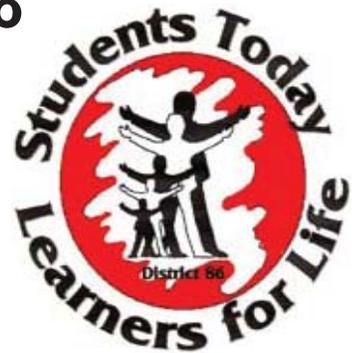


# Case Study

## Joliet Public Schools - District 86

- **Location:**  
Joliet, IL
- **Profile:**  
21-Building School District
- **Project:**  
3-Year Program  
3.5 Million Capital Roof Replacement, Restoration  
and Maintenance Program



**StructureTec® Group**

# Joliet Public Schools District 86

*“I want to leave a responsible legacy for the district.”*

*- Wes Russell*

Joliet Public Schools District 86 covers 26.4 square miles in Joliet, Illinois. The District is made up of 15 Elementary Schools, 4 Junior High Schools, 1 Early Childhood Center and 1 Alternative School.

One challenge for any school district is being able to efficiently and effectively manage building projects within the budget provided by the taxpayers and appropriated by the school board.

This responsibility must be implemented with a focus on safety for all users of the district’s school buildings.

Joliet Public Schools is no different. Their buildings had been experiencing leaks due to years of deferred maintenance. It became difficult to manage the maintenance and leak repairs, which were completed solely on an emergency basis. This reactive approach was costing the District money and would cost even more over time.

Joliet Public Schools’ Wes Russell, Assistant Superintendent for Business & Financial Services and Darryl Duncan, Manager of Building Support Services were introduced to StructureTec through industry organizations. Until this point, the District had been working with a local architect to manage the District’s plans and projects. StructureTec showed Wes and Darryl a plan of how they could work alongside the District as experts in weatherproofing the building envelope.

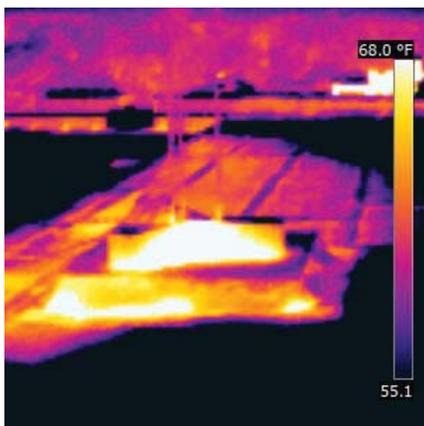


*Wes Russell reviewing final reports*

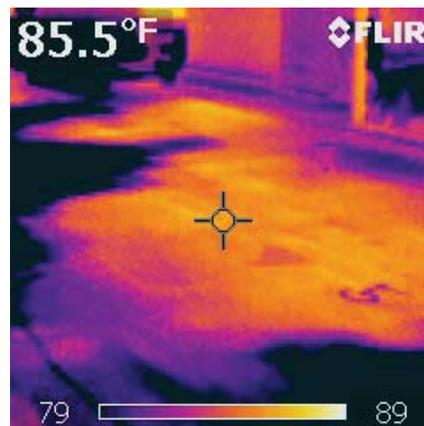
## *Program - Year 1*

StructureTec revealed to Joliet Public Schools how a significant savings would be achieved by putting together a Long-Range Asset Management Program. This custom program assists with managing and budgeting for capital and maintenance based on accurate condition analysis over a period of time. All assets needed to be evaluated, inventoried and rated. StructureTec accomplished this for Joliet Public Schools by utilizing their Data Management Services<sub>SM</sub> (DMS) Team. The team evaluated every roof area of the district’s buildings. A

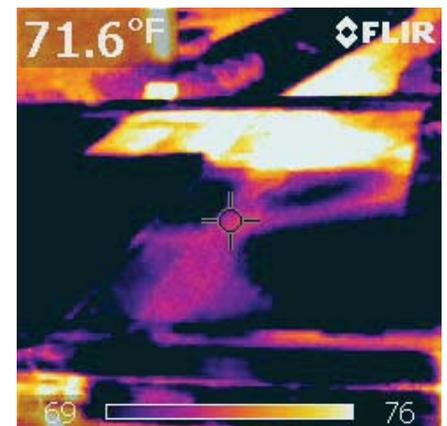
### *StructureScan® infrared survey identifying wet insulation*



*Farragut Elementary*



*Cunningham Elementary*



*Washington Junior High*

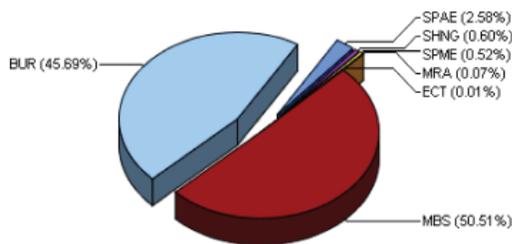
StructureScan<sup>®</sup> infrared survey was also performed on each area to supplement the visual evaluation. The District's roof types were a mixture of Metal Roof Assembly (MRA), Modified Bitumen, Single Ply, Built-up (BUR) and EPDM. Each area was given a Roof Condition Index rating based on the condition. The DMS team found that 40% of the roof areas were in good condition, 32% were in fair condition, 18% were in poor condition and 10% were in very poor condition. The DMS Team was then able to prioritize and make proactive recommendations. For Joliet Public Schools District 86, a 3-year, 3.5 million dollar roof replacement, restoration and maintenance program was developed for the 21 school buildings.

After the Long-Range Asset Management Program was established, emphasis was placed on strategic repairs. Construction Services Group<sup>SM</sup> (CSG), a subsidiary of StructureTec, was contracted to perform maintenance for all the schools and provided emergency leak response service.

## Joliet Public Schools District 86 Overview of Long-Range Asset Management Program

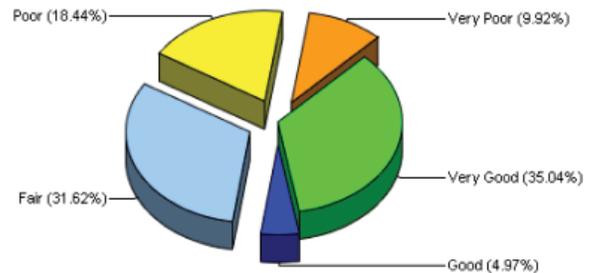
### Composite of Roof Types

Roof Code	Roof Type Description	Estimated Area (sf)	Percentage of Total
BUR	Built-Up Roof	444,639	45.69%
ECT	Exposed Concrete	135	0.01%
MBS	Modified Bituminous Roofing SEBS	491,583	50.51%
MRA	Metal Roof Assembly	700	0.07%
SHNG	Shingle	5,870	0.60%
SPAE	Single Ply - Adhered EPDM	25,151	2.58%
SPME	Single Ply - Mechanically Attached EPDM	5,070	0.52%
Total Estimated Area (sf)		973,148	100%



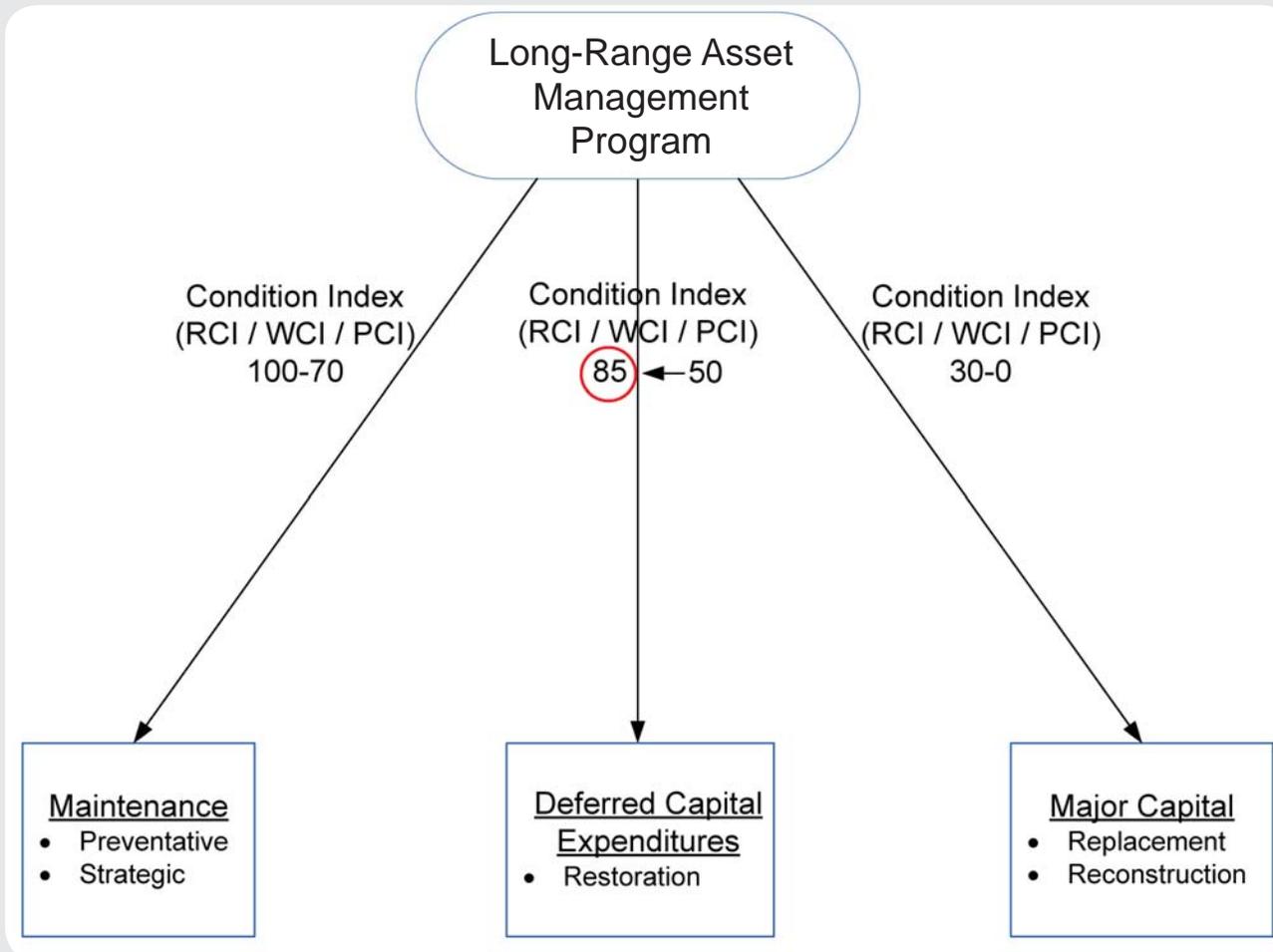
### Roof Condition Index

Roof Condition Index RCI	Estimated Area (sf)	Percentage of Total	
85	Very Good	341,038	35.04%
70	Good	48,364	4.97%
50	Fair	307,752	31.62%
30	Poor	179,459	18.44%
15	Very Poor	96,535	9.92%
Total Estimated Area (sf)		973,148	100%



### Budget Summary

Roof Replacement	Total Square Footage - 275,994	Budget - \$2,060,850
Roof Restoration	Total Square Footage - 98,896	Budget - \$ 295,415
Strategic Repairs	Total Square Footage - 258,912	Budget - \$ 106,700



A Long-Range Asset Management Program based on the condition indices allows for prioritization of projects and strategic allocation of capital and maintenance budgets, maximizing Return On Investment (ROI).

*“There is no doubt in my mind that we provided the tax payers with long term value.”*

*- Wes Russell*



*Wes Russell and Darryl Duncan reviewing final reports with StructureTec representatives*

## Program - Year 2

In year two of the program, Major Capital Roof Replacements and Building Envelope Restoration projects were completed at six schools.

Detailed designs and specifications were prepared, which allowed for a competitive bid process assuring the District received the most competitive pricing.



Woodland Elementary



Marshall Elementary



Hufford Junior High



Pershing Elementary

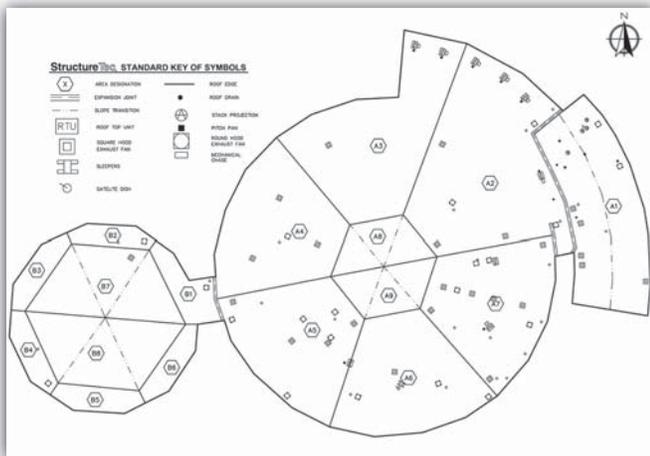


Gompers Junior High

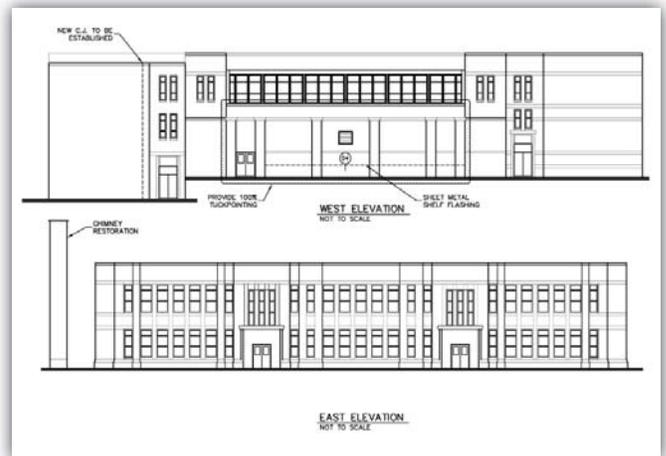


Forest Park Individual Education

### Examples of plans from the specifications utilized to obtain competitive bids



Dirksen Junior High roof plan schematic



Marshall Elementary elevation drawing

## Program - Year 3

In year three of the program, Major Capital Roof Replacements were completed at three schools.



*Dirksen Junior High  
- After Roof Replacement*



*Washington Junior High  
- After Roof Replacement*



*Keith Elementary  
- After Roof Replacement*

The highlight in year three was the completion of Roof Restoration projects at four schools. The roofs that were restored gained another 15 years of service life for only 20% the cost of a full replacement.

### *Culbertson Elementary*



*Before*



*After Roof Restoration*

### *Washington Junior High*



*Before*



*After Roof Restoration*

*“Roof Restoration is a process that can double the life of an existing roof system for less than 25% the cost of full replacement. That can be a huge impact for any school district.”*

*- Jeffrey Brittan  
President/CEO  
StructureTec*

*Before*

*Marycrest Early Childhood Center  
- After Roof Restoration*

*Before*

*Cunningham Elementary  
- After Roof Restoration*

## Conclusion

The program for Joliet Public Schools District 86 turned out to be just what they needed to effectively manage their building projects. There were a few challenges that Wes and Darryl faced while they were trying to implement this program. The biggest challenge was trying to secure funding and approval. They knew they couldn't just "band-aid" symptoms any longer, and that in order to achieve their objective for extended building life, they needed to approach it right the first time around. Because the money comes from the taxpayers of the community, they wanted to be fiscally responsible. With the assistance of StructureTec, Wes was able to validate the importance of the program and obtain funding approval. Joliet Public Schools was fortunate enough to secure the capital money to invest in this building program so they did not need to seek a bond issue.

Timing to get the funds appropriated was another challenge. Once the importance of the investment was recognized and the priorities shifted, they were able to get the approval needed to start the program.

*"StructureTec's program allowed me to focus on other priorities and still accomplish the district's objectives."*

*- Darryl Duncan*



*Strategic planning between  
Joliet Public Schools and StructureTec*

By prioritizing their portfolio, Wes and Darryl were able to save the District 1.2 million dollars. Wes stated, "I want to leave a responsible legacy for the District." He also added, "There is no doubt in my mind that we provided the tax payers with long term value." Darryl stated, "StructureTec's program allowed me to focus on other priorities and still accomplish the district's objectives."

All roof areas are now similar in material types and have an increased service life. The District is realizing a decrease in maintenance and leak calls.

StructureTec provided the best solutions and created peace of mind for Joliet Public Schools. The buildings are now watertight and weatherproofed, breathing years of life back into the buildings. ■



## Solutions:

- ***Prioritization***

Assessed the District's roof and building envelope portfolio and developed a Long Range Asset Management Program based on actual conditions, **allowing for proper allocation of funds.**

- ***Cost Reduction***

Invested strategically in the roofs that required replacement or restoration rather than continued high-dollar maintenance spend. Service Life Engineering provided the best solutions for the new roof systems. Competitive bidding and high-quality restorative systems ensured cost reduction and lowest life cycle cost. **A savings of 1.2 million dollars was realized.**

- ***Sustainability***

Shifting from a reactive approach to a very proactive management style and making the right investments allowed the District to **realize the greatest impact for Return On Investment (ROI).**

**StructureTec® Group**

*Solutions for the Built Environment*

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