

# East Construction Round Table Situation Report

## Summary

*as of April 22, 2020*

### Session Presenters

- James Vermeulen, Vermeulens
- Maria Dominguez, Nora Flooring
- Rahul Deshmukh & Buck Akyroyd, Vaughn

### Vendor Insight, Nora Flooring

- Currently not experiencing supply chain issues.
- Shipping from facilities was temporarily reduced from 2 shifts to 1 shift due to staff members being exposed to COVID-19. At this time shipping operations have returned to 2 shifts.
- Prioritizing shipments on a weekly basis
- Precautionary measures have been implemented including:
  - Suspension of customer pick-ups and customer carrier pick-ups
  - Use of one single carrier for all US shipments
  - Technical staff visits limited and being done virtually when possible
- Sales engagement relying on on-line technology more than before
  - Regular social media posts focus on hygienic product information and non-porous materials
  - Online CE courses
  - Community conscious posts
- Overall 2020 outlook is positive especially for healthcare/academic (summer slammers) and a slight decline has been apparent in tenant Fit-outs/retail/transportation projects

### Virtual Inspection, Training, and Remote Assistance, Vaughn Construction

- How do we adapt and continue construction projects?
- Virtual Inspection teams consisting of 3 people
  - Camera Captain
  - Remote Inspector
  - Safety escort/Punchlist Recorder
- Benefits of virtual Inspection
  - Safety First
  - Productivity
  - Time Savings
  - Support and Learning
- Challenges
  - Connectivity; need a reliable data service
  - Lighting
  - Slow/Weak connectivity; speed and clarity can be reduced
  - Need to implement support and learning prior to implementing
- How to be successful with Virtual Inspections
  - Define the process: specify the purpose and the goal of the inspection
  - Start Simple: Choose the technology; you do not want people to lose faith in the process due to technical issues
  - Identify the Team: Select the staff performing the virtual inspection
  - Train: Schedule remote training for staff performing the virtual inspection
  - Practice: Plan walkthrough and perform trial run
- Software
  - Office 365 Dynamics Remote Assist



- 360 Degree cameras (Open Space)
- Livestream drone Video; consider for site/skin/roof Inspections

## Round Table Summary

- Commodity prices remain low
- Trade Prices holding at Jan/Feb 2020 levels
- Sense of fear and low morale on construction sites
- Construction shutdowns (Boston, New York, etc.)
- Sub-trades with shutdowns have furloughed on site workers
- Unemployment benefits outweighing some non-union labor rates
- Shift work and screening may be costing subcontractors a 10% premium
- Bonds and Insurance should revert back to and revisit standard contracts
- 22.7M job losses so far to April 11th
- Interest rates at all-time lows 0.00% - 0.25%
- Corporations working to communicate and socialize with remote staff
- Many Owners are moving ahead cautiously with design and construction

## Open Forum

- Dave Slomsky, Suffolk
  - When are we seeing changing in pricing:
    - Pricing levels are holding but expecting a decline as companies work to build backlog in preparation for fewer projects to bid on
    - More competition and larger spreads on smaller projects has become noticeable
- Allan Ames, BR+A
  - Second round of payroll protection is pending approval but is imminent

## Escalation Forecast

- Reconciled escalation rates maintained at or past the Design Development
- 3%-4% escalation for new projects or projects at or earlier than the schematic design
- Line item unit rates will be held at current values until market feedback data is available
- No reliable history or history on how long or deep this downturn will be
- Potential offsetting cost increase in supply chain interruption and construction efficiency
- Vermeulens will continue to monitor market pricing and we will update as available
- A potential tool for consideration is the introduction of design add alternates in the 10% of cost range

## Future Topics

- Legal Considerations in the current Construction Market
- General Contractor Insight, Bid Data
- Impact on Institutional Planning and Programming
- Subcontractor Insight, Drywall
- Subcontractor Insight, Steel Manufacturing
- Subcontractor Insight, Curtainwall
- Health Insurance, Personal & Corporate



## VIRTUAL INSPECTIONS, REMOTE TRAININGS AND REMOTE ASSISTANCE

### Introduction

In the world of travel restrictions, social distancing, and remote work, contractors need creative solutions to adapt and continue construction projects. Vaughn Construction is leveraging virtual inspections, remote training, and remote assistance to manage risk and streamline processes while maintaining project progress. We can execute virtual inspections throughout each phase of the project to ensure work progresses smoothly. We can use virtual inspections for:

- Preparing punch lists and monitoring work progress
- Performing pre-final and final inspections
- Performing commissioning activities with third party commissioning agents remotely
- Ensuring smooth project hand-over.

We currently are deploying virtual inspections on select projects. Virtual inspections are an effective alternative when inspectors are not immediately available or when sites are affected by travel bans or restrictions. We can facilitate various levels of virtual inspections, as necessitated by the situation, organized in a short timeframe, to maintain compliance, ensure quality and maintain the project schedule.

Implemented the right way, virtual solutions can make inspections, training, and remote assistance easier, ensure visibility on site, streamline processes, and improve efficiency levels.

### Concept

The virtual inspection is a co-witnessed process that utilizes real-time video streaming. This process provides a form of mixed reality for the remote user. We use video calling, a pre-determined walkthrough plan, and communication protocol, coupled with best practices, to connect remote inspectors to the job site. Additionally, we use a robust, pre-configured checklist software, so inspectors do not have to travel to the site to observe and approve the punch list items. An alternative option is an offline inspection consisting of a pre-recorded inspection paired with video transmittal.

We schedule a pre-inspection meeting to plan a trial run of the walkthrough and ensure equipment and software works. During the execution of the pre-determined walkthrough plan, our camera captain, with the help of a safety escort and punch list recorder, captures the areas of work with mobile equipment, streams the video, and transmits the images directly to the remote inspector. The roles of the virtual inspection site team include:

- **Camera Captain** – navigates the hard hat-mounted or handheld camera device
- **Safety Escort** – maintains safe path for the camera captain and ensures proper lighting and a safe walkthrough
- **Punchlist Recorder** – assists with capturing data and notes

This basic virtual inspection process can be achieved using any typical streaming platform such as WebEx, Microsoft Teams, Zoom Meeting, etc. If required, we can record the entire inspection process by just push of a button.

Virtual inspections, remote trainings and remote assistance can benefit projects in several ways:

- Safety First
- Productivity
- Time Savings
- Support and Learning

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## Equipment Setup and Requirements

We designed our virtual inspection process to provide the same level of technical expertise and insight as an in-person inspection, in a safe, flexible, and efficient way. We can stream high-quality data with smart-phone cameras and mobile connectivity, which is easily adaptable to the streaming platform most comfortable for the inspector.

Suggested Requirements:

- **Equipment** – Use mobile device (smartphone, iPad, or other tablet) with reliable data service (4G/LTE internet) OR a strong Wi-Fi connection (preferred).
- **Connectivity** – Ensure your inspection location has strong connectivity and your device is always within range of those services during the entire walkthrough. Slower and/or weaker connectivity may not provide the speed and clarity required to complete the inspection.
- **Inspection Preparation** – Plan the walkthrough and conduct a trial run.

## Challenges to Address in Trial Run

A solid plan to mitigate challenges before the virtual inspection should include:

**Connectivity** – Ensure the inspection location has strong connectivity and devices are within range of the data service or strong Wi-Fi connection during the entire walkthrough.

**Camera Stability** – Conduct trial run with both hard-hat mounts and monopods for camera support to select the best video streaming method. Review hard hat mount with safety professional for compliance with safety policies and procedures.

**Lighting Conditions** – Provide and practice with hand lights (lighting stands, if necessary) for adequate lighting during walkthrough.

## Things to Remember

**Define the process** – Specify the purpose and goal of the inspection.

**Start simple** – Choose the technology

**Identify the team** – Select the staff performing the virtual inspection.

**Train** – Schedule remote training for staff executing the virtual inspection.

**Practice** – Plan the walkthrough and trial run.

## Next Steps

Once a project team masters the basic workflow of virtual inspections, consider the following options to enhance the user experience:

- Consider using Dynamics 365 Remote Assist with a Microsoft HoloLens for a more immersive video experience with 3D context, as well as adding telestration capability.
- Consider using 360-degree cameras. Software application like OpenSpace upload 360 photos to cloud data storage and tied to floor plans within 15 minutes. This immediate access allows a remote inspector to conference with the project team and generate inspection issues directly into an issue tracking program such as BIM 360.
- Research the use of platforms such as ScopeAR for developing virtual training applications deployed with a Microsoft HoloLens.
- Incorporate livestream drone video for site and skin inspections.

Virtual and remote solutions in construction are here to stay regardless of the circumstances. The COVID-19 outbreak pushed construction to a new reality where virtual and remote solutions are the go-to strategy wherever possible. We work in an industry that can adapt quickly to the new reality and take the right safety measures in a timely and responsible manner. We are using technology to provide creative solutions to keep construction projects on schedule while staying safe.