

# 2024 MTI CONFERENCE

*Bridging the gap between yesterday and today*



Mississippi  
Transportation  
Institute

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OCTOBER  
27-30, 2024

THE BEAU RIVAGE  
RESORT AND CASINO  
BILOXI, MS





# Welcome

Dear Transportation Friends,

On behalf of the agencies, universities, associations, and organizations that support this event, I welcome you to the 2024 Mississippi Transportation Institute [MTI] Conference. At a time when the needs far outweigh the limited resources for transportation projects, it is critical for transportation leaders, advocates, and supporters to unite in an effort to secure additional funds and promote technology and innovation for Mississippi's Transportation network.

MTI 2024 is committed to developing partnerships that will help foster a team approach in creating a safe, efficient, and environmentally-sensitive transportation system for the citizens of Mississippi. This year's conference promises to offer opportunities to do just that. I invite you to take this opportunity to expand your understanding of transportation issues, establish new friendships in the transportation community, and enjoy your time in Biloxi.

**Jason Henry**

MTI President

# Agenda



## Sunday, October 27

2:00 – 6:00 p.m. **Registration/ Information Desk - Beau Rivage**

## Monday, October 28

6:00 – 6:30 a.m. **Buses Load for Golf - Beau Rivage Bus Lobby**  
6:30 – 7:00 a.m. **Buses Load for Sporting Clays - Beau Rivage Bus Lobby**  
8:00 a.m. – 3:00 p.m. **Golf Tournament - Shell Landing Golf Club**  
8:30 a.m. – 3:00 p.m. **Sporting Clays - McHenry Shooting Facility**  
9:00 a.m. – 5:00 p.m. **Registration/ Information Desk - Beau Rivage**  
10:00 a.m. – 3:00 p.m. **Vendor Setup - Exhibit Hall**  
4:00 – 5:00 p.m. **Ethics/Professional Development - Camellia A**  
5:00 – 6:00 p.m. **Exhibitor Reception - Exhibit Hall**  
6:00 – 10:00 p.m. **Welcome Reception - Beau Rivage Pool Event Deck**

## Tuesday, October 29

7:30 a.m. – 5:00 p.m. **Registration/ Information Desk - Beau Rivage**  
7:30 a.m. – 5:00 p.m. **Trade Show - Exhibit Hall**  
7:30 – 9:00 a.m. **Breakfast- Exhibit Hall**  
9:00 – 11:30 a.m. **Opening Session - Camellia A/B**  
9:00 – 11:30 a.m. **Overhead Rate Topics for Accountants - Azalea C/D**  
Technical class designed for consultant firm members responsible for the accounting of costs for a/e firms and the creation of the indirect cost rate schedule. Topics will include the creation of the ICR schedule, how to properly set up cost accounts, calculating your FCCM rate and more. The class will be taught by Wayne Owens and Tony Machi of Stambaugh Ness, a national firm specializing in indirect cost rate audits.  
11:30 a.m. – 1:00 p.m. **Lunch- Exhibit Hall**  
1:00 – 2:00 p.m. **TECHNICAL/PROFESSIONAL DEVELOPMENT CONCURRENT SESSIONS**  
**Session 1** **Truck Parking in Mississippi - Azalea A/B**  
**Presenters: Parker McCrary and Kate Muspell, HNTB**  
In the Fall of 2023 the Mississippi Department of Transportation, Planning Division initiated a statewide truck parking study on the Tier 1 Freight Network. The study included an assessment of existing truck parking capacity, demand for truck parking, truck parking facility utilization, truck parking capacity gaps and unauthorized truck parking. Stakeholder outreach was also included in the study which included a driver survey, meetings with the MDOT Freight Advisory Committee, and interviews with carrier groups and truck stop operators and a stakeholder forum. Results of the study and recommendations will be presented.



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## Session 2

### **The Future of Mobility: AI, Autonomous Driving, and Cloud Connectivity - Camellia A** **Presenter: Steve Given, Pileum**

This presentation will discuss the role of Artificial Intelligence in Information Technology and cybersecurity and the potential impact on autonomous and cloud connected vehicles. Topics will include Threat Detection and Prevention, Automated Response, Predictive Analysis, Incident Response, Continuous Learning / Self – Training, Cost Efficiency, Automated Testing, and Potential Impact on the Transportation Industry.

## Session 3

### **Model-centric Approach to the Design of Bridges and Structures - Magnolia E/F** **Presenter: Daniel Jensen, Michael Baker International**

Digital Delivery and utilization of BIM process in structural infrastructure is quickly progressing across various owners and facilitates a more streamlined approach to the design and construction of projects. Implementing BIM or Model-centric design of bridges and structures is an efficient alternative to traditional design methods. The development of the models in the initial stages of these complex projects produced many benefits including: clash detection, geometric design interoperability with other disciplines, generating construction and fabrication drawings, geometric comparison with point cloud data, vertical and horizontal clearance verification, post-submittal RFI clarification, and visualization. This Presentation will give attendees an understanding of how Model-centric design and construction will benefit various types of projects.

**1:00 – 3:00 p.m.**

### **What Management Needs to Know About Overhead - Azalea C/D**

This class is designed for consultant firm owners, managers and accountants. We will discuss what you need to know about indirect cost rates and topics directly related to management decisions including: bonuses vs. profit distributions, field rates, billings of direct costs and other items affecting your IC rate. This class will be taught by Wayne Owens and Tony Machi of Stambaugh Ness, a national firm specializing in indirect cost rate audits.

**2:00 – 3:00 p.m.**

### **TECHNICAL/PROFESSIONAL DEVELOPMENT CONCURRENT SESSIONS**

## Session 1

### **MULTIPLAN - Planning for the Future Transportation Needs of Mississippi - Azalea A/B** **Presenters: Sammy Holcomb, MDOT Planning Division and Paula Dowell, HNTB**

MDOT has designed a robust planning process to develop MULTIPLAN - the state's multimodal long-range transportation plan and coordinated MPO Plans. MULTIPLAN 2050 will provide MDOT with a strategic blueprint to manage changing transportation needs in a time of rapid technology, policy, and economic changes – serving as a reference point to align MDOT's ongoing policies, plans, and programs. The blueprint must gain the support of partners and build a strategy fueled by data driven, performance-based decisions – something MDOT has worked to establish. This session will provide an overview of MULTIPLAN 2045 and introduce MULTIPLAN 2050, including discussing major changes, trends and shifts in existing conditions.

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## Session 2

### **Alternative Project Delivery – A Consultant's Perspective - Camellia A**

**Presenters:** James M. Murphy and Shawn M. Plichta – **Michael Baker International**

The presentation will be centered around the organization, risk transfer and industry trends associated with the alternative delivery process. The presentation will highlight Michael Baker International's experiences with selective CMGC, Progressive Design Build and Traditional Design Build projects. The presentation will also cover the benefits and limitations associated with the different delivery types and the challenges associated with implementing guidelines for these different methods. Key features of the different delivery types will be discussed along with the factors to consider when selecting the best alternative delivery method for a project.

## Session 3

### **The Extra Mile Podcast - Magnolia G/H**

**Presenters:** Will Craft, Paul Katool and Drew Hall, **MDOT Public Affairs Division**

The Extra Mile Podcast, which started in 2021, is aimed at taking listeners behind the scenes of transportation infrastructure in Mississippi. Past guests have included MDOT leadership and staff, elected and appointed officials ranging from the federal to local level, agency heads, media members, business owners and more. This session will be a live taping of the show with featured guests

**3:00 – 3:30 p.m.**

**Break**

**3:30 – 4:30 p.m.**

## **TECHNICAL/PROFESSIONAL DEVELOPMENT CONCURRENT SESSIONS**

### Session 1

#### **Local Projects, Federal Dollars, Managed by MDOT - Welcome to the Interesting World of MDOT LPA Division - Azalea A/B**

**Presenter:** Will Andrews, **MDOT LPA Division**

This presentation will give a broad overview of the process of how MDOT LPA Division administers local projects that are federally funded. We will talk the project workflow, project funding sources, the different layers of government oversight, and interesting problems we encounter in MDOT LPA Division.

### Session 2

#### **Alternate Delivery Roundtable Discussion - Camellia A**

**Panelists:** Jason Henry, **Key Contractors**; Gabe Faggard, **Neel-Schaffer**

**James Murphy, Michael Baker Inc.; Stephen Burdine, Eutaw**

**Moderator:** Adam Sheets, **Garver**

This roundtable will explore the benefits, lessons learned, and best practices in CM/GC and Progressive Design Build projects. Successful partnerships between Designers and Contractors, supported by early communication, help address constructability, reduce design costs, and improve project phasing. Effective risk management, accurate pricing strategies, and careful use of shared savings clauses enhance project efficiency, while early material packages mitigate market risks. Value engineering during construction and post-project lessons learned further refine processes for future projects.

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## Session 3

### **When projects collide. A preview of the Rising Spring Development and Hwy 80 Safety Improvements in Clinton MS - Magnolia E/F**

**Presenters:** Justice Moran and Sarah McEwen, **Neel-Schaffer**

In the heart of Clinton two projects that will improve connectivity, safety and community are rising. The development referred to as “Rising Spring” will be located along Interstate 20 and Highway 80 in Clinton. This new development will feature a hotel, dining, mixed-use spaces, and a grassy amphitheater near a water feature. As part of a contract with the City of Clinton Neel-Schaffer developed plans and specifications to support the spring capture and conveyance into the amphitheater area. Connecting Mississippi College to the development at Hwy 80, MDOT contracted Neel-Schaffer to support on the Highway 80 safety improvements from Clinton-Raymond Road (CRR) to Shaw Road. The project includes proposed median islands, pavement rehabilitation, signal upgrades, and widening for several bulb-outs or “loons” as well as two roundabouts and sidewalk along a section of US 80. In this presentation we will provide an overview of the stakeholder engagement process for both projects, overall project layout, and overlapping connections of these projects integration.

## Session 4

### **MDOT Audit Update - Azalea C/D**

This class will walk you through the process of submitting and obtaining and approved indirect cost rate. We will cover the options available when deciding what type of rate to submit, the approval process and other hot topics affecting the submission process and your indirect cost schedule.

**4:30 – 5:30 p.m.**

## **TECHNICAL/PROFESSIONAL DEVELOPMENT CONCURRENT SESSIONS**

## Session 1

### **Continuous Pavement Data Collection Technology: Is It Worth It? - Azalea A/B**

**Presenters:** Jim Poorbaugh and Alex Middleton, **MDOT Research Division**

MDOT has invested significant funding and resources into emerging continuous pavement data collection technologies in recent years. Most notably, Traffic Speed Deflection Devices (TSDDs) enable MDOT to capture both structural and functional pavement information in one pass at highway speeds. To date, MDOT has collected this data on over 7500 centerline miles on the state-maintained network since 2019, including the entire Interstate Highway system. This presentation will provide context and background for why MDOT is pursuing this data, what work has been done to date, and plans for the future.

## Session 2

### **Digital Delivery: Implementation and Impact Across the Nation - Camellia A**

**Presenters:** Nicole Williams and Christopher Tipa, **Kimley-Horn**

Digital Delivery involves using technology to manage and share project data throughout its entire lifecycle—from design and construction to long-term maintenance and future planning. Over the past decade, many Departments of Transportation (DOTs) have made strides in using models as legal documents (MALD) to provide better information for contractors and improve asset management.

This presentation will give an overview of what Digital Delivery is, how it has been used in past projects, and lessons learned from both the design and construction phases. We'll also take a look at the Digital Delivery programs and tools used by the Utah Department of Transportation (UDOT) and the Texas Department of Transportation (TxDOT).

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Attendees will learn about common terms like Digital Delivery, Digital Twin, and Building Information Modeling (BIM), and how understanding these terms can help in adopting these practices. Kimley-Horn's Digital Delivery team will share their experiences from working on MALD projects in Utah and Florida, developing and implementing programs with Utah and Texas, and collaborating with national organizations to drive industry standards and innovation.

**Session 3**     **Bridge Inspection, Load Posting, and Preservation – Magnolia E/F**  
**Presenter: Neal Terry, MDOT Bridge Division**

Bridge inspection, load posting, and preservation are critical aspects of infrastructure management aimed at ensuring the safety and longevity of bridge structures. Bridge Inspection involves systematically assessing the condition of bridges to identify structural issues, wear, and safety hazards. Load Posting is the practice of assigning weight limits to bridges based on their condition and design capacity to ensure that vehicles do not exceed safe load thresholds. Preservation encompasses maintenance and repair activities designed to extend a bridge's lifespan. Together, these processes help maintain the safety and functionality of bridge networks, supporting transportation infrastructure.

**Session 4**     **Procurement Update - Azalea C/D**

This class will discuss the various contract types used on MDOT projects by a/e firms and the requirements of each, billings and invoicing, and the closeout of a project.

## Wednesday, October 30

**7:30 a.m. – 12:00 p.m.**     **Registration/ Information Desk - Beau Rivage**

**7:30 – 9:00 a.m.**     **Trade Show - Exhibit Hall**

**7:30 a.m. – 9:00 a.m.**     **Breakfast - Exhibit Hall**

**9:00 – 10:00 a.m.**     **TECHNICAL/PROFESSIONAL DEVELOPMENT CONCURRENT SESSIONS**

**Session 1**     **DBE – Version 5.9.24 – MDOT Civil Rights Division - Azalea A/B**  
**Presenters: Andrea Hendricks and Stacy Slay, MDOT Civil Rights Division**

This presentation is for all Stakeholders in the DBE Community. We'll compare DBE/ACDBE program guidance before and after the Final Rule effective May 9, 2024.

We'll highlight pertinent information for DOT practitioners, aviation practitioners, prime contractors, sub-contractors, supportive service providers and the public at large.

**Session 2**     **Assertive Communications - Azalea C/D**  
**Presenter: Kym Wiggins, Intrepidus, LLC**

Studies reveal that being assertive can help control stress and anger and improve coping skills. Being assertive is a core communication skill. Being an assertive communicator leads to greater clarity, increased trust, and higher productivity on teams.

Participants will discover their personal communication styles, learn how to leverage communication styles to achieve greater trust, and to remove barriers to clear and consistent communication.



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## **Session 3**      **Tips and Tricks for Roundabout Design based on latest guidance - Camellia A** **Presenter: Stuart Samberg, RK&K**

Like every tool in the toolbox, new requirements and lessons learned over time mean that we have to continue to refine our approach to the use of roundabouts. At this point, they have become more prevalent throughout the Country, and we see that not only do new tools exist for their deployment, but also some less than desirable applications. This presentation will introduce the latest guidance for roundabouts and discuss some lessons learned of good and bad designs. A focus will be placed on the latest guidance including the 11th Edition of the MUTCD, NCHRP 1043 (Roundabout Guide), and other national best practices for the design of roundabouts. Different applications will be presented from interchanges to rural locations and will also include mini-roundabouts and hybrid configurations.

## **Session 4**      **Reconnecting the Bayou Darter: A One of its Kind Partnership in the Southeast** **Magnolia E/F** **Presenter: Sarah McEwen, Neel-Schaffer**

The Mississippi Department of Transportation (MDOT) selected the State Route 18 stream crossing of White Oak Tributary 1 for replacement based on the need to widen the road to support requirements for evacuation routes and the future Average Daily Traffic count. The site is north of Port Gibson, and north of the Bayou Pierre crossing along SR 18. The existing crossing was a double box culvert design that was installed in 1935 with a drainage area of roughly 2 square miles. At first glance this seems to be a simple alternative analysis to determine if widening the culverts or a bridge is required; however, the environmental investigation led to a unique partnership with the United States Fish and Wildlife because the crossing sits in the Bayou Pierre Watershed, the only place on earth you find the threatened Bayou Darter (*Etheostoma rubrum*). Erosion and high water for larger recurrence events created headcuts and steep riverbanks within the Bayou Pierre watershed which damaged Bayou Darter spawning habitat. These problems were compounded by decades of poor management decisions related to gravel mining and livestock raising along the river. This site, because of an existing ten-foot headcut at the outfall of the culvert, was selected for redesign and replacement including aquatic organism passage due to it being critical habitat for a threatened species and the individual needs of the species. The project included several alternatives, but each had to meet clear design standards, pass the design recurrence events for MDOT with respect to required freeboard, resolve the head cut, and allow passage of the Bayou Darter during low flow events with respect to its biological limitations. In this presentation we will walk through the partnership of the state and federal agencies, the design process and evaluation of the site, and show the final design with finished construction of the first step-pool fish passage in the Southeast.

**10:00 – 11:00 a.m.**

## **TECHNICAL/PROFESSIONAL DEVELOPMENT CONCURRENT SESSIONS**

### **Session 1**      **Bat Use of Transportation Structures in Mississippi – U.S. Fish and Wildlife Service** **Azalea A/B** **Presenter: Alison McCartney, U.S. Fish and Wildlife Service,** **Mississippi Ecological Services Office**

The use of transportation structures, such as bridges and culverts, by federally listed bat species has been well documented in many states in the United States, however, has only recently been documented in Mississippi. The Mississippi Bats and Bridges Initiative [Initiative] was developed and implemented in April 2021 with 313 bridges and



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284 culverts surveyed so far in 37 counties. Over 5,000 bats representing eight species have been observed under 66 bridges and in 102 culverts in 19 counties including two gray bats (*Myotis grisescens*) and 12 Indiana bats (*M. sodalis*) utilizing the same bridge roost in Tishomingo County in August 2022. This is only the third location record for the federally listed Indiana bat and the fourth location record for the listed gray bat in Mississippi and is the first bridge roost documented in the state for both of these species. Since August 2022, thirty-eight new roosts have been found in the state for the federally listed northern long-eared bat (*M. septentrionalis*) [3 bridges and 35 culverts]. Prior to this date, only three records had been documented for this species, none of which were in transportation structures. This survey effort has important implications for our understanding of relative abundance and roost preferences for federally listed bats in Mississippi. The Mississippi Department of Transportation submits over 50 bridge and culvert maintenance, repair or replacement projects per year to the U.S. Fish and Wildlife Service, Mississippi Ecological Services Office for Section 7 consultation. The Initiative has direct benefits for informing those consultations and provides important data needed to create relevant mitigation and avoidance measures.

## **Session 2** **Choose to Defuse, Reducing Turnover Through Effective Conflict Resolution**

**Azalea C/D**

**Presenter: Lavon Gray, Ph.D., MBA, CSP**

The “Choose to Defuse” presentation focuses on transforming conflict from a turnover driver into an opportunity for retention, collaboration, and a thriving organization. This session equips leaders and teams with the tools to effectively resolve conflicts before they escalate, offering practical steps and insights directly informed by Dr. Gray’s extensive experience in high-pressure sports environments.

Participants will come away with the following:

- A Proven 3-Step Process to manage and resolve conflicts, reducing the likelihood of employee departures, based on strategies developed from years of handling on-field disputes.
- Strategies for Turning Difficult Conversations into opportunities for strengthening relationships and team cohesion, just as Dr. Gray has done in both sports and business.
- An Understanding of How Relationships Influence Retention, by fostering a supportive and constructive work environment, rooted in the discipline and quick decision-making learned on the field. This presentation is designed to provide leaders with actionable strategies to not only manage conflict but to use it as a means to reduce turnover and build a more resilient, engaged workforce, all through the lens of Dr. Gray’s extensive experience in both sports and business.

## **Session 3** **Roundabout Design Considerations in MS and Beyond - Camellia A**

**Presenters: Brian Hovanec, MDOT Highway Safety Division and Jaap Tigelaar, Arcadis**

Mississippi has seen a steady increase in the number of roundabouts being built across the state in the last decade; and this trend is likely to continue in the future. This presentation will give the history of roundabouts specific to Mississippi, our lessons learned, and best practices. Various roundabout designs in MS will be presented to provide insights into the considerations that were taken along with alternative roundabout designs, including Turbo roundabouts. While serious and fatal accidents are rare in multilane roundabouts, the safety benefits of single-lane roundabouts are not fully replicated due to higher speeds and additional cutting and weaving conflicts in multilane roundabouts. The Dutch

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Turbo Roundabout offers a solution to these safety challenges by incorporating a spiral layout and raised elements. We will cover the fundamentals of Turbo Roundabouts and the specific design elements that enhance safety and traffic flow. Our presentation will specifically delve into the use of raised lane dividers, explaining their purpose and demonstrating how they can be effectively integrated into modern roundabout designs. Examples of turbo roundabout designs in the United States will be shared, along with key insights gained from these projects and how turbo elements can be included in roundabout designs in Mississippi.

## **Session 4    Developing Production-Based Cost Estimates for Alternative Delivery Projects** **Magnolia E/F**

**Presenters:** Dan Bender and Jeremy Harvey, **IC&E**

Why do you need an independent cost estimator on alternative delivery projects [CMGC and PD-B specifically]? Since alternative delivery methods don't include competitive bidding on the work the CM self-performs, an independent cost estimate is needed to provide benchmark pricing. The benchmark cost estimate provides the Owner assurance that they are getting a "fair market" price for the project. Innovative Contracting and Engineering (IC&E) provides independent cost estimating services. Our firm is comprised of former contractors who came from national firms like Kiewit, Ames, Granite (and the like). This background provides our estimators with the expertise needed to develop competitive cost estimates and helps us to negotiate on behalf of the Owners we represent. This presentation will focus on the process of developing a production-based [contractor-style] cost estimate, and how we use the cost estimate to negotiate on behalf of the Owner.

## **11:00 a.m. – 12:00 p.m.    TECHNICAL/PROFESSIONAL DEVELOPMENT CONCURRENT SESSIONS**

### **Session 1    MDEQ Water Quality Certifications & Stormwater Permitting - Azalea A/B** **Presenter:** Carrie Barefoot, **Mississippi Department of Environmental Quality**

This presentation will cover the procedural and regulatory requirements for obtaining Section 401 Water Quality Certifications and coverage under MDEQ's Large Construction Stormwater General Permit.

### **Session 2    Never Wrestle with Pigs: Dealing with Difficult Personalities - Azalea C/D** **Presenter:** Lavon Gray, Ph.D., MBA, CSP

In this session, Dr. Gray identifies seven workplace "pig" personalities that can disrupt team dynamics and lead to increased turnover if not managed effectively. These include the Wild Boar – The Bully, the Warhog – The Passive-Aggressive, the Potbellied Pig – The People Pleaser, the Old Sow – The Whiner, the Piglet – The Great Pretender, the Haughty Pig – The Know-it-All, and Wilbur the Pig – The Ideal Employee.

"Never Wrestle with Pigs" delivers a high-impact message on the importance of relational skills in dealing with difficult workplace personalities. By addressing these difficult personalities with the strategies presented in this keynote, leaders can reduce turnover, enhance team cohesion, and cultivate a workplace culture where everyone thrives.



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## Session 3

### **Recent and Current MDOT Projects Showcase US 72 Roundabout and US 82 Bypass** **Camellia A**

**Presenters:** Brian Hovanec, **MDOT Highway Safety Division**,  
Stephen Burdine, P.E. and Will Thaggard, **Eutaw Construction**

The first presentation will cover the design and implementation of a groundbreaking roundabout at a high-risk intersection on a 4-lane divided highway, where the speed limit is posted at 65 mph. This project marks the first roundabout of its kind in Mississippi and possibly the nation, addressing unique challenges posed by high-speed traffic. The presentation will detail the design strategies, the unique considerations for accommodating high-speed traffic, and the early performance metrics. This roundabout can serve as a model for other high-speed environments across the country, offering valuable insights for transportation engineers. The second presentation will be an update on the US 82 Greenville Bypass project in Washington County.

## Session 4

### **A Contractor's Perspectives on 3D Modeling and Model as a Legal Document (MALD)** **Magnolia E/F**

**Presenter:** Zhengzheng (Jenny) Fu, **Kiewit Engineering Group**

This presentation will share Kiewit's perspectives on 3d modeling and model as a legal document. The presentation will cover overview of current Kiewit BIM projects, contractor's perspectives, engineer's perspectives, and Kiewit's initiatives on BIM for bridges

**12:00 – 1:30 p.m.**

**Owen Cooper Memorial Luncheon - Exhibit Hall**



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