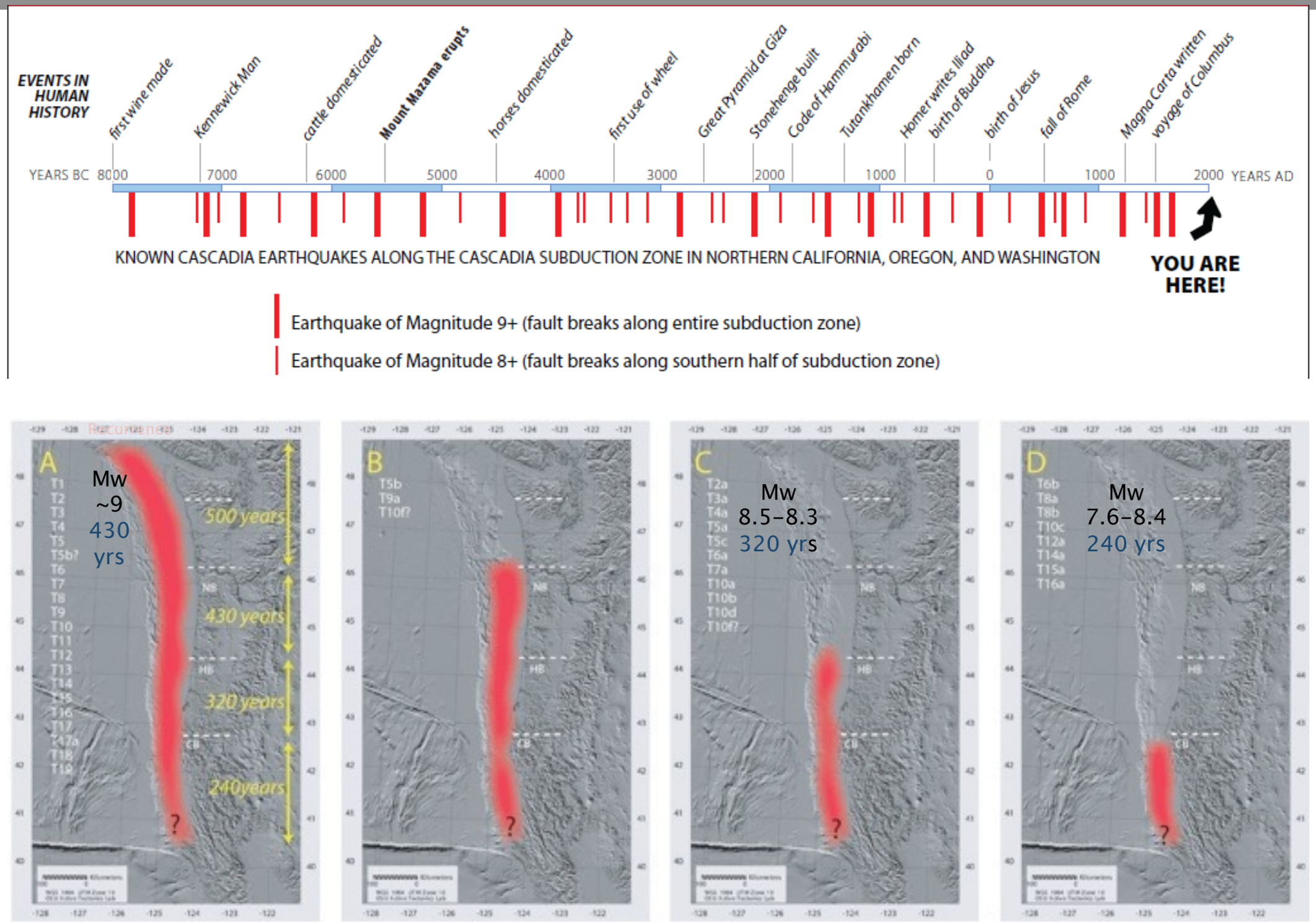
Existing Conditions

Existing Conditions

Cascadia Subduction Zone

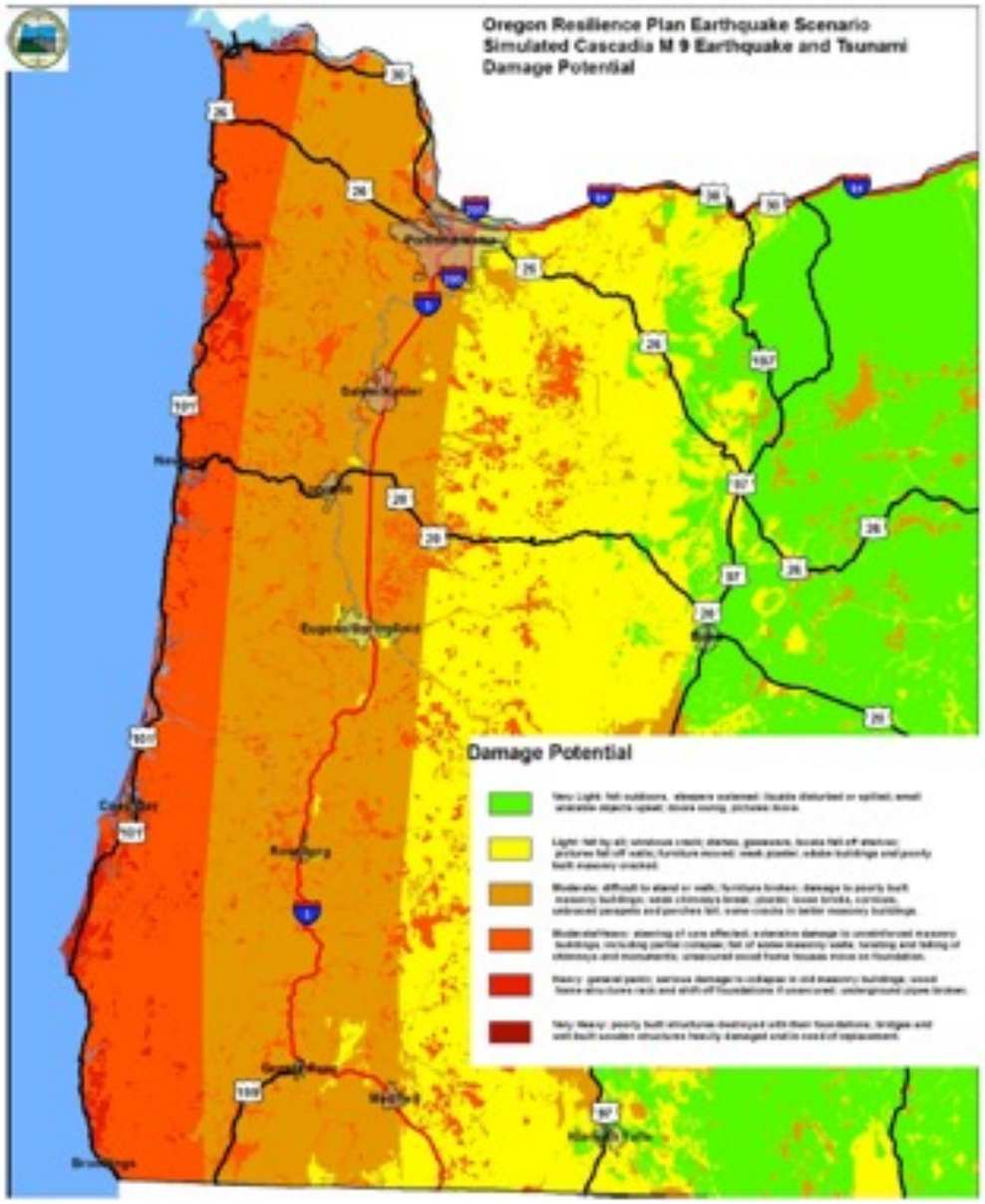


Cascadia Earthquake

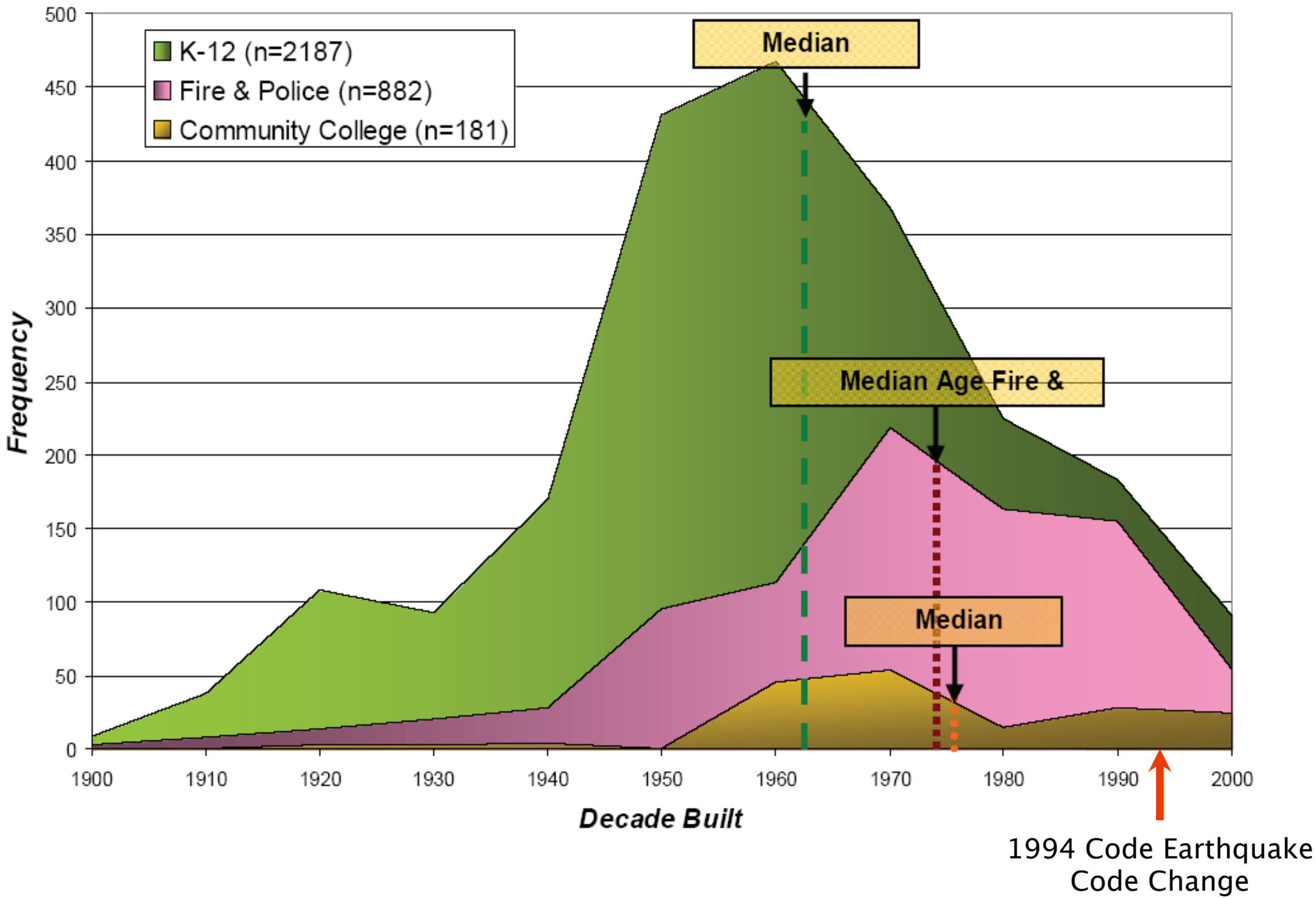


Cascadia Earthquake

Strong Shaking between 3-5 minutes
Tsunami 15-20 minutes following shaking



Cascadia Earthquake



Cascadia Earthquake Impacts

- Casualties (1,250 to more than 10,000)
- Severe earthquake damage on the coast and valley
- Complete destruction in the tsunami inundation zone
- Economic Loss: Direct Costs (20% state GDP)
- More than one million truck loads of debris
- Release of hazardous waste in the environment

Cascadia Earthquake Impacts

Critical Service	Zone	Estimated Time to Restore Service
Electricity	Valley	1 to 3 months
Electricity	Coast	3 to 6 months
Police and fire stations	Valley	2 to 4 months
Drinking water and sewer	Valley	1 month to 1 year
Drinking water and sewer	Coast	1 to 3 years
Top-priority highways (partial restoration)	Valley	6 to 12 months
Healthcare facilities	Valley	18 months
Healthcare facilities	Coast	3 years

Businesses can tolerate only 2-4 weeks without essential services

SPECIAL RESTORE OREGON REPORT

Resilient Masonry Buildings

Saving Lives, Livelihoods, and the Livability of Oregon's Historic Downtowns

Executive Summary

Executive Summary

The Main Street hardware store next to the microbrew-pub, the neighborhood grade school that's seen four generations pass through its halls, the clinker brick apartment building you moved into after graduation, the polished stone courthouse with the monument honoring local war heroes…. From Klamath Falls to Astoria, Jacksonville to Portland, these historic buildings are icons that define hundreds of Oregon's communities. Most of them are built of unreinforced brick or stone that was meant to last, withstanding fire and flood, but are at serious risk of collapse in an earthquake. Many have vacant upper floors and desperately need rehabilitation, but have real economic potential.

While no complete inventory of masonry buildings has been conducted, there are estimated to be between 5,000 and 10,000 unreinforced masonry buildings (URMs) in Oregon, with 1,765 in Portland alone. Many of these structures have achieved true cultural significance over time and have been listed on or are eligible for the National Register of Historic Places. It is those approximately 2,000 historic masonry buildings we address here.[6] They come with special challenges:

- Fire/life safety codes and ADA access requirements make utilization of upper stories challenging, limiting their income potential.
- Construction financing for URMs is getting scarce, making it more difficult to invest in rehabilitation.
- The looming threat of a major earthquake in the western half of the state creates an urgency for seismic upgrades to protect lives, community character, and economic livelihoods.

For all their issues, these historic buildings are a very important component of Oregon's economy, environment, culture, and sense of community. And there are simply too many of them for wholesale replacement to be a viable option. Our goal must be to create *resilient* masonry buildings.

The 1906 San Francisco earthquake is well-known as one of America's greatest natural disasters. While the 7.9 magnitude quake and subsequent fire destroyed an estimated 3,168 brick buildings, Oregon's risk of a 9.0 earthquake presents a similarly serious challenge for communities west of the Cascades.

Charting a Path to Resiliency

A building is resilient when it reflects four key characteristics:

- **Safety.** In parts of the state vulnerable to seismic events, the *resilient* building will survive an earthquake with no loss of life.
- **Durability.** The *resilient* building remains standing and is repairable after a disaster, with its historic elements intact.
- **Productivity.** The *resilient* building is well utilized, occupied, and accessible to the highest level possible.
- **Economic Viability.** While incentive dollars may be necessary for an initial upgrade, the *resilient* building should generate sufficient cash flow to support ongoing operations and maintenance.

While examples of safe, durable, productive, and viable masonry buildings can be found across Oregon, the state is woefully behind in fostering a resilient masonry building stock. The technology exists to upgrade historic buildings with minimal impact on character-defining features; what is needed are thoughtful solutions to promote the preservation of these historic assets for generations to come. Restore Oregon believes the following eight recommendations will get us there.

1. Educate Building Owners and Contractors on Best Practices for Historic Masonry Buildings.

Preservation Roundtable workshops revealed that whether a historic building has been in the same family for generations or was just acquired by a developer, owners typically don't understand their structural composition or requirements. The same can be said for many contractors. To remedy that, an **Oregon Masonry Building Handbook** outlining best practices in masonry treatment is needed so that typical material and condition issues can be better understood and addressed by owners and contractors. Furthermore, **training courses** on basic masonry treatment and seismic upgrade techniques should be offered around the state to raise the caliber of work being done to masonry buildings.

Recommendations–2

2. Inventory Unreinforced Masonry Buildings so Communities Know What They Have. Building departments and planning offices should work together to **survey and document** masonry buildings within their communities. Using this information, local jurisdictions should identify ways to encourage and finance basic **structural assessments** for masonry buildings. And every community should prepare actionable **mitigation plans** for post-disaster protection of repairable historic buildings to avoid unnecessary bulldozing.

3. Boost Public Demand for Seismic Upgrades by Rewarding Resilience. The public has no visible way of knowing if a building has been seismically upgraded, yet many would choose a safer building if given the option. Similar to a LEED (Leadership in Energy and Environmental Design) sustainability ranking, a standardized system should be developed to recognize those buildings that will fare well in an earthquake. **Voluntary plaques** affixed to the exterior of upgraded masonry buildings would provide a simple way for buyers, renters, and occupants to understand the relative safety of their building. This would lead to increased demand and payback for seismic upgrades.

4. Leverage Existing Federal Programs to Foster Upgrades. While much can be done at the state and local levels to revitalize our historic masonry buildings, the federal government has a responsibility to assist our efforts. The **Rehabilitation Tax Credit must be modernized** to allow smaller projects and "mom and pop" building owners to access this valuable incentive. Additionally, the Federal Emergency Management Agency (FEMA) should recognize the unique earthquake risk facing Western Oregon by increasing **pre-disaster funding** for basic seismic upgrades.

5. Adopt Meaningful State Rehabilitation Incentives. Oregon's existing incentive programs are not adequate to induce building owners and developers to voluntarily rehab historic masonry buildings. **A new or improved state incentive**, coupled with local funding sources, is a must for saving lives, protecting our heritage, and better leveraging preservation as a jobs engine.

6. Increase Availability of Finance and Insurance Options. The cost and availability of mortgage financing and earthquake casualty insurance are becoming problematic for many historic building owners in Oregon. Establishing a **historic properties insurance pool** or nonprofit insurance program would help secure public and private investments in historic masonry buildings and encourage lenders to provide rate reductions for upgraded buildings.

7. Institute Changes to the State Building Code. Building codes are intended to foster public health and safety, though the application of these codes can be confusing and subject to interpretation. Property owners and their rehab team require clear, positive direction towards a path of compliance. The State of Oregon Building Codes Division should adopt **new code language that systemizes triggers and methods for seismic upgrades**, including allowing multi-year **phased improvements**. Stipulating that a percentage of dollars for substantial rehabilitation be devoted towards incremental seismic upgrades will spur work towards the eventual goal of full upgrade.

8. Government Agencies Must Take Care of Their Own URMs. Government agencies across Oregon own a lot of historic buildings. From schools to courthouses, city halls to fire stations, Oregon taxpayers paid for these buildings and they should be safe and well maintained. **Preservation plans** for all public masonry buildings should be prepared by 2020. The legislature should support these plans with special funding strategies and set a timeframe for upgrades. When historic buildings must be divested, preservation easements should be put in place to ensure these resources continue to stand and serve their communities.

Details on these recommendations can be found beginning on page 10.

Oregon Resilience Plan

The Oregon Resilience Plan

Reducing Risk and Improving Recovery for the Next Cascadia Earthquake and Tsunami

Report to the
77th Legislative Assembly

from
Oregon Seismic Safety Policy
Advisory Commission (OSSPAC)

Salem, Oregon
February 2013

US Resiliency Council

Improving the Built Environment and Promoting Community Resilience

USRC Building Ratings: Dimensions and Definitions

SAFETY: The potential for people in the building to get out after a disaster and avoid bodily injuries or loss of life. A safety rating is required in all building evaluations.

★★★★★	**Injuries and blocking of exit paths unlikely:** Expected performance results in conditions unlikely to cause injuries or to keep people from exiting the building.
★★★★☆	**Serious injuries unlikely:** Expected performance results in conditions that are unlikely to cause serious injuries.
★★★☆☆	**Loss of life unlikely:** Expected performance results in conditions that are unlikely to cause loss of life.
★★☆☆☆	**Loss of life possible in isolated locations:** Expected performance results in conditions associated with partial collapse or falling objects, which have a potential to cause loss of life at some locations within or around the building.
★☆☆☆☆	**Loss of life likely in the building:** Expected performance results in conditions associated with building collapse, which has a high potential to cause death within or around the building.

REPAIR COST: Damage as a percentage of the building's overall replacement cost including structural, architectural, mechanical, electrical and plumbing systems. It does not include damage caused by breaks/leaks in water and gas pipes or contents damage.

★★★★★	**Minimal damage:** Repair Cost likely less than 5% of building replacement cost.
★★★★☆	**Moderate damage:** Repair Cost likely less than 10% of building replacement cost.
★★★☆☆	**Significant damage:** Repair Cost likely less than 20% of building replacement cost.
★★☆☆☆	**Substantial damage:** Repair Cost likely less than 40% of building replacement cost.
★☆☆☆☆	**Severe damage:** Repair Cost likely greater than 40% of building replacement cost.

TIME TO REGAIN BASIC FUNCTION: An estimate of the MINIMUM timeframe to carry out sufficient repairs and to remove major safety hazards and obstacles to regain occupancy and use of the building, but not necessarily restore it to its full intended functions.

★★★★★	**Immediately to days:** The expected performance will likely result in people being able to quickly re-enter and resume use of the building from immediately to a few days, excluding external factors.
★★★★☆	**Within days to weeks:** The expected performance may result in delay of minimum operational use for days to weeks , excluding external factors.
★★★☆☆	**Within weeks to months:** The expected performance may result in delay of minimum operational use for weeks to months, excluding external factors.
★★☆☆☆	**Within months to a year:** Expected performance may result in delay of minimum operational use for months to a year.
★☆☆☆☆	**More than one year:** Expected performance may result in delay of minimum operational use for at least one year or more.

Please refer to the disclaimers in the full version of Dimensions and Definitions at: http://www.usrc.org/rating-definitions

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Portland URM Retrofit

URM Retrofit Standard Summary

Classification and description	Approximate # of buildings[4]	Upgrade Level[2,3]	Timeline
URM Class 1: Critical Buildings (Risk category[1] IV buildings, power stations serving critical facilities, water facilities, other public utilities)	**10**	**Evaluation and Retrofit Level:** Tier 3 in accordance with ASCE 41 **Performance Objective:** BPON for Risk Category IV **Structural Performance Objective**: Immediate Occupancy for BSE-1N and Life Safety for BSE-2N **Non-Structural Performance Objective**: Operational for BSE-1N for all non-structural components assigned a component importance factor, Ip=1.5 as defined in ASCE 7-10 Chapter 13, as well as URM parapets, cornices, partitions and chimneys and hollow clay tile partitions.	**3** years to assess; **10** years for complete retrofit
URM Class 2: A. All school buildings B. Risk category[1] III buildings	**85**, including 45 schools 35 churches 5 other buildings	**Evaluation and Retrofit Level:** Tier 3 in accordance with ASCE 41 **Performance Objective:** BPOE for Risk Category III **Structural Performance Objective**: Damage Control for BSE-1E and Limited Safety for BSE-2E. **Non-Structural Performance Objective:** Position Retention for BSE-1E for URM parapets, cornices and chimneys as well as unreinforced masonry or clay tile partitions along major routes of egress.	**3** years to assess; **10** years to brace parapets, cornices, and chimneys and attach walls to roof; **20** years for complete retrofit
URM Class 3 A. Buildings ≥ 4 stories <u>or</u> B. Buildings with ≥ 300 occupants <u>or</u> C. Residential buildings with ≥ 100 units	**220**, including 160 buildings of four or more stories	**Evaluation and Retrofit Level:** Tier 2 deficiency only in accordance with ASCE 41 (unless Tier 3 required by ASCE 41) **Performance Objective :** BPOE for Risk Category II **Structural Performance Objective:** Life Safety for BSE-1E. When Tier 3 is required by ASCE 41, structural performance objective also includes Collapse Prevention for BSE-2E. **Non-Structural Performance Objective**: Life Safety for BSE-1E for URM parapets, cornices and chimneys.	**3** years to assess; **10** years to brace parapets, cornices, and chimneys and attach walls to roof; **20** years to complete all bearing and exterior wall to floor attachments and out-of-plane wall strengthening; **25** years for complete retrofit **+5** years for hardship

Portland URM Retrofit Program

Classification	Approximate # [4]	Upgrade Level[2,3]	Timeline
URM Class 4: All other URM buildings not categorized as URM Class 1, 2, 3, or 5.	**1,140**	**Evaluation and Retrofit Level:** Tier 2 deficiency only in accordance with ASCE 41 (unless Tier 3 is required by ASCE 41) **Performance Objective :** BPOE for Risk Category II **Structural Performance Objective:** Life Safety for BSE-1E. When Tier 3 is required by ASCE 41, structural performance objective also includes Collapse Prevention for BSE-2E. **Non-Structural Performance Objective**: Life Safety for BSE-1E for URM parapets, cornices and chimneys. ***Exception****: If a building conforms to or is brought up to the minimum requirements described in footnote 5 below, then only the following elements are required to be upgraded per ASCE 41 for Life Safety performance under the BSE-1E and Collapse Prevention under the BSE-2E:* *(a) brace URM parapets, cornices and chimneys;* *(b) anchor URM walls to floors and roofs for out of plane loading;* *(c) attach diaphragm to vertical elements to transfer in plane shear; and* *(d) out-of-plane URM wall bracing if h/t ratio exceeds that reqd. by ASCE 41-13 Table 11-5.*	**5** years to assess; **10** years to brace parapets, cornices, and chimneys and attach walls to roof; **20** years to complete all bearing and exterior wall to floor attachments and out-of-plane wall strengthening; **25** years for complete retrofit **+5** years for hardship
URM Class 5: 1 and 2-story buildings with 0-10 occupants.	**215**	**Performance Objective:** Limited Performance Objective Only the following elements are required to be upgraded per ASCE 41 for Life Safety performance under the BSE-1E and Collapse Prevention under the BSE-2E : (a) brace URM parapets, cornices and chimneys; (b) anchor URM walls to floors and roofs for out of plane loading; (c) attach diaphragm to vertical elements to transfer in plane shear; and (d) out-of-plane URM wall bracing for URM walls with h/t ratio greater than 16 for one-story buildings or h/t ratio greater than 18 for the first story of a multi-story building, or h/t ratio greater than 14 for walls in top story of a multi-story building.	**5** years to assess; **10** years for complete retrofit

Preserve the past to the future

Existing Buildings: Champions

Look for historic photos and original plans