




MONITORS PRE-INSTALLATION

LCD Overhead Monitor Support Specifications
With 15" Touch Screen Bowler Consoles

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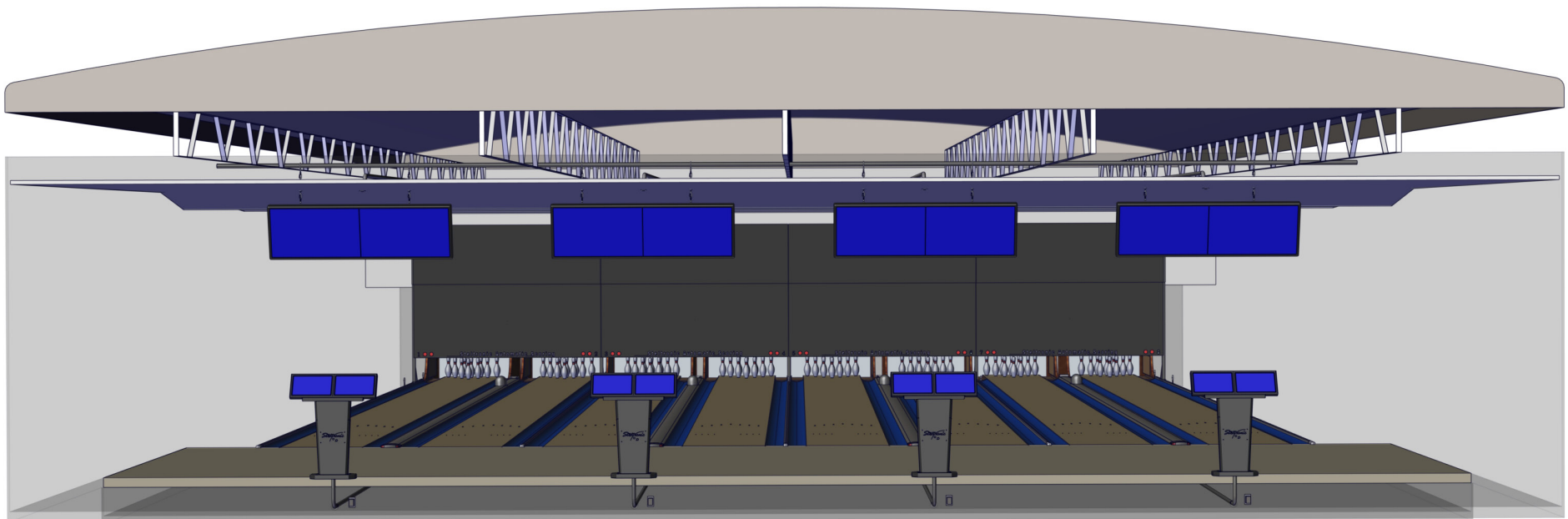
LCD OVERHEAD MONITOR SUPPORT SPECIFICATIONS

WITH 15" TOUCH SCREEN BOWLER CONSOLES

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LCD OVERHEAD MONITOR SUPPORT SPECIFICATIONS WITH 15" TOUCH SCREEN BOWLER CONSOLES

NOTE: ALL OF THESE DOCUMENTS ARE IN PDF FORMAT LOCATED AT WWW.STELTRONICUSA.COM



LCD OVERHEAD MONITOR INSTALLATION

1. Overhead Monitors Structure & Support:

Before installing LCD monitors, it is the responsibility of the bowling center to ensure that a suitable structure above the drywall or ceiling tiles must be provided for installation of the overhead monitors onto the supplied monitor brackets. A certified stamped certificate from the structural engineer will be required before the installation team can perform any of the overhead monitors installation.

2. Lower Monitor Installation:

For the installation of additional lower monitors, please follow these guidelines:

- I. Ensure access to high voltage power is available for the lower monitor touch screens.
- II. Set up a separate conduit for low voltage and video cables.

3. Structural support for overhead monitors.

The customer is required to:

- I. Supply, install, and maintain the proper position of supporting beams or pipes (refer to the figures below for guidance).
- II. Obtain certification from an architect or structural engineer, confirming that the chosen method of support can withstand 100 pounds of actual/static weight per video monitor (or 200 pounds for a pair of bowling lanes).

Please follow these instructions diligently to ensure a safe and secure installation of LCD monitors.

OVERHEAD MONITOR ELECTRICAL REQUIREMENTS

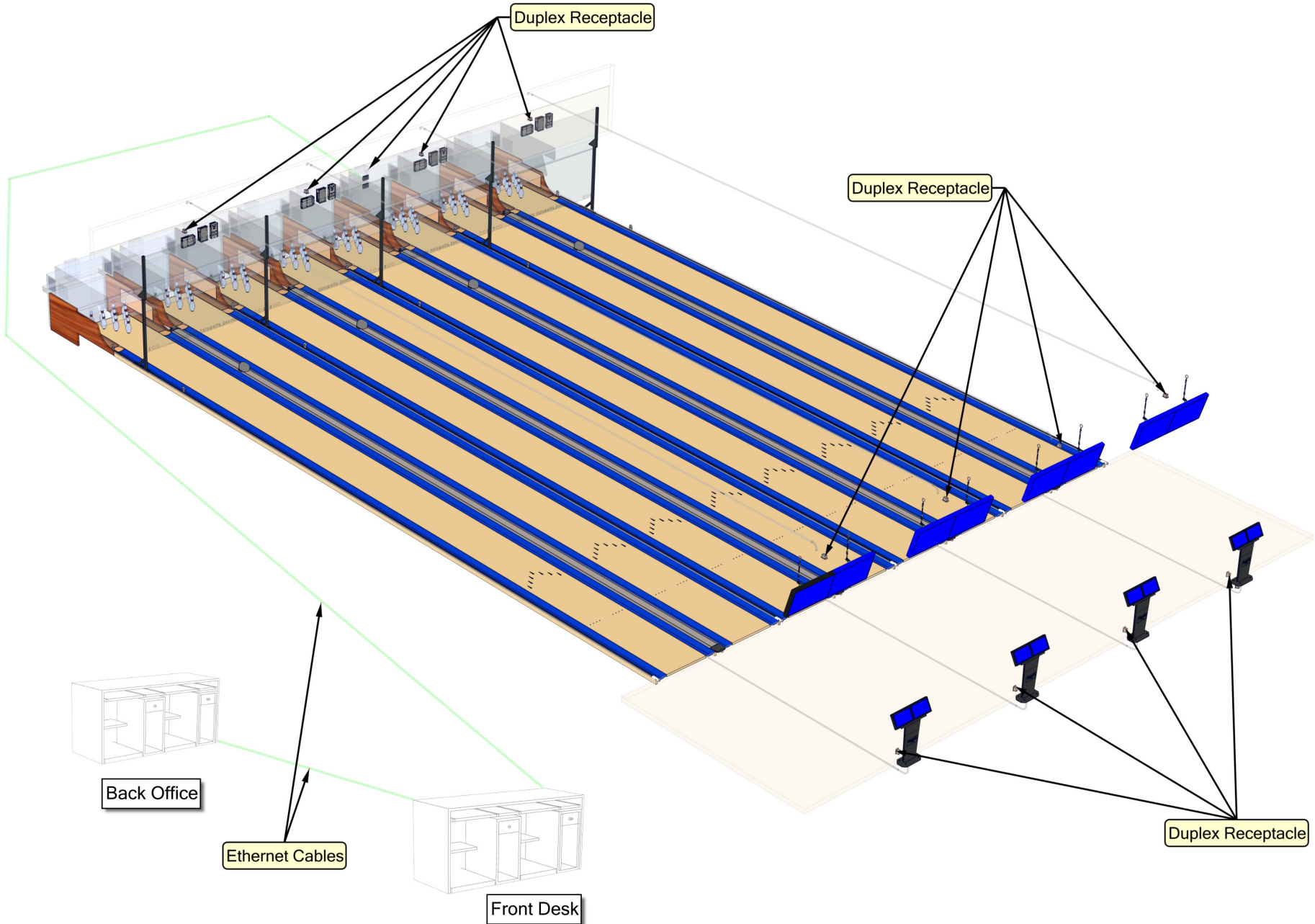
1. Steltronic requires a duplex receptacle (2 outlets) for each pair of overhead monitors.
2. Steltronic also requires a single receptacle for each lane computer that will be mounted on the rear curtain wall.
3. Each LCD monitor circuit needs to be rated at 2 AMPS per monitor.
4. Each lane computer circuit (on the back curtain wall) should be rated at 2 AMPS per lane computer.
5. The electrician should install a 20-amp circuit for each 6 lanes of overhead monitors.
6. The electrician should install a 20 AMP circuit per 6 lane computers. (Each lane computer runs one pair of lanes)
7. An additional circuit (always on) should be installed on the curtain wall at the middle of the center.
 - I. For example, if you have a 24 lane center an additional circuit is required for the network hub/switch and should be placed on the curtain wall between lanes 11-12.
8. The electrician should install a 10 amp circuit for the network switches on the curtain wall. (Always on and separate from the circuits described above in bullet #4)
9. Every night when closing, the overhead monitors & lane computers (electrical circuits) should be turned off. Since it is not practical to use circuit breakers as an on/off switch, we recommend that the electrician put in some type of switching device to turn off these circuits. This can be done based on the electrician's suggestions:
 - I. Install a lighting contactor with a remote key switch at the desk. (Preferred method)
 - II. Install a standard light switch very close to the front desk shoe counter.
10. Place the monitor electrical outlets (FLUSH MOUNTED IN THE CEILING TILE or DRYWALL) as close as possible to the location of where the monitors will be placed. (See the enclosed drawings)
11. All electrical for this automatic scoring needs to be on a DEDICATED INSULATED ISOLATED GROUND CIRCUIT, and lightning arrestors should be installed on the new electrical panel.

LOWER CONSOLE (TOUCH SCREEN) ELECTRICAL REQUIREMENTS

High Voltage is required at the lower console. (Supplied by your electrician)

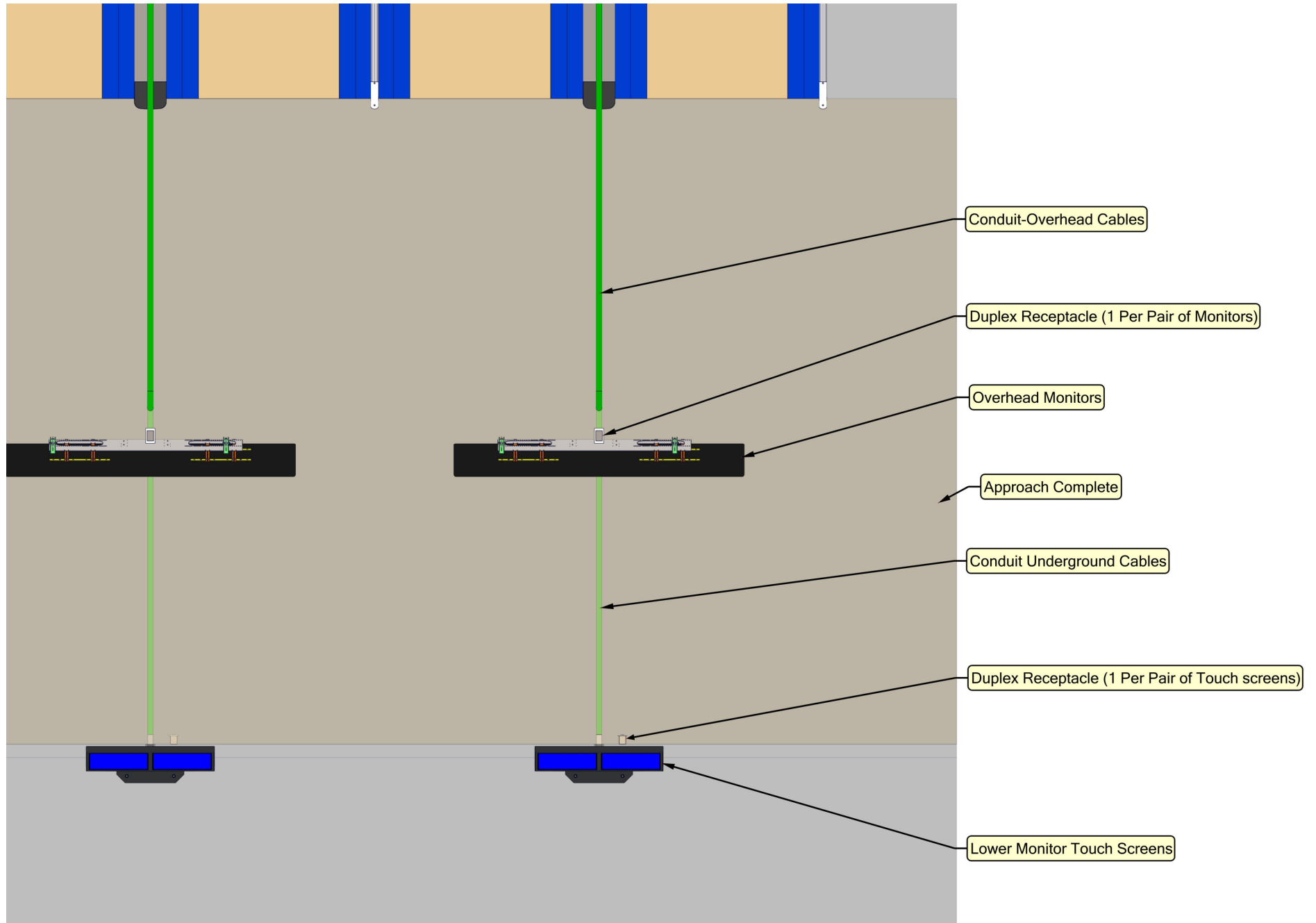
1. High voltage 115 VAC. (This is to supply A/C power to the touch screens)
 - I. 1-½ Inch conduit for high voltage wires.
2. Electrical requirements: TWO (2) Amps per touch screen is required.
 - I. One (1) Duplex receptacle per pair of lanes.
3. Additionally, TWO (2) CAT6 ethernet cables will be run to each pair of touch screens. (CAT6 cables supplied by Steltronic)
 - I. TWO (2) Green Cat6 cables from the bowler console computers to the curtain wall. These two cables are to be connected to the network switch on the rear curtain wall for communications to the Steltronic network.

GENERAL OVERVIEW



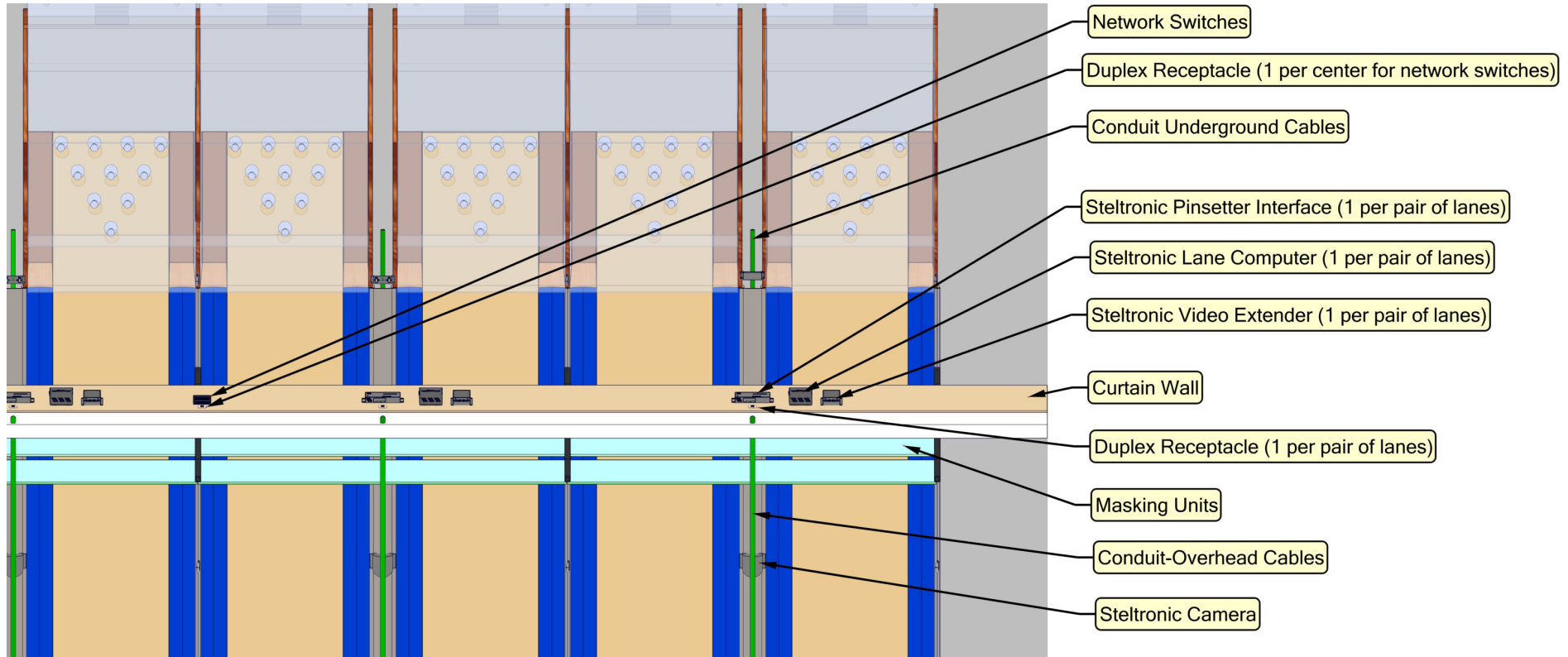
TOP VIEW-MONITORS

The picture below represents a "TOP VIEW" of a typical bowling center while viewing the monitors.

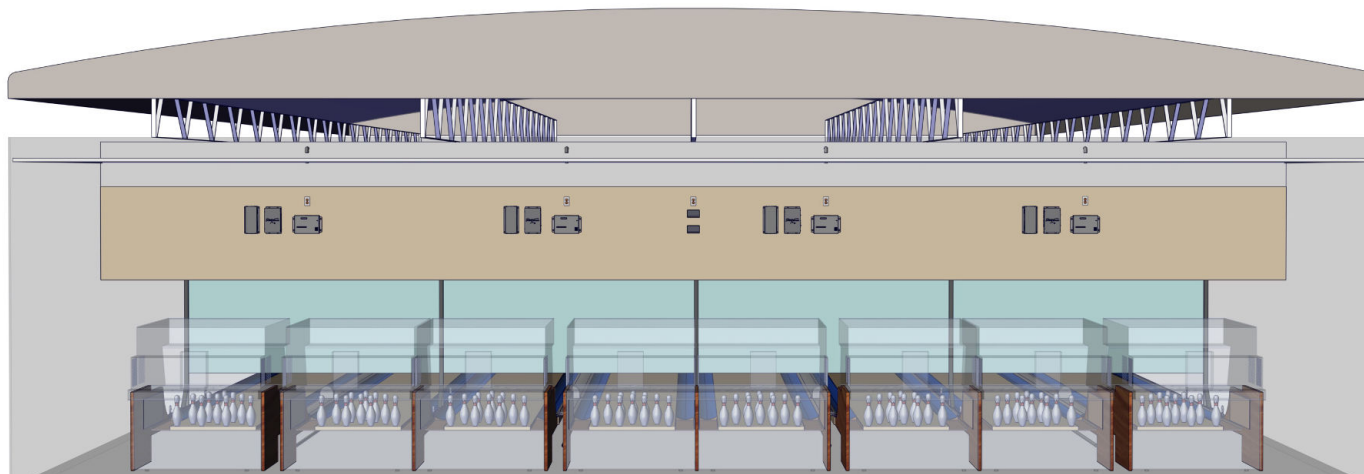


TOP VIEW-CURTAIN WALL

The picture below represents a "TOP VIEW" of a typical bowling center, while viewing the hardware near the curtain wall.



BACK VIEW

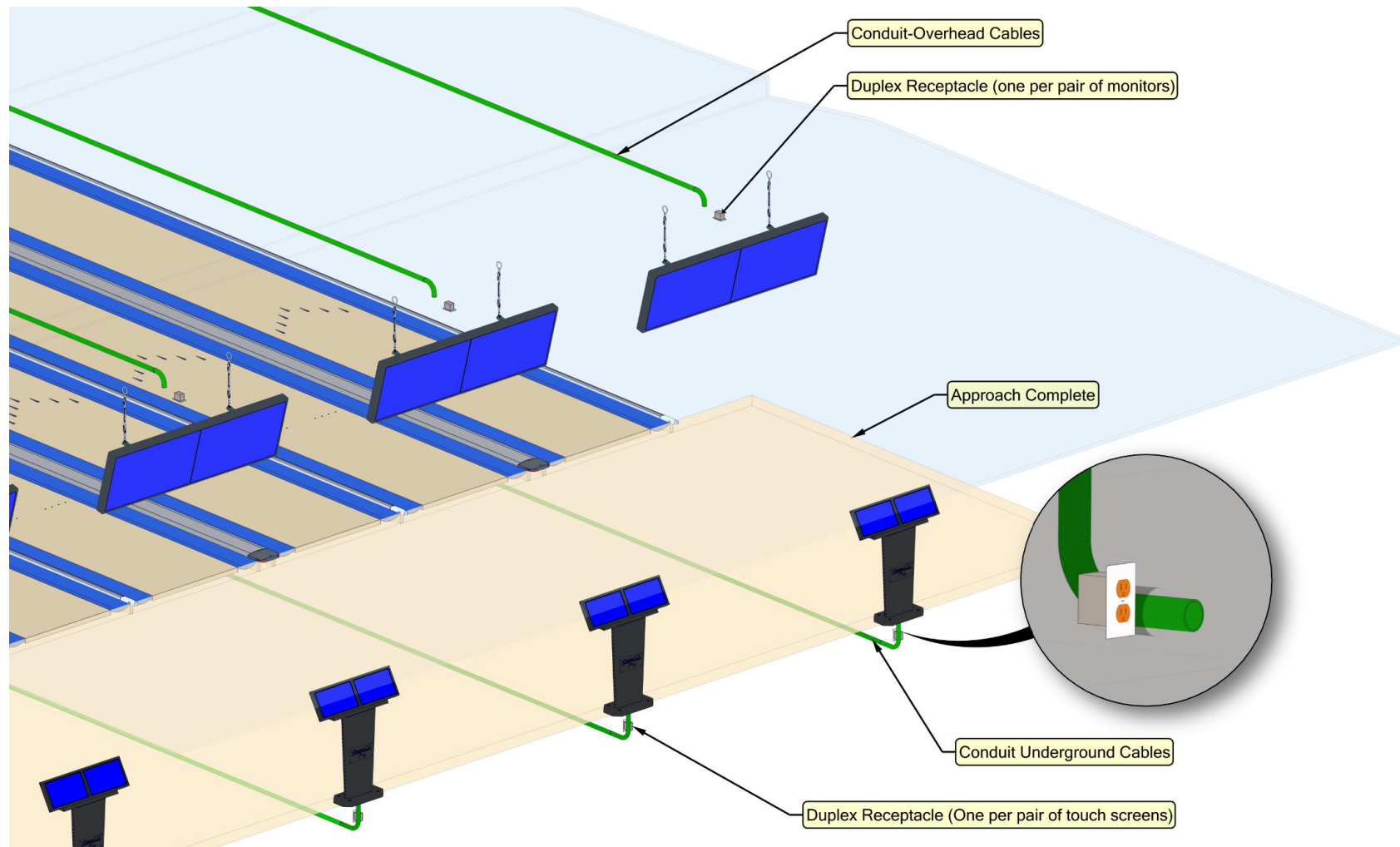


BACK VIEW

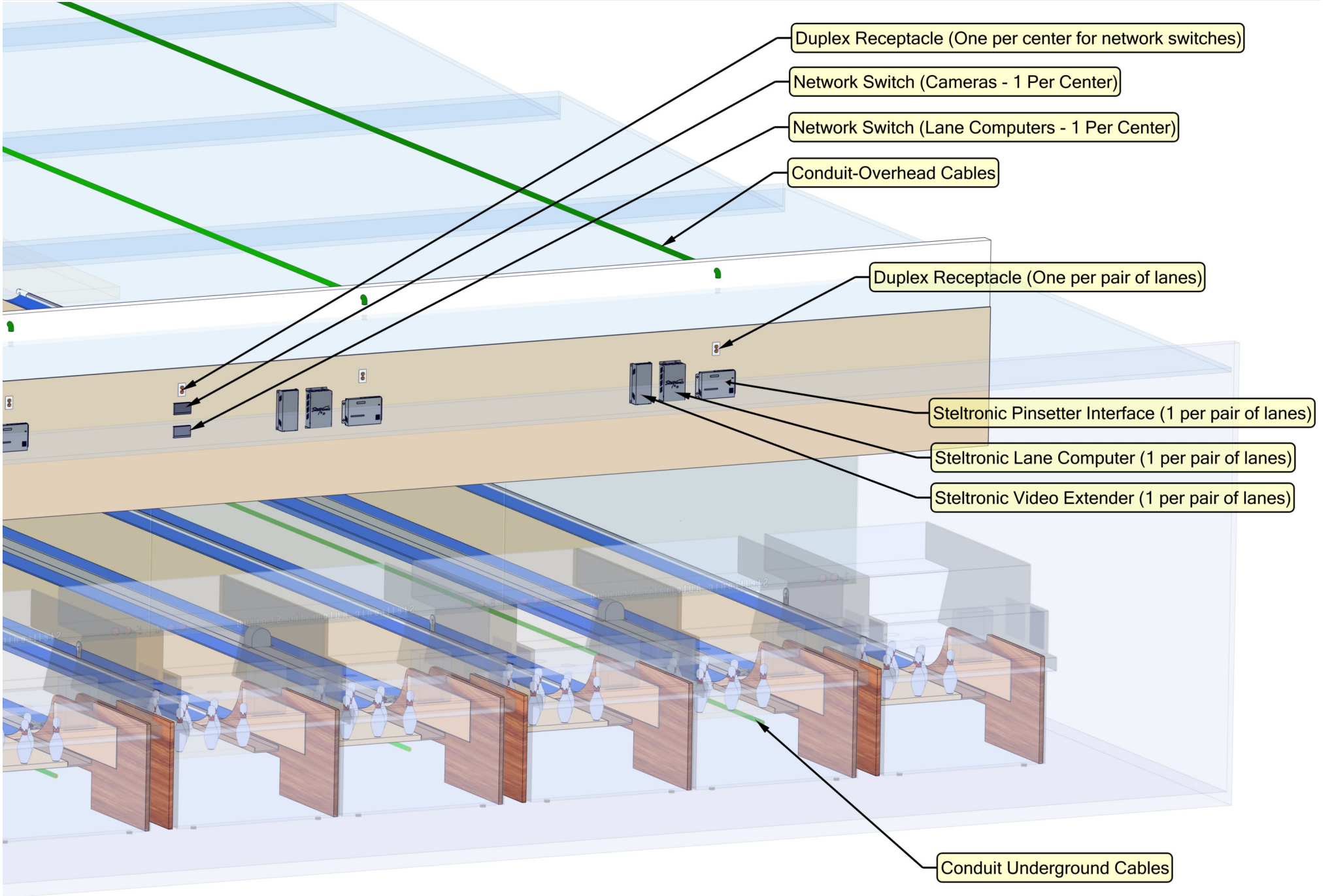
TOP VIEW-FRONT SIDE

Looking at the image below, take notice of the following:

1. One each duplex receptacle is required for each “pair” of overhead monitors.
2. One each duplex receptacle is required at the base of each lower touch screen console. This will be located below the approach, and can be surface mounted to the wooden approach or concrete floor under the bowler console pedestal.
3. The preferred method is to install a one (1) inch conduit for the overhead low voltage cables that run from the overhead pair of monitors all the way to the curtain wall near the pinsetters. If a conduit is not provided, the cables will be exposed.
4. The preferred method is to install a one (1) inch conduit for the lower touch screen monitors low voltage cables that runs all the way to the pinsetters. Access from the lower touch screens baseplate to the foul line must be available for the installers.



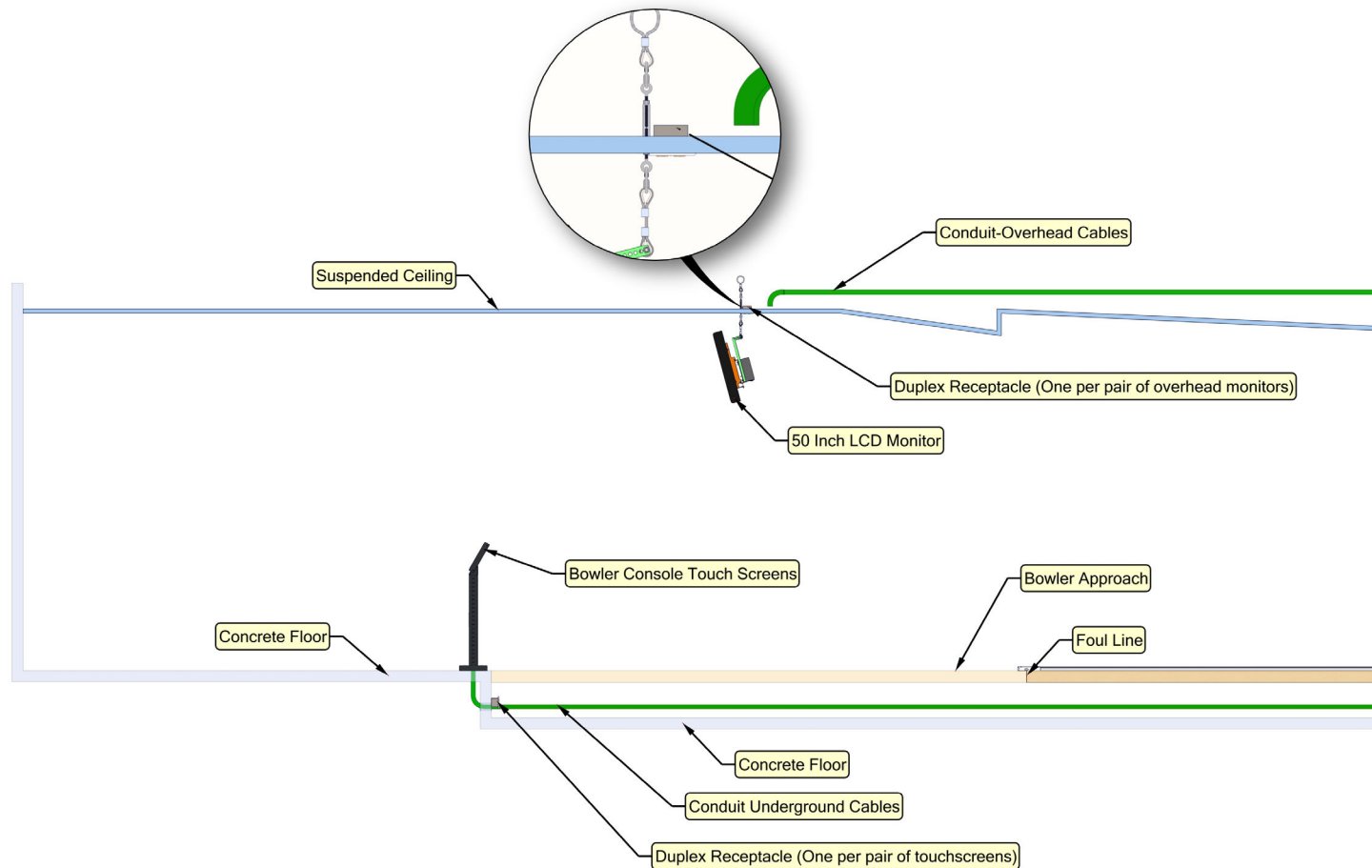
TOP VIEW-BACKSIDE



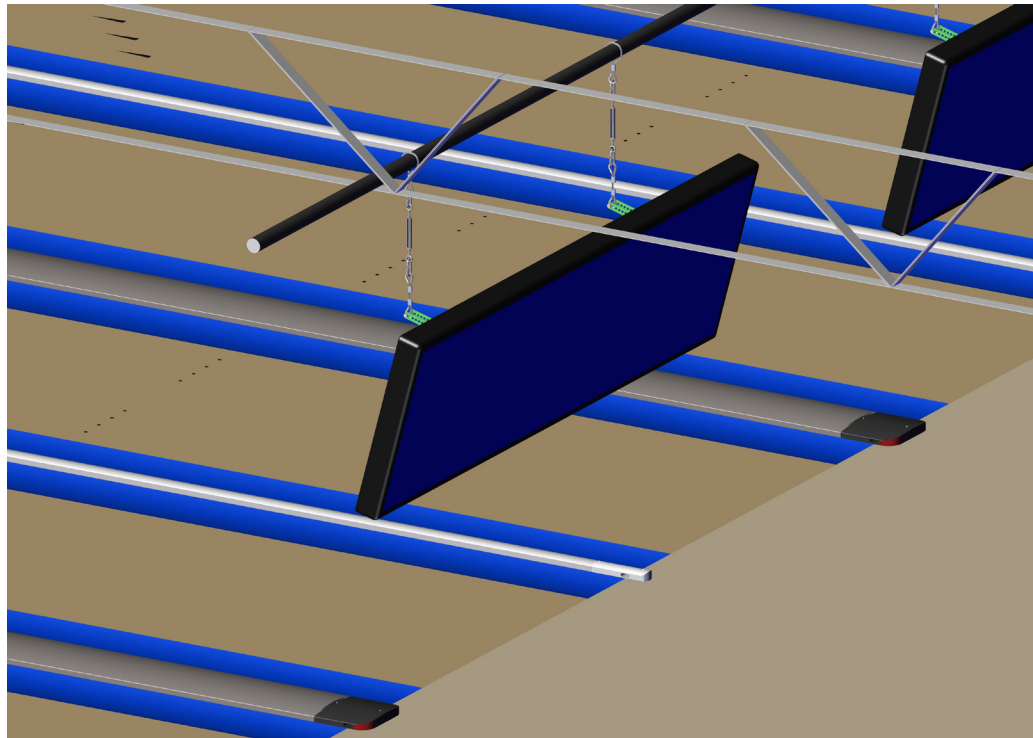
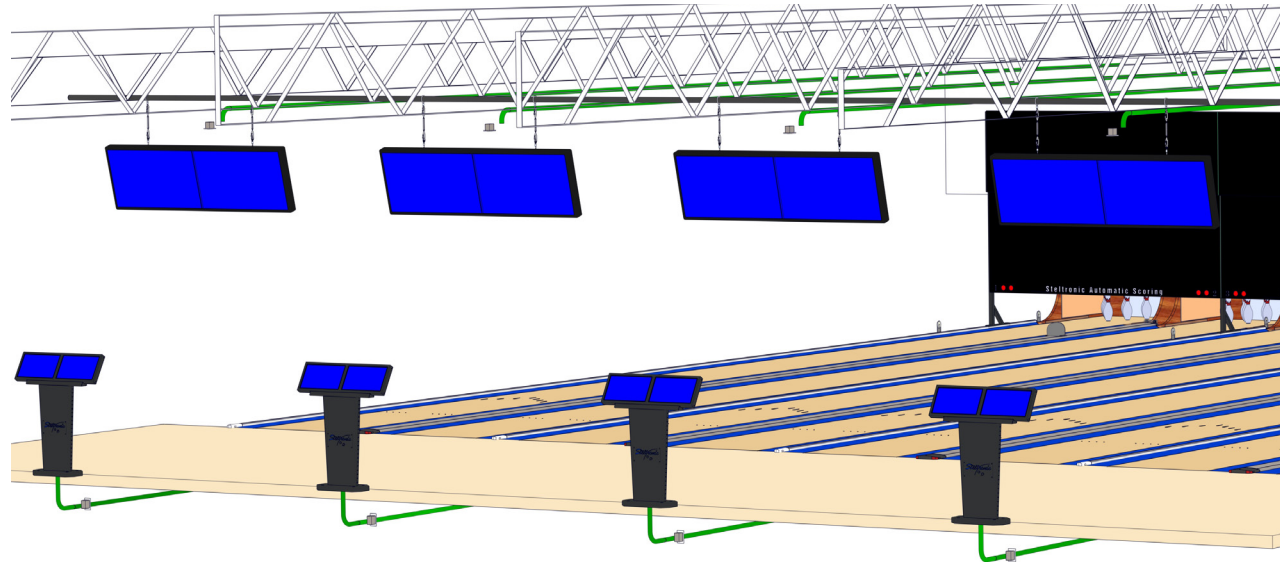
SIDE VIEW

Looking at the image below, take notice of the following:

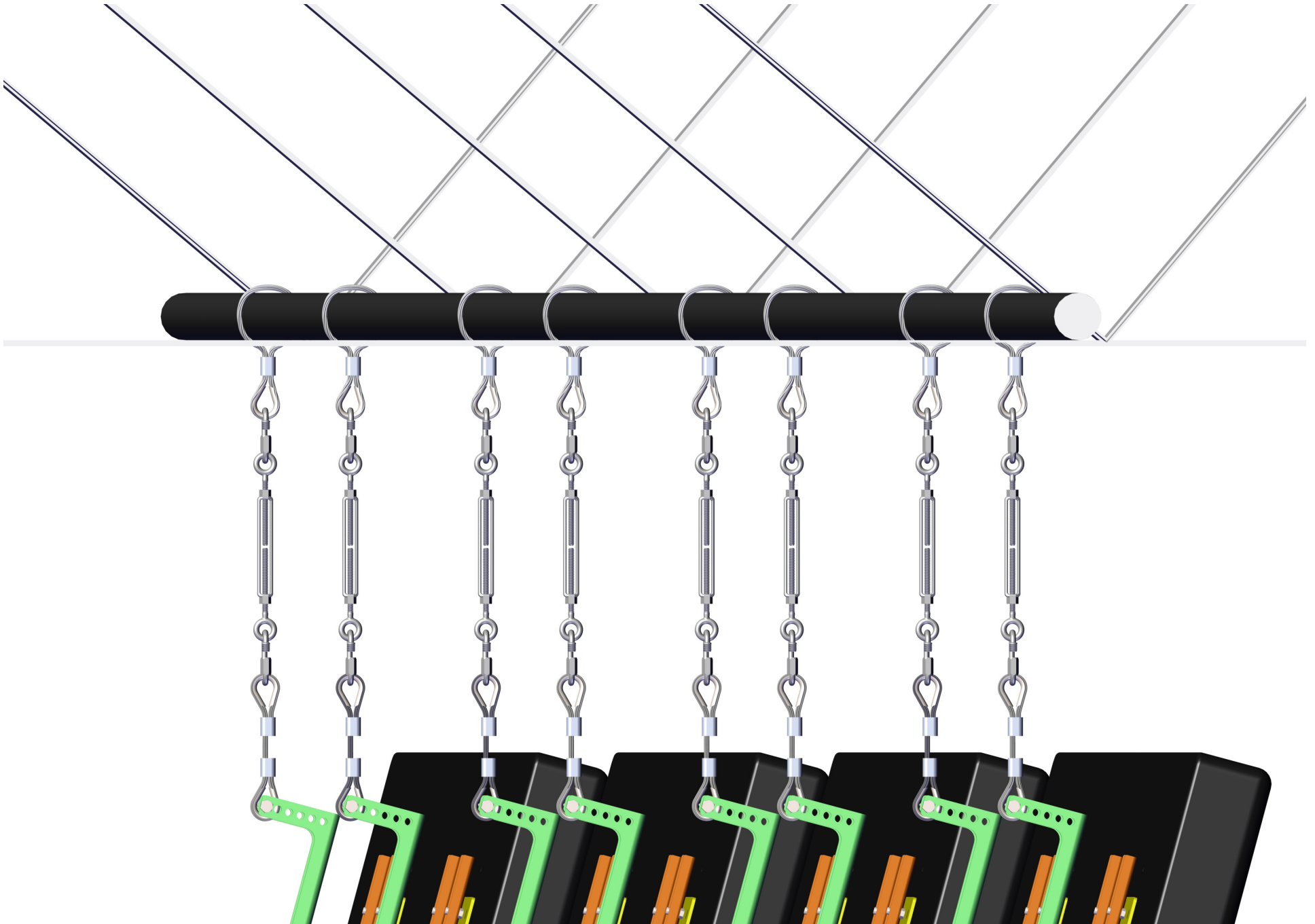
1. One each duplex receptacle is required for each “pair” of overhead monitors. This receptacle can be flush mounted into the ceiling tiles or drywall in a way that the overhead monitors can be plugged in.
2. One each duplex receptacle is required at the base of each lower touch screen console. This will be located below the approach, and can be surface mounted to the wooden approach or concrete floor under the bowler console pedestal.
3. A one (1) inch conduit is preferred for the overhead low voltage cables. This conduit starts at the overhead pair of monitors and runs to the curtain wall near the pinsetters.
4. A one (1) inch conduit is preferred for the lower touch screen monitors low voltage cables. This conduit is run all the way to the pinsetters.



FRONT VIEW WITH NO ROOF



MONITOR HANGING SUPPORT HARDWARE



STATIC LOAD REQUIREMENTS

It is the responsibility of the building contractor or current bowling center owner to obtain the services of a registered structural engineer or architect to determine that the requirements stated in this document can be obtained. Certification must be based on an investigation of the actual structure or drawings specifying the overhead construction supporting the curtain wall and Steltronic overhead monitors.

Shipment of Automatic Scoring Equipment will not be authorized prior to Steltronic receipt of this completed document.

STRUCTURAL ENGINEER CERTIFICATE

PRIOR TO INSTALLATION OF ANY MONITOR, STELTRONIC REQUIRES YOUR STRUCTURAL ENGINEER TO SIGN THE CERTIFICATE BELOW.

STELTRONIC AND ITS CERTIFIED INSTALLERS MAY NOT START INSTALLATION OF ANY MONITOR UNTIL THIS CERTIFICATE BELOW IS PROPERLY FILLED OUT AND STAMPED BY YOUR STRUCTURAL ENGINEER.

"I have investigated the structures or the drawings for the structures at: _____

located at: _____

City: _____ State _____ Zip _____

and certify:

"There is a device in place that will support the weight of a 200 pound static load per pair of lanes for _____ (qty.) of Overhead Monitor Assemblies.

"Also, there is a device in place that will support an additional load of 100 pounds for each additional single monitor assembly, if ordered (qty): _____.

These units are located over the approach in the ball return area."

Signed: _____ P.E. # _____

Address: _____

City: _____ State _____



P.E. SEAL

CERTIFICATION AND RELEASE (BY PROPRIETOR)

I, _____, as the proprietor or as duly-authorized representative of the proprietor, certify to Steltronic that:

1. The proprietor has obtained the above structure certification for the proprietor's own benefit
2. The proprietor is not relying upon Steltronic that the roof structure described in the structure certification will support the overhead video display units selected by the proprietor and installed by Steltronic.

In consideration for Steltronic's agreement to install the overhead video display units, and by signing below, proprietor for proprietor's own self and for proprietor's heirs, successors, assigns, employees, agents, representatives, insurers, contractors, subcontractors, and their spouses and relatives ("Proprietor Group"), releases and agrees to indemnify Steltronic Inc. it's officers, directors, employees, parent companies, subsidiaries, and affiliated companies, insurers, agents, contractors, subcontractors, from all claims, demands, actions, causes of action, or their functional equivalent, that any member of the Proprietor Group may have subsequently accrue to a member of the Proprietor Group arising out of or connected with, directly or indirectly, the inability of the roof structure described in the above structure certification to support the overhead video display units installed by Steltronic Inc. in accordance with the support specifications on the reverse of this sheet.

Printed or typed name of proprietor

Signature

Title

Date