



Photo 14: Mold growth on subflooring



Photo 15: Awl penetration of 3/4" in subflooring



Photo 16: Exterior soffit staining under women's locker area



Photo 17: First 3 trusses with water staining

The trusses with water staining were poked in several locations with a scratch awl to determine amount potential damage. All accessible areas tested achieved a maximum penetration of 1/8", equal to areas tested on undamaged trusses nearby.

It is recommended to close the women's locker, shower, and sauna area to the public until appropriate flooring repairs can be completed. There is a chance that portions of the flooring can give way, and someone could partially fall through the floor and into the crawlspace area. There is a minimum of 144 square feet (SF) of subfloor sheathing, 4 primary floor trusses under the areas of significant sheathing damage, 288 SF of soffit sheathing (internal and external), soffit trusses, and soffit insulation with vapor barrier that need to be replaced in this area.

2.4 Men's Lockers

This locker room includes the men's shower, toilet facilities, lockers, and sauna. Similar to the women's area, the showers, lockers, and sauna area are located behind a separate door that can be closed and secured to prevent access. Floor finishes have reached the end of their service life and damage was noted at most corners and around drains. Restroom, shower, and locker room flooring appears to be a poured epoxy system. Sauna flooring appears to be an adhesive style vinyl that has bubbled in several areas due to the heat and humidity of a sauna, followed by excessive amounts of water being used on the rocks (see photos 18-21). One area of soft flooring was found near a drain cleanout in the handicap stall, however, further investigation determined that the subfloor in this area was overcut, and water damage was not present (see photo 22). No active leaks were found during the investigation.



Photo 18: Men's locker flooring damage



Photo 19: Men's locker flooring damage near sauna



Photo 20: Men's sauna flooring bubbles



Photo 21: Men's sauna flooring at drain



Photo 22: Overcut hole near cleanout.

Review of the flooring construction within the crawlspace area showed significant water damage has occurred primarily prior to phase I repairs based on line routing through the floor. Multiple trusses showed signs of water staining, and isolated areas of subfloor sheathing were also stained. These areas were tested with the scratch awl for penetration and found to have a maximum of 1/8" penetration, satisfactory for the age of material. The soffit sheathing itself showed water staining, primarily isolated to the interior of the structure, likely from the original water damage (see photos 23 to 26).



Photo 23: Underside of men's shower area



Photo 24: Underside of men's shower area



Photo 25: Interior soffit sheathing under men's lockers



Photo 26: Water staining under men's restroom area

It is recommended to repair the finish flooring within the men's locker room and sauna with a more resilient material that can properly withstand water and the sauna heat. Damaged subflooring and overcut holes should be repaired when other repairs are made. Water stained trusses should only be replaced if the top section of the top chord is found to be severely damaged when the subflooring is removed.

2.5 Other Findings

Several non-structural items were noted during the inspection. This included a leaking pressure relief valve in the glycol loop (photo 27), several open electrical junction boxes (photos 28 and 29), an apparent active leak behind the bleachers (photo 30), and an exterior penetration of the soffit framing along the support framing at Grid C2 (photos 31 and 32). The active leak location and the soffit penetration were discussed with facility personnel prior to departure.



Photo 27: Leaking pressure relief in glycol loop



Photo 28: Open junction box in ceiling framing



Photo 29: Open junction boxes in crawlspace area



Photo 30: Active wet area behind bleachers



Photo 31: Grid C2 framing - flash on



Photo 32: Grid C2 framing without flash
Note: white area is exterior lighting

3.0 Recommendations

1. Weight room and storage area – replace the racquetball hardwood flooring with appropriate weight room flooring materials. Repair the subflooring as required. Distribute loads to prevent exceeding 100 psf live load.
2. Women's locker area – close the shower, lockers, and sauna area to public use. Limit access to staff only until the floor has been repaired. Structurally, a minimum of 4 floor trusses (if top chord rot is found after flooring sheathing is

removed), 144 SF of subfloor sheathing, 288 SF of soffit sheathing (internal and external), soffit trusses, and soffit insulation with vapor barrier needs to be replaced in addition to the architectural flooring in the entire restroom area, including the sauna.

3. Men's locker area – replace the architectural flooring in the entire restroom area, including the sauna. Provide subflooring repairs as necessary.
4. Properly cover the open electrical junction boxes and terminate any abandoned wires.
5. Provide spray foam on the bottom of the soffit at each support penetration to prevent insect or vermin infiltration into the facility.
6. Repair glycol loop in accordance with mechanical engineering recommendations.

Assembled by:

TRIDENT ENGINEERING AND INSPECTION



Billy Brookins (Aug 2, 2022 15:03 AKDT)

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Piuraagvik Final Report

Final Audit Report

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