INFORMATION HANDOUT

For Contract No. 04-4A4804
At 04-ALA-260-PM R0.8/R2.0

Identified by
Project ID 0400001137

MATERIALS INFORMATION

"Conditions Assessment Posey Tube Portal Buildings, Alameda and Oakland, California", by URS Corporation, dated October 26, 2012

"Email from Cal/OSHA Mining & Tunneling Unit", dated May 29. 2014

For Contract No. 04-4A4804

"Conditions Assessment Posey Tube Portal Buildings", by URS Corporation, dated October 26, 2012

CONDITIONS ASSESSMENT
POSEY TUBE PORTAL BUILDINGS
ALAMEDA AND OAKLAND, CALIFORNIA

for CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
111 Grand Ave, Oakland, CA 94612

URS

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October 26, 2012

This report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

10/26/12

REGISTERED CIVIL ENGINEER *DATE*

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10/26/12

REGISTERED CIVIL ENGINEER *DATE*

TABLE OF CONTENTS

1. INTRODUCTION 1-1

1.1 Basis for Conditions Assessment 1-1
1.2 Purpose of Conditions Assessment 1-1
1.3 Organization 1-2
1.4 Limitations 1-2

2. EXECUTIVE SUMMARY 1-1

2.1 Recommendations 2-3

3. STRUCTURAL SUBSTRATE 3-1

3.1 General Assessment 3-1
3.2 Exterior Spalls 3-2
3.2.1 Alameda Portal 3-2
3.2.2 Oakland Portal 3-3

4. EXTERIOR COATINGS 4-1

4.1 Alameda and Oakland Portals 4-1
4.1.1 Cementitious Coatings 4-1
4.1.2 High-Performance Coatings for Metals 4-1
4.1.3 Handrails 4-2
4.1.4 Metal Grilles and Louver Frames 4-2
4.1.5 Existing Patch Repair 4-2

5. INTERIOR PAINTS 5-1

5.1 Problems 5-1
5.2 Proposed Actions 5-1

6. WINDOWS AND DOORS 6-1

6.1 Alameda Portal 6-1
6.1.1 Proposed Actions 6-1
6.2 Oakland Portal 6-4
6.2.1 Proposed Actions 6-4

7. MEDALLIONS, FRIEZES, AND CAPITALS 7-1

7.1 Structural Requirements 7-1
7.2 Historical Accuracy 7-1

8. MISCELLANEOUS OBSERVATIONS 8-1

8.1 Sidewalk Access Covers 8-1
8.1.1 Problems 8-1
8.1.2 Proposed Actions 8-1

8.2 Stair Landing Conditions 8-1
8.2.1 Problems 8-1
8.2.2 Proposed Actions 8-2
8.3 Overhead Crane 8-2
8.3.1 Problems 8-2
8.3.2 Proposed Actions 8-2

9. COST ESTIMATES 9-1

TABLE OF CONTENTS

LIST OF APPENDICES

Appendix A Cost Estimate

Appendix B Alameda Portal Building
Drawings
Photos:
- Part 1: Structural Soundness
- Part 2: Exterior Coating Condition
- Part 3: Exterior Railings and Grilles
- Part 4: Interior Finishes
- Part 5: Windows and Doors
- Part 6: Medallions
- Part 7: Miscellaneous Conditions

Appendix C Oakland Portal Building
Drawings
Photos:
- Part 1: Structural Soundness
- Part 2: Exterior Coating Condition
- Part 3: Exterior Railings and Grilles
- Part 4: Interior Finishes
- Part 5: Windows and Doors
- Part 6: Medallions
- Part 7: Miscellaneous Conditions

Appendix D Asbestos and Lead Survey Report
Appendix E Products
Appendix F Bridge report 1964 repairs.

Appendix G Historic Resources Compliance Report, Feb 2006

1. INTRODUCTION

1.1 BASIS FOR CONDITIONS ASSESSMENT

As identified in Task Order No. 5 of On-Call Agreement No. 04A3508, URS has been engaged by Caltrans to support identifying and assessing options in the maintenance and restoration of the Posey Tube Alameda and Oakland Portal Buildings. The two structures form the terminus of the tube and house supply and exhaust fans that purge the tube of exhaust gases. The buildings were constructed in 1928 and are still serving their functions well. This conditions assessment is intended to assess the building envelope and specific conditions and concerns identified by Caltrans.

URS was requested to:

- Inspect the buildings interiors and exteriors and determine where action is required to stabilize exposed and/or rusting reinforcing. It was anticipated that repair work might involve more than just cleaning and sealing the steel. Depending on the severity of corrosion, the reinforcing might require repair or replacement.
- Evaluate the extent of spall repair or delaminated cementitious coating on the exterior of the buildings and perform a hazardous material survey of the coating.
- Inspect and determine if interior paint removal is required for the safety of personnel and include interior paint in the hazardous material survey.
- Propose how to replicate and replace previously removed art deco relief panels including recommendations for attaching the relief panels to the existing structure.
- Inspect to find if existing window frames can be restored or require replacement. This includes both windows with glazing and board panels.
- Identify areas and cause of water infiltration and recommend sealing methods.
- Recommend paint options for the exterior envelopes.

1.2 PURPOSE OF CONDITIONS ASSESSMENT

This conditions assessment investigates the work and development of a planning cost estimate for the restoration of the two portal building envelopes to meet performance standards acceptable to Caltrans. The buildings are not only to be considered as critical components for the operation of the Posey Tube, but also as important cultural resources for both the Alameda and Oakland communities. As a result, proposals for stabilizing and repairing the buildings must also consider the historical significance of the buildings and the consequences of actions that might diminish the rich cultural heritage of the cities of Oakland and Alameda.

1.3 ORGANIZATION

This conditions assessment describes the Alameda and Oakland portal buildings existing conditions, organized from the general to the specific. It begins with an executive summary, expands into a broad narrative, and then references the detailed drawing notations that are the basis of the narrative. Appendix A provides estimated costs for the proposed actions. Appendices B and C contain drawings and photographs illustrating the existing conditions. The drawings contain notations referencing the site photographs. In the electronic version, blue notation text indicates a hyperlink to the referenced photographs.

1.4 LIMITATIONS

The field investigations for this conditions assessment were performed on September 14th, 17th and 18th, 2012, in good weather without rain. Without time to perform water intrusion tests, water damage has been evaluated based upon residual deposits and other visual markers.

The investigations were limited to reviewing those conditions that were readily visible. Additional field investigation time would be required to provide coring or other physical explorations to inspect hidden areas.

The scope of this conditions assessment is that outlined in Task Order No. 5 of On-Call Agreement No. 04A3508 from the Project Manager, dated September 6, 2012. URS has included other coincidental observations made during investigations and research that are considered relevant to the scope or in need of disclosure.

Structural investigations were limited to visual inspections establishing the suitability and stability of substrates to support long term performance of new coatings and repairs.

The original borings showing soil/geotechnical solutions from the 1924 set of asbuilts are available however a full analysis would need to be completed to determine any required improvements to the foundation design.

The foundation and structural system for the building has had minor modifications over the life of the building but a full structural analysis of the existing building has not been performed and is required to determine specific structural upgrade recommendations for the building and foundation systems.

2. EXECUTIVE SUMMARY

Built in 1928 the Posey Tube Portal Buildings were constructed with cast-in-place reinforced concrete. These buildings have served their purpose well and are of great cultural value. Visible structural and surface cracks, likely the result of thermal movement or unknown seismic activity, are evident in both buildings. These cracks in the structural components and finishes have permitted water to penetrate into the structure contributing to their deterioration. It appears that water that has penetrated into the structure has caused peeling of the paint and coatings, corrosion of reinforcing steel, and spalling of the concrete at various locations. Some cracks extend all the way around the buildings, providing openings for water to pass through the walls. Some openings other than cracks are also allowing water to enter the buildings. The finishes and coatings are old and reaching the end of their useful lives, but the underlying cause of their failure is not age and wear, but cracking of the brittle structure and coating materials, and the water that enters as a result. The water table has been established as 5 to 10 feet below grade which is a contributor to the water intrusion problem.

The cracks seem to originate at the transition points in the structures. The buildings consist of three tiers of rigidity: the stiffer lower level buried in the earth, to a more flexible tier above grade, and to the most flexible two narrower upper towers. Cracks in the structure tend to occur at the base of each of these transition points where the rigidity changes. In many cases, cracks are clearly visible circumscribing the building. In other cases, the cracks appear to be the result of thermal expansion or other miscellaneous movement that could not be accommodated by the brittle, cementitious coating. The resulting cracks are points of entry for water and the origins of the spalling of the cementitious coating, peeling of paint, corrosion of reinforcement, and spalling of significant sections of concrete that are now marring the buildings' appearance and possibly jeopardizing their long-term structural integrity.

The spalling of concrete on the buildings is consistently the result of rusting reinforcement. None of the small spalls are of structural consequence, unless they are permitted to expand. Action must be taken to limit water penetration to the reinforcement. It would require extensive effort to survey the building to identify reinforcement susceptible to water penetration. A uniform high-performance coating (ter-polymer) is proposed to mitigate this problem by preventing water from entering the walls to reach the reinforcement.

A large contributor to the spalling of the concrete and finishes in the past was the poorly located roof drains directing water toward and into the exterior walls. Recent action has been taken to improve the drains, but the apparent fundamental cause, no counter-slope to direct standing water away from the walls, was not addressed. This configuration forces rain water to be collected against the wall prior to entering the drain. Any blockage of the drains collects more water against the walls. To prevent recurrence of the previous spalls on the walls beneath the drains, they should be relocated to provide counter-slopes away from the walls.

The prior repairs both at the corners of the buildings and on the middle of walls are clearly visible due to their inadequate execution. They now appear to be failing for the same reason that the original materials failed, water intrusion. Without further investigation, it is difficult to say where the water is entering, from above at the roof or directly through the walls by absorption at cracks, but that water is entering is evident. The previous repairs were made with cement plaster

which is subject to water based deterioration called efflorescence, where moisture entering the plaster dissolves essential salts and carries them to the surface where, as the moisture evaporates, the salts are deposited as crystals. This action slowly breaks down the cement plaster, leaching out the binders until the plaster crumbles and powders. As the plaster breaks down, the surface roughens, and as a result it holds more dirt, making it darker in contrast to the original surface. The patches appear as blemishes in the survey photos.

In addition to normal wear and tear and seismic activity, the buildings also have damage caused by vandalism. Bullet strikes are the third most influential cause of damage to the buildings, significantly changing the buildings' appearance and affecting the intended original use of daylighting. All of the once transparent glass has been either filled with solid panels or painted over. Some view openings have been scraped into the paint to allow workers to view the outside and so that cameras could be installed. The solid infill panels are mostly an asbestos-based panel installed in 1964 when asbestos building products were widely used. The panels have been installed like glass using glazing putty. The putty has dried and is cracking and falling out of the frames. The window frames themselves are solid and show no rust. The supporting frames are just beginning to rust though, and the large windows between the towers have heavy rust in their bearing plates (not the frames). The painting over of the windows has undoubtedly blocked daylight to the interior and forced the use of artificial light for everyday tasks, using more energy.

The ornamental metals on the building are just beginning to corrode and immediate action can protect them. Conditions of the metal grilles and railings around the buildings change with exposure, but all paints are worn thin and beginning to flake. The metal grilles are wrought iron, and a uniform corrosion and rust is beginning to form. The louvers that are behind the metal grilles are glass. It appears glass was used to permit light into the basement below. Every blade in both buildings is in good condition. The metal frame that supports the glass louver blades is beginning to rust, and is the biggest threat to the survival of the glass blades. The metal stair rails are wrought iron with inserts that anchor them into the concrete landing curbs. Only two of the steel anchors have rusted through. Otherwise the rails are in good condition.

The wood lattices in the roof parapets were replaced in 1964 and are in mixed condition. One direction of the diagonal framing is continuous, while the other is blocking aligned to look like continuous members. Water enters at the juncture of the short blocks to the continuous members. Once it reaches the cut end of the blocking it is absorbed and leads to rot. All of the short blocks in the lattice have rotted and must be replaced. The continuous members are salvageable. Some of the bottom rails were embedded in the concrete wall below which collected water and accelerated their decay and should be replaced.

Two of the original building lights are still mounted on the buildings in their original condition (except for paint) including their patterned, cylindrical glass. These lights may be replicated to restore the buildings original look.

The missing friezes and pilaster capitals were removed from the building in 1964 for unspecified reasons, but likely due to concerns over the strength of their connections to the buildings. The detailed ornamental features were produced separately and then attached to the building. The as-built drawings show that these attachments were single looped rod anchors located in the center

of each piece. Using anchorage compliant with current seismic load requirements, these decorative elements may be recreated of any of several materials, and attached to the structure.

The project's Asbestos and Lead Survey has identified Asbestos Containing Materials (ACM) and some lead based materials on both structures. Most are intact and only of concern should the work of this report require them to be disturbed. All are Category II, non-friable and intact in a binder except for two products that are loose and falling into work areas, lead based paint in the offices, and ACM putty in the windows. These materials should be remediated for occupant safety and the other materials should be removed prior to construction that would impact them.

Recognizing that the actions identified in this conditions assessment may be approached in several ways based upon its objectives, this report has classified the action into three categories. Each category represents a different levels of resolution from which Caltrans may choose to establish their approach. These categories are:

1. **Stabilized.** Stable condition means that the building is serviceable, deterioration has been stopped and the building should have a new life of 10 to 15 years with only normal maintenance. The focus of this approach is to minimize cost over longevity or historical accuracy of the restoration.

2. **Repaired.** Repaired means that the building is serviceable, deterioration has been halted and the source of that deterioration has been eliminated through repair to the structure. The repaired structure should have a life of 20 years, plus. The focus of this approach is to maximize the life of the building, but forego its historical restoration to limit cost.

3. **Restored.** Restored means that the building has been returned to original condition with historical restoration as far as practical and where possible new technologies have been used to improve the performance of the buildings and maximize their lives without changing their original appearance. Please note that "Restored" means to attempt to duplicate original condition, and not necessarily strengthen or improve/maximize life extension. The Improved state would be "Retrofit". These categories shall have these meanings when used in this report.

2.1 RECOMMENDATIONS

It is recommended that these structures be restored.

This work may be phased to provide more funding options for the work. A phased construction would start with a repaired approach and evolve into a restored project. A stabilized approach would be skipped in that it would include work acceptable for short term deferment of the restoration work but not suitable for inclusion within the restoration work.

To provide further flexibility in selecting the best solution for their purposes, the Cost Estimate has been broken down into tasks, categorized as part of the three approaches above, for mixing and matching as deemed appropriate.

The specific recommendations are (see discipline narratives for details):

1. Completely remove the existing exterior cementitious coating (and all stop-gap paints). It is an unsuitable base for future coatings and a source of many of the buildings' problems. Replace with a flexible ter-polymer coating.

2. Remove all concrete spalls. Wire brush the rebar to remove all rust, epoxy paint, and patch the concrete with a highly-adhesive, non-shrink concrete patching compound.

3. Strip all the handrails in place and recoat with a high performance polyurethane paint.

4. Remove the wrought iron grilles to be stripped and powder-coated.

5. Temporary remove all of the glass louver blades and paint the frame in place with a high performance polyurethane paint, then replace same glass.

6. Saw-cut and fill with paintable sealant, flush filled, all continuous cracks that extend through the concrete walls or are believed to reach the reinforcing steel in the wall.

7. Relocate all roof drains within 3 ft. of an exterior wall, and modify the roof slope with tapered insulation to create a counter-slope away from the wall.

8. Stabilize the patches created previously based upon their current condition (crumbling cracked or stable). Once stabilized the ter-polymer coating will hide other imperfections.

9. Replace the checker plate metal cover on the north stair landing at the Alameda Portal with a water tight sidewalk access hatch. Water gathering on the walls and landing and entering under this plate has caused the most serious damage that has occurred to either building. See the narrative for proposed repairs to the severely damaged beam beneath the plate.

10. Repaint all of the steel window frames and install new glass with a clear retention film on the interior face. This film is, meant to retain shards of glass in blast resistant windows. The film will not stop a bullet, but it will prevent glass from shattering and is a measure to minimize shootings.

11. Remove and replace the steel beam supporting the east screen window of the Alameda Portal and the west window of the Oakland Portal.

12. Re-cast the missing medallions, friezes, and pilaster capitals in concrete, and attach to the structures in a manner meeting current seismic design codes.

13. Whether other work proceed or not, the paint above the acoustical tile ceilings in the ground level office area between the two stairs at both portal buildings should be removed. Before any construction occurs that would dislodge and damage other ACM and lead containing materials identified in the Asbestos and Lead Survey the materials should be removed in a safe manner

14. .Under-cut the metal-clad entrance doors to remove bottom rot, repair to original state, and provide new metal sill to eliminate rot cause.

3. STRUCTURAL SUBSTRATE

The Alameda and Oakland portal buildings are nearly identical structures with regard to the building layout and construction materials. The buildings have six above ground levels approximately 62-feet in total height and 2 basement levels. The structural system of the buildings consists of cast-in-place reinforced concrete columns, beams, walls, and floors. Structural investigations were limited to visual inspections establishing the suitability and stability of substrates to support long term performance of new coatings and repairs.

The available as-builts for the portal buildings show that a series of repair and renovation projects have been performed that have affected the structure. Below is a summary of previously completed renovation work.

Year	Contract No.	Contract Type	Work Description
2008	04-1A4601	Electrical	Modify electrical equipment
2007	04-445401	Electrical	Modify electrical equipment
2006	04-163614	Electrical	Modify electrical equipment
2000	04-4401U4	Seismic Retrofit & Radio Rebroadcast	Ground improvement - jet grouting, install electrical equipment, floor and wall retrofits.
1990	04-190924	Building Renovation	Replace and resurface asphalt concrete (AC), repair spalls and epoxy inject cracks in Alameda portal.
1979	04-207304	Building Renovation	Replace terra-cotta tile with self-sealing asphalt shingles at tower roofs.
1979	04-914722	CAL/OSHA Improvements	Install ladder at storeroom entrances between exhauster stacks at both buildings. Modify roof ladder at Oakland portal.
1979	04-207844	Building Renovation	Repair spalled and unsound surface area, refinish surface area, replace parapet grills with timber rail panels, replace reinforced concrete beams between towers, repair skylight, paint building.
1964	04-308304	Building Renovation	Remove ornamentation, replace glass curtain wall with asbestos cement board, repair spalled and unsound surface area,
1962	63-14T13C21	Tube and Building Renovation	Tile subway tube, modify electrical equipment & misc. structural repairs, paint building interior
1924-1928	Doc No. 40002559	Tube and Building Construction	Original tube and building construction.

3.1 GENERAL ASSESSMENT

It is common for cast-in-place concrete structures of this age, located in an area of prolific seismic activity, to have visible cracks, efflorescence and spalling. The two portal buildings have added influences of being located on the edge of a salt water estuary with basement levels below the water table. The cumulative effects from these conditions has resulted in many areas throughout the structure in need of repair.

As the facilities were surveyed, many areas of cracking, efflorescence, and spalling were noted, but almost none of them appear to be a major issue. Generally, the areas of most concern are where the concrete has spalled and/or cracked away, exposing the reinforcement to the elements and causing it to rust, deteriorate and damage adjacent surfaces. These require attention as soon as is feasible to stabilize them and prevent further and more costly deterioration. Next in severity are the larger cracks that are currently allowing water to penetrate completely through the structural components into the interior. Following in concern are the areas where it is evident that water is entering the structure, eroding the cementitious material and causing efflorescence and peeling paint at the surface. Minor stress cracks are next in order of severity because they are not only unsightly, but will eventually allowing water to migrate into the structure and cause efflorescence, rust and spalling. A systematic approach to arresting and correcting these problems will allow these historic buildings to service and enhance the community for many years to come.

3.2 EXTERIOR SPALLS

There are areas of minor to significant spalling on every elevation of these facilities. Some of the areas are only surface deep, the result of water penetrating through surface cracks, affecting only the cementitious coating and paint finish.

The more serious intrusion of water via cracks and penetrations into the core of the exterior walls of these facilities has in some cases caused the structural concrete to deteriorate and consequently the imbedded steel reinforcing to rust. As the steel rusts, it expands, exacerbating the cracking and results in areas of the concrete to loosen, or spall. In order to stabilize these areas and prevent further damage, the spalling concrete needs to be removed, any exposed reinforcing cleaned of rust to bare metal and coated with epoxy paint and the voids filled with a non-shrink concrete patching compound and new finish coat installed.

3.2.1 Alameda Portal

3.2.1.1 North Elevation

There are at least ten areas of spalling that indicate water intrusion into the concrete to the depth of reinforcing. It appears that several are the result of blemishes or openings left after items were removed and the resulting irregular surface was not properly patched or flashed, allowing water an entrance point. There are other spalling areas that are the result of movement of the building and resulting cracks adjacent to openings above that have over time allowed water to penetrate and do damage to the integrity of the wall below.

3.2.1.2 East Elevation

There are relatively few areas of spalling evident on this elevation and only two noted that indicate water intrusion into the concrete to the depth of reinforcing. It appears that one is the result of movement of the building and resulting cracks adjacent to openings above that have over time allowed water to penetrate and do damage to the integrity of the wall below. The other is from cracking at the base of the wall at the connection of a support for the overhead crane to the building that has allowed water to enter and damage the concrete.

3.2.1.3 South Elevation

Eight areas of spalling were noted that indicate water intrusion into the concrete to the depth of reinforcing. Two are the result of water entering through cracks at the base of embedded frames for wrought iron grilles. There is one area below a parapet railing that is likely left over damage from failed roof that has been replaced. There are two other spalling areas that are the consequence of movement of the building and resulting cracks adjacent to openings that have over time allowed water to penetrate and do damage to the integrity of the wall. Three others are at the arched opening over the roadway that are the result of stresses induced by seismic activity that created cracks adjacent to openings in the wall above and allowed water to migrate into the material below.

3.2.1.4 West Elevation

Five areas of spalling were noted on this elevation that indicate water intrusion into the concrete to the depth of reinforcing. It appears that two are the left over damage from a failed roof that has been replaced. There are three other spalling areas that are the consequence of movement of the building at the ground, resulting cracks radiating upward that have over time allowed water to penetrate and do damage to the integrity of the wall.

3.2.2 Oakland Portal

3.2.2.1 North Elevation

There are eight noted areas of spalling that indicate water intrusion into the concrete to the depth of reinforcing. It appears that one is the result of an opening left after an item was, allowing water an entrance point. There are four other spalling areas that are the result of movement of the building and resulting cracks adjacent to openings that have over time allowed water to penetrate and do damage to the integrity of the wall. Three are the left over damage from a failed roof that has been replaced.

3.2.2.2 East Elevation

There are few areas of spalling evident on this elevation. The primary area of concern is at the top of the wall, just below the flashing, where there is extensive staining, efflorescence and cracking, indicating that either the existing flashing is failing or these cracks and stains are left from before the latest roof was installed. There are spalls at the base of two of the window grilles, allowing water to intrude. There is also a crack and spall at the base of the wall near grade that may be allowing penetration of water into basement wall areas.

3.2.2.3 South Elevation

Seven areas of spalling were noted that indicate water intrusion into the concrete to the depth of reinforcing. Three spalls are in wall areas that are probably the result of water entering through cracks caused by differential movement from seismic activity. There are two other spalling areas that are the consequence of movement of the building and resulting cracks adjacent to openings that have over time allowed water to penetrate and do damage to the integrity of the wall. The other is a nearly continuous crack at the base of the wall that allows water penetration through to the interior. There are also failures and spalling in the concrete below the two large steel panels at the main level.

3.2.2.4 West Elevation

Seven areas of spalling were noted on this elevation indicating water intrusion into the concrete to the depth of the reinforcement. Two near the top of the wall below the flashing are the left over damage from a failed roof that has been replaced or from flashing that is not installed properly. At the middle roof level, there is a spall that was also likely caused by a failed roof. There are three other spalling areas that are the consequence of movement of the building at the openings resulting in cracks that have over time allowed water to penetrate and do damage to the integrity of the wall. There is also an area at the main floor level beneath an opening that has spalled, exposing rebar, that has been painted over and currently appears stable, but should be patched to prevent future spalling.

4. EXTERIOR COATINGS

It is difficult to know the age of the coatings on both buildings. The last recorded painting of the projects occurred in 1979. This paint application is fading and washing thin. The condition of the paint varies with its sun exposure, and is thin and transparent at some locations. An acid wash would be required before any paint could be applied directly over it. The paint appears to be applied directly on the cementitious coating that, based on visual analysis, is not the original coating, but was applied over a previous paint application. However, the cementitious coating is the thickest coating and establishes the texture and look of the walls. Although the exact age is not known, it appears that it was applied prior to the addition of plasticizers to cementitious coatings to add flexibility. Older coating is brittle, subject to cracking, and incapable of bridging cracks in the concrete substrate. It is the brittle character of this coating that is causing most of blistering and spalling of paint on the walls not caused by spalls and cracks in the structure itself.

4.1 ALAMEDA AND OAKLAND PORTALS

4.1.1 Cementitious Coatings

Open, fine line, and hairline cracks can be found, on average, every 10 square feet of the exterior walls, except those areas in which the paint has completely spalled and the surface has been repainted. The failure of the cementitious coating threatens the performance of all of the other exterior paints. When it peels, it pulls the paint coat(s) beneath it away from the concrete exposing it directly to moisture, and all paint applied to it can't resist the pressure that causes it to peel and fails as well. Now that cracking has occurred, the deterioration of the coating will accelerate as water gets through the cracks, behind the coating, and evaporates away more of the coating from the wall. The cementitious coating must be cleaned, stripped of scaling, and encapsulated in a strong coating, or removed and replaced.

The coating could be replaced with a newer cementitious coating. Current cementitious coatings are more flexible, but, unfortunately, they are still limited in their ability to bridge cracks, and there are superior coatings at only slightly greater cost. Should a cementitious coating still be preferred, new movement joints could be created in the structures to control the largest movements to improve the performance of the new cementitious coatings, but the cost of the joints would exceed the savings of the cementitious coating over the next coating option, an elastomeric, ter-polymer coating.

The appearance of the existing cementitious coating could be reproduced using a ter-polymer coating that has 3 times the elasticity of the cementitious coating. The ter-polymer coatings can also achieve a much higher tensile strength capable of containing spalls in-place The ter-polymer coating would be 20 mils thick, minimum.

4.1.2 High-Performance Coatings for Metals

The exterior metals to be painted vary by application. The ornamental metals, grilles and railings are wrought iron. The wide flanges, angles, tubes supporting building elements and devices, and plate doors for equipment removal are mild steel, a low strength form of carbon steel. All metals should be stripped with chemicals and then power tooled clean to achieve an SSPC-SP3 Power

Tool Cleaning. All are ferrous based and may be primed and painted with a high-performance Alkyd enamel.

4.1.3 Handrails

The handrails have been painted multiple times including a heavy but smooth coating and appear to have been applied at the same time as the cementitious coating, which blends and matches to it, but without the texture. The balusters have peeled and flaked exposing the wrought iron which has begun to rust. The rails have been worn smooth to the metal by contact, but the hand wear has also prevented rust. The handrail balusters are anchored by embedment in the concrete curb of the landing on the south, and are welded to a steel plate on the north which is then bolted to the landing curb. The north rail is bolted for removal and as a result of a modification to install a gate to permit passage of large objects to an opening in the landing using an electric hoist. The tops of the landing curbs were parge coated at some time to create a slope for drainage. This action raised the drainage surface above the bottom of the balusters, trapping water. This needs to be corrected to prevent rusting of the bases of the balusters. Two balusters have rusted through at the base on the south rail. These balusters need to be removed from the rail and new embedments welded to them and reinstalled. The handrails may be stripped in-place, cleaned with machine tools to SSPC-SP3 standards, primed and re-painted with a high-performance, alkyd enamel paint.

4.1.4 Metal Grilles and Louver Frames

The metal grilles covering the air intake openings are corroding to different degrees based on their location. Although some parts of the grilles have not begun to corrode, the paint in these locations is thin and the grilles will soon resemble the remaining grilles. This is a fine corrosive deposit that can at first go undetected, is covering much of the decorative grilles. The work on the grilles will be largely limited to cleaning and painting if acted upon as quickly as possible. Due to the presence of glass louvers immediately behind these grilles we recommend that the grilles be removed for repair. The metal grilles may be stripped, cleaned with machine tools to SSPC-SP3 standards, primed and re-painted with a high-performance, alkyd enamel paint. But, for a longer lasting result, we would suggest that they be disassembled and powder coated while they are off the building and there is only a small premium for this superior process.

Behind the decorative grilles is a glass louver system to divert rain water to the exterior while permitting light into the basement. The glass is in good condition and needs only cleaning. The Steel frame that supports it though is rusting and needs to be reconditioned and painted. The glass louver blades must be removed and the frame stripped in-place, cleaned with machine tools to SSPC-SP3 standards, primed and re-painted with a high-performance, alkyd enamel paint.

4.1.5 Existing Patch Repair

There are many ways for these patches to fail and from visual observation alone we have not been able to detect a specific reason. But since most of the original sources of the repairs have been acted upon, it is only reasonable to assume that the source of the failure is the patch methodology. A dry substrate that absorbed too much water from the mix, high installation temperatures, contraction of the mix as it cured, and other installation faults could have created the difference in surface characteristics and cracking that makes the patches stand out from the

original wall. Each of the patches need to be evaluated individually, and repaired using a non-shrink synthetic compound not susceptible to the problems encountered in the original repairs.

5. INTERIOR PAINTS

Interior finish paint at both facilities is in reasonable condition, except where damaged by earlier roof leaks. The last recorded painting installation was in 1962, but many locations appear to have been recoated since then. The coatings in the office, toilet and locker areas of the main level appear to be newer and are in good condition. There are locations in these areas, such as the underside of the ceiling slab, above the suspended ceilings, where water intrusion and subsequent spalling of the concrete has caused the paint to peel and flake. In the mezzanine and basement levels at the exterior walls, extensive cracking has allowed water to enter the concrete walls, resulting in efflorescence and spalling. These conditions have eroded the substrate and damaged the finish coatings.

5.1 PROBLEMS

There are lead-based paints in numerous interior locations, but unless damaged by water intrusion and/or concrete spalling, they are encapsulated by subsequent non-hazardous coatings and pose no immediate danger in this type of facility. It should be noted that testing and removal, if necessary, shall be required prior to any improvements or demolition that might disturb the lead-based paint layers. In areas where paints have been damaged, abatement should be performed; repairs made to assure a stable substrate, then epoxy primer and finish paint applied.

5.2 PROPOSED ACTIONS

- Remove lead based peeling and/or flaking paint in ceiling and wall areas.
- Repair concrete substrate, including chasing of cracks, injection of epoxy resin or urethane structural repair material, as appropriate for size and condition, and filling of larger voids with epoxy grout.
- Install coat of epoxy primer and finish coat of latex enamel.

6. WINDOWS

6.1 ALAMEDA PORTAL

All of the windows frames at the Alameda Portal appear to be e original. It is estimated that all of the original glass has been replaced or removed including the small glass windows in the exhaust towers. Based on as-builts the as-built drawings, it appears the glass and putty were replaced in 1964. The large glass curtain wall windows between the towers were replaced with asbestos cement board in 1964. The glass is simply too flawless to be plate glass from 1928. The window frames are steel by type. But the coloration and lack of rust on the exposed surfaces of the frames, along with coloration does suggest that they may be an alloy with lead or zinc to reduce their corrosiveness. The window frames themselves are rust free. However, the mild steel perimeter frames that support the large windows between the exhaust towers are beginning to rust. All of the ground level windows have had their edges at the wall painted over, but there is no visible sign that the joints are failing. All joints appear watertight.

6.1.1 Proposed Actions

- Remove lead or zinc based putty
- Remove all glass and solid Panels
- Strip old Frame, paint in- place
- Paint Frames
- Re-Install ¼" float glass with clear retention (blast) film

6.1.1.1 Window S1

- **Frame**: sound, no rust, no warping. Needs painting.
- **Putty**: mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass**: painted on exterior, opacifier coating on interior, cheaper to replace than repair. All panes undamaged, except one cracked and peeled clear by staff.
- **Operable unit**: functional but painted closed.

6.1.1.2 Window S2

- **Frame**: sound, no rust, no warping. Needs painting
- **Putty:** mixed condition, old putty is cracking, new is poorly executed, replace.

- **Glass:** Exterior paint peeling, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged.
- **Operable unit**: functional but painted closed.

6.1.1.3 Window S3

- **Frame**: sound, no rust, no warping. Needs painting
- **Putty:** mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass:** Exterior paint peeling, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged, except one with a bullet hole.
- **Operable unit**: removed for single pane unit for camera, cracked.

6.1.1.4 Window S4

- **Frame**: sound, no rust, no warping. Needs painting
- **Putty:** mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass:** Exterior paint peeling, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged, except one with bullet hole lower left unit.
- **Operable unit**: functional but painted closed.

6.1.1.5 Window S5

- **Frame**: sound, no rust, no warping. Needs painting
- **Putty:** mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass:** Exterior paint peeling, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged, except one replaced with a solid panel.
- **Operable unit**: functional but painted closed.

6.1.1.6 Window S6

- **Frame**: sound, no rust, no warping. Needs painting. Mild steel supports rusting, see structural
- **Putty:** old putty is cracking, contains asbestos, replace.

- **Glass:** All panes have been replaced with solid panels. (contain high levels of asbestos). Replace with glass panes.
- **Operable unit**: NA.

6.1.1.7 Windows S7 – 12 (6 small tower units)

- **Frame**: sound, no rust, no warping.
- **Putty:** old putty is cracking, contains asbestos, replace.
- **Glass:** All panes clear and undamaged.
- **Operable unit**: NA

6.1.1.8 Windows N2

- **Frame**: Sound, no rust, no warping. Needs painting
- **Putty:** Mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass:** Exterior paint peeling, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged

6.1.1.9 Windows N4-N6, N8-N10 (6 Small Tower Units)

- **Frame**: Sound, no rust, no warping.
- **Putty:** Old putty is cracking, contains asbestos, replace.
- **Glass:** All panes clear and undamaged.
- **Operable Unit**: NA

6.1.1.10 Windows N7

- **Frame**: Sound, no rust, no warping. Needs painting. Mild steel supports rusting, see structural
- **Putty:** Old putty is cracking, contains asbestos, replace.
- **Glass:** All panes have been replaced with solid panels. (Contain high levels of asbestos). Replace with glass panes.

Operable Unit: NA.

6.1.1.11 GRILLS E1,E2,E3,E4,W1,W2,W3,AND W4, See section 4.1.4

6.1.1.12 Doors

- Under-cut the metal-clad entrance doors to remove bottom rot, repair to original state, and provide new metal sill to eliminate rot cause.
- Replace wood clad trim. Strip old paint from doors, prime and paint doors.

6.2 OAKLAND PORTAL

All of the windows frames at the Oakland Portal appear to be original. It is estimated that all of the original glass has been replaced or removed including the small glass windows in the exhaust towers. Based on as-builts, it appears the glass and putty were replaced in 1964. The large glass curtain wall windows between the towers were replaced with asbestos cement board in 1964. The glass is simply too flawless to be plate glass from 1928. The window frames are steel by type. But the coloration and lack of rust on the exposed surfaces of the frames, along with coloration does suggest that they may be an alloy with lead or zinc to reduce their corrosiveness. The window frames themselves are rust free. However, the mild steel perimeter frames that support the large windows between the exhaust towers are beginning to rust. All ground level windows have had their perimeters at the wall paint over. All joints appear watertight.

6.2.1 Proposed Actions

- Remove lead or zinc based putty Remove all glass and solid Panels
- Strip old frame, paint in- place
- Paint Frames
- Re-Install ¼" float glass with clear retention (blast) film

6.2.1.1 Window S1

- **Frame**: Sound, no rust, no warping. Needs painting
- **Putty:** Mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass:** Painted on exterior, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged, except one cracked and peeled clear by staff.
- **Operable Unit**: Functional but painted closed.

6.2.1.2 Window S2

- **Frame**: Sound, no rust, no warping. Needs painting

- **Putty:** Mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass:** Exterior paint peeling, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged.
- **Operable Unit**: Functional but painted closed.

6.2.1.3 Window S3

- **Frame**: Sound, no rust, no warping. Needs painting
- **Putty:** Mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass:** Exterior paint peeling, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged, except one with bullet hole.
- **Operable Unit**: Removed for single pane unit for camera, cracked.

6.2.1.4 Window S4

- **Frame**: Sound, no rust, no warping. Needs painting
- **Putty:** Mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass:** Exterior paint peeling, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged, except one with bullet hole lower left unit.
- **Operable Unit**: Functional but painted closed.

6.2.1.5 Window S5

- **Frame**: Sound, no rust, no warping. Needs painting
- **Putty:** Mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass:** Exterior paint peeling, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged, except one replaced with a solid panel.
- **Operable Unit**: Functional but painted closed.

6.2.1.6 Window S6

- **Frame**: Sound, no rust, no warping. Needs painting. Mild steel supports rusting, see structural
- **Putty:** Old putty is cracking, contains asbestos, replace.

- **Glass:** All panes have been replaced with solid panels. (Contain high levels of asbestos). Replace with glass panes.
- **Operable Unit**: NA.

6.2.1.7 Windows S7-S12 (6 Small Tower Units)

- **Frame**: Sound, no rust, no warping.
- **Putty:** Old putty is cracking, contains asbestos, replace.
- **Glass:** All panes clear and undamaged.
- **Operable Unit**: NA

6.2.1.8 Windows N2

- **Frame**: Sound, no rust, no warping. Needs painting
- **Putty:** Mixed condition, old putty is cracking, new is poorly executed, replace.
- **Glass:** Exterior paint peeling, opacifier coating on interior, cheaper to replace than repair. All panes are undamaged

6.2.1.9 Windows N4-N6, N8-N10 (6 Small Tower Units)

- **Frame**: Sound, no rust, no warping.
- **Putty:** Old putty is cracking, contains asbestos, replace.
- **Glass:** All panes clear and undamaged.
- **Operable Unit**: NA

6.2.1.10 Windows N7

- **Frame**: Sound, no rust, no warping. Needs painting. Mild steel supports rusting, see structural
- **Putty:** Old putty is cracking, contains asbestos, replace.
- **Glass:** All panes have been replaced with solid panels. (Contain high levels of asbestos). Replace with glass panes.

Operable Unit: NA.

6.2.1.11 GRILLS E1,E2,E3,E4,W1,W2,W3,AND W4, See section 4.1.4

6.2.1.12 Doors

- Under-cut the metal-clad entrance doors to remove bottom rot, repair to original state, and provide new metal sill to eliminate rot cause.
- Replace wood clad trim. Strip old paint from doors, prime and paint doors.

7. MEDALLIONS, FRIEZES, AND CAPITALS

In 1964 the medallions, friezes, and pilaster capitals on both the Alameda and Oakland Portals were removed from all sides of the buildings. Their removal was a consequence of the growing concern over seismic hazards in the earthquake prone region. Their removal is described in Appendix F, Bridge report 1964 repairs.

7.1 STRUCTURAL REQUIREMENTS

The medallions, friezes, and pilaster capitals will need to be recast in a modified concrete and re-attached on the buildings. The original castings were in concrete, but undoubtedly with no enhancements to improve their cohesive strength. It is our understanding that the original castings are not stored and therefore not available for re-application nor to serve as molds for new castings. The originals were likely fabricated in normal concrete, brittle and destroyed when removed from the buildings. Further research will be necessary for accurate reproduction of the original castings.

There appears to be no structural concerns over the strength of the buildings and their capacity to support new concrete castings. Rather the concern will be how to anchor the castings to the structures in a code compliant method. The concrete structure provides for flexibility in how to attach to the building. The concrete can be drilled in multiple locations that suit the shape and configuration of the casting. Whatever connection system is used will have to be coordinated with the casting fabricator.

Any mechanical anchors used can now be supported by improved adhesives that can greatly contribute to the adherence of the castings to the structure.

7.2 HISTORICAL ACCURACY

Further investigation is required to meet the fabrication standards necessary to qualify as a Historical Restoration.

8. MISCELLANEOUS OBSERVATIONS

8.1 SIDEWALK ACCESS COVERS

The only sidewalk access door is located at the Alameda Portal. It does not appear to be original to the structure, and was likely installed to facilitate installation of a large sump pump located on the lowest level, directly below the access opening. The existing cover is approximately 4'-6" x 6'-6" galvanized ¼" thick steel checker plate bolted to the landing slab at the southeast corner of the facility. The opening is framed with galvanized steel channels bolted to the perimeter of the sawcut opening in the slab below.

8.1.1 Problems

The existing cover and frame are field-built and do not prevent water from entering the building. The cover is in two pieces and bolted to the surface of the slab. It relies on sealant applied externally to seal the edges. There is no water protection at the seam between the two leaves of the cover. Over the time it has been in place, the bolts and perimeter sealant have failed, allowing extensive water intrusion to the concrete structure below, causing surface efflorescence, rusting of embedded reinforcing and subsequent serious concrete spalling in several locations (See Comments).

8.1.2 Proposed Actions

- Remove existing sealant and retrofit with silicon gasket weatherstripping and new bolts/ inserts.
- Demo existing cover assembly; retrofit with new access door unit and drain.
- Demo existing cover assembly; retrofit with new access door unit and drain. Install new polymer overlay traffic surface(See Stair Landing Conditions, below).

8.2 STAIR LANDING CONDITIONS

There are four exterior stair landings - one at each of the entrances to the two buildings. The Oakland Portal landings are in good condition except at the connections to the stairs down to street level. At the Alameda Portal, one of the landings has a retrofitted access for equipment entry, per Item 7.2.1, above. The other landing has deteriorated and is in need of repair to protect the interior from water intrusion.

8.2.1 Problems

The Oakland Portal landings are generally in good condition, but the connection to the stair is damaged at both entrances. There is loose and cracked concrete at several of the stair risers, requiring repair. At the Alameda Portal, the southwest landing is cracked from side to side in both directions and there is evidence of water intrusion through the cracks. At the perimeter curb, a large area of concrete has spalled and is missing, exposing an approximately 12" length of rebar. There is also loose and cracked concrete at the risers of the stair.

8.2.2 Proposed Actions

- At all stairs to street/grade, remove loose and damaged concrete to solid base at risers, install epoxy resin in all cracks and install epoxy resin grout to fill voids and provide smooth finish.
- At southwest landing slab, Alameda Portal, chase all cracks with grinder to stable material and install fast-acting polyurea with filler sand and carbon fiber stitching dogs to reinforce the slab. Remove loose concrete at spalled area of curb, wire brush rebar to remove rust and install epoxy grout to provide smooth finish to match and align with adjacent. Remove aluminum stair treads and salvage for re-installation. Install polymer overlay at slab and stair, re-install aluminum stair treads.
- At all landing slabs, chase all cracks with grinder to stable material and install fast-acting polyurea with filler sand. Remove aluminum stair treads and salvage for re-installation. Install polymer overlay at slab and stair, re-install aluminum stair treads.

8.3 OVERHEAD CRANE

There is one overhead crane existing at the Alameda Portal. It does not appear to be original to the facility. The crane is located at the southeast entrance landing and vestibule. It is visible from both the tube approach roadway and the access road immediately to the east the facility. The steel track (or overhead girder) for the crane equipment is fixed, centered over the sidewalk access opening, extending from the interior wall of the vestibule through the transom of the northern entry door to approximately five feet beyond the face of the east wall of the facility. The track is supported by a rigid frame tube steel structure that is anchored to the walls of the building and supported by concrete piers at grade.

8.3.1 Problems

This equipment does not appear to be regularly used. It has allowed water to intrude into the building and damage the structural integrity of the facility. The entrance door has been modified to accommodate the track and to allow the crane equipment to pass from interior to exterior. This modification has altered the appearance of the entry and is not weathertight.

8.3.2 Proposed Actions

- Remove bridge crane equipment and relocate to another facility having greater need for this type of equipment and, when necessary, provide a mobile or truck-mounted crane for installation and/or removal of materials and equipment.
- Replace altered components of the transom to match existing adjacent.
- Patch and repair concrete finish at location of removed supports.

9. COST ESTIMATES

A preliminary cost evaluation has been provided with this report and is attached as Appendix A.

The short time duration allocated for this assessment precluded surveying subcontractors for current costs, but some suppliers were called for specific cost items. The cost estimate was developed using California Department of Transportation Contract Cost Data, RS MEANS Repair & Remodeling Cost Data, and URS data. The source of quantities were reproductions of original drawings, which without all dimensions yielded quantities that are approximations, but suitable for a planning cost estimate..

APPENDIX A

Cost Estimate

Posey Tunnel Conditions Assessment

26-Oct-12

Proposed Actions Cost Estimate

All costs are unit prices including matrials and labor.
Costs include both Portal Buildings unless specifically noted otehrwise.

Item No.	Action	note	Stabilize				note	Repair				note	Restore			
			Unit	Quantity	Materi	Cost		Unit	Quantity	Material	Cost		Unit	Quantity	Material	Cost
1	Clean Interior Conc. Cracks and Apply Sealer						1	SF	500		7500	1	LF	1000		$15,000.00
2	Repair Damaged Beam at Landing Cover		LF	25		1125		LF	25		1125		LF	25		$1,125.00
3	Repair Int. Spalls (clean, paint &synthetic filler)	2	SF	92	M3	5060	1	LF	192	M3	10560	1	LF	405	M3	$22,275.00
4	Remove Existing Cementitious Coating		SF										SF	20,800		$520,000.00
5	Saw-cut Major Cracks and Seal												LF	240		$7,200.00
6	Seal Fineline Cracks	3										3	LF	240		$2,880.00
7	Repair Existing Plaster Patches	4	SF	820		$28,700.00	4	SF	1,260		$44,100.00	4	SF	1,840		$64,400.00
8	Repair Ext. Spalls (clean, paint, &synthetic filler)	5	EA	48		$5,952.00	5	EA	48		$5,952.00	5	EA	48		$5,952.00
9	Remove Loose Coating and Paint(see line		SF	20,800		$457,600.00						13				$457,000.00
10	Paint Exstg Wall Coatings with Ter-Polymer	5					5	SF	20,800	M4	$582,400.00					
11	Paint Bare Concrete Walls with Ter-Polymer	5											SF	20,800		$582,400.00
12	Remove Ornamental Grilles and Paint	6	SF	2440		$43,920.00	6	SF	2440		$43,920.00	6	SF	2440		$43,920.00
13	Remove Glass Louvers and Paint Frame		SF	2440		$39,040.00		SF	2440		$39,040.00		SF	2440		$39,040.00
14	Replace Glass Louver Blades		SF	2440		$13,176.00		SF	2440		$13,176.00		SF	2440		$13,176.00
15	Replace Ornamental Grilles and seal edges		Ea	24		$9,240.00		Ea	24		$9,240.00		Ea	24		$9,240.00
16	Remove Short Blocks in Wd. Lattices	7	SF	320		$704.00	7	SF	320		$704.00	7	SF	320		$704.00
17	Remove all Loose Lattice Paint		SF	320		$992.00		SF	320		$992.00		SF	320		$992.00
18	Install New Short Blocks		SF	320		$1,232.00		SF	320		$1,232.00		SF	320		$1,232.00
19	Apply Wd. Conditioner and Repaint Lattices		SF	320		$1,360.00		SF	320		$1,360.00		SF	320		$1,360.00
20	Cast & Install Replacement Pilaster Capitals						5	EA.	22		$27,500.00	5	EA.	22		$27,500.00
21	Cast & Install Replacement Frieze						5	Ea	80		$68,000.00	5	Ea	80		$68,000.00
22	Cast & Install Replacement Medallions						5		2		$1,300.00	5		2		$1,300.00
23	Remove Loose Window paint & repaint		SF	300		$3,600.00										
24	Remove All Window Putty		SF	1800	M1	$1,980.00		SF	1800	M1	$1,980.00		SF	1800	M1	$1,980.00
25	Remove all Window Glass and Panels							SF	1800		$3,780.00		SF	1800		$3,780.00
26	Strip steel Window Frames of Paint							SF	1800		$5,940.00		SF	1800		$5,940.00
27	Paint Bare Steel Window Frames							SF	1800		$3,780.00		SF	1800		$3,780.00
28	Seal Around Steel Window Frames	8	SF	600		$1,260.00	8	SF	1800		$3,780.00	8	SF	1800		$3,780.00
29	Replace 1/4" float glass w/ Retention Film	5	SF	12	M2	$145.20	5	SF	1800		$21,780.00	5	SF	1800		$21,780.00
30	Install Window Putty		SF	1800	M1	$12,780.00		SF	1800	M1	$12,780.00		SF	1800	M1	$12,780.00
31	Wire Brush Handrails Clean		EA.	4		$3,920.00		EA.	4		$3,920.00		EA.	4		$3,920.00
32	Repair Baluster Anchor & Re-install		EA.	2		$2,160.00		EA.	2		$2,160.00		EA.	2		$2,160.00
33	Paint Handrails In-place		EA.	4		$6,560.00		EA.	4		$6,560.00		EA.	4		$6,560.00
34	Paint Ground Level Metal Access Panels (Ext.)		SF	126		$2,331.00		SF	126		$2,331.00		SF	126		$2,331.00
35	Strip Ground Level Metal Access Panels							SF	126		$1,165.50		SF	126		$1,165.50
36	Ter-Polymer Coat Grd. Level Mtl Access Panels	5														
37	Repair Base of Existing Metal Clad Doors	9	EA.	4		$11,000.00	9	EA.	4		$11,000.00	9	EA.	4		$11,000.00
38	Remove polycarbonate panels at Grd Flr. Windows							EA.	3		990		EA.	3		990
39	Relocate Roof Drains Away from Walls							EA.	8		6400		EA.	8		6400
40	Change Pitch of Roof Away from the Walls							EA.	8		11200		EA.	8		11200
41	Replace the Steel Bms. Beneath Screen Windows		EA	2		$4,000.00		EA	2		$4,000.00		EA	2		$4,000.00
42	Replace Stl. Shims Supporting the Screen Windows		EA	2		$1,000.00		EA	2		$1,000.00		EA	2		$1,000.00
43	Remove Existing landing cover sealant		LF	22		$158.40										
44	Provide / install perimeter cover seal		LF	22		$378.40		LF	3012				LF	3012		
45	Install new bolts to secure cover		LF	22		$0.00		SF	40				SF	40		
46	Provide / install Access Door Unit	5	LS					LS				1	LF			
47	Clear Tower Roof Gutters		LS	4		$8,000.00		LS	4		$8,000.00		LS	4		$8,000.00
48	Prime & Repaint Interiors		SF	3250		$3,510.00		SF	3250		$3,510.00		SF	3250		$3,510.00
49	Remove Existing 2x4 Acoustical Tile Ceiling		SF	750		$675.00		SF	750		$675.00		SF	750		$675.00
50	Provide New Lights in Office Area		EA	4		$3,920.00		EA	4		$3,920.00		EA	4		$3,920.00
51	Refurbish Original Building Ext. Light Fixtures		EA	2		$1,100.00		Ea	2		$1,100.00		Ea	2		$1,100.00
52	Replicate Original Building Ext. Light Fixtures		EA	2		$2,800.00		Ea	2		$2,800.00		Ea	2		$2,800.00
53	Repair Section of Conc. Loose at Edge of Tube		EA	1		$1,460.00		EA	1		$1,460.00		EA	1		$1,460.00
54	Remove Existing Flag Pole		EA	1		$600.00		EA	1		$600.00		EA	1		$600.00
55	**CONSTRUCTION SUBTOTALS**					**$681,439.00**					**$984,712.50**					**$2,011,307.50**
56																
57	**HAZARDOUS MATERIALS ABATEMENT SUBTOTALS**															
58	Transite Panel Removal:															$14,250.00
59	Floor Tile and Mastic Removal:															$1,800.00
60	Fiberboard Removal:															$1,600.00
61	Loose and Flakey Paint Removal Interior:															$17,000.00
62	Prep Handrailings (4):															$2,800.00
63	Lattice Removal and Lead Abatement (28):$7,000.00 ($250.00/ea)															$7,000.00
64	Exterior Paint Removal: 60 shifts(see line 9, note 13)															
65	Contingency (7.5%)		0.075			$51,107.93		0.075			$73,853.44		0.075			$150,848.06
66	OH& P		0.1			$68,143.90		0.1			$98,471.25		0.1			$201,130.75
67																
68	**TOTAL**					**$800,690.83**					**$1,157,037.19**					**$2,407,736.31**
69																
70	**Out-of Scope Options**															
71	Replicate Orig. Ramp Light Fixtures and Install												8			$21,600.00
72	Replace Operable Window Unit							LS			$530.00		LS			$530.00

Notes

Product Data Sheets for the materials identified below can be found in Appendix E

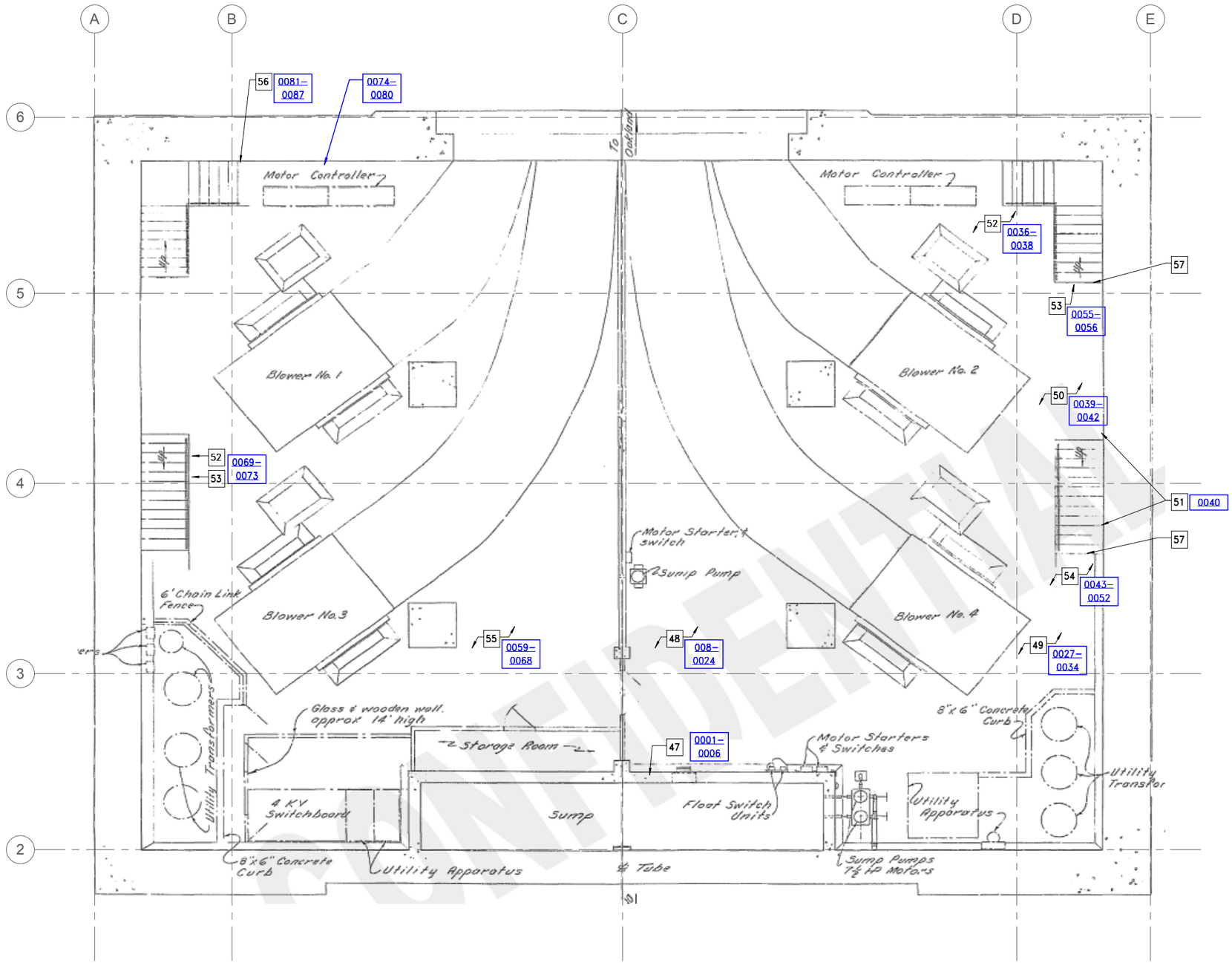
1. Sealer to be crystal forming negative side sealer as Xypex. (see product data)
2. Concrete synthetic filler to be HT Spall TX or equal
3. Trowel sealant into crack in preparation to painting
4. Average rate; varies by location
5. See products data.
6. Metal Grilles bolt together and should be disassembled for painting.
7. Saturate wood lattices with wood sealer (as Waterborne) prior to painting
8. 100% silicone sealant.
9. Approx. 3" of bottom removed and replaced in kind with sound materials.
10. Latex Enamel.
11. Areas are based on reproduction drawings that are subject to distortion, and are therefore approximations. Areas are though suitable to the purposes of this report.
12. Cost Estimate was developed using California Department of Transportation Contract Cost Data, RS MEANS Repair & Remodeling Cost Data, and URS data
13. fee includes removal of all exterior paint of building including Lead paint removal

MATERIALS

Key Code	Description.	Unit cost
M1	Standard non-asbestos window putty.	$7.10
M2	1/4" plate glass with a retention film	$12.10
M3	Synthetic Concrete filler (Xypex)	$55.00
M$	Ter-polymer elastomeric coating	$28.00

APPENDIX B

Alameda Portal Building



1 Basement Plan Under Roadway Slab
1/4" = 1'-0"

N

47 SUMP WALL: CRACK IN WALL, PAINT PEELING, DOOR LEAKING

48 WALL CRACKS PATCHED, CEILING PATCHED, PAINT FLAKING

49 PREVIOUSLY PATCHED

50 REBAR EXPOSED IN CEILING

51 BOTTOM HALF OF WALL RECENTLY PAINTED

52 STAIR SPALLS

53 STAIR CRACKS

54 LARGE CRACK BETWEEN STAIR & WALL

55 CEILING CRACKS, FLAKING PAINT

56 CRACKS/SIGNS OF WATER INTRUSION

57 LOOSE METAL KICK PLATES ON STAIRS

Project Status	DESCRIPTION	DATE	APPR
		10-08-12	

DOCUMENTATION OF EXISTING CONDITIONS

URS

NOT FOR CONSTRUCTION

SCALE

DES: Designer DRW: Author
REVIEWED BY: Checker
PM/DM: Checker
CHIEF ENG/ARCH:

DEPARTMENT OF TRANPORTATION
Alameda, CA
POSEY STREET TUNNEL - ALAMEDA PORTAL BLDG

BASEMENT PLAN

CODE ID. NO. | SIZE D
SCALE: 1/4" = 1'-0"
MAXIMO NO.
STA. PROJ. NO. —
WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
NAVFAC DRAWING NO.
SHEET OF ---

A-100

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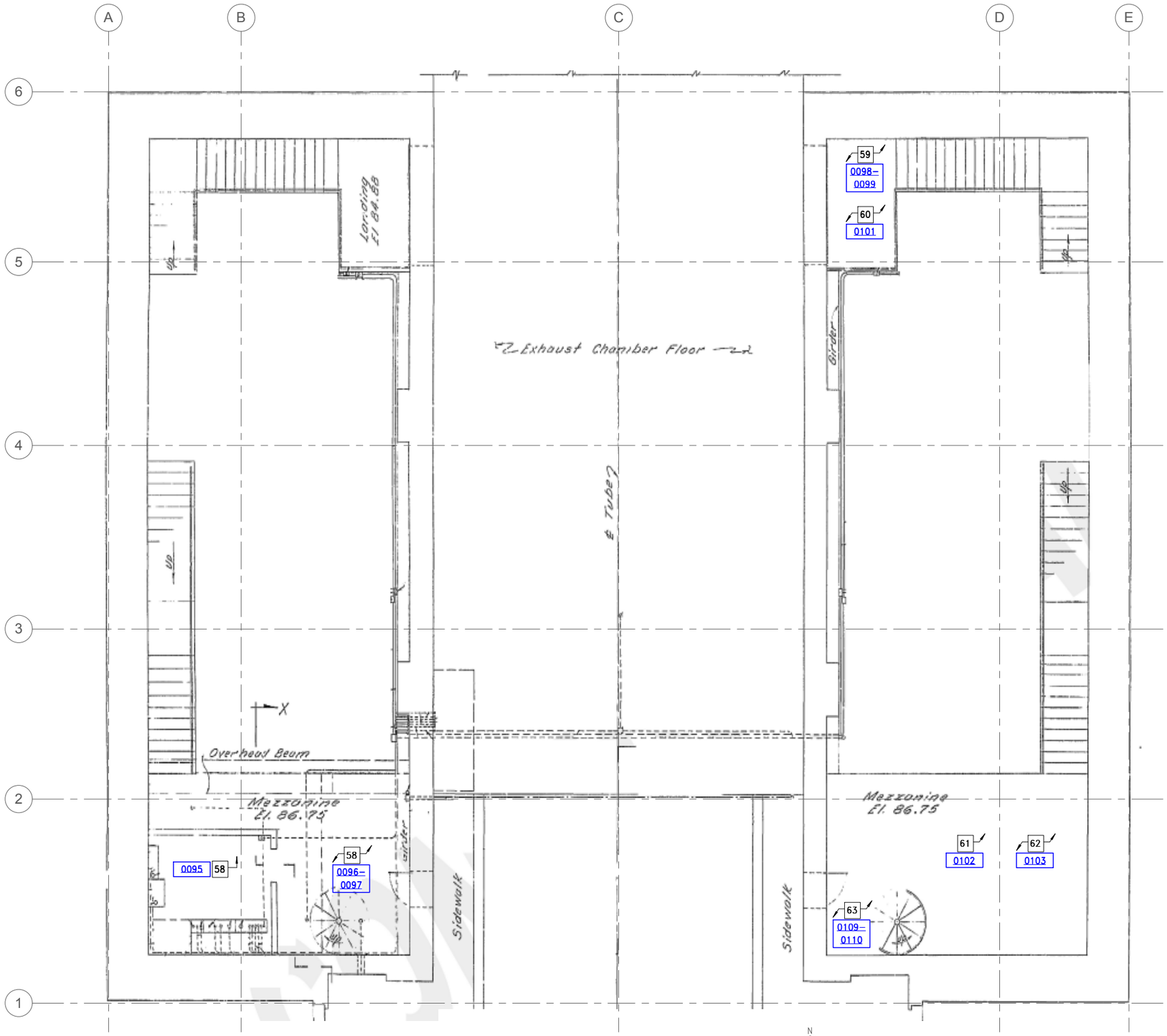

1 Basement Plan Above Mezzanine Floors
1/4" = 1'-0"

N

10 SPALLING

58 BROKEN/CRACKED GLASS – INTERIOR WINDOWS

59 WALL REPAIR

60 ANCHOR PLATES IN FLOOR ABOVE

61 EXPOSED REBAR AT BOTTOM OF WALL BEAM

62 SIGNS OF WATER INTRUSION FROM GRATE ABOVE

63 WATER INTRUSION AROUND PIPES

Project Status	DATE	DESCRIPTION	APPR
	10-08-12		

DOCUMENTATION OF EXISTING CONDITIONS

URS

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POSEY STREET TUNNEL - ALAMEDA PORTAL BLDG

BASEMENT PLAN ABOVE MEZZANINE FLOORS

CODE ID. NO. SIZE D
SCALE: 1/4" = 1'-0"
MAXIMO NO.
STA. PROJ. NO. ---
WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
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SHEET OF ---

A-101

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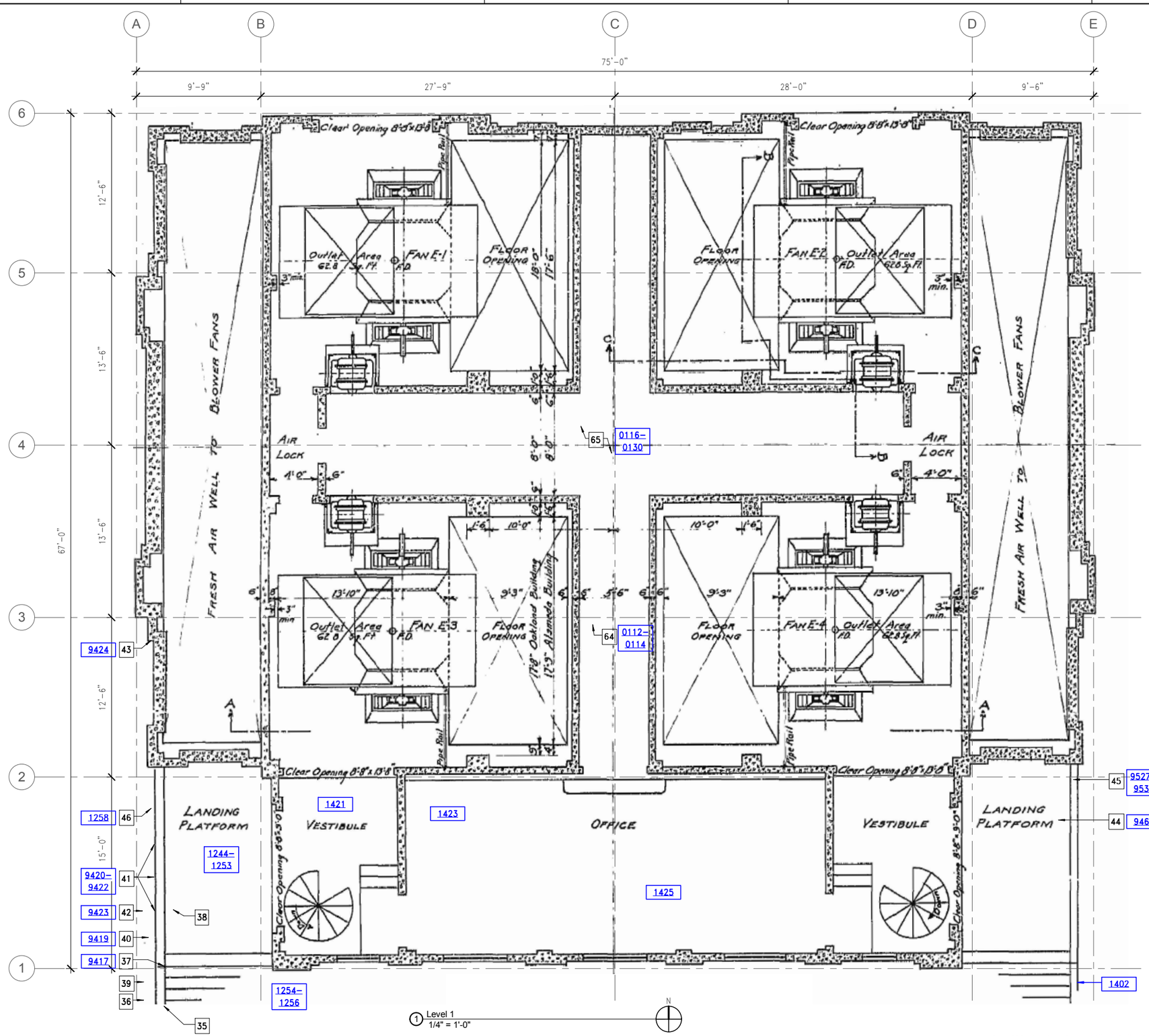

1 Level 1
1/4" = 1'-0"

35 CHIPS IN CONCRETE

36 SURFACE WORN THRU FROM EXPOSURE – TOP COAT WASHED OFF

37 BLISTERED AND WORN BARE

38 HAIRLINE CRACKS PERMIT WATER BENEATH PANEL 1 PER 24"

39 BOTTOM–UP CRACKS, WALL SPANS ABOVE GRADE STRESS, CRACK. WATER ENTERING FROM SIDES. FILL AND COVER WITH ELASTOMERIC PAINT.

40 FINELINE CRACK IN LANDING WALL. TOP–DOWN. WATER ENTERS TOP AND SIDES. MOISTURE HAS ALREADY CAUSED PAINT PEELING. NEEDS TO BE SEALED, FILLED, AND RECOATED WITH ELASTOMERIC COATING.

41 PEELS PATCHED (STABLE, NEEDS TEXTURING TO BLEND)

42 HAIRLINE CRACKS (STAINING, DISCOLORED) EVERY 30" THRU PAINT ONLY. STABLE BASE – PAINT OVER ELASTOMERIC PARTIALLY WASHED OUT

43 HAIRLINE CRACK (PAINT STABLE) BASE UP CORNER TO STRING COURSE

44 STEEL COVER PLATE – SEAL BROKEN – NOT WATERTIGHT. MAJOR SOURCE OF WATER INTRUSION.

45 HINGED SECTION OF RAILING

46 FOUR IMBEDDED PICKETS RUSTED OFF

64 CRACKS IN FLOOR SLAB ABOVE

65 CEILING & WALL CRACKS

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10-08-12			DATE
Project Status			DESCRIPTION
			CHK

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FLOOR PLAN

CODE ID. NO. SIZE D
SCALE: 1/4" = 1'-0"
MAXIMO NO.
STA. PROJ. NO. ---
WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
NAVFAC DRAWING NO.
SHEET OF ---

A-102

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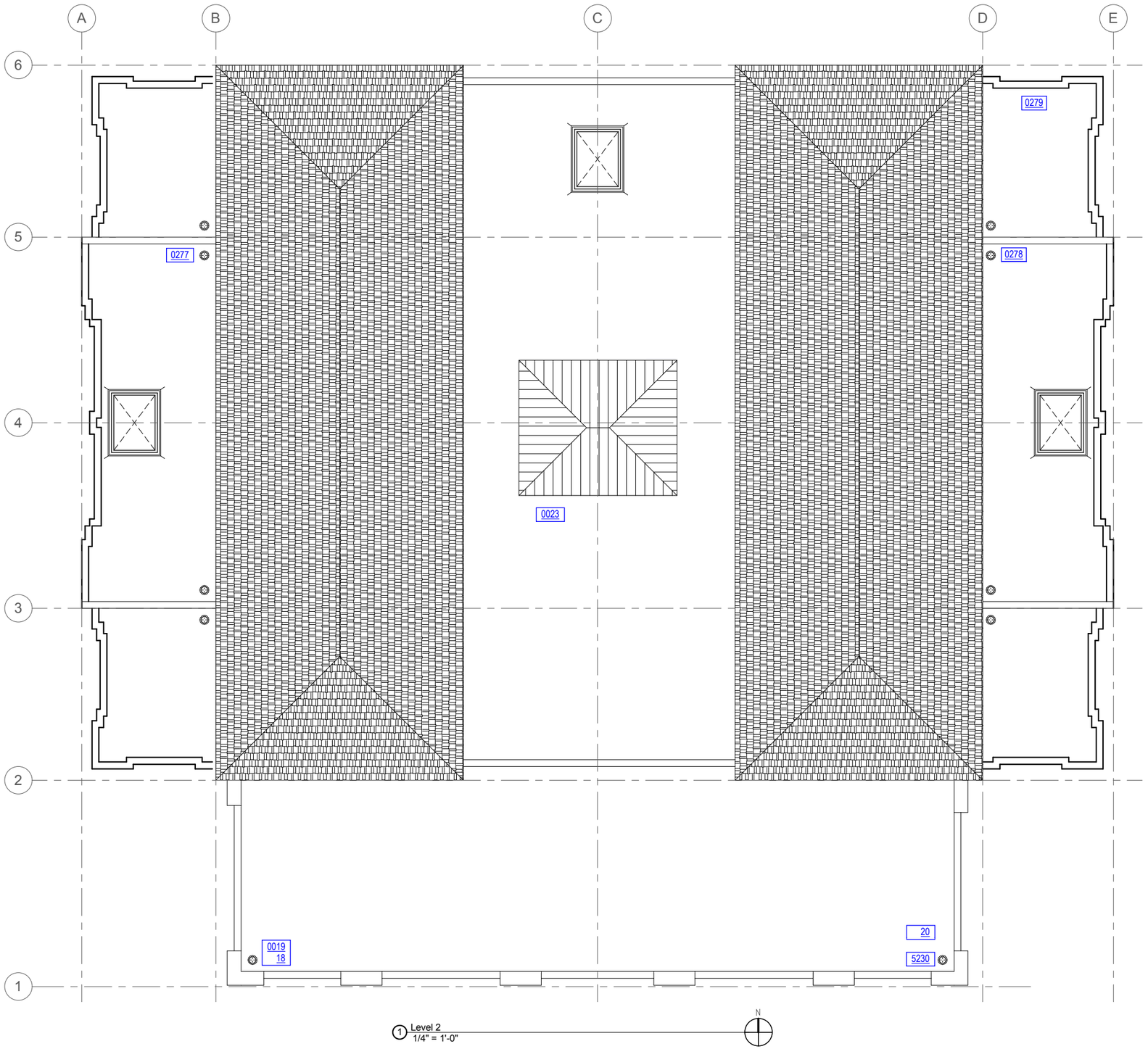

1 Level 2
1/4" = 1'-0"

Project Status	
10-08-12	DATE
	DESCRIPTION
	APPR

DOCUMENTATION OF EXISTING CONDITIONS

URS

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SEAL

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ROOF PLAN

CODE ID. NO. SIZE D
SCALE: 1/4" = 1'-0"
MAXIMO NO.
STA. PROJ. NO. ---
WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
NAVFAC DRAWING NO.
SHEET OF ---

A-103

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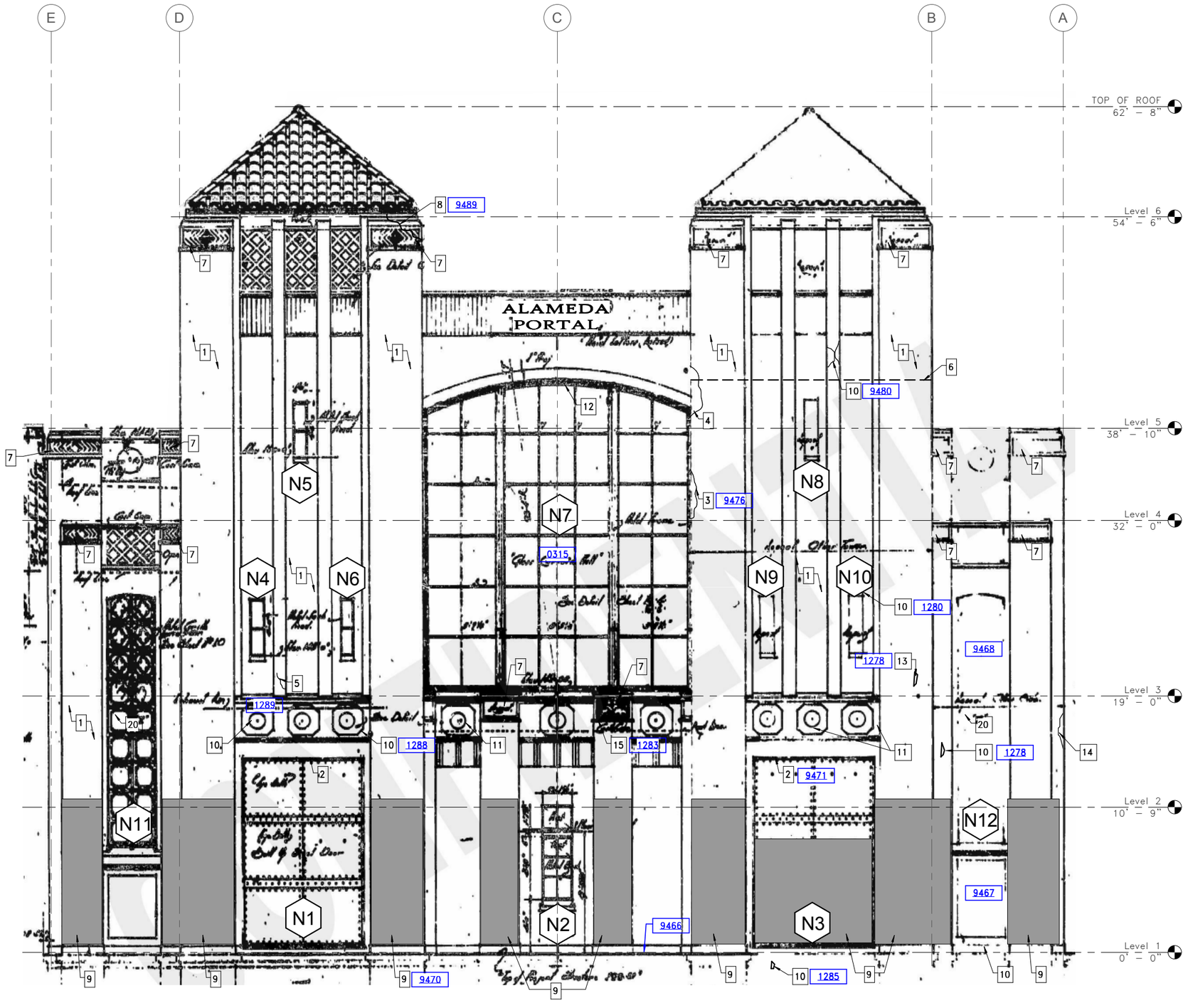


1 NORTH ELEVATION
1/4" = 1'-0"

1 SURFACE COATING HAS RANDOM HAIRLINE CRACKS. DARKER TONES OF PILLAR WASHING OFF. LIGHTER TONE INSET WALL STILL HAS GOOD ADHERENCE FOR OVER-PAINT.

2 PAINT ON DOORS FADED BUT SOUND. HEADS ARE BEGINNING TO RUST. SURFACE TENSION IS DRAWING WATER BACK TO METAL DOORS WHERE IT CAUSES RUST.

3 LARGER (1/4") SEAM OPENING FULL HEIGHT OF WALL TO WINDOW JOINT.

4 LARGER (1/4") SEAM OPENING (BREAK). FULL HEIGHT OF WALL TO WINDOW.

5 LARGE POTENTIAL SPALL

6 AREA OF CONCERN – APPARENT LINE OF PRESSURE

7 CAPITAL REMOVED

8 CORNER STRESS CRACK

9 PAINTED OVER W/ MISMATCHED COLOR

10 SPALLING

11 SPALLING W/ EXPOSED REBAR

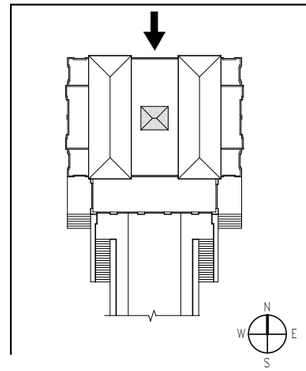
12 SWALLOW BIRD NESTS (MUD) – HOLDS WATER. REMOVE NESTS.

13 EXPOSED REBAR & BARE CONCRETE WHERE ORGINAL LIGHT FIXTURE WAS REMOVED

14 EVIDENCE OF WATER INTRUSION

15 RAW EDGE & SPALLING WHERE CAPITAL WAS REMOVED

20 WROUGHT IRON GRILLE – ORIGINAL PAINT W/ MINOR RUSTING. STRIP AND REPAINT. GLASS LOUVERS ON INTERIOR OF GRILLE IN GOOD CONDITION, BUT NEED TO BE CLEANED. UNIFORM CORROSION BEGINNING THROUGHOUT GRILLES AND WIRE MESH/CHAINLINK BEYOND. CLEAN WIRE MESH. REPLACE CHAINLINK WITH WIRE MESH TO MATCH EXISTING.



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Project Status	10-08-12	DATE	APPR
		DESCRIPTION	CHK

DOCUMENTATION OF EXISTING CONDITIONS

URS

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SEAL

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PM/DM: Checker
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Alameda, CA
POSEY STREET TUNNEL - ALAMEDA PORTAL BLDG

NORTH ELEVATION

CODE ID. NO. SIZE D
SCALE: As indicated
MAXIMO NO.
STA. PROJ. NO. ---
WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
NAVFAC DRAWING NO.
SHEET OF ---

A-201

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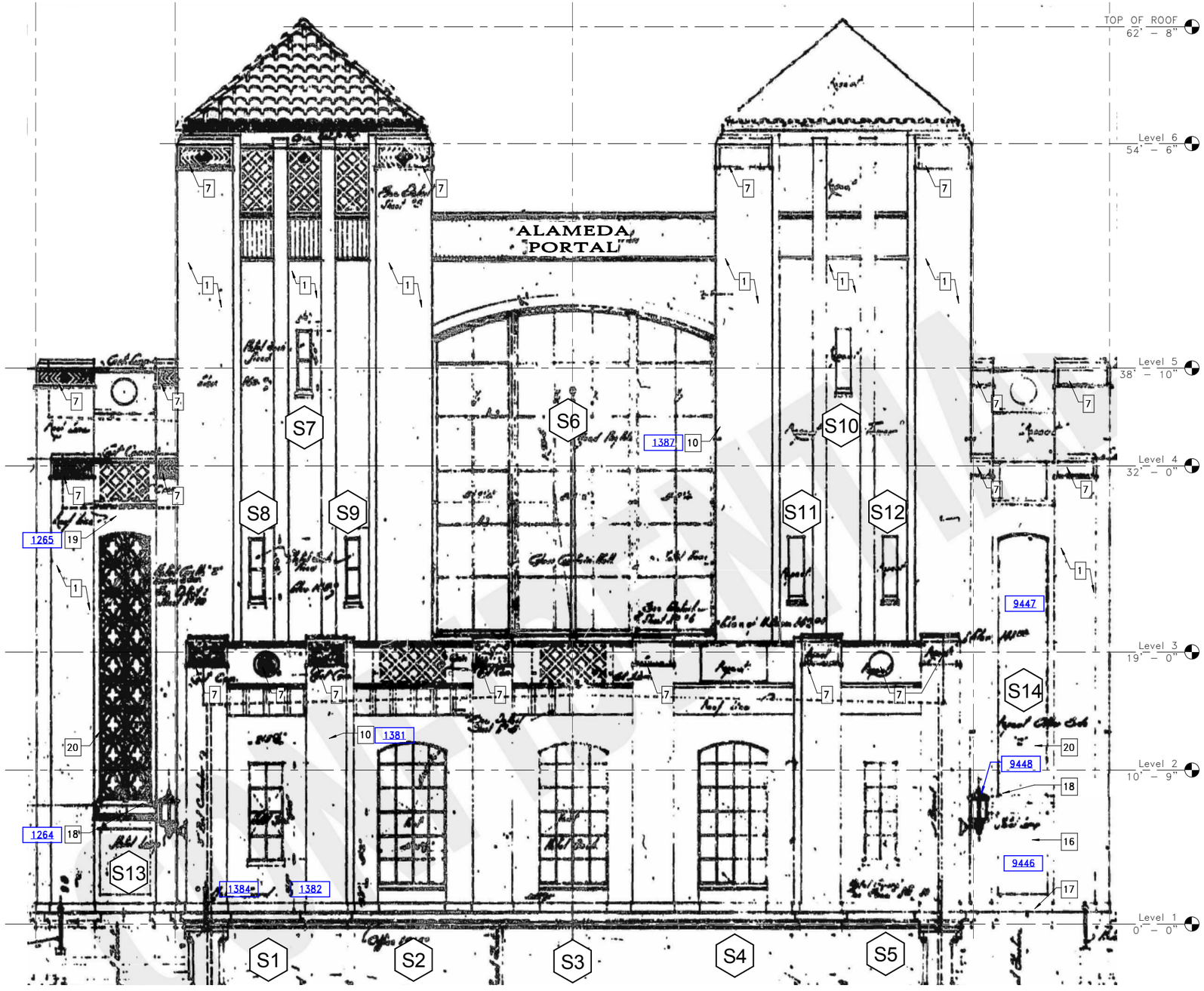


PORTAL ARCH: 9449–9460 & 1385

1 SOUTH ELEVATION
1/4" = 1'-0"

1 SURFACE COATING HAS RANDOM HAIRLINE CRACKS. DARKER TONES OF PILLAR WASHING OFF. LIGHTER TONE INSET WALL STILL HAS GOOD ADHERENCE FOR OVER PAINT.

7 CAPITAL/MEDALLION REMOVED

10 SPALLING

14 EVIDENCE OF WATER INTRUSION

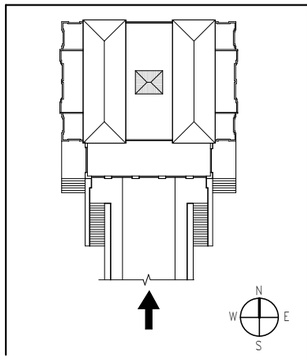
16 RUST STAIN

17 HEAVY FLAKING OF PAINT AT BASE

18 IMBEDDED GRILLE RUSTED AND CAUSED SPALLING

19 VOID IN SURFACE

20 WROUGHT IRON GRILLE – ORIGINAL PAINT W/ MINOR RUSTING. STRIP AND REPAINT. GLASS LOUVERS ON INTERIOR OF GRILLE IN GOOD CONDITION, BUT NEED TO BE CLEANED. UNIFORM CORROSION BEGINNING THROUGHOUT GRILLES AND WIRE MESH/CHAINLINK BEYOND. CLEAN WIRE MESH. REPLACE CHAINLINK WITH WIRE MESH TO MATCH EXISTING.



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Project Status	DESCRIPTION	DATE	APPR
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URS

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POSEY STREET TUNNEL - ALAMEDA PORTAL BLDG
Alameda, CA

SOUTH ELEVATION

CODE ID. NO. | SIZE D
SCALE: As indicated
MAXIMO NO.
STA. PROJ. NO. ---
WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
NAVFAC DRAWING NO.
SHEET OF ---

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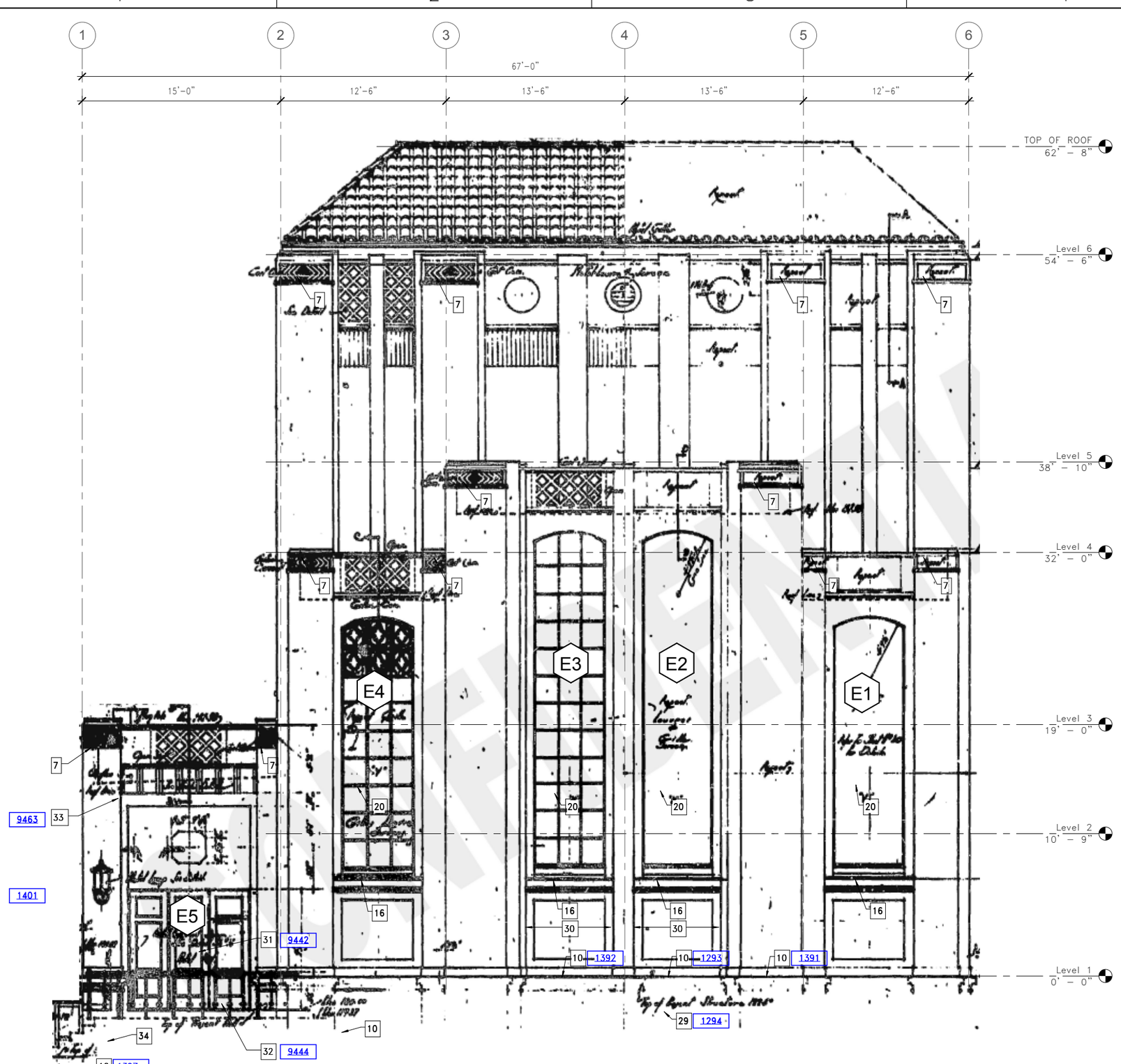


1 EAST ELEVATION
1/4" = 1'-0"

7 CAPITAL REMOVED

10 SPALLING

16 RUST STAIN. CLEAN TO REMOVE.

20 WROUGHT IRON GRILLE – ORIGINAL PAINT W/ MINOR RUSTING. STRIP AND REPAINT. GLASS LOUVERS ON INTERIOR OF GRILLE IN GOOD CONDITION, BUT NEED TO BE CLEANED. UNIFORM CORROSION BEGINNING THROUGHOUT GRILLES AND WIRE MESH/CHAINLINK BEYOND. CLEAN WIRE MESH. REPLACE CHAINLINK WITH WIRE MESH TO MATCH EXISTING.

29 CRACKING

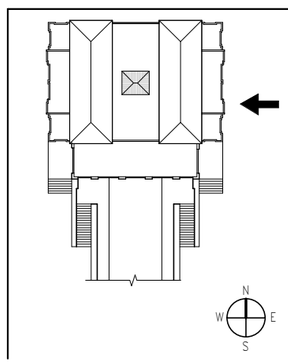
30 HAIRLINE CRACKS PERMITTING WATER BEHIND COATING AT INSIDE CORNER

31 WOOD TRIM ON DOOR MISSING IN MANY PLACES. COPY & REPLACE.

32 BASE OF STATIONARY PANELS HAS BEEN SEALED, TRAPPING WATER. REMOVE SEALANT, INSERT BREATHABLE SILL PLATE BELOW. REMOVE ROTTED WOOD, REPLACE W/ METAL DOOR BOTTOM, AND REPAINT.

33 FINELINE CRACK. APPEARS TO BE EXPANSION PRESSURE

34 SPALL UP-CRACK MOVEMENT PRESSURE FROM STAIR SETTLEMENT.



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APPR.	DATE	DESCRIPTION
	10-08-12	Project Status

DOCUMENTATION OF EXISTING CONDITIONS

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POSEY STREET TUNNEL - ALAMEDA PORTAL BLDG

EAST ELEVATION

CODE ID. NO. SIZE D
SCALE: As indicated
MAXIMO NO.
STA. PROJ. NO. ---
WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
NAVFAC DRAWING NO.
SHEET OF ---

A-203

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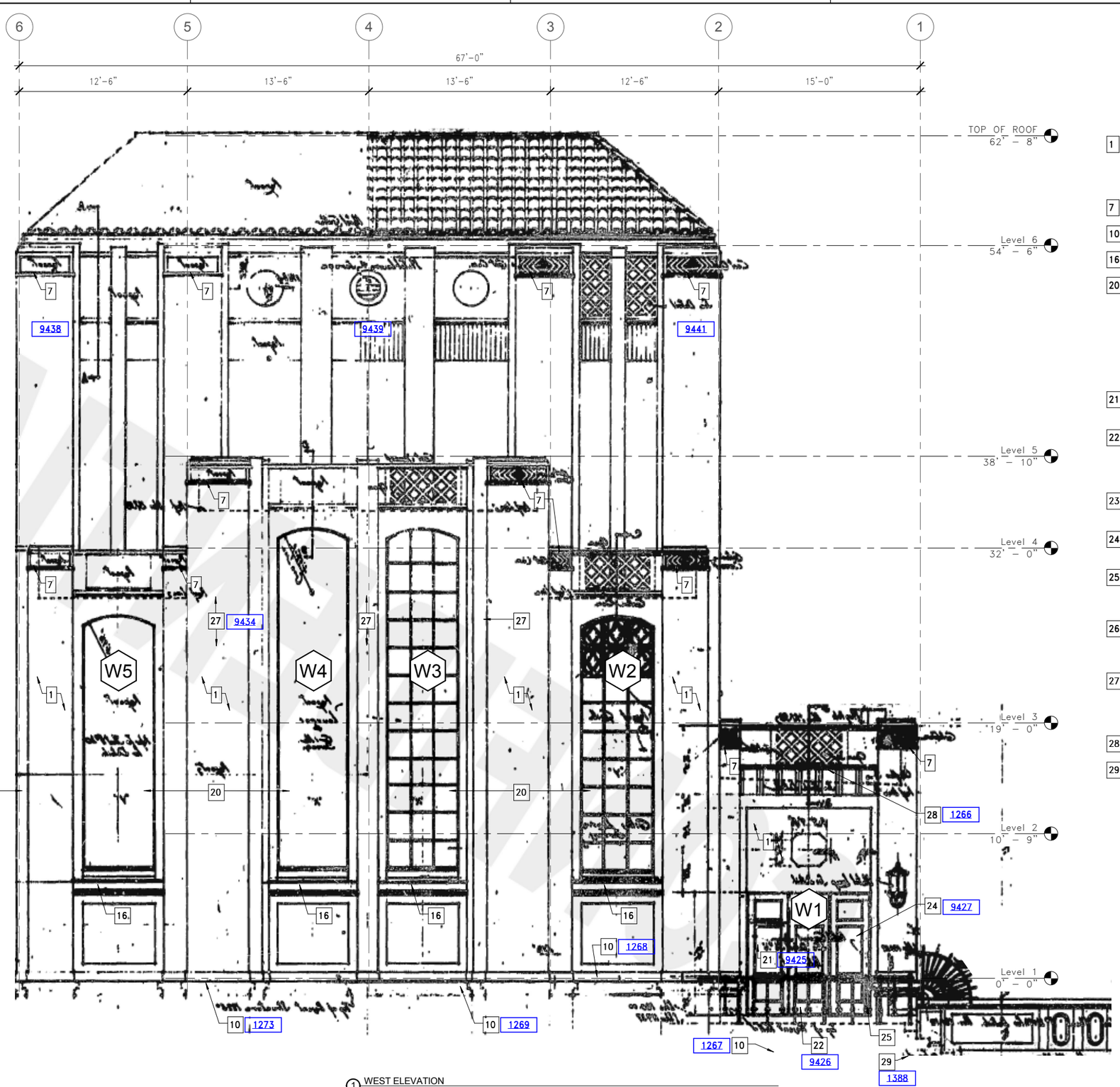


1 WEST ELEVATION
1/4" = 1'-0"

1 SURFACE COATING HAS RANDOM HAIRLINE CRACKS. DARKER TONES OF PILLAR WASHING OFF. LIGHTER TONE INSET WALL STILL HAS GOOD ADHERENCE FOR OVER PAINT.

7 CAPITAL/MEDALLION REMOVED

10 SPALLING

16 RUST STAIN. CLEAN TO REMOVE.

20 WROUGHT IRON GRILLE – ORIGINAL PAINT W/ MINOR RUSTING. STRIP AND REPAINT. GLASS LOUVERS ON INTERIOR OF GRILLE IN GOOD CONDITION, BUT NEED TO BE CLEANED. UNIFORM CORROSION BEGINNING THROUGHOUT GRILLES AND WIRE MESH/CHAINLINK BEYOND. CLEAN WIRE MESH. REPLACE CHAINLINK WITH WIRE MESH TO MATCH EXISTING.

21 WOOD DOOR TRAIM. WOOD FRAME/METAL CLAD. REPAINT. REPAIR METAL.

22 SEALED ON INSIDE. WATER HAS BEEN HELD BENEATH DOOR. BOTTOM 3"–4" ARE ROTTING. REMOVE ROTTED WOOD, REPLACE W/ METAL DOOR BOTTOM, AND REPAINT.

23 ADDED METAL FLAG POLE IS RUSTING. REMOVE, FILE HOLES, AND REPAINT.

24 METAL CLAD DOOR. SURFACE POWDERING. REMOVE POWDER AND REPAINT.

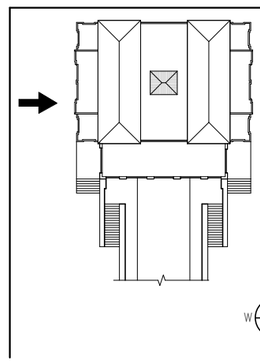
25 SEALANT ALL AROUND DOOR FRAME IS DRIED AND SEPARATING. WATER ENTERING RAKE JOINT. CLEAN AND RESEAL.

26 STRING COURSE LEDGE. TOP SURFACE COLLECTS WATER AND HAS CONTINUOUS CRACK IN VERTICAL WALL.

27 SUPERFICIAL WASH COAT IN DARKER TONE. DIFFERENT DENSITIES LOOK LIKE ROLLER MARKS APPEAR TO BE LATEX WASHED OFF. MAY WANT TO REMOVE LATEX W/ POWER WASH.

28 EDGE OF TRIM BELOW RAILING BROKEN OFF

29 CRACKING



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Project Status	
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Alameda, CA
POSEY STREET TUNNEL - ALAMEDA PORTAL BLDG
WEST ELEVATION

CODE ID. NO. SIZE D
SCALE: As indicated
MAXIMO NO.
STA. PROJ. NO. ---
WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
NAVFAC DRAWING NO.
SHEET OF ---

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Sacramento, CA 95833
Phone: 916.679.2000

ALAMEDA PORTAL BUILDING
Part 1: Structural Soundness, Movement, and Interior Spalls

IMG_0001

URS

2870 Gateway Oaks Dr, Suite 150
Sacramento, CA 95833
Phone: 916.679.2000

IMG003

IMG004

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Sacramento, CA 95833
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IMG006

IMG008

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Phone: 916.679.2000

IMG009

IMG0010

IMG0014

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Phone: 916.679.2000

IMG0015

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Sacramento, CA 95833
Phone: 916.679.2000

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Phone: 916.679.2000

IMG0032

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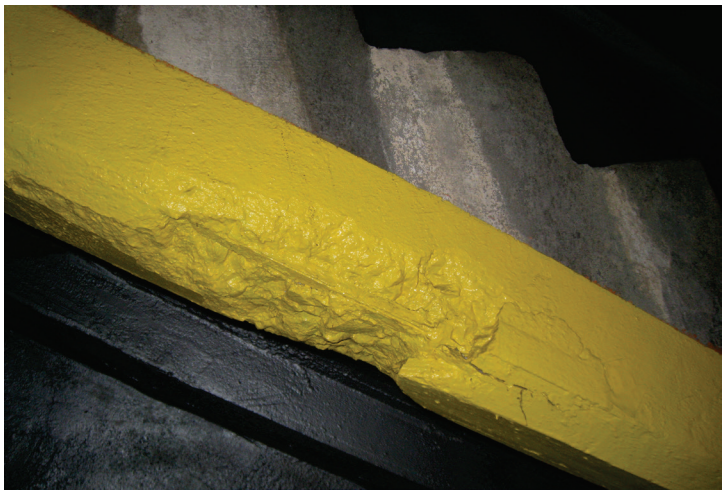
IMG0034



IMG0036

IMG0037

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Phone: 916.679.2000

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Phone: 916.679.2000

IMG0066

IMG0067

IMG0068

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Sacramento, CA 95833
Phone: 916.679.2000

IMG0071: BASEMENT STAIRS

IMG0069: BASEMENT STAIRS

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Sacramento, CA 95833
Phone: 916.679.2000

IMG0072: BASEMENT STAIRS

IMG0073: BASEMENT STAIRS

IMG0074

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Sacramento, CA 95833
Phone: 916.679.2000

IMG0076

IMG0077

URS
2870 Gateway Oaks Dr, Suite 150
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Phone: 916.679.2000

IMG0081: CONDITION NEAR TOP OF BASEMENT STAIR

IMGA0085: WALL AT TOP OF BASEMENT STAIR

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Sacramento, CA 95833
Phone: 916.679.2000

IMG0089: BEAMS

IMG0087: SIGNS OF WATER INTRUSION NEAR TOP OF BASEMENT STAIR

2870 Gateway Oaks Dr, Suite 150
Sacramento, CA 95833
Phone: 916.679.2000

IMG0091: BEAMS

IMG0093: PATCHED WALL

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Sacramento, CA 95833
Phone: 916.679.2000

IMG0095: BROKEN INTERIOR GLASS

IMG0096: SPALLING

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Sacramento, CA 95833
Phone: 916.679.2000

IMG0098: WALL REPAIR

IMG0097: SPALLING

2870 Gateway Oaks Dr, Suite 150
Sacramento, CA 95833
Phone: 916.679.2000

IMG0099

IMG0101: ANCHOR PLATES IN FLOOR ABOVE

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Sacramento, CA 95833
Phone: 916.679.2000

IMG0103: SIGNS OF WATER INTRUSION FROM GRATE ABOVE

IMG0102: EXPOSED REBAR AT BOTTOM OF BEAM

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Sacramento, CA 95833
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IMG0103: EXPOSED REBAR AT BOTTOM OF BEAM

IMG0109: WATER INTRUSION AROUND PIPES

IMG0110: WATER INTRUSION AROUND PIPE

2870 Gateway Oaks Dr, Suite 150
Sacramento, CA 95833
Phone: 916.679.2000

IMG0112: CRACKS IN FLOOR SLAB ABOVE

IMG0114: CRACKS IN FLOOR SLAB ABOVE

2870 Gateway Oaks Dr, Suite 150
Sacramento, CA 95833
Phone: 916.679.2000

IMG0116: CRACKS IN CEILING

IMG0117: CRACKS IN WALL

IMG0118: CRACKS IN WALL

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Sacramento, CA 95833
Phone: 916.679.2000

IMG0119: CRACKS IN WALL

IMG0120: CRACKS IN WALL

IMG0121: CRACKS IN WALL

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Phone: 916.679.2000

IMG0123: CRACKS IN WALL

IMG0124: CRACKS IN WALL

IMG0125: CRACKS IN WALL

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Phone: 916.679.2000

IMG0127: CRACKS IN WALL

IMG0130: CRACKS IN WALL

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IMG_0244

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IMG_0299

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ALAMEDA PORTAL BUILDING
Part 2: Exterior Coating Condition

IMG_9417: West Stair

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IMG_9424

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Phone: 916.679.2000

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IMG_0281

IMG_0282

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ALAMEDA PORTAL BUILDING
Part 3: Exterior Railings and Grilles

IMG_9611

IMG_9619

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DSC01258

IMG_9512

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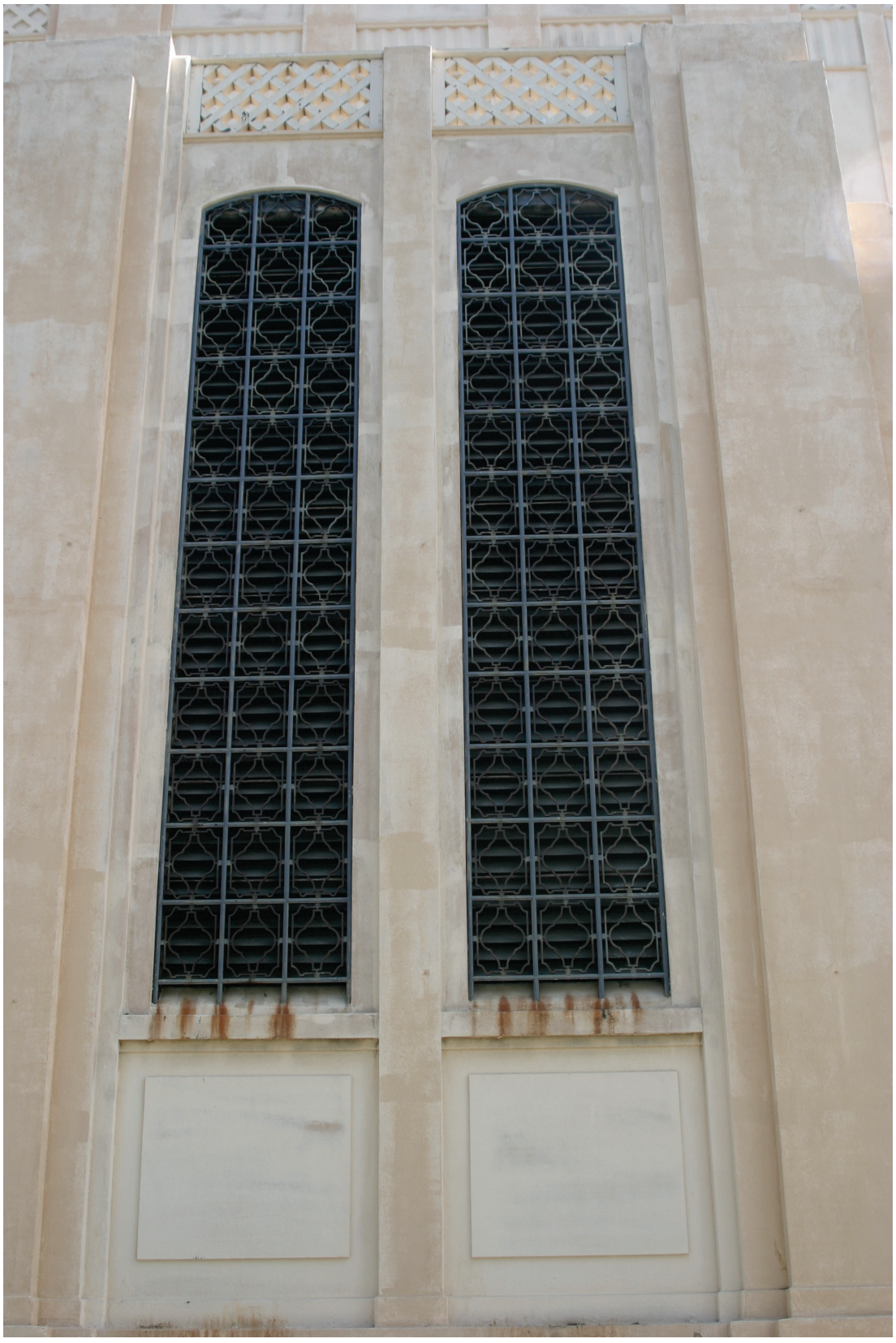

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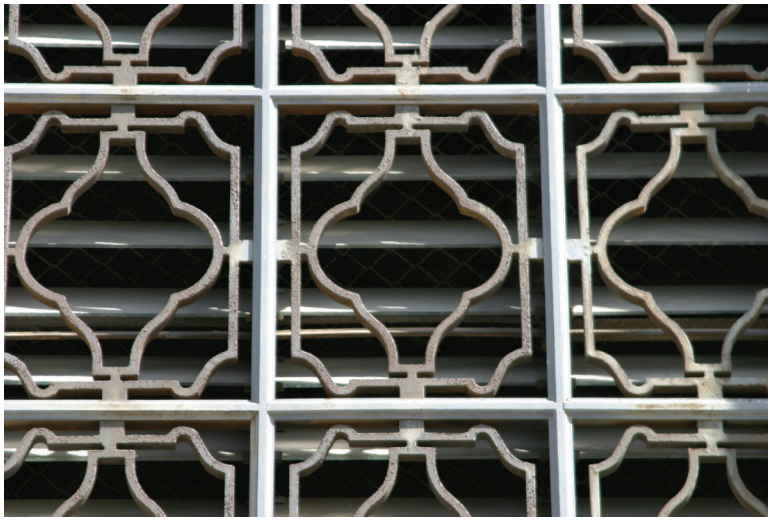

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IMG_0286: Glass Louvers Behind Metal Grille

URS

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IMG_0284 - Louver

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IMG0324

IMG0325

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IMG0327

IMG0329

IMG0330

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IMG0376

IMG0377

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ALAMEDA PORTAL BUILDING
Part 4: Interior Finishes

IMG_0352

IMG_0354

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IMG_0357

IMG_0360

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DSC01421

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Sacramento, CA 95833
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ALAMEDA PORTAL BUILDING
Part 5: Windows and Doors

IMG_9428

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IMG_9425

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IMG9444

IMG0315

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IMG9473

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DSC01381

DSC01387

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IMG_0308: North Elevation

IMG_0309

IMG_0310

IMG_0311

URS

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Phone: 916.679.2000

IMG_0313

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Sacramento, CA 95833
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IMG0321

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IMG0331

IMG0332

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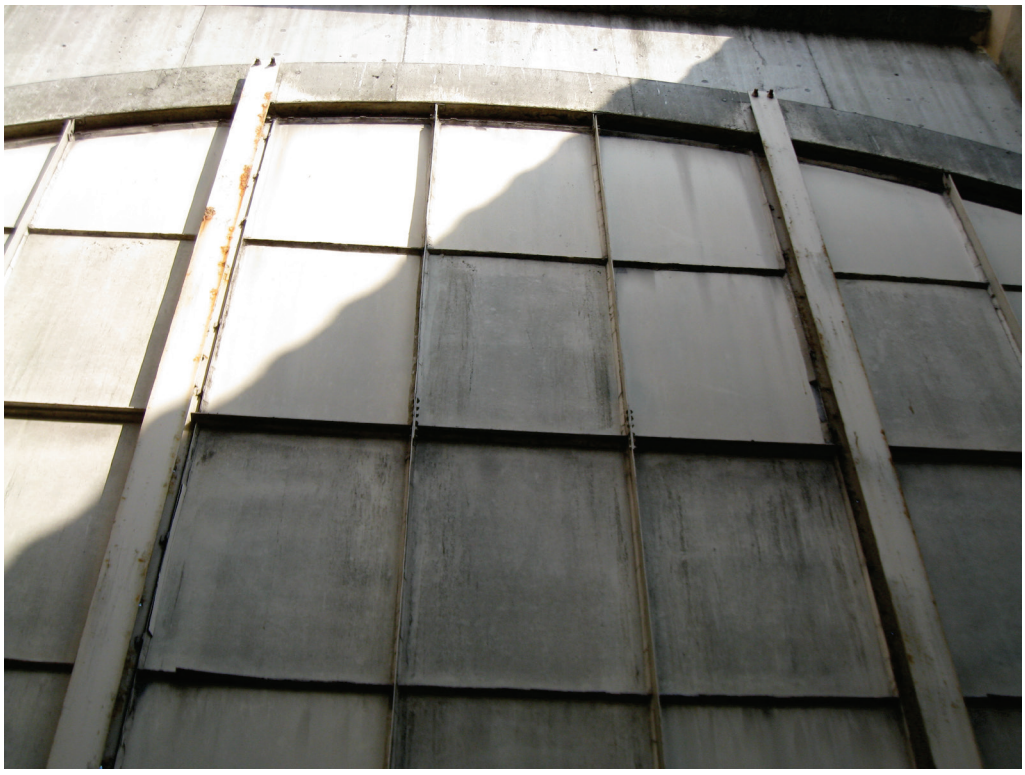
IMG0333



IMG0334

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IMG0336

IMG0334

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IMG0346

IMG0350

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ALAMEDA PORTAL BUILDING

Part 6: Medallions, Entablatures, Capitals

IMG_0283: Missing Medallion

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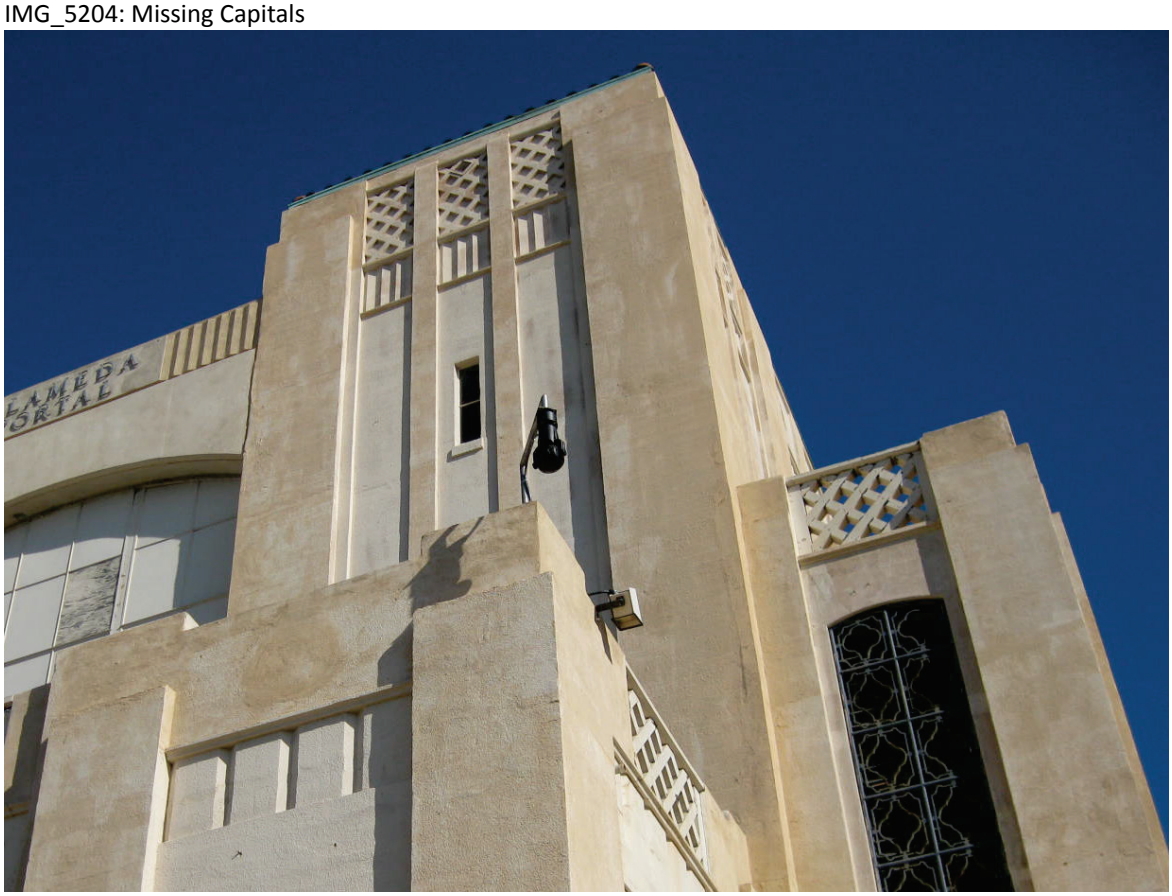
IMG_5204: Missing Capitals



IMG_5214: Missing Capitals

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ALAMEDA PORTAL BUILDING
Part 7: Miscellaneous Conditions

DSC01382

DSC01388

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DSC01397

DSC01398

DSC01396

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Phone: 916.679.2000

DSC01399

DSC01401

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DSC01402

DSC01403: Base of stairs

DSC01404: Base of stairs

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DSC01408: Metal Plate @ Stair Landing

IMG_5230: Roof Drain

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IMG_0361: Exhaust Shaft

IMG_0023 Roof hatch in background

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Phone: 916.679.2000

IMG_0278

IMG_0279

URS

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Phone: 916.679.2000

IMG_0277

IMG_20 Roof drain

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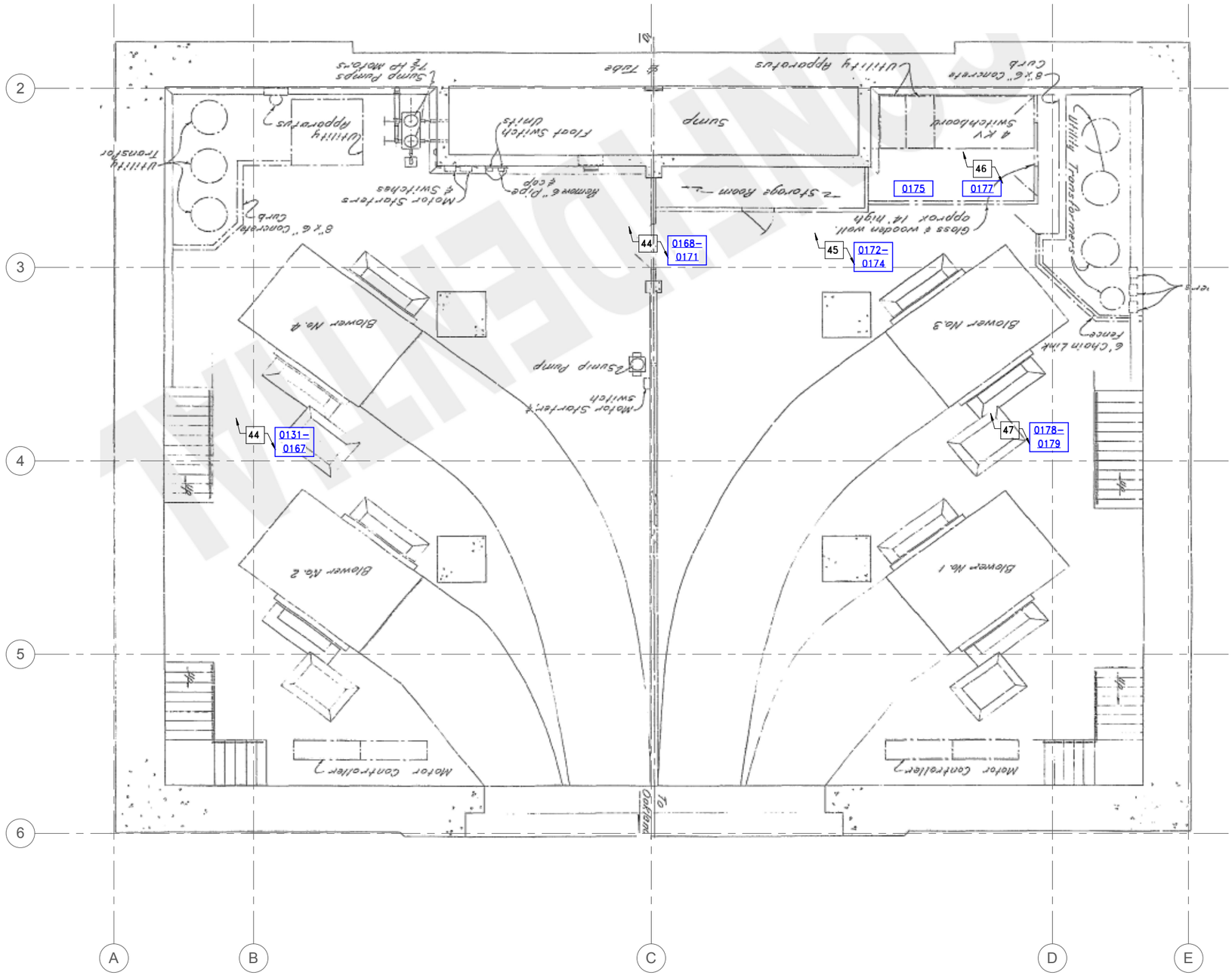
IMG_0019 Roof drain

IMG_18 Roof drain

APPENDIX C

Oakland Portal Building



44 CRACKS, SPALLS, WATER INTRUSION

45 CEILING SPALL

46 PEELING PAINT

47 LOOSE MORTAR FILL ON FLOOR

48 HOLE, WATER INTRUSION

1 Basement Plan Under Roadway Slab
1/4" = 1'-0"

WITHDRAWN

APPR.			
DATE			10-08-12
DESCRIPTION			Project Status
MK'S			

DOCUMENTATION OF EXISTING CONDITIONS

URS

NOT FOR CONSTRUCTION

SCALE

DES: Designer DRW: Author
REVIEWED BY: Checker
PM/DM: Checker
CHIEF ENG/ARCH:

DEPARTMENT OF TRANPORTATION
Alameda, CA
POSEY STREET TUNNEL - OAKLAND PORTAL BLDG

BASEMENT PLAN UNDER ROADWAY SLAB

CODE ID. NO. | SIZE D
SCALE: 1/4" = 1'-0"
MAXIMO NO.
STA. PROJ. NO. ---
WORK ORDER NO.
CONSTR. CONTRACT NO.
Project Number
NAVFAC DRAWING NO.
SHEET OF ---

A-100

IF SHEET IS LESS THAN 22" X 34", IT IS A REDUCED PRINT. SCALE REDUCED SHEET ACCORDINGLY.

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49 WATER INTRUSION FROM PIPE OPENING ABOVE

1 Basement Plan Above Mezzanine Floors
1/4" = 1'-0"

IF SHEET IS LESS THAN 22" X 34", IT IS A REDUCED PRINT. SCALE REDUCED SHEET ACCORDINGLY.

Project Status	
10-08-12	DATE
	DESCRIPTION
	APPR

DOCUMENTATION OF EXISTING CONDITIONS

URS

NOT FOR CONSTRUCTION

SEAL

DES: Designer DRW: Author
REVIEWED BY: Checker
PM/DM: Checker
CHIEF ENG/ARCH:

DEPARTMENT OF TRANPORTATION
Alameda, CA
POSEY STREET TUNNEL - OAKLAND PORTAL BLDG

BASEMENT PLAN ABOVE MEZZANINE FLOORS

CODE ID. NO. SIZE D
SCALE: 1/4" = 1'-0"
MAXIMO NO.
STA. PROJ. NO. ---
WORK ORDER NO.
CONSTR. CONTRACT NO.
Project Number
NAVFAC DRAWING NO.
SHEET OF ---

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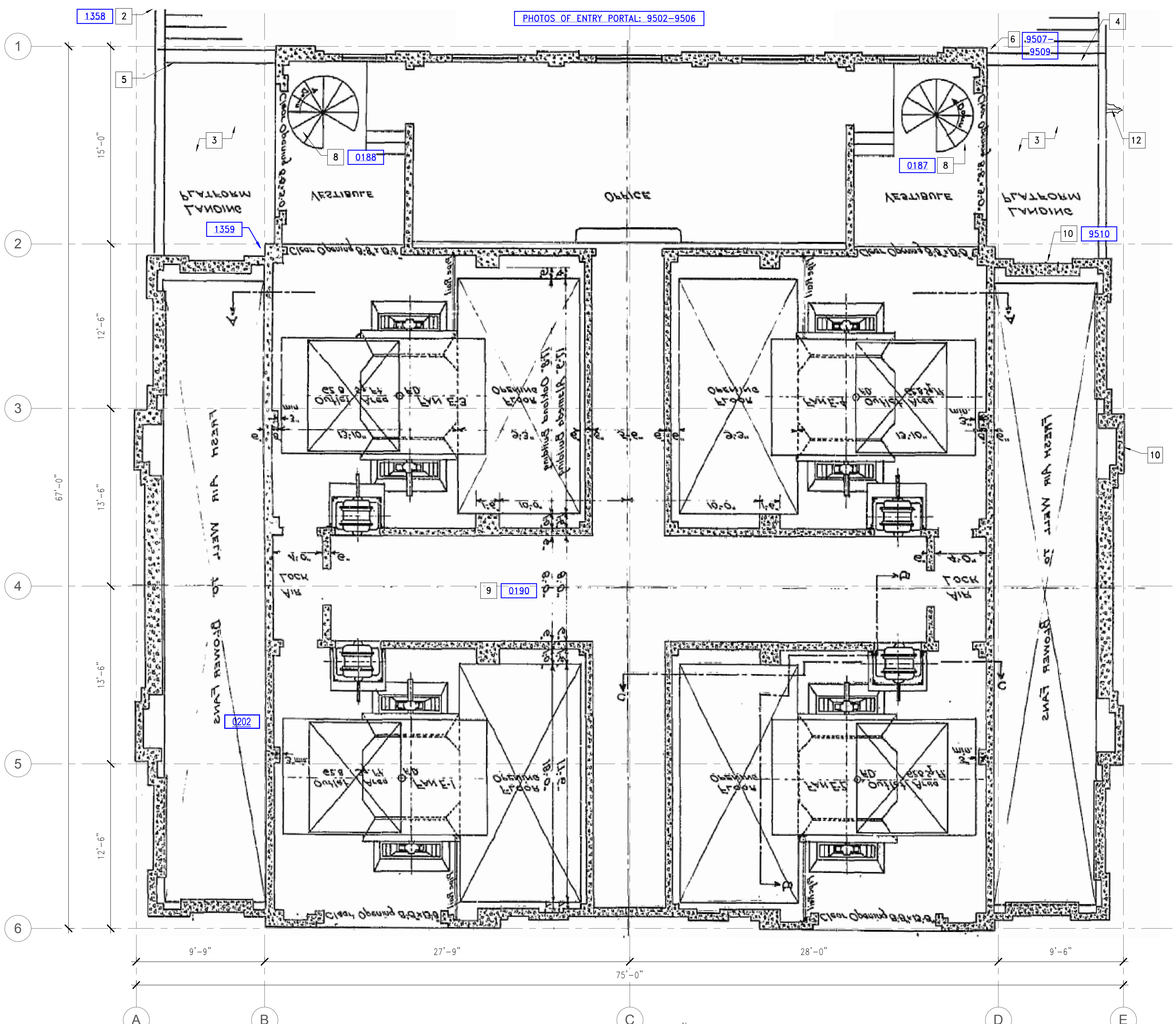

① Level 1
1/4" = 1'-0"

2 CRACKED PAVING ADJACENT TO BLDG W/ EVIDENC OF STANDING WATER. DEMO DEPRESSED AREA & RE-PAVE TO SLOPE AWAY FROM WALL.

3 HAIRLINE CRACKS

4 CRACKING IN RISER

5 CRACKING – BUILDING MOVING DOWN, PUSHING STAIR AGAINST SIDEWALK BELOW.

6 EXISTING LIGHT, ORIGINAL CONDITION

8 PATCHED ROOF DRAIN OPENING

9 PATCHED CRACK

10 SPALLING CONCRETE. REMOVE LOOSE MATERIAL TO STABLE BASE, THEN PATCH & WATERPROOF TO MATCH ADJACENT FINISH

12 LOOSE HORIZONTAL CONCRETE EXPOSING REBAR & COLLECTING WEATER. RE–GROUT & SEAL.

GENERAL NOTE:
PAINT IS IN BETTER CONDITION THAN ON THE ALAMEDA BUILDING. NO SIGNS OF THINNING TOP COAT, BUT MORE DIRT ON SURFACE.

IF SHEET IS LESS THAN 22" X 34", IT IS A REDUCED PRINT. SCALE REDUCED SHEET ACCORDINGLY.

10-08-12

DOCUMENTATION OF EXISTING CONDITIONS

URS

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DES: Designer DRW: Author
REVIEWED BY: Checker
PM/DM: Checker
CHIEF ENG/ARCH:

DEPARTMENT OF TRANPORTATION
POSEY STREET TUNNEL - OAKLAND PORTAL BLDG
Alameda, CA
FLOOR PLAN

SCALE: 1/4" = 1'-0"
CONSTR. CONTRACT NO. Project Number

A-102

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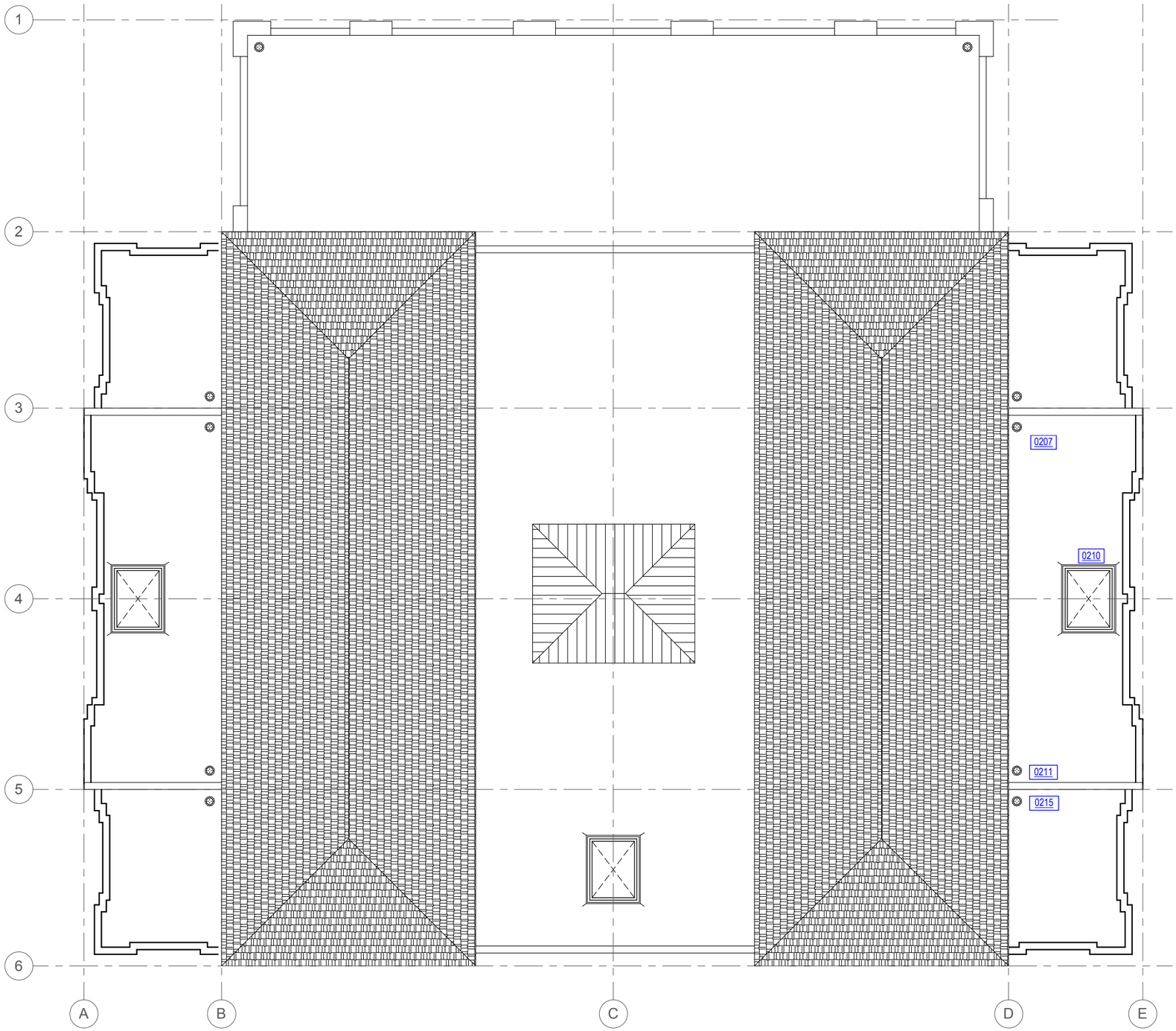

1 Level 2
1/4" = 1'-0"

N

IF SHEET IS LESS THAN 22" X 34", IT IS A REDUCED PRINT. SCALE REDUCED SHEET ACCORDINGLY.

		10-08-12	
		Project Status	

DOCUMENTATION OF EXISTING CONDITIONS

URS

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DES: Designer DRW: Author
REVIEWED BY: Checker
PM/DM: Checker
CHIEF ENG/ARCH:

DEPARTMENT OF TRANPORTATION
Alameda, CA
POSEY STREET TUNNEL - OAKLAND PORTAL BLDG

ROOF PLAN

CODE ID. NO. SIZE D
SCALE: 1/4" = 1'-0"
MAXIMO NO.
STA. PROJ. NO. --
WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
NAVFAC DRAWING NO.
SHEET OF ---

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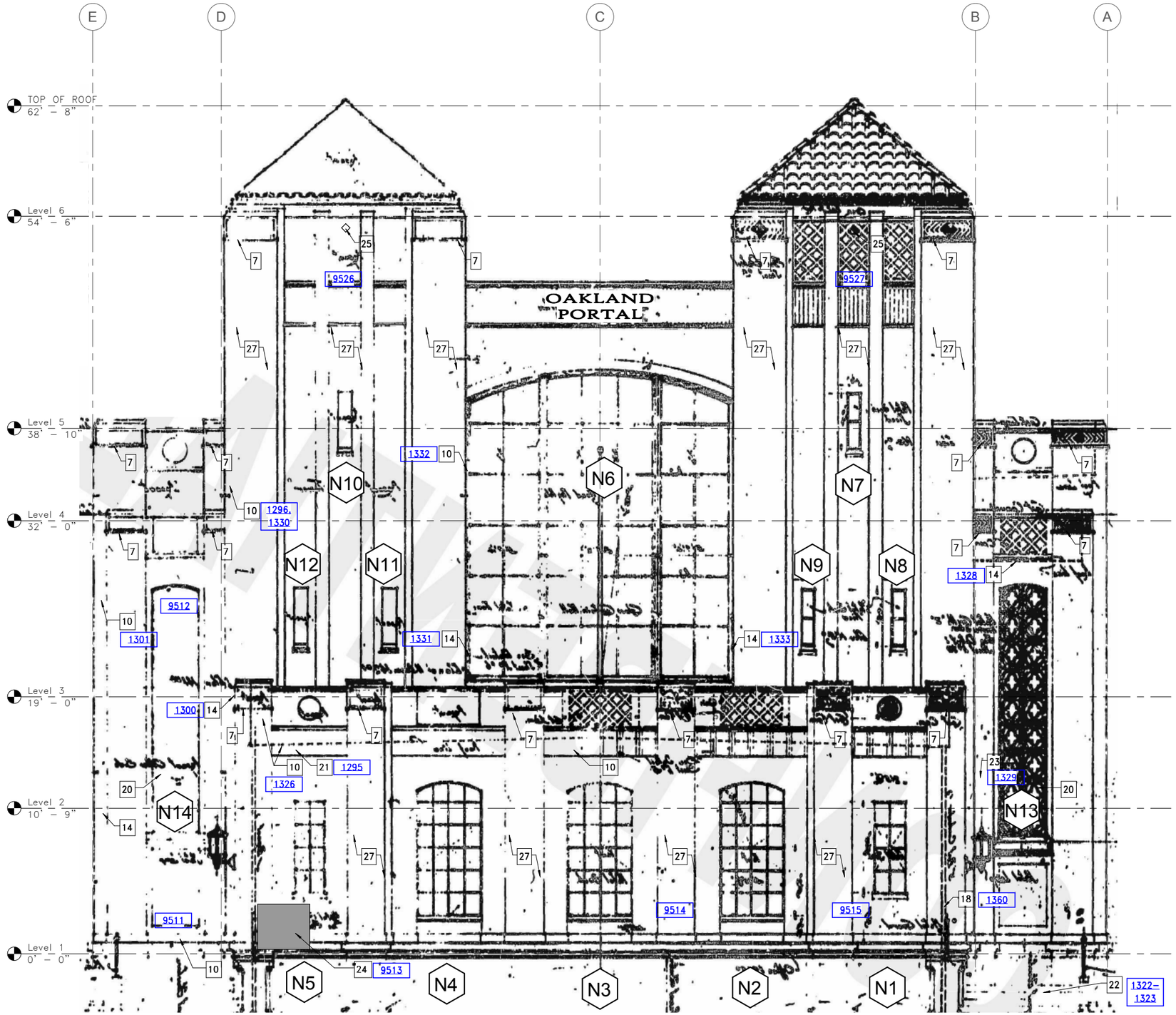


1 NORTH ELEVATION
1/4" = 1'-0"

7 CAPITAL REMOVED

10 SPALLING CONCRETE. REMOVE LOOSE MATERIAL TO STABLE BASE THEN PATCH & WATERPROOF TO MATCH ADJACENT FINISH.

14 EVIDENCE OF WATER INTRUSION (CRACKING & DISCOLORATION, RAISED PAINT). DEMO @ CRACKS TO STABLE BASE, PATCH, WATERPROOF, AND FINISH TO MATCH EXISTING ADJACENT FINISH.

18 IMBEDDED GRILLE SUPPORT RUSTED AND CAUSED SPALLING.

20 WROUGHT IRON GRILLE – ORIGINAL PAINT W/ MINOR RUSTING. STRIP AND REPAINT. GLASS LOUVERS ON INTERIOR OF GRILLE IN GOOD CONDITION, BUT NEED TO BE CLEANED. UNIFORM CORROSION BEGINNING THROUGHOUT GRILLES AND WIRE MESH/CHAINLINK BEYOND. CLEAN WIRE MESH. REPLACE CHAINLINK WITH WIRE MESH TO MATCH EXISTING.

21 MISSING CONCRETE, EXPOSED REBAR. PATCH & WATERPROOFING REQUIRED.

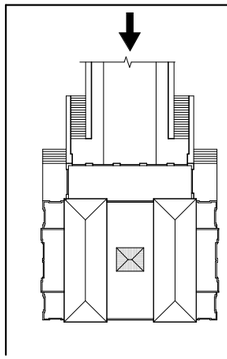
22 FINISH COATING DAMAGED & LOOSE. REMOVE ALL LOOSE MATERIAL TO STABLE BASE. CAULK CRACKS & WATERPROOF, THEN PATCH COATING TO MATCH EXISTING ADJACENT FINISH.

23 MINOR SPALLING. DEMO TO STABLE MATERIAL, PATCH & WATERPROOF, THEN FINISH TO MATCH EXISTING ADJACENT FINISH.

24 MISMATCHED PAINT

25 AIR GRILLE – WIRE MESH

27 PAINT SOUND. NO SIGNS OF THINNING OR FADING. APPEARS MORE RECENTLY PAINTED THAN THE ALAMEDA PORTAL BLDG. ALL SURFACES DIRTY – RECOMMEND CLEANING.



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			APPR.
10-08-12			DATE
Project Status			DESCRIPTION
			CHK

DOCUMENTATION OF EXISTING CONDITIONS

URS

NOT FOR CONSTRUCTION

SEAL

DES: Designer DRW: Author
REVIEWED BY: Checker
PM/DM: Checker
CHIEF ENG/ARCH:

DEPARTMENT OF TRANPORTATION
Alameda, CA
POSEY STREET TUNNEL - OAKLAND PORTAL BLDG

NORTH ELEVATION

CODE ID. NO. SIZE D
SCALE: As indicated
MAXIMO NO.
STA. PROJ. NO. --
WORK ORDER NO.
CONSTR. CONTRACT NO.
Project Number
NAVFAC DRAWING NO.
SHEET OF ---

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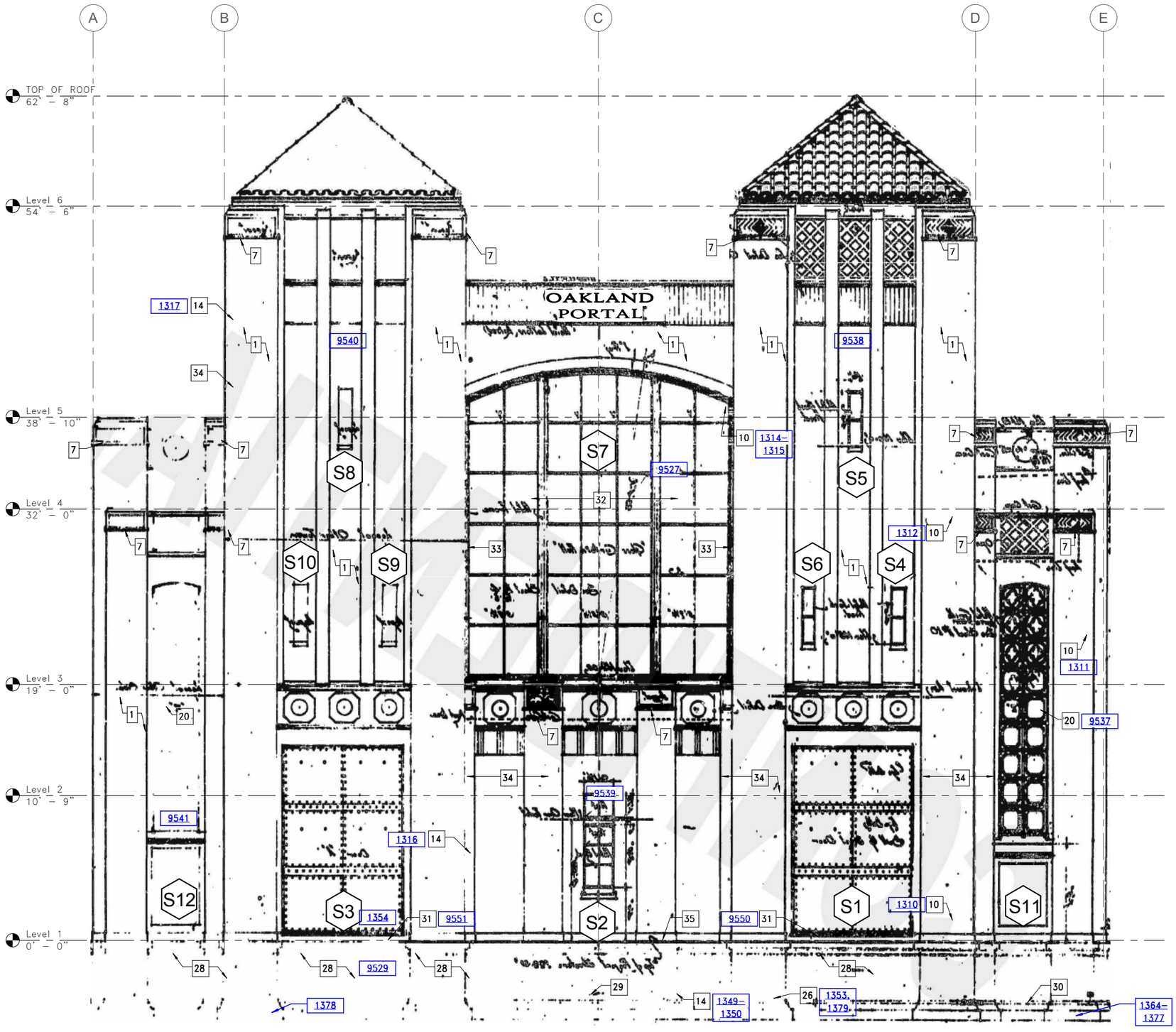


1 SOUTH ELEVATION
1/4" = 1'-0"

1 SURFACE COATING HAS RANDOM HAIRLINE CRACKS. DARKER TONES OF PILLAR WASHING OFF. LIGHTER TONE INSET WALL STILL HAS GOOD ADHERENCE FOR OVER PAINT.

7 CAPITAL REMOVED

10 SPALLING CONCRETE. REMOVE LOOSE MATERIAL TO STABLE BASE THEN PATCH & WATERPROOF TO MATCH ADJACENT FINISH.

14 EVIDENCE OF WATER INTRUSION (CRACKING & DISCOLORATION, RAISED PAINT). DEMO @ CRACKS TO STABLE BASE, PATCH, WATERPROOF, AND FINISH TO MATCH EXISTING ADJACENT FINISH.

20 WROUGHT IRON GRILLE – ORIGINAL PAINT W/ MINOR RUSTING. STRIP AND REPAINT. GLASS LOUVERS ON INTERIOR OF GRILLE IN GOOD CONDITION, BUT NEED TO BE CLEANED. UNIFORM CORROSION BEGINNING THROUGHOUT GRILLES AND WIRE MESH/CHAINLINK BEYOND. CLEAN WIRE MESH. REPLACE CHAINLINK WITH WIRE MESH TO MATCH EXISTING.

26 EVIDENCE OF WATER INTRUSION @ SURFACE COATING. REMOVE COATING TO STABLE BASE, SEAL AND RE-COAT.

28 COATING HAS SPALLED OFF. AREA HAS BEEN CLEANED AND REPAINTED W/ SMOOTH SEMI-GLOSS. APPARENT PATCH.

29 AREA COATING IS BLISTERING. WATER STILL APPEARS TO BE GETTING BEHIND THE COATING. THIS IS SUNNY SIDE – HEAT CAUSES MORE EVAPORATION EXACERBATING THE PROBLEM.

30 CONTINUOUS CRACK 3" UP FROM THE SIDEWALK. APPEARS TO BE THE RESULT OF PRESSURE BY THE CONCRETE WALK. APPEARS TO GO THROUGH THE WALL AT SOME LOCATIONS. EFFLORESCENCE OBSERVED ON THE INTERIOR.

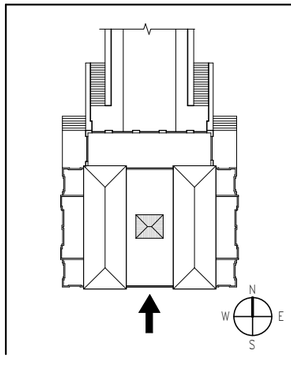
31 SPALLED SILL ALL ACROSS THE BOTTOM OF THE METAL PANEL.

32 SOLID PANELS – NOT GLASS

33 SEALANT HAS DRIED AND SEPARATED AND FAILED ON BOTH SIDES OF THE WINDOW AT THE HALL.

34 PAINT WASHED THIN AND PEELING. SOME BARE SPOTS REPAIRED WITH PLASTER, SOME FINE-LINE SHRINKAGE CRACKS.

35 TOP OF STRING COURSE FADED AND BLISTERED. THIN HAIRLINE CRACK AT BACK EDGE – WAVY SURFACE, NOT STRAIGHT



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	10-08-12	Project Status

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POSEY STREET TUNNEL - OAKLAND PORTAL BLDG
SOUTH ELEVATION

CODE ID. NO. | SIZE D
SCALE: As indicated
MAXIMO NO.
STA. PROJ. NO. ---
WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
NAVFAC DRAWING NO.
SHEET OF ---

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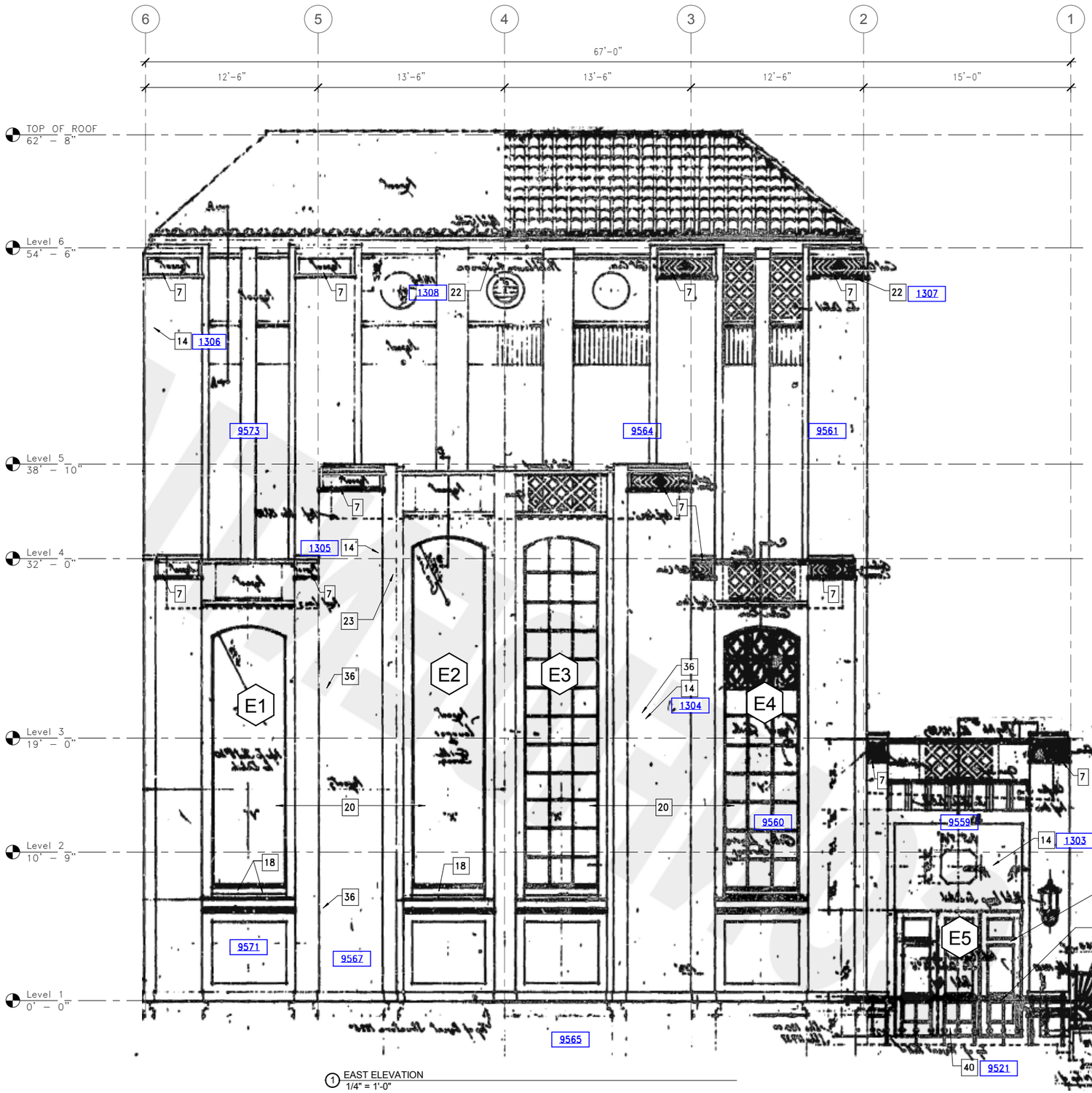


1 EAST ELEVATION
1/4" = 1'-0"

7 CAPITAL REMOVED

10 SPALLING CONCRETE. REMOVE LOOSE MATERIAL TO STABLE BASE THEN PATCH & WATERPROOF TO MATCH ADJACENT FINISH.

14 EVIDENCE OF WATER INTRUSION (CRACKING & DISCOLORATION, RAISED PAINT). DEMO @ CRACKS TO STABLE BASE, PATCH, WATERPROOF, AND FINISH TO MATCH EXISTING ADJACENT FINISH.

18 IMBEDDED GRILLE SUPPORT RUSTED AND CAUSED SPALLING.

20 WROUGHT IRON GRILLE – ORIGINAL PAINT W/ MINOR RUSTING. STRIP AND REPAINT. GLASS LOUVERS ON INTERIOR OF GRILLE IN GOOD CONDITION, BUT NEED TO BE CLEANED. UNIFORM CORROSION BEGINNING THROUGHOUT GRILLES AND WIRE MESH/CHAINLINK BEYOND. CLEAN WIRE MESH. REPLACE CHAINLINK WITH WIRE MESH TO MATCH EXISTING.

22 FINISH COATING DAMAGED & LOOSE. REMOVE ALL LOOSE MATERIAL TO STABLE BASE. CAULK CRACKS & WATERPROOF, THEN PATCH COATING TO MATCH EXISTING ADJACENT FINISH.

23 MINOR SPALLING. DEMO TO STABLE MATERIAL, PATCH & WATERPROOF, THEN FINISH TO MATCH EXISTING ADJACENT FINISH.

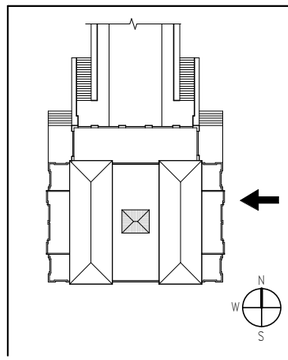
36 SPALL REPAIRS ARE SOUND. OVER-PAINT IS NOT TEXTURIZED WHICH MAKES REPAIRS STAND OUT.

37 RESURFACE METAL OVER WOOD TRIM

38 FAN GRILLE – NO RUST

39 HANDRAILS – NO RUST

40 BASE OF DOORS SEALED. REMOVE SEALANT AND INSTALL NEW SILL. RECONDITION DOOR BOTTOM



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Project Status	DESCRIPTION	DATE	APPR
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Alameda, CA
POSEY STREET TUNNEL - OAKLAND PORTAL BLDG

EAST ELEVATION

CODE ID. NO. SIZE D
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WORK ORDER NO.
CONSTR. CONTRACT NO. Project Number
NAVFAC DRAWING NO.
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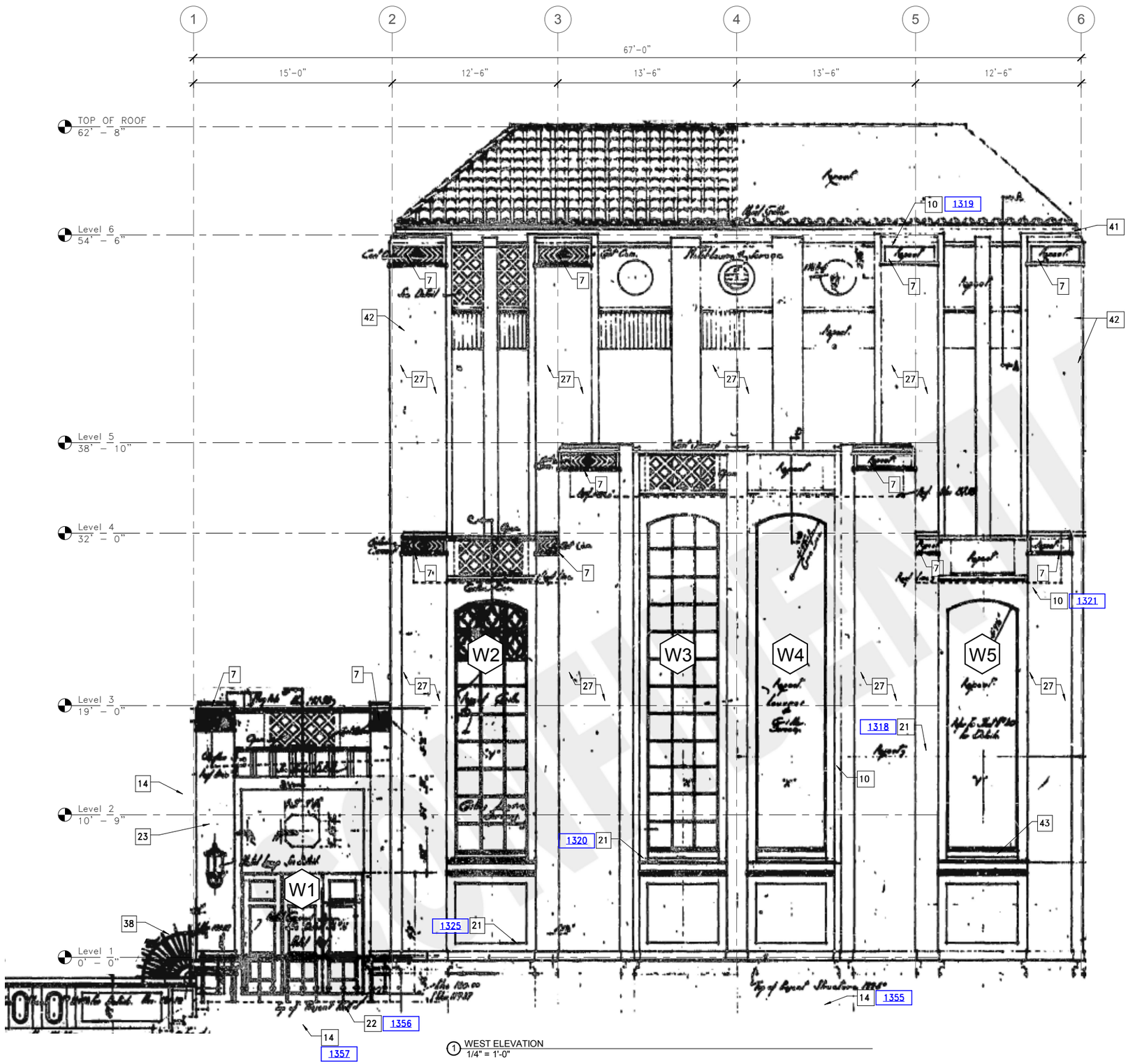

1 WEST ELEVATION
1/4" = 1'-0"

7 CAPITAL REMOVED

10 SPALLING CONCRETE. REMOVE LOOSE MATERIAL TO STABLE BASE THEN PATCH & WATERPROOF TO MATCH ADJACENT FINISH.

14 EVIDENCE OF WATER INTRUSION (CRACKING & DISCOLORATION, RAISED PAINT). DEMO @ CRACKS TO STABLE BASE, PATCH, WATERPROOF, AND FINISH TO MATCH EXISTING ADJACENT FINISH.

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21 MISSING CONCRETE, EXPOSED REBAR. PATCH & WATERPROOFING REQUIRED.

22 FINISH COATING DAMAGED & LOOSE. REMOVE ALL LOOSE MATERIAL TO STABLE BASE. CAULK CRACKS & WATERPROOF, THEN PATCH COATING TO MATCH EXISTING ADJACENT FINISH.

23 MINOR SPALLING. DEMO TO STABLE MATERIAL, PATCH & WATERPROOF, THEN FINISH TO MATCH EXISTING ADJACENT FINISH.

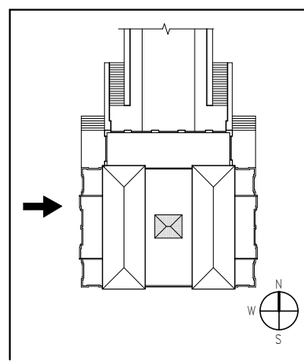
27 PAINT SOUND. NO SIGNS OF THINNING OR FADING. APPEARS MORE RECENTLY PAINTED THAN THE ALAMEDA PORTAL BLDG. ALL SURFACES DIRTY – RECOMMEND CLEANING.

38 IRON GRILLE – NO RUST

41 EVIDENCE OF FLASHING FAILURE – INVESTIGATE SOURCE & REPAIR/REPLACE. RESTORE FINISH.

42 SMALL REPAIR, DISCOLORED

43 RUST AT BASE OF GRILLE



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Alameda, CA
POSEY STREET TUNNEL - OAKLAND PORTAL BLDG

WEST ELEVATION

CODE ID. NO. SIZE D
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WORK ORDER NO.
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OAKLAND PORTAL BUILDING

Part 1: Structural Soundness, Movements, and Interior Spalls

IMG0134: CRACKS/ SPALLS

IMG0131: CRACKS/SPALLS

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IMG1038: CRACKS/SPALLS

IMG0137

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IMG0141: WATER INTRUSION

IMG:0142: WATER INTRUSION

IMG0145: WATER INTRUSION

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IMG0172: CEILING SPALL

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IMG0173: CEILING SPALL

IMG0174: CEILING SPALL

IMG0175

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IMG0177: PEELING PAINT

IMG0178: LOOSE MORTAR FILL ON FLOOR

IMG0179: LOOSE MORTAR FILL ON FLOOR

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IMG0182: HOLE

IMG0183: WATER INTRUSION

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IMG0184: WATER INTRUSION AT PIPE PENETRATIONS

IMG0185: WATER INTRUSION

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IMG0186

IMG0187: PATCHED ROOF DRAIN OPENING

IMG0188: PATCHED ROOF DRAIN OPENING

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IMG0190: PATCHED CRACK

IMG0192

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IMG_0221: Cracks in exterior

IMG_0222: Cracks in exterior

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IMG_0214

IMG_0223

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IMG_0235: Crack in exterior

IMG_0236: Cracks in exterior

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IMG_0241: Exterior spall

IMG_0237: Exterior crack

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OAKLAND PORTAL BUILDING
Part 2: Exterior Coating Condition

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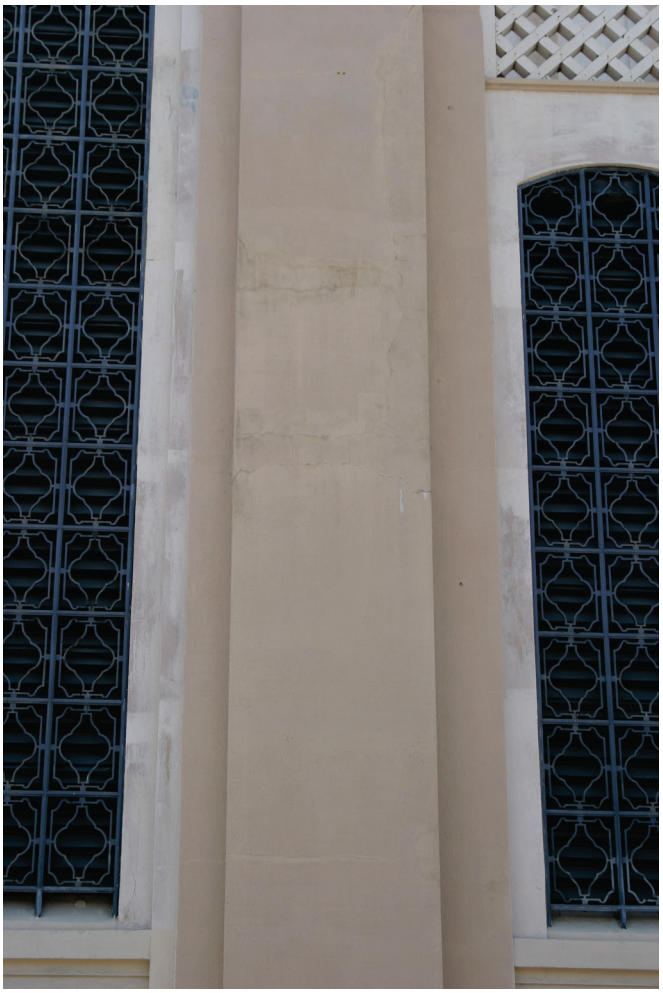

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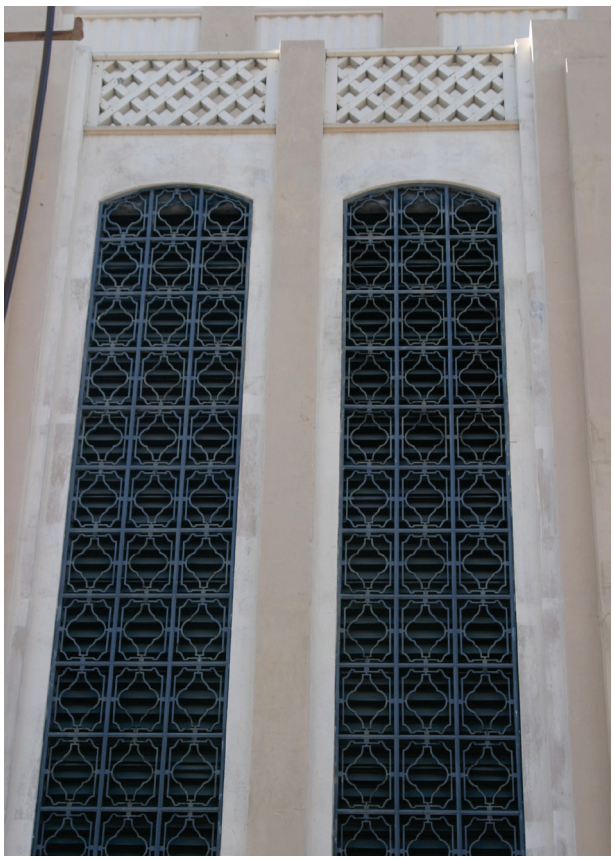

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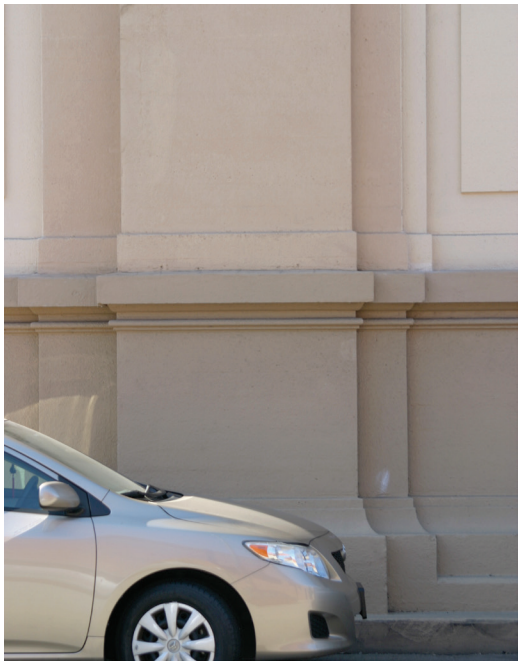

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OAKLAND PORTAL BUILDING
Part 3: Exterior Railings and Grilles

IMG_9505

IMG_9516

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Phone: 916.679.2000

IMG_9517

IMG_9519

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Sacramento, CA 95833
Phone: 916.679.2000

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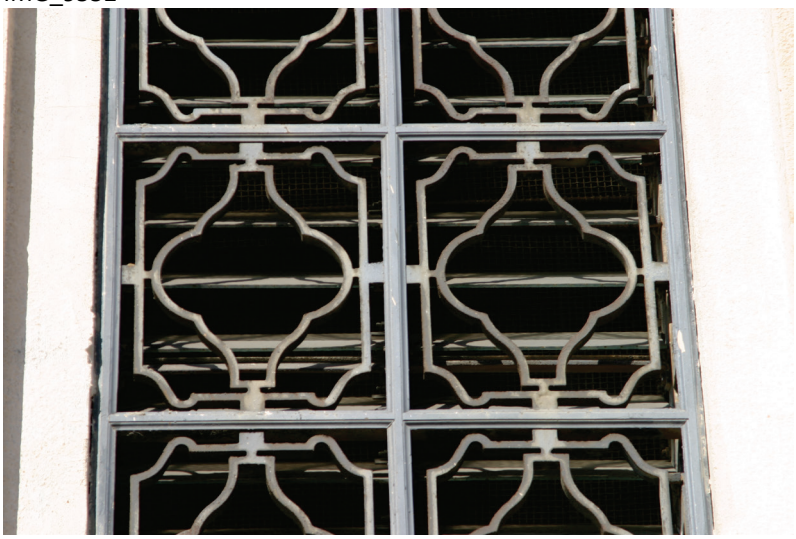
Sacramento, CA 95833
Phone: 916.679.2000

IMG_9552



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Phone: 916.679.2000

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Phone: 916.679.2000

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Phone: 916.679.2000

IMG_0393

IMG_0394

IMG_9663

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OAKLAND PORTAL BUILDING
Part 4: Interior Finishes

IMG0189: Damaged Acoustic Tile

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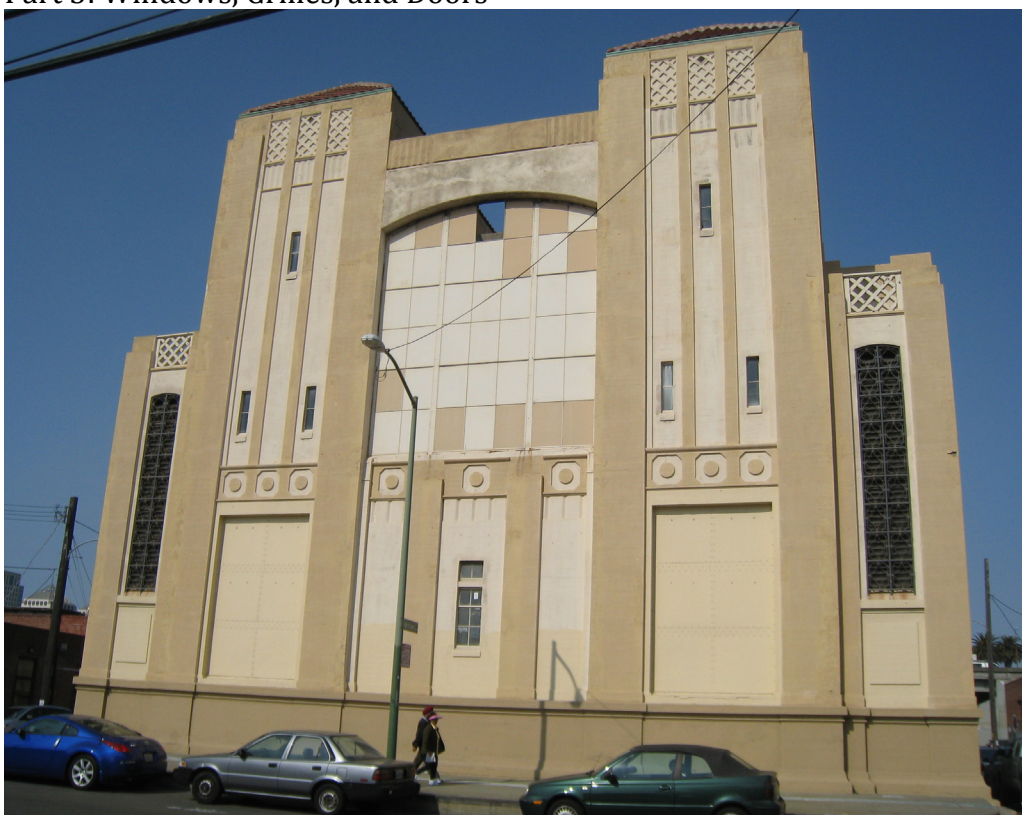
OAKLAND PORTAL BUILDING
Part 5: Windows, Grilles, and Doors



IMG_0399 – South Elevation

IMG_0400

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Phone: 916.679.2000

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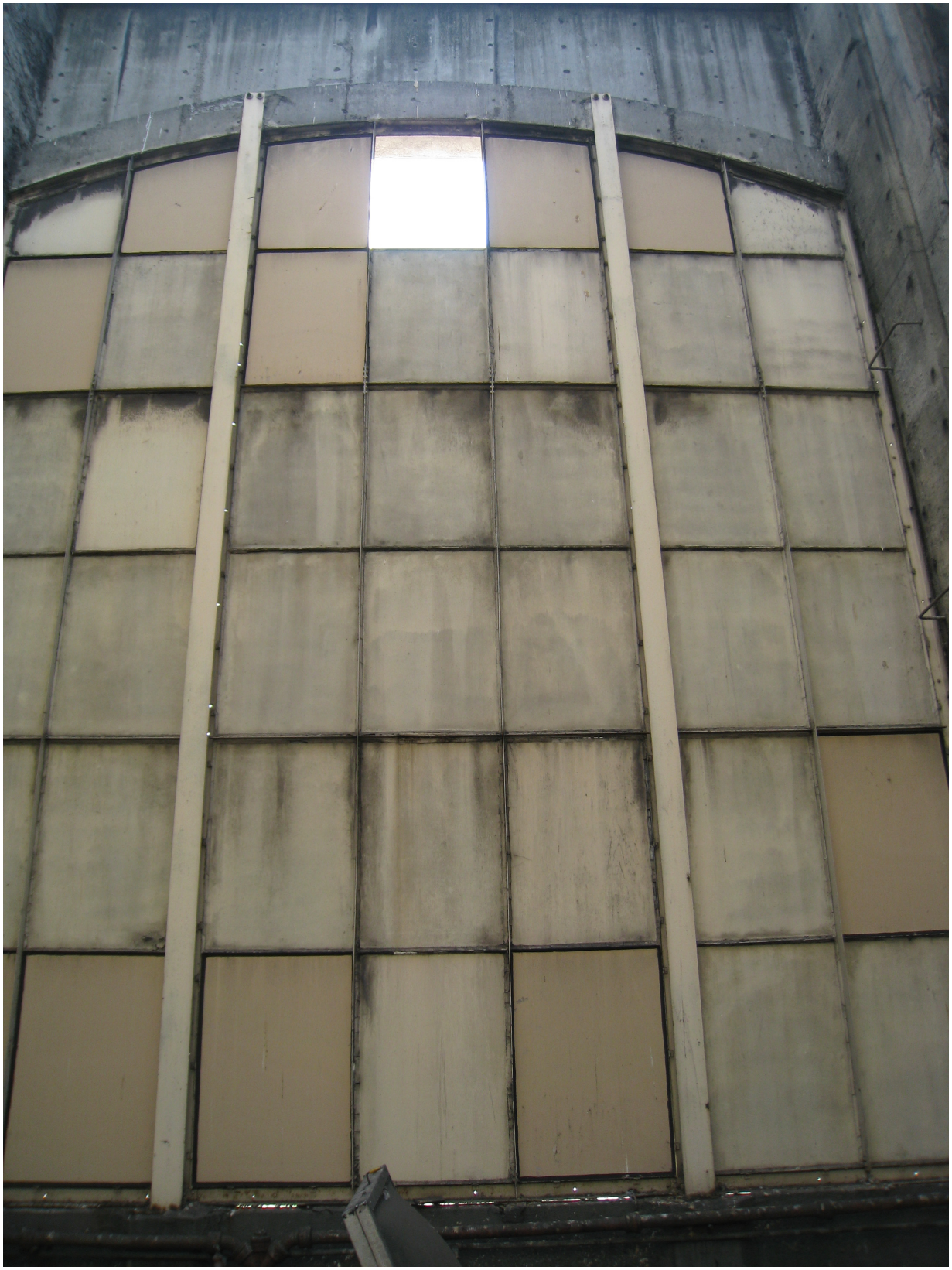
Phone: 916.679.2000



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Phone: 916.679.2000

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IMG_0386

URS

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Sacramento, CA 95833
Phone: 916.679.2000

IMG_9639

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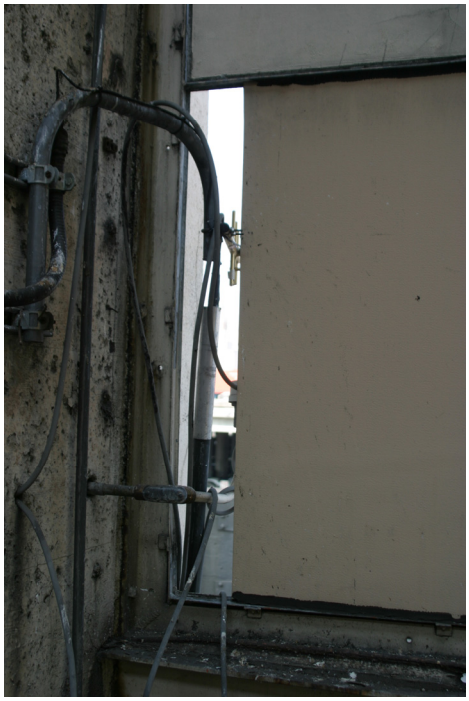
Phone: 916.679.2000



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Sacramento, CA 95833
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Oakland Portal Bldg: Part 5

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IMG_9549

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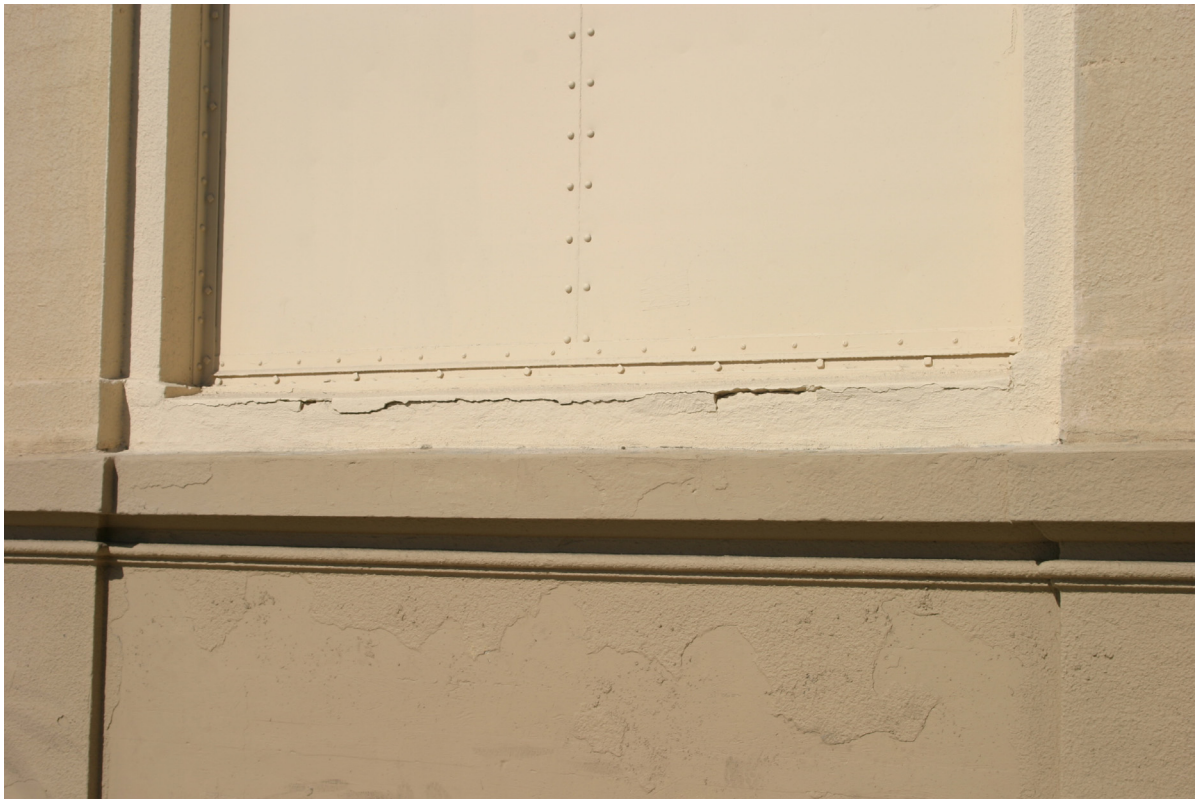
Phone: 916.679.2000



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OAKLAND PORTAL BUILDING

Part 6: Medallions

IMG_9564: Missing medallions and capitals

DSC01295: Medallion

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IMG_0242: Missing medallion

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OAKLAND PORTAL BUILDING
Part 7: Miscellaneous Conditions

IMG_9507: Exterior light fixture

IMG_9509: Exterior light fixture

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DSC01322

DSC01323

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Phone: 916.679.2000

DSC01297

DSC01298

DSC01299

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DSC01358

DSC01376

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IMG_0210: Roof condition

IMG_0208: Roof condition

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IMG_9640: Exhaust shaft

IMG_9641: Exhaust shaft

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IMG_0212

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IMG_0211

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IMG_0215

IMG_0210

APPENDIX D

Asbestos and Lead Survey Report

RGA ENVIRONMENTAL

Solutions for a Healthy Environment

SERVICES

- Worker Health and Safety
- OSHA Training and Compliance
- Safety Audits
- Ergonomics
- IIPP and Specialized Programs
- Hazard Communication
- Fleet Safety
- Indoor Air Quality
- Mold Consulting
- Moisture Management Plans
- Industrial Hygiene
- Asbestos and Lead Management
- Hazardous Materials
- Environmental Site Assessments Phase I,II III
- Risk Management
- Subsurface Investigation
- Litigation Support

Asbestos and Lead Survey Report

Posey Street Tunnel
Oakland/Alameda, CA

RGA Project No: URS31217

October 3, 2012

Prepared for:

Ronald McLester
URS Corporation
2870 Gateway Oaks Drive
Sacramento, CA

Prepared by:

RGA Environmental, Inc.
1466 66th Street
Emeryville, CA 94608

Report prepared by:_____Michael Bishop
Senior Industrial Hygienist, CAC 07-4275

Report reviewed by:_____Tedd Kattchee
Project Manager, CAC 99-2557

TABLE OF CONTENTS

1. **EXECUTIVE SUMMARY 1**
2. **SCOPE OF WORK 1**
3. **METHODS AND SAMPLING STRATEGY 2**
4. **ASBESTOS RESULTS 3**
5. **LEAD RESULTS 4**
6. **LIMITATIONS 6**

APPENDICES

1. **Laboratory Results and Chain of Custody – Asbestos**
2. **Laboratory Results and Chain of Custody – Lead**
3. **Sample and Material Figures**
4. **Inspector Certification**

Hazardous Materials Survey Report

Posey Street Tunnel
Oakland/Alameda, CA

1. Executive Summary

The following is a report of the limited hazardous materials survey conducted by Michael Bishop, California Asbestos Consultant (CAC), and Steven Rogers, Certified Site Surveillance Technician (CSST) with RGA Environmental, Inc. (RGA). The survey was performed on July September 21, 2012 and September 24, 2012 at the Posey Street Tunnel in Oakland and Alameda, California.

The survey area included both the Alameda and Oakland sites of the tunnel. A total of thirty-three (33) suspected asbestos containing materials (ACMs) were identified. Six (6) of the suspect materials were found to be asbestos containing. Please reference the attached sampling diagrams for locations of the materials found to contain asbestos within the building.

Twenty-nine (28) painted surfaces were sampled for lead at the above captioned location. All of the samples were reported above the laboratory detection limit for lead.

2. Scope of Work

The scope of the survey was as follows:

- Inspect the subject area for the presence of suspect ACMs and lead-containing paint and ceramic tile.
- Collect samples of suspect ACMs following a National Emissions Standards for Hazardous Air Pollutants (NESHAPS) protocol for sample collection for a renovation survey.
- Analyze asbestos bulk samples using polarized light microscopy (PLM) in accordance with the EPA's July 1993 method for the determination of asbestos in bulk building materials - EPA 600/R-93/116.
- Collect bulk paint chip samples of primary painted surfaces and other materials suspected to be lead containing. Bulk samples will be analyzed at an accredited laboratory by Flame Atomic Absorption (AA) for Total Lead reported in parts per million (ppm).
- Submit written report including analytical results, regulatory requirements and conclusions.

3. Methods and Sampling Strategy

Visual Inspection

Accessible building materials in the tunnel were visually inspected using the methods presented in the federal Asbestos Hazard Emergency Response Act (AHERA) regulations (40 CFR, Part 763) as a guideline. AHERA was originally only applicable to schools, however State and Federal Occupational Safety and Health Administration (OSHA) and Asbestos School Hazard Abatement Reauthorization Act (ASHARA) have adopted the AHERA sampling methodology for all buildings subject to demolition or renovation.

Bulk Sampling of Asbestos

Bulk samples were collected of homogeneous suspect ACM on the subject property. A homogeneous material is defined as a surfacing material, thermal system insulation, or miscellaneous material that is uniform in color, texture and age of construction. Examples of homogeneous materials include:

- Pipe-insulation produced by the same manufacturer and installed during the same time period;
- Resilient flooring of identical color and pattern; and
- Troweled on surfacing materials located in contiguous areas.

The building was visually inspected for the presence of suspect materials. As materials were identified, bulk samples were obtained with the aid of a coring device or other hand tool and placed into individual sampling bags. Each sample was given a discrete identification number and recorded on field notes as well as chain-of-custody forms. Refer to accompanying tables and appendices for details on material sample locations and results.

Bulk Sample Analysis - Asbestos

Bulk samples were analyzed by RGA in Seattle, Washington. RGA is accredited under the National Institute of Standards and Technology's National Voluntary Laboratory Accreditation Program (NVLAP).

When None Detected (ND) appears in this report, it should be interpreted as meaning no asbestos was observed in the sample material above the reliable limit of detection for the PLM method.

Note: Under EPA assessment criteria, if a single sample of a homogeneous material test positive for asbestos, all areas of that homogeneous material are considered to be asbestos containing.

Bulk Sampling of Lead Paint

Paint chip and bulk samples were collected using a hand scraper or chisel and were placed into individual plastic sampling containers. Each sample was provided a discrete sample number, which was recorded on a chain-of-custody form. The samples were transported under

chain-of-custody procedures to RGA in Seattle, Washington. Please refer to Table III for details on sample locations and sample results. All paint and ceramic tile glazing samples were analyzed for lead content using the Flame Atomic Absorption spectroscopy in accordance to EPA Method SW846-7420.

4. Asbestos Results

During the survey thirty-three (33) suspect homogeneous materials were identified at the subject property. Six (6) materials were determined to contain asbestos and one material was assumed to contain asbestos. The asbestos containing materials are listed in Table I below.

TABLE I
ASBESTOS-CONTAINING MATERIALS

Material Description	Material Location	Asbestos Type	Approximate Quantities
Alameda Building			
2 – White Window Frame Caulking	Window Frames Throughout and Debris at Lower Roof	2% CH	2,000 lf
8 – Transite Panels	Lower Roof at North and South Elevations	40% CH	1,200 sf
Oakland Building			
1 – Vinyl Floor Tile, 9", Gray with Yellow Glue	North Side Office Area	Tile: 2% CH Glue: ND	600 sf
5 – Window Putty	Window Frames Throughout and Debris at Lower Roof	2% CH	2,000 lf
6 – Brown Mastic Associated with 12" Fiberboard Ceiling Tile	Corridor Outside Restroom	<1% TR	400 sf
13 – Transite Panels	Lower Roof at North and South Elevations	40% CH	1,200 sf

ND = Non-Detect, CH = Chrysotile, TR = Tremolite, sf = square feet, lf = linear feet

The non-asbestos containing materials are listed in Table II below.

TABLE II
NON-ASBESTOS CONTAINING MATERIALS

Material Description	Material Location(s)
Alameda Building	
Reddish 12" Floor Tile with Brown and Black Mastic	1st Floor – Northern Hallway, Southern Hallway, Northwest Side of Office
2' x 4' White Ceiling Tile	East Side of Office, Center of Office, West Side of Office
Plaster Skim Coat Throughout Office	North Wall, Center and South Wall Above Ceiling

Material Description	Material Location(s)
Silver Coating	Basement – East and North Wall
Skim Coat on Concrete	West Side Grand Level, Elevator Ground Level – North, South and East Side, West Roof Center Roof at Wall, East Side Roof
Sealant on Transite Panels	South Side and North Side of Roof
Roofing Field – Black Tar Brown Paper	South, Southwest and Southeast Roof
Black Penetration Mastic	Northwest and Northeast Roof
White Skylight Outty	Rooftop Skylight
White Sealant on Top of Flashing	South, West Center and East Center Roof
Black Roofing Field	West Center and East Center Roof
Roof Curb	West Center and East Center Roof
Roof Curb	East Center Roof
Residual Sealant	West Center Roof and East Center Roof at Base of Wall
Oakland Building	
12” Tan Vinyl Floor Tile with Yellow Mastic	Corridor Outside Restroom
Black Powder and Debris	Floor of Machinery Room
2’ x 4’ Acoustical Ceiling Tile, Lay-In, Pinhole and Fissures	North Side Office Area
Interior Plaster	North Side Office
Skim Coat on Concrete	North Elevator at Northeast Entry, East Elevator Ground Level, South Elevator Ground Level, West Elevator Ground Level, Lower Roof North Side
Rolled Roof Field	Lower Roof Northeast Side, Northwest Side and Center
White Sealant at Top of Flashing	Lower Roof North Side, Upper West Roof, Upper East Roof
Residual Black Flashing	Lower Roof North Side, Upper West Roof, Lower East Roof
Roof Curb	Lower Roof Northeast Side, Northwest Side and East Side
Rolled Roof Field	West Side Upper Roof
Roof Curb	Upper West Roof
Rolled Roof Field	Upper East Roof
Roof Curb	Upper East Roof

5. Lead Results

Samples of twenty-eight (28) painted surfaces were collected for potential lead content. All of the painted surfaces sampled were reported above laboratory detection limits for lead. Twelve (12) painted surface samples were reported to have lead concentrations exceeding the lead-based paint threshold of 5,000 ppm. Table III below summarizes the sampling locations and results for the materials.

TABLE III
LEAD IN PAINT SAMPLE RESULTS

Sample Number	Material Description and Location	Approx. Quantity of Peeling Paint (sq ft.)	Results mg/kg (ppm)
Alameda Building			
Pb-01	**Green Paint on North Plaster Wall Above Ceiling**	**200**	**3,500**
Pb-02	Gray, Green and White Paint on Glass Windows in Office	-	97
Pb-03	Gray and Orange Paint on Steel on southwest and Southeast Handrails in Vestibule	-	100,000
Pb-04	Yellow, Gray and Orange Paint on Steel Southwest and Southeast Handrails in Vestibule	-	110,000
Pb-05	Red and Gray Paint on Concrete in North Restroom Southwest and Southeast Steel Handrails in Vestibule	-	1,000
Pb-06	Grey, Beige, White and Orange Paint on Steel Doors and Frames Throughout Interior	-	26,000
Pb-07	White, Beige and Grey Paint on Concrete Walls Throughout First Floor	-	24,000
Pb-08	Silver and Beige Paint on Concrete East Wall in Basement	-	170
Pb-09	Pink Paint on concrete Exterior Wall in West Side Ground Level	-	390
Pb-10	Light Pink Paint on Concrete Exterior Wall in West Side Ground Level	-	360
Pb-11	Pink Paint on Metal Handrail at West Side Elevator	-	91,000
Pb-12	Black Paint on Metal Grating at West Side Entrance	-	86,000
Pb-13	**Pink Paint on Steel Beam on South Roof**	**100**	**110,000**
Pb-14	**Dark Green Paint on Wood Door on East Roof**	**20**	**130,000**
Pb-15	**Pink Paint on Wood Railing on South Roof**	**60**	**340**
Pb-16	Potty Paint on Concrete Transite on South Roof	-	170
Oakland Building			
Pb-01	White Paint on Concrete Wall in Corridor Outside Restroom	-	490
Pb-02	Window Putty in North Side Office Window Frame	-	50

Sample Number	Material Description and Location	Approx. Quantity of Peeling Paint (sq ft.)	Results mg/kg (ppm)
Pb-03	**Tan Paint on Plaster Wall in North Side Office Above Drop Ceiling**	**200**	**4,800**
Pb-04	Grey Paint on Metal Restroom Door	-	44,000
Pb-05	Red Paint on Concrete Floor at North East Side Entry	-	3,500
Pb-06	Yellow Paint on Metal Rail in North East Side Entry	-	100,000
Pb-07	Light Yellow Paint on Concrete Exterior Wall in North Elevator at Northeast Entry	-	300
Pb-08	Black Paint on Metal Grating in North Elevator at Northeast Entry	-	120,000
Pb-09	Tan Paint on Concrete Exterior Wall at Ground Level East Elevator	-	500
Pb-10	Light Tan Paint on Concrete South Side Exterior Wall	-	260
Pb-11	Light Tan Paint on Wood Railing in North Elevator at Lower Roof	-	1,400
Pb-12	Green Paint on Metal Floor at West Side Lower Roof	-	150,000

Mg/kg= Milligram per kilogram, ppm = parts per million

6. Limitations

RGA Environmental Inc. (RGA) warrants that the findings contained herein have been prepared in general accordance with accepted professional practices as applied by similar professionals in the community at the time of its preparation. Changes in the state of the art or in applicable regulations cannot be anticipated and have not been addressed in this report.

The field and laboratory results reported herein are considered sufficient in detail and scope to determine the presence of ACMs and lead containing materials identified in this report. Also, note that this is a survey report and not an abatement specification. This document is not appropriate for competitive bidding or for use as an asbestos or lead abatement specification.

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Appendix 1

Laboratory Results and Chain of Custody- Asbestos

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1730 Minor Avenue, Suite 900, Seattle, WA 98101
OFFICE: (206) 281-8858 FAX: (206) 281-8922 email: laboratory@rgaenv.com

Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

URS Consultants
Project Location: Posey Tunnel Alameda, CA

RGA Batch Number: **12-2705**
RGA Project Number: **URS31217**
Number of Samples: **45**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
1A 12024530	L-1 Tan vinyl tile	**No Asbestos Detected**		60% Vinyl Filler and Binder 30% Calcite Filler and Binder 10% Mineral Particles
	L-2 Brown adhesive	**No Asbestos Detected**		90% Resin and Binder 10% Mineral Particles
1B 12024531	L-1 Tan vinyl tile	**No Asbestos Detected**		60% Vinyl Filler and Binder 30% Calcite Filler and Binder 10% Mineral Particles
	L-2 Brown adhesive	**No Asbestos Detected**		90% Resin and Binder 10% Mineral Particles
1C 12024532	L-1 Tan vinyl tile	**No Asbestos Detected**		60% Vinyl Filler and Binder 30% Calcite Filler and Binder 10% Mineral Particles
	L-2 Brown adhesive	**No Asbestos Detected**		90% Resin and Binder 10% Mineral Particles
2A 12024533	L-1 White window caulking	**2% Chrysotile**		60% Calcite Filler and Binder 30% Resin and Binder 8% Mineral Particles
	Layer Comments: First positive stop.			
3A 12024536	L-1 White/brown ceiling tile	**No Asbestos Detected**	40% Cellulose 30% Mineral Wool	20% Filler and Binder 10% Paint

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Sampled By: Steve Rosas
Received By: Matt Thornton 9/25/2012
Reviewed By: Aruna Turaga 9/30/2012

Analyzed By: Adam Kinch 9/30/2012

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1730 Minor Avenue, Suite 900, Seattle, WA 98101
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RGA Project Number: **URS31217**
Number of Samples: **45**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
3B 12024537	L-1 White/brown ceiling tile	**No Asbestos Detected**	40% Cellulose 30% Mineral Wool	20% Filler and Binder 10% Paint
3C 12024538	L-1 White/brown ceiling tile	**No Asbestos Detected**	40% Cellulose 30% Mineral Wool	20% Filler and Binder 10% Paint
4A 12024539	L-1 Green/white plaster skim coat	**No Asbestos Detected**		80% Calcite Filler and Binder 10% Paint 10% Mineral Particles
4B 12024540	L-1 Green/white plaster skim coat	**No Asbestos Detected**		80% Calcite Filler and Binder 10% Paint 10% Mineral Particles
4C 12024541	L-1 Green/white plaster skim coat	**No Asbestos Detected**		80% Calcite Filler and Binder 10% Paint 10% Mineral Particles
5A 12024542	L-1 Silver coating	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
5B 12024543	L-1 Silver coating	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
5C 12024544	L-1 Silver coating	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles

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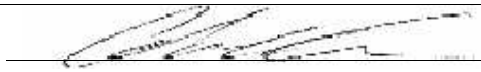

Analyzed By: Adam Kinch 9/30/2012

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NVLAP LAB CODE 200613-0

URS Consultants
Project Location: Posey Tunnel Alameda, CA

RGA Batch Number: **12-2705**
RGA Project Number: **URS31217**
Number of Samples: **45**

Report Key

Client Sample ID RGA Lab ID	Layer ID (if applicable) Layer Description **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
6A 12024545	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
6B 12024546	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
6C 12024547	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
6D 12024548	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
6E 12024549	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
6F 12024550	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
7A 12024551	L-1 White sealant	**No Asbestos Detected**		70% Calcite Filler and Binder 20% Filler and Binder 10% Mineral Particles

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RGA Batch Number: **12-2705**
RGA Project Number: **URS31217**
Number of Samples: **45**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
7B 12024552	L-1 White sealant	**No Asbestos Detected**		70% Calcite Filler and Binder 20% Filler and Binder 10% Mineral Particles
8A 12024553	L-1 Gray transite panel **Layer Comments:** First positive stop.	**40% Chrysotile**		40% Calcite Filler and Binder 20% Filler and Binder
9A 12024555	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
	L-3 Brown fibrous material	**No Asbestos Detected**	100% Cellulose	
9B 12024556	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
	L-3 Brown fibrous material	**No Asbestos Detected**	100% Cellulose	

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Sampled By: Steve Rosas
Received By: Matt Thornton 9/25/2012
Reviewed By: Aruna Turaga 9/30/2012

Analyzed By: Adam Kinch 9/30/2012

RGA ENVIRONMENTAL
1730 Minor Avenue, Suite 900, Seattle, WA 98101
OFFICE: (206) 281-8858 FAX: (206) 281-8922 email: laboratory@rgaenv.com

Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

URS Consultants
Project Location: Posey Tunnel Alameda, CA

RGA Batch Number: **12-2705**
RGA Project Number: **URS31217**
Number of Samples: **45**

Report Key

Client Sample ID RGA Lab ID	Layer ID (if applicable) Layer Description **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
9C 12024557	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
	L-3 Brown fibrous material	**No Asbestos Detected**	100% Cellulose	
10A 12024558	L-1 Black penetration mastic	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
10B 12024559	L-1 Black penetration mastic	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
11A 12024560	L-1 White putty	**No Asbestos Detected**		80% Resin and Binder 20% Mineral Particles
11B 12024561	L-1 White putty	**No Asbestos Detected**		80% Resin and Binder 20% Mineral Particles
12A 12024562	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles

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Bulk Asbestos Fiber Analysis
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NVLAP LAB CODE 200613-0

URS Consultants
Project Location: Posey Tunnel Alameda, CA

RGA Batch Number: **12-2705**
RGA Project Number: **URS31217**
Number of Samples: **45**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
12B 12024563	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
12C 12024564	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
13A 12024565	L-1 White sealant	**No Asbestos Detected**		80% Resin and Binder 20% Mineral Particles
13B 12024566	L-1 White sealant	**No Asbestos Detected**		80% Resin and Binder 20% Mineral Particles
13C 12024567	L-1 White sealant	**No Asbestos Detected**		80% Resin and Binder 20% Mineral Particles
14A 12024568	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles

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NVLAP LAB CODE 200613-0

URS Consultants
Project Location: Posey Tunnel Alameda, CA

RGA Batch Number: **12-2705**
RGA Project Number: **URS31217**
Number of Samples: **45**

Report Key				
Client Sample ID RGA Lab ID	Layer ID (if applicable) Layer Description **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
14B 12024569	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
14C 12024570	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
14D 12024571	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
15A 12024572	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles

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Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

URS Consultants
Project Location: Posey Tunnel Alameda, CA

RGA Batch Number: **12-2705**
RGA Project Number: **URS31217**
Number of Samples: **45**

Report Key				
Client Sample ID RGA Lab ID	Layer ID (if applicable) Layer Description **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
15B 12024573	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
15C 12024574	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
15D 12024575	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
17A 12024576	L-1 Black sealant	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
17B 12024577	L-1 Black sealant	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles

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Received By: Matt Thornton 9/25/2012
Reviewed By: Aruna Turaga 9/30/2012

Analyzed By: Adam Kinch 9/30/2012

Sample Log
Chain of Custody

RGA Laboratory Services
INTERNAL

Client:	Client Contact	**RGA Batch #:**	12-2705
Company:	URS Consultants	**RGA Project #:**	URS31217
Client Address:	221 Main Street / Suite 600	**Client Job #:**	
San Francisco (City)	CA (State)	94111-452 (Zip)	**Number of Samples:** 48
Phone #:			
2nd or Cell #:			
Fax #:			
e-mail Address:			

Project Manager: Tedd Kattchee

Project Location: Posey Tunnel Alameda, CA

Condition: ✓ Good ____ Damaged ____ Severe Damage

TYPE OF ANALYSIS		
ASBESTOS:	**METALS:** ____	
____ PCM (air)	____ Paint	____ Soil
X PLM (bulk)	____ Wipe	____ Air
____ Pt. Count (bulk)	____ TCLP	____ Water
MOLD: P&K ___ 100 ___ 101 ___ 102 ___ 105 ___ 117		
Other Method:		

Turn Around Time (other): 24 hour		
2 hour / 4 hour	Same Day	~~One Day~~
Two Day	3-5 days	10 days
Price per Sample:	$____	

#	Client Sample ID	RGA Laboratory ID	Comments	#	Client Sample ID	RGA Laboratory ID	Comments
1	1A	12024530		11	4B	12024540	
2	1B	12024531		12	4C	12024541	
3	1C	12024532		13	5A	12024542	
4	2A	12024533		14	5B	12024543	
5	2B	12024534		15	5C	12024544	
6	2C	12024535		16	6A	12024545	
7	3A	12024536		17	6B	12024546	
8	3B	12024537		18	6C	12024547	
9	3C	12024538		19	6D	12024548	
10	4A	12024539		20	6E	12024549	

	Signature	Date	Time
Sampled by:	STEVE R./MIKE B.	9/21/12	
Relinquished by:			
Received by:			
Relinquished by:			
Received for Laboratory by:		9/25/12	1158
Analyzed by:		9/30/12	
Preliminary Results Reported to P.M. by:			
Final Report to P.M. by:			

Special Instructions:
Due by 9/26/2012

Sample Log
Chain of Custody

RGA Laboratory Services
INTERNAL

Client:	Client Contact	**RGA Batch #:**	12-2705
Company:	URS Consultants	**RGA Project #:**	URS31217
Client Address:	221 Main Street / Suite 600	**Client Job #:**	
San Francisco (City)	CA (State)	94111-452 (Zip)	**Number of Samples:** 48

Page: 2 of 2

#	Client Sample ID	RGA Laboratory ID	Comments	#	Client Sample ID	RGA Laboratory ID	Comments
21	6F	12024550		41	14C	12024570	
22	7A	12024551		42	14D	12024571	
23	7B	12024552		43	15A	12024572	
24	8A	12024553		44	15B	12024573	
25	8B	12024554		45	15C	12024574	
26	9A	12024555		46	15D	12024575	
27	9B	12024556		47	17A	12024576	
28	9C	12024557		48	17B	12024577	
29	10A	12024558		49			
30	10B	12024559		50			
31	11A	12024560		51			
32	11B	12024561		52			
33	12A	12024562		53			
34	12B	12024563		54			
35	12C	12024564		55			
36	13A	12024565		56			
37	13B	12024566		57			
38	13C	12024567		58			
39	14A	12024568		59			
40	14B	12024569		60			

	Signature	Date	Time
Sampled by:	STEVE R. / MAKER.	9/21/12	
Relinquished by:			
Received by:			
Relinquished by:			
Received for Laboratory by:		9/25/12	1158
Analyzed by:		9/30/12	
Preliminary Results Reported to P.M. by:			
Final Report to P.M. by:			

Special Instructions:
Due by 9/26/2012

12-2705

RGA ENVIRONMENTAL

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X PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070	__PM – B. Gils bob@rgaenv.com fax: 510.899.7050	__PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

ACM BULK SAMPLE DATA SHEET

* PLM Analysis

X Stop Analysis at First Positive

___ Analyze All Samples

___ Point Count Analysis (400-point)

Project Name/Address/Building No. : Posey Tunnel Alameda CA

RGA Project: ORS-31217 **Sampled By:** Steve R/Mike B **Sample Date** 9-21-12

Sample(s) Sent To: X RGA ___ EMSL ___ Other:_____ TAT: ___Rush (X 24Hrs) ___3-5 Days

***FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* ***

ADDITIONAL REPORT RECIPIENT(S):_____

HM# 1	Material Description: Reddish 12" floor tile with brown/black mastic	
Sample ID	**Sample Location & Material Location**	**Quantity:**
1-A	Northern hallway 1st Floor	810 ☐ Total
1-B	Southern hallway 1st Floor	" "
1-C	Northwest side of office 1st floor	" "
HM# 2	**Material Description: White frame to window caulking Interior side**	
Sample ID	**Sample Location & Material Location**	**Quantity:**
2-A	South window - west side	
2-B	South window - Center	
2-C	South window - East side	
HM# 3	**Material Description: 2'x4' white ceiling tile**	
Sample ID	**Sample Location & Material Location**	**Quantity:**
3-A	East side of office	600 ☐
3-B	Center of office	
3-C	West side of office	
HM# 4	**Material Description: Plaster & lim coat throughout office**	
Sample ID	**Sample Location & Material Location**	**Quantity:**
4-A	North wall of office above ceilings	2400 ☐
4-B	Center of office above ceilings	
4-C	South wall of office above ceilings	
HM# 5	**Material Description: Silver coatings**	
Sample ID	**Sample Location & Material Location**	**Quantity:**
5-A	Basement East wall	3000 ☐
5-B	Basement East wall	↓
5-C	Basement North wall	

Relinquished By: Steve Rogers Signature: _____ Date/Time: 9-21-12

Received By: Duane Flohra Signature: _____ Date/Time: SEP 24 2012 1442

Relinquished By: _____ Signature: _____ Date/Time: _____

Received By: M. THORNTON Signature: _____ Date/Time: 9/25/12 1158

12-2705

RGA ENVIRONMENTAL
__ PM – S. Steiner steff@rgaenv.com fax: 510.899.7051
__ PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063
__ PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053
X PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070
__ PM – B. Gils bob@rgaenv.com fax: 510.899.7050
__ PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

ACM BULK SAMPLE DATA SHEET

* PLM Analysis
X Stop Analysis at First Positive
___ Analyze All Samples
___ Point Count Analysis (400-point)

Project Name/Address/Building No. : Posey Tunnel Alameda CA

RGA Project: URS-31217 **Sampled By:** Steve Rogers/Mike B **Sample Date** 9-21-12

Sample(s) Sent To: X RGA ___ EMSL ___ Other: ___ TAT: ___ Rush (X) 24Hrs ___ 3-5 Days

***FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* ***

***ADDITIONAL REPORT RECIPIENT(S): ___ ***

HM# 06	Material Description: Skim Coat on Concrete	
Sample ID	Sample Location & Material Location	Quantity:
06 A	W Side Cond lvl.	
06 B	S Side Elev. Cond lvl.	
06 C	E " "	

HM# 06	Material Description: Skim Coat on Conc.	
Sample ID	Sample Location & Material Location	Quantity:
06D	N Side Elev. Cond lvl.	
06E	West roof center roof at wall	
06F	East side Roof	

HM# 7	Material Description: Sealant on Transite panels	
Sample ID	Sample Location & Material Location	Quantity:
7 A	South side of roof	
7 B	North side of roof	

HM# 8	Material Description: Transite Panels	
Sample ID	Sample Location & Material Location	Quantity:
8- A	South roof	
8- B	" "	

HM# 9	Material Description: Roofing Field - Black tar brown paper	
Sample ID	Sample Location & Material Location	Quantity:
9- A	South roof	
9- B	Southwest roof	
9- C	Southeast roof	

Relinquished By: Steve Rogers Signature: [signature] Date/Time: 9-21-12
Received By: Duane Flohra Signature: [signature] Date/Time: SEP 24 2012 1442
Relinquished By: ___ Signature: ___ Date/Time: ___
Received By: M. THORNTON Signature: [signature] Date/Time: 9/25/12 1158

12-2705

RGA ENVIRONMENTAL

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__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053
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__PM – B. Gils bob@rgaenv.com fax: 510.899.7050
__PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

ACM BULK SAMPLE DATA SHEET

* PLM Analysis
X Stop Analysis at First Positive
___ Analyze All Samples
___ Point Count Analysis (400-point)

Project Name/Address/Building No. : Posey Tunnel Alameda CA

RGA Project: URS-31217 **Sampled By:** Steve R/Mike B **Sample Date** 9-21-12

Sample(s) Sent To: X RGA ___ EMSL ___ Other: _____ TAT: ___ Rush X 24Hrs ___ 3-5 Days

***FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* ***

***ADDITIONAL REPORT RECIPIENT(S): _____ ***

HM# 10	Material Description: Penetration Mastic - Black	
Sample ID	**Sample Location & Material Location**	**Quantity:**
10 - A	Roof Northwest	
10 - B	Roof @ Northeast	

HM# 11	Material Description: Skylight putty - white	
Sample ID	**Sample Location & Material Location**	**Quantity:**
11 - A	Rooftop skylight	
11 - B	" "	

HM# 12	Material Description: Roof curb - Black	
Sample ID	**Sample Location & Material Location**	**Quantity:**
12 - A	On skylight	
12 - B	Southeast roof	
12 - C	South west roof	

HM# 13	Material Description: Sealant on top of flashing - white	
Sample ID	**Sample Location & Material Location**	**Quantity:**
13-A	South roof	
13-B	West center roof	
13 C	East center roof	

HM# 14	Material Description: Roofing Field - Black	
Sample ID	**Sample Location & Material Location**	**Quantity:**
14-A	West Center roof	
14- B	West Center roof	
14-C	East center roof	
14-D	East center roof	

Relinquished By: Steve Rogers Signature: _____ Date/Time: 9-21-12

Received By: Duane Flohra Signature: _____ Date/Time: SEP 24 2012/1442

Relinquished By: _____ Signature: _____ Date/Time: _____

Received By: M. THORNTON Signature: _____ Date/Time: 9/25/12 1458

12-2705

RGA ENVIRONMENTAL

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X PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070
__PM – B. Gils bob@rgaenv.com fax: 510.899.7050
__PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

ACM BULK SAMPLE DATA SHEET

* PLM Analysis
X Stop Analysis at First Positive
___ Analyze All Samples
___ Point Count Analysis (400-point)

Project Name/Address/Building No. : Posey Tunnel Alameda CA

RGA Project: URS-31217 **Sampled By:** Steve Rogers **Sample Date** 9-21-12

Sample(s) Sent To: X RGA ___ EMSL ___ Other:_____ TAT: ___Rush X 24Hrs ___3-5 Days

***FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* ***

ADDITIONAL REPORT RECIPIENT(S):_____

HM# 15	Material Description: Roof Caulk	
Sample ID	Sample Location & Material Location	Quantity:
15-A	West Center roof	
15-B	West Center roof	
15-C	East Center roof	

HM# 15	Material Description: Roof Caulk	
Sample ID	Sample Location & Material Location	Quantity:
15-D	East Center roof	

HM# ~~16~~	Material Description: ~~Brick Skim coat~~	
Sample ID	Sample Location & Material Location	Quantity:
~~16~~ A	~~West c~~ rooftop	
B	VOID	
C		

HM# 17	Material Description: Residual Sealant	
Sample ID	Sample Location & Material Location	Quantity:
17-A	West center roof at base of wall	
17-B	East center roof at base of wall	

HM#	Material Description:	
Sample ID	Sample Location & Material Location	Quantity:
A		
B		
C		
D		
E		
F		
G		

Relinquished By: Steve Rogers Signature: [signature] Date/Time: 9-21-12
Received By: Duane Flohra Signature: [signature] Date/Time: SEP 24 2012/1442
Relinquished By: _____ Signature: _____ Date/Time: _____
Received By: M. THORNTON Signature: [signature] Date/Time: 9/25/12 1158

RGA ENVIRONMENTAL
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OFFICE: (206) 281-8858 FAX: (206) 281-8922 email: laboratory@rgaenv.com

Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

URS Consultants
Project Location: Posey St. Tube, Oakland Side

RGA Batch Number: **12-2703**
RGA Project Number: **URS31217**
Number of Samples: **44**

Report Key

Client Sample ID RGA Lab ID	Layer ID (if applicable) Layer Description **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
01A 12024470	L-1 Gray vinyl tile	**2% Chrysotile**		60% Vinyl Filler and Binder 30% Calcite Filler and Binder 8% Mineral Particles
	L-2 Yellow adhesive	**No Asbestos Detected**		90% Resin and Binder 10% Mineral Particles
01B 12024471	L-1 Gray vinyl tile	**2% Chrysotile**		60% Vinyl Filler and Binder 30% Calcite Filler and Binder 8% Mineral Particles
	L-2 Yellow adhesive	**No Asbestos Detected**		90% Calcite Filler and Binder 10% Mineral Particles
02A 12024472	L-1 Tan vinyl tile	**No Asbestos Detected**		60% Vinyl Filler and Binder 30% Calcite Filler and Binder 10% Mineral Particles
	L-2 Yellow adhesive	**No Asbestos Detected**		90% Resin and Binder 10% Mineral Particles
02B 12024473	L-1 Tan vinyl tile	**No Asbestos Detected**		60% Vinyl Filler and Binder 30% Calcite Filler and Binder 10% Mineral Particles
	L-2 Yellow adhesive	**No Asbestos Detected**		90% Resin and Binder 10% Mineral Particles
03A 12024474	L-1 Black debris	**No Asbestos Detected**		70% Miscellaneous Particles 30% Mineral Particles

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Sampled By: Mike Bishop
Received By: Matt Thornton 9/25/2012
Reviewed By: Aruna Turaga 9/27/2012

Analyzed By: Adam Kinch 9/27/2012

RGA ENVIRONMENTAL
1730 Minor Avenue, Suite 900, Seattle, WA 98101
OFFICE: (206) 281-8858 FAX: (206) 281-8922 email: laboratory@rgaenv.com

Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

URS Consultants
Project Location: Posey St. Tube, Oakland Side

RGA Batch Number: **12-2703**
RGA Project Number: **URS31217**
Number of Samples: **44**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
03B 12024475	L-1 Black debris	**No Asbestos Detected**		70% Miscellaneous Particles 30% Mineral Particles
03C 12024476	L-1 Black debris	**No Asbestos Detected**		70% Miscellaneous Particles 30% Mineral Particles
04A 12024477	L-1 White/brown ceiling tile	**No Asbestos Detected**	40% Mineral Wool 30% Cellulose	20% Filler and Binder 10% Paint
04B 12024478	L-1 White/brown ceiling tile	**No Asbestos Detected**	40% Mineral Wool 30% Cellulose	20% Filler and Binder 10% Paint
05A 12024479	L-1 Tan window putty	**2% Chrysotile**		80% Calcite Filler and Binder 10% Resin and Binder 8% Mineral Particles
05B 12024480	L-1 Gray window putty	**2% Chrysotile**		80% Calcite Filler and Binder 10% Resin and Binder 8% Mineral Particles
06A 12024481	L-1 Brown fiberboard	**No Asbestos Detected**	100% Cellulose	
	L-2 Brown adhesive	**<1% Tremolite**		90% Resin and Binder >9% Mineral Particles

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RGA Batch Number: **12-2703**
RGA Project Number: **URS31217**
Number of Samples: **44**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
06B 12024482	L-1 Brown fiberboard	**No Asbestos Detected**	100% Cellulose	
	L-2 Brown adhesive	**<1% Tremolite**		90% Resin and Binder >9% Mineral Particles
07A 12024483	L-1 White plaster	**No Asbestos Detected**		50% Sand 40% Calcite Filler and Binder 10% Mineral Particles
07B 12024484	L-1 White plaster	**No Asbestos Detected**		50% Sand 40% Calcite Filler and Binder 10% Mineral Particles
07C 12024485	L-1 White plaster	**No Asbestos Detected**		50% Sand 40% Calcite Filler and Binder 10% Mineral Particles
08A 12024486	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
08B 12024487	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
08C 12024488	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles

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Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

URS Consultants
Project Location: Posey St. Tube, Oakland Side

RGA Batch Number: **12-2703**
RGA Project Number: **URS31217**
Number of Samples: **44**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
08D 12024489	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
08E 12024490	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
08F 12024491	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles
09A 12024492	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
	L-3 Brown fibrous material	**No Asbestos Detected**	100% Cellulose	

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Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

URS Consultants
Project Location: Posey St. Tube, Oakland Side

RGA Batch Number: **12-2703**
RGA Project Number: **URS31217**
Number of Samples: **44**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
09B 12024493	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
	L-3 Brown fibrous material	**No Asbestos Detected**	100% Cellulose	
09C 12024494	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
	L-3 Brown fibrous material	**No Asbestos Detected**	100% Cellulose	
10A 12024495	L-1 White sealant	**No Asbestos Detected**		90% Resin and Binder 10% Mineral Particles
10B 12024496	L-1 White sealant	**No Asbestos Detected**		90% Resin and Binder 10% Mineral Particles
10C 12024497	L-1 White sealant	**No Asbestos Detected**		90% Resin and Binder 10% Mineral Particles

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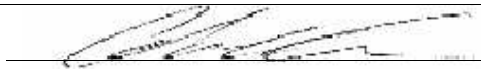

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Bulk Asbestos Fiber Analysis
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URS Consultants
Project Location: Posey St. Tube, Oakland Side

RGA Batch Number: **12-2703**
RGA Project Number: **URS31217**
Number of Samples: **44**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
11A 12024498	L-1 Black flashing	**No Asbestos Detected**		80% Asphalt Filler and Binder 10% Resin and Binder 10% Mineral Particles
11B 12024499	L-1 Black flashing	**No Asbestos Detected**		80% Asphalt Filler and Binder 10% Resin and Binder 10% Mineral Particles
11C 12024500	L-1 Black flashing	**No Asbestos Detected**		80% Asphalt Filler and Binder 10% Resin and Binder 10% Mineral Particles
12A 12024501	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
12B 12024502	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles

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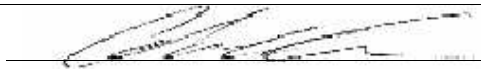

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URS Consultants
Project Location: Posey St. Tube, Oakland Side

RGA Batch Number: **12-2703**
RGA Project Number: **URS31217**
Number of Samples: **44**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
12C 12024503	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
13A 12024504	L-1 Gray transite panel	**40% Chrysotile**		40% Calcite Filler and Binder 20% Filler and Binder
14A 12024505	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**		60% Asphalt Filler and Binder 20% Rocks 10% Gypsum Filler and Binder 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
14B 12024506	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles

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URS Consultants
Project Location: Posey St. Tube, Oakland Side

RGA Batch Number: **12-2703**
RGA Project Number: **URS31217**
Number of Samples: **44**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
15A 12024507	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
15B 12024508	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
16A 12024509	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
16B 12024510	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles

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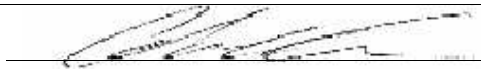

Analyzed By: Adam Kinch 9/27/2012

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RGA Batch Number: **12-2703**
RGA Project Number: **URS31217**
Number of Samples: **44**

Report Key

Client Sample ID / RGA Lab ID	Layer ID (if applicable) / Layer Description / **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
17A 12024511	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
17B 12024512	L-1 Black fibrous asphaltic material with white rocks	**No Asbestos Detected**	10% Glass Fiber	60% Asphalt Filler and Binder 20% Rocks 10% Mineral Particles
	L-2 Black asphaltic material	**No Asbestos Detected**		90% Asphalt Filler and Binder 10% Mineral Particles
08G 12024513	L-1 Tan skim coat	**No Asbestos Detected**		70% Paint 20% Filler and Binder 10% Mineral Particles

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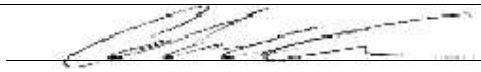

Analyzed By: Adam Kinch 9/27/2012

Sample Log
Chain of Custody

RGA Laboratory Services
INTERNAL

Client:	Client Contact	**RGA Batch #:**	12-2703
Company:	URS Consultants	**RGA Project #:**	URS31217
Client Address:	221 Main Street / Suite 600	**Client Job #:**	
San Francisco (City)	CA (State)	94111-452 (Zip)	**Number of Samples:** 44

Phone #:

2nd or Cell #:

Fax #:

e-mail Address:

Project Manager: Tedd Kattchee

TYPE OF ANALYSIS		
ASBESTOS:	**METALS:** _____	
____ PCM (air)	____ Paint	____ Soil
_X_ PLM (bulk)	____ Wipe	____ Air
____ Pt. Count (bulk)	____ TCLP	____ Water
MOLD: P&K __ 100 __ 101 __ 102 __ 105 __ 117		
Other Method:		

Project Location: Posey St. Tube, Oakland Side

Condition: ✓ Good ____ Damaged ____ Severe Damage

Turn Around Time (other): 24 hour		
2 hour / 4 hour	Same Day	~~One Day~~
Two Day	3-5 days	10 days
Price per Sample:	$_____	

#	Client Sample ID	RGA Laboratory ID	Comments	#	Client Sample ID	RGA Laboratory ID	Comments
1	01A	12024470		11	05B	12024480	
2	01B	12024471		12	06A	12024481	
3	02A	12024472		13	06B	12024482	
4	02B	12024473		14	07A	12024483	
5	03A	12024474		15	07B	12024484	
6	03B	12024475		16	07C	12024485	
7	03C	12024476		17	08A	12024486	
8	04A	12024477		18	08B	12024487	
9	04B	12024478		19	08C	12024488	
10	05A	12024479		20	08D	12024489	

	Signature	Date	Time
Sampled by:	Mike B.	9/24/12	
Relinquished by:			
Received by:			
Relinquished by:			
Received for Laboratory by:		9/25/12	1111
Analyzed by:		9/27/12	
Preliminary Results Reported to P.M. by:			
Final Report to P.M. by:			

Special Instructions:
Due by 9/26/2012

Sample Log
Chain of Custody

RGA Laboratory Services
INTERNAL

Client:	Client Contact	**RGA Batch #:**	12-2703
Company:	URS Consultants	**RGA Project #:**	URS31217
Client Address:	221 Main Street / Suite 600	**Client Job #:**	
San Francisco (City)	CA (State)	94111-452 (Zip)	**Number of Samples:** 44

Page: 2 of 2

#	Client Sample ID	RGA Laboratory ID	Comments	#	Client Sample ID	RGA Laboratory ID	Comments
21	08~~A~~E	12024490		41	16B	12024510	
22	08F	12024491		42	17A	12024511	
23	09A	12024492		43	17B	12024512	
24	09B	12024493		44	08G	12024513	
25	09C	12024494		45			
26	10A	12024495		46			
27	10B	12024496		47			
28	10C	12024497		48			
29	11A	12024498		49			
30	11B	12024499		50			
31	11C	12024500		51			
32	12A	12024501		52			
33	12B	12024502		53			
34	12C	12024503		54			
35	13A	12024504		55			
36	14A	12024505		56			
37	14B	12024506		57			
38	15A	12024507		58			
39	15B	12024508		59			
40	16A	12024509		60			

	Signature	Date	Time
Sampled by:	MIKE B.	9/24/12	
Relinquished by:			
Received by:			
Relinquished by:			
Received for Laboratory by:		9/25/12	11 11
Analyzed by:			
Preliminary Results Reported to P.M. by:		9/27/12	
Final Report to P.M. by:			

Special Instructions:

Due by 9/26/2012

12-2703

RGA ENVIRONMENTAL

__ PM – S. Steiner steff@rgaenv.com fax: 510.899.7051

__PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063

__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053

X PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070

__PM – B. Gils bob@rgaenv.com fax: 510.899.7050

__PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

ACM BULK SAMPLE DATA SHEET

* PLM Analysis

Stop Analysis at First Positive

PAGE 1 OF 4

X Analyze All Samples

___ Point Count Analysis (400-point)

Project Name/Address/Building No. : Posey Tube, Oakland Site

RGA Project: URS31217 **Sampled By:** MikeB **Sample Date** 9/24/12

Sample(s) Sent To: X RGA ___ EMSL ___ Other: TAT: ___ Rush (X 24Hrs) ___ 3-5 Days

***FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* ***

***ADDITIONAL REPORT RECIPIENT(S): ***

HM# 01	Material Description: VFT, 9", Grey w/ Yellow mastic
Sample ID	Sample Location & Material Location — Quantity: 600 SF
01 A	N Side office area
01 B	" "
HM# 02	Material Description: VFT, 12", Tan w/ Yellow Mastic
Sample ID	Sample Location & Material Location — Quantity: 500 SF
02 A	Corridor outside Rest Rm
02 B	" "
HM# 03	Material Description: Black Powder/Debris
Sample ID	Sample Location & Material Location — Quantity:
03 A	Floor of Fan Machinery Room
03 B	" "
03 C	" "
HM# 04	Material Description: ACT, 2'x4', Lay-In, Pinhole & Fissure
Sample ID	Sample Location & Material Location — Quantity: 600 SF
04 A	N Side office area
04 B	" "
HM# 05	Material Description: Window Putty
Sample ID	Sample Location & Material Location — Quantity:
05 A	N Side office Window Frame
05 B	N Side at lower Roof

Relinquished By: MikeB Signature: Date/Time: 9/24/12

Received By: Duane Flohra Signature: Date/Time: SEP 24 2012/1530

Relinquished By: Signature: Date/Time:

Received By: M. THORNTON Signature: Date/Time: 9/25/12 11:11

12-2703

RGA
ENVIRONMENTAL

__PM – S. Steiner steff@rgaenv.com fax: 510.899.7051	__PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063	__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053
X PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070	__PM – B. Gils bob@rgaenv.com fax: 510.899.7050	__PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

ACM BULK SAMPLE DATA SHEET

* PLM Analysis
_ 'Stop Analysis at First Positive
X Analyze All Samples
___ Point Count Analysis (400-point)

Project Name/Address/Building No. : Posey Tube, outlook side

RGA Project: URS 31271 **Sampled By:** MLB **Sample Date** 9/24/12

Sample(s) Sent To: X RGA ___ EMSL ___ Other: _____ TAT: ___ Rush (X) 24Hrs ___ 3-5 Days

***FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* ***

***ADDITIONAL REPORT RECIPIENT(S): _____ ***

HM# 06	Material Description: 12" CT, Fiberboard w/ Brown Mastic	
Sample ID	Sample Location & Material Location	Quantity:
06 A	Corridor outside RR	
06 B	" "	

HM# 07	Material Description: ~~N side office~~ Int. Plaster	
Sample ID	Sample Location & Material Location	Quantity:
07 A	N side office	
07 B	" "	
07 C	" "	

HM# 08	Material Description: Skim Coat on Concrete	
Sample ID	Sample Location & Material Location	Quantity:
08 A	N Elev. at NE Entry	
08 B	E Elev Grnd level	
08 C	S Elev " "	

HM# 08	Material Description:	
Sample ID	Sample Location & Material Location	Quantity:
08D	W Elev. Grnd level	
08E	Lower Roof N Side	
08F		

HM# 09	Material Description: Rolled Roof Field	
Sample ID	Sample Location & Material Location	Quantity:
09 A	Lower Roof NE Side	
09 B	" " NW Side	
09 C	Lower Roof Center	

Relinquished By: MLB Signature: _____ Date/Time: 9/24/12

Received By: Duane Flohra Signature: Duane Flohra Date/Time: SEP 24 2012 1530

Relinquished By: _____ Signature: _____ Date/Time: _____

Received By: M. THORNTON Signature: _____ Date/Time: 9/25/12 1111

12-2203

RGA ENVIRONMENTAL

__PM – S. Steiner steff@rgaenv.com fax: 510.899.7051
__PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063
__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053
X PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070
__PM – B. Gils bob@rgaenv.com fax: 510.899.7050
__PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

ACM BULK SAMPLE DATA SHEET

* PLM Analysis
___ Stop Analysis at First Positive
_X_ Analyze All Samples
___ Point Count Analysis (400-point)

Project Name/Address/Building No. : Posey St. Tube, Oakland side

RGA Project: URS 31217 **Sampled By:** _____ **Sample Date** _____

Sample(s) Sent To: _X_ RGA ___ EMSL ___ Other: _____ TAT: ___ Rush _X_ 24Hrs ___ 3-5 Days

***FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* ***

***ADDITIONAL REPORT RECIPIENT(S): _____ ***

HM# 10	Material Description: ~~Rolled~~ White Sealant at Top of Flashing	
Sample ID	Sample Location & Material Location	Quantity:
10 A	Lower Roof N Side	
10 B	Upper W Roof	
10 C	" " E Roof	
HM# 11	**Material Description: Residual Black Flashing**	
Sample ID	Sample Location & Material Location	Quantity:
11 A	Lower Roof N Side	
11 B	Upper W Roof	
11 C	" " E Roof	
HM# 12	**Material Description: Roof Curb**	
Sample ID	Sample Location & Material Location	Quantity:
12 A	Lower Roof NE Side	
12 B	" " NW Side	
12 C	Lower Roof E Side	
HM# 13	**Material Description: Transite Panel**	
Sample ID	Sample Location & Material Location	Quantity:
13 A	N Elev Upper Level	
HM# 14	**Material Description: Rolled Roof Field**	
Sample ID	Sample Location & Material Location	Quantity:
14 A	N Side Upper Roof	
14 B	" "	

Relinquished By: MLB Signature: _____ Date/Time: 9/24/12

Received By: Duane Flohra Signature: _____ Date/Time: SEP 24 2012/1530

Relinquished By: _____ Signature: _____ Date/Time: _____

Received By: M. THORNTON Signature: _____ Date/Time: 9/25/12 1111

12-2703

RGA ENVIRONMENTAL

__ PM – S. Steiner steff@rgaenv.com fax: 510.899.7051
__ PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063
__ PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053
X PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070
__ PM – B. Gils bob@rgaenv.com fax: 510.899.7050
__ PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

ACM BULK SAMPLE DATA SHEET

* PLM Analysis

___ Stop Analysis at First Positive

X Analyze All Samples

___ Point Count Analysis (400-point)

Project Name/Address/Building No. : Posey St. Tube, Oakland side

RGA Project: URS 31271 **Sampled By:** **Sample Date**

Sample(s) Sent To: X RGA ___ EMSL ___ Other: TAT: ___ Rush (X) 24Hrs ___ 3-5 Days

***FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* ***

***ADDITIONAL REPORT RECIPIENT(S): ***

HM# 15	Material Description: Roof Curb	
Sample ID	Sample Location & Material Location	Quantity:
15 A	Upper W Roof	
15 B	" "	

HM# 16	Material Description: Rolled Roof Field	
Sample ID	Sample Location & Material Location	Quantity:
16 A	Upper E Roof	
16 B	" "	

HM# 17	Material Description: Roof Curb	
Sample ID	Sample Location & Material Location	Quantity:
17 A	Upper E Roof	
17 B	" "	

HM# 08	Material Description: Skim Coat on Concrete	
Sample ID	Sample Location & Material Location	Quantity:
08A	Upper Roofs E	

HM#	Material Description:	
Sample ID	Sample Location & Material Location	Quantity:
A		
B		
C		
D		
E		
F		
G		

Relinquished By: Mike B Signature: Date/Time: 9/24/12

Received By: Duane Flohra Signature: Date/Time: SEP 24 2012 1530

Relinquished By: Signature: Date/Time:

Received By: M. THORNTON Signature: Date/Time: 9/25/12 1111

RGA ENVIRONMENTAL

Appendix 2

Laboratory Results and Chain of Custody- Lead

RGA
ENVIRONMENTAL

September 26, 2012

RGA Batch # 12-2702

Client: Client Contact
Company: URS Consultants
221 Main St., Suite 600
San Francisco, CA, 94111

Project:	Posey St Tube, Oakland Side	Project #:	URS31217
Matrix:	Paint Chips - Total Lead	P.O. #:	N/A
Date Sampled:	9/24/2012	Sampled By:	Mike B
Date Received:	9/25/2012	Method:	EPA SW-846 Method 7420
Date Analyzed:	9/26/2012	Analyst:	***Aruna Turaga***

LEAD SAMPLE RESULTS

RGA Lab ID	Client ID	RL (mg/kg)	Concentration (mg/kg)	Percent %
12024458	Pb-01	48	490	0.049
12024459	Pb-02	48	50	0.005
12024460	Pb-03	480	4,800	0.480
12024461	Pb-04	6720	44,000	4.400
12024462	Pb-05	480	3,500	0.350
12024463	Pb-06	7840	100,000	10.000
12024464	Pb-07	50	300	0.030
12024465	Pb-08	7680	120,000	12.000
12024466	Pb-09	48	500	0.050
12024467	Pb-10	48	260	0.026
12024468	Pb-11	49	1,400	0.140
12024469	Pb-12	7840	150,000	15.000

QA/QC Results		
Batch QC PS	88% Recovery	RL - reporting limit
Method Blank	<0.5 ug/ml	mg - milligrams
		kg - kilograms
		< - less than

Reviewed by: T. Aruna

Dr.Aruna Turaga, Laboratory Director

12-2702

RGA
ENVIRONMENTAL

__ PM – S. Steiner
steff@rgaenv.com
fax: 510.899.7051

__PM – K. Schroeter
karin@rgaenv.com
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__PM – K. Pilgrim
ken@rgaenv.com
fax: 510.899.7053

X PM – T. Kattchee
tedd@rgaenv.com
fax: 510.899.7070

__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

__PM – Marlin Bryant
marlin.bryant@rgaenv.com
fax:510.899.7062

LEAD PAINT
SAMPLE DATA SHEET

* Lead Analysis
X Flame AA (EPA 7420)
__ TTLC

PAGE 1 OF 2

Project Name/Address/Building No. : Posey St. Tube, Oakland Side

RGA Project #: 121-31217 Sampled By: Mike B Sampling Date 9/24/12

Sample(s) Sent To: X RGA ____ EMSL ____ Other: ____ TAT: ____ Rush X 24Hrs ____ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)**

***ADDITIONAL REPORT RECIPIENT(S): ____ ***

Sample ID	Paint Description and Sample Location	Condition (I/F/P)
Pb-01	Paint Color: White Substrate: Conc. Component: Wall Sample Location: Bldg. # ____ Unit # ____ Room ____ Corridor outside Restroom	
Pb-02	Paint Color: N/A Substrate: Win Putty Component: ____ Sample Location: Bldg. # ____ Unit # ____ Room ____ N side office Win. Frame	
Pb-03	Paint Color: Tan Substrate: ~~Wood~~ Plaster Component: Wall Sample Location: Bldg. # ____ Unit # ____ Room ____ N Side office above drop Ceiling	P
Pb-04	Paint Color: Gray Substrate: Metal Component: Door Sample Location: Bldg. # ____ Unit # ____ Room ____ Restroom Door	
Pb-05	Paint Color: Red Substrate: Concrete Component: Floor Sample Location: Bldg. # ____ Unit # ____ Room ____ NE Side Entry	
Pb-06	Paint Color: Yellow Substrate: Metal Component: Rail Sample Location: Bldg. # ____ Unit # ____ Room ____ NE Side Entry	
Pb-07	Paint Color: Lt. Yellow Substrate: Concrete Component: Wall Sample Location: Bldg. # ____ Unit # ____ Room ____ Ext wall N Elev at NE Entry	

Relinquished By: Mike B Signature: [signature] Date/Time: 9/24/12

Received By: Duane Flohra Signature: [signature] Date/Time: SEP 24 2012 1514

Relinquished By: ____ Signature: ____ Date/Time: ____

Received By: M. THORNTON Signature: [signature] Date/Time: 9/25/12 1052

12-2702

RGA ENVIRONMENTAL

__ PM – S. Steiner steff@rgaenv.com fax: 510.899.7051
__ PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063
__ PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053
X PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070
__ PM – B. Gils bob@rgaenv.com fax: 510.899.7050
__ PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

LEAD PAINT
SAMPLE DATA SHEET

* Lead Analysis
X Flame AA (EPA 7420)
__ TTLC

PAGE 2 OF 2

Project Name/Address/Building No. : Posey St. Tube, Oakland Side

RGA Project #: URS 31217 Sampled By: M.L.B Sampling Date 9/24/12

Sample(s) Sent To: X RGA _____ EMSL _____ Other: _____ TAT: _____ Rush X 24Hrs _____ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)**

***ADDITIONAL REPORT RECIPIENT(S): _____ ***

Sample ID	Paint Description and Sample Location	Condition (I/F/P)
Pb-08	Paint Color: Black Substrate: Metal Component: Grating Sample Location: Bldg. # _____ Unit # _____ Room _____ N Elev. at NE Entry	
Pb-09	Paint Color: Tan Substrate: Concrete Component: Ext Wall Sample Location: Bldg. # _____ Unit # _____ Room _____ E Elev at Grnd lvl	
Pb-10	Paint Color: Lt. Tan Substrate: Concrete Component: Ext. Wall Sample Location: Bldg. # _____ Unit # _____ Room _____ South Side Exterior Wall	
Pb-11	Paint Color: Lt. Tan Substrate: Wood Component: Railing Sample Location: Bldg. # _____ Unit # _____ Room _____ N Elev at lower Roof	
Pb-12	Paint Color: Green Substrate: Metal Component: Door Sample Location: Bldg. # _____ Unit # _____ Room _____ Lower Roof W Side	
[redacted]	Paint Color: [redacted] Substrate: [redacted] Component: [redacted] Sample Location: Bldg. # _____ Unit # _____ Room _____	
	Paint Color: _____ Substrate: _____ Component: _____ Sample Location: Bldg. # _____ Unit # _____ Room _____	

Relinquished By: M.L.B Signature: _____ Date/Time: 9/24/12

Received By: Duane Flohra Signature: Duane Flohra Date/Time: SEP 24 2012 1514

Relinquished By: _____ Signature: _____ Date/Time: _____

Received By: M. THORNTON Signature: _____ Date/Time: 9/25/12 1052

Sample Log
Chain of Custody

RGA Laboratory Services
INTERNAL

Client:	Client Contact
Company:	URS Consultants
Client Address:	221 Main Street / Suite 600
San Francisco (City)	CA (State) 94111-452 (Zip)
Phone #:	
2nd or Cell #:	
Fax #:	
e-mail Address:	
Project Manager:	Tedd Kattchee

RGA Batch #:	12-2702
RGA Project #:	URS31217
Client Job #:	
Number of Samples:	12

TYPE OF ANALYSIS

ASBESTOS:	METALS: Pb	
____ PCM (air)	__X__ Paint	____ Soil
____ PLM (bulk)	____ Wipe	____ Air
____ Pt. Count (bulk)	____ TCLP	____ Water
MOLD: P&K __100 __101 __102 __105 __117		
Other Method:		

Project Location: Posey St. Tube, Oakland Side

Condition: ✓ Good _____ Damaged _____ Severe Damage

Turn Around Time (other): 24 hour

2 hour / 4 hour	Same Day	~~One Day~~
Two Day	3-5 days	10 days

Price per Sample: $_____

#	Client Sample ID	RGA Laboratory ID	Comments	#	Client Sample ID	RGA Laboratory ID	Comments
1	Pb-01	12024458		11	Pb-11	12024468	
2	Pb-02	12024459		12	Pb-12	12024469	
3	Pb-03	12024460		13			
4	Pb-04	12024461		14			
5	Pb-05	12024462		15			
6	Pb-06	12024463		16			
7	Pb-7	12024464		17			
8	Pb-08	12024465		18			
9	Pb-09	12024466		19			
10	Pb-10	12024467		20			

	Signature	Date	Time
Sampled by:	MIKE B	9/24/12	
Relinquished by:			
Received by:			
Relinquished by:			
Received for Laboratory by:	[signature]	9/25/12	1052
Analyzed by:	[signature]	9/26/12	14:00
Preliminary Results Reported to P.M. by:	[signature]	9/26/12	
Final Report to P.M. by:			

Special Instructions:
Due by 9/26/2012

RGA
ENVIRONMENTAL

September 26, 2012

RGA Batch # 12-2704

Client: Client Contact
Company: URS Consultants
221 Main St., Suite 600
San Francisco, CA, 94111

Project:	Posey Tunnel, Alameda	Project #:	URS31217
Matrix:	Paint Chips - Total Lead	P.O. #:	N/A
Date Sampled:	9/21/2012	Sampled By:	Mike B/Steve R
Date Received:	9/25/2012	Method:	EPA SW-846 Method 7420
Date Analyzed:	9/26/2012	Analyst:	***Aruna Turaga***

LEAD SAMPLE RESULTS

RGA Lab ID	Client ID	RL (mg/kg)	Concentration (mg/kg)	Percent %
12024514	Pb-01	490	3,500	0.350
12024515	Pb-02	48	97	0.010
12024516	Pb-03	7680	100,000	10.000
12024517	Pb-04	7680	110,000	11.000
12024518	Pb-05	48	1,000	0.100
12024519	Pb-06	4800	26,000	2.600
12024520	Pb-07	4800	24,000	2.400
12024521	Pb-08	49	170	0.017
12024522	Pb-09	49	390	0.039
12024523	Pb-10	48	360	0.036
12024524	Pb-11	7680	91,000	9.100
12024525	Pb-12	7680	86,000	8.600
12024526	Pb-13	7680	110,000	11.000
12024527	Pb-14	7840	130,000	13.000
12024528	Pb-15	49	340	0.034
12024529	Pb-16	48	170	0.017

QA/QC Results
Batch QC PS 88% Recovery
Method Blank <0.5 ug/ml

RL - reporting limit
mg - milligrams
kg - kilograms
< - less than

Reviewed by:

Dr.Aruna Turaga, Laboratory Director

12-2704

RGA ENVIRONMENTAL

__ PM – S. Steiner steff@rgaenv.com fax: 510.899.7051

__PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063

__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053

X PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070

__PM – B. Gils bob@rgaenv.com fax: 510.899.7050

__PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

LEAD PAINT
SAMPLE DATA SHEET

* Lead Analysis
X Flame AA (EPA 7420)
__ TTLC

PAGE 1 OF 3

Project Name/Address/Building No. : Posey Tunnel Alameda CA

RGA Project #: URS-31217 Sampled By: Mike B/Steve R. Sampling Date 9-21-12

Sample(s) Sent To: X RGA ____ EMSL ____ Other: ____ TAT: ____ Rush X 24Hrs ____ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM) ***

***ADDITIONAL REPORT RECIPIENT(S): ____ ***

Sample ID	Paint Description and Sample Location	Condition (I/F/P)
Pb01	Paint Color: Green Substrate: Plaster Component: Wall Sample Location: Bldg. # ____ Unit # ____ Room Office above ceiling North wall (Composite)	P
Pb-02	Paint Color: Gray/Green/white Substrate: Glass Component: Windows Sample Location: Bldg. # ____ Unit # ____ Room Office (Composite) South interior windows	I
Pb-03	Paint Color: Gray/Orange Substrate: Steel Component: handrails Sample Location: Bldg. # ____ Unit # ____ Room Vestibule ON South west & South east handrails (Composite)	I
Pb-04	Paint Color: Yellow/Gray/Orange Substrate: Steel Component: handrails Sample Location: Bldg. # ____ Unit # ____ Room Vestibule ON South west & South east handrails (composite)	I
Pb-05	Paint Color: Red/Gray Substrate: Concrete Component: Floor Sample Location: Bldg. # ____ Unit # ____ Room Vestibule North restroom South west & South east vestibule floors (composite)	I
Pb-06	Paint Color: Gray/Beige/white/orange Substrate: Steel Component: doors/frames Sample Location: Bldg. # ____ Unit # ____ Room Throughout Interior Multiple layers on all doors & frames Interior (composite	I
Pb-07	Paint Color: White/Beige/Gray Substrate: Concrete Component: walls Sample Location: Bldg. # ____ Unit # ____ Room Throughout 1st Floor (Composite sample)	I

Relinquished By: Steve Rogers Signature: [signature] Date/Time: 9-21-12

Received By: Duane Flohra Signature: [signature] Date/Time: SEP 24 2012 1432

Relinquished By: ____ Signature: ____ Date/Time: ____

Received By: M. THORNTON Signature: [signature] Date/Time: 9/25/12 1140

12-2704

RGA ENVIRONMENTAL

__ PM – S. Steiner steff@rgaenv.com fax: 510.899.7051
__PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063
__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053
X PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070
__PM – B. Gils bob@rgaenv.com fax: 510.899.7050
__PM – Marlin Bryant marlin.bryant@rgaenv.com fax:510.899.7062

LEAD PAINT
SAMPLE DATA SHEET

* Lead Analysis
X Flame AA (EPA 7420)
__ TTLC

Project Name/Address/Building No. : Posey Tunnel Alameda CA

RGA Project #: URS-31217 Sampled By: SRogers/MikeB Sampling Date 9-21-12

Sample(s) Sent To: X RGA ____ EMSL ____ Other: ____ TAT: ____ Rush (X 24Hrs) ____ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)**

***ADDITIONAL REPORT RECIPIENT(S): ____ ***

Sample ID	Paint Description and Sample Location	Condition (I/F/P)
Pb-08	Paint Color: Silver/Beige Substrate: Concrete Component: Wall Sample Location: Bldg. # ____ Unit # ____ Room Basement East wall ; w basement	I
Pb-09	Paint Color: Pink Substrate: Concrete Component: Wall Sample Location: Bldg. # ____ Unit # ____ Room ____ Exterior Wall W side Grnd level	I
Pb-10	Paint Color: H. Pink Substrate: Concrete Component: Wall Sample Location: Bldg. # ____ Unit # ____ Room ____ Ext- Wall W side Grnd level	I
Pb-11	Paint Color: Pink Substrate: Metal Component: Rail Sample Location: Bldg. # ____ Unit # ____ Room ____ Handrail at W side elev.	F
Pb-12	Paint Color: Black Substrate: Metal Component: Grating Sample Location: Bldg. # ____ Unit # ____ Room ____ Grate at W side entrance	F
Pb-13	Paint Color: Pink Substrate: Steel Component: Beam Sample Location: Bldg. # ____ Unit # ____ Room Roof South	P
Pb-14	Paint Color: Dark Green Substrate: WOOD Component: DOOR Sample Location: Bldg. # ____ Unit # ____ Room East roof	P

Relinquished By: Steve Rogers Signature: [signature] Date/Time: 9-21-12

Received By: Duane Flohra Signature: [signature] Date/Time: SEP 24 2012/1432

Relinquished By: ____ Signature: ____ Date/Time: ____

Received By: M- THORNTON Signature: [signature] Date/Time: 9/25/12 1140

12-2704

RGA ENVIRONMENTAL

__ PM – S. Steiner
steff@rgaenv.com
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__PM – K. Schroeter
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__PM – K. Pilgrim
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fax: 510.899.7053

X PM – T. Kattchee
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fax: 510.899.7070

__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

__PM – Marlin Bryant
marlin.bryant@rgaenv.com
fax:510.899.7062

LEAD PAINT
SAMPLE DATA SHEET

* Lead Analysis
X Flame AA (EPA 7420)
__ TTLC

Project Name/Address/Building No. : Posey Tunnel Alameda CA

RGA Project #: URS-31217 Sampled By: Steve R/Mike B Sampling Date 9-21-21

Sample(s) Sent To: X RGA ____ EMSL ____ Other: ____ TAT: ____ Rush __X__ 24Hrs ____ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)**

***ADDITIONAL REPORT RECIPIENT(S): ____ ***

Sample ID	Paint Description and Sample Location	Condition (I/F/P)
P6-15	Paint Color: Pink Substrate: WOOD Component: Railing Sample Location: Bldg. # ____ Unit # ____ Room Roof South	P
P6-16	~~Paint Color~~: Potty Substrate: Concrete Component: Trench Lt Sample Location: Bldg. # ____ Unit # ____ Room Southroof	
	Paint Color: ____ Substrate: ____ Component: ____ Sample Location: Bldg. # ____ Unit # ____ Room ____	
	Paint Color: ____ Substrate: ____ Component: ____ Sample Location: Bldg. # ____ Unit # ____ Room ____	
	Paint Color: ____ Substrate: ____ Component: ____ Sample Location: Bldg. # ____ Unit # ____ Room ____	
	Paint Color: ____ Substrate: ____ Component: ____ Sample Location: Bldg. # ____ Unit # ____ Room ____	
	Paint Color: ____ Substrate: ____ Component: ____ Sample Location: Bldg. # ____ Unit # ____ Room ____	

Relinquished By: Steve Rogers Signature: [signature] Date/Time: 9-21-12

Received By: Duane Flohra Signature: [signature] Date/Time: SEP 24 2012/1432

Relinquished By: ____ Signature: [signature] Date/Time: ____

Received By: M. THORNTON Signature: [signature] Date/Time: 9/25/12 1140

Sample Log
Chain of Custody

RGA Laboratory Services
INTERNAL

Client:	Client Contact	**RGA Batch #:**	12-2704
Company:	URS Consultants	**RGA Project #:**	urs-31217
Client Address:	221 Main Street / Suite 600	**Client Job #:**	
San Francisco (City)	CA (State)	94111-452 (Zip)	**Number of Samples:** 16

Phone #:

2nd or Cell #:

Fax #:

e-mail Address:

Project Manager: Tedd Kattchee

TYPE OF ANALYSIS		
ASBESTOS:	**METALS:** Pb	
____ PCM (air)	__X__ Paint	____ Soil
____ PLM (bulk)	____ Wipe	____ Air
____ Pt. Count (bulk)	____ TCLP	____ Water
MOLD: P&K __ 100 __ 101 __ 102 __ 105 __ 117		
Other Method:		

Project Location: Posey Tunnel Alameda, CA

Turn Around Time (other): 24 hour

2 hour / 4 hour	Same Day	~~One Day~~
Two Day	3-5 days	10 days

Price per Sample: $_____

Condition: ✓ Good _____ Damaged _____ Severe Damage

#	Client Sample ID	RGA Laboratory ID	Comments	#	Client Sample ID	RGA Laboratory ID	Comments
1	Pb-01	12024514		11	Pb-11	12024524	
2	Pb-02	12024515		12	Pb-12	12024525	
3	Pb-03	12024516		13	Pb-13	12024526	
4	Pb-04	12024517		14	Pb-14	12024527	
5	Pb-05	12024518		15	Pb-15	12024528	
6	Pb-06	12024519		16	Pb-16	12024529	
7	Pb-07	12024520		17			
8	Pb-08	12024521		18			
9	Pb-09	12024522		19			
10	Pb-10	12024523		20			

	Signature	Date	Time
Sampled by:	MIKE B / STEVE R.	9/21/12	
Relinquished by:			
Received by:			
Relinquished by:			
Received for Laboratory by:		9/25/12	1140
Analyzed by:		9/26/12	14:00
Preliminary Results Reported to P.M. by:		9/26/12	
Final Report to P.M. by:			

Special Instructions:
Due by 9/26/2012

RGA ENVIRONMENTAL

Appendix 3

Material and Sample Location Drawing

ALAMEDA SIDE SAMPLE LOCATION DIAGRAMS

Pb-08 (Basement)
5-C (BASEMENT)
5-A (BASEMENT)
5-B (BASEMENT)
Pb-06
1-A
Pb-07 (Composite)
Pb-07 (Composite)
Pb-07 (Composite)
Pb-01
Pb-05 (Composite)
Pb-05 (Composite)
1-B
1-C
4-A
4-B
3-A
Pb-03 (Composite)
Pb-03 (Composite)
Pb-04 (Composite)
Pb-04 (Composite)
4-C
3-B
2-A
3-C
2-C
2-B
Pb-02

EXHAUST FAN ROOM #1
EXHAUST FAN ROOM #2
EXHAUST FAN ROOM #3
EXHAUST FAN ROOM #4
MOTOR RAILWAY
Control Room
FRESH AIR CHAMBER
FRESH AIR CHAMBER #2
VESTIBULE #1
VESTIBULE #2
OFFICE
LANDING (Present)
LANDING (Present)
TOILET
TOILET
MEZZANINE OVER TOILET RM.
Skylight Over
Opening for Motor
Opening for Motor
Open for Fan Motor to Suit Equipment
Operators Desk
Operators Desk
Operators Switchboard
Linoleum Floor
Linoleum Floor
Line of Sewer
Line of Sewer
Line of Water Mains
Line of Water Mains
Pipe Rail
Pipe Rail
Pipe Rail
Pipe Rail
Section Thru Wall Where Elec. Cab. occur in Office
Scale ¾"=1'-0"

COLUMN SCHEDULE

Column No.	Cap	Base	Size	Steel	Lbs. per Ft.
1-5	32.36	32.36	12"-12" Ø	12-¾" Ø	122.50
2-4	33.35	33.35	10"-10" Ø	6-¾" Ø	102.30
3	34	34	12"-12" Ø	12-¾" Ø	122.50
7-10	27-39	27-39	14"-14" Ø	12-¾" Ø	122.50
8-9	28-27	28-27	14"-14" Ø	12-¾" Ø	122.50
11	26	26	16"-16" Ø	12-¾" Ø	122.50
12	25	25	16"-16" Ø	12-¾" Ø	122.50
13	24	24	16"-16" Ø	12-¾" Ø	122.50
14	22-23	22-23	16"-16" Ø	12-¾" Ø	122.50
15	21	21	16"-16" Ø	12-¾" Ø	122.50
16	19	19	16"-16" Ø	12-¾" Ø	122.50
17	18-20	18-20	16"-16" Ø	12-¾" Ø	122.50
18	16	16	16"-16" Ø	12-¾" Ø	122.50
6	17	17	16"-16" Ø	12-¾" Ø	122.50
Column No.	Cap	Base	Size	Steel	Lbs. per Ft.

Note- All Colors to Columns Run 6 Bands Red 4" to the Foot Diameter
All Donald Square Diffused Red of Approved Type.
Round Top Plate Round
Top Plate Square
Top Plate Round
Bottom Plate Square
Bottom Plate Round

DOOR SCHEDULE

Letter	Size	Type	Refer To
A	9'-0" x 14'-0"	Steel-Bolted To L Frame; Curb	Sheet #6
B	2'-8" x 6'-8"	Wood-Met Cov. L Frames Airtight Curb	" #13
C	32'-6" x 6'-8"	Wood-Met Cov. Met Cov Frames, Hinged	" #13
D	4'-0" x 6'-8"	" " " " "	" #7
E	8'-10" x 9'-2"	Wood, " Bolted To Met Cov Frame,	" #16
F	2'-2" x 6'-8"	" " " Met Cov Frame, Hinged	2 Steel Doors
G	2'-6" x 6'-8"	" " " " "	"

FAN ROOM FLOOR PLAN
Scale 1/4"=1'-0"

OAKLAND
ALAMEDA COUNTY CALIFORNIA
ELEVATED RAILWAY
PORTAL BUILDINGS APPROACHES
PLAN

1

AUG. 25, 1911

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ALAMEDA SIDE SAMPLE LOCATION DIAGRAMS

10-A

10-B

11-A

11-B

Pb-14

9-A

12-A

9-B

9-C

12-B

12-C

13-A

EXHAUST DUCT RM

BALCONY PLAN

AT ELEVATION +153.2

Scale 1/4" = 1'-0" (Local)

UPPER PORTION OF FA CHAMBER "A"

UPPER PORTION OF FA CHAMBER "B" SIMILIAR

WALL REINFORCEMENT

ONE HALF PLAN AT D-D

SECTION "A-A"

ELEVATION

DETAIL OF TOP OF DUCT

DETAIL SHOWING LOWER END OF DUCT SHOWING ANCHORS AND ELASTIC CEMENT

DETAIL OF VENT FROM MOTOR HALL

SCALE 1/2" = 1'-0"

PLAN THRU EXHAUST DUCT ROOM

Scale 1/4" = 1'-0"

SHOWING BALCONIES & BEAMS ELEVATIONS

WEST WALL OF EXHAUST DUCT ROOM NO. 2 AT ELEV. +160.0

WEST WALL OF EXHAUST DUCT ROOM NO. 1 SIMILAR

STEEL

OAKLAND

ALAMEDA COUNTY, CALIFORNIA

KEYWAY SYDWAY

POSTAL BUILDINGS

APPROACHES

PLAN

2

D

D

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ALAMEDA SIDE SAMPLE LOCATION DIAGRAMS

17B

14C, 14D

14A, 14B

13-A

17A

15A, 15B

15C, 15D

7-B

6-D

Pb-12

OAKLAND PORTAL

ELEVATION SECTION

SECTION THRU TOILET AT SASH

Scale 3/4" = 1'-0"

MULLION JAMB

PLAN

ELEVATION

DETAIL OF CONNECTING GLASS CURTAIN WALL TO REAR PARAPET WALL

Scale 1 1/2" = 1'-0"

See Sheet No. 6 for Typical Details

NORTH ELEVATION

Scale 1/4" = 1'-0"

REAR

EYE BOLT

PLAN THRU CENTER DOOR CLOSED

SECTION THRU REAR DOOR TO FAN ROOM

DOOR & MARQUE #6

Scale 3" = 1'-0"

See Sheet No. 6 for Typical Details

OAKLAND

ALAMEDA COUNTY, CALIFORNIA

ESTUARY SUBWAY

PORTAL BUILDINGS

APPROACHES

ELEVATIONS & DETAILS

6

V & D

V & S

1928

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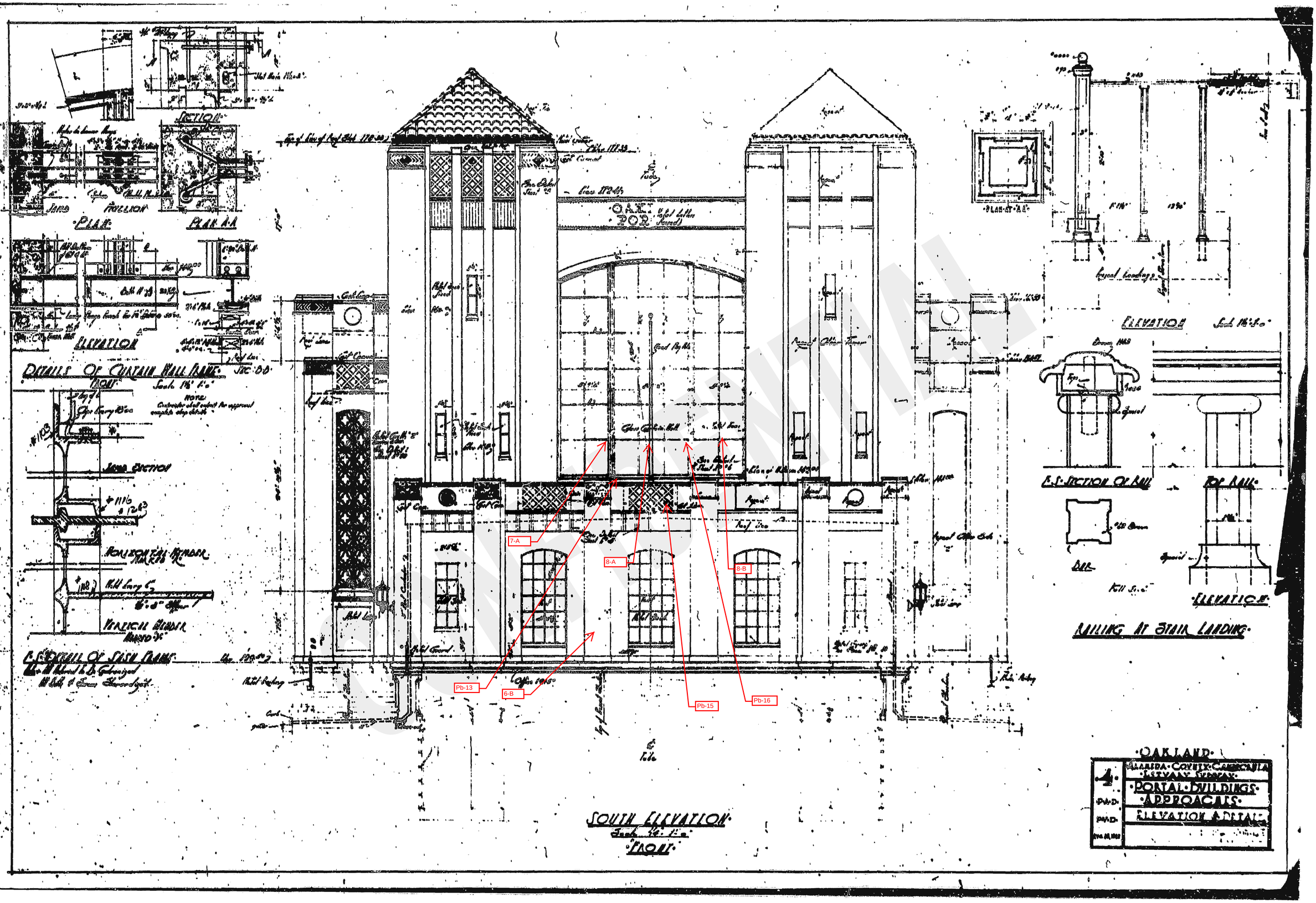
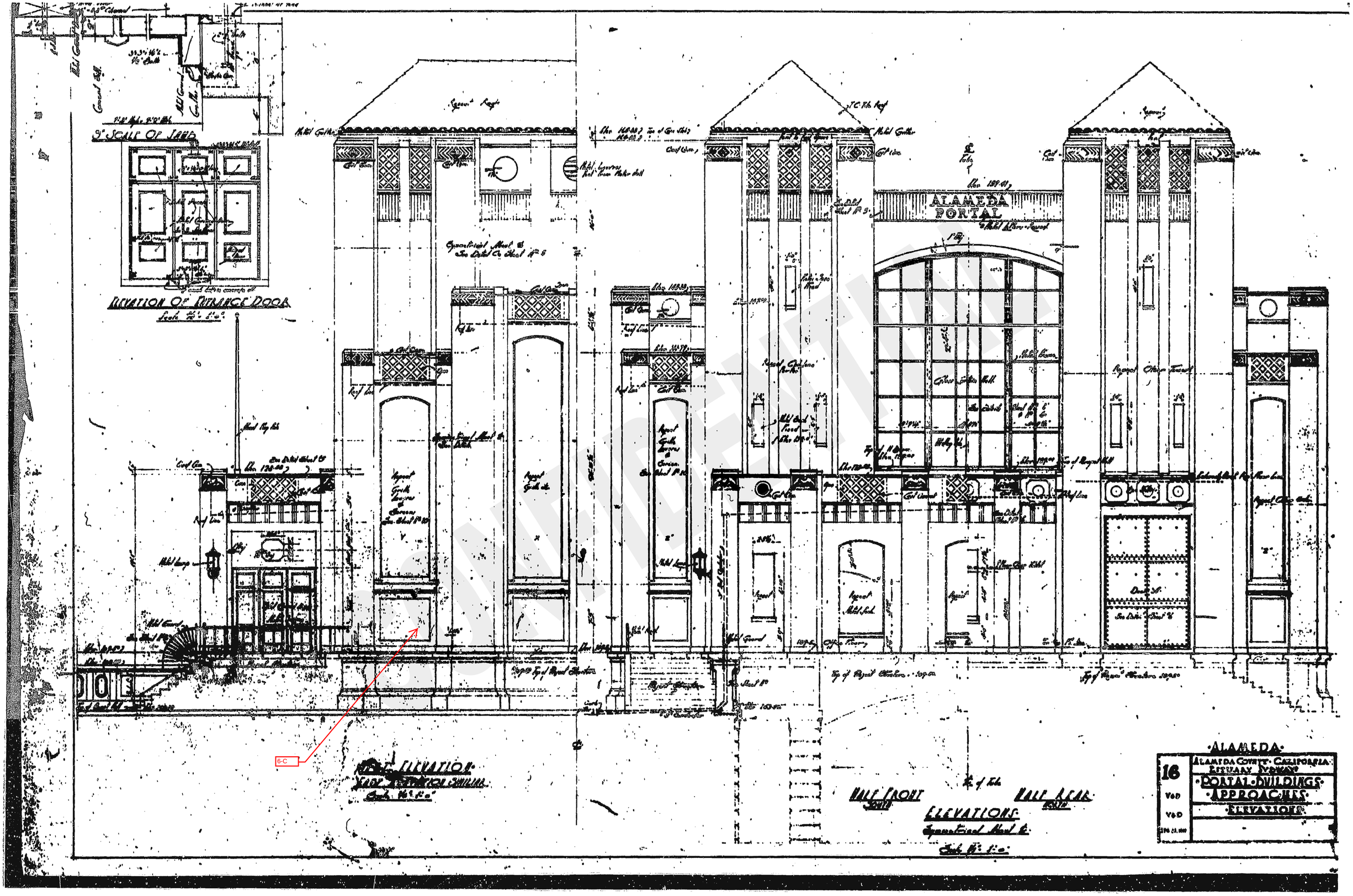
ALAMEDA SIDE SAMPLE LOCATION DIAGRAMS



ALAMEDA SIDE SAMPLE LOCATION DIAGRAMS



ALAMEDA
ALAMEDA COUNTY · CALIFORNIA
PUTUAAY NURSERY
PORTAL · BUILDINGS
APPROACHES
ELEVATIONS
16
V&D
V&D

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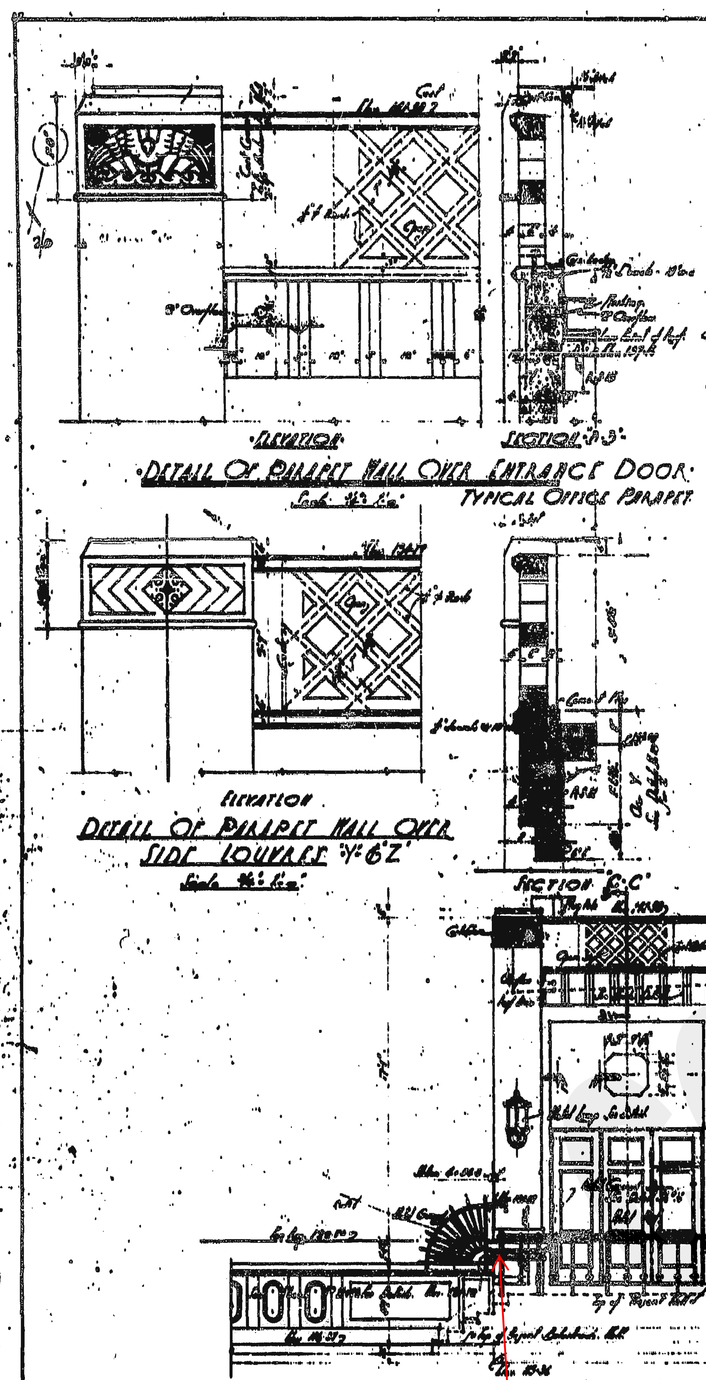
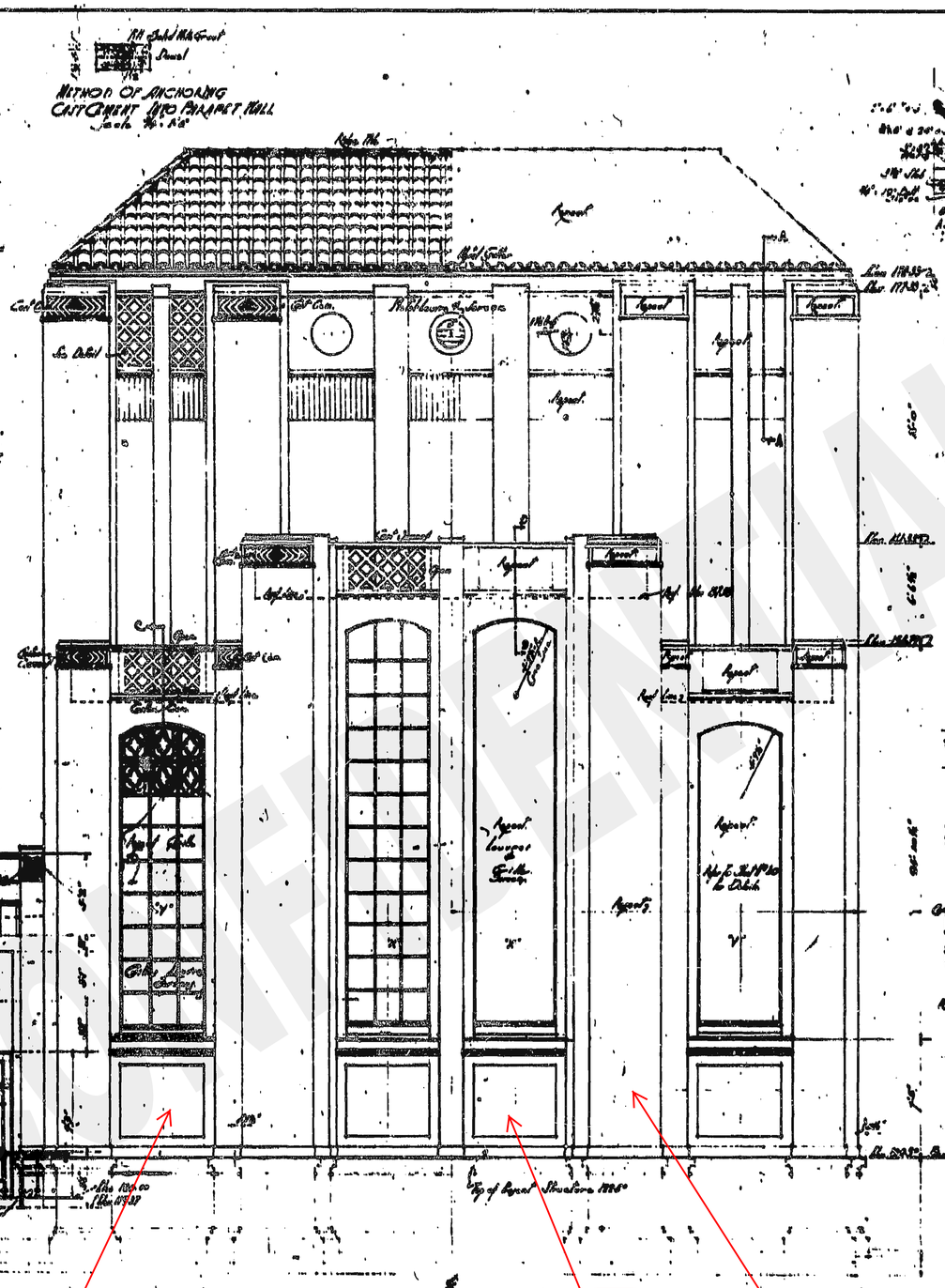
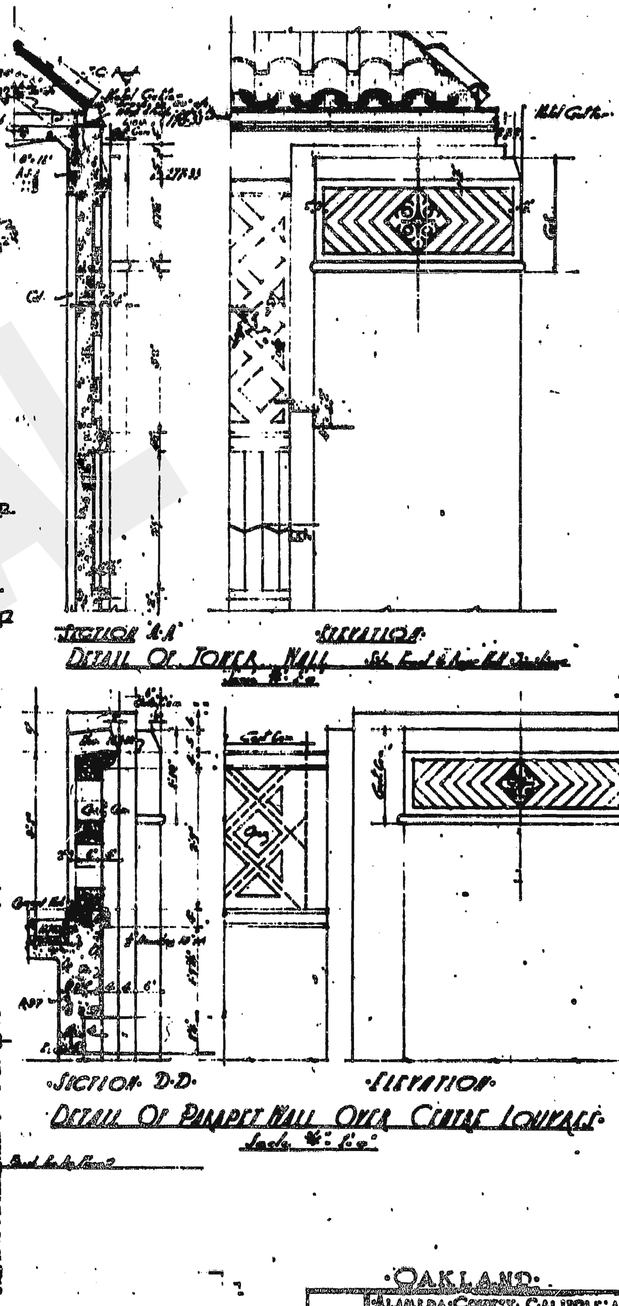
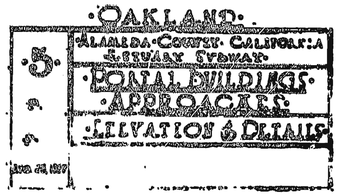
ALAMEDA SIDE SAMPLE LOCATION DIAGRAMS









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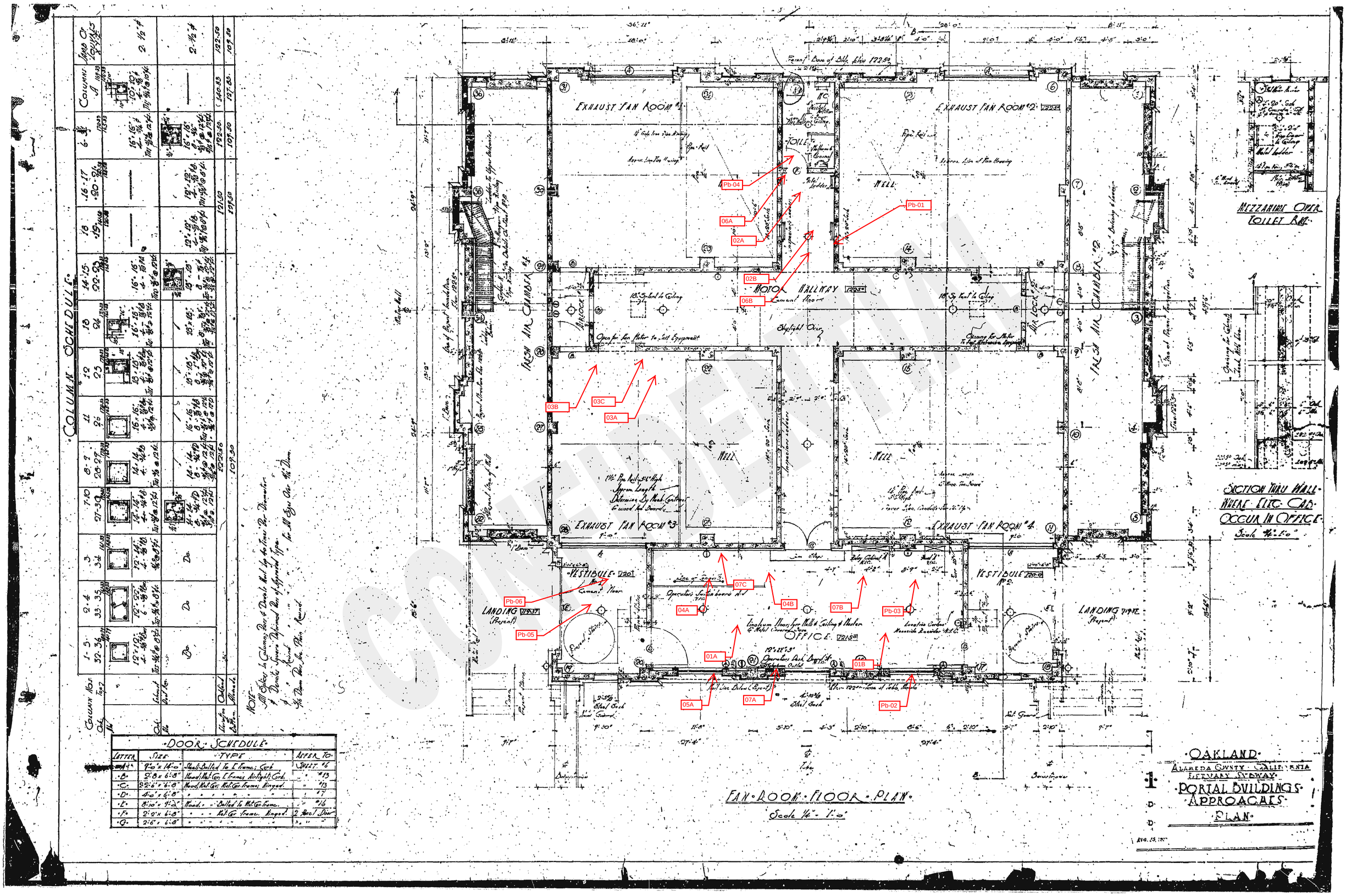
OAKLAND SIDE SAMPLE LOCATION DIAGRAMS



LETTER	SIZE	TYPE	REFER TO
A	9'-0" x 14'-0"	Steel-Bulled To L Frame; Cork	SHEET #6
B	2'-8" x 6'-8"	Wood Mat Cov. L Frames Air Tight; Cork	" #13
C	32'-6" x 6'-8"	Wood Mat Cov. Mat Cov Frames, Hinged	" #13
D	4'-0" x 6'-8"	" " " " " "	" #7
E	8'-10" x 9'-2"	Wood " Bulled To Mat Cov Frame	" #16
F	2'-2" x 6'-8"	" " Mat Cov Frame, Hinged	2 Steel Doors
G	2'-6" x 6'-8"	" " " " "	"

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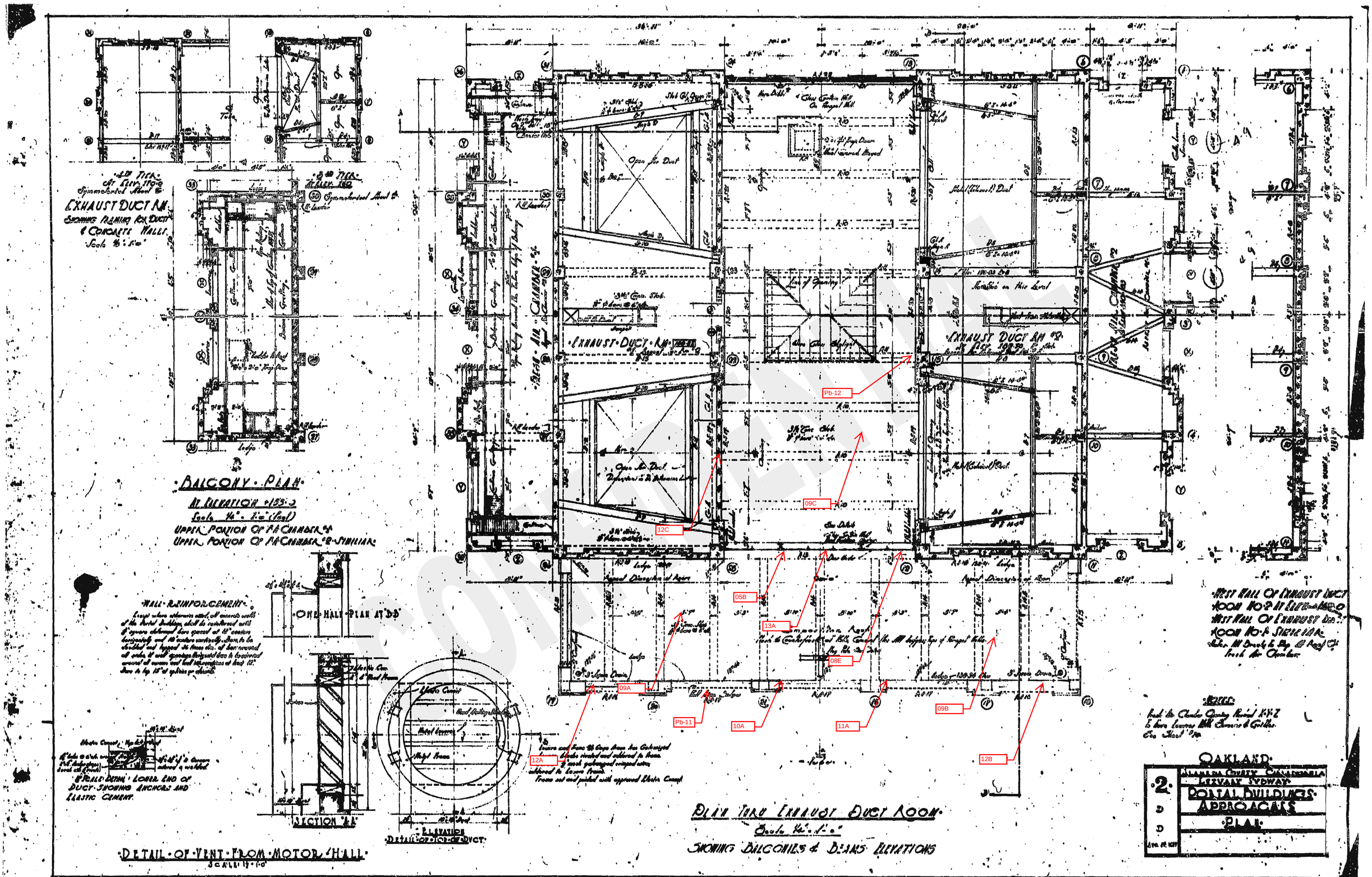
OAKLAND SIDE SAMPLE LOCATION DIAGRAMS



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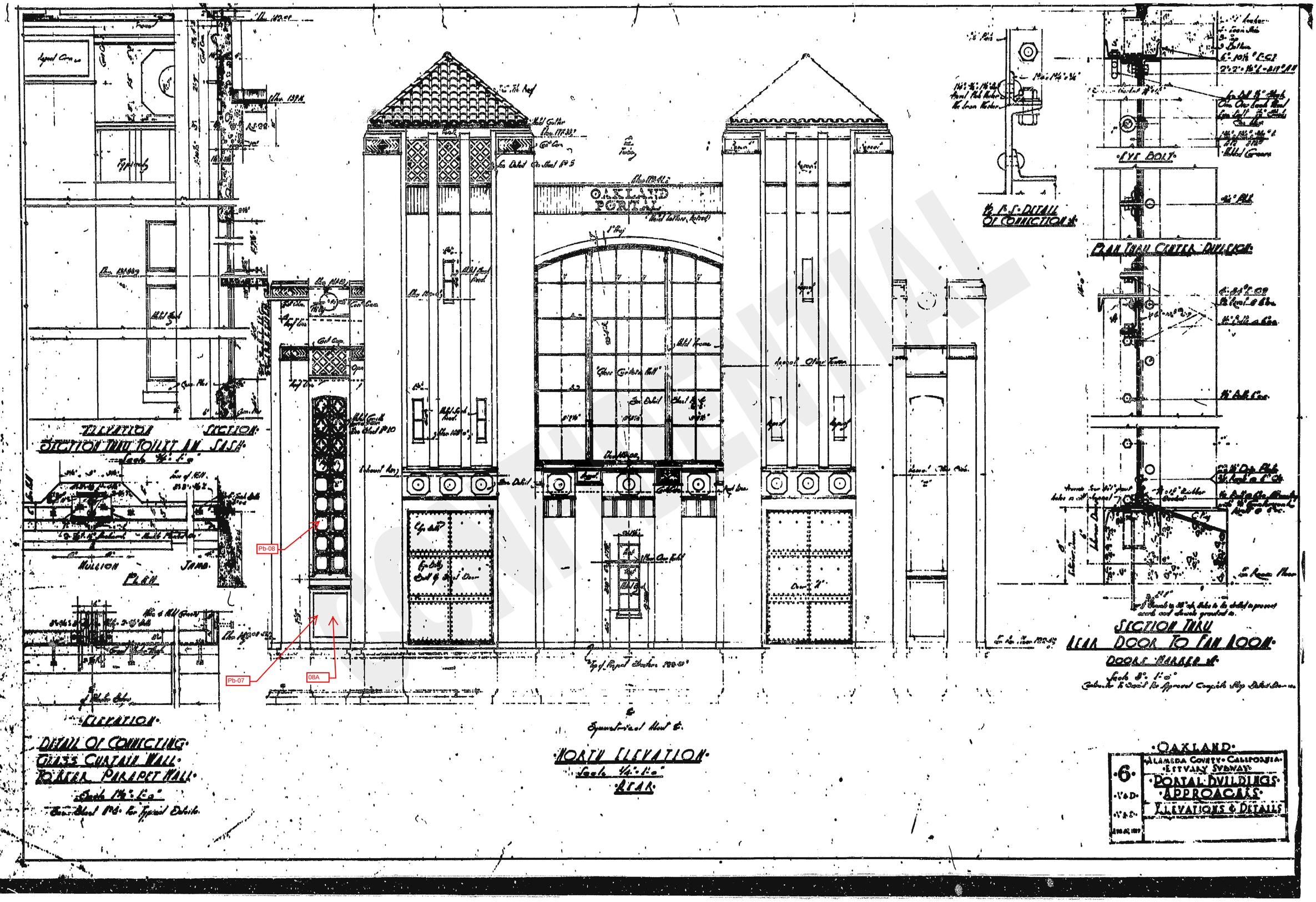
OAKLAND SIDE SAMPLE LOCATION DIAGRAMS



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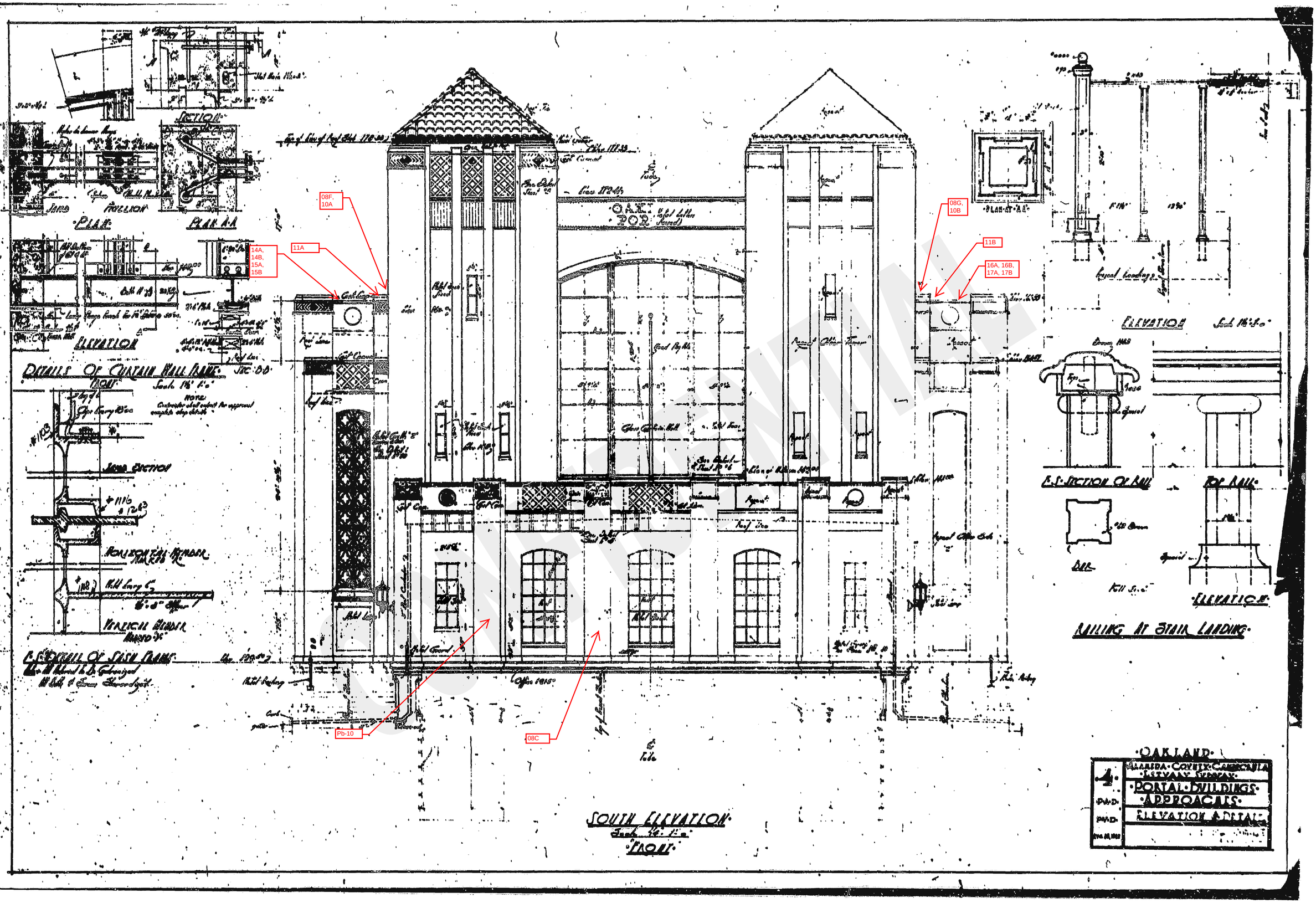

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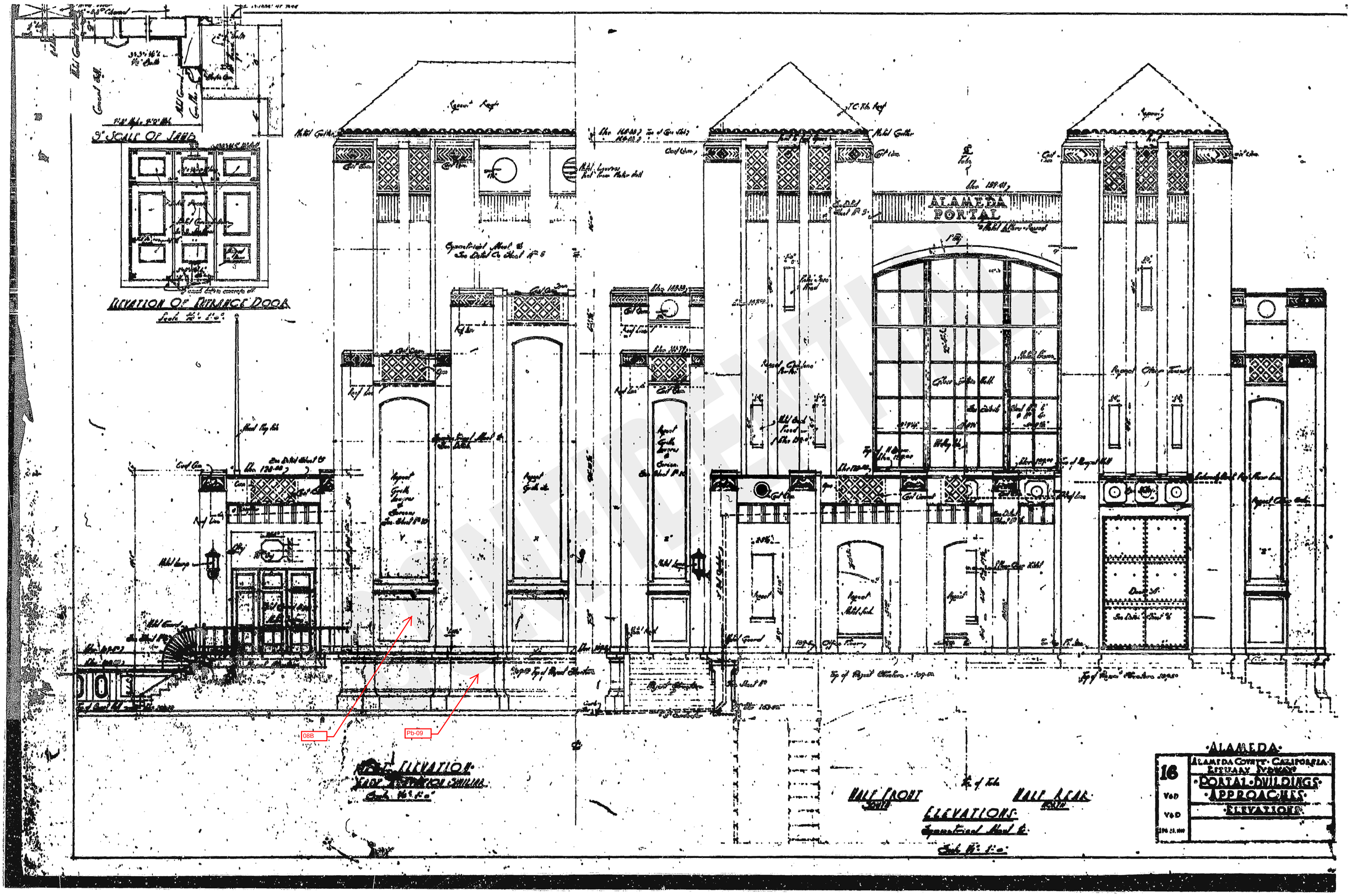

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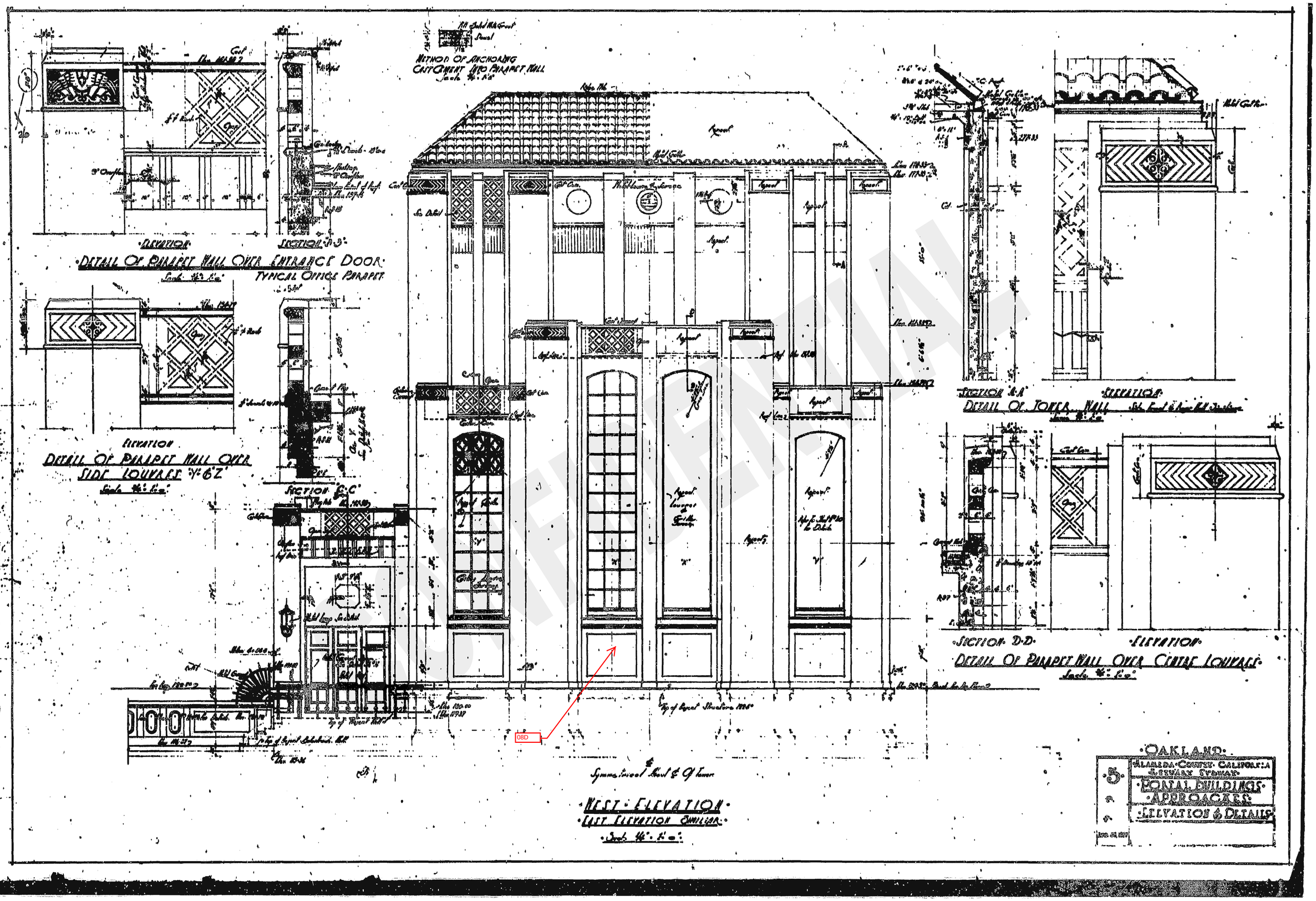

RGA ENVIRONMENTAL

Appendix 4

Site Inspector Certificate

State of California
Division of Occupational Safety and Health

Certified Site Surveillance Technician

Steven B Rogers

Name

Certification No. **08-4408**

Expires on **08/21/13**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

State of California
Division of Occupational Safety and Health

Certified Asbestos Consultant

Michael R Bishop

Name

Certification No. **07-4275**

Expires on **10/18/13**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

APPENDIX E

Products

TAG ARCHIVES: BALLISTIC

Safety Films vs. Security Films

Posted on **January 4, 2012**

Understanding the Misunderstood Differences

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Airborne glass fragments propelled during the failure of windows subjected to explosive effects are known to be a major cause of injuries and death. These incidents can either be accidental or deliberate; i.e. terrorist bomb attacks, accidental chemical or industrial explosive blasts, earthquakes and their subsequent destruction, hurricanes or gale force winds. As buildings are frequently being designed to have large expanses of glass for aesthetic reasons, the risk to life from flying glass fragments has become heightened and of greater concern.

Subsequent to the Oklahoma City bombing, President Clinton directed the Department of Justice to perform a vulnerability assessment of Federal Facilities with the cooperation of the United States Marshals Service. Within this assessment is the use of “Fragment Retention Films” for the protection of hazards of flying glass as a result of impact or explosion.

Security and safety are important to the owners, occupants and visitors of any building or facility. The absence of perceived security in a facility often adversely affects its primary function

attacked, robbed or vandalized, are often closed or operate on specifically limited times regardless of their location or the volume of business which they transact. Today, all prudent facility designers pay serious attention to the specific issues of Security and Safety – especially to those issues which are most apparent to the users of the facilities. With respect to safety and security, the two are distinguished by the following definitions.

SAFETY – Provides for the reduction of the risk or occurrence of injury, loss or death from accidental or natural causes.

SECURITY – Provides for the reduction of the risk or occurrence of injury, loss or death from the deliberate or intentional actions of man.

SAFETY FILMS – Consist of a single thin sheet of polyester with either a pressure sensitive or water activated acrylic adhesive. Safety films are a spin off of solar control films generally of 4 to 7 mil or .004 to .007 inches in nominal thickness. Safety films are available in clear, solar control reflective or architecturally tinted, some have Ultra-Violet (UV) radiation protection and some do not.

Safety films are primarily utilized for limited shatter resistance from light load bearing affects which would normally crack, shatter or cause breakage from accidental or limited natural causes. Improper cleaning and techniques can scratch or mar safety films, and some have very poor adhesive capabilities, due to the fact that their adhesives completely harden and dry, and are of minimal thickness, lending the film to a higher probability of delamination (film separating, bubbling or peeling away from the glass).

The testing standard most commonly used for the testing of safety films is the American National Standard – ANSI Z97.1 1984. This testing standard has performance criteria, which are directly related to the reduction of cutting and piercing injuries to persons who impact the glazing.

One important note to make here is that this test is centered around an individual impacting the coated glass and being somewhat assured not to receive extreme amounts of injury in doing so. This test is not designed around objects, blasts or projectiles impacting the glazing and how well that glazing stays intact or precludes the

glass from separating and impacting, cutting or impaling those behind it.

TEST STANDARDS – The Federal Uniform Building Code – Safety Standard for architectural Glazing Materials 16 CFR Part 1201 has two impact levels which are the 100 – ft. lb. energy level and the 150 – ft. lb. energy impact level. These are designed for glazing dimensions of 9 square feet or less and greater than 9 square feet. The three impact levels for the American National Standards Institute – Safety Glazing Materials ANSI Z97.1 – 1984 are: The 100 – ft. lb. energy level, the 150 – ft. lb., energy level and the 400 – ft. lb. energy impact level. Generally, most safety films can pass the 100 and 150 – ft. lb. impact test requirement, without a substantial percentage of glass loss from the specimen being tested. However, very few pass the 400 – ft. lb. impact level, which as quoted by ANSI is: “The 400 ft. lb. impact level was established for relatively unlimited acceleration paths, in which it might be reasonable to expect that an energetic teenager might develop something approaching his full impact velocity.”

This is where the safety films start to separate themselves from a tested security film, in that their compositional make-up during the manufacturing process and the adhesives are exceeded beyond their capabilities. Specifically the adhesives, as they harden and dry over time. Adhesives that harden and dry loose their elasticity, a prerequisite for eliminating delamination, bubbling and eventual peeling or separation all together from the glass. Elasticity is necessary and as glass expands and contracts. There are three major factors that accelerate the degradation of nonelastic adhesives: Extreme cold, Extreme heat, and Temperature ranges with a variance of over 50° during the normal course of the day. Examples of adhesive failure are evident in automobiles where the same types of adhesives are used in tinting films. Everyone has seen vehicle tint jobs with bubbles or elongated delaminations in them. Another is to examine windows that have been treated with safety films after an earthquake or hurricane force wind load. Here you will see where the glass is cracked and broken, then shifted or forced inward; how it will slide past the lower pieces and shear off the film by its own weight and separate, thereby falling away or being blown inward.

The other type of film failure is from films not being properly or not at all attached to the existing window frames. Typical

installations emulate “window tinting” applications where the film is applied to the window unit and cut to the lite opening (viewable area) with a razor blade around the edges. This causes two elements that lead to glazing failure: 1) No edge engagement into the existing frame to preclude pullout or breakage where there is no film, and 2) Cutting the film with a sharp razor blade can score the glazing causing a weakness around all the edges, facilitating in a weaker window just to the inside of the frame should it get attacked.

ANTI-GRAFITTI FILMS – Consist of a single thin sheet of polyester with either a pressure sensitive or water activated acrylic adhesive. Anti-graffiti films are a spin off of solar control films generally of 4 to 7 mil or .004 to .007 inches in nominal thickness. Anti-graffiti films are primarily available only in clear, and have Ultra-Violet (UV) radiation protection and some do not. Solar control reflective or architecturally tinted versions fade at exceptionally high rates. Anti-graffiti films are not designed to last a long time. This is due to the exterior exposure. The adhesives which normally have the UV inhibitors in them, is between the film and the glass. This provides no protection to the film itself from the sun’s direct exposure. The thicker film provides for greater resistance to gouging and etching of the glazing surfaces. Both thicknesses provide protection against spray paint “tagging”. However, the use of paint removal chemicals will also destroy the film. Therefore, once the film has been attacked, the best solution is to have it removed and replaced will new film. Typically anti-graffiti film can be replaced five to seven times, to equal the replacement cost of single pane tempered glass. And seven to twelve times, to equal the replacement cost of and dual pane insulated glazing unit.

SECURITY FILMS – consist of multiple layers of polyester film laminated together with a pressure sensitive acrylic adhesive. Security films are more correctly called security laminates. Security laminates are typically made in nominal thicknesses of 10, 12, 14, and 15 mil or .010, .012, .014, .015 inches. Based upon various testing agencies in the United States, as well as internationally the 15 mil or .015 inch nominal thickness security laminates have been proven through testing capabilities and actual attacks, to be the optimum composition. This composition has shown to withstand more than 15 years, without hazing, cracking, peeling, delamination and overall loss of product capabilities. All polyester or “Polyethylene Terephthalates” (P.E.T.) are designed to be applied to the

inside or protected side of the window or door glazing units. The technology has not yet been developed for a (P.E.T.) film to be applied to the exterior surface of a building glazing envelope that will withstand more than a year or two, without hazing, cracking, peeling, delamination and overall loss of product capabilities.

The higher technology security laminates provide the following benefits and features of ultra violet radiation control (transmittance reduction) of over 99% – **throughout the laminate** – not just in the layer of adhesive between the laminate and the glass; non-drying, non-hardening adhesives; solar control; architectural tinting and frosting; integrated alarm protection; EMI / RF protection and shielding or a laminate integrating combinations of the above features.

Security laminates are resistant to heat, exhibit no flame front advance, are extremely hard to ignite and are self-extinguishing ifremoved from direct flame.

Security laminates are the single most cost effective means for the prevention of penetration and resultant injury and damage from forced entry attacks, explosive blasts and projectile entries on retrofit applications. Security laminates do present a delay to forced entry attempts in physical security applications. Multiple blows to the window or door glazing could finally create a hole approximately the size of the tool used; therefore, many blows are required to hack a hole of sufficient size for any entry. This provides for some delay to an intruder, which in most cases deters further efforts, since time and stealth are major factors in thefts and forced entry by intruders. Security laminates can be considered a worthwhile and cost effective security barrier.

Security laminates with non-drying and non-hardening adhesives can be used to withstand explosive blasts, whether deliberate bombing attacks or accidental chemical or industrial explosions. One such security laminate that is used internationally has passed air-blast loading tests on 1/4″ annealed glass up to 100 P.S.I. over a positive phase duration of 12.5 milliseconds! Security laminates with elastic adhesives lower the hazard potentials of earthquake induced breakage as well as the effects of severe weather during blizzards, hurricanes and tornadoes.

Forced Entry capabilities – The only realistic testing standard

for security rated glazing products and films to resist forced entry attacks not requiring sustained attack or multiple implement usage, is the Underwriters Laboratories – Burglar Resistant Glazing Standard U.L. 972-1984 test. This test has two major impact tests and two major thermal conditioning impact tests. The multiple impact tests – The specimen treated on one side of a 1/4″ thick 2′ x 2′ glass pane held horizontally shall withstand five – ft. lb. impacts by dropping a 3-1/4″ hard polished steel ball weighing 5 lbs., through a vertical distance of ten (10) feet. The high impact test – utilizing the same ball, but this time dropped from a vertical distance of forty (40) feet without penetration. The thermal conditioning test for exterior glazing material consisting of five (5) 40-ft. lb. impacts utilizing the same steel ball through a vertical distance of eight (8) feet; and the thermal conditioning test for interior glazing material consisting of five (5) 50-ft. lb. impacts through a vertical distance of ten (10) feet. All the multiple impact tests require the steel ball to be released so as to strike each sample successively at five (5) different locations within a five (5) inch diameter circle, the center of which is to be located at the approximate center of the sample for various temperatures. Any security laminate should be proven to have passed this test (U.L. 972-1984). This test is the closest test to actual smash & grab and short term forced entry attacks.

There are currently numerous safety films being represented as security laminates that cannot pass this test standard. **BUYER BEWARE!**

Explosive Blast capabilities – The only test that is utilized to test glazing and glazing systems for resistance to explosions is the Air-Blast Loading test. The air-blast loading test is usually conducted in a shock tube, but can also be in an open-air arena capable of accommodating the detonation of the required amounts of explosives, peak positive pressures and positive phase durations. One thing to note here is that – there are not easily reproducible exacting results with the open air arena, as the variables such as wind, temperature, density altitude, humidity, etc., cannot be controlled. The shock tube test provides for more replication of results from test to test, and can also utilize a double rebounding, to emulate those conditions where other rebounded shock waves will be present.

However, as of the printing of this article, no set explosion charge ratings, stand off distances, explosive types, peak

positive pressures or phase durations are established for standardization – the end users must specify their requirements have samples tested according to the parameters acceptable to themselves. Currently ASTM is being balloted for such test standards.

Ballistic capabilities – The thicker multi-ply laminates will offer some resistance to small caliber handgun bullets when-and-only-when there is enough glazing substrate to impart bullet destruction, damage and increased frontal surface area. P.E.T. films by themselves offer no ballistic resistance. However, when films in excess of 12 mil are applied to glazings comprising of at least a nominal thickness of 1/2″, then it is possible to defeat .38 caliber round nose lead projectiles at standard velocities, .45 caliber jacketed hollow point bullets at standard velocities, and 9mm jacketed hollow point bullets at standard velocities. But there is a catch. These impacting bullets have to be typical of random “drive-by” shootings. This means at a stand-off distance in excess of 25 feet and impact points of no closer than 12″ from shot impact to shot impact. The use of tempered glass mitigates the glazings capabilities by breaking into small 3/4″ pieces, (not desirable for resistance to projectiles). The larger the non-impacted glass area, the better to resist projectile performance by providing a solid resistance. Variables that can mitigate this limited ballistic capability are, decreased stand-off distances, closer impact points, glazing selections, glazing mounting techniques, glazing compositions such a laminated or air gap double insulated units, bullet configurations, velocities, etc.

When choosing a safety film or security laminate for new or retrofit applications, insist on written verification that the product has passed the required tests equivalent to your needs and requirements.

Consider the following checklist:

1. Insist on proper certifications – Safety films do not meet burglar resistant standards or blast capabilities.
2. Insist on non -drying non-hardening adhesives of 20+ microns in thickness.
3. Insist on U. V. inhibitors with an absorption rate of at least 99%. On security laminates insist that it be throughout the lamination, not just in the adhesive between the glass and film.
4. The films should have a zero (0) grade rating for optical

clarity, no yellow hues or distortions. Having a visual light transmission of 94% minimum.

5. Safety films at least 7 mil or .007 inches in nominal thickness. Security films of 15 mil or .015 inches in nominal thickness.
6. Only a single one sided application should be required – for your application and to pass the testing requirements.
7. Insist on only films with surface hardeners for durability of the application.
8. Insist that all security film applications have the edges engaged into the existing window framing, to preclude glass failure around the edges where the film is cut, but not attached.

Safety and security films are not “the end all”, as no safety or security measure is. Rather, they are one part of an overall system. Proper selection of glazings and the proper selection of films, whether it be for safety, security or as an anti-spall protection on ballistic glass, will provide the best overall protection solution for decreasing the destructive capability of glass fragments and improving their retention in windows and glass doors.

Posted in **Architectural**, **Earthquake**, **Energy Efficiency**, **Green Technology**, **Public Safety**, **Safety and Security** | Tagged **anti-grafitti**, **architectural**, **ASTM**, **Ballistic**, **blast**, **earthquake**, **explosive**, **film**, **films**, **forced entry**, **glazing**, **impact test**, **laminates**, **protection**, **retention**, **safety**, **security**, **tagging**, **technology**, **tinting** | **Leave a reply**

PWF is an authorized dealer for these film products:

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Fragment retention film was credited for saving many lives during the September 2001 terrorist attack on the Pentagon. In the event of a nearby explosion, a building's Achilles heel is typically its glazed surfaces. Shattered into razor sharp fragments and propelled at high speeds, window and door glass can cause severe injury to a building's occupants. In addition, shattered glazing allows blast over-pressure to enter the building. This, too, poses a serious threat to the safety of those inside and outside.

Extensive testing has proven that the threat of injury due to flying glass shards can be greatly reduced by the use of 3M fragment retention window film. These tough, transparent, blast-resistant films consist of multiple, microthin polyester layers that work to hold shattered glazing together and increase glass protection. Consequently, there are fewer fragments and debris capable of inflicting harm.

3M fragment retention films greatly enhance the protective capability of glass in a very unobtrusive manner. These thin, pliable films can be applied quickly and easily over existing windows for bomb blast mitigation. Over the course of many years, they maintain a high level of optical clarity, even during extreme conditions. Unlike thick, single-layered fragment retention films that tend to be stiff and boardy, 3M Ultra Safety & Security films use microthin, cross-woven layers of mylar / polyester that are laminated together to enhance tensile strength and elongation. This patented security film construction delivers superior performance over standard polyester in blast and impact mitigation due to its ability to absorb shock. (Click here to learn why thickness is no substitute for technology.)

Additional blast protection is offered through the use of an attachment system. An attachment system helps to prevent the entire glass pane from being blown out of the window frame. 3M's Ultraflex attachment system is a structural silicone that bonds the fragment retention film to the glass to the frame. Testing has shown that 3M's Ultraflex wet glaze attachment system outperforms the industry's standard and more expensive mechanical batten system. (Click here to learn more about attachment systems.)

3M fragment retention films were tested by a GSA-approved independent agency and achieved a *Very High* protection level and a *Condition 2* on the GSA Security Criteria when tested with a standoff distance of 121 feet and a peak pressure of 9 psi. (Click here to learn more about blast protection standards and testing results.)

3M Ultra Safety & Security films' tough, transparent, multiple, microthin polyester layers work to hold shattered glass in place. Consequently, potential burglars are deterred from attempting access through a window that is difficult to break. Clear 3M security films are the perfect solution for a retailer or homeowner seeking smash and grab protection without sacrificing visibility.

3M fragment retention films are maintenance-free, vary in thickness (from 2 mils to 14 mils*), and provide some of the energy benefits associated with 3M sun control films.

Common generic names for 3M security window films include: fragment retention film; anti-terrorism film; blast-resistant film; safety film; security film; safety and security film; mylar film, blast curtain film; glass protection film, and shatter-resistant film.

*1 mil = .001 inches

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3M FILMS

Ultraflex

With 3M's Ultraflex Window System, you can enhance the overall performance of 3M's Ultra Safety & Security window films.

This unique system combines the elasticity of 3M's Ultra Safety & Security window film (140%) and a Dow Corning® 995 Silicone Structural Adhesive system (160%) to create a more stretchable membrane that helps capture and absorb the impact energy.

3M's Ultraflex allows the frame to bend and twist to accommodate a variety of stresses to increase personal safety from flying glass. Ultraflex replaces the gaskets and blends with the existing frame system. For ease of use, the Ultraflex Window System offers a simple, more cost-effective attachment system when compared to bulky mechanical batten alternatives.

Tested in compliance with the US General Services Administration's (GSA) test standard protocol and Factory Mutual (FM) FMRC 4350, Ultraflex is an innovative approach to a tough job, making sure the filmed glass system stays in the frame upon impact and cycling.

Film Specifications

Film: ULTRA S400, ULTRA S20 Silver, ULTRA S35 Neutral, ULTRA S50 Neutral, ULTRA S600
Color: Clear, Neutral, and Silver
Applicable Standards:

- ASTM F1642-96 (adaptation) General Services Administration, Standard Test Method for Glazing and Glazing Systems Subjected to Airblast Loadings
- Factory Mutual Research 4350 Approved Standard for Windstorm-Resistant Fenestrations
- Consumer Products Safety Commission CFR16, Part 1202 Safety Standards for Architectural Glazing Material

Sealant Specifications

Form: Normally supplied as a disposable plastic cartridge that fits normal caulking guns.
Color: Black
Applicable Standards:

- Federal Specification TT-S-001543A (COM-NBS) Class A for silicone building sealants
- Federal Specification TT-S-00230C (COM-NBS) Class A for one-component building sealants
- ASTM Specification C-920 Type S, Grade NS, Class 25, Use NT, G and A

Ultraflex Window System Features

Flexibility: The combination of film elongation and sealant stretch allows system to capture and return energy like a shock absorber.
Easy to Use: No tapping or drilling holes into the window frame.

|| ems project photo

The Department of Labor
Washington, DC

|| download video

Click here to see how Ultraflex is installed. (2.3 MB)

Appealing: No unsightly massive metal battens added to the frame.
Easy to Install: Can be installed by a *3M-authorized Dealer / Applicator* when the film is applied.
Appearance: Ultraflex replaces the gaskets and blends with the existing frame system.
Strong: Bonds extremely well to many different surfaces.
Tough: Offers more flexibility than mechanical batten systems.

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PALLADIUM™
TEXTURED COATING

Palladium Textured Coating is a proprietary blend of latex acrylics formulated to provide an elastomeric, resilient, stucco-like finish with superior weathering characteristics.

SCT
Sealants & Coatings Technologies, Inc.

Manufacturing Facility:
Sealants & Coatings Technologies, Inc.
106 Industrial Way
Charlestown, IN 47111
800-899-3301
Fax: 812-256-2344
www.palladiumsct.com

ENGINEERED GREEN PRODUCTS

USES

Palladium Textured Coating is designed for use over wood, OSB, cementitious surfaces, structural insulated panels (SIPs), urethane foam sheathing, foam form blocks (ICFs), existing stucco, masonry and aged wood.

ADVANTAGES

- **Flexible**
  Forms a continuous and seamless coating.
- **Textured Appearance**
  Can be troweled or sprayed in a variety of stucco-appearing finishes.
- **Water Resistant**
  Withstands wind-driven rain, salt spray and most chemicals.
- **Superior Adhesion**
  Adheres tightly to the surface without tearing or pulling away.
- **Seals Tightly**
  Prevents air and water intrusion.
- **Low Maintenance**
  Low maintenance requirements. Easy clean up.
- **Excellent Paintable Surface**
  Provides an excellent paintable surface for acrylic latex paints.
- **Non-Toxic**
  Safe for both interior and exterior use and has no odor when cured.
- **Resists Mold & Mildew**
  Breathable finish with added fungicides.

TECHNICAL INFORMATION

Available Colors
Palladium Textured Coating is available in a variety of earth-tone colors. The standard colors are: Arctic White, Sandalwood, Desert Sunrise, Sandstone, Southern Gray, Smoke Gray, Mountain Gray, Sierra Tan, Palomino Beige and Hawaiian Sand. Custom colors are also available.

Texture
Medium. Secondary textures applied over the base coat include skip trowel, knock down or quartz putz.

Recommended Thickness
60-80 mils. (Approximately 1/16″-3/32″).

Physical Properties

Composition	Textured Acrylic Latex
Viscosity	Trowel Grade
Density	9.7 lbs./gallon
Specific Gravity	1.16
VOC	30 g/l
pH	8.5
% Solids	70%
Elongation	15%
Temperature Range	-40° F. to 250° F.
Odor	Odorless when dry
Toxicity	Non-toxic
Minimum Film Forming Temperature	32° F.
Glass Transition Temperature	-17° F.
Shelf Life	2 Years
Stability	Salt spray stable

Coverage
Palladium Textured Coating will cover approximately 100 to 130 square feet per 5 gallon pail at the recommended thickness of 60-80 mils.

Drying Time
Palladium Textured Coating will be tack free in 1 hour and completely cured within 72 hours depending on weather conditions and composition/porosity of the substrate.

Packaging
Palladium Textured Coating is available in 5 gallon pails.

Storage
Palladium Textured Coating must be protected from freezing and stored in temperatures that do not exceed 90° F. Opened containers may be stored by floating a thin film of water (1/16″) on the surface of the material, covering it with plastic, and tightly relidding the container.

Clean Up
Immediately clean up uncured Palladium Textured Coating from tools, hands and equipment with soap and water. Do not allow material to dry on tools, equipment or clothing. If the material is allowed to dry, it may need to be removed with a solvent.

APPLICATION GUIDELINES

READ AND FOLLOW ALL LABEL INSTRUCTIONS PRIOR TO APPLICATION OF THIS PRODUCT.

Surface Preparation
The surface must be structurally sound, solid, clean and dry. Palladium Textured Coating should not be applied to loose, crumbly, chalky or smooth plastic surfaces. The surface should also be completely free of any oil, solvent, asphalt impregnated materials or oil-based finished of any kind.

Application Temperature

Palladium Textured Coating should be applied when ambient temperatures range between 40° F. and 90° F. and when relative humidity does not exceed 90%.

Note: Do not attempt to apply product if freezing temperatures are expected within 72 hours. Do not apply product during rain or when rain is imminent. If rain or other inclement weather is expected within 72 hours after material has been applied, plastic sheeting should be used to protect freshly applied coating.

Palladium Textured Coating may only be installed by professional stucco applicators who are **FACTORY TRAINED AND CERTIFIED TO USE THIS PRODUCT.** Palladium Textured Coating must be applied in strict accordance with the Palladium Textured Coating Application Manual published by Sealants & Coatings Technologies, Inc. NO OTHER EXCEPTIONS WILL BE ALLOWED. THIS APPLICATION MANUAL IS PRESENTED ONLY WHEN ATTENDING THE TRAINING AND CERTIFICATION SEMINAR.

MAINTENANCE

No particular maintenance is required. However, should any cracks or separations occur because of excessive substrate movement or other unusual circumstances, simply apply material into cracks or separations and texture as appropriate. Palladium Textured Coating may also be lightly hosed down to remove dust and dirt.

AVAILABILITY / SUPPORT

Palladium Textured Coating is available from the manufacturing plant in Charlestown, IN (800-899-3301), as well as a national network of distributors. Sealants & Coatings Technologies, Inc. will provide technical support upon request. Visit our website to locate the distributor nearest you.

Note: Palladium is only sold to professional stucco applicators that are factory trained and certified to use this product.

LIMITED WARRANTY

Palladium Textured Coating is warranted for a period of five (5) years from the date of application when installed by a factory trained applicator in accordance with the current edition of the application instruction manual provided by Sealants & Coatings Technologies, Inc. and the completed/signed warranty application original is on file at the Sealants & Coatings Technologies, Inc. corporate office.

Exceptions: This warranty does not cover failures due to the following:

- Fire, flood, natural disaster or any other act of God.
- Improper storage, handling or installation.
- Plumbing leaks, faulty construction or house settling which exceeds the material elasticity.
- Improper roof, chimney or wall penetration construction or flashing that allows water to get behind the Palladium Textured Coating.
- Substitution of any unauthorized materials.
- Unauthorized “field modification” of any of the supplied products.
- Damage caused by riots, strikes, or any act of war, terrorism, or other criminal or civil disturbance.

Claims Notification: Notification of claims must be made in writing to Sealants & Coatings Technologies, Inc. upon discovery of areas of concern. If Palladium Textured Coating is proved to have failed during the warranty period, Sealants & Coatings Technologies, Inc. will replace the failed material FOB its nearest distribution point. Sealants & Coatings Technologies, Inc. reserves the right to inspect the jobsite by an authorized representative prior to settlement of any claims.

Sealants & Coatings Technologies, Inc. sole and complete responsibility for proved material failure is as set forth in this warranty. Sealants & Coatings Technologies, Inc. will not be held responsible for incidental, indirect or consequential damages including reinstallation labor. The user is solely responsible for determining the suitability of this product for its intended use prior to application. User assumes all risk and liability in connection therewith. Questions regarding this warranty should be directed to the nearest Sealants & Coatings Technologies, Inc. representative.

PAL0508

TEST STANDARDS – Palladium Textured Coating meets or exceeds the following test standards:

TEST	METHOD	CRITERIA
Component Performance & Accelerated Weathering	ASTM G-53	No deleterious effect after 3000 hours viewed at 5x magnification
Freeze/Thaw	ASTM G-67	No deleterious effect after 300 cycles
Water Resistance	Tappi T443 Lm8t	5+ hours
Moisture Vapor Transmission	Tappi T443 Lm8t	Average 3+ perms
Tensile Adhesion	ASTM C-297	No adhesive loss
Flame Spread	ASTM E-84	UBC Class 1, NFPC Class A
Smoke Density	ASTM E-84	45 less than red oak
Salt Spray Resistance	ASTM 8117	No deleterious effect after 300 hours
Mildew Resistance	ASTM D-3273	No growth supported within 28 days
Fire Endurance	ASTM E-119	No effect on fire rating of wall assembly
Elongation	ASTM D-638	15%
Tensile Strength	ASTM D-638	210 psi
Toxicity	LABC Div. 61	Passed

A-Tech 212 Crack 1:1 LV

PRODUCT PRESENTATION

A-TECH 212 CRACK 1:1 LV is a two-component, 100% solid, moisture insensitive epoxy resin system which has a high modulus of elasticity. A-TECH 212 CRACK 1:1 LV is formulated to meet ASTM C-881 specifications. It is unique in that it rapidly thickens in the crack, even those less than 1/32 of an inch, so that material cannot leak out the back for more than 10-20 minutes (unlike conventional products which can flow out hours after injection). You can now confidently replace whatever may have leaked out in those twenty minutes knowing that no more can leak out, unless all the initial injection has leaked out the back of the crack within 20 minutes (unlikely to happen). This overcomes the most common epoxy crack repair failure, namely the incomplete injection of epoxy into a crack arising when material leaks out the back of a crack after injection.

USES

A) Structural repair of cracked concrete by pressure injection, grouting.
B) Monolithic restoration of delaminated concrete.
C) Grouting material when mixed with aggregate.

SURFACE PREPARATION

All surfaces must be clean and free of dirt, dust, oil, grease or any contaminant that could adversely affect the bond of the surface seal. Surfaces must be structurally sound. Surfaces may be dry or damp. However, due to the many variables in bonding damp surfaces, be certain to make a test application under the same conditions as the full scale work.

APPLICATION

Injection Pressure: The material can be injected into cracks down to .002 inches with pressures ranging from 20 to 300 psi. Inject through plastic ports. Depending upon the depth of the slab, place them every 6" to 2' along the length of the crack. Wherever possible, seal all surfaces of the crack. When dealing with hydrostatic pressure, hydraulic cement should be used to control the water flow and seal the crack.

Begin injection of the mixed material with the lowest port or at one end of the crack. Continue pumping until resin flows from the next port. Then seal the first port and move onto the next one using the same procedure along the length of the crack.

Gravity: "Vee" out the cracks. Blow and clean out thoroughly with oil-free compressor air. Fill the cracks with RESIN. More than one application may be required.

TECHNICAL DATA

PROPERTIES (UNCURED)	PART A	PART B	MIXED
Viscosity, cps	200-400	300-600	Not Avail.
Shelf Life	1 year	1 year	
Pot Life: (50 gm)	____	____	10 min.
Tack Free Time (Thin Film)	____	____	1-3 hours
Final Cure (75% ultimate strength)	____	____	1-2 days

PHYSICAL PROPERTIES AFTER CURE OF 14 DAYS @ 75ºF. AT 50% R.H.

Tensile Strength, psi	ASTM D-638	8500
Tensile Elongation	ASTM D-638 modified	2-4%
Compressive Strength, psi	ASTM D-695	12,000
Compressive Modulus, psi	ASTM D-695 (28 days)	500,000
Shear Strength, psi	ASTM D-732	5,100
Deflection temp: @ 264 psi	ASTM D-648	126ºF
Bond Strength, psi	ASTM C-882	2,800

WARRANTY

Recommendations concerning the performance or use of this product are based upon independent test reports believed to be reliable. If the product is proven to be defective, at the option of the Manufacturer, it will be either replaced or the purchase price refunded. The Manufacturer will not be liable in excess of the purchase price. The user will be responsible for deciding if the product is suitable for his application and will assume all risk associated with the use of the product. This warranty is in lieu of any other warranty expressed or implied, including but not limited to an implied warranty of merchantability or an implied warranty of fitness for a particular use.

ATECH 0101 GEL
2:1PASTE

ATECH 0101LV is a 2:1 two component 100% solid epoxy resin, which has a high modulus of elasticity. ATECH 0101 LV is formulated to meet ASTM C-881 specifications.

USES:

A) Structural repair of cracked concrete by pressure injection.
B) Monolithic restoration of delaminated concrete.
C) Grouting material when mixed with aggregate.

WHERE TO USE:

Use A-Tech 0101 GEL is cracks greater than ¼" in width. In an uncured state it will not flow out of the crack. It is formulated without fillers so that it can be easily injected into a crack with a manual dispensing tool using a ½" x 24 element static mixer.

ADVANTAGES:

- Dual cartridge, USE ONLY WHAT YOU NEED
- Meets ASTM C-881
- Will not flow out of cracks

PHYSICAL PROPERTIES AFFRER 14 DAY CURE @ 75 F. AT 50% R.H.

Tensile Strength, psi	ASTM D-638	8500
Tensile Elongation	ASTM D-638 modified	2-4%
Compressive Strength, psi	ASTM D-695	12,000
Compressive Modulus, psi	ASTM D-696 (28 days)	500,000
Shear Strength, psi	ASTM D-732	5,100
Deflection temp: @264 psi	ASTM D-648	126 F
Bond Strength, psi	ASTM C-882	2,800

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Available Options

- Recessed Padlock Box
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- Vertical Compression Springs
- Frame Skirts
- Safety Grates
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- Frame Cushion
- Nutrail Channel
- Retrofit Design
- Milled Lettering
- Keyed Cylinder Locks

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Type: APS (Single leaf) or APD (Double leaf)
Loading: Pedestrian 150 or 300 PSF
Frame: Angle Type (Non-Watertight)
Material: Aluminum, Steel (Painted or Galvanized) and Stainless Steel

Type: AHS (Single Leaf) or AHD (Double Leaf)
Loading: H-20 (Aluminum for Offstreet Locations That May Occasionally Receive H-20 Loads)
Frame: Angle Type (Non-Watertight)
Material: Available in Aluminum, Steel (Painted or Galvanized) and Stainless Steel

Type: BPS
Loading: Standard 300 PSF (Others Available on Request)
Frame: No Frame - Bolts on to structure
Material: Available in Aluminum, Steel (Painted or Galvanized) and Stainless Steel

Type: TPS (Single Leaf) or TPD (Double Leaf)
Loading: Pedestrian (300 PSF)
Frame: Trough Type (Watertight)
Material: Available in Aluminum, Steel (Painted or Galvanized) and Stainless Steel
Now with standard Debris Gasket and Odor Reduction Gasket.

Type: THS (Single Leaf) or THD (Double Leaf)
Loading: H-20 (Aluminum for Offstreet Locations that may occasionally receive H-20 loads)
Frame: Trough Type (Watertight)
Material: Available in Aluminum, Steel (Painted or Galvanized) and Stainless Steel

Now with standard Debris Gasket and Odor Reduction Gasket.

Type: BPC
Loading: Pedestrian (300 PSF)
Frame: No Frame, Bolts on to Structure
Material: Aluminum, Steel (Painted or Galvanized) and Stainless Steel

Type: B-APS
Loading: Pedestrian 300 PSF or H20 Traffic
Frame: Special (Floodtight/Gastight)
Frame: Bolt down (Floodtight)
Material: Available in Aluminum, Steel (Painted or Galvanized) and Stainless Steel

Type: FPS
Loading: Pedestrian 625 PSF
Frame: Bolt down (Floodtight)
Material: Aluminum

Type: R-APS
Loading: Pedestrian 150 PSF
Frame: Angle Type (Non-watertight)
Material: Aluminum

Type: R-TPS
Loading: Pedestrian 300 PSF
Frame: Trough Type (Watertight)
Material: Aluminum
Recessed 1" for tile or concrete fill

Covers / Gratings

Type: Utility Frame Cover
Loading: 300 PSF and H20
Frame: Angle
Material: Steel (Painted or Galvanized), Stainless Steel

Type: Riveted Reticuline Grating
Loading: 300 PSF and H20
Frame: N/A
Material: Steel (Painted or Galvanized), Stainless Steel

Type: Welded Bar Grating
Loading: 300 PSF and H20
Frame: N/A
Material: Steel (Painted or Galvanized), Stainless Steel

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While we make every effort to update our website, some model numbers and descriptions can be changed without notice by the factories listed.

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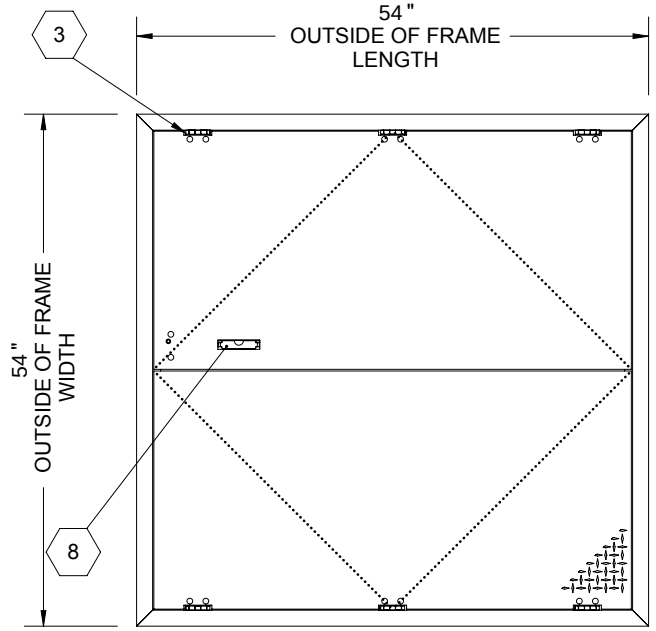

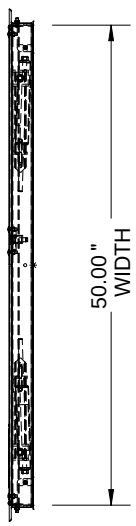

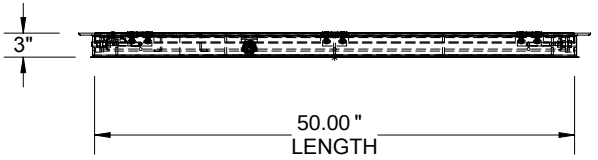

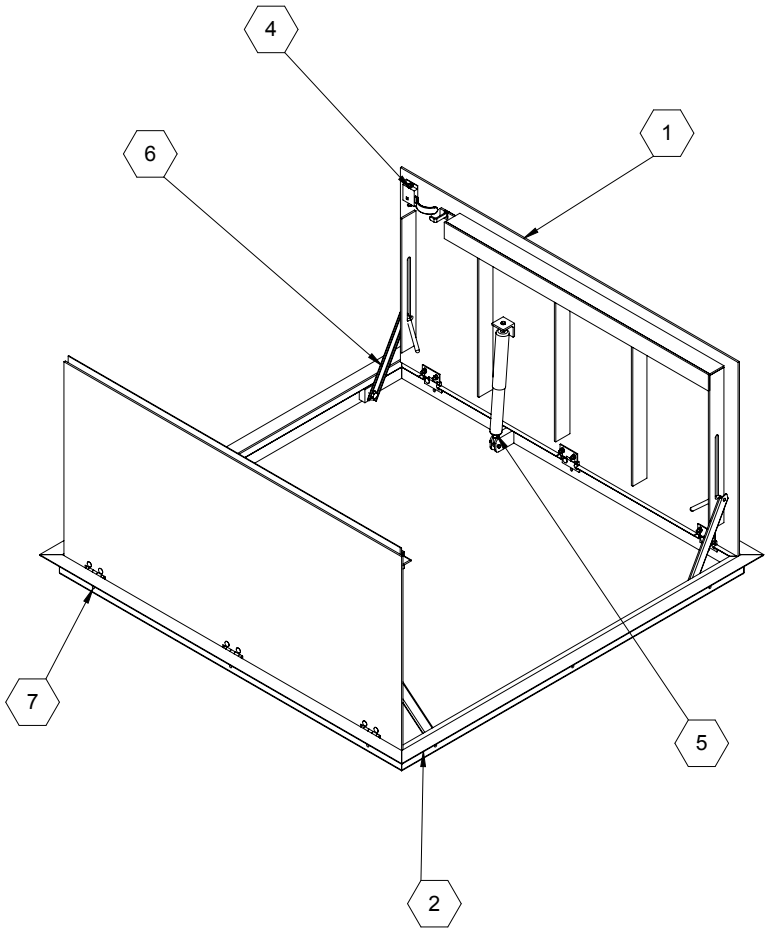

SPECIFICATIONS:

1. **DOOR:** ALUMINUM, 1/4" DIAMOND PLATE, MILL FINISH WITH A LIVE LOAD OF 300 PSF WITH A MAXIMUM DEFLECTION OF L/160,
2. **FRAME:** ALUMINUM, 1/4" EXTRUSION
3. **HINGES:** TYPE 316 STAINLESS STEEL
4. **SLAM LATCH:** TYPE 316 STAINLESS STEEL WITH INSIDE LEVER HANDLE AND OUTSIDE REMOVABLE 5/16" SQUARE L HANDLE
5. **COUNTER-BALANCE SPRING:** TYPE 17-7 STAINLESS STEEL SPRING ENCLOSED IN A TYPE 316 STAINLESS STEEL TELESCOPING TUBE
6. **HOLD-OPEN ARM:** TYPE 316 STAINLESS STEEL WITH RED VINYL GRIP HANDLE
7. **ANCHOR HOLES:** 3/8" HOLES PROVIDED FOR BOLTING IN ON SITE
8. **FLUSH LIFTING HANDLE:** TYPE 316 STAINLESS STEEL

FLOOR DOOR SIZE:
50 " (WIDTH) x 50 " (LENGTH)

CLEAR UNOBSTRUCTED OPENING:
43 " (WIDTH) x 46 " (LENGTH)

OPENING:
51 " (WIDTH) x 51 " (LENGTH)

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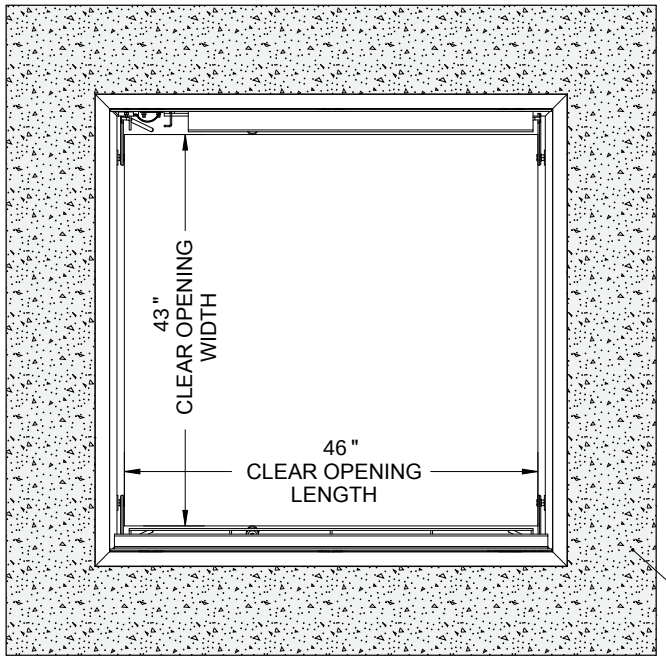
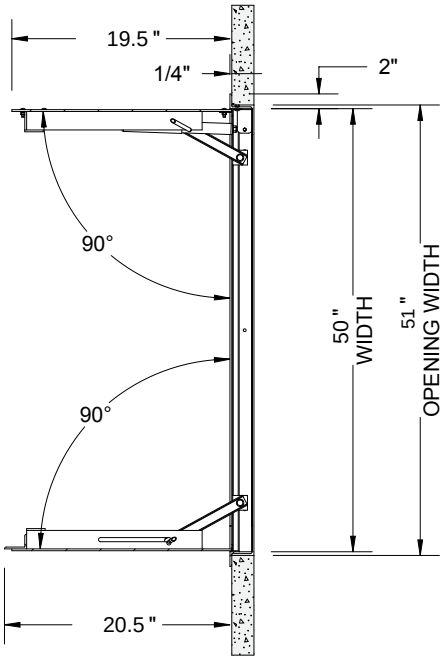
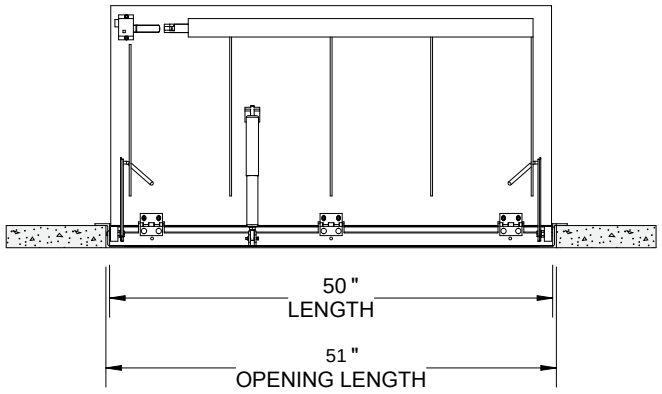
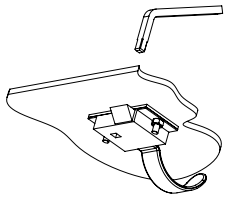
PROJECT:					
ARCHITECT:					
CONTRACTOR:					
QTY:					
PART#:				**FDEPA 50 X 50 DB**	
NYSTROM Right to site.™ 9300 73rd Avenue North Brooklyn Park, MN 55428				TITLE: Floor Door, Existing Opening, Dbl Dr, 316 SST Hdw, Alum, Mill, Pedestrian, Bolt-In, Slam Latch Removbl L Hdl	
	NAME	DATE	SIZE	DWG. NO.	REV
DRAWN	JE	04/18/11	A	FDEPA_X_DB	A
RELEASED	DWO	04/18/11	WEIGHT: Varies		SHEET 1 OF 2









SLAM LATCH DETAIL

NYSTROM Right to site.™ 9300 73rd Avenue North Brooklyn Park, MN 55428				TITLE: Floor Door, Existing Opening, Dbl Dr, 316 SST Hdw, Alum, Mill, Pedestrian, Bolt-In, Slam Latch Removbl L Hdl	
	NAME	DATE	SIZE	DWG. NO.	REV
DRAWN	JE	04/18/11	A	FDEPA_X_DB	A
RELEASED	DWO	04/18/11	WEIGHT: Varies		SHEET 2 OF 2

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EMECOLE, INC.
P.O. Box 7486 Romeoville, IL 60446
800-844-2713 815-372-2493
www.emecole.com

EMECOLE 555
Rapid Concrete Slab Repair

GENERAL DESCRIPTION

Emecole 555 is a very rapid set, high strength ultra low viscosity concrete repair material. Emecole 555 repairs hairline cracks and larger in parking decks, warehouse floors, driveways, patios, pool decks, etc. It penetrates deep into the crack and cures in minutes. The product can have an overlay placed on it the same day. Repaired area can be put back into service in as little as 60 minutes. It works even in cold conditions. It is especially useful where low turnaround times are advantageous.

CHARACTERISTICS

Emecole 555 is very low in viscosity allowing the product to penetrate deeply into concrete and does not become brittle.

ADVANTAGES

- 15 minute initial set, 60 minutes to back in service
- High Impact Resistance
- Extremely Low Viscosity
- High Fuel and Chemical Resistance
- High Durability
- Convenient Packaging
- Self Leveling

TYPICAL COMPONENT PROPERTIES

Solids	60%
Shelf Life	1 Year
Hardness ASTM D2240	Shore D 70
Mix Ratio	1:1
Tack Free	4-5 Minutes
Tensile ASTM D412	4500 Filled
Tear Strength, ASTM 624C	460
Gel Times	2 min. @75 Deg
Elongation ASTM D124	8%
Viscosity @ 25 Deg. Cel.	20

PACKAGING

Dual Cartridges

PREPARATION

Concrete must have a minimum of 28 days of curing before application of Emecole 555. The area must be dry. **Not meant for expansion joints.**

APPLICATION

1. For optimum appearance open up the crack a minimum of 1/4" wide by 1/4" deep using, a hand grinder and crack chasing diamond blade. Blow out the crack to clean out any loose debris. Oils, sealers, etc. will inhibit proper bonding of Emecole 555. If you choose not to chase the crack Emecole 555 can be ground off after initial set.
2. Fill the crack with dry silica sand.
3. Shake Emecole 555 for 20 to 30 seconds to mix pigments which may have settled.
4. Remove cap of cartridge, attach crossover restrictor found on the neck of the cartridge, static mixer, and then retaining nut to cartridge. While holding Jake tool upward, place cartridge set into gun. Point nozzle upward and squeeze trigger until air and unmixed product is expelled from the static mixer. Maintain a constant flow through the mixer while the gun is pointed in the air. Product is now ready to be applied to repair area. Pointing the gun upward and allowing product back into the cartridge from the static mixer will result in cross contamination and loss of product.
5. Soak sand with Emecole 555 until saturated leaving a slight hump.
6. Emecole 555 can be scraped or lightly sanded once it turns grey and has reached an initial cure to achieve a finished look.
7. Emecole 555 begins to set up very quickly. If allowed to sit in the mixer for more than six minutes, the mixer will become plugged. Unused product can be capped and reused as long as product that has entered the mixer has not been allowed to reenter either side of the cartridge.

WARRANTY

Recommendations concerning the performance or use of this product are based upon independent test reports believed to be reliable. If the product is proven to be defective, at the option of the Manufacturer, it will be either replaced or the purchase price refunded. The Manufacturer will not be liable in excess of the purchase price. The user will be responsible for deciding if the product is suitable for his application and will assume all risk associated with the use of the product. This warranty is in lieu of any other warranty expressed or implied, including but not limited to an implied warranty of merchantability or an implied warranty of fitness for a particular use.

Product Name:

VIP7300 TER-POLYMER TEXTURED ELASTOMERIC WATERPROOF COATING (VIP7300, VIP7320, VIP7330)

Product Description

VIP7300 Ter-Polymer products are internally plasticized, premium-quality elastomeric waterproof waterproof coatings made with acrylic resins providing a minimum of 180% elongation. VIP7300 Ter-Polymer Elastomeric Coatings are available in smooth and textured in white and custom colors.

Basic Uses

Uses: VIP7300 Ter-Polymer Textured Elastomeric Coating provides a flexible, long-lasting waterproof coating for use on exterior above-grade masonry, stucco, concrete block, poured and precast concrete, exterior insulation and finish systems (EIFS), brick, wood and metal.

Technical Data

Property	Value	Test Method
% Solids by Weight	58.70 ± 2%	Lab Value
% Solids by Volume	47.00 ± 2%	Lab Value
Viscosity	K.U.'s 125 ± 5	Stormer
Freeze/Thaw Stability	5 Cycles	Lab Value
% Elongation (To break)	180%	ASTM D-2370-82
Tensile Strength	700 psi (1000 UV hrs.)	ASTM D-2370-82
Water Vapor Transmission	Permeance: 5.84 Perms	ASTM D-1653-85
Mildew Resistance	No Growth	ASTM 3274
VOC	VIP7320 64.5 g/L VIP7330 62.0 g/L VIP7300 62.1 g/L	Calculated

Typical product data values should not be used as specifications. Assistance is available by contacting GE Silicones at 1-800-228-5537.

Limitations

- Do not apply when the temperature is below 50°F or over 90°F..
- Do not apply when relative humidity is above 90%.
- Ambient temperature must be 5°F above dew point and rising.
- Do not apply when there is a threat of rain.
- Do not apply to surfaces with excessive moisture content.
- Do not allow product to freeze. Do not apply over frozen or frost covered substrates.
- Do not apply when substrate is in direct sunlight.
- Do not use on horizontal traffic bearing surface or where ponding water may occur.
- Do not mix with additives.
- This is a breathing coating designed to let moisture vapor escape. Do not use as a vapor barrier.

Surface Preparation

Surface Preparation:
New: The surface must be clean, sound, dry, free of any grease, dirt, oils, mildew, chalk, laitance, efflorescence, release agents, and other foreign materials. New masonry should cure 30 days prior to coating and have a pH of 11 or less. If the pH is higher than 11 after cure, the surface must be sealed with VIP1200 Acrylic Alkali-Resistant Surface Conditioner. Prior to applying VIP1200 Acrylic Alkali-Resistant Surface Conditioner, allow stucco and concrete block mortar to cure 3 days. Poured-in-place precast concrete should be allowed to cure 7 days.
Previously Coated: Remove all loose, peeling or flaking coating. Remove mildew and all other contaminants that will interfere with adhesion. Spot-prime all bare wood or metal with an appropriate primer. If chalk remains after cleaning, the surface should be sealed with Surface Conditioner. Always check for the new coating's adhesion to the previously painted surface by

applying a test patch of 2-3 square feet. Allow to dry thoroughly; check adhesion by applying masking tape to a new coating and pull it off. If no coating is removed, good adhesion is assumed.

Patching and Sealing: All voids, cracks, cracked mortar joints, and meetings of dissimilar materials should be patched with VIP5000 Series Sealants. All exterior openings such as air conditioner openings, window and door surrounds, vents, electrical conduits, expansion and control joints, etc., should be sealed with VIP5780 Acrylic Urethane Elastomeric Sealant. Refer to VIP5000 technical data sheets for additional application information.

Method of Application

Coating is ready for use. Do not thin. Material may be applied by airless spray, power roller or conventional roller. Surfaces that have been properly prepared are to receive a pinhole free application of VIP7300 Ter-Polymer to achieve the recommended dry film thickness.
Power Roller: Apply a liberal coat and check application with a wet film gauge to ensure that minimum wet film thickness is obtained. Backroll in a downward motion to ensure a uniform finish with the stipple all in one direction. Coverage rate will vary and is dependent upon the texture and profile of the surface. Dry film thickness of completed project is based 10-12 mils dry.
Airless Spray: Apply a liberal coat in a cross-hatch pattern, check film thickness with a wet film thickness gauge to ensure that minimum wet film thickness is obtained. Coverage will vary and is dependent upon the texture and profile of the surface.Dry film thickness of completed project is based 10-12 mils dry. Wear respiratory protection if exposure to vapor or mist from processing is possible.
Conventional Roller: Apply in two coats, check application with a wet film gauge to ensure that the minimum wet film thickness of each coat is obtained. Keep roller cover saturated with material at all times. Finish off with a dry roller in downward direction to ensure a uniform finish with the stipple all in one direction. Second coat should be applied when material is no longer tacky (4-6 hours). Coverage will vary and is dependent upon the texture and profile of the surface. Dry film thickness of completed project is based on 10-12 mils dry.

Application tips:

- Boxtint material.
- Maintain a wet edge during application.
- Apply in a manner to provide a pinhole free film.
- Contact manufacturer with any questions prior to application.

Recommended Spread Rate & Coverage:

Spreading Rate:	Recommended	55 - 65 sq. ft./gal.
Film Thickness:	Wet	25 - 30 mils.
	Dry	10 - 12 mils.

Packaging: 5 gallon pail.

When using, do not keep in direct sunlight for prolonged periods. KEEP FROM FREEZING.

Clean Up

Clean all equipment immediately after use with warm, soapy water.

VIP7300 Ter-Polymer Textured Elastomeric Coating is available in the United States, through distributors. Contact your local distributor or the nearest GE Technical Service Center for cost and availability information.

Handling and Safety

WARNING CANCER HAZARD. This product contains greater than 0.1% crystalline silica. The International Agency for Research on Cancer (IARC) has determined that “there is sufficient evidence for the carcinogenicity of crystalline silica to experimental animals and limited evidence of carcinogenicity in humans”.
Material Safety Data Sheets (MSDS) are available upon request from GE Sealants and Adhesives (GESA). Similar information for solvents and other chemicals used with GESA products should be obtained from your suppliers. When solvents are used, proper safety precautions must be observed. Do not breathe mist. Use only in well ventilated area. Wear respiratory protection if

exposure to vapor or mist from processing is possible. KEEP OUT OF REACH OF CHILDREN.

Warranty

GE Sealants & Adhesives warrants the performance of this product, provided it is properly stored and applied before the “use before” date shown. If not satisfied, return product and/or proof of purchase to address below and GE Sealants & Adhesives will, at its option, replace or refund the purchase price of this product. GE shall in no event be liable for any other damages in excess of the amount of the purchase price. THIS IS THE SOLE AND EXCLUSIVE REMEDY FOR DEFECTS IN, OR FAILURE OF, THIS PRODUCT, AND THE SOLE AND EXCLUSIVE LIABILITY OF GENERAL ELECTRIC COMPANY THEREFOR. THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES WRITTEN OR ORAL, STATUTORY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Prior to considering use of a GE Sealants & Adhesives product in fulfilling any government requirement, please contact the Government and Trade Compliance Office at 413-448-4624

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(6/01)

PRODUCT INFORMATION

1124 - KEL-SEAL ELASTOMERIC TEXTURED ACRYLIC SEALANT

Textured Sealant for Cracks and Voids in Exterior and Interior Surfaces

PRODUCT DESCRIPTION
A heavy bodied acrylic textured sealant which features excellent adhesion and long term elasticity. It is designed for filling cracks and voids in similar and between dissimilar materials. For interior and exterior use.

TYPICAL USES
For filling cracks and voids in masonry and wood. Also for caulking between masonry, wood, and metal. Designed for primary or deeper fills under elastomeric finishes and for general caulking prior to application of conventional finishes.

LIMITATIONS
(Not to be construed as all-inclusive)
Normal shrinkage will require additional applications when filling larger joints. Not for submersion in water. Not for use as an expansion joint sealant. Not for cracks and voids larger than 1/4" by 1/4" deep.

PRODUCT CHARACTERISTICS

SOLIDS: Approximately 67% by volume.

DRYING TIME: (at 75°F. & 50% R.H.): To touch: 1/2 to 1 hour; to finish with latex paint: 1 to 2 hours; to finish with oil base paint: overnight. For deep joints and cracks allow 24 hours before reapplication.

ELONGATION: Approximately 525%.

COLOR: Off-white.

SIZES: 10.5 oz. cartridge.

SURFACE PREPARATION
GENERAL: All surfaces must be cured, firm, dry and cleaned free of dust, dirt, oil, grease, wax, chalky or loose paint, bond breakers and curing compounds, efflorescence, asphalt stains, mildew or any other contamination or condition that would adversely affect the performance of this product.

PRODUCT HANDLING
APPLICATION: Clip plastic spout at an angle for the desired size bead. Puncture seal inside spout. Apply with caulking gun. Smooth bead if necessary and remove any excess material immediately.

TEMPERATURE: Do not apply when material, air, and/or surface temperature is below 50°F. or if rain is imminent within six hours. PROTECT FROM FREEZING.

Limited Warranty
The statements made on this bulletin, product label, or by any of our agents concerning this material are given for information only. They are believed to be true and accurate and are intended to provide a guide to approved construction practices and materials. As workmanship, weather, construction equipment, quality of materials and other variables affecting results are all beyond our control, Kelly-Moore Paint Company, Inc.., does not make nor does it authorize any agent or representative to make any warranty of merchantability or fitness for any purpose or any other warranty, guarantee or representation, express or implied, concerning this material except that it conforms to Kelly-Moore's quality control standards. Any liability whatsoever of Kelly-Moore Paint Company, Inc. to the buyer or user of this product is limited to the purchaser's cost of the product itself.

PRODUCT INFORMATION

KELLY-MOORE PAINT CO.

1128 KEL-SEAL ACRYLIC TERPOLYMER COATING (SMOOTH)
1129 KEL-SEAL ACRYLIC TERPOLYMER COATING (TEXTURED)

Elastomeric Waterproofing Coating for New and Previously Painted Above Grade Masonry Surfaces

PRODUCT DESCRIPTION
An elastomeric waterproof coating for new and previously painted above grade masonry surfaces. This blend of an acrylic terpolymer elastomer, adhesive agents and special pigments produces a film with high strength, durability, color retention, chalk resistance, elongation and elasticity. This product is free of liquid plasticizers that contribute to tackiness and dirt pickup. 1128/1129 Kel-Seal Terpolymer Coatings meet or exceed Fed. Specs TT-P-19C, TT-P-55B and TT-C-555B by performance. Complies with all current applicable air pollution control regulations.

TYPICAL USES
Exterior above grade masonry, concrete, concrete block, and stucco. Also suitable for wood and metal surfaces.

LIMITATIONS (Not to be construed as all-inclusive)
Not for use below grade. Will not permanently bridge holes or cracks larger than hairline. Not for use over chalky surfaces. Repainting over an elastomeric coating with a conventional paint finish produces a less elastic paint film and may result in craze cracking.

PRODUCT CHARACTERISTICS
SPREADING RATE:
Concrete Block and Sprayed Stucco:
1st Coat: 50-60 sq. ft. per gallon
2nd Coat: 60-70 sq. ft. per gallon
Smooth Concrete and Previously Painted Surfaces:
1st Coat: 70-80 sq. ft. per gallon
2nd Coat: 80-90 sq. ft. per gallon

DRY FILM THICKNESS: 10.0 mils per coat.

SOLIDS: Approximately 50% by volume.

DRYING TIME: (at 75°F. & 50% R.H.): To touch: 2 hours; to recoat: 24 hours.

FINISH: 1128 - Flat (2-4 on 60° gloss meter)
1129 - Flat (1-3 on 60° gloss meter)

COLOR RANGE: Available in white, standard colors and tint bases. Special colors are available from the factory with minimum order at a nominal additional charge.

SIZES: Five gallon pails.

TECHNICAL DATA:
PHYSICAL DATA
Elongation: (as a percent of film thickness)
ASTM D-412-75 at 20 mils Dry Film Thickness
1128 . . . . . Approx. 500%
1129 . . . . . Approx. 300%
Weatherometer:
ASTM G53-77 2000 hours . . . . . No Apparent Effect
Low Temperature Flexibility:
180° bend at 0°F. No Apparent Effect.

SURFACE PREPARATION
All fresh concrete and masonry surfaces must be cured (minimum of 30 days dry weather conditions), sound, clean and free from oil, grease, dirt, dust, asphalt, form release agents, stains, mildew, loose paint, efflorescence or other contamination that would adversely affect the appearance or performance of the product.

All non-structural cracks up to 1/32" are to be patched with Kel-Seal Elastomeric Sealant. Cracks over 1/32" are to be repaired with the appropriate Kel-Seal Patching System. Minor surface imperfections and irregularities are to be filled with Kel-Patch 1115. Apply sealants and patching compounds according to printed directions to match the finish texture and surface profile. Etch glossy, glazed or dense surfaces. Previously painted surfaces with only light chalk should be primed with 225 or 240 Surface Conditioner. Heavily chalked or powdery surfaces should be made sound by sandblasting or other appropriate method and then primed with 240 Surface Conditioner.

Limited Warranty
The statements made on this bulletin, product label, or by any of our agents concerning this material are given for information only. They are believed to be true and accurate and are intended to provide a guide to approved construction practices and materials. As workmanship, weather, construction equipment, quality of materials and other variables affecting results are all beyond our control, Kelly-Moore Paint Company, Inc.., does not make nor does it authorize any agent or representative to make any warranty of merchantability or fitness for any purpose or any other warranty, guarantee or representation, express or implied, concerning this material except that it conforms to Kelly-Moore's quality control standards. Any liability whatsoever of Kelly-Moore Paint Company, Inc. to the buyer or user of this product is limited to the purchaser's cost of the product itself.

PRODUCT KELLY-MOORE PAINT CO. INFORMATION

1128 KEL-SEAL ACRYLIC TERPOLYMER COATING (SMOOTH)
1129 KEL-SEAL ACRYLIC TERPOLYMER COATING (TEXTURED)
(Continued)

SURFACE PREPARATION (continued)
Heavily textured or porous concrete block should be filled first to achieve a relatively smooth surface, free of voids, with one coat of Kel-Seal Acrylic Terpolymer Coating rolled into the surface for best filling action.

SPECIAL PRECAUTIONS: Always test for compatibility and adhesion when used over previously coated surfaces. when applied by roller, minimize roller marks by finishing roller passes all in downward direction. Clean equipment thoroughly with water immediately after use.

SPECIFICATIONS
PRIMERS:

Concrete Block:
1128 Kel-Seal Acrylic Terpolymer Coating (smooth)
1129 Kel-Seal Acrylic Terpolymer Coating (textured)

Concrete or Stucco (clean and sound):
No primer required

Metal (ferrous):
1710 Kel-Guard Zinc Chromate/Red Oxide Primer

Metal (Galvanized):
1722 Kel-Guard Galvanized Metal Primer

Staining Wood:
255 Stain Resistant Acrylic Primer

FINISH:

1128 Kel-Seal Acrylic Terpolymer Coating (smooth) or
1129 Kel-Seal Acrylic Terpolymer Coating (textured)

Apply one to two coats depending on the texture and/or porosity of the surface. A two coat application (total 20 dry mils) is necessary where a written warranty for masonry surfaces is required.

PRODUCT HANDLING
APPLICATION: Stir thoroughly. Application can be by brush, roller or spray. Airless equipment is suitable for 1128 (Smooth). Mastic type equipment is suitable for 1129 (Textured). In order to achieve a waterproof wall, the coating must be applied in a continuous unbroken film, free of pinholes and voids. When sprayed on rough or porous surfaces, back-rolling procedure is recommended to fill holes more efficiently

NOTE: It is difficult to achieve a uniform finish with mastic paints of this type: therefore, an experienced applicator is required. Uniformity and texture pattern are affected by film thickness, substrate, application method and climatic conditions: therefore, THE MANUFACTURER ASSUMES NO RESPONSIBILITY FOR THE FINISHED APPEARANCE.

TEMPERATURE: Do not apply when material, air, and/or surface temperature is below 50°F. Do not apply when rain is imminent (within six hours) or when relative humidity is in excess of 90%. PROTECT FROM FREEZING.

THINNING: DO NOT THIN.

CLEAN-UP: Water

WARRANTY
KELLY-MOORE PAINT COMPANY, INC. warrants the effectiveness of 1128 Kel-Seal Acrylic Terpolymer Coating (smooth) and 1129 Kel-Seal Acrylic Terpolymer Coating (textured) as water repellent coatings on above grade, exterior masonry, concrete and stucco surfaces to the extent of material replacement only when applied properly and in accordance with the manufacturer's printed literature. If requested at least 72 hours prior to application, the manufacturer will provide a five year written limited warranty with the conditions stated herein.

VOC: Maximum 300 GPL.

Limited Warranty
The statements made on this bulletin, product label, or by any of our agents concerning this material are given for information only. They are believed to be true and accurate and are intended to provide a guide to approved construction practices and materials. As workmanship, weather, construction equipment, quality of materials and other variables affecting results are all beyond our control, Kelly-Moore Paint Company, Inc.., does not make nor does it authorize any agent or representative to make any warranty of merchantability or fitness for any purpose or any other warranty, guarantee or representation, express or implied, concerning this material except that it conforms to Kelly-Moore's quality control standards. Any liability whatsoever of Kelly-Moore Paint Company, Inc. to the buyer or user of this product is limited to the purchaser's cost of the product itself.

MATERIAL SAFETY DATA SHEET essentially similar to form OSHA - 174

KELLY-MOORE Paint Company, Inc.
987 Commercial Street, San Carlos, California 94070
INFORMATION PHONE: 650-592-8337 EMERGENCY: 800-424-9300 (Chemtrec)

I - PRODUCT IDENTIFICATION

PRODUCT NAME	PRODUCT NUMBER	HMIS CODES: H F R PP
KEL-SEAL ACRYLIC TERPOLYMER COATING	1128-series (all colors)	0 0 0 E

II - HAZARDOUS INGREDIENTS

			EXPOSURE LIMITS		VAPOR PRESSURE
INGREDIENT	CAS REG #	WT PCT	TLV-ACGIH	PEL-OSHA	MM HG AT DEG F
ETHYLENE GLYCOL	107-21-1	< 5 %	50 ppm	50 ppm	0.1 / 68
SILICA, CRYSTALLINE	14464-46-1	< 5 %	0.05 mg / M^3	n/a	none
ZINC OXIDE	1314-13-2	< 5 %	10 mg / M^3	10 mg / M^3	none

III - PHYSICAL PROPERTIES

BOILING POINT: 212° F (water) DENSITY: 10 - 11 # / gal PERCENT VOLATILE: 47 - 52 % (by volume)

VOC of material (Pounds per gallon): < 0.6 VOC (Grams per liter less water): < 125

VAPOR DENSITY: lighter than air (water vapor) EVAPORATION RATE: slower than ether

IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION: Not regulated

FLASH POINT: None FLAMMABLE LIMITS: n/a EXTINGUISHING MEDIA: n/a

FIRE AND EXPLOSION HAZARDS: Closed containers may explode (due to the build-up of steam pressure) when exposed to extreme heat.

SPECIAL FIRE FIGHTING PROCEDURES: None

V - REACTIVITY DATA

STABILITY: Stable HAZARDOUS POLYMERIZATION: Will Not Occur.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizing agents CONDITIONS TO AVOID: n/a

HAZARDOUS DECOMPOSITION PRODUCTS: May produce hazardous fumes when heated to decomposition as in welding.

PREPARED BY: *George Hunt* DATE: 12/3/97 WII

VI - HEALTH HAZARD DATA

- SYMPTOMS/EFFECTS OF EXPOSURE AND OVEREXPOSURE -

PRIMARY ROUTES OF ENTRY: Inhalation, Skin and Eye Contact, Ingestion.

ACUTE: Dizziness, headache, nausea, confusion, irritation to upper respiratory tract, skin & eye irritation.

CHRONIC: Prolonged and/or repeated exposure to high concentrations of respirable (airborne) crystalline silica dusts as may be generated by sanding or grinding of dried paints and other building materials without wearing proper respiratory protection can cause cancer or silicosis, a non-cancerous lung disease that can result in substantial impairment of breathing function.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: None known. See your physician for specific medical opinion regarding your condition.

- EMERGENCY AND FIRST AID PROCEDURES -

INHALATION: Remove to fresh air. Restore breathing. Consult physician.

EYE CONTACT: Flush with large volumes of water for 15 minutes. Get medical attention.

SKIN CONTACT: Wipe off with a rag. Wash thoroughly with soap and water.

INGESTION: Consult hospital emergency room or Poison Control Center immediately.

VII - PRECAUTIONS FOR HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Ventilate area to prevent build-up of vapors. For small spills, soak up with absorbent. For larger spills, dike area with absorbent material and scoop up liquids.

WASTE DISPOSAL METHOD: Discard in land fill in sealed containers away from heat and flame and in accordance with local regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store upright in sealed containers away from heat and flame.

OTHER PRECAUTIONS: The control measures in Section VIII should be followed when you sand this product and most other paints and building materials such as spackles and dry wall compounds.

Remove and wash contaminated clothing before reuse.

VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: Use a particle mask (NIOSH/MSHA TC-21C) to avoid breathing spray mist or sanding dust if local ventilation is adequate to keep concentrations within acceptable (TLV) limits. If local ventilation is not sufficient, or where exposure limits are exceeded, wear a suitable, properly fitted respirator (NIOSH/MSHA TC-23C or better) for organic vapors with a dust filter as needed.

VENTILATION: Local cross-ventilation or mechanical exhaust sufficient to keep all hazardous concentrations below prescribed limits.

PROTECTIVE GLOVES: Recommended if necessary to prevent extended exposure.

EYE PROTECTION: Glasses with side shields or goggles are recommended to prevent eye contact.

NOTE: THIS INFORMATION IS BELIEVED TO BE COMPLETE AND ACCURATE. IF ANY QUESTIONS ARISE, CONTACT MANUFACTURER LISTED ABOVE.

MATERIAL SAFETY DATA SHEET essentially similar to form OSHA - 174

KELLY-MOORE Paint Company, Inc.
987 Commercial Street, San Carlos, California 94070
INFORMATION PHONE: 650-592-8337 EMERGENCY: 800-424-9300 (Chemtrec)

I - PRODUCT IDENTIFICATION

PRODUCT NAME	PRODUCT NUMBER	HMIS CODES: H F R PP
KEL-SEAL ACRYLIC TERPOLYMER COATING	1129-series (all colors)	0 0 0 E

II - HAZARDOUS INGREDIENTS

INGREDIENT	CAS REG #	WT PCT	EXPOSURE LIMITS TLV-ACGIH	EXPOSURE LIMITS PEL-OSHA	VAPOR PRESSURE MM HG @ DEG F
ETHYLENE GLYCOL	107-21-1	< 5 %	39.4 ppm	50 ppm	0.06 / 68
SILICA, CRYSTALLINE	14464-46-1	< 5 %	0.05 mg / M^3	n/a	none
ZINC OXIDE	1314-13-2	< 5 %	10 mg / M^3	10 mg / M^3	none

III - PHYSICAL PROPERTIES

BOILING POINT: 212° F (water) DENSITY: 9 - 10 # / gal PERCENT VOLATILE: 50 - 55 % (by volume)

VOC of material (Pounds per gallon): < 0.7 VOC (Grams per liter less water): < 150

VAPOR DENSITY: lighter than air (water vapor) EVAPORATION RATE: slower than ether

IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION: Not regulated

FLASH POINT: None FLAMMABLE LIMITS: n/a EXTINGUISHING MEDIA: n/a

FIRE AND EXPLOSION HAZARDS: Closed containers may explode (due to the build-up of steam pressure) when exposed to extreme heat.

SPECIAL FIRE FIGHTING PROCEDURES: None

V - REACTIVITY DATA

STABILITY: Stable HAZARDOUS POLYMERIZATION: Will Not Occur.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizing agents CONDITIONS TO AVOID: n/a

HAZARDOUS DECOMPOSITION PRODUCTS: May produce hazardous fumes when heated to decomposition as in welding.

PREPARED BY: *George Hunt* DATE: 12/3/97 WII

VI - HEALTH HAZARD DATA

- SYMPTOMS/EFFECTS OF EXPOSURE AND OVEREXPOSURE -

PRIMARY ROUTES OF ENTRY: Inhalation, Skin and Eye Contact, Ingestion.

ACUTE: Dizziness, headache, nausea, confusion, irritation to upper respiratory tract, skin & eye irritation.

CHRONIC: Prolonged and/or repeated exposure to high concentrations of respirable (airborne) crystalline silica dusts as may be generated by sanding or grinding of dried paints and other building materials without wearing proper respiratory protection can cause cancer or silicosis, a non-cancerous lung disease that can result in substantial impairment of breathing function.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: None known. See your physician for specific medical opinion regarding your condition.

- EMERGENCY AND FIRST AID PROCEDURES -

INHALATION: Remove to fresh air. Restore breathing. Consult physician.

EYE CONTACT: Flush with large volumes of water for 15 minutes. Get medical attention.

SKIN CONTACT: Wipe off with a rag. Wash thoroughly with soap and water.

INGESTION: Consult hospital emergency room or Poison Control Center immediately.

VII - PRECAUTIONS FOR HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Ventilate area to prevent build-up of vapors. For small spills, soak up with absorbent. For larger spills, dike area with absorbent material and scoop up liquids.

WASTE DISPOSAL METHOD: Discard in land fill in sealed containers away from heat and flame and in accordance with local regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store upright in sealed containers away from heat and flame.

OTHER PRECAUTIONS: The control measures in Section VIII should be followed when you sand this product and most other paints and building materials such as spackles and dry wall compounds.

Remove and wash contaminated clothing before reuse.

VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: Use a particle mask (NIOSH/MSHA TC-21C) to avoid breathing spray mist or sanding dust if local ventilation is adequate to keep concentrations within acceptable (TLV) limits. If local ventilation is not sufficient, or where exposure limits are exceeded, wear a suitable, properly fitted respirator (NIOSH/MSHA TC-23C or better) for organic vapors with a dust filter as needed.

VENTILATION: Local cross-ventilation or mechanical exhaust sufficient to keep all hazardous concentrations below prescribed limits.

PROTECTIVE GLOVES: Recommended if necessary to prevent extended exposure.

EYE PROTECTION: Glasses with side shields or goggles are recommended to prevent eye contact.

NOTE: THIS INFORMATION IS BELIEVED TO BE COMPLETE AND ACCURATE. IF ANY QUESTIONS ARISE, CONTACT MANUFACTURER LISTED ABOVE

WII

HI-TECH Systems

SPALL TX
Rapid Cure Spall & Crack Repair

Product Description:

HT Spall-TX is a rapid set, high strength low viscosity Urethane repair material. This two part, 1:1 system is 100% solids and designed for rebuilding and repairing broken control joints, filling voids under tile and concrete, and spalled concrete surfaces very quickly. *HT Spall-TX* is intended for use in damaged control joints or warehouse spalls damaged from forklifts, steel wheeled carts, etc… *HT Spall-TX* has an extended pot life for larger jobs requiring more time.

Applications:

- ✓ Rebuilding control joints
- ✓ Shallow spalls on bridge decks
- ✓ Traffic area spalls & crack repairs
- ✓ Grade matching
- ✓ Floor repair
- ✓ Stops additional damage
- ✓ Fill & repair spall before coating
- ✓ Used to "knit" cracked slabs
- ✓ Filling voids under concrete and tile

Advantages:

- ✓ 100% Solids, No VOC's
- ✓ Meets USDA and FDA Requirements
- ✓ Meets USGBC LEED Criteria – IEQ4.1
- ✓ Cures from -20° F to 130° F.
- ✓ "Drive-Over" in 10 to 15 minutes
- ✓ Produces High Strength Quickly
- ✓ Self-leveling
- ✓ Self Priming
- ✓ Fast initial set; rapid gain to ultimate strengths.

Physical Properties:

Viscosity (Mixed)	250 cps
Hardness, durometer (ASTM D2240)	67 to 72D
Tensile Strength, PSI (ASTM D412)	4600
Elongation % (ASTM D412)	6% to 8%
Compressive Strength (neat)	3900 psi
(ASTM C109) (with sand)	4800 psi
Bond Strength (ASTM 882-99)	3450 psi

Concrete Application Recommendations:

Clean the area of debris and contaminants that would act to debond *HT Spall-TX*; oils, loose materials, dirt, rubber etc. Expose clean rough concrete for best results. If using a saw to cut concrete and clean the crack, remove all the dust from the cut out area. Cut a vertical edge, minimum ½" deep, around perimeter of spall. Make sure the area is dry. Vacuum or blow off cement dust.

Where the crack is deep:

- Apply product to the bottom of the crack and work up in layers.
- First apply product then sand into the product, then more product & sand.
- Repeat the steps in layers until reaching the finished grade.

Filler:
Sand filler should have minimal moisture content. Grit sizes from 12 to 60. In exterior applications, the use of dry silica sand will reduce discoloration from UV Rays. Pea gravel can be used on very large spalls. *HT Spall-TX* can be used to bond damaged slabs together. Not intended for use where substrate movement is required. ***HT Spall-TX is slightly moisture sensitive and should not be applied to very wet surfaces.***

Grinding to finish grade:
Allow *HT Spall-TX* to set about 15 minutes or until hard. For best results use a flexible grinding wheel. Grind smooth with a 7-inch wheel. Scrapping or cutting may also be done with a sharp razor blade cutter. Cut as soon as product is set and not completely hard. Repair is now ready for traffic.

Shelf Life: 1 year in original unopened container.

Storage Conditions: Recommended storage temperature between 75°F to 85°F. Do not allow product to drop below 45°F or above 85°F.

Pot Life: C-881 77° - 100 Grams
Approx. 3 minutes average

HI-TECH Systems:9070 Center Ave., Rancho Cucamonga, CA 91730 800-454-5530 / Fax 909-945-3009

Coverage Information:

22 oz. coverage rates are listed below. These are exact measurements so it is necessary to take waste into consideration. If cracks are random, guesstimate the average size. It is unknown how deep cracks will penetrate and this will cause more or less use of the product. For figuring bulk repairs, calculate the cubic inches required. 1 gallon is equivalent to 231 cubic inches. 2 parts sand to 1 part product typically nets 1.8. Sample: (1 gallon of product + 2 parts sand = approximately 1.8 gallons, or 415 cubic inches).

22 oz. Cartridge Coverage Rate:

Width	¼"	½"	¾"	1"	1-1/4"	1-1/2"
¼"	52.9					
½"	26.5	13.2				
¾"	17.6	8.8	5.9			
1"	13.2	6.6	4.4	3.3		
1 ¼"	10.6	5.3	3.5	2.6	2.1	
1 ½"	8.8	4.4	2.9	2.2	1.8	1.5
1 ¾"	7.6	3.8	2.5	1.9	1.5	1.2
2"	6.6	3.3	2.2	1.6	1.3	1.1
2 ½"	5.3	2.6	1.8	1.3	1.1	.87
3"	4.4	2.2	1.5	1.1	.87	.73

Available In:

22 oz. & 56 oz. Cartridges
1 Gallon Kit (with proportioning chambers)
2 Gallon, 5 Gallon, 10 Gallon Kits

Chemical Resistance:

Test Procedure; ASTM D-1308 @72°F
R=Recommend
RC=Recommend Conditional =some swelling or discoloration
N=Not Recommend
1=Some discoloration only

Chemical	Result
Acetic Acid 10 %	R
Acetone	RC
Battery Acid (Sulfuric Acid)	RC
Brake fluid	R
Chlorine (2,000 ppm in water)	R
Citric Acid	R
Gasoline	R
Hydraulic Oil	R-1
Methanol (5%) Gasoline	RC
Motor Oil	R-1
Toluene	RC
Vinegar	R
Water	R
Xylene	R

Safety:

MSDS will be mailed immediately upon receipt of a purchase order or upon request. All personnel should read and understand product Material Safety Data Sheets. Long sleeve overalls or disposable overalls, rubber gloves, splash shields, rubber of leather boots should be worn. Do use near high heat or open flame. Do not take internally. Keep out of the reach of children.

Disposal And Clean Up:

Empty containers must be drip free. Cured product may be disposed of without restrictions. Excess liquid 'A' and 'B' material should be mixed together and allowed to cure, then disposed of in the normal manner. Cured materials may be stripped or peeled from plastic tools and containers. It is recommended that metal tools be cleaned within one hour of use by cutting or peeling cured material form tool.

Warranty:

HI-TECH warrants its products to be free of manufacturing defects and that they will meet HI-TECH's current published physical properties when applied in accordance with HI-TECH's directions and tested in accordance with ASTM and HI-TECH's standards. There are no other warranties by HI-TECH of any nature whatsoever, expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. HI-TECH Corporation shall not be liable for damages of any sort, including remote or consequential damages, resulting from any claimed breach of any warranty, whether expressed or implied, including any warranty of merchantability or fitness for a particular purpose or from any other cause whatsoever.

Xypex FCM 80

OVERVIEW

FCM 80 is specifically designed for repairing cracks subject to movement, sealing construction joints, restoring deteriorated concrete, and waterproofing concrete structures. FCM 80 has exceptional adhesive and elongation characteristics and is often used in conjunction with the Xypex Crystalline Concrete Waterproofing and Protection System. FCM is a two component product consisting of a specialized liquid polymer dispersion and a cementitious powder. These components are mixed just prior to application.

Download PDF Data Sheet ▶ Xypex FCM 80

For specific information such as Test Data, Coverage, Installation Procedures on this product, please download a product data sheet.

Xypex Concentrate

How to install this product

OVERVIEW

Xypex Concentrate is the most chemically active product within the Xypex Crystalline Waterproofing System. When mixed with water, this light grey powder is applied as a cementitious slurry coat to above-grade or below-grade concrete, either as a single coat or as the first of a two-coat application. It is also mixed in Dry-Pac form for sealing strips at construction joints, or for the repairing of cracks, faulty construction joints and honeycombs. Xypex prevents the penetration of water and other liquids from any direction by causing a catalytic reaction that produces a non-soluble crystalline formation within the pores and capillary tracts of concrete and cement-based materials.

Download PDF Data Sheet ▶ Xypex Concentrate

For specific information such as Test Data, Coverage, Installation Procedures on this product, please download a product data sheet.

APPENDIX F

Bridge report
1964 repairs.

California Department of Transportation
Division of Maintenance

Structure Maintenance and Investigations

BRIDGE

INSPECTION

RECORDS

INFORMATION

SYSTEM

The requested documents have been generated by BIRIS.

These documents are the property of the California Department of Transportation and should be handled in accordance with Deputy Directive 55 and the State Administrative Manual.

Records for “Confidential” bridges may only be released outside the Department of Transportation upon execution of a confidentiality agreement.

BRIDGE No. 33-106R

Sheet 1

BRIDGE REPORT

Date of Investigation May 19, 1964

General Description

IV-Ala ~~226~~ 260-Oak

Name POSEY TUBE (IV-Ala-61-Oak)

Dist.-Co.-Rt.-Sec. 61

Location ~~10.40~~ 6.7 Miles northwest of the junction with Route ~~105~~ PMR 1.12

Description R.C.Tube 12 Precast segments 203'± long on south. 958' cast-in-place (cut & cover) on north. Precast sections & Alameda Portal supported by timber piles. All other construction on spread footings.

Railing Pipe along sidewalks Approx. skew None.

Spans Tube has 32' inside diamters, 38'± outside

Total length 3545' outside to outside portals

Roadway width 22'-10" between PCC curbs

Describe median, shdrs., surf., etc.

PMS surface. Sidewalks 2 @ 3'

Width 2 lanes for NBnd traffic Alignment Horizontal curve and sag vertical curve

Design Live Loading County Overload rating purple

Waterway Navigable over tube

Other features crossed None

Vertical clearance 14'-8"

ALL FINAL REPORTS FILED UNDER BR. NO. in Vol. "3G"

History

Date built ~~1928~~ 1927 By Alameda County - Orig. Bridge Dept. - Renovation

Contract No. Renovation 1964 California Div. of Hwys-Renovation 63-14T13C2 Renovation

Designed by Alameda County - Orig. Designer Renovation-W.J.Yee George Posey - Orig.

Plans As Built in Br. Dept. files Bridge R.E. Renovation W. C. Names George Posey-Orig.

Contractor Renovation: Stolte, Inc. Original: California Bridge & Tunnel Co.

REMARKS Former County Bridge 33C-16

See Sheet 2

CEN gm

cc: District IV (3)
Maintenance Dept.

FORM BD-23-A (BR-VIAD)

EST. 1882, 57136 1-62 5M ① SP(

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CONDITION OF EQUIPMENT

The control equipment is new. The ventilating equipment is old but appears to be in satisfactory condition.

The pumping equipment is obsolete but is performing satisfactorily. In the event that major repairs become necessary, this equipment should be replaced.

Although all equipment appears to be operating as intended, there are certain minor problems from the operational viewpoint. The most important items are as follows:

1. The ventilating levels do not match the traffic pattern as well as they could. As a result, on automatic operation, there is too much stepping up and down. In addition, fumes and smoke can collect in the tube when the equipment is operating on the lowest level. The fumes remain several minutes due to the time lag between the time the fumes enter the CO Sampling System and the actual change in ventilation levels. This problem can be corrected by boosting the output of the lowest level.

2. The charts for the recording equipment are difficult to read because too much data is stamped in the same space. The equipment can probably be modified.

3. There is an air speed indicator that the operators are unable to interpret. It indicates that there is a flow of air in the tube but does not indicate what equipment is in operation. Consequently, the operators find little practical use for this device. An effort will be made to improve this situation.

CONDITION OF STRUCTURE

The tube is in good condition except that the old traffic treadles are deteriorating. Since the treadles are no longer used, they should be removed before they become a traffic hazard.

The Portal Buildings are in very poor conditon. The specific defects are listed below.

1. The pre-cast ornamental concrete is working loose from the structure. These units were originally

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CONDITION OF STRUCTURE (Continued)

held in place by bond plus 2 pieces of wire. After a number of years the bond failed allowing cracks to form between the units of the building walls. Water and dirt entered the cracks causing the wires to rust. This started to become a problem, on a small scale, about 5 or 6 years ago. It is now a serious problem. These units should be removed before they fall on someone. Special equipment will be required to reach the units at the top of the buildings.

2. The precast rail sections are deteriorating and spalling. Those sections of rail over traffic and over sidewalks should be checked for loose concrete at least once a week. Extensive corrective action should be deferred until a contract is let for renovating the buildings.

3. The old dash coat is spalling in many locations. The falling material is a hazard.

4. Concrete is spalling from the walls in many locations due to the rusting of reinforcing steel that was placed too close to the surface. All loose or badly cracked material should be removed in those areas where it is a potential hazard.

5. There are many broken glass panels in the exhauster flues. Falling glass is a hazard only at the rear of the Oakland portal. However, the appearance is unsightly. In addition, the missing panels impair the efficiency of the flues. The remaining panels are dirty. It appears that cleaning and replacing glass could be a perpetual costly maintenance problem. Consequently, it is suggested that the glass be replaced by some other type of paneling. The wood panels below the glass are in poor condition and should be replaced. All of this work should be included in the pending renovation contract.

6. Lighting around the outside of the buildings is poor. As a result, there is considerable vandalism. Additional small flood lights should be considered.

7. Many pieces of glass are missing in the air intake louvers. In addition the iron grillage is deteriorating.

   The existing air intakes will be a perpetual maintenance problem. At the present time, the cost of rehabilitating the louvers and grillage would be very high. Therefore, consideration should be given to

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CONDITION OF STRUCTURE (Continued)

removing the existing installations and replacing them with inexpensive aluminum louvers. This proposal will reduce both the initial cost and the annual maintenance cost.

8. Several hip tiles are missing from the tower roofs at both portals. The hip tiles were apparently grouted in place. Therefore, it is assumed that the grout has deteriorated. If the tile roofs are to remain the rehabilitation contract should provide for replacing and re-grouting hip tiles as necessary.

Except for the hip tiles, the roofs are in good condition. During this inspection the writer checked the timber framing for the roof on the west tower of the Oakland portal. In addition, the tile on the east tower was inspected at close range from a ladder. There was no evidence of deterioration.

RECOMMENDATIONS

1. Remove the old traffic treadles and fill the holes with PMS.

2. Investigate the feasability of revamping the recording equipment. A representative of the manufacturer should be consulted. Or, if a service agreement is negotiated for maintaining the equipment, necessary changes can probably be taken care of under the agreement. Other deficiencies in the control system will be referred to Mr. Harry Carter of the Bridge Department.

3. Remove all loose concrete from the walls of the building as soon as possible in the interest of public safety. Patching will not be necessary as it can be covered in the rehabilitation contract.

4. Remove any of the old dash coat that is obviously loose in those areas where falling material is a hazard to the public. A high pressure water stream might do this job best.

5. Unless a hazard develops, the other deficiencies can be disregarded. It is assumed that they will be taken care of in the pending contract.

Cost to be estimated by the District.(About $1000.).

C. E. Negus, Jr.

DONE 6-29-64
W.O. 64-04132 D0932
COST $210.55

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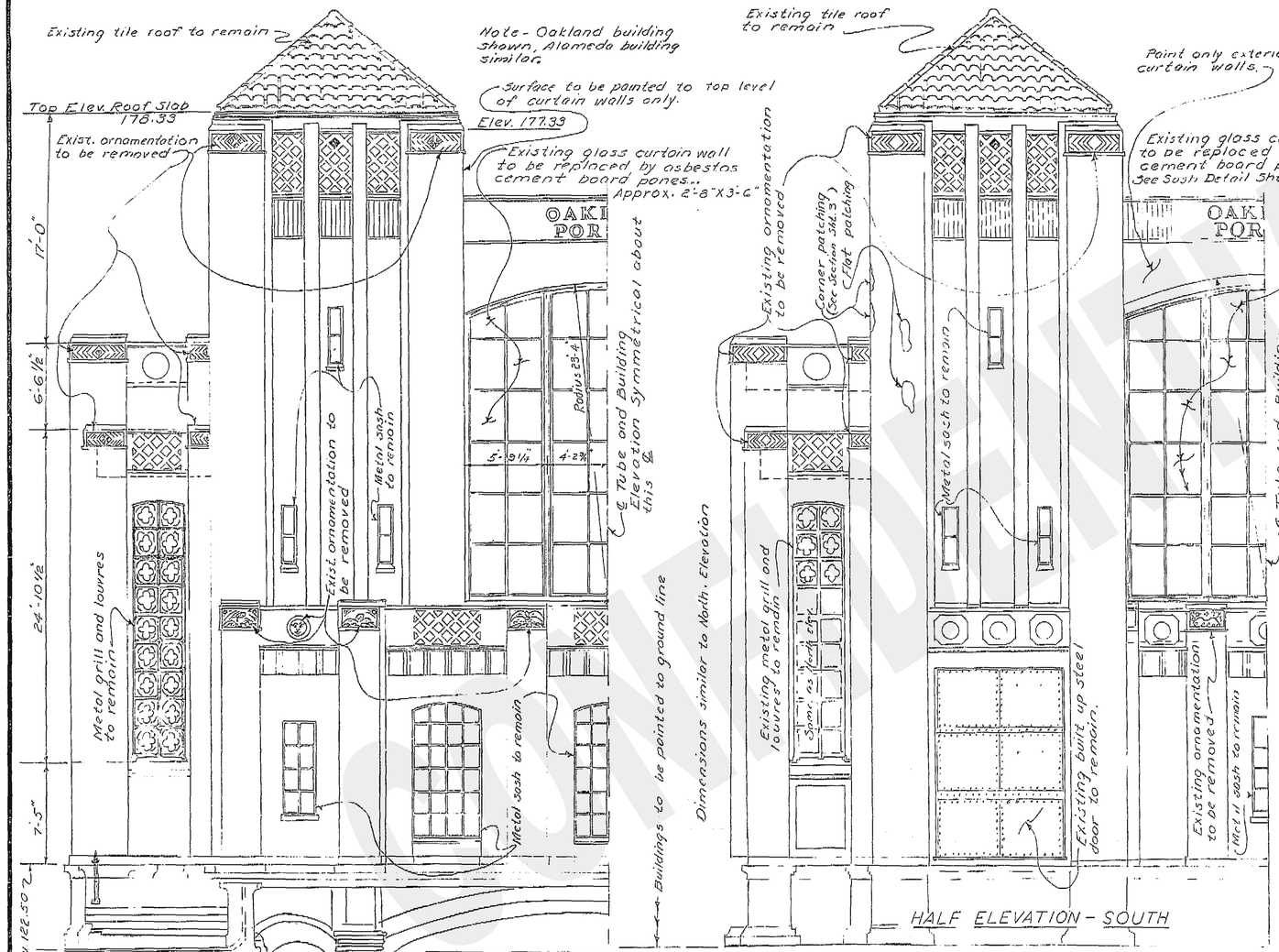

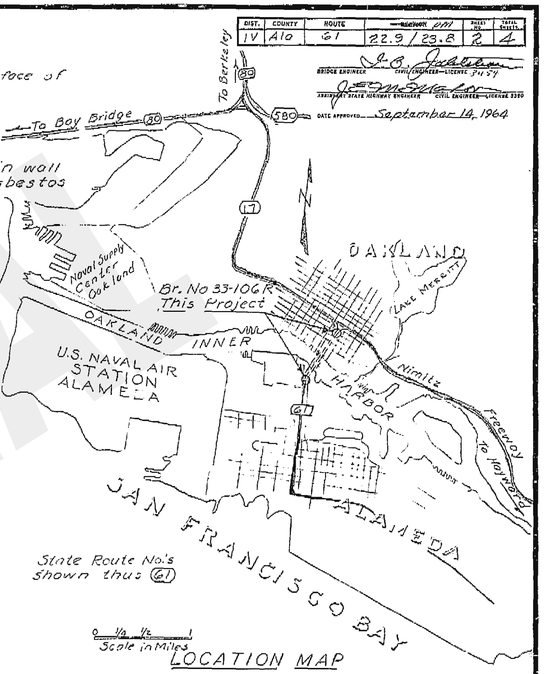

LOCATION MAP

DIST.	COUNTY	ROUTE	POST MILES	SHEET NO.	TOTAL SHEETS
IV	Ala	61	22.9 / 23.8	2	4

J. B. Jastram — BRIDGE ENGINEER — CIVIL ENGINEER—LICENSE 24157
J. M. Sykes — ASSISTANT STATE HIGHWAY ENGINEER — CIVIL ENGINEER—LICENSE 5390
DATE APPROVED September 14, 1964

GENERAL NOTES

1. CONSTRUCTION; Standard Specifications Division of Highways dated July 1964 and the Special Provisions.
2. DIMENSIONS; All dependent dimensions to be verified in the field by the Contractor.

AS BUILT
CORRECTIONS BY
CONTRACT NO.
DATE
NO KNOWN CORRECTIONS

MICROFILMED APR 7 1977

FOR GENERAL NOTES SEE THIS SHEET

EVE LOADING H20S16-44 AND ALTERNATIVE

BRIDGE DEPARTMENT
... MAINTENANCE SECTION ...
Project Designer W. C. Shindler 9/64
Chief Designer W. Rodgers

DESIGN	By W. C. Shindler 9/64	Checked
DETAILS	By W. C. Shindler 7/64	Checked
QUANTITIES	By J. K. Worden 8/64	Checked
SPECIFICATIONS	By K	Plans and Specs. Compared

Approval Recommended by — Civil Engineer 8866

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

POSEY TUBE UNDER ALAMEDA ESTUARY
PORTAL BUILDINGS RENOVATION
Located between Alameda and Oakland in Alameda Co.

GENERAL PLAN

BRIDGE NO.	DRAWING NO.	SHEET	OF
33-106 R	33106-1	1	3

WO

Disregard prints bearing earlier revision dates →

REVISION DATES (PRELIMINARY STAGE ONLY)

AS BUILT PLANS
Contract No. 04-308304
Date Completed
Document No. 4-1008183

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
DATE 4-7-77 SIGNATURE TITLE

MICROFILM – STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION – MICROFILM
SCALE 1" = 20'
0 50 100 200 300

CONFIDENTIAL

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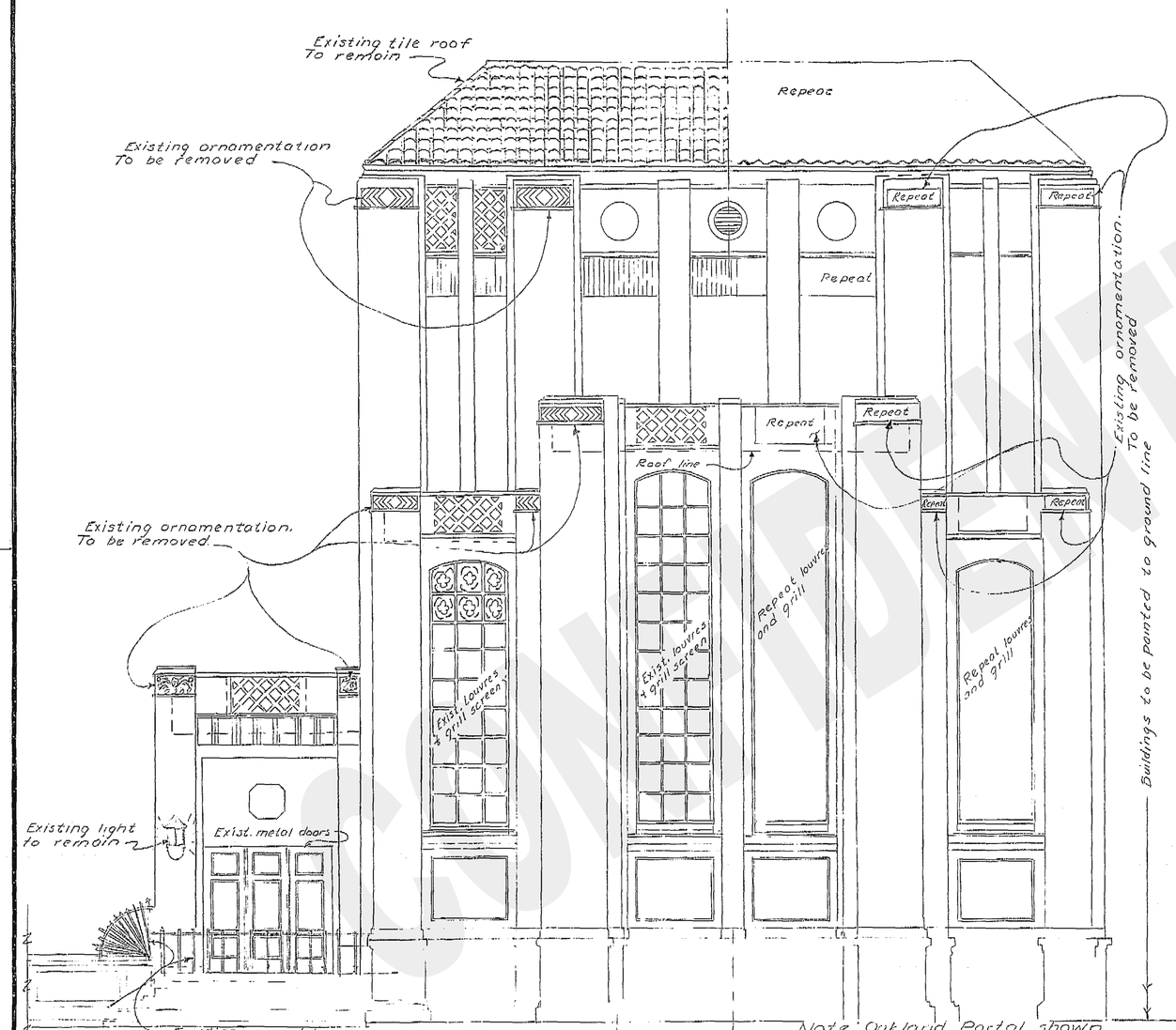
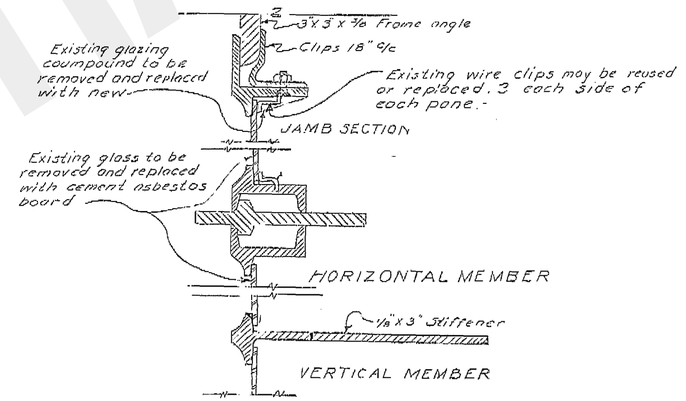
DIST.	COUNTY	ROUTE	POST MILES	SHEET NO.	TOTAL SHEETS
VII2	Ala	61	22.9 / 23.5	3	4

BRIDGE ENGINEER J.C. Jaeger CIVIL ENGINEER LICENSE 24, 7

DATE APPROVED September 19, 1964



WEST ELEVATION
East Elevation Similar
Scale 1/8" = 1'-0"



DETAIL OF SASH FRAME (Curtain walls)
Full Scale

AS BUILT
CORRECTIONS BY
CONTRACT NO.
DATE
NO KNOWN CORRECTIONS

BRIDGE DEPARTMENT
MAINTENANCE SECTION
Section Supervisor J.M. Rodgers
DESIGN By W.P. Melville 7/64 Checked
DETAILS By W.P. Melville 7/64 Checked
QUANTITIES By A.S. Woods 6/64 Checked

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

POSEY TUBE UNDER ALAMEDA ESTUARY
PORTAL BUILDINGS RENOVATION

WEST ELEVATION AND DETAIL

BRIDGE NO. 33-106 R | DRAWING NO. 33106-2 | SHEET 2 | OF 3

Disregard prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY)

AS BUILT PLANS
Contract No. 04-308304
Date Completed —
Document No. Exec 8183

MICROFILMED
JUL 7 1977

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
DATE 4-7-77 SIGNATURE [illegible] TITLE [illegible]

CONFIDENTIAL

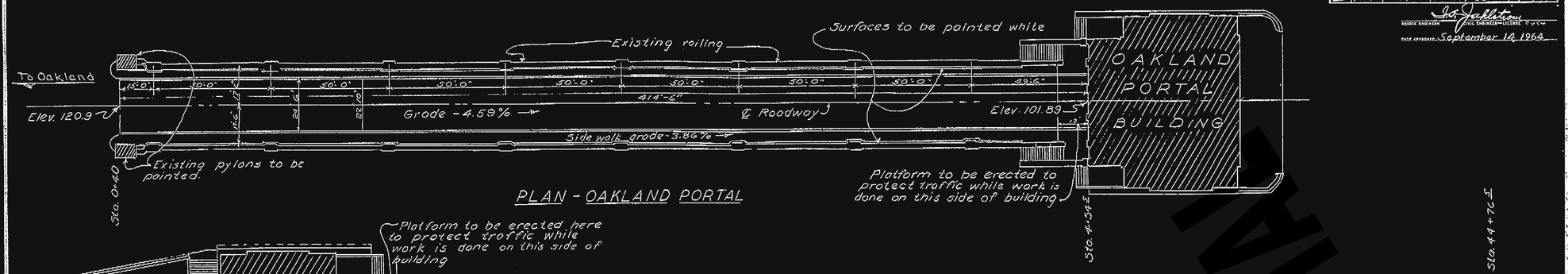
MICROFILM - STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - MICROFILM
SCALE 1" = 50' SCALE 1" = 20'

ClibPDF - www.fastio.com

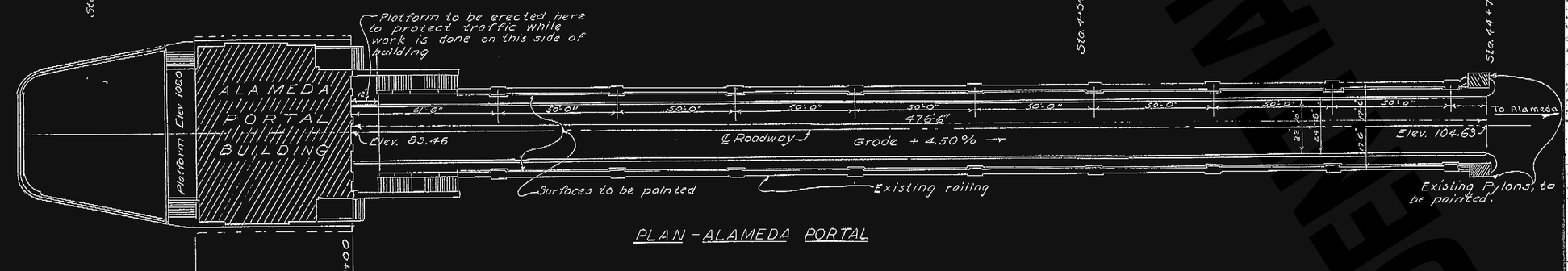
DIST.	COUNTY	ROUTE	POST MILES	SHEET NO.	TOTAL SHEETS
IV	Ala	61	22.9 / 23.8	4	4

J. Jakletau
BRIDGE ENGINEER — CIVIL ENGINEER—STATE OF CALIFORNIA

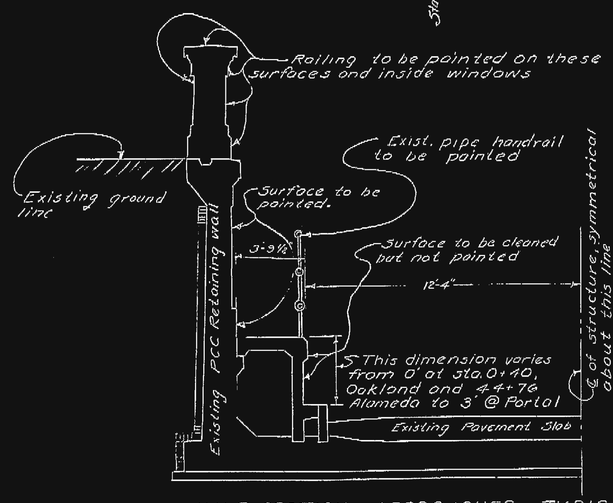
DATE APPROVED September 14, 1964



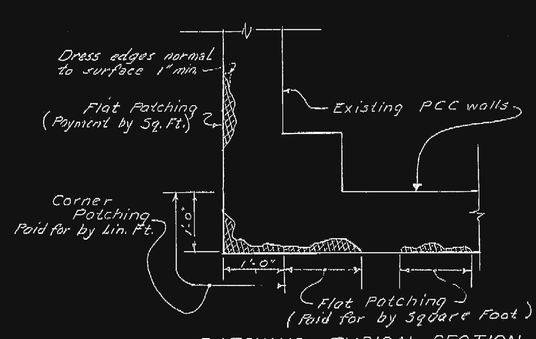
PLAN - OAKLAND PORTAL



PLAN - ALAMEDA PORTAL



HALF SECTION — APPROACHES, TYPICAL
Scale 3/8" = 1'-0"



PATCHING - TYPICAL SECTION
Scale 1" = 1'-0"

MICROFILMED
APR 7 1977

AS BUILT
CORRECTIONS BY
CONTRACT NO.
DATE
NO KNOWN CORRECTIONS

BRIDGE DEPARTMENT MAINTENANCE SECTION		
Section Supervisor	J.W. Rodgers	
DESIGN	By W.F. Shelly	9/64
	Checked	
DETAILS	By W.C. Hewitt	9/64
	Checked	
QUANTITIES	By D.F. Woods	9/64
	Checked	

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

POSEY TUBE UNDER ALAMEDA ESTUARY
PORTAL BUILDINGS RENOVATION

PLANS AND DETAILS

BRIDGE NO. 33-106 R | DRAWING NO. 33106-3 | SHEET 3 | OF 3

REVISION DATES (PRELIMINARY STAGE ONLY)

Disregard prints bearing earlier revision dates

AS BUILT PLANS
Contract No. 04-308304
Date Completed
Document No. 4466 8183

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 4-7-77 SIGNATURE [illegible] TITLE [illegible]

DIVISION

MICROFILM STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - MICROFILM SCALE 1"=20

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APPENDIX G

Historic Resources Compliance Report, Feb 2006

Historic Resources Compliance Report

for the

Posey Tube Water Leakage Emergency Repair Project at the Posey Tube in Alameda County

04-ALA-260-PM R0.9/R1.9

EA 0E6404 / 5T4000

February 2006

California Department of Transportation, District 4, Oakland
Office of Cultural Resource Studies

Historic Resources Compliance Report

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California Department of Transportation, District 4, Oakland
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1. PROJECT / ACTIVITY DESCRIPTION AND LOCATION						
District	County	Route	Kilo Posts	Post Miles	Charge Unit	Expenditure Authorization
04	ALA	260	R1.45/R3.06	R0.9/R1.9	607	0E6404 / 5T4000

(Both kilometer posts and post miles must be completed above.

Project Description: *(Insert project description below; refer reader to location and vicinity maps in HRCR)*

With this project, the Department of Transportation (Caltrans), proposes to use state-only funding to repair water leakage into the electrical control rooms of the Posey Tube (Bridge # 33-106R), which connects the cities of Oakland and Alameda via State Route 260 in Alameda County. The purpose of the undertaking is to repair the electrical safety hazard caused by water leaking into the basement of the Posey Tube's two portal buildings where the tube's electrical equipment is housed. Water, especially during the wintertime, leaks to the building's interior from the roof, drainpipes, window louvers located on all 4 sides of the building, wall cracks, and roadway sidewalks. According to Caltrans' maintenance, mechanical and electrical reviews, the condition has reached to a level that a serious fire or fatal accident on electrical equipment could happen any time, especially in wintertime conditions.

In order to repair and resolve this immediate safety problem, the following are proposed for the undertaking (see figure 1):

1) Roofing: The existing contemporary asphalt shingle roof on the 2 towers of each portal building (four towers total) is currently in poor condition (see figure 2), with many missing pieces of shingle throughout the roofing, which has allowed water into the building. To resolve this major water leakage problem, the entire asphalt shingle roof will be removed, including all the underlayments. New standard (if existing structure is designed for standard concrete tiles weight) or light weight concrete tiles that matches the original tiles per as-built plans in color and shape and dimensions will be installed.

2) Built-up roofing: The existing built-up roofing at the flat roof area at 3 levels (both sides, middle and front) as shown on the attachment will be removed and replaced with a new standard Garland roofing system.

3) Roof drainage: The existing drainage system is in poor condition and deteriorated at many of the joints and other connection points (see figures 3-4). All existing exposed 4" cast-iron rain-water leader pipes inside the buildings will be removed and replaced with new cast-iron of the same dimensions, except at the bottom floor which will be 6". The new 6" drain water pipes will be inserted into to the fresh air duct to send the piped water to the middle of the tubes instead of the roadway. An existing floor trench drain in the floor of the portal buildings will be enlarged and covered with galvanized grating, leading from the existing non-functional sump pump to the existing sump pit. The existing non-functional sump pump will be left in place and sealed. Four drainage inlets located at the Alameda portal entrance will be plugged permanently so as to avoid water entering into the sump from the roadway.

4) Fresh air duct: This fresh air duct is located inside the Alameda portal building at the basement level. The base of existing fresh air duct rests on the concrete floor. The joint where the duct meets the floor is rusted and corroded. This will be

sandblasted and repaired to bring it to original condition. There will be no change in external appearance.

5) Glass louvers: These are located behind the decorative iron grill at each of the air intake ducts (see figures 5-7). Approximately 85% of the roughly 3,000 existing glass louvers in the two portal buildings' air ducts are missing or badly damaged. The remaining intact louvers are in extremely fragile and deteriorated condition. All the glass louvers will be replaced with the same type of louvers. The window sash and frame will remain in each window.

6) Skylight: Existing post-1963 skylight panels located in both portal buildings leak (see figure 8). To solve this problem the panels will be re-glazed and new putty will be installed to make the skylight watertight.

2. PROJECT AREA LIMITS

The Project Area Limits for the project were established in consultation with Elizabeth Krase, Caltrans PQS Principal Architectural Historian, Branch Chief, Architectural History, and John Hemiup, Caltrans Project Manager, on February 21, 2006. The Project Area Limits map is located in Attachment I of this Historical Resources Compliance Report (HRCR).

The Project Area Limits were established as the project footprint, which includes the two portal buildings of the Posey Tube. This boundary, which does not include the entire historic resource, has been established because of the limited direct effect and the lack of potential for indirect effects. All work is limited to the portal buildings of the Posey Tube. There is no potential for ground-disturbing activity, and no archaeological concerns.

3. CONSULTING PARTIES / PUBLIC PARTICIPATION

(For the following, check the appropriate line, list names, dates, and locations and results of contacts, as appropriate. List organizations/persons contacted and attach correspondence and summarize verbal comments received as appropriate. Consulting parties that are not applicable may be deleted)

_ Local Government *(Head of local government, Preservation Office / Planning Department)*
_ Native American Tribes, Groups and Individuals
_ Native American Heritage Commission
_ Local Historical Society / Historic Preservation Group *(also if applicable, city archives, etc.)*
_ Public Information Meetings *(list locations, dates below and attach copies of notices)*

4. SUMMARY OF IDENTIFICATION EFFORTS

X	National Register of Historic Places	Month & Year: 1979-2002 & supplements
X	California Register of Historical Resources	Year: 1992 & supplemental information to date
X	California Inventory of Historic Resources	Year: 1976
X	California Historical Landmarks	Year: 1995 & supplemental information to date
X	California Points of Historical Interest	Year: 1992 & supplemental information to date
_	State Historic Resources Commission	Year: 1980-present, minutes from quarterly meetings
X	Caltrans Historic Highway Bridge Inventory	Year: 2003 & supplemental information to date
_	Archaeological Site Records [*List names of Institutions & date below*]	
X	Other sources consulted *[e.g., historical societies, city archives, etc. List names and dates below]*	

- A literature search and records review was undertaken at the Caltrans District 4 Office of Cultural Resource Studies. The Posey Tube has been surveyed and

evaluated for previous studies, and reports on file were reviewed for information related to the project area.

- Caltrans maintenance crews, who are responsible for daily upkeep of the Posey Tube, and as-built records were consulted in regard to the age of the drainage system currently in place in the interior of the tube's portal buildings.

X Results: *(provide a brief summary of records search and research results, as well as inventory findings)*

- Caltrans completed a Historic Resource Evaluation Report (HRER) for the Posey Tube in March 1993, by Frank Lortie. The report provided detailed information on the character-defining features and the non-contributing elements, and found the Posey Tube eligible for listing in the NRHP under Criteria A and C at the state and national level of significance, with a period of significance (POS) of 1928-1947. The components which would be affected by this undertaking range in date from the POS to post 1960 installation.

  Below is a list of the affected building components and how they contribute to the Posey Tube as defined by the 1993 HRER by Frank Lortie.

  1) Roofing: The current asphalt-shingle roofing on the towers of the portal buildings is a contemporary material change and as such is a non-contributing feature (Lortie, p 18). The original roofing material was "mission" tile, presumably of a red clay material.

  2) Built-up roofing: The flat roof covered with built-up roofing material is a contemporary material change. This feature is not examined in Lortie's report. This built-up roof is not a character-defining feature, and does not contribute to the overall appearance of the portal buildings nor to the structure's significance.

  3) Roof drainage: The 4" cast-iron drain pipes that function to convey water from the roof to the ground drain system is most likely original to the building's POS. Lortie's report does not examine the drainage system of the building. This system is not a character-defining feature of the Posey Tube. The roof drainage system is unremarkable in engineering history, and is not notable for its design or material construction. The Posey Tube's roof drainage system does not contribute to the structure's significance.

  4) Air duct grill: The fresh air duct at the Alameda portal is a utilitarian feature of the building. The duct is part of the interior features of the Alameda and is of an unknown period. This is not a character-defining feature of the interior (Lortie, p 16 does not discuss the intake ducts in the description of the interior).

  5) Glass louvers: The glass louvers located behind the decorative iron grills are most likely original to the structure's POS. Lortie does not discuss the louvers, although 1964 as-built plans reprinted in Lortie's report note "metal grill and louvers to remain" at the air ducts (as-built figure J-1). The louvers are a part of

the original air duct grill system to keep water out and foreign objects out of the building, but are not a character-defining feature of the portal building.

6) Skylight: The skylights at both portal buildings are a post-1963 alteration (Lortie, p 19). These skylights are non-contributing features.

5. EXEMPT / NO CEQA RESOURCES IDENTIFIED

(Check all that apply. Statements that are not applicable may be deleted)

- **No cultural resources** in the Project Area Limits.
- The **only cultural resources** present within the Project Area Limits **are exempt from evaluation** because they meet the criteria set forth in the Section 106 Programmatic Agreement (Section 106 PA) Attachment 4 (Properties Exempt from Evaluation) and do not meet any criteria outlined in CEQA Guidelines §15064.5(a):
  - *[Name], [Indicate whether person is Caltrans or consultant architectural historian or archaeologist]*, who meets the Professionally Qualified Staff Standards in Section 106 Programmatic Agreement (Section 106 PA) Attachment 1 as a(n) *[Indicate applicable PQS level]*, has determined that the only other resources present within the Project Area Limits meet the criteria for Section 106 PA Attachment 4 (Properties Exempt from Evaluation).
  - Bridges listed as Category 5 in the Caltrans Historic Highway Bridge Inventory and are not locally designated or otherwise identified as significant in a local survey meeting SHPO standards. Appropriate pages from the Caltrans Historic Bridge Inventory are attached.
- The following resources within the Project Area Limits **were previously determined not eligible** for National Register inclusion, previously determined not to meet California Register eligibility criteria, and/or **previously determined not to be historical resources for purposes of CEQA** as outlined in CEQA Guidelines §15064.5(a)(1) - (3) *(include date of determination; identified State-owned cultural resources as such)*:
  - •

6. HISTORICAL RESOURCES IDENTIFIED

(Check the appropriate category, list resources, or refer reader to appropriate technical study attached, according to their National Register or CEQA status. Provide, as appropriate, complete address, period and level of significance, criteria, map reference, and any existing state or local designation, including date; identify State-owned resources as such. Do not include resources that are not within the Project Area Limits. Attach previous SHPO determinations, as applicable. Findings that are not applicable may be deleted)

- Caltrans, pursuant to CEQA Guidelines §15064.5(a)(1) – (4), evaluated the following resources within the Project Area Limits and has determined that they are **not historical resources for purposes of CEQA**:
  - •
- Caltrans, pursuant to PRC §5024, has evaluated the following **State-owned buildings and structures** within the Project Area Limits and determined that they **do not meet the National Register and/or State Historical Landmark eligibility criteria**:
  - •
- Caltrans, pursuant to CEQA Guidelines §15064.5(a), evaluated the following resources within the Project Area Limits and determined that they **do not meet National Register criteria but are historical resources for purposes of CEQA** because they: are listed in the California Register or were determined eligible by the State Historical Resources Commission [§15064.5(a)(1)], are included in a local register or identified as significant in a local survey meeting OHP standards [§15064.5(2)], or Caltrans, as the lead agency, has determined that they meet the criteria for listing in the California Register [§15064.5(a)(3) - (4)]:

•

_ Caltrans has determined that the following **archaeological sites shall be considered eligible for the National Register and/or the California Register** without conducting subsurface testing or surface collection within the Project Area Limits, for which the **establishment of an ESA** will protect the sites from any potential effects. See attached documentation.

•

X The following resources within the Project Area Limits were **previously listed or determined eligible for inclusion in the National Register**, were automatically listed in the California Register and **are significant resources for the purposes of CEQA**, pursuant to CEQA Guidelines §15064.5(a)(1) *(include date of listing or determination)*:

- The Posey Tube (Bridge #33-106R): Built in 1927-28, the Posey Tube is listed as Category 2 (Eligible for the National Register of Historic Places) in the Historic Highway Bridge Inventory, dated October 1, 2001. Caltrans formally evaluated the Posey Tube in 1993, finding it eligible under Criteria A and C at the state and national level of significance, with a period of significance of 1928-1947. SHPO concurred with this finding on January 18, 1998 (see Attachment III for a copy of the HRER and the concurrence letter).

_ Caltrans, pursuant to CEQA Guidelines §15064.5(a)(3) – (4), evaluated the following resources within the Project Area Limits and determined that they **meet National Register and the California Register criteria and are historical resources for purposes of CEQA**:

•

_ Caltrans has evaluated the following **State-owned historical buildings and structures** within the Project Area Limits, meet the National Register and/or State Historical Landmark criteria and **are to be added to the Master List**, per PRC §5024(b) and (d):

•

7. CEQA Impact Findings

(Check all that apply. Do not transmit to SHPO unless there are State-owned resources within the Project Area Limits; file copy to CCSO. Findings that are not applicable may be deleted)

_ Caltrans has determined a **finding of no impact** is appropriate because there are no historical resources within the Project Area Limits, or there are no impacts to historical resource(s), pursuant to CEQA Guidelines §15064.5(b)(3).

_ Caltrans has determined a **finding of no substantial adverse change - ESAs**, because the impacts to the following historical resources within the Project Area Limits will be mitigated to below the level of significance by using the *Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (Standards)* pursuant to CEQA Guidelines §15064.5(b). Establishment of Environmentally Sensitive Areas (ESA), enforcement measures and conditions that utilize the *Standards* are included in the attached documentation. *(Include description of ESAs and enforcement measures below; attach ESA Action Plan as appropriate.)*

•

X Caltrans has determined a **finding of no substantial adverse change – rehabilitation / repair / maintenance / transfer with covenants** because the impacts to the following historical resources within the Project Area Limits will be mitigated below the level of significant impact by using the *Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (Standards)*, pursuant CEQA Guidelines §15064.5(b). Elizabeth Krase, who meets the Professionally Qualified Staff Standards in Section 106 PA Attachment 1 as Principal Architectural Historian, and has the appropriate education and experience, has reviewed the documentation and determined that the measures meets the *Standards*.

This undertaking will utilize rehabilitation as the method of preserving the original historic material that is not badly damaged beyond repair, and replacing damaged or deteriorated material that cannot be preserved with material that does not degrade the character-defining features of the structure.

See below for a detailed description of the work that will be conducted.

1) Roofing: The current contemporary asphalt-shingle roofing on the towers of the portal buildings will be removed. In place of this non-contributing feature, the roofing will be rehabilitated with new tile, of the size, color, and dimension that best matches the original roofing material, as described in the as-built and specs for the 1927-28 construction. This will solve the maintenance problem and restore one of the major character-defining features of the exterior.

The replacement tile will be one of the following products, which match the closest to the original tile's round style and red color:

Gladding McBean and Company

material- clay tile, style- "Condora" or similar round shape, color- "Blended Red", "#8 Mix," or "Franciscan," or some similar red color.

MonierLifetile

Material-lightweight concrete, style "Barcelona" or similar round shape, color- "California Mission Blend" or similar red color

Pioneer

Material- lightweight concrete, style- "Regal" or "Hacienda" or similar round shape, color- "mission red" or similar red color.

2) Built-up roofing: The current flat roof that is clad with contemporary built-up roofing material is in deteriorated condition. It will be removed and replaced with new roof cladding of a similar type. It is unknown what material originally existed in this location. Because this roof is hidden behind a parapet wall, this roof material is not a character-defining feature of the exterior. The roof will be rehabilitated so that it does not leak.

3) Roof drainage: The 4" cast-iron drain pipes that functions to convey water from the roof to the ground drain system are in poor condition, with corroded joints that are leaking. This roof drainage system will be replaced in its entirety with a new cast-iron system. This system is currently mounted on the interior walls of the structure, and will remain in this location. Because of its inconspicuous location, PVC pipe may be used as a cost-saving material. The drainage system is not a character-defining feature of the building and replacing the system with PVC pipe will not affect any other character-defining features. As with many mechanical systems in historic buildings, this system needs to be replaced in order to maintain the continued functionality of the building. The water will be collected in a pipe that will be routed through the air intake duct and connect to the existing drainage system located below the roadbed of the tube, instead of allowing water to drain from the roof drain pipes onto the roadway. This redirection of water flow will not affect the character-defining features of the tube.

4) Air duct grill: The fresh air duct at the Alameda portal is corroded due to pooling water at the floor level inside the building. This metal duct will be preserved. This preservation will require that the duct be cleaned of any oxidized layer that is present and coated with a moisture-barrier layer so that it does not corrode further.

5) Glass louvers: Approximately 85% of the roughly 3,000 glass louvers located behind the decorative iron grills at the air intake ducts are missing or cracked. The remaining intact louvers are in extremely fragile and are in deteriorated condition. All louvers will be replaced with in-kind material of the same type of glass of the same dimensions as the original. This rehabilitation of the air duct water deflecting system is necessary to maintain the as much of the original historic fabric as possible while restoring the function to the duct cover system to keep the building's interior free of water.

6) Skylight: The contemporary skylight located at the Oakland portal building will be left in place because they are in good condition. The panels will be re-glazed to make the skylight watertight. This will not affect the character-defining features of the portal buildings.

X Caltrans has determined that the project is a **Class 31 project and is categorically exempt** because the project is limited to maintenance, repair, stabilization, rehabilitation, restoration, conservation or reconstruction of the following historical resources in a manner consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings,* pursuant to CEQA Guidelines §15331. See attached documentation.

- See above description.

_ Caltrans has determined that **a finding of substantial adverse change to historical resources** is appropriate for this project, pursuant to CEQA Guidelines §15064.5(b) because the project will cause adverse change to the following historical resources within the Project Area Limits. See attached documentation.

-

8. MITIGATION PLAN

(List the impacted historical resource and describe its mitigation plan below or indicate below the title of the HRCR attachment that contains the description. Archaeological sites: summarize proposed data recovery. For mitigation plans that are not complete, describe the range of suitable mitigation options.)

9. FINDINGS FOR STATE-OWNED HISTORICAL RESOURCES

(Check all that apply. Copy to CCSO. Transmit to SHPO if State-owned buildings or structures were evaluated or there are State-owned historical resources within the Project Area Limits. Findings that are not applicable may be deleted)

_ Caltrans has determined that there are **no State-owned historical resources** within the Project Area Limits.

_ Caltrans has determined that **none of the State-owned buildings and structures** within the Project Area Limits **meets National Register and/or State Historical Landmark eligibility criteria**.

•

_ Caltrans has that the following **State-owned buildings and structures** within the Project Area Limits **do not meet National Register and/or State Historical Landmark eligibility criteria**.

•

X Caltrans has determined that the following **State-owned buildings and structures previously included in the Master List of Historical Resources** are within the Project Area Limits.

- The Posey Tube (Bridge #33-106R)

_ Caltrans has determined that the following **State-owned buildings and structures** that meet **National Register and/or the State Historical Landmarks eligibility criteria** are within the Project Area Limits and requests that SHPO add these resources to the Master List of Historical Resources pursuant to PRC §5024(d).

•

_ Caltrans has determined that this project will have **no effect/no adverse effect** on the following **State-owned archaeological sites, objects, districts, landscapes** within the Project Area Limits that meet National Register and/or State Historical Landmarks eligibility criteria. Caltrans is providing notice and summary of this determination to SHPO pursuant to PRC §5024(f). *(Indicate reference to CEQA Impact – ESA above, or include description of proposed treatments, ESAs, protective covenants, etc., below or indicate below which HRCR attachment contains the description.)*

•

_ Caltrans has determined that this project will have **no effect** on **State-owned buildings and structures** within the project limits that meet National Register and/or State Historical Landmarks eligibility criteria and is providing notice and summary of this determination to SHPO pursuant to PRC §5024(f).

X Caltrans has determined that this project will have **no adverse effect** on **State-owned buildings and structures** within the project limits that meet National Register and/or State Historical Landmarks eligibility criteria. Elizabeth Krase, PQS Principal Architectural Historian, has reviewed the documentation and determined that it meets the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. Caltrans is providing notice and summary of

this determination to SHPO pursuant to PRC §5024.5. *(Indicate reference to CEQA Impact – rehabilitation above, or include description of proposed repairs, rehabilitation, ESAs, protective covenants, etc., below or indicate below, which HRCR attachment contains the description.)*

- See above section for description of repairs and rehabilitation work.

_ Caltrans has determined that this project will have an **adverse effect** to **State-owned archaeological sites, objects, districts, landscapes** within the Project Area Limits that meet National Register and/or State Historical Landmarks eligibility criteria and is providing notice and summary of this determination to SHPO pursuant to PRC §5024(f). *(Include below a description of alternatives considered and proposed mitigation measures, or indicate below which HRCR attachment contains the description.)*

•

_ Caltrans has determined that this project will have an **adverse effect** on the following **State-owned buildings and structures** within the Project Area Limits that meet National Register and/or State Historical Landmarks eligibility criteria. Caltrans is providing notice and summary of this determination to SHPO pursuant to PRC §5024.5. *(Include below a description of alternatives considered and proposed mitigation measures, or indicate below which HRCR attachment contains the description.)*

•

X For **State-owned qualified historical buildings and properties** within the Project Area Limits, Caltrans has **applied the California Historical Building Code** (CHBC) to relevant sections of the current code(s) and/or standards and, if applicable, has consulted with the State Historical Building Safety Board (SHBSB) through its Executive Director pursuant to Health and Safety Code Section 18961 and its implementing regulations at California Code of Regulations Title 24 Part 8 Section 8-103.2. [*Indicate below whether use of current code(s) and standards adversely affected character-defining features of the property and describe the alternative solutions under the CHBC, or indicate below which HRCR attachment contains the description. If applicable, attach copies of correspondence with the SHBSB or its Executive Director.)*

The SHBSB was consulted on February 15, 2006 via telephone. Elizabeth Krase and Vida Germano discussed the proposed project with SHBSB's executive director, Tom Winter. Mr. Winter stated that there were no code issues in this project that required his office's review.

10. LIST OF ATTACHED DOCUMENTATION

(Provide the author/date and peer reviewer/date of the technical report. Documentation that is not applicable may be deleted)

X Project Vicinity, Location, and Project Area Limits Maps
X California Historic Bridge Inventory sheet
_ Historical Resources Evaluation Report (HRER)
_ Archaeological Survey Report (ASR)
_ Archaeological Evaluation Report (CARIDAP, XPI, PII, PIII)
_ Other *(Specify below)*

11. HRCR PREPARATION AND DEPARTMENT APPROVAL

Prepared by *(sign on line)*: Vida Germano 2/22/06
District 4 Caltrans PQS/Generalist: Vida Germano, Architectural Historian — Date

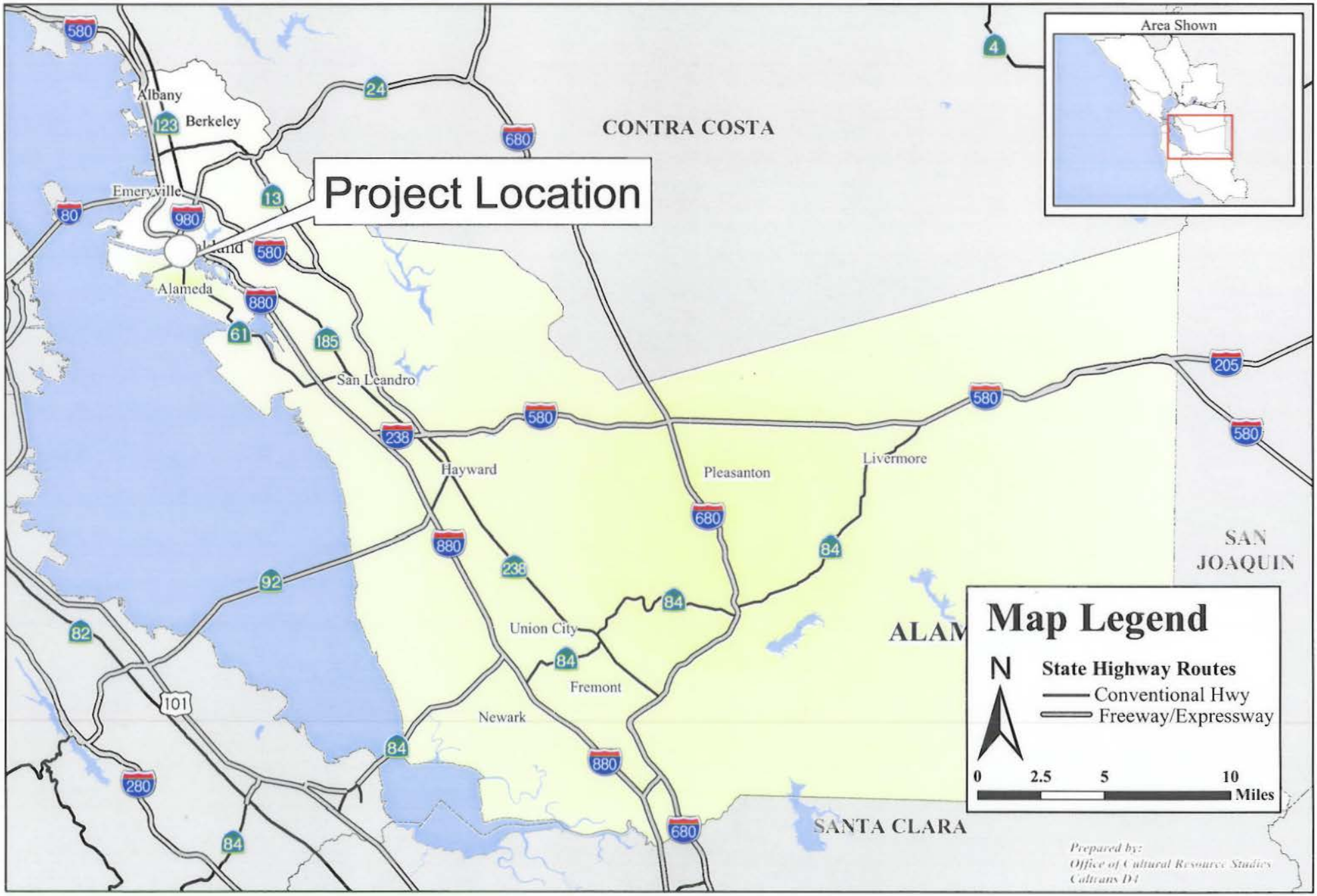
Reviewed for approval by: *(sign on line)*	Elizabeth Krase	2/22/06
District 4 Caltrans PQS discipline/level:	PQS Principal Architectural Historian, Branch Chief, Architectural History	Date
Approved by: *(sign on line)*	Janet L Page	2/23/06
District 4 EBC:	Acting Chief, Office of Cultural Resource Studies	Date

Attachment I: Maps

Project Vicinity Map
Project Location Map
Focused Project Area Limit Map: Alameda Portal
Focused Project Area Limit Map: Oakland Portal

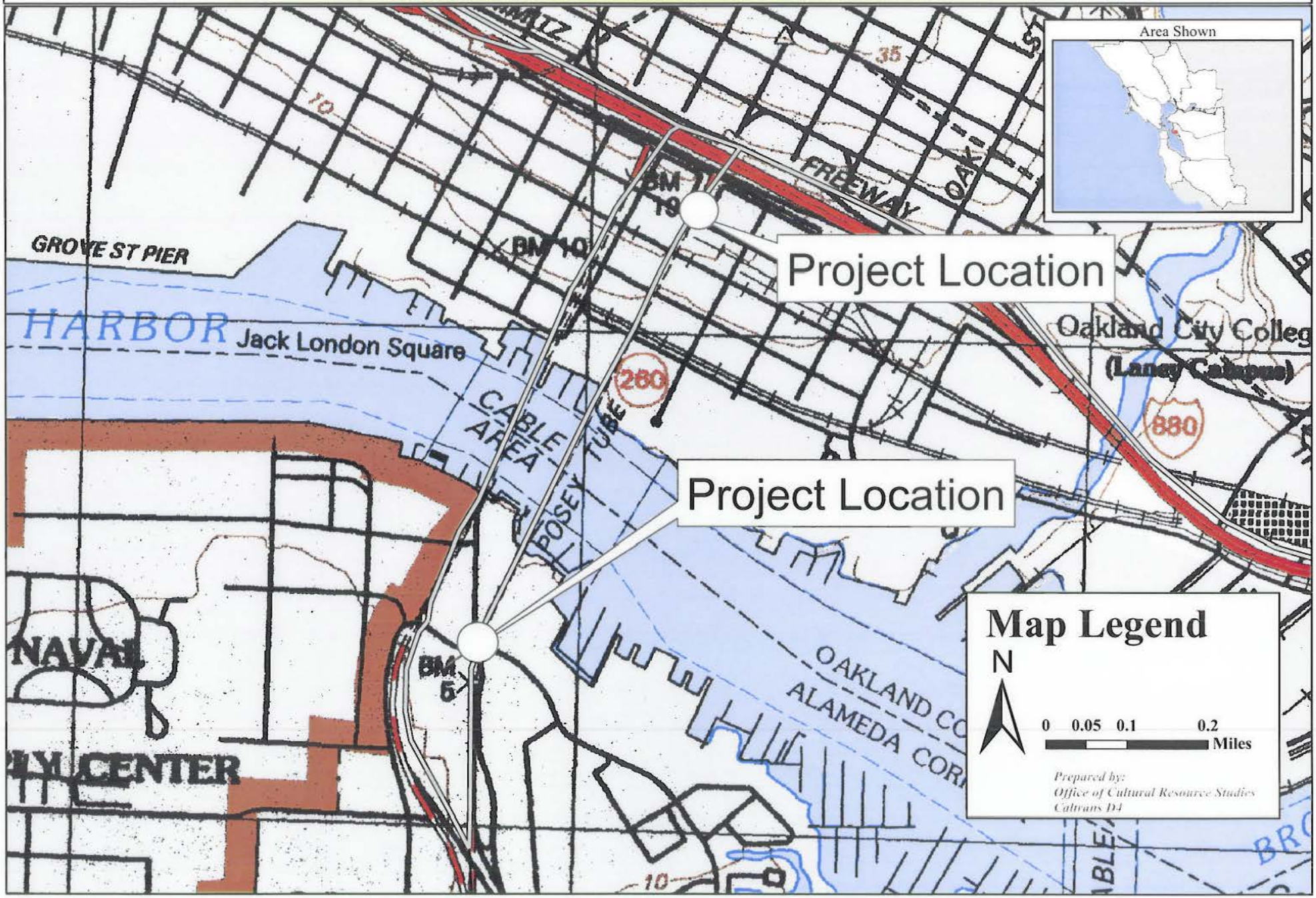
Posey Tube Water Leakage Emergency Repair Project

04-ALA-260-PM R0.9/R1.9- EA 0E6404 /5T4000



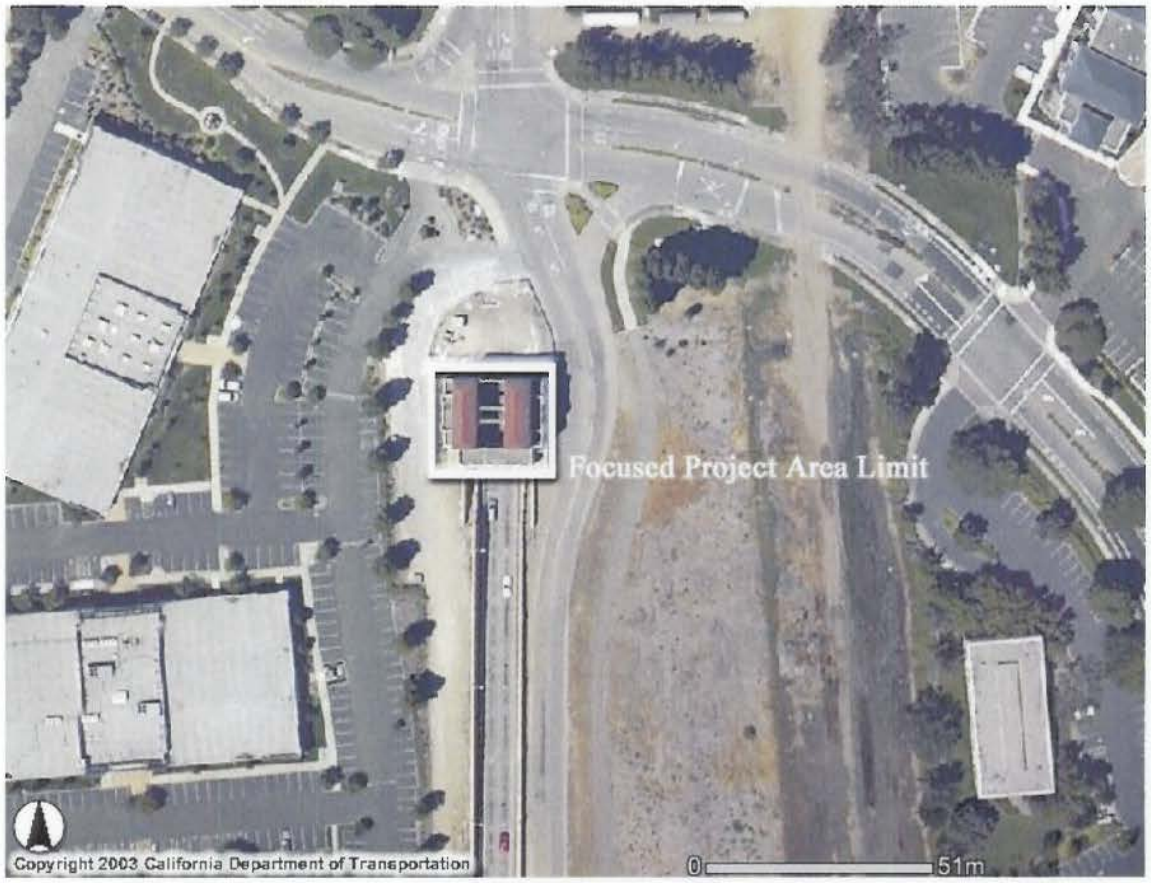
Posey Tube Water Leakage Emergency Repair Project

04-ALA-260-PM R0.9/R1.9- EA 0E6404 /5T4000



Attachment II: Figures

Figure 1. portal façade
Figure 2. roof deterioration
Figure 3. air intake duct, missing louvers
Figure 4. air intake duct , missing louvers
Figure 5. roof drainage system
Figure 6. engineer's notes showing the extent of the proposed current work



Focused Project Area Limits:
Alameda Portal of the Posey Tube

Elizabeth Krase 2/21/06
Elizabeth Krase date
Branch Chief, Architectural History

John C Hemiup 02-22-06
John Hemiup date
Project Manager

Posey Tube Water Leakage Emergency Repair Project at the Posey Tube in Alameda County
04-ALA-260-PM R0.9/R1.9
EA 0E6404

February 2006

Focused Project Area Limits:
Oakland Portal of the Posey Tube

Elizabeth Krase 2/21/06

Elizabeth Krase date
Branch Chief, Architectural History

02-22-06

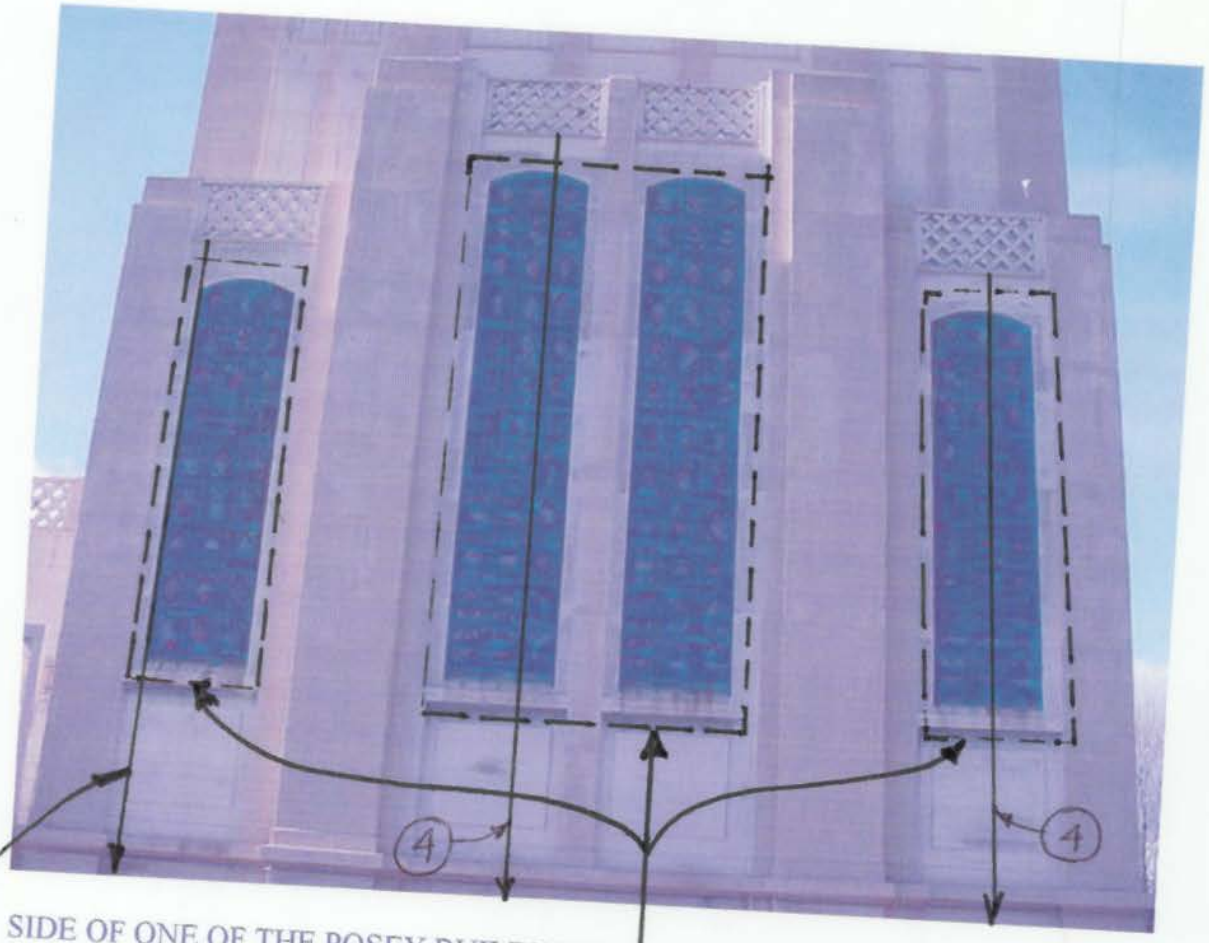
John Hemiup date
Project Manager

Posey Tube Water Leakage Emergency Repair Project at the Posey Tube in Alameda County
04-ALA-260-PM R0.9/R1.9
EA 0E6404

February 2006

Attachment II: Figures

Figure 1. engineer's notes showing the extent of the proposed current work
Figure 2. roof deterioration
Figure 3. roof drainage pipe deterioration
Figure 4. roof drainage pipe deterioration
Figure 5. portal façade
Figure 6. air intake duct, missing louvers
Figure 7. air intake duct , missing louvers
Figure 8. skylight caulking deterioration



SIDE OF ONE OF THE POSEY BUILDINGS

(4) Drain pipes inside building shown symbolically. Total 18 leader pipes per building.

(E) LOUVERS THAT ARE BROKEN OR MISSING TO BE REPLACED WITH THE SAME TYPE. APPROX. 2335 NOS. NEW GLASS LOUVERS SHALL BE OF THE SAME THICKNESS, COLOR AND DIMENSIONS. (3)

(1) (E) roof shingles to be removed. Install (N) light weight concrete or clay Tile of the same type and color of the existing. Engineer shall select the actual color and type (Typical)

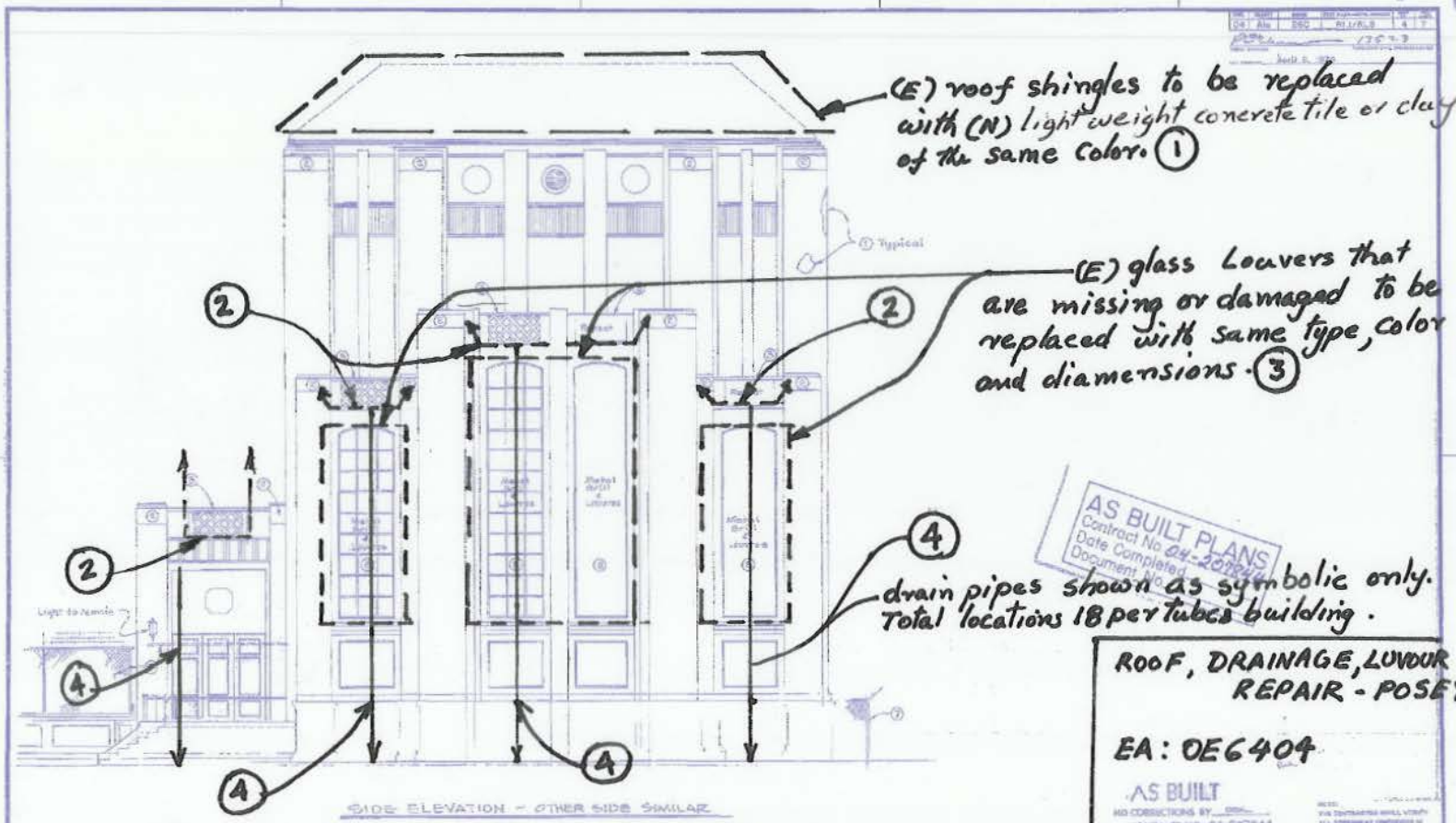
(2) (E) flat roof to be removed and replaced with (N) similar roof (garland roofing system) Typical for all flat roof areas.

(3) (E) louver glass to be removed and replaced with (N) same type and color. (Typical)

(4) (E) drainage roof drain pipe system to be removed and replaced with (N) cast iron pipe of the same type and diamensions. (Typical)

E= existing
N= new

Figure 1. Engineer's notes showing the extent of the proposed current work.



AS BUILT PLANS
Contract No 04-207844
Date Completed
Document No

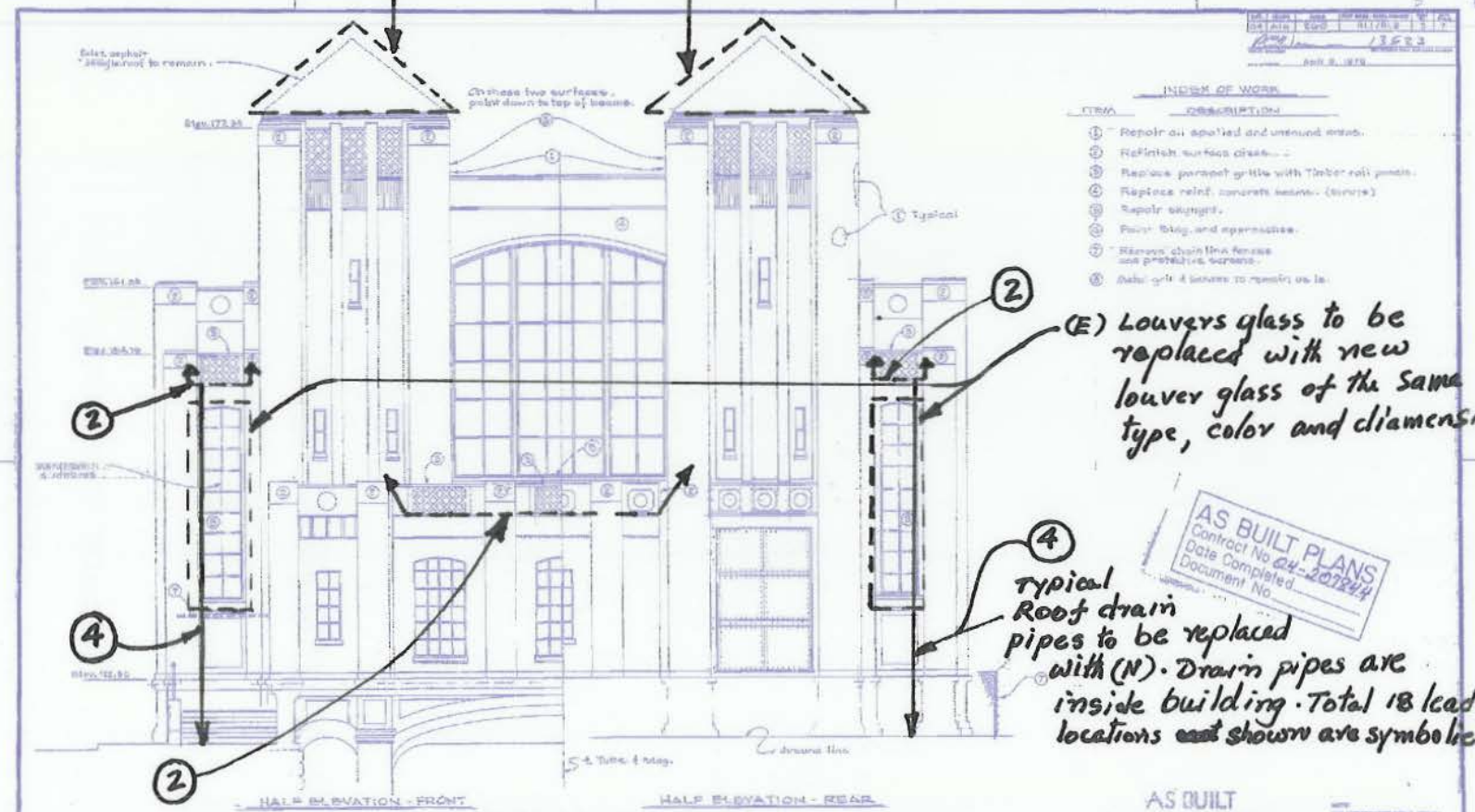
ROOF, DRAINAGE, LUVOUR REPAIR - POSEY PORTAL

EA: 0E6404

AS BUILT
NO CORRECTIONS BY
CONTRACT NO. 04-207844
DATE

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION
STRUCTURES - DESIGN
POSEY TUBE PORTAL BLDGS. RENOVATION
ELEVATION - SIDE

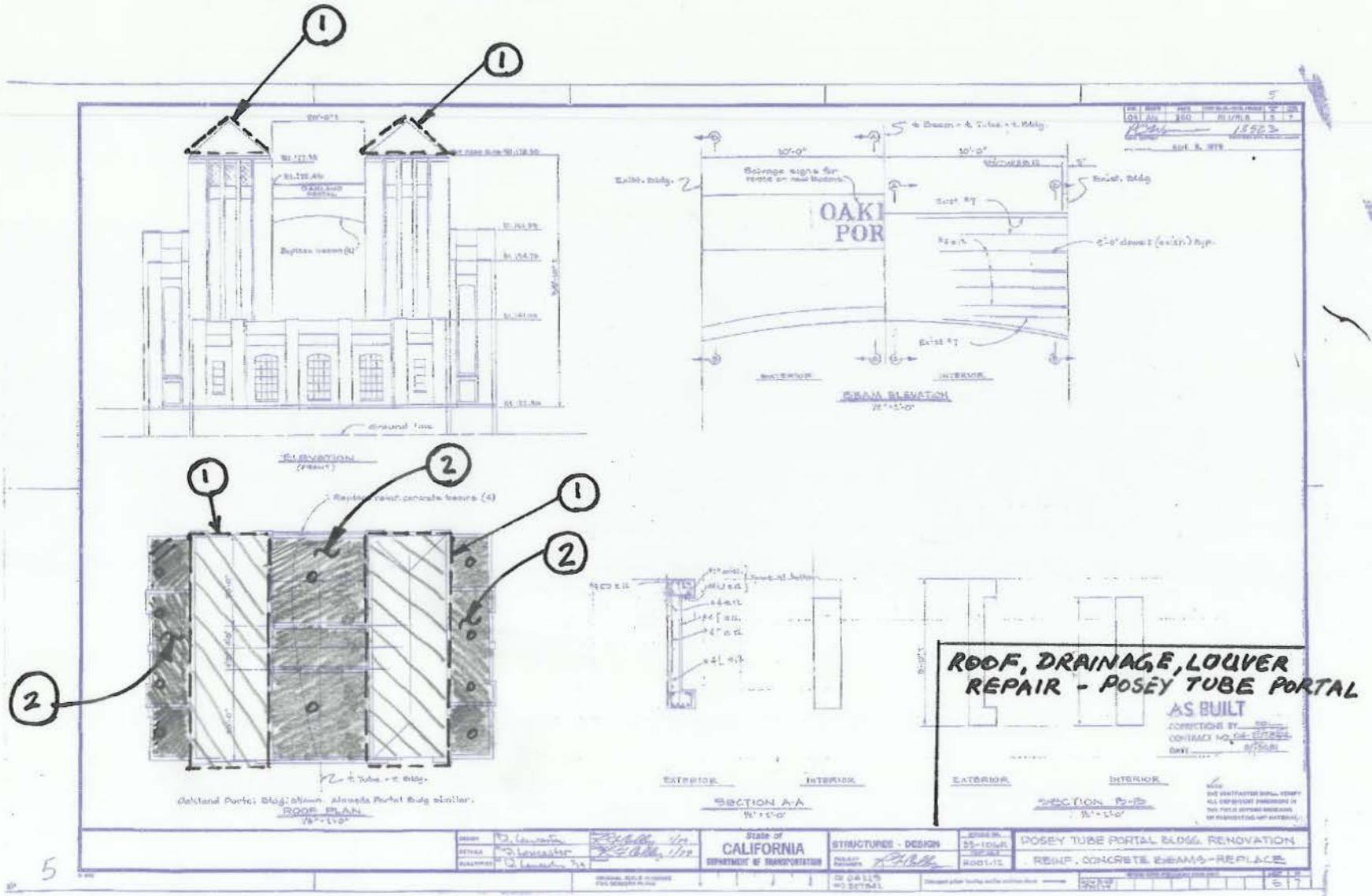
(E) roof shingles with (N) light weight concrete tile or clay tile of the same color as (E) ①



(E) Louvers glass to be replaced with new louver glass of the same type, color and dimensions. ③

AS BUILT PLANS
Contract No. 04-207844
Date Completed
Document No.

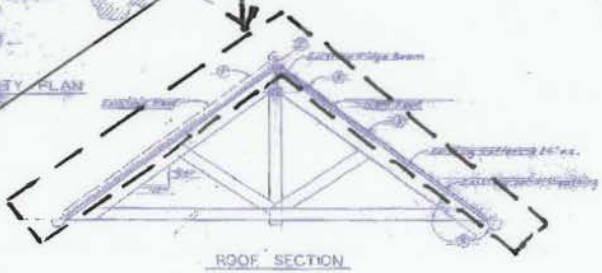
④ Typical Roof drain pipes to be replaced with (N). Drain pipes are inside building. Total 18 lead pipes per building locations ~~are~~ shown are symbolic only.


ROOF, DRAINAGE, LOUVER
REPAIR - POSEY TUBE PORTAL
AS BUILT
ELEVATION
BEAM ELEVATION
ROOF PLAN
SECTION A-A
SECTION B-B
State of
CALIFORNIA
STRUCTURES - DESIGN
POSEY TUBE PORTAL BLDG. RENOVATION
REINF. CONCRETE BEAMS - REPLACE
AS BUILT PLANS
Contract No. 04-207844
Date Completed
Document No.

Remove (E) shingles roof · Install
(N) light weight concrete tile ~~or~~ or clay tile of the same color and type as existing

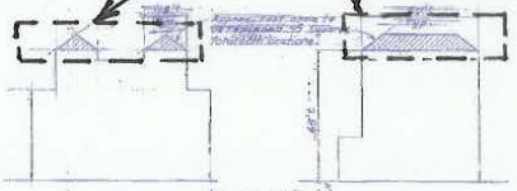
1

VICINITY PLAN



ROOF SECTION

LOCATION MAP



FRONT VIEW (Approx ground line) SIDE VIEW

PORTAL BUILDING
(Typical both locations)

AS BUILT
CORRECTIONS BY _____
CONTRACT NO. 04-207504
DATE 8/90
NO AS BUILT CHANGES

STATE OF CALIFORNIA
BUSINESS AND TRANSPORTATION AGENCY
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR
BUILDING CONSTRUCTION

IN ALAMEDA COUNTY
IN OAKLAND AND ALAMEDA
AT THE POSEY TUBE
(to be superseded by Standard Plans dated March, 1977)

Contract No. 04-207504

				State of CALIFORNIA DEPARTMENT OF TRANSPORTATION	STRUCTURES TRANSPORTATION ARCHITECTURE		REROOF PORTAL BUILDINGS AT POSEY TUBE GENERAL PLAN

AS BUILT PLANS
Contract No. 04-207504
Date Completed 8-6-90
Document No. _____

8-25-90 Sent to File

Figure 2. Typical view of the roof on the Posey Tube portal buildings. The non-original asphalt shingle roofing is deteriorated or missing in many places.

Figure 3. View of a portion of the roof drainage pipe system mounted to the interior of the building. In this instance, the joints are leaking on both sets of pipes. This is a typical problem of the entire drainpipe system.

Figure 4. View of the roof drain pipe system that has substantial leak problems. Various areas of water discoloration and deterioration can be seen, like the area in the corner of the concrete below the pipe.

Figure 5: Looking at a typical façade of the Posey Tube portal buildings with the air intake ducts covered with the original decorative iron grills.

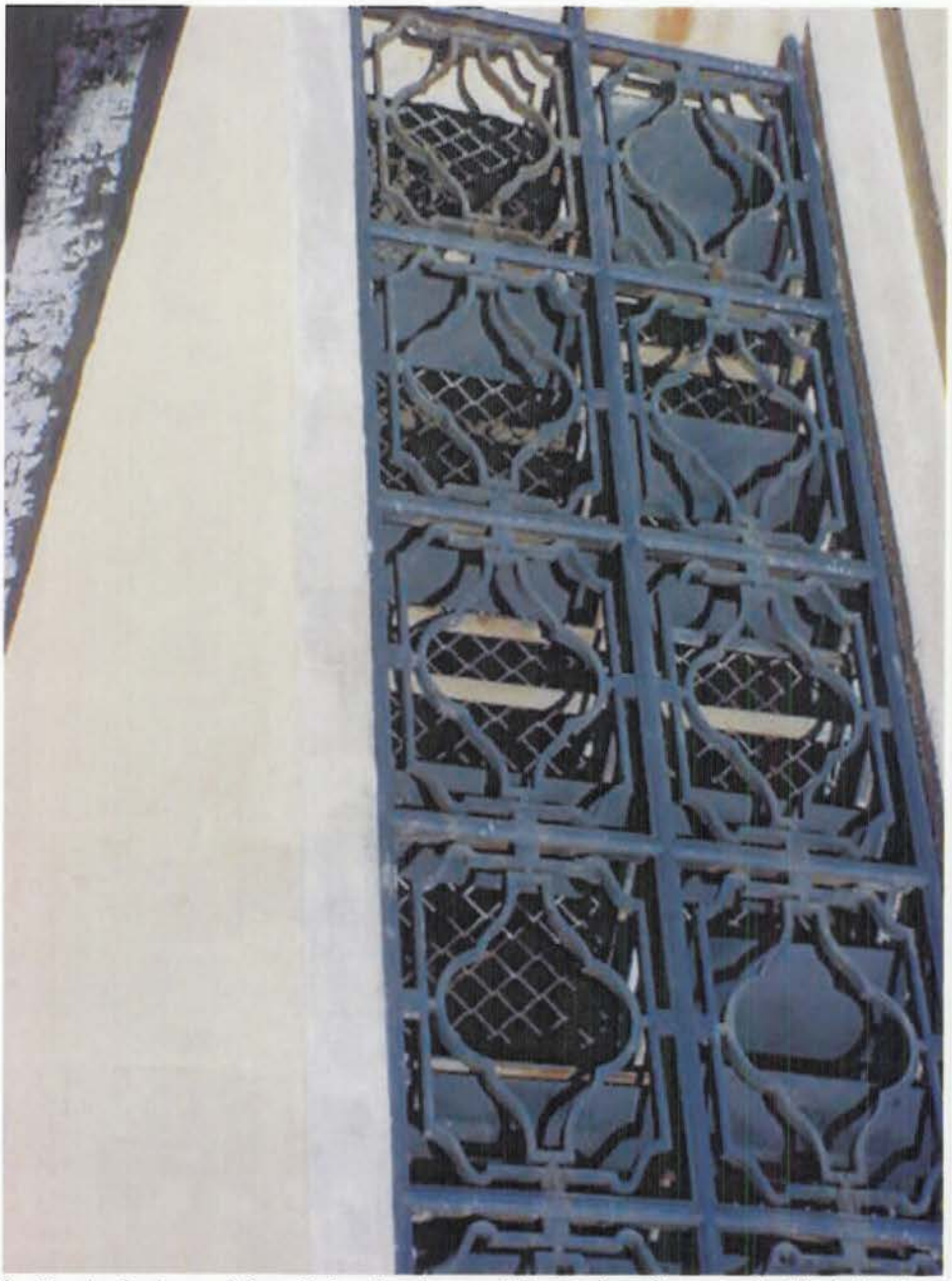


Figure 6. Typical view of the air intake ducts. Many glass louvers behind the iron grill are missing or badly damaged.

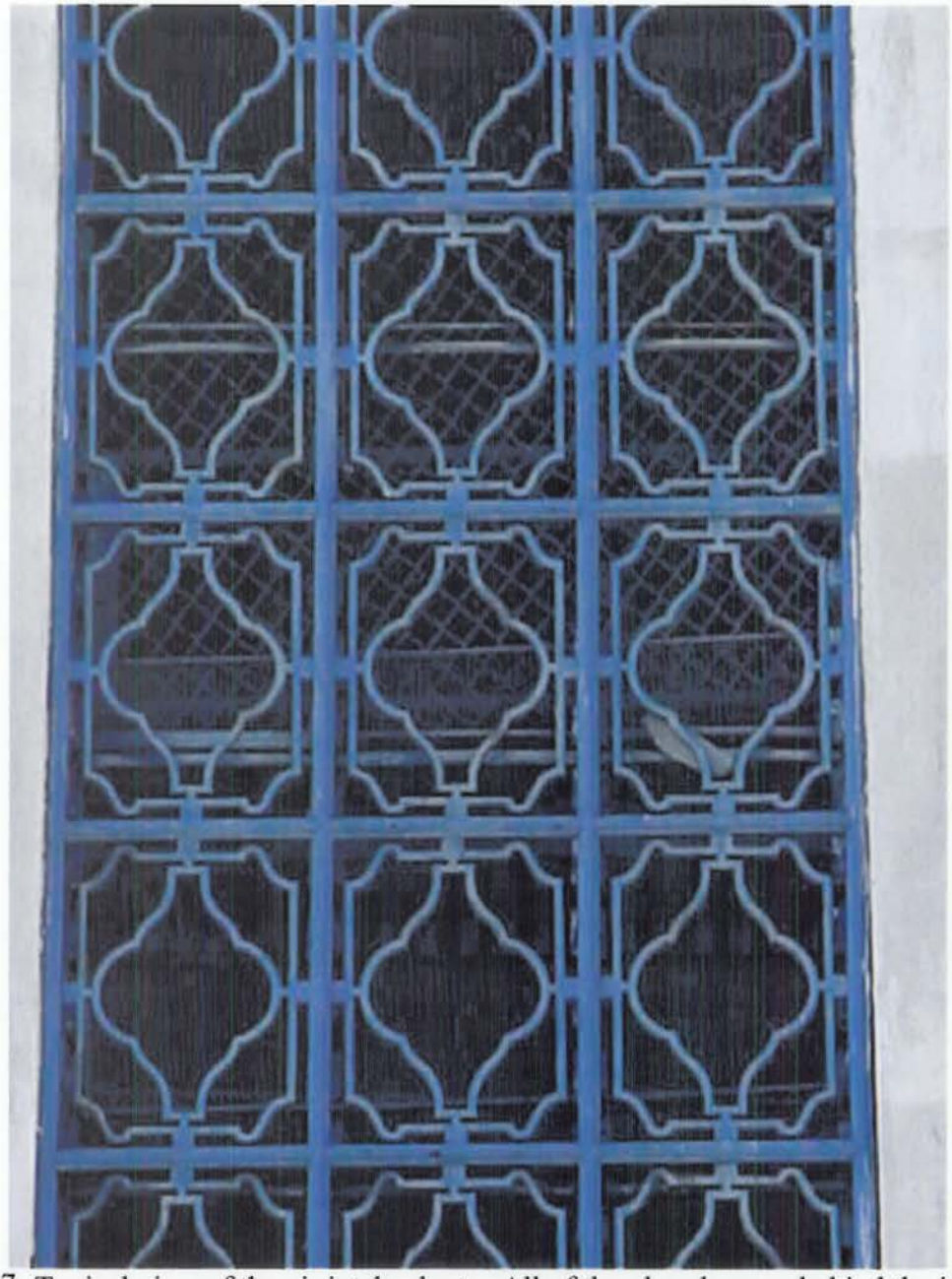


Figure 7. Typical view of the air intake ducts. All of the glass louvers behind the iron grill are missing in this section.

Figure 8. The detail of this circa 1960s' skylight shows the caulking that is broken or missing causing leakage from rainwater.

For Contract No. 04-4A4804

"Email from Cal/OSHA Mining & Tunneling Unit", dated May 29. 2014

Ocampo, Dennis@DOT

From: Kobal, Robert J@DOT
Sent: Thursday, May 29, 2014 2:15 PM
To: Ocampo, Dennis@DOT
Cc: Bonner, Vince B@DOT; Nguyen, Michael Thanh@DOT; Nesbitt, David@DOT; Moore, J C@DOT; Momenzadeh, Mahmood@DOT
Subject: FW: Alameda Posey Tube

FYI

From: Patterson, Douglas@DIR [mailto:DAPatterson@dir.ca.gov]
Sent: Thursday, May 29, 2014 2:10 PM
To: Kobal, Robert J@DOT
Subject: Alameda Posey Tube

Robert:

Per our conversation of May 29, 2014, the replacing of a guard rail along a Sidewalk in the referenced tube is not under the California Code of Regulations Title 8 tunnel Safety Orders as the support system of the "tunnel" is not being affected or altered by the proposed work.

If the scope of work changes to effect that the portal tunnels are Being altered, call me for further discussions.

Thanks

Doug Patterson
Cal/OSHA Mining & Tunneling Unit
(916) 574-2540