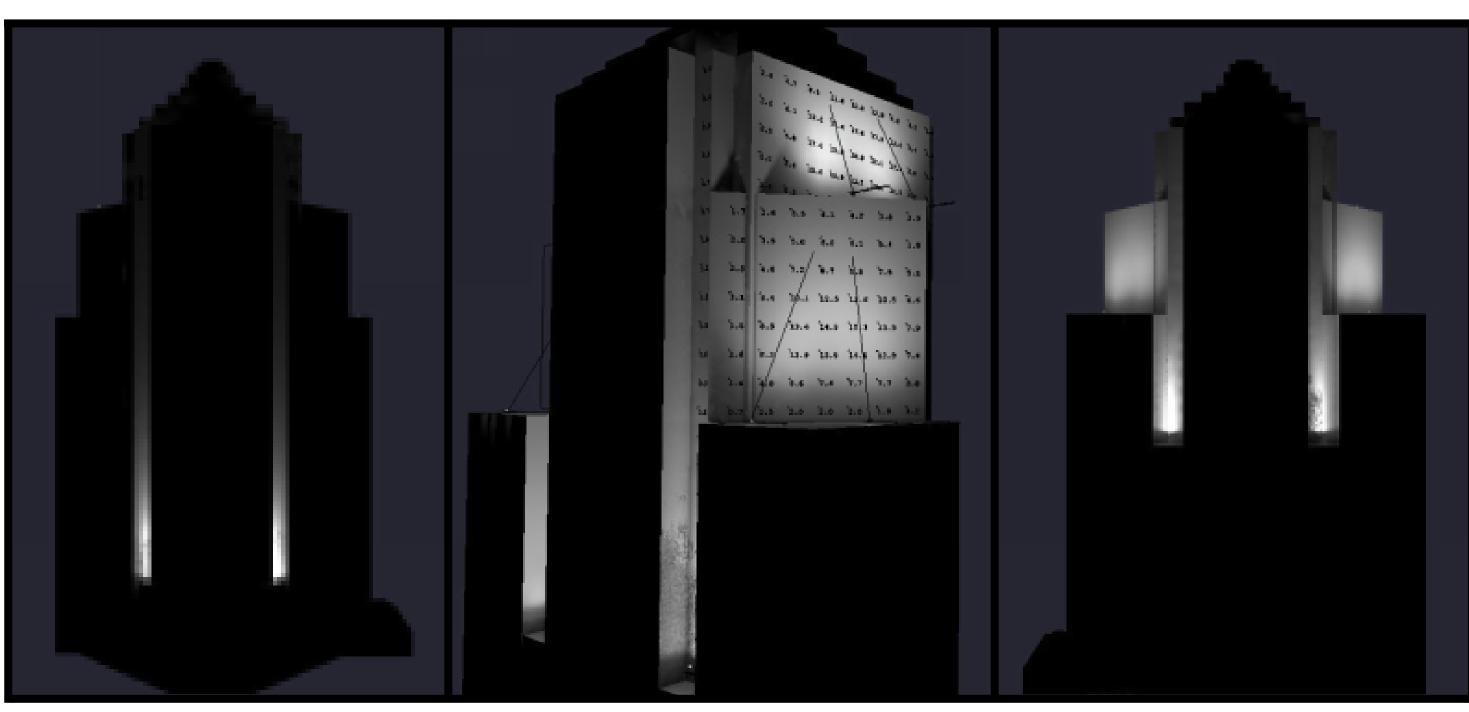


# **Reducing Carbon Emissions for SPS Tower**

# INTRODUCTION

SPS Tower is located in the heart of Minneapolis, Minnesota. The building is currently operated and maintained by Transwestern, a real estate management company. After contacting the in-house building engineers, they agreed to partner with the Carbon Reduction Challenge for the Summer of 2019. The ultimate proposal includes a redesign and replacement of the building's exterior lighting. Exchanging the existing flood lights for LED equivalents will ultimately save money and reduce the building's carbon footprint. The long term goal includes a complete replacement of the additional exterior light fixtures with color changing LED's to give the building a more complex aesthetic touch.

# **PROPOSED LIGHTING DESIGN**



### **GOALS AND INITITATIVES**

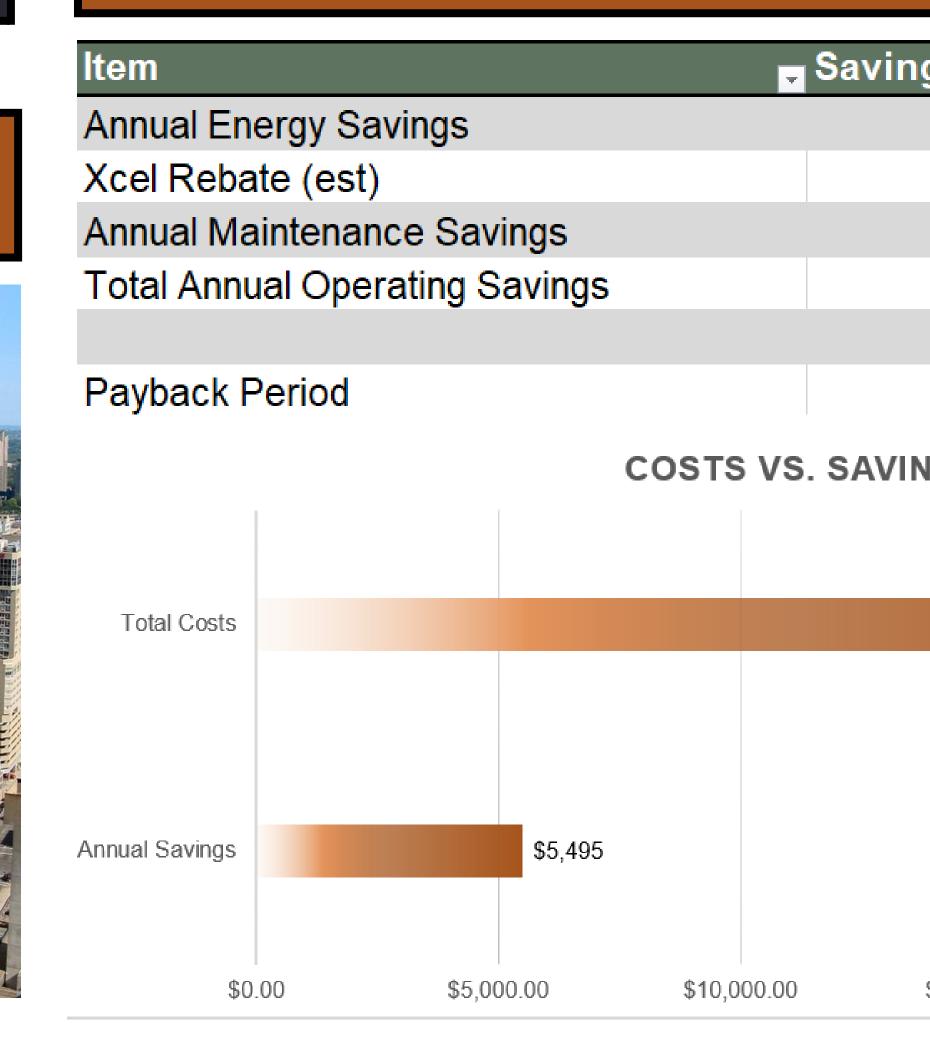
**GOAL:** To reduce the carbon emissions of the building by installing higher efficiency LED flood lights on the exterior of the building.

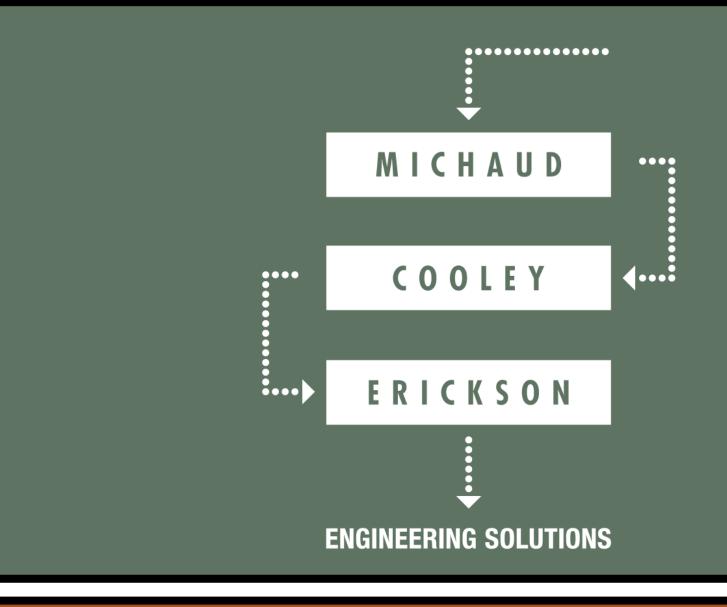
**DESIGN PARAMETERS:** (i) Achieve a payback period of less than three years. (ii) The new design must be equivalent to or improve upon the existing lighting.



Nic Fite, Bachelors of Electrical Engineering, Georgia Tech Partners: Transwestern; Bill Schouviller, Chief Engineer; Bob Treager, VP, General Manager Michaud Cooley Erickson; Lisa Chaput, Lighting Designer; Michelle Matke, Advisor

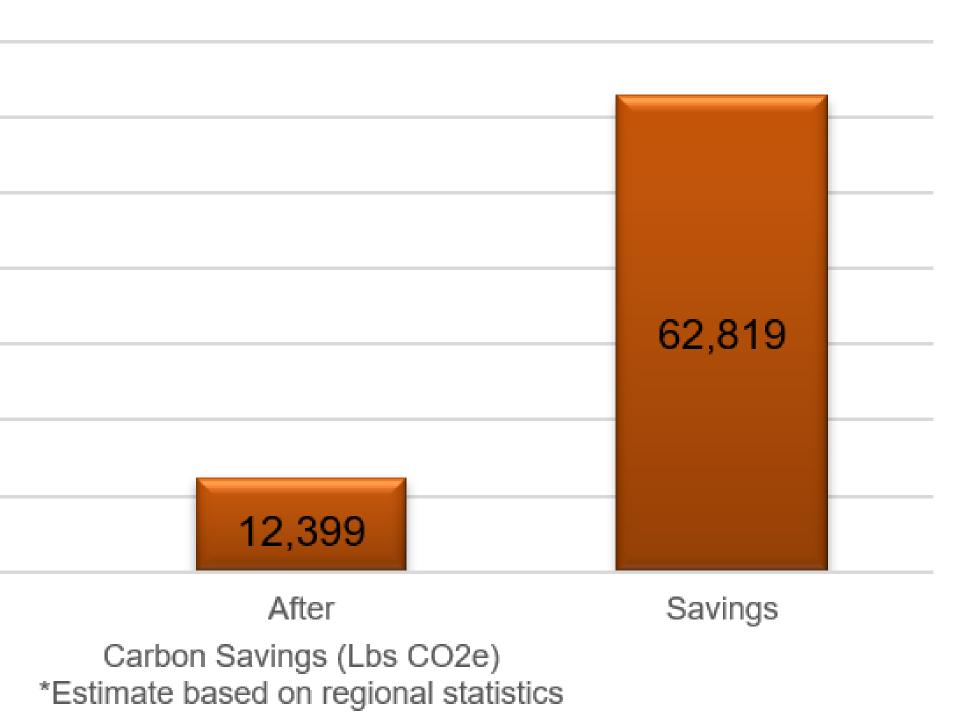
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500W LED		4	\$2,233.00	\$8,932	70,000 —		_
300W LED		8	\$871.00	\$6,968	60,000 —		
Labor		N/A	N/A	\$6,500	50,000		
				+ - ,			
Total				\$22,400	40,000	75,218	
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# **AL CARBON SAVINGS**

# Carbon Savings



# WHAT'S NEXT?

resenting the final project proposal to the ement team, they agreed to include this ng fiscal year budget. After the requested roved by the owners of the property, the egin. By the end of next year, the hope is to etely installed and functional.

e lights addressed in this proposal are just a ighting on the building. There are ercury vapor light fixtures that could be uivalents.

### NOWLEDGEMENTS

vant to thank Dr. Cobb and Dr. Tolktay from support and guidance. Your council is like to thank Lisa Chaput and Michelle neir contributions to the project. I am thankful nerously volunteered to help execute the you to the management team within the tance throughout the summer.

.gov/sites/production/files/2018-02/documents/egrid2016\_summarytables.pdf based on average determined by building management.