

Economic Outlook Task Force Findings **DRAFT**

Public Sector Consultants

October 12, 2022

Executive Summary

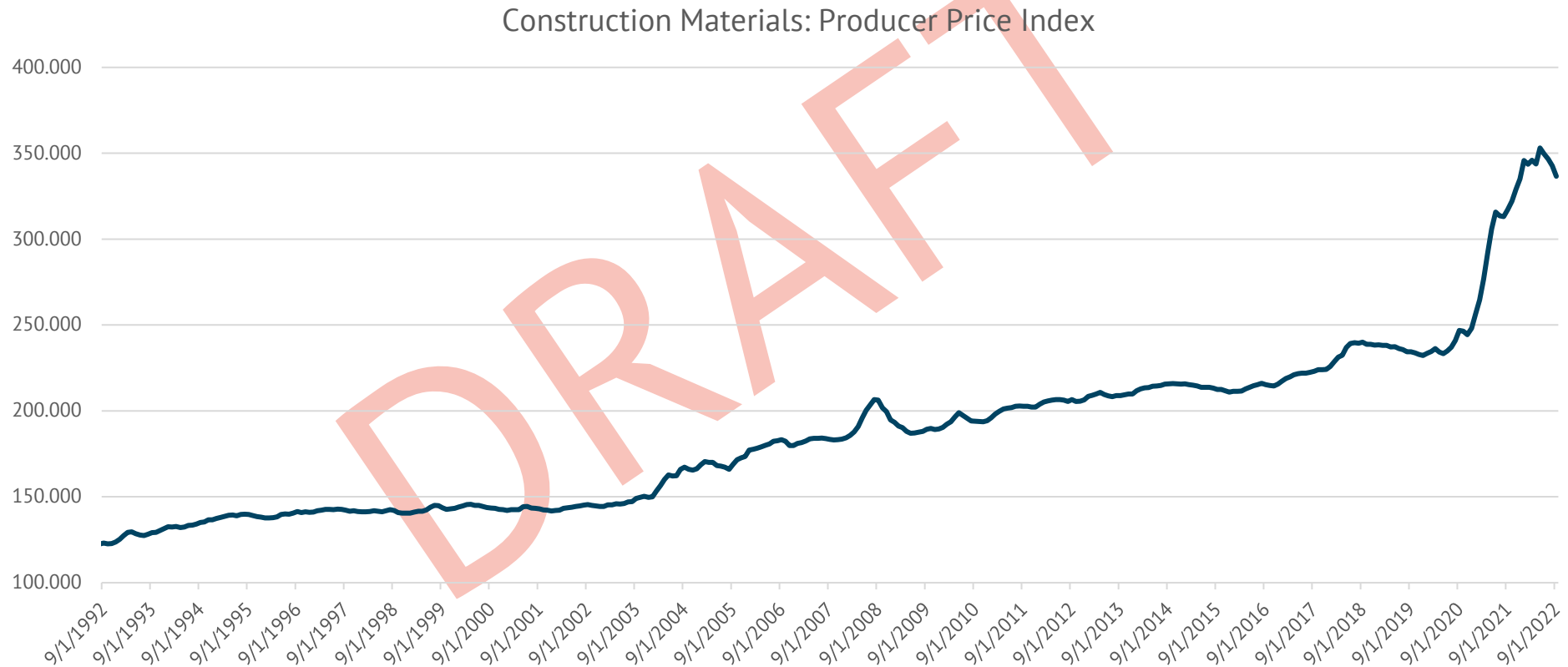
- A rare combination of supply constraints and sharp demand increases have driven unprecedented cost increases (both **capital** and **operating** expenses).
 - Ex. Since early 2021, steel is up 6 percent, electrical equipment 29 percent, and chlorine 80 percent
- Great Lakes Water Authority (GLWA) is not exempt from these national trends and faces difficult choices (e.g., find offsetting efficiencies, delay projects/reduce scope, or increase rates)
- In response, GLWA formed an Economic Outlook Task Force (EOTF) to analyze current trends, forecast future price increases, and offer mitigation strategies.
- This report offers both short- and longer-term cost pressure mitigation strategies addressing forecasting, budgeting, and vendor/contract terms

Executive Summary (cont.)

- After years of below 2 percent annual inflation over the past decade, it reached 4.7 in 2021.
- Under the ETOF's base forecast, inflation continues to rise averaging 6.7 percent in 2022, before falling to 3.6 percent in 2023, and averaging around 2.5 percent into the future.
 - In a pessimistic scenario, the recent signs of commodity price softening leads to lower inflation, but the rate of change stays higher and lasts longer than the base case.
 - In the optimistic case, a weaker economy combined with reduced supply chain stress could lead to inflation returning to target levels by late 2023, therefore reducing cost pressures.
- In addition to commodity prices and supply chain disruptions, labor shortages and general inflation are causing compensation costs to rise.
 - While the impact on GLWA will be muted by existing labor contracts, it does mean that GLWA capital costs tend to rise slower than general inflation but also fall more gradually.

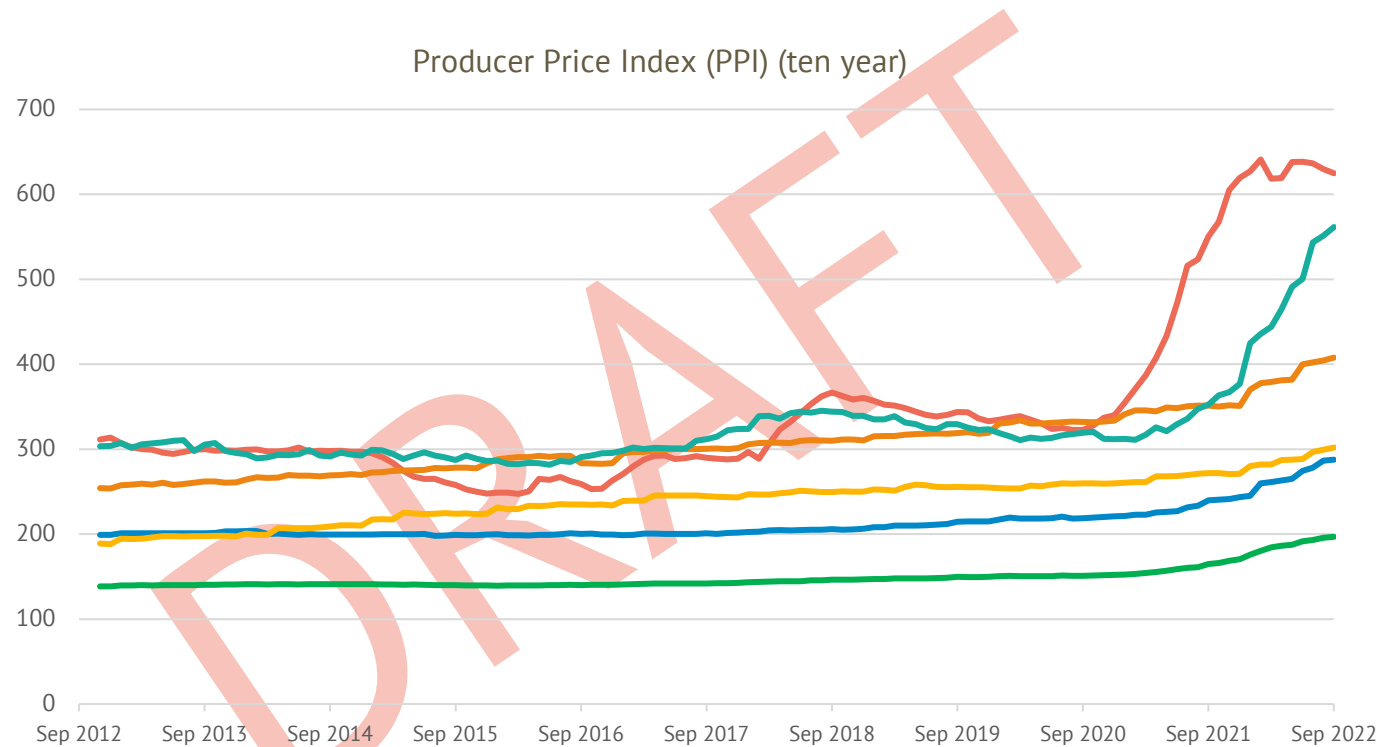
Forecasts

Construction Materials Cost Pressures Have Increased Dramatically Since 2019



Materials Cost

Material cost pressures have jumped since mid-2021, but show recent signs of slowing



Percent Change	Electrical Switch Gear/Board	Iron and Steel Pipes and Tubes	Cement	Elect Equipment	Aggregates	Chlorine
Increase since Jan 21	30%	76%	16%	29%	20%	80%
Increase since Jan 22	17%	0%	8%	12%	10%	32%



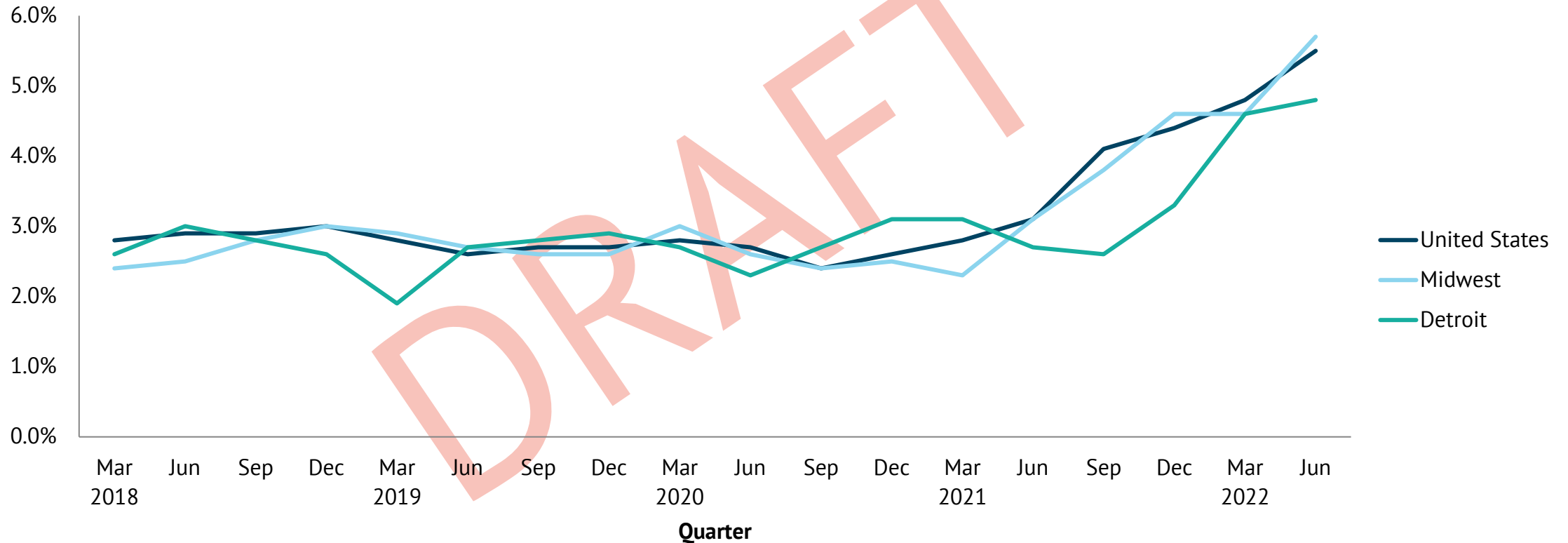
Source: Bureau of Labor Statistics, Producer Price Index



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Wages Are Increasing Steadily

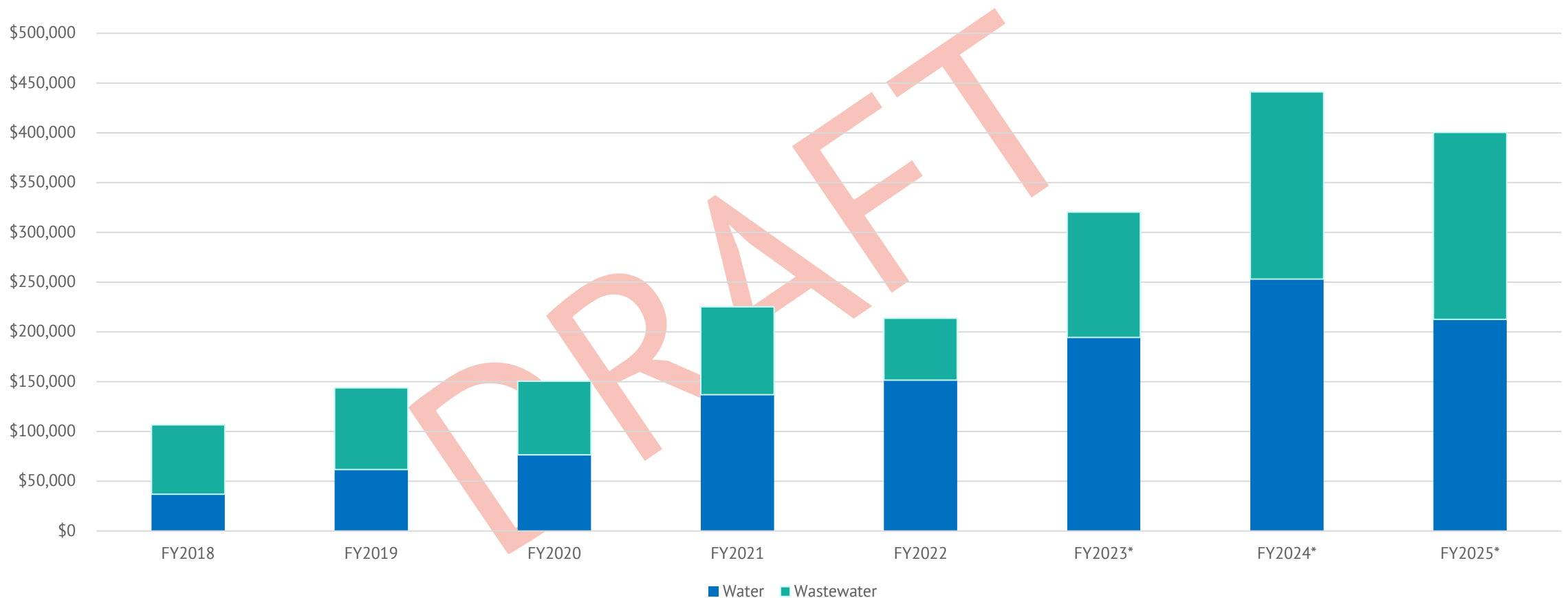
Total Compensation Percent Change: United States, Midwest, and Detroit



Note: This data will be updated when Q3 data is released
Source: Employment Cost Index, Bureau of Labor Statistics (BLS)



GLWA Capital Spending Is Projected to Increase



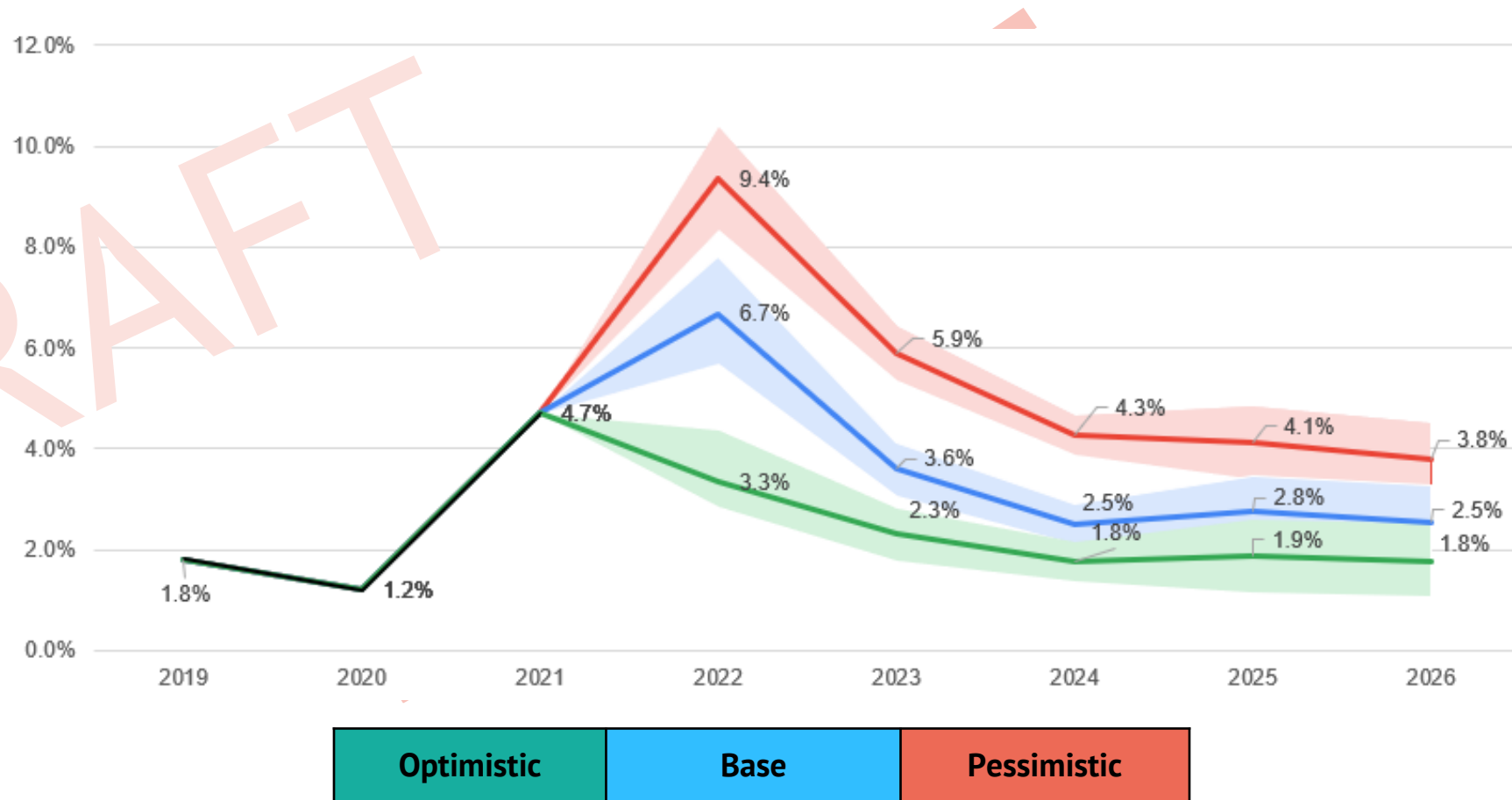
Cost Increases for a Sample of GLWA Capital Projects

Project	Previous Project Cost	Updated Project Cost	Percent Change
Project A	\$75,028,249	\$95,600,000	27%
Project B	\$94,078,129	\$98,000,000	4%
Project C	\$74,634,000	\$74,100,000	-1%
Project D	\$41,231,000	\$58,300,000	41%
Project E	\$55,074,733	\$75,000,000	36%
Project F	\$69,560,483	\$94,820,756	36%

What Might Produce Our Projected Base and Alternative Scenarios?

Base	Optimistic	Pessimistic
Supply chain constraints		
<ul style="list-style-type: none"> Chinese and other COVID-related lockdowns recede War in Ukraine and associated sanctions end in 2023 	<ul style="list-style-type: none"> Global and national supply chain issues ease more quickly than analysts project 	<ul style="list-style-type: none"> New COVID strain sees continuation of supply constraints Energy prices remain high or increase because of international conflict
Macro-economic conditions		
<ul style="list-style-type: none"> FED action has blunted inflation, which returns to 2–3 percent by 2024/25 Technical recession with relatively tight labor market, but commodity prices decrease through 2022/23 	<ul style="list-style-type: none"> Summer 2022 represents peak inflation and it declines more dramatically than expected Continued FED action on interest rates in a more stable labor market Infrastructure cost pressure declines as more entities push out spending 	<ul style="list-style-type: none"> Current FED action is ineffective at slowing inflation Commodity price trends reverse with continued demand and major persistent supply constraints Wages continue to increase at pace and become locked into contracts
Construction-specific factors		
<ul style="list-style-type: none"> Infrastructure demand remains through 2025 Bid prices remain high in 2022/23, but fall to meet costs in 2024 	<ul style="list-style-type: none"> With wages stabilizing or declining in other sectors and reduced infrastructure demand, contractors staff projects more easily 	<ul style="list-style-type: none"> Continued pressure on construction labor market and increasing prices resulting from continued inflation in commodity prices

Southeast Michigan Inflation Forecast (five year)



Source: PSC



Benchmarking Peer Utilities and Southeast Michigan Organizations

Benchmarking Interviews

- Interviews and roundtable discussions to validate the economic data and learn how others were responding
 - Eight peer utilities
 - Three major SE MI construction firms
 - Financial and procurement officers from Wayne, Oakland, Macomb counties and the City of Detroit
 - DTE capital project and supply chain managers
- Three main questions
 - What cost and supply chain pressures are they experiencing?
 - How long do they see it lasting?
 - What adjustments are they making as a result?

GLWA is Not Alone in What It is Experiencing

- Commodity price increases and supply chain issues are impacting everyone, regardless of region
 - Chemicals, supplies, and fuel have seen 25-40 percent line-item increases
 - Vendors are unwilling to hold prices and looking for ways to reduce risk
 - Estimates and bids for new projects are higher by wide and varying margins
 - Biggest increases are when supply chain issues and competition for skilled trades intersect
- Labor shortages – experienced staff leaving the industry and a lack of skilled trades – are a concern for both operations and capital projects

Organizations are Employing a Variety of Strategies

- **Enhancing Financial Monitoring and Management**
 - More frequent project and budget variance reviews and adjustments
 - Create organization-wide contingency and allowance standards
 - Monitor projects for scope creep and to find efficiencies
- **Changing Project Management**
 - Increase use of design-build and more formal value-engineering
 - Break projects into phases to accommodate supply chain delays and budget
 - Review specs for uniformity, new technology or acceptable alternatives
 - Pre-purchase materials or equipment
- **Adjusting Vendor Relations and Contracts**
 - Expand contractor outreach, diversify vendor-base, strengthen partnerships
 - Implement robust risk analysis and develop risk-sharing policies

Recommendations

Forecasting

- Rely on scenario planning during uncertainty.
 - Create a management plan understanding that we have presented high, low, base cases, including capital prioritization.
 - Develop a single capital plan informed by high, low, and base scenarios.
 - Update CIP portfolio forecast frequently, or as needed, to monitor changes and allow for early course correction.
- Develop the annual capital and operating spending plan with a targeted rate increase first and work the plan back from that target.

Portfolio and Project Management

- Vet and approve both increases and decreases in capital spending. Reallocation of any unspent portion of the budget should be formally reallocated and accounted for to ensure equitable spending across all contracts.
- Create a centralized process that would be responsible for:
 - Review of mid-year capital budget adjustments
 - Creation and implementation of consistent GLWA-wide contingency guidelines that seek greater transparency into vendor bids
 - Monitor cost, scope, and effectiveness of each major capital project
- Develop a process for creating, reviewing, and signing off on detailed engineer's estimates prior to requests for proposals (RFP) (robust review and vetting before RFP).
- Conduct alternative feasibility analyses to develop a clear scope during the initial study phase

Vendor/Contract Terms

- Adjustments in price for existing contracts should rarely happen. When applicable, allow time delays depending on market conditions.
- For future capital contracts, especially in times of market volatility, explore “shared risk” pricing concepts (including escalations). This should be done as long as the reduction in contingency outweighs the added risk to GLWA.
- Implement a robust value engineering process on major projects.
- Adopt uniform standard of material specifications.
- Right-size (reduce) the amount of time a bid is required to be open based on complexity and market conditions.
- Prepurchase equipment and materials only after robust analysis of carrying costs and project execution risks

Next Steps for GLWA

- Continue to monitor changes in cost pressures
- Connect with peer utilities to collaborate and address shared challenges
- Explore in more detail mitigation strategies and recommendations

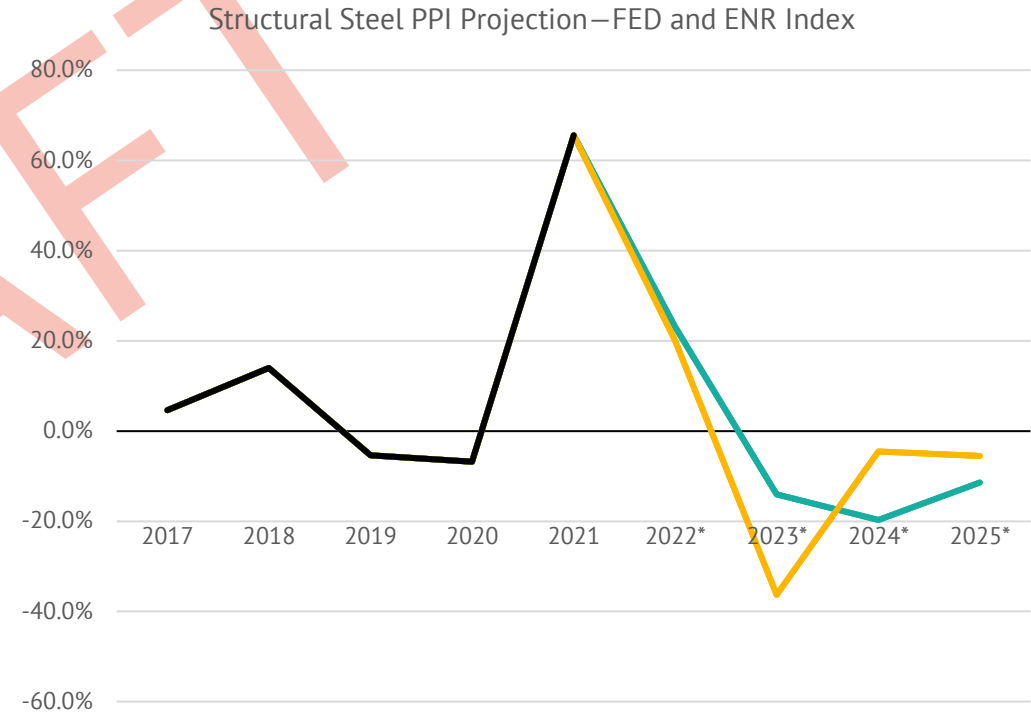
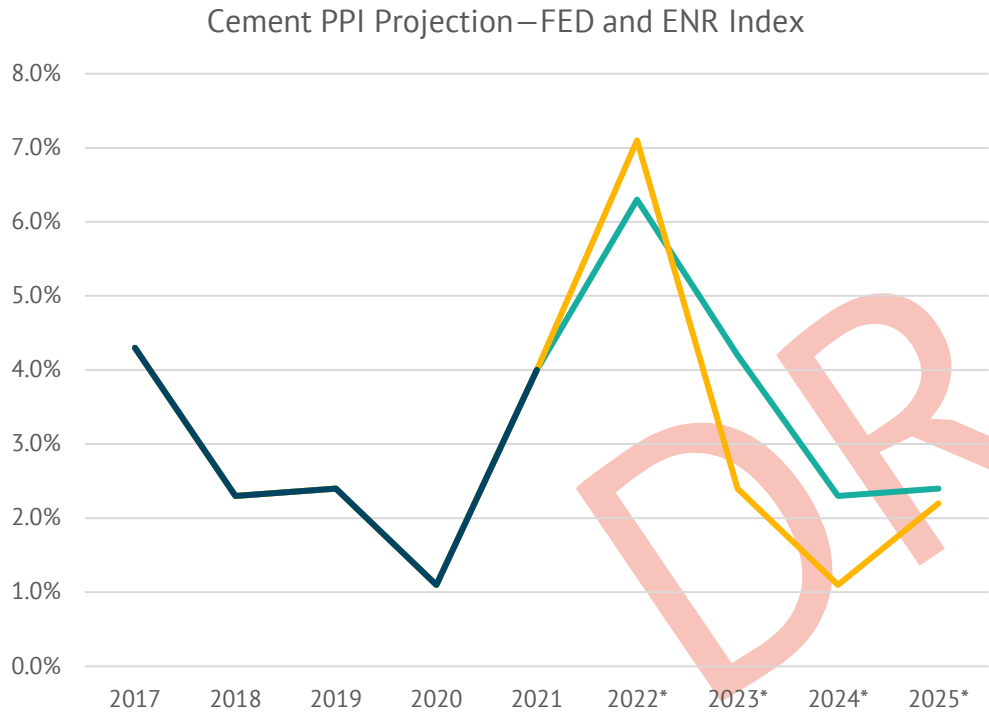
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Appendix

PSC Forecasting Approach

- Analyze historical data (Consumer Price Index [CPI], PPI, Construction Cost Index [CCI], and other indices)
- Review expert inflation forecasts (short, medium, and long term)
 - **Local:** University of Michigan
 - **National:** Congressional Budget Office (CBO), Federal Reserve (FED) Economist Surveys (Philadelphia, New York), and National Association for Business Economics (NABE)
 - **International:** International Monetary Fund (IMF) and Organization for Economic Co-operation and Development (OECD)
- Develop a consensus forecast and adjust based on
 - Detroit construction cost pressures
 - Benchmarking interviews
 - GLWA specific labor and material needs
- Produce a base case as well as pessimistic and optimistic alternative scenarios for review

Commodity Prices and Projections Are Unique and Volatile



* = Projected

Source: BLS PPI and Engineering News Record (ENR) Cost Reports (Q1 and Q2)

