PRICE CONSULTING, INC.
211 HIGHLAND CROSS ROAD • SUITE 220 • HOUSTON, TEXAS 77073
PHONE: (281) 209-1724 • FAX: (281) 209-2724 • TOLL FREE (800) 966-6088

July 17, 2017

Ms. Robin A. Camp
Project Manager
City of Austin – Department of Public Works
505 Barton Springs Road, Suite 1045
Austin, Texas 78704

Re: PreDesign Report: Roof Renovation/Repairs
Shipe Neighborhood Park - Restroom Building
4400 Avenue G; Austin, Texas
PCI Project No. 11362.17

Dear Ms. Camp:

Price Consulting, Inc. (PCI) is pleased to submit this PreDesign report for the renovation and repairs of the roof on the Restroom Building at the Shipe Neighborhood Park located at 4400 Avenue G in Austin, Texas. The purpose of this study was to assess the condition of the roof, supporting structure, and exterior walls of the facility, and provide recommendations for remedial repairs and other corrective action in the preparation of drawings and specifications for the recommended work.

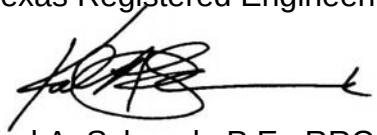
Our scope of services included:

- Performing a visual survey of the roof, roof support structure, exterior walls, and related components to document the existing conditions.
- Preparing a written report of our observations and recommendations for repairs and corrective action.

Please contact our office if you have any questions, or if we may be of service in any other way.

Best regards,

PRICE CONSULTING, INC.
Texas Registered Engineering Firm F-3814



Karl A. Schaack, P.E., RRC
President

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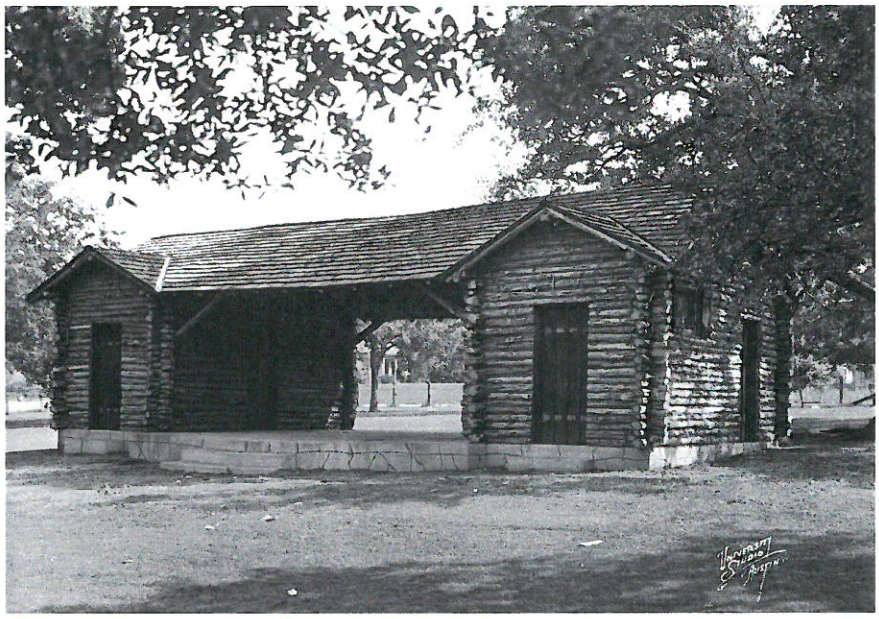
# PREDESIGN REPORT
# FOR
# ROOF RENOVATION
# OF
# RESTROOM BUILDING
# SHIPE NEIGHBORHOOD PARK
# 4400 AVENUE G
# AUSTIN, TEXAS



## PREPARED
## FOR
## CITY OF AUSTIN: DEPARTMENT OF PUBLIC WORKS
## AUSTIN, TEXAS

## PREPARED
## BY
## PRICE CONSULTING, INC.
## HOUSTON, TEXAS
**TEXAS REGISTERED ENGINEERING FIRM #F-3814**

**PCI PROJECT NO. 11362.17**
**JULY 17, 2017**

STATE OF TEXAS
KARL A. SCHAACK
70234
REGISTERED
PROFESSIONAL
7/17/17

# PREDESIGN REPORT

**CLIENT:** **CITY OF AUSTIN**
**DEPARTMENT OF PUBLIC WORKS**
**AUSTIN, TEXAS**

**DATE:** **JULY 17, 2017**

**PROJECT:** **ROOF RENOVATION & REPAIR**
**RESTROOM BUILDING**
**SHIPE NEIGHBORHOOD PARK**
**4400 AVENUE G**
**AUSTIN, TEXAS**

**PCI PROJECT NO. 11362.17**

Price Consulting, Inc. (PCI) is pleased to submit this report of our assessment of the existing roof, roof support structure, and exterior walls on the Restroom Building at Shipe Neighborhood Park located at 4400 Avenue G in Austin, Texas. This report includes our understanding of the project information, our scope of services, our findings, our recommendations for repairs, and associated budgets.

## SCOPE OF SERVICES

PCI performed a visual survey of the facility to document the type and conditions of the materials used in the construction of the roof and exterior walls, and identify items that require maintenance, repair, and/or replacement. PCI has prepared a written report summarizing our findings, our conclusions and recommendations for repairs, and budgets for the recommended scope of work.

## PROJECT BACKGROUND INFORMATION

The building consists of a log “cabin” style structure with a covered breezeway between two small enclosed spaces located at each end of the breezeway. The structure is installed on top of a concrete slab-on-grade. Restroom facilities exist in the enclosed space on the west end of the building and storage space exists in the enclosed space on the east end of the building (Photographs 1 – 6). The facility was reported to have been constructed around 1930 and is considered to be a “local” historic structure.

The structure is comprised of rustic round logs utilized for framing members and construction of the exterior walls. The structure of the breezeway consists of large full-span log beams at the ridge and intermediate supports and double-spliced log beams at the eaves. Smaller log rafters, spaced approximately 2-feet o.c., are situated perpendicular to the beams and run from ridge to eave extending approximately 18-inches beyond the eave beams. The roof decking on the breezeway is tongue-n-groove 1X3 wood planks. The framing located within the enclosed structure on the east end was comprised of traditional 2X wood members with 1X6 wood plank decking

The walls are comprised of rustic logs laid with saddle-notched corners and cementi-tious chinking between the logs. Exterior doors are made of solid boards with wood battens and iron strap hinges. Window openings consist of fixed wood louvers with insect screens and board shutters.

The roof construction consists of tongue-and-groove wood plank decking attached to the log or 2X wood rafters, organic felt underlayment, and believed to be tapered wood shingles attached to the roof deck with either staples or nails (Photographs 11 & 12). The roof is a traditional gable structure sloped in the north-south direction at approximately 6-inches/foot with dormers situated at both the east and west ends on the north and south slopes (Photographs 7 – 10). Galvanized sheet metal flashing occurs in the valleys.

## FINDINGS

The findings from our visual survey are summarized in the following paragraphs.

### Roofing

The wood shingles, in the field of the roof and along the ridges, exhibited evidence of advance weathering and severe deterioration throughout the roof (Photographs 13 - 16). The shingles were extremely brittle and had become displaced from attachment points at several locations. At one location on the South slope, the shingles were missing and the felt underlayment was exposed. (Photograph 19). At this location, the wood plank deck was deteriorated and portions of the deck had been replaced. (Photograph 20).

At several locations, the wood plank decking was deteriorated due to recurring water infiltration along eaves, valleys, and areas of deteriorated shingles. The underside of the wood deck planks was darkened and stained due to water infiltration and manifesting wood rot. (Photographs 21 - 24). Damage to the wood deck due to insect infestation (i.e. possibly termites) was also noted at several locations on the underside of the structure (Photographs 25 & 26).

The galvanized sheet metal flashing installed in the dormer valleys was corroded. Laps in adjoining sections of the valley metal were not sealed. (Photographs 17 & 18). Furthermore, the valley metal was abruptly terminated at the eave and did not extend beyond the edge of the roof.

The wood trim (fascia) located along the rake edge of the roof was missing and/or loosely attached at several locations (Photograph 29). A galvanized sheet metal edge flashing was installed along the low eaves, but was missing at several locations.

**Exterior Walls**

The logs present in the exterior walls were found to be in relatively good condition with no obvious evidence of severe deterioration. At isolated locations, the ends of logs that extended beyond the saddle joints at building corners were missing (Photographs 31 & 32). This condition could have been due to deterioration or physical damage, but was prevalent in the smaller sized logs. Small “bore holes”, presumably due to insects, were observed in several logs, but no obvious active infestation was noted. The exterior surface of logs located in the saddle joints at the base of the wall and adjacent to areas where water discharges from the valleys down to the ground exhibited obvious weathering compared to other logs.

The cementitious mortar or chinking that had been installed in the joints between logs was in poor condition with numerous areas of cracked, loose, or missing material (Photographs 33 – 38). Additionally, apparent repairs to the chinking had been performed in the past and the repair material did not match the original material in color and texture/composition (Photograph 39).

Closures comprised of either mortar or custom profiled wood were typically installed at perimeters of openings (windows/louvers, doors) in the walls (Photographs 50 & 51). At several openings, no closures were present (Photograph 52).

**Roof Support Structure**

The logs present in the existing roof structure/framing were generally 5-inches to 6-inches in diameter and were found to be in relatively good condition with no obvious evidence of severe deterioration. Probes with a sharp pointed tool were performed at various accessible locations throughout. The wood logs were found to be relatively sound and dense with minimal, if any, penetration of the probe. Small "bore holes", presumably due to insects, were observed in several logs, but no obvious active infestation was noted (Photograph 46).

An obvious sag, estimated to range approximately 2-inches to 4-inches, is present in the roof structure located over the breezeway. However, no obvious evidence of deterioration, splitting/cracking, or other distress was visible in the primary support members. Connections and splices of the framing members appeared to remain intact as well (Photographs 41 – 45). The original carbon steel fasteners used for mechanical connections/securement of the logs exhibited surface corrosion, but the corrosion does not appear to have compromised the integrity of the fasteners.

**Miscellaneous**

At several locations, soil had been "mounded up" around the base of the structure up against and partially concealing the lower courses of logs. However, upon removal of the soil at isolated select locations, the underlying logs appeared to remain in sound condition (Photograph 40).

At one location on the south elevation, a small isolated portion of a louver and shutter exhibited charring on the surface apparently due to exposure to fire, but the wood remained intact (Photograph 30)

Galvanized steel conduit containing electrical wires for lighting was mounted to the structure at several locations and exhibited corrosion (Photograph 49).

Several of the carbon steel door hinges and other similar hardware exhibited surface corrosion, but appeared to remain operational and intact and providing suitable intended function (Photograph 47 & 48).

## CONCLUSIONS AND RECOMMENDATIONS

Based on our visual survey and our experiences with similar type and age of construction, the roof was found to be in extremely poor condition and the exterior walls were in fair condition. No obvious significant or serious distress was observed in the roof support structure, and the structure appears to be in relatively fair to good condition.

PCI recommends the following general scope of restoration and repair work:

1. Remove and replace wood shingles throughout.
   ($20,000 - $25,000)
2. Remove and replace felt underlayment throughout.
   ($2,000 - $3,000)
3. Remove and replace wood plank decking throughout.
   ($10,000 - $12,000)
4. Remove and replace galvanize sheet metal valley flashings.
   ($2,000 - $3,000)
5. Remove and replace chinking in exterior walls throughout.
   ($30,000 - $35,000)
6. Replace wood trim/fascia along rake edges.
   ($1,000 - $2,000)
7. Replace deteriorated/damaged 2X wood framing.
   ($1,000 - $2,000)
8. Repair damaged/missing ends of logs at saddle corners.
   ($5,000 - $8,000)
9. Provide supplemental attachments and/or bracing at connections/splices at select locations.
   ($2,000 - $3,000)
10. Clean and prepare exposed steel hardware.
    ($1,000 - $2,000)
11. Install applicable closures at openings.
    ($2,000 - $4,000)
12. Repair/replace damaged exterior wood trim/components at isolated locations.
    ($5,000 - $8,000)
13. Remove and/or re-grade soil surrounding structure to expose logs.
    ($1,000 - $2,000)
14. Apply appropriate treatment to wood elements, as necessary.
    ($2,000 - $4,000)

Based on the scope of work, PCI would anticipate that the construction costs could be on the order of $90,000 to $115,000.

Costs presented are considered to be budgetary in nature. Actual construction costs will depend on the quantity and quality of materials used, quality and availability of Contractor, extent of work performed at one time, and time of year work is performed.

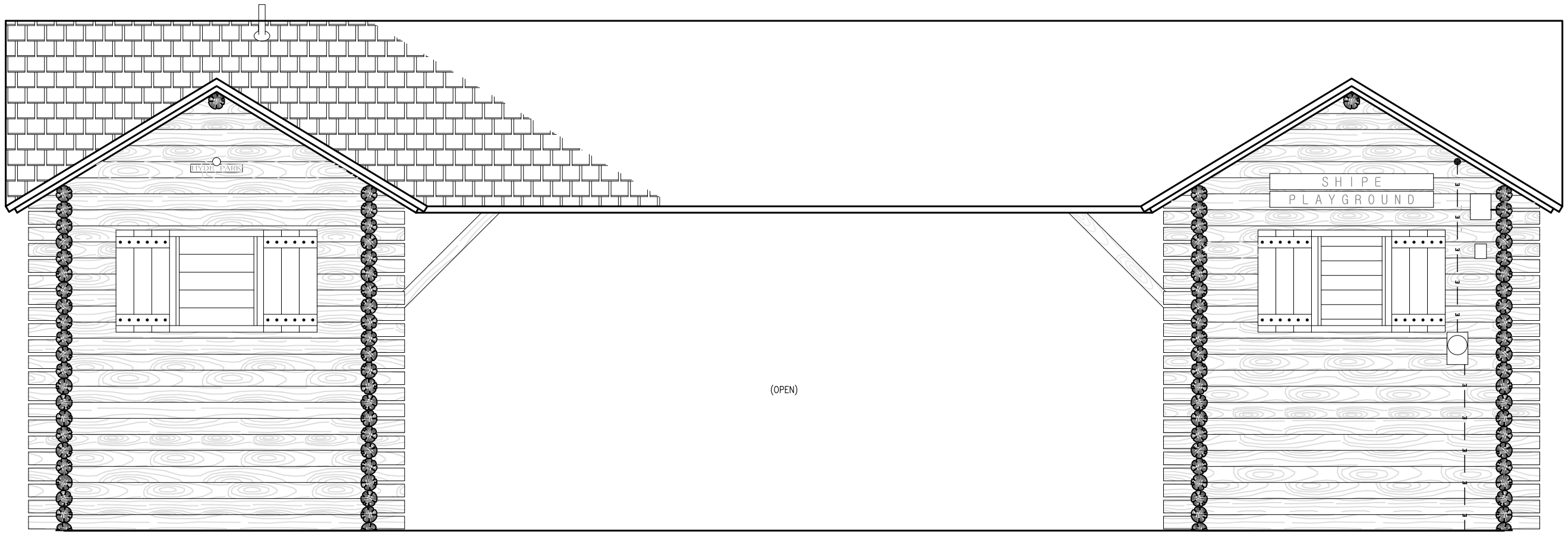
## QUALIFICATIONS OF REPORT

The information presented in this report is based on findings gathered in the field by visual methods and from information gathered during conversations with personnel associated with the project. Our opinions and recommendations are based on our limited visual observations and our experience with projects of similar type and age of construction. Actual conditions may vary from the conditions observed at specific locations. Conditions of the construction materials present in the facility will also vary with time.

**APPENDIX**

ELEVATION DRAWING

PHOTOGRAPHS 1 – 52




## 1 R3.00 EXISTING SOUTH ELEVATION: SHIPE NEIGHBORHOOD PARK - RESTROOM BUILDING

SCALE: 3/8"=1'-0" (11"x17"); 3/16"=1'-0" (22"x34")

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PRICE CONSULTING, INC.
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HOUSTON, TEXAS 77073
PHONE: (281)209-1724 FAX: (281)209-2724

PROJECT:
SHIPE NEIGHBORHOOD PARK-RESTROOM BUILDING
4400 AVENUE G
AUSTIN, TEXAS

OWNER/CLIENT:
CITY OF AUSTIN-DEPARTMENT OF PUBLIC WORKS
5505 BARTON SPRINGS RD
AUSTIN, TEXAS 78704

REVISIONS

| NO. | DATE | BY |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

ELEVATION
PCI PROJECT NO.: 11362.17
PCI FILE NAME: R3.00
SCALE: AS NOTED

DWN.BY: ESG
DATE: 07/07/17
SHEET: R3.00

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


1. VIEW OF NORTH ELEVATION


2. VIEW OF SOUTH ELEVATION


3. VIEW OF WEST ELEVATION


4. VIEW OF EAST ELEVATION

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


**5. VIEW OF INTERIOR WEST ELEVATION**


**6. VIEW OF INTERIOR EAST ELEVATION**


**7. OVERVIEW OF ROOF; WEST END FACING EAST ON NORTH SLOPE**


**8. OVERVIEW OF ROOF; WEST END FACING EAST ON SOUTH SLOPE**

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


**9. OVERVIEW OF ROOF; EAST END FACING WEST ON SOUTH SLOPE**


**10. OVERVIEW OF ROOF; EAST END FACING WEST ON NORTH SLOPE**


**11. TYPICAL WOOD SHINGLE**


**12. TYPICAL WOOD SHINGLE**

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


**13. TYPICAL VIEW OF DETERIORATED WOOD SHINGLES**


**14. TYPICAL VIEW OF DETERIORATED WOOD SHINGLES**


**15. TYPICAL VIEW OF DETERIORATED WOOD SHINGLES AT RIDGE**


**16. TYPICAL VIEW OF DETERIORATED WOOD SHINGLES**


17. TYPICAL VIEW OF CORRODED SHEET METAL AND OPEN LAP OF VALLEY FLASHING


18. TYPICAL VIEW OF CORRODED SHEET METAL AND OPEN LAP OF VALLEY FLASHING


19. MISSING SHINGLES AND EXPOSED FELT UNDERLAYMENT


20. ROTTEN DECKING IN AREA OF MISSING SHINGLES

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


**21. ROTTEN DECKING IN FIELD OF ROOF**


**22. ROTTEN DECKING AT EAVE**


**23. ROTTEN DECKING WITHIN STORAGE ROOM**


**24. ROTTEN DECKING WITHIN STORAGE ROOM**

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


**25. APPARENT TERMITE DAMAGE OF ROOF DECKING**


**26. APPARENT TERMITE DAMAGE OF ROOF DECKING**


**27. 2X FRAMING IN STORAGE ROOM**


**28. DETERIORATED 2X FRAMING IN STORAGE ROOM**

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


**29. VIEW OF MISSING FASCIA BOARD AND EXPOSED EDGES OF ROOF DECK ALONG RAKE EDGE**


**30. CHARRED PORTION OF WOODEN LOUVER SLATS AND TRIM**


**31. MISSING END OF LOG AT SADDLE-NOTCH CORNER**


**32. MISSING END OF LOG AT SADDLE-NOTCH CORNER**

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


**33. MISSING MORTAR (CHINKING) BETWEEN LOGS AND JOINTS**


**34. MISSING MORTAR (CHINKING)BETWEEN LOGS**


**35. MISSING MORTAR (CHINKING) BETWEEN LOGS AND VARYING COLORS OF MORTAR**


**36. MISSING MORTAR (CHINKING) BETWEEN LOGS**


37. MISSING MORTAR (CHINKING) BETWEEN LOGS AND VARYING COLORS OF MORTAR


38. MISSING MORTAR (CHINKING) BETWEEN LOGS AND VARYING COLORS OF MORTAR


39. TYPICAL VARYING COLORS OF MORTAR (CHINKING) BETWEEN LOGS


40. SOIL MOUNDED OVER BOTTOM COURSE OF LOGS AT SOUTHWEST CORNER

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


**41. TYPICAL FRAMING CONNECTIONS**


**42. TYPICAL CONNECTION OF 2 LOG BEAMS AT EAVE**


**43. TYPICAL SPLICE CONNECTION OF 2 LOG BEAMS AT EAVE**


**44. TYPICAL CONNECTIONS OF LOG FRAMING AND BRACING**

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


**45. TYPICAL CONNECTION OF FRAMING AT EAVE**


**46. SMALL BORE HOLE IN LOG FRAMING MEMBER**


**47. CORROSION ON DOOR HINGE**


**48. CORROSION ON DOOR HINGE AND EXPOSED FASTENERS**

# CITY OF AUSTIN
# SHIPE PARK RESTROOM BUILDING


**49. CORRODED CONDUIT**


**50. MORTAR CLOSURE AT JAMB OF DOOR OPENING**


**51. WOOD CLOSURE AT JAMB OF DOOR OPENING**


**52. MISSING CLOSURE AT JAMB OF DOOR OPENING**