Tenant Improvement Guide

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Section 1: Introduction

The View Tenant Improvement Guide is created for owners or lessees looking to plan, design, construct and install improvements in spaces with View Smart Glass. If you have any questions, please reach out to your View Project Manager or Customer Success Manager.

Section 2: View Contacts

The list below outlines the individuals from View that will be involved throughout the tenant improvement process.

- Customer Success Manager (CSM)

  View Customer Success Manager will work directly with end users to customize the system and provide occupant training.

- Project Manager (PM) /Construction Manager (CM)

  View Project Manager / Construction Manager will guide the project team successfully through the improvement process.

- Project Engineer (PE)

  View Project Engineers will commission the site post-improvement changes.

Section 3: Overview of View Net Control System

View Smart Glass is a smart glass technology that transitions between clear and variable tint based on an intelligence engine or manual controls, to provide an optimal amount of light and heat entering a building.

View Smart Windows is composed of three key elements:

1. The physical glass with electrochromic coating – Insulating Glass Unit (IGU)
2. View Net Control System – an easy-to-install hardware system including all power, control, network architecture, and Sky Sensor. The View Net Control System uses a trunk line/drop line network topology.
3. View Intelligence® – an advanced predictive algorithm designed to predict and choose the right tint at the right time to maximize occupant delight

The control cable carries both power and data through the entire length of the installation. Drop Cables are then tapped off the control cable using connectors at locations where network window controllers are installed. The network window controllers are then connected to individual IGU units via an IGU cable.

Section 4: Tenant Improvement Processes

Phase 1 - Design

1. To initiate a tenant improvement process, new or existing tenants should contact their owner/ lessee with their proposal

2. Owner/Leasee will share proposed tenant improvement drawings with View at the earliest opportunity so that any recommendations can be incorporated in the final design (if desired).
    *   View will request drawings of proposed tenant improvements to identify where the improvements will occur and if they will interfere with View Smart Windows. Please include the reflected ceiling plan and furniture layout drawings.
    *   Note: Certain improvements will have an associated charge. See below for more details.

3. View shall review the drawings and understand how the design is going to impact windows and identify if there will be any design conflicts.
    *   If any issues are identified through the design review, View will meet with the design team and project management team to review.
    *   View will discuss where space can be created for View Smart Glass or its window controllers. After discussion, the owner will need to work with their design team to produce a new set of drawings.

4. A quote will be created by View.
    *   View will be creating a quote for the owner if the changes require modification to View Smart Windows.
    *   The quote may include the following:
        a. New interconnect drawings by View System Design team
        b. Parts required
        c. Time to complete the job
        d. View products required to move existing view components
        e. Time required for View FSE team to commission the site
        f. Time required for View PM to complete the project
    *   Note: Labor by Low Voltage Contractor is separate

Design Improvement Considerations by Ceiling Condition

Ceiling Condition	Considerations
Drop Ceiling (also referred to as suspended ceiling grid. Can be T-bar, slotted, etc.)	• Any obstructions/partitions that require re-location of View window controllers will require a low-voltage contractor (not provided by View) Additional materials may be needed. Request quote from View for additional materials, updated interconnect drawings, FSE, and PM time. • Cables cannot be painted – unless approved by View • Window Controllers cannot be painted and must be accessible for serviceability

Hard Lid Ceiling	• Access hatches may be required for future serviceability of View window controllers. Please refer to Appendix for an image reference.
	• Window controllers may need to be moved
	• You will be required to do the following:*
	  » Request for quote from View for additional materials, updated interconnect drawings, FSE, and PM time.
	  » Update owner drawings
	  » Purchase additional cables
	  » Hire a Licensed Low Voltage Contractor for relocation of window controllers and cabling
	• Cables cannot be painted – unless approved by View
	• Window Controllers cannot be painted and must be accessible for serviceability

Open/Exposed Ceiling	• Any obstructions/partitions require to move window controllers – you will need a Licensed Low Voltage Contractor to move the window controllers. • Additional materials may be needed. Request quote from View for additional materials, updated interconnect drawings, FSE, and PM time. There may be additional charges if you need to move window controllers into a cable tray. • Cables cannot be painted – unless approved by View • Window Controllers cannot be painted and must be accessible for serviceability

*If window controllers are not placed in the ceiling and will be moved, there will be additional work involved.

Phase 2 - Pre-Construction Phase

Kick-off Meeting

Before starting the construction process, a pre-construction meeting called by the owner is highly recommended. This meeting would be the opportunity to meet all the appropriate parties and align on the project. Required attendees would be the Owner, Architect, General Contractor, Low-voltage Contractor, and View PM.
- Please Note: Owner's Rep will determine start date for all work.

Checklist: Pre-Construction Kickoff Meeting

Introduction
- ☐ Confirm scope of work (Where does Glazier work stop, and LV Electrician work begin)
- ☐ Review of As-Built Cabling & Controls for System Health
- ☐ Cable path and window controller access identified
    - Conduit / Cable Tray / Plenum / Non-Plenum Requirements / Free Aerial
    - Example interconnects reviewed (LV to provide redlines on frame shops and/or architectural floor plans)
    - Network Window Controller (NWC) access limitations
- ☐ How to read interconnect drawings
    - Expectations / Labeling
    - Lead times
- ☐ Identifying cable lengths
    - Take off (LV Electrician will provide all cable lengths to VIEW)
    - Order documentation
    - Cable length restrictions
- ☐ Lead times identified
    - Controls equipment: 12 weeks (Importance of cable length feedback) Replacement materials
    - Changes to design
- ☐ Delivery / Install Dates Requested / Identified
    - Controls delivery (Singled/Phased)
- ☐ Material delivery location
    - Warehouse / Jobsite (Electrician or Glazier)

Installation
- ☐ Shop drawings needed
    - Architectural drawings (PDF, CAD version preferred)
- ☐ Controls installation training
    - Cabling / Window Controllers / Control Panel / Wall Switches / Wall Interface
    - Testing of material installed (Cabling, Network Window Controllers, Control Panel)
    - Sensor locations (if required); VIEW provide examples (Photos)
- ☐ Network connections to View Control Panel

Testing/ Repairs & Replacement
- ☐ Damaged material / Material shortages / Lost material
- ☐ How to document / identify
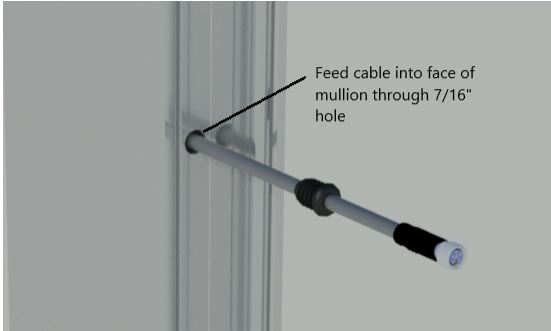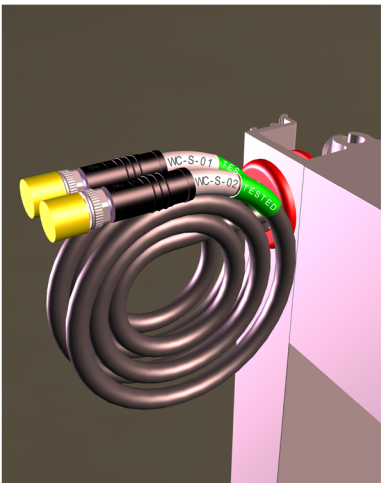   - Contact your View Project Manager

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Phase 3 - Construction Phase

- Shipping & Receiving
    - » View will ship products to site or contractor's shop, unless otherwise specified by the Owner or Project Manager

- Any modifications to the View Interconnect Design must be reviewed and approved by a View Project Manager

- Owner and contractor are responsible for providing As-builts drawings to View, Inc. at the end of the project. Return the marked-up View interconnect drawings to the View PM, View will provide final record drawings to close out project

Phase 4 - Construction Close-Out

- Once construction is complete, View Project Manager will inspect the site and View Field Service Engineer will conduct functional hardware testing and commission the site.
    - If the site is occupied, there will be some downtime during testing and commissioning. Please coordinate with General Contractor so the process does not affect occupants.
        - The time will be agreed upon by low-voltage contractor and PM.

- View Customer Success Managers will be the main point of contact to the property managers and the lessee or owner of the unit after the close-out. They will provide onboarding before the move in and will engage with the owner or lessee of the unit to understand preferences and if there should be updates to zones assigned to the windows.

- All record drawings should be submitted to building owner.

Section 5: Do's and Don'ts

Do's	Examples
DO USE grommets to provide stress relief through openings for View cables.	Feed cable into face of mullion through 7/16" hole

*Damaged cables (trunk lines, drop cables, and IGU cables) cannot be repaired. All damaged cables MUST be replaced at the tenant's expense.

Don'ts	Examples
DO NOT CUT cables behind walls. Refer to As-built construction drawings for cable locations	
DO NOT DAMAGE cables. View cable runs may be in locations not typical of standard construction installations.	
DO NOT PINCH cables when installing additional build-out.	
DO NOT BLOCK or hinder access to View components. All View components must be accessible for maintenance and troubleshooting.	

*Damaged cables (trunk lines, drop cables, and IGU cables) cannot be repaired. All damaged cables MUST be replaced at the tenant's expense.

Section 6: Resources

To access data sheets, installation guides, training videos and more, go to

www.view.com/training

www.view.com/training/occupants

www.view.com/training/view-net

Office Interior Design -Best Practices

Section 7: Frequently Asked Questions

When should View Smart Glass be contacted when tenant improvements start?

View prefers to be contacted in the early stages of tenant improvements, so the new owners and leasee have the best experience with the View Smart Glass system. There are some key contacts that the new owners or leases will want to meet with from View Smart Glass. The Customer Success Managers (CSM) will be able to provide them an overview and onboarding of the system. The CSM will also provide mobile app training. The View Smart Glass project manager will answer any questions about the system and how it will interact with any of the tenant improvements. All construction costs are the responsibility of the owner or leasee.

Can we extend a wall against the glass?

No construction materials should touch the View Smart Windows (i.e. walls, framing, ceilings, etc.) This will void the warranty on that piece of glass.

Can View cables or other components be painted?

Cables cannot be painted, unless approved by View.

Can after-market films be applied to View windows?

Because they potentially alter insulated glass unit (IGU) performance, after-market additions to View glass are not recommended. Note: Since View cannot guarantee after-market films will not affect the IGU, any IGU failure during the warranty period determined to be due to the use of film will void the warranty.

Does View offer a bird-friendly solution for existing View installations?

While View has a bird-friendly solution for new installations and retrofits, View does not currently have a bird-friendly, after-market solution for existing View installations.

Are there special cleaning instructions for View windows?

No. View Smart Glass units are largely constructed with the same materials as other typical architectural glass products. There are no special cleaning procedures required. Please refer to GANA 01-0116 Proper Procedure for Cleaning Architectural Glass Products.

What happens if View controllers lose power or a power outage occurs?

Scenario 1: The whole site loses power
- If power is restored within 30 minutes, Network Window Controllers will not transition to Tint 2, they will continue from their last state

Scenario 2: Network Window Controller(s) lose power

- Same as Scenario 1

Scenario 3: iNode (building controller) loses power
- Same as Scenario 1

Scenario 4: Loss of power for more than 30 minutes
- View Smart Glass will remain at its previous tint state until power is restored. Once power is restored, View Smart Glass will transition to Tint 2 and then to the tint state dictated by the system (i.e. intelligence, previous override or schedule).

Scenario 5: Sites with a large quantity of IGUs
- It is possible that even after a short power outage, some IGUs may lose their tint state and home to T2 before returning to a system defined state.

Note: Power cannot be turned off during construction phase unless mutually agreed upon prior to the construction.

What are the potential costs for demo/finish work?

If View hardware is not conveniently accessible for future service work, Owner or Tenant shall be responsible for all demolition, drywall repair, and painting. Per OSHA: In accordance with 29 CFR 1910.399, Readily accessible is defined as "capable of being reached quickly for operation, renewal, or inspections, without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, chairs, etc...."
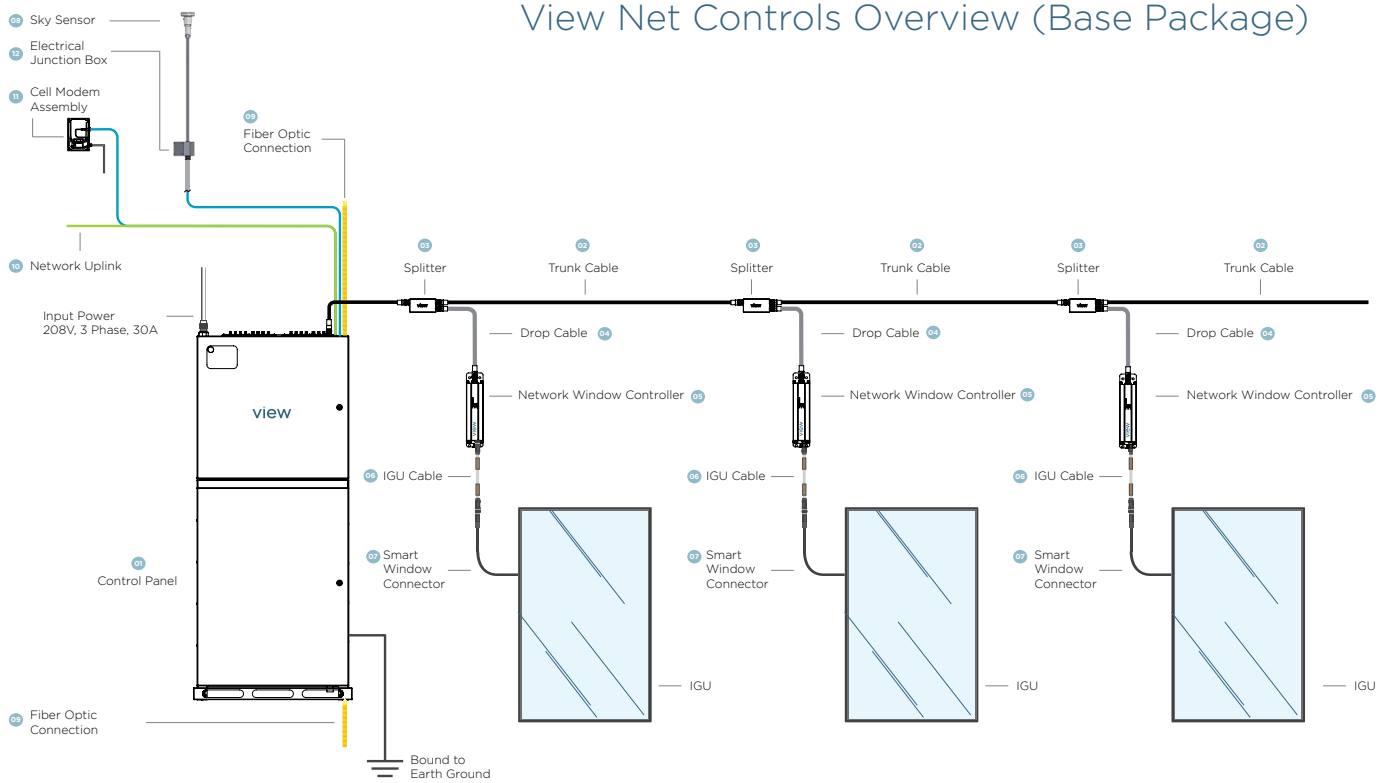
Section 8: Appendix

Controls Overview Diagram
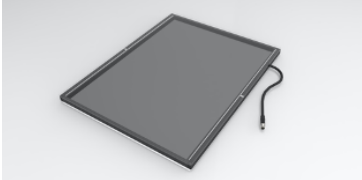
View Net Controls Overview (Base Package)

- Sky Sensor
- Electrical Junction Box
- Cell Modem Assembly
- Fiber Optic Connection
- Network Uplink
- Input Power 208V, 3 Phase, 30A
- Control Panel
- Fiber Optic Connection
- Bound to Earth Ground

- Splitter
- Trunk Cable
- Splitter
- Trunk Cable
- Splitter
- Trunk Cable
- Drop Cable
- Network Window Controller
- IGU Cable
- Smart Window Connector
- IGU

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View Smart Window Components

IGU Cable	
IGU 3D render	
Drop Cable (RG-58)	
IGU FEP Cable	
Trunk Cable Pre-terminated	

View Smart Window Components

Trunk Cable Spool	
BNC Connector	
Splitter	
12-strand fiber backhaul	
Inter-Floor Fiber (pre-terminated)	
Fiber Adapter Panel	

View Smart Window Components

Network Window Controller	
Pre-assembled back plate	
Cell Modem	
Control Panel	

View Smart Window Components

Sky Sensor	

Access Hatches for View Window Controllers
(Provided by Others)