

July 7, 2025

Mr. Nate Tillis
Racine Wastewater Utility
800 Center St, Room 227
Racine, Wisconsin 53403

Subject: Wastewater Treatment Plan – Main Building Roof Replacement Project
-Roof Areas 5, 6, 7, 9 & 10 (existing tile roofs)
Racine, WI
IRS Job No. 18548

Dear Mr. Tillis:

In accordance with Phase 1 of our proposal for the above referenced project, please find below a summary of existing construction, recommended roof replacement options, and estimated construction cost. Please refer to the attached roof plan and photos to provide you with a visual reference of the items discussed.

Existing Construction

Within the applicable roof areas, there are two (2) different roof structure types:

- Roof Areas 5, 6, 9, & 10
 - Heavy timber wood trusses with a wood plank roof deck (above existing ceiling tiles)



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- Roof Area 7
 - Steel trusses with precast concrete planks (unique construction that limits options)



Atop the roof deck is a heavy underlayment, followed by 4.5" wood stringers and the existing clay barrel-tile roof system.



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Suggested Roof Replacement Options

Two (2) suggested roof replacement options are provided below for your consideration. Suitable options are determined based upon parameters such as existing construction, building use, and anticipated service life. Also included is our opinion of likely cost for each option.

Option #1: In-Kind – Barrel-Tile Roof System (\$450,000)

The existing barrel-tile roof system would be removed down to the existing roof deck and properly disposed of off-site. Atop the cleaned and prepared roof deck, a new underlayment would be installed, followed by a new clay barrel-tile roof system (matching existing as close as possible)

Considerations: This option is presented as an in-kind replacement: reinstalling a new tile roof system. This would provide a new roof system that matches the existing aesthetics and functionality. It costs more upfront, but provides the longest service life (up to 75-100 years). The existing roof is +/-95 years old and was designed for a barrel-tile roof, so it is expected that a new barrel-tile roof would perform just as well and provide the lowest long-term life-cycle costs.

**Note: lead-time for tiles are very long. (+/- 50 weeks to match the existing multi-color bell tiles)
(+/- 20 weeks to switch to a more common single-color Spanish-S style tile)*

Option #2: Asphalt Shingles (\$225,000)

The existing barrel-tile roof system would be removed down to the existing roof deck and properly disposed of off-site. On Roof Area 7, a new wood substrate would be constructed over the existing concrete roof deck to allow for shingle installation in this area. Atop the cleaned and prepared roof deck, a synthetic underlayment would be installed, followed by architectural laminated asphalt shingles.

Considerations: This option is presented as lower up-front cost option; however, it does present some drawbacks. This would change the aesthetics of the facility overall (shingles instead of tiles) and would have a lower service life compared to Option #1. We would expect the shingle to last +/- 25-30 years.

Auxiliary Optional Item

1. Premium Shingles

The cost estimate provided above for Option #2 represents installation of regular architectural laminated asphalt shingles, with an estimated 25-30 year design service life. Alternatively, Ownership could elect to install premium lifetime designer shingles. Several aesthetic options are available (e.g. slate look-alike) and these typically have a design service life of +/- 40 years. (it is common to install premium shingles in place of an existing tile roof, with several different styles/options)

We would estimate a cost increase of +/- \$40,000 to install premium shingles with Option #2.

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Considerations:

Other options were considered as well (metal panels, green roof); however, given the unique existing construction; these options are not recommended. A green-roof is not feasible without significant structural changes and re-design of the building. A metal panel roof would present detailing challenges, risk of snow/ice falling on the sidewalk, and installation challenges that would likely result in a cost similar to the tile roof (but with a much lower service life). As such, these options are not recommended.

Overall, given the proven track record of the existing 95 year-old roof, considering life-cycle costs, we believe that Option #1 (tile roof) would be most cost-effective (long-term). However, Option #2 (shingles) would certainly be appropriate as well, with lower-upfront costs, but a shorter service life. (if Option #2 is selected, we recommend premium shingles)

Notes regarding costs estimates:

- With projects such as this one, where a majority of the cost is contractor's labor, bids received may vary greatly as contractor's labor estimates tend to vary widely, which makes it difficult to accurately estimate construction costs. While the estimates above represent our opinion of probable costs, actual bids received during the competitive bidding process will likely vary.
- Estimated costs within this letter do not include consultant fees or construction allowances.

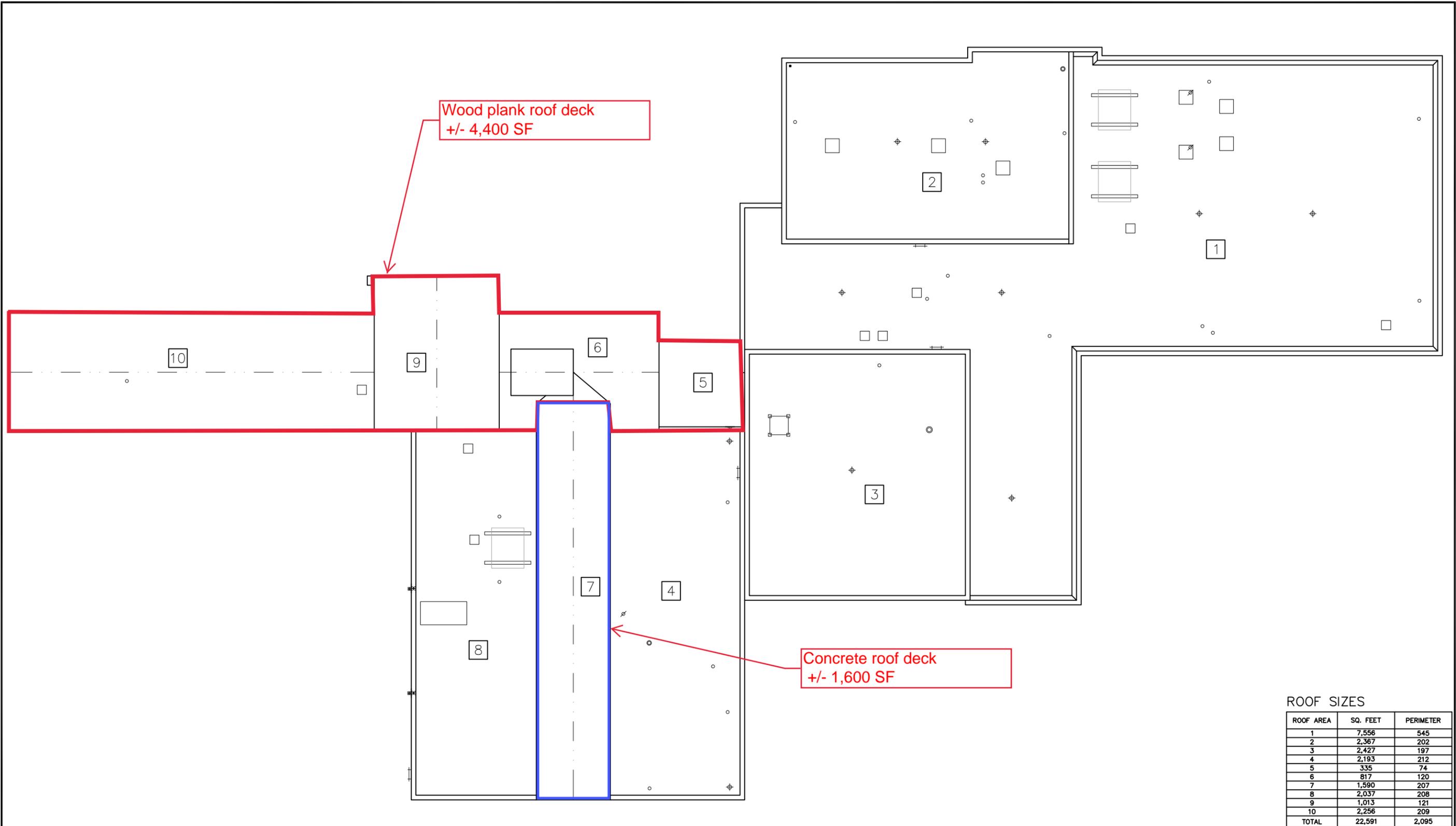
Please contact me to confirm your understanding of the items discussed in this letter. I am happy to discuss further and answer any questions you may have. After review, should you decide to move forward with the roof replacement, I will be happy to provide a proposal for completing system design and project administration (Phases 2 & 3).

If you should have any questions regarding the above information, please feel free to contact me.

Sincerely yours,
INDUSTRIAL ROOFING SERVICES, INC.

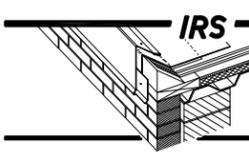
Dave Angove

Dave Angove
Project Manager



ROOF SIZES

ROOF AREA	SQ. FEET	PERIMETER
1	7,556	545
2	2,367	202
3	2,427	197
4	2,193	212
5	335	74
6	817	120
7	1,590	207
8	2,037	208
9	1,013	121
10	2,256	209
TOTAL	22,591	2,095



INDUSTRIAL ROOFING SERVICES, INC.
 13000 WEST SILVER SPRING DRIVE – BUTLER, WI 53007
 PHONE: (800) 236-3477 / (262) 432-0500 FAX: (262) 432-0504

PROJECT NAME:
 CITY RACINE- WASTEWATER
 WASTEWATER ADMINSTRATION AND GARAGE
 2101 WISCONSIN AVE, RACINE, WI

TITLE:
 COMPREHENSIVE ROOF SURVEY

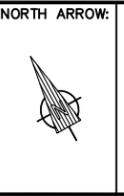
DRAWN BY:
 KAS

DATE:
 9/20/19

SITE ID NO.:
 465

SCALE:
 N.T.S.

DRAWING TYPE:
 ROOF PLAN



- KEY:
- ⊕ - ROOF DRAIN
 - ⊕ - THROUGH-WALL SCUPPER
 - - GUTTER EDGE
 - - CURBED OPENING
 - ☒ - ROOF SCUTTLE
 - ☒ - SKYLIGHT
 - ☒ - CURBED PIPE VENT
 - ▨ - UNUSED
 - ▨ - CHIMNEY
 - ⌈ - ROOF LADDER
 - ⊙ - PIPE VENT
 - - SOIL STACK
 - ∅ - PIPE PENETRATION
 - - PITCH PAN
 - - EXPANSION JOINT
 - - RIDGE TRANSITION
 - - VALLEY/HIP TRANSITION
 - - SCREEN WALL