

# PENN STATE UNIVERSITY INTRAMURAL BUILDING: PHASE 3



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## PRESENTATION OVERVIEW

### PROJECT OVERVIEW

#### ANALYSIS 1: ALTERNATE ROOFING SYSTEM ANALYSIS

#### STRUCTURAL BREADTH

#### ANALYSIS 2: MODULARIZED EXTERIOR WALL ANALYSIS

#### ANALYSIS 3: ALTERNATE MECHANICAL SYSTEM ANALYSIS

#### ANALYSIS 4: SUB CONTRACTORS AND IPD PROJECTS

#### FINAL RECOMMENDATIONS

#### ACKNOWLEDGEMENTS

## ANALYSIS ONE: ALTERNATE ROOFING SYSTEM ANALYSIS

### Current System: Modified Bitumen Roofing

#### Summary of System:

- Middle of the road Install Time
- Middle of the road Life Span
- Reliant on Roofer Experience for Installation
- Easy to Repair



## OPTIONS

### 1. TPO



### 2. EDPM



### 3. BUR



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## COST EVALUATION

PSU IM Phase III Roof Cost Comparison			
Roof Type	Cost	Difference	Percentage
Modified Bitumen	\$ 263,098.17	0	0%
EDPM	\$ 166,413.14	\$96,685.03	37%
TPO	\$ 177,327.56	\$85,770.61	33%
Built-Up Roofing	\$ 304,001.90	\$40,900.74	0%

## COST SUMMARY

EDPM roofing saves a total of \$96,000 (37% savings)

TPO roofing saves a total of \$85,000 (33% savings)

Built Up roofing did not save any money

Both TPO and EDPM are potential roofing systems that will have monetary savings



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## **STRUCTURAL BREADTH**

### **FUTURE REROOFING OPTION STRUCTURAL ANALYSIS**

Reroofing is a common practice and installs new roofing system over existing system

Reasoning:

- Often less expensive then complete replacement
- Protects valuable building Assets by not exposing building
- No delay to day to day operations
- Less future problems

## **THINGS TO CONSIDER**

- Weight of new system on existing structure
- Current status of Existing roof
- Cost Considerations
- Surrounding Area

