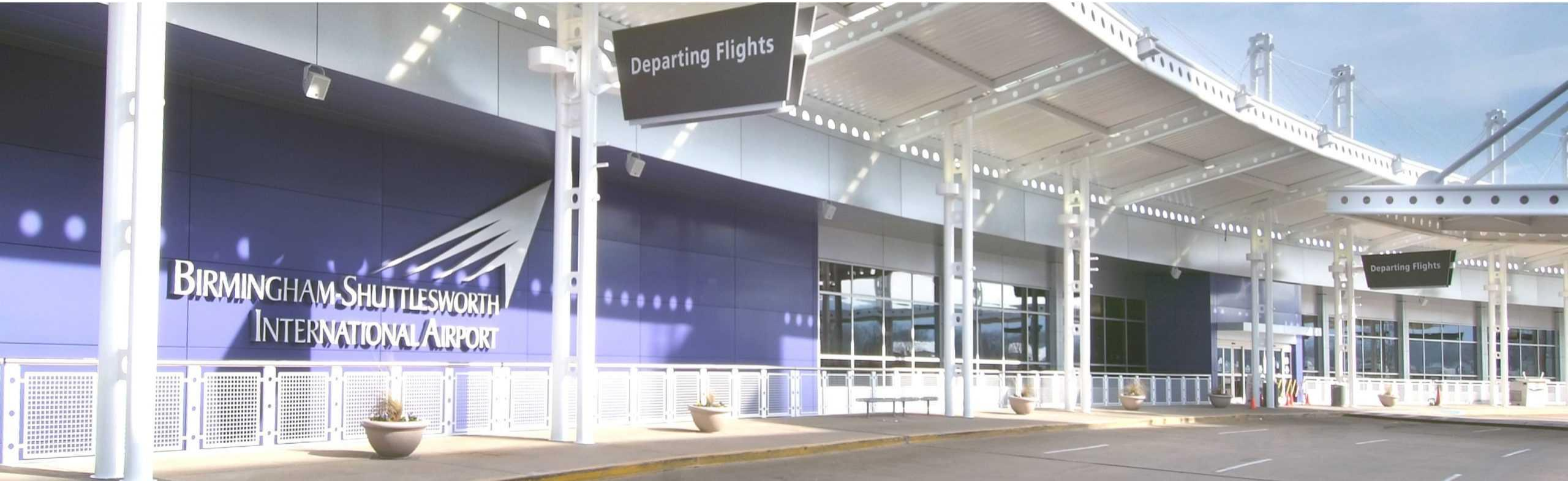
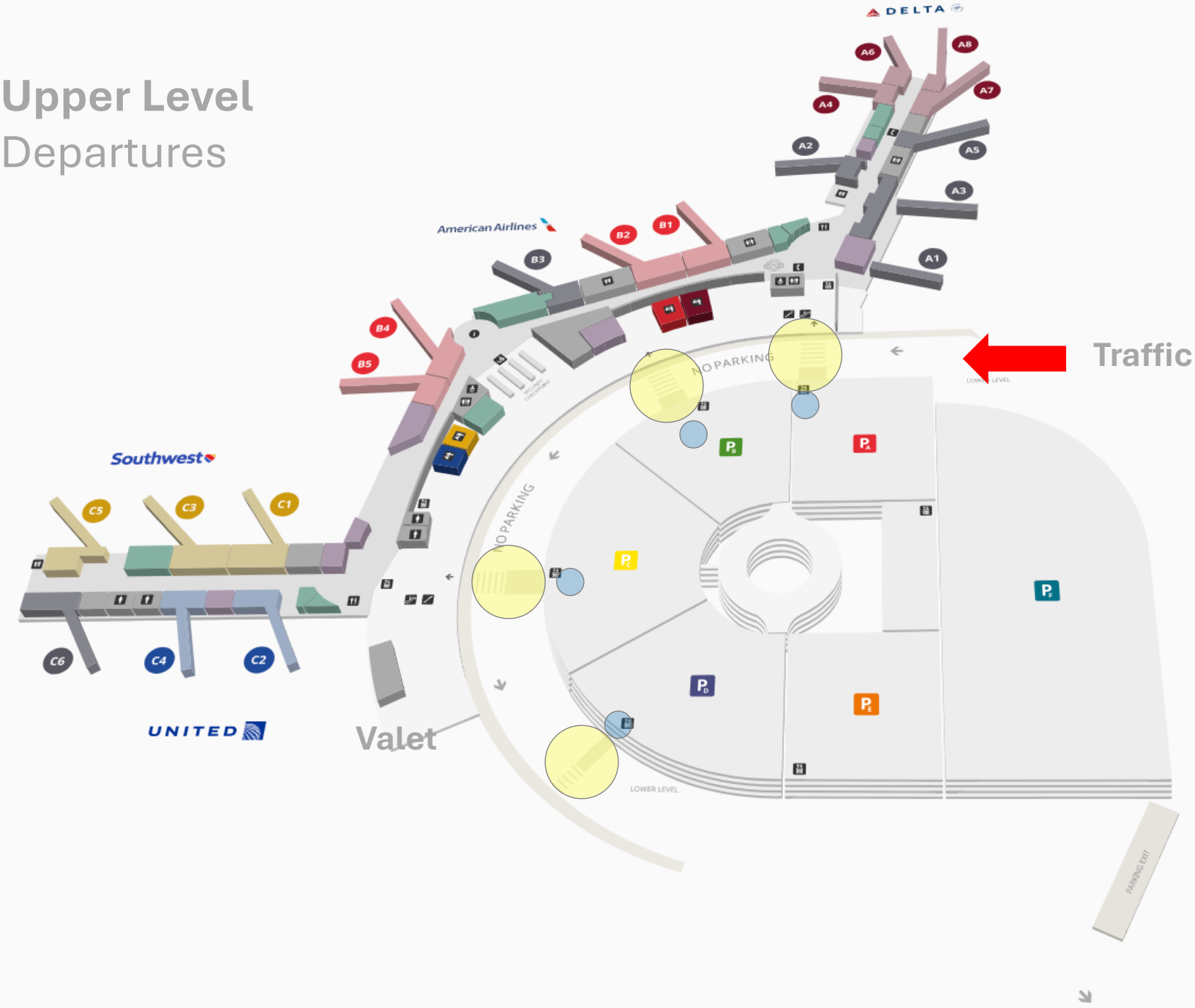


Birmingham-Shuttlesworth International Airport
Pedestrian Crosswalk Safety Upgrades

Pre-Bid Conference, May 21, 2025, 1:30 PM

bhm
ssoe®

Upper Level
Departures



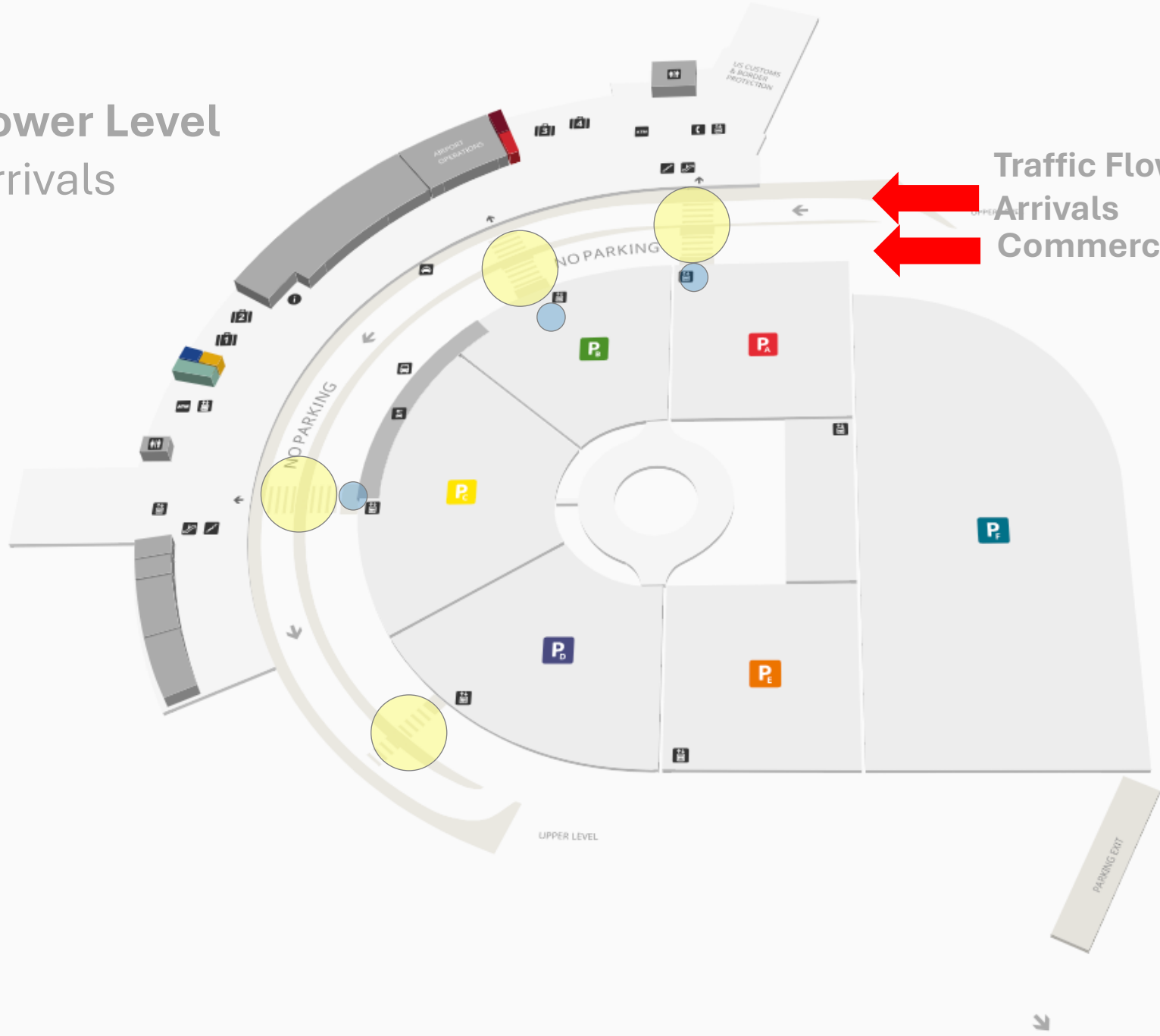
Crosswalk

Crosswalk
Canopy above

Traffic Flow

Valet

Lower Level
Arrivals



Traffic Flow
Arrivals
Commercial Curb

Crosswalk

Crosswalk
Canopy above

Typical Canopy Crosswalk @ Departures

Commercial Curb

Typical Canopy Crosswalk @ Arrivals

Existing Conduit Run
Crosswalk @ Arrivals

Existing Conduit Run
Crosswalk @ Arrivals
Commercial Curb

SolarPath sun solutions

PC500

Configuration Manual 7

LightMark series

Lightmark Cross Line

The Solarpath Lightmark Cross Line has been engineered and designed to highlight crosswalks and pathways.
The product is both IK10 and IP67, which means the fixture is made by stainless steel and polycarbonate. The LED's are 120 Degrees and has lights spread around the outside of the box. It compares to other In ground fixtures. The Lightmark Cross Line has a longer life than all others fixtures due to high quality material and water proof protection. Due to the components, the fixture can be drive over and can be Installed in crosswalks.
The Lightmark Cross Line can be powered via solar engine or connected to local power, it depends on the location of where it will be installed.

Technical Specifications

Technology and Operation

Energy source	- Solar modules - External DC feed
Power Supply	12V DC, 240mA
Power Consumption	2.88W
Power Cable	+VDC, GND
Illumination technology	24 x Ultra-bright 460nm LEDs.

Illumination Properties

Available flash patterns	Steady Light (Other modes of operation like flashing or sequential are available with external controller)
Available colors	White/ Warm white, Blue, Red, Green, Amber, Blue
Viewing Angle	120° Opening angle metric

Material and Design

Cover	Stainless steel league with polycarbonate
Base	Aluminum
Dimensions - Body	39.37" x 3.89" x 1.89" / 1000mm x 100mm x 48mm
Raising above grade	No elevation above the surface
Working temperature	-13°F~185°F
Protection Index	IP67, IK10

Key Features

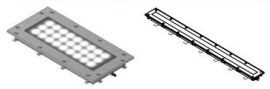
- Ideal for Installation in crosswalks.
- Low profile to not disturb circulation.
- Large lighted area for visual impact.
- Suitable for regular traffic zones of vehicles.
- Robust construction with high strength.
- Wired system that can be powered by electric or solar energy.
- Easy maintenance.

Incredibly durable and long lasting:

- Stainless steel body
- IK10 Resistance
- Absolute water resistance (IP67)
- Certificate- CE, ROHS.

Uses and Applications:

- In-Ground signaling applications (parking lot entrances, toll plaza lane control etc.)
- Crosswalks, bike and pedestrian lanes
- Ship and water craft decks
- Entertainment areas, parking lots, hotel entrances, gas stations and many morel



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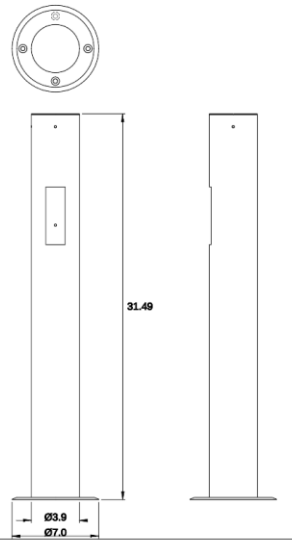
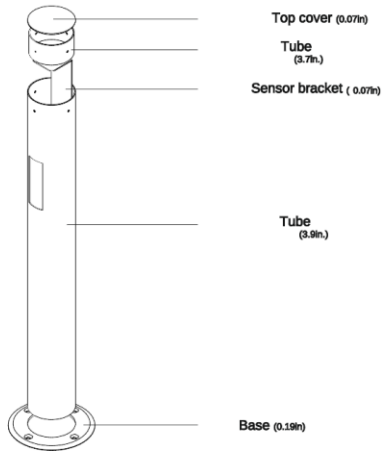
SolarPath sun solutions	Infra-Red Bollard	

Dimensions





115.0

Date:18/02/2016
1 / 1

LineLight series R1

The LineLight R1 is a high-Intensity, heavy duty wired marker for unI-directional marking.

Incredibly durable and long lasting:

- Stainless steel body
- Military-grade high mechanical resistance design - resistant to tanks, trucks, snow plows and other heavy machinery
- High compression strength (1000kg / cm)
- Absolute water resistance (IP68)

Flexible and Customizable:

- With a variety of LED colors the R1 can be configured to change colors as needed - an Ideal feature for applications such as parking lot entrances, lane delineation and toll plaza lane signalling.
- Adjustable luminance levels
- Programmable Flashing, sequential flashing or steady lighting and timer configurations
- Optional PC, RF and GSM Remote control

Easy maintenance:

- A fixed base and a removable main unit body allows for easy maintenance if needed

Uses and Applications:

- Tunnels, parking lots, Indoor spaces, walkways
- In-Ground signaling applications (parking lot entrances, toll plaza lane control etc.)
- Areas with inclement weather conditions (coastal roads, foggy areas, wet and rainy regions, etc.)
- Crosswalks, bike and pedestrian lanes
- Ship and water craft decks
- Entertainment areas, parking lots, hotel entrances, gas stations and many morel

Technical Specifications

Technology and Operation

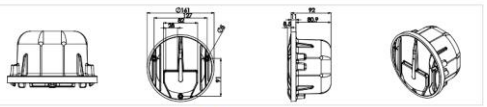
Energy source	- Solar modules - External DC feed - Hybrid - Solar & External DC backup feed
Energy consumption	12V-24V DC, 80mA
Illumination technology	12 x Ultra-bright 460nm LEDs.
Operating temperature range	-22F to +185F / -30C to +85C
Warranty	2 years

Illumination Properties

Available flash patterns	Controllable - Flashing, Steady or Sequential
Available colors	White, Blue, Red, Green, Amber
Lighting Intensity (mcd)	Amber 4000 / Red 3000 / White 6400 / Blue 3200 / Green 11000
Light visibility distance	Up to 3,280 feet / 1km (varies according to weather conditions)

Material and Design

LED protector	UV-treated Polycarbonate
Case	Aluminum & Anti-corrosion stainless steel
Compressive strength	1,000kg/cm
Dimensions - Body	Φ 6.29" x 3.93" / Φ160mm x 100mm
Raising above grade	0.275" / 7mm
Weight	6.61 lbs / 3kg
Water protection	IP68



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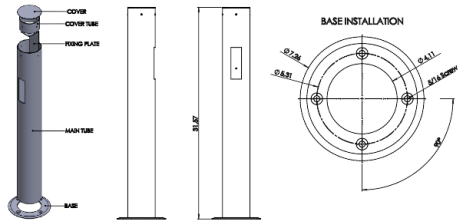
INFRARED BARRIER INSTALLATION

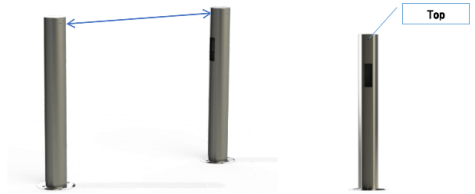
Infrared Barriers Installation

There are 4 infrared barriers that should be installed in set of two in each entry of the crosswalk. The barriers are installed on the sidewalk with 4 x 5/16 screws and 4 metallic sleeves.



To properly work, the barriers should be installed at the same height level and must be 100% aligned. In the image below it's shown an easy way to align the barriers:

- Facing the barriers to each other the two screws placed right above the sensor have to be aligned.



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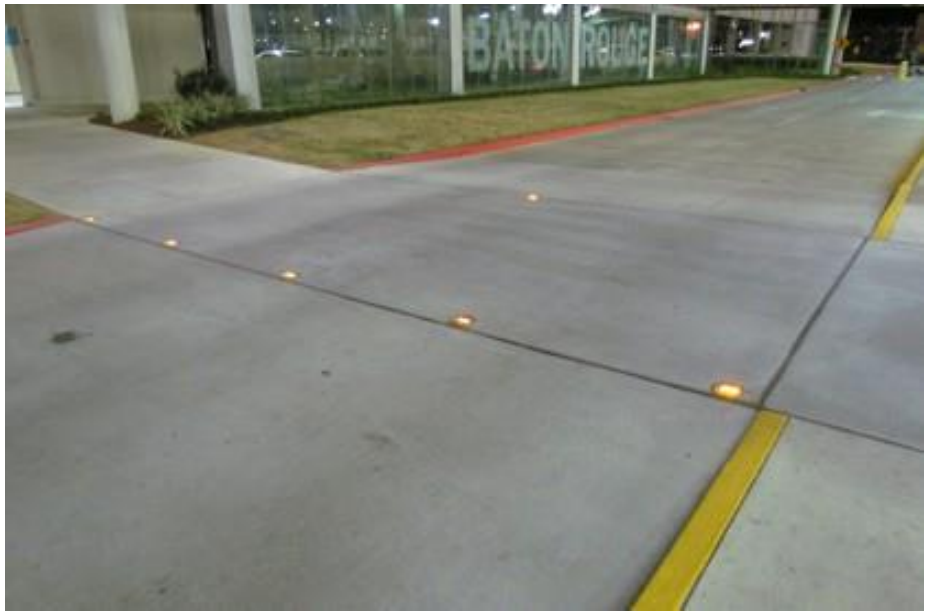
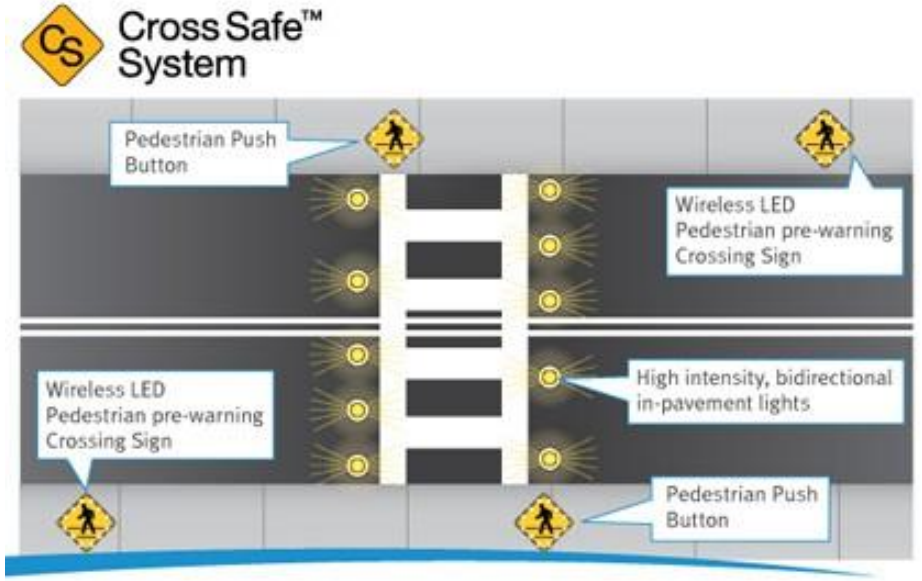

BATON ROUGE


Cross Safe™
System
Pedestrian Push Button
Wireless LED Pedestrian pre-warning Crossing Sign
Wireless LED Pedestrian pre-warning Crossing Sign
High intensity, bidirectional in-pavement lights
Pedestrian Push Button

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Express

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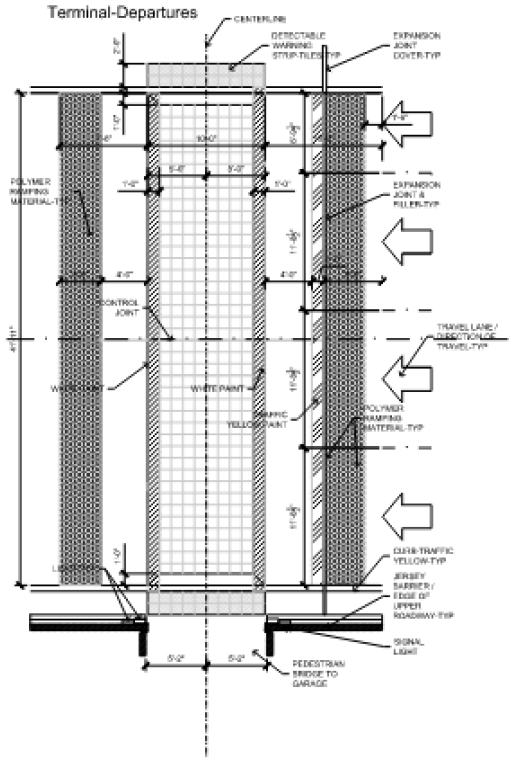

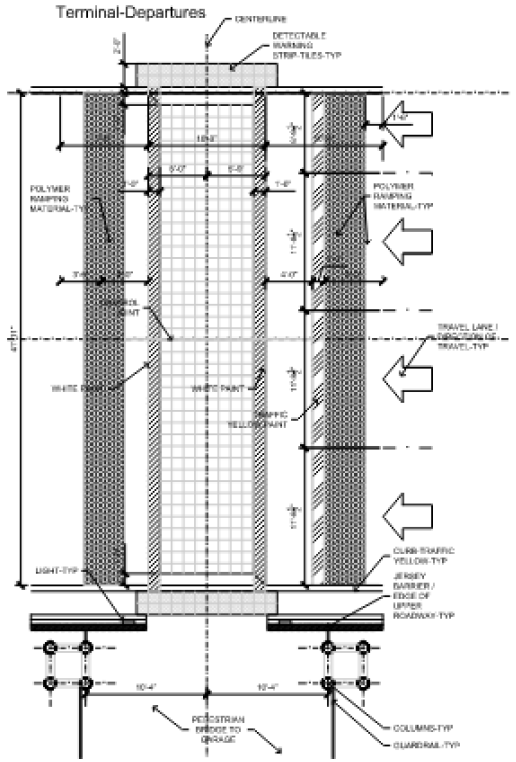

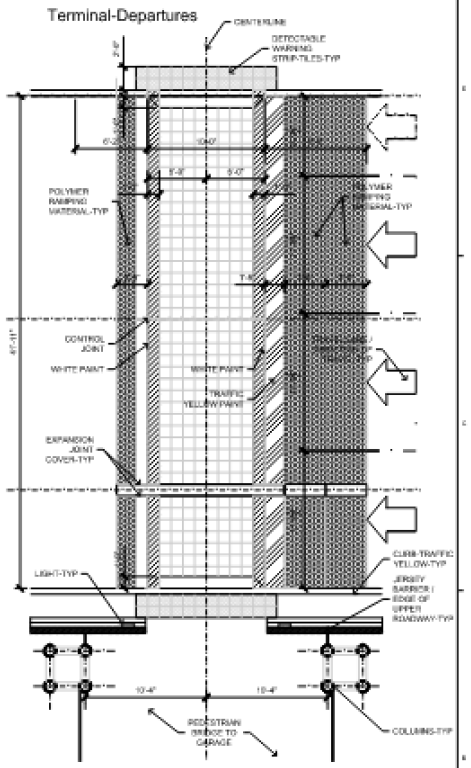

SSOE

STATE OF ALABAMA
05/8/25
ROBERT G AULL
26961
PROFESSIONAL ENGINEER

PROJECT INFORMATION

Birmingham–Shuttlesworth International Airport Pedestrian Crosswalk Safety Upgrades

5900 Messer Airport Hwy, Birmingham, AL 35212

OWNER INFORMATION

bhm

Birmingham Airport Authority

NO.	DESCRIPTION	DATE
1	100% DESIGN SUBMITTAL	05/08/2025

SSOE, Inc.

PROJECT NO. 025-00776-00

DRAWING TITLE
Existing Conditions Plans, Upper Level Departures

DRAWING NO.
AE-101

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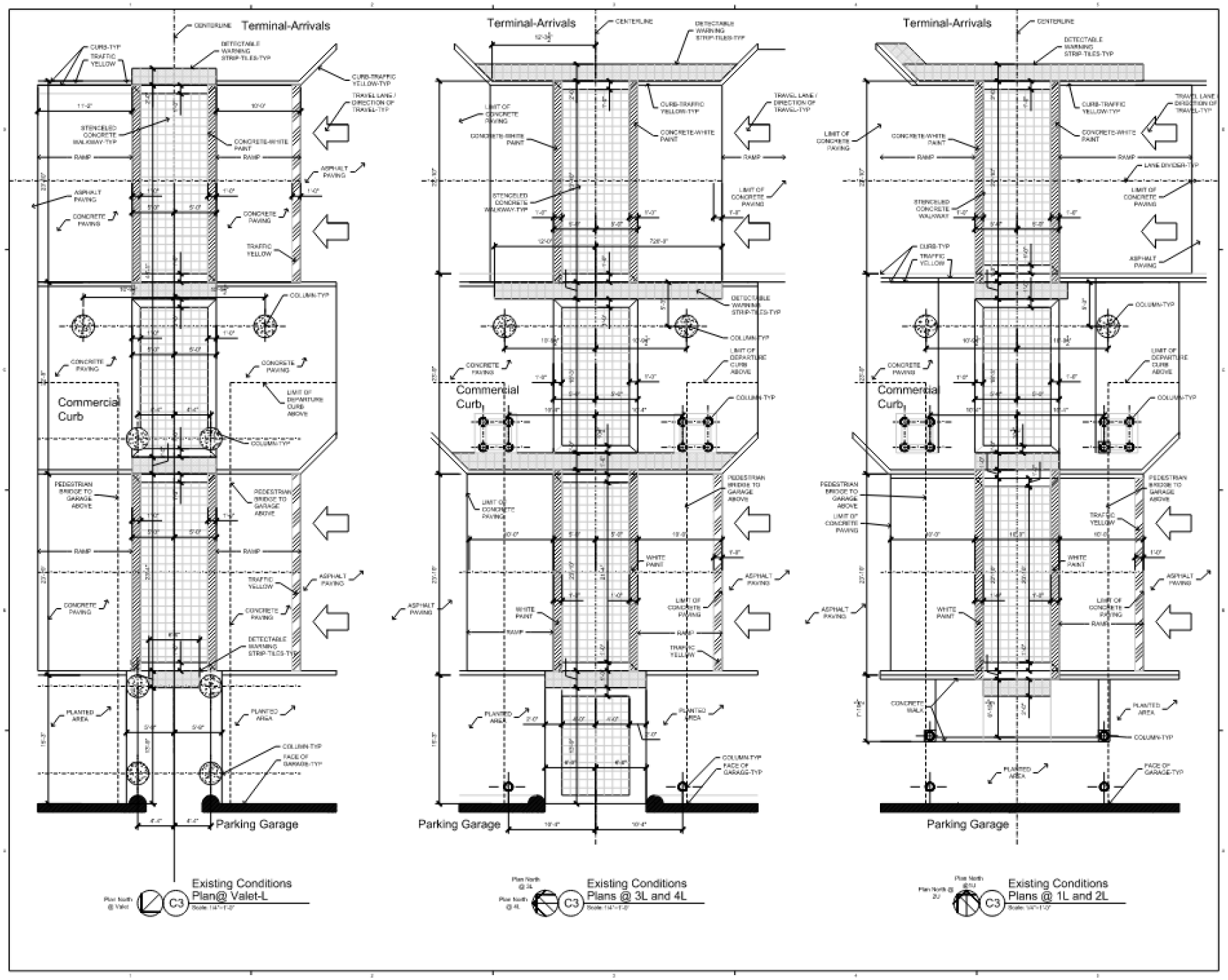

SSOE

PROJECT INFORMATION

Birmingham–Shuttlesworth International Airport Pedestrian Crosswalk Safety Upgrades

5900 Messer Airport Hwy, Birmingham, AL 35212

CLIENT INFORMATION

bhm

Birmingham Airport Authority

SSOE, Inc.

PROJECT NO. 025-00776-00

DRAWING TITLE

Existing Conditions Plans, Lower Level Arrivals

DRAWING NO.

AE-102

bhm

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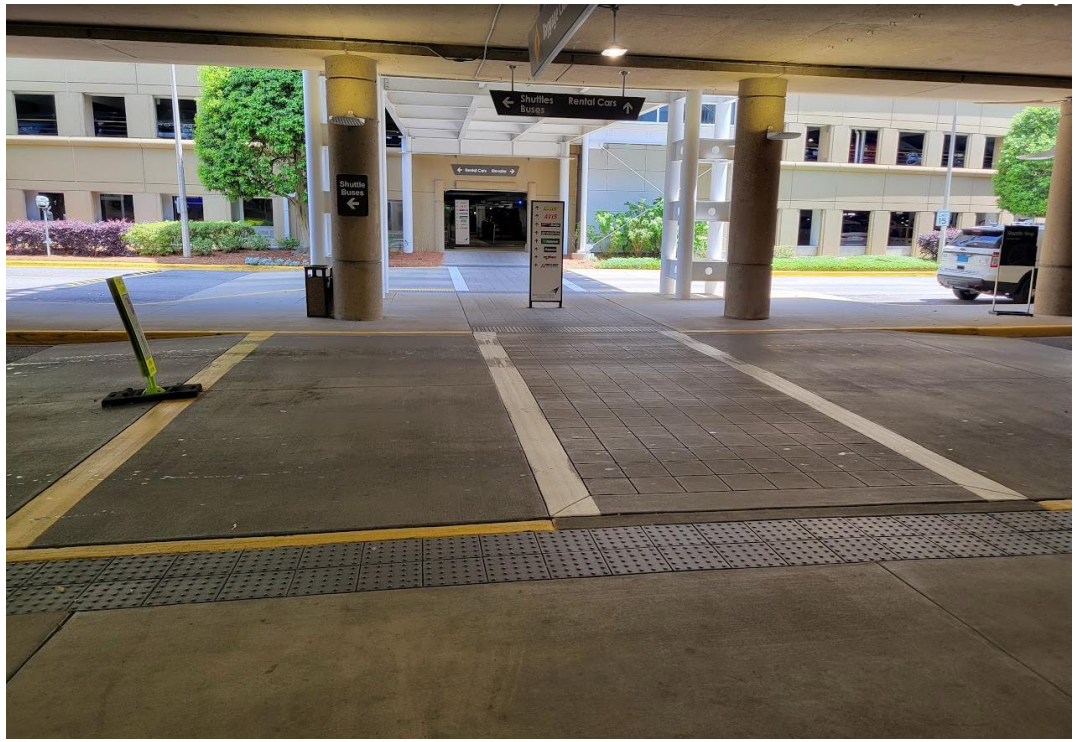
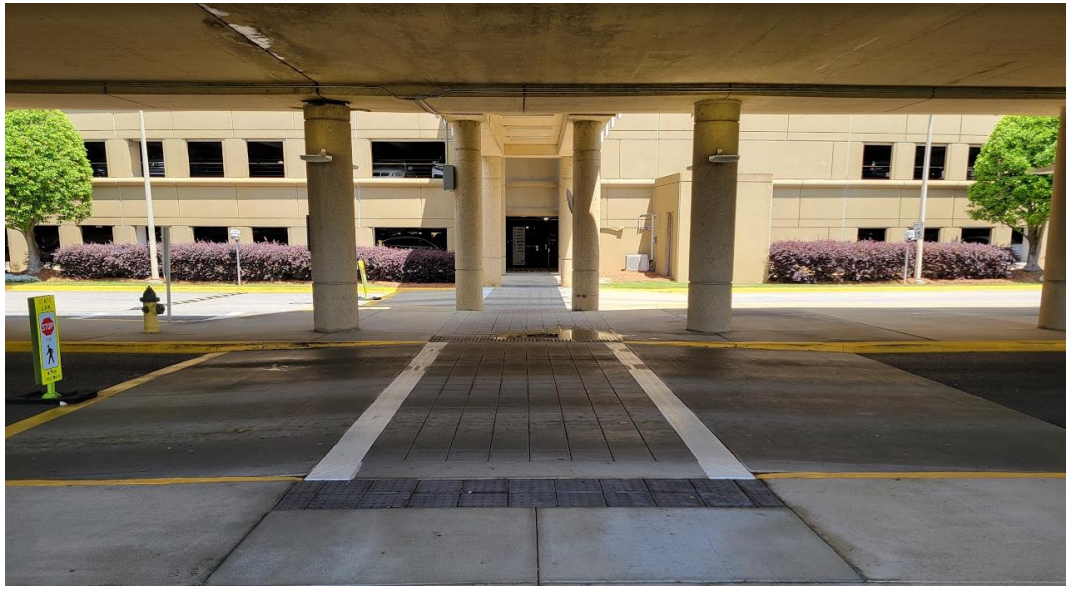
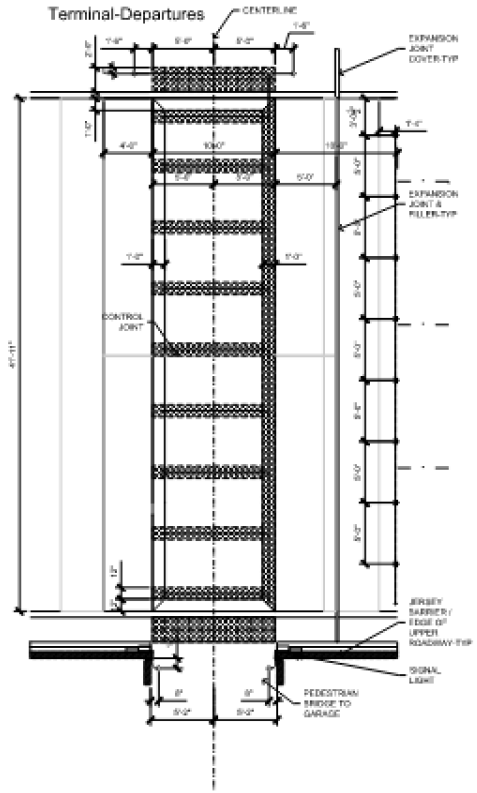
Baggage Claim 3 - 4
Arrivals
Baggage Claim
STOP


Shuttles
Buses
Rental Cars

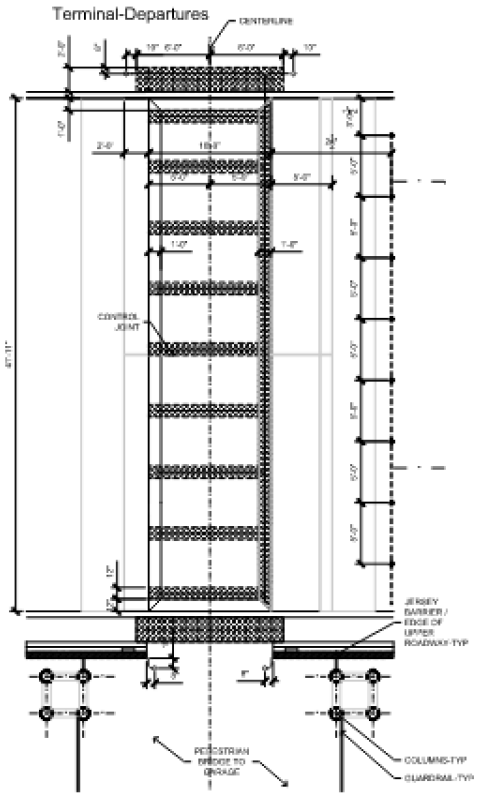

STOP

bhm
ssoe®



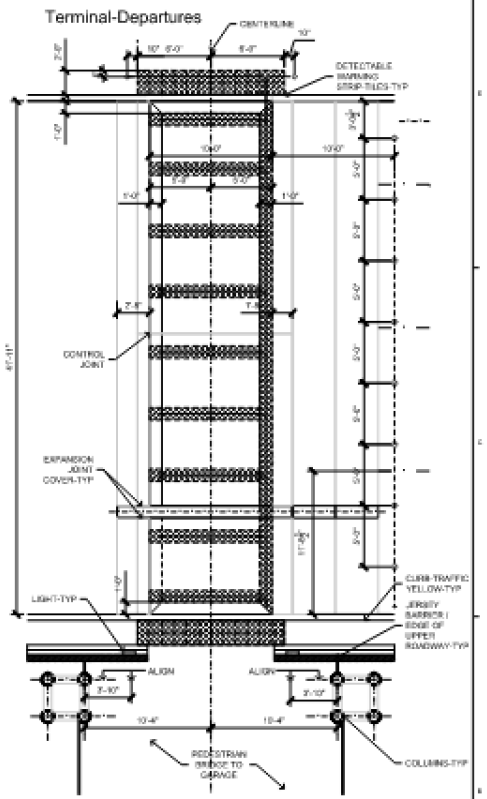
Demolition Plan@ Valet

Plan North @ Valet C3 Scale: 1/4"=1'-0"



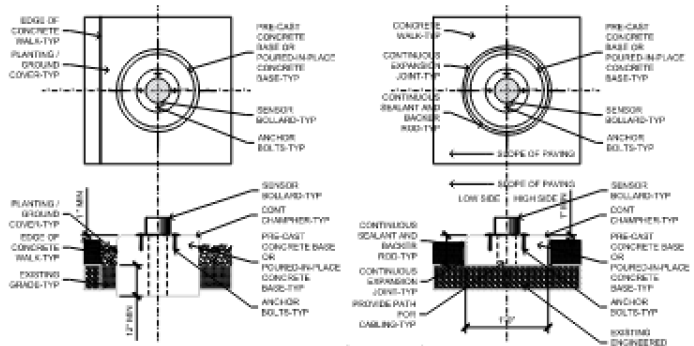
Demolition Plan@ 4U

Plan North @ 4U C3 Scale: 1/4"=1'-0"



Demolition Plan@ 1U and 2U

Plan North @ 2U C3 Scale: 1/4"=1'-0"



Standard Sensor Boallard Base Details

A3 Scale: NTS

EXPANSION JOINT BASIS-OF-DESIGN PRODUCT: WR MEADOWS X-FOAM

ALABAMA 811

THE CONTRACTOR SHALL CONTACT UTILITY LOCATORS PROPERLY BEFORE DIGGING. CALL 811 (ALABAMA'S ONE CALL CENTER) AT LEAST TWO BUSINESS DAYS BEFORE ANY EXCAVATION WORK BEGINS. ADDITIONALLY, THE CONTRACTOR SHALL CONTACT PRIVATE UTILITY LOCATING SERVICES FROM COMPANIES LIKE GPRS FOR PRIVATE LINES, AS 811 ONLY COVERS PUBLIC UTILITIES.

Demolition Notes

1. ALL INFORMATION IS BASED UPON FIELD OBSERVATION AND MAY NOT REFLECT THE ACTUAL FIELD CONDITIONS. NO OWNER DOCUMENTATION IS AVAILABLE. UPON DISCOVERY OF ANY INCONSISTENCIES BETWEEN THE DRAWINGS DESCRIBING THE EXISTING CONDITIONS OR UNKNOWN CONDITIONS THAT ARE DETRIMENTAL TO THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF THE CONDITION IN QUESTION BEFORE PROCEEDING WITH THE WORK.
2. CONTRACTOR SHALL SCAN EXISTING ELEVATED ROADWAY WITH GROUND PENETRATING RADAR TO MISS REBAR SECTIONS.

SSOE

STATE OF ALABAMA 05/8/25 ROBERT C. HULL 9081 REGISTERED ARCHITECT

PROJECT INFORMATION

Birmingham–Shuttlesworth International Airport Pedestrian Crosswalk Safety Upgrades

5900 Messer Airport Hwy, Birmingham, AL 35212

CLIENT INFORMATION

bhm

Birmingham Airport Authority

BHM PROJECT NO.

NO.	DATE	PROJECT
1	05/08/2025	ISSUE FOR BID

REVISION OF ISSUE

SSOE, Inc.

PROJECT NO. 025-00776-00

PROJECT MANAGER: NRH/ATH

DESIGNED: NRH/ATH

DRAWING TITLE

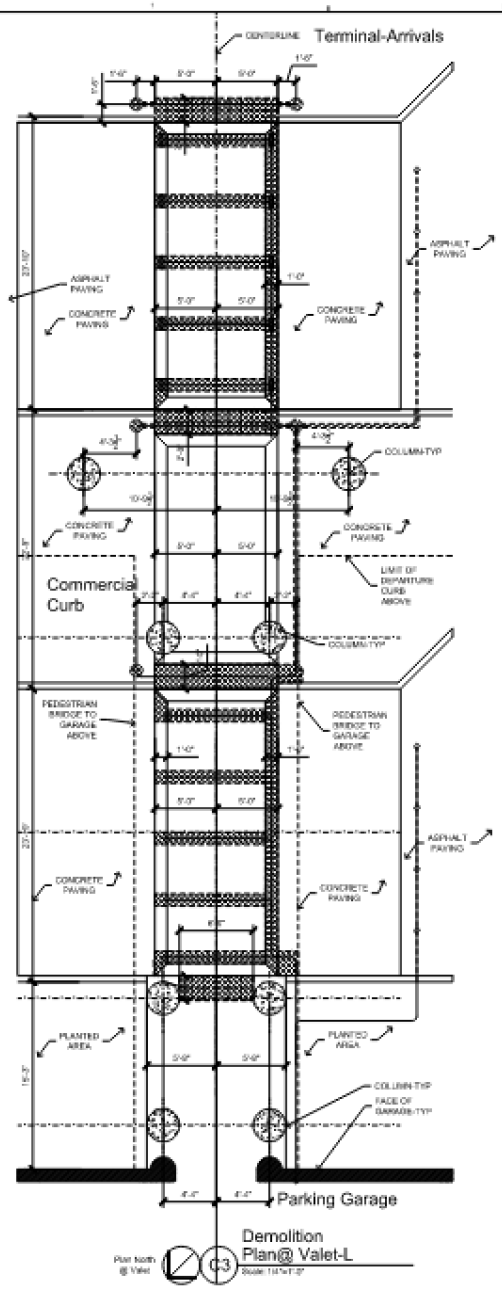
Existing Conditions Plans, Upper Level Departures

DRAWING NO.

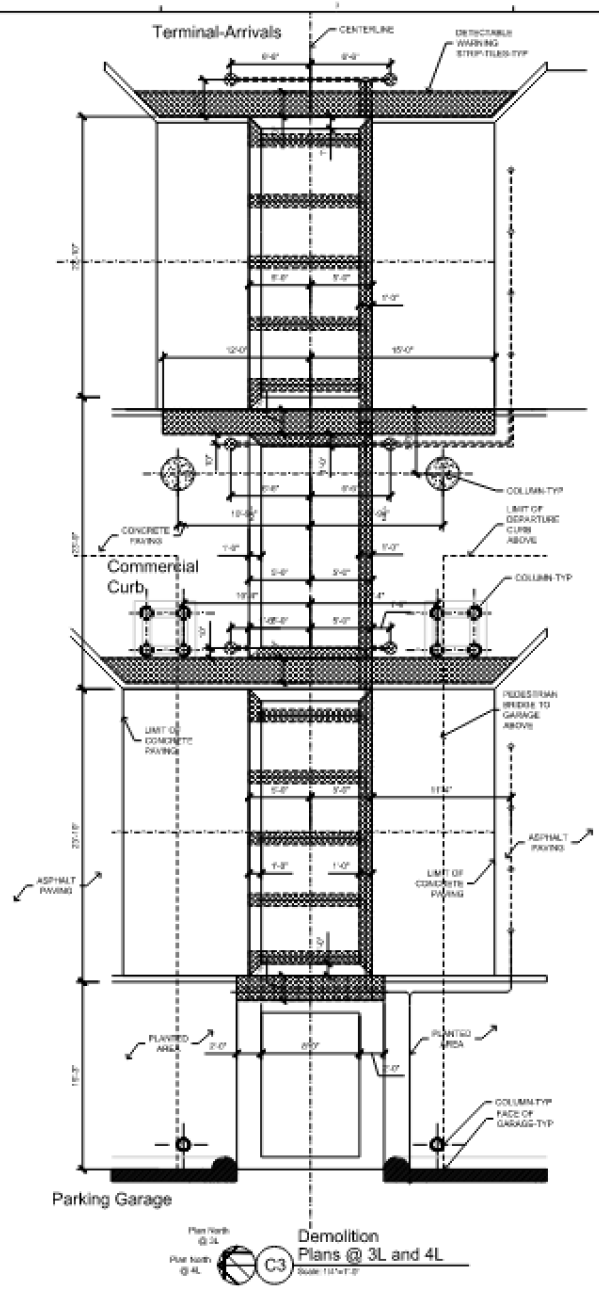
AD-101

bhm

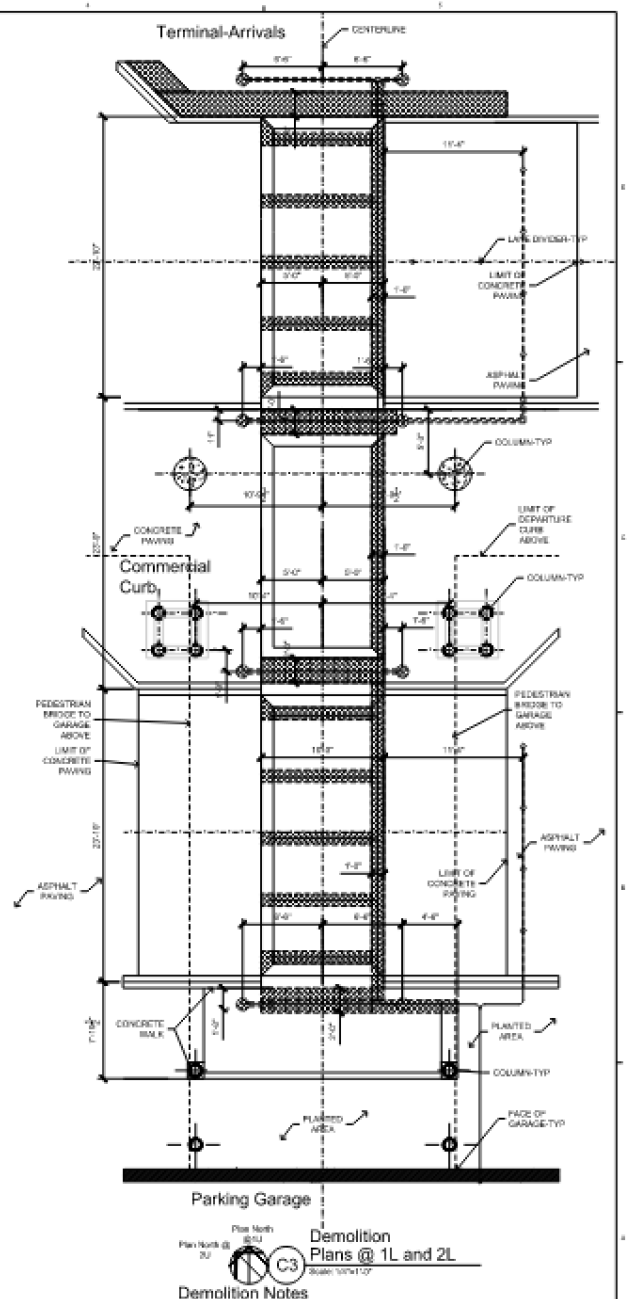
SSOE



Demolition Plan@ Valet-L



Demolition Plans @ 3L and 4L



Demolition Plans @ 1L and 2L

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STATE OF ALABAMA 05/8/25 ROBERT C HULL 30851 LICENSED ARCHITECT

PROJECT INFORMATION

Birmingham–Shuttlesworth International Airport Pedestrian Crosswalk Safety Upgrades

5900 Messer Airport Hwy, Birmingham, AL 35212

OWNER INFORMATION

bhm

Birmingham Airport Authority

BHM PROJECT NO.

NO.	DATE	ISSUE FOR SET

NO.	DATE	SUBJECT

SSOE, Inc.

PROJECT NO: 025-00776-00

PROJECT MANAGER: MHUGHES
DESIGNED: MHUGHES
DRAWN BY: AM
CHECKED: AM

DRAWING TITLE

Demolition Plans, Lower Level Arrivals

DRAWING NO.

AD-102

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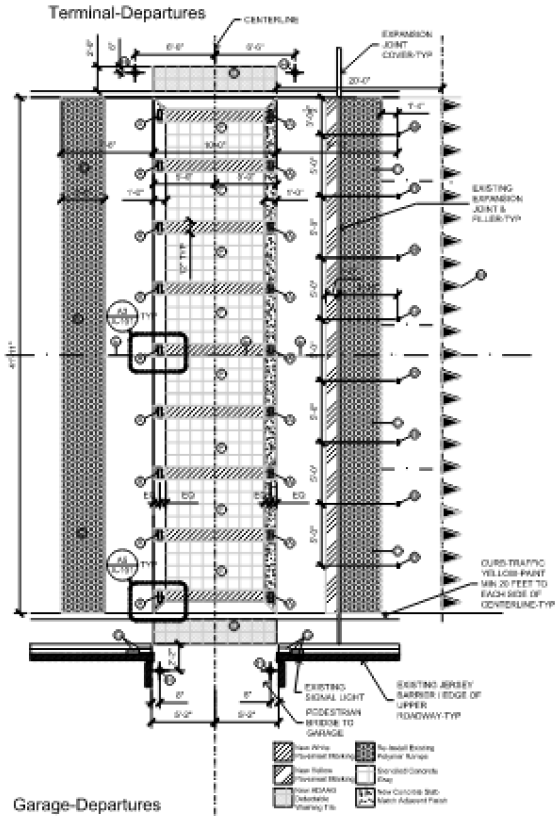
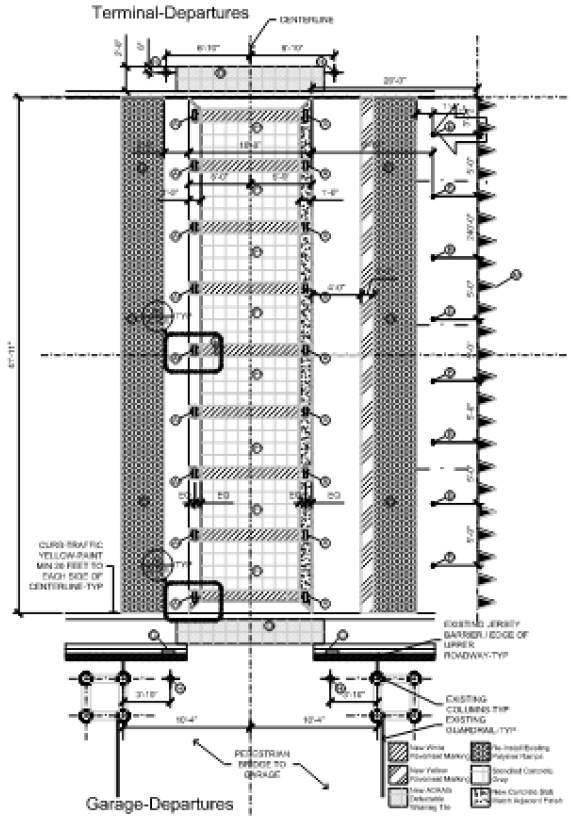
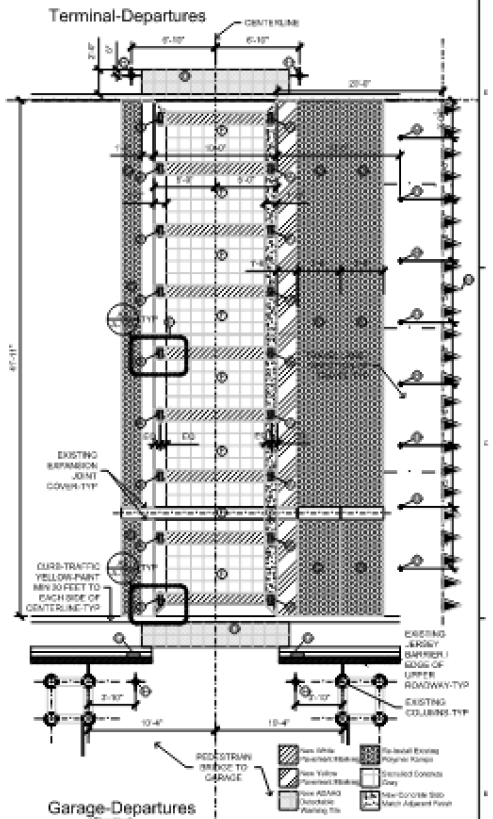
DATE: May 15, 2025 - 9:58am | USER: mhughes



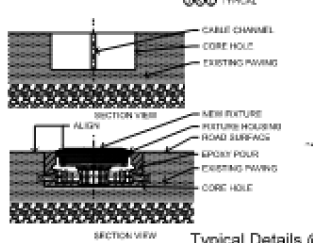
New Work
Plan@ Valet
Plan North @ Valet
C1
Scale: 1/4"=1'-0"
TYPICAL

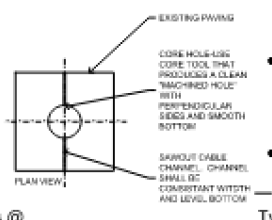


New Work
Plan@ 4U
Plan North @ 4U
C3
Scale: 1/4"=1'-0"
TYPICAL

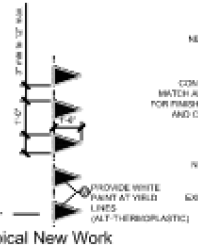


New Work
Plan@ 1U and 2U
Plan North @ 1U
Plan North @ 2U
C5
Scale: 1/4"=1'-0"

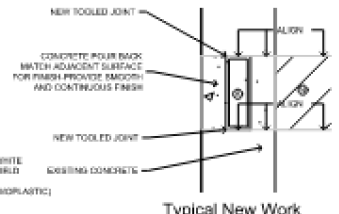




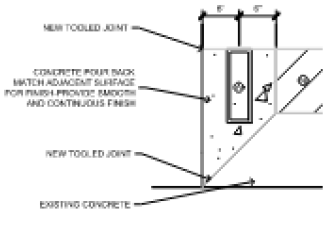
Typical Details @
Traffic Lane Warning Light
A1
NOTE: VACUUM CABLE CHANNEL, CORE HOLE AND SURROUNDING SURFACES. CHANNELS AND CORES SHALL BE FREE OF ALL DIRT AND DEBRIS



Typical New Work
Yield Line
A2
Scale: 1-1/2"=1'-0"



Typical New Work
Plan Detail @ LED Brick
A3
Scale: 1-1/2"=1'-0"



Typical New Work
Plan Detail @ LED Brick
A5
Scale: 1-1/2"=1'-0"

Saved to this PC

New Work Key Notes

NOTES APPLY TO THIS SHEET ONLY

①	INSTALL NEW IN-GRADE LED "BRICK LIGHT". PATCH AND REPAIR EXISTING ADJACENT SURFACES PROVIDE A SMOOTH AND CONTINUOUS FINISH. SEE DETAIL A3 & A5, THIS SHEET	⑦	INSTALL NEW DETECTABLE WARNING TILE. BASIS OF DESIGN: IMASAU TILE TRUNCATED DOME ADA PAVER, AVD, PATTERN ADA 2	⑬	EXISTING LIGHTS TO REMAIN
②	INSTALL NEW IN-GRADE LED "TRAFFIC LANE WARNING LIGHT". PATCH AND REPAIR EXISTING ADJACENT SURFACES PROVIDE A SMOOTH AND CONTINUOUS FINISH. SEE DETAIL A1, THIS SHEET	⑧	REMOVE AND RE-INSTALL NEW IN-GRADE SEALANT. PATCH AND REPAIR EXISTING ADJACENT SURFACES PROVIDE A SMOOTH AND CONTINUOUS FINISH	⑭	NEW WALK LIGHT SENSOR BOLLARD & BASE SEE DETAILS A3 / AD-101
③	RE-INSTALL EXISTING POLYMER RAMPS	⑨	EXISTING STENCILED CONCRETE	⑮	PATCH & REPAIR ALL NEW INFILL MATCHINGS TO MATCH ADJACENT MATERIALS. PROVIDE A SMOOTH AND CONTINUOUS FINISH
				⑯	WHERE PAINT IS THE NEW FINAL FINISH. PRIME EXISTING SURFACE & 2 FINISH COATS (MIN)
				⑰	FIELD LINE/PAINT TRAFFIC YELLOW : BASIS OF DESIGN PRODUCT: SHERWIN-PLANT BY PPG PF SERIES DURASHEEN STANDARD DRY SDM: GLOSS WATERBORNE TRAFFIC PAINT
				⑱	CROSS WALK STRIPING : BASIS OF DESIGN PRODUCT: THERMOPLASTIC THERMOPLASTIC PAVEMENT MARKING-SHERWIN-PLANT BY PPG PRE-MARK SERIES VIS: VIZORPM® VISIBILITY AND ANTI-SKID TREATMENT

New Work General Notes

1. MAINTAIN FIRE DEPARTMENT AND PUBLIC ACCESS THROUGHOUT CONSTRUCTION.
2. AIRPORT TERMINAL SPACES SHALL NOT BE USED BY THE CONTRACTOR UNLESS PRIOR WRITTEN AUTHORIZATION IS OBTAINED FROM BHM MINIMUM 48 HOURS BEFORE USE.
3. PROTECT ALL EXISTING FACILITIES, SURFACES, LANDSCAPING AND SITE FEATURES TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
4. INSTALL STRIPING IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), LATEST EDITION

ssoe

05/8/25
ROBERT C HALL
REGISTERED ARCHITECT

PROJECT INFORMATION

Birmingham–Shuttlesworth International Airport
Pedestrian Crosswalk Safety Upgrades

5900 Messer Airport Hwy,
Birmingham, AL 35212

CLIENT INFORMATION

bhm
Birmingham Airport Authority

BHM PROJECT NO: —

NO.	DESCRIPTION	ISSUE DATE

NO.	DATE	ISSUED BY

REVISIONS OR ISSUES

SSOE, Inc.
1500 Lakeside Dr. Ste 310
Birmingham, AL 35203
(205) 933-8822

PROJECT NO: 025-00776-00

PROJECT MANAGER	MRG/JCG
RESPONSIBLE	MRG/JCG
DESIGNER	AJE

DRAWING TITLE
New Work
Plans, Upper Level Departures

DRAWING NO
A-101

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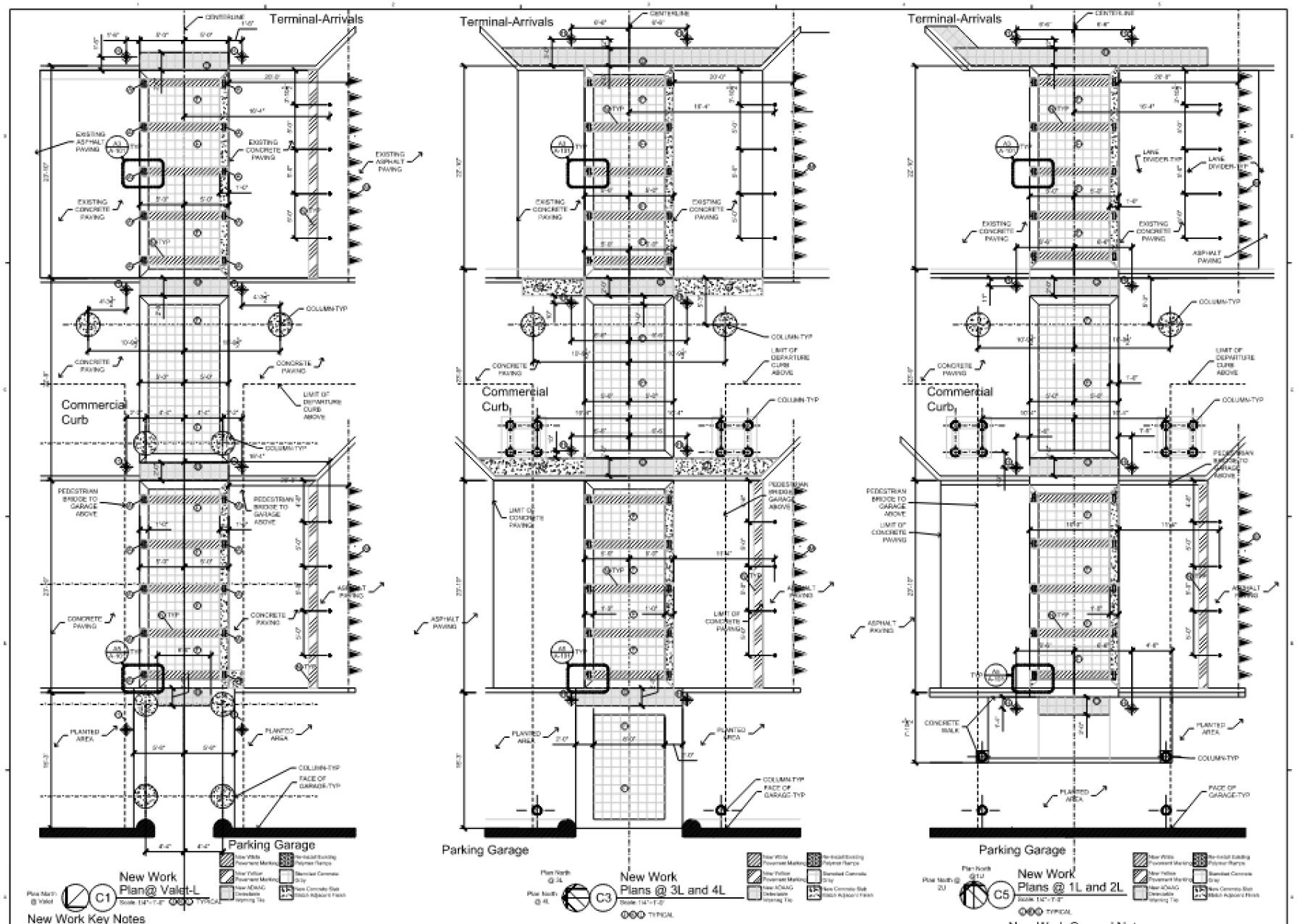

New Work Key Notes

NOTES APPLY TO THIS SHEET ONLY

①	INSTALL NEW IN-GRADE LED "BRICK LIGHT" PATCH AND REPAIR EXISTING ADJACENT SURFACES PROVIDE A SMOOTH AND CONTINUOUS FINISH. SEE DETAIL A5 & A6, A-101	⑤	INSTALL NEW DETECTABLE WARNING TILE. BASIS OF DESIGN: WAUSAU TILE TRUNCATED DOME ADA PAVER, AAD, PATTERN ADA 2.	⑨	EXISTING LIGHTS TO REMAIN
②	INSTALL NEW IN-GRADE LED "TRAFFIC LANE WARNING LIGHT". PATCH AND REPAIR EXISTING ADJACENT SURFACES PROVIDE A SMOOTH AND CONTINUOUS FINISH. SEE DETAIL A1, A-101	⑥	REMOVE AND RE-INSTALL NEW IN-GRADE SEALANT. PATCH AND REPAIR EXISTING ADJACENT SURFACES PROVIDE A SMOOTH AND CONTINUOUS FINISH	⑩	NEW WALKLIGHT SENSOR INCL LAMP & BASE SEE DETAILS A3 / AD-101
③	RE-INSTALL EXISTING POLYMER RAMPS	⑦	EXISTING STENCILED CONCRETE	⑪	PATCH & REPAIR ALL NEW INFILL MATCHING TO MATCH ADJACENT MATERIALS. PROVIDE A SMOOTH AND CONTINUOUS FINISH
④				⑫	CROSS WALK STRIPING - BASIS OF DESIGN PRODUCT: THERMOPLASTIC THERMOPLASTIC PAVEMENT MARKING-ENVIS-FLINT BY PPG PRE-MARK SERIES VIS VISIONPRO VISIBILITY AND ANTI-SKID TREATMENT
				⑬	WHERE PAINT IS THE NEW FINAL FINISH. PRIME EXISTING SURFACE & 2 FINISH COATS (MIN)
				⑭	YIELD LINE-PAINT TRAFFIC YELLOW - BASIS OF DESIGN PRODUCT: ZENIS-FLINT 85 PPG EP SERIES DURASHEEN STANDARD DRY SEMI GLOSS WATERBORNE TRAFFIC PAINT
				⑮	PAINT ALL EXISTING SURFACES WHERE NEW PAINT IS TO BE APPLIED TO PREVENT BLEED THROUGH

New Work General Notes

1. BIRMINGHAM FIRE DEPARTMENT AND PUBLIC ACCESS IMPROVEMENT CONSTRUCTION
2. AIRPORT TERMINAL SPACES SHALL NOT BE USED BY THE CONTRACTORS UNLESS PRIOR WRITTEN AUTHORIZATION IS OBTAINED FROM BIA MINIMUM 48 HOURS BEFORE USE.
3. PROTECT ALL EXISTING FACILITIES, SURFACES, LANDSCAPING AND SITE FEATURES TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
4. INSTALL STRIPING IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES® (MUTCD), LATEST EDITION

ssoe

05/8/25
ROBERT G HULL
REGISTERED ARCHITECT

PROJECT INFORMATION

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Pedestrian Crosswalk Safety Upgrades

5900 Messer Airport Hwy,
Birmingham, AL 35212

CLIENT INFORMATION

bhm
Birmingham Airport Authority

BHM PROJECT NO.

NO.	DATE	ISSUE/REVISION

REVISION DESIGNER

SSOE, Inc.
200 Brookwood Parkway, Suite 100
Birmingham, AL 35209
T 205.879.2000

PROJECT NO. 025-00776-00
PROJECT MANAGER MPH-ajmhs
DESIGNED MPH-ajmhs
DRAWN AMR
CHECKED AMR

DRAWING TITLE
New Work
Plans, Lower Level
Arrivals

DRAWING NO.
A-102

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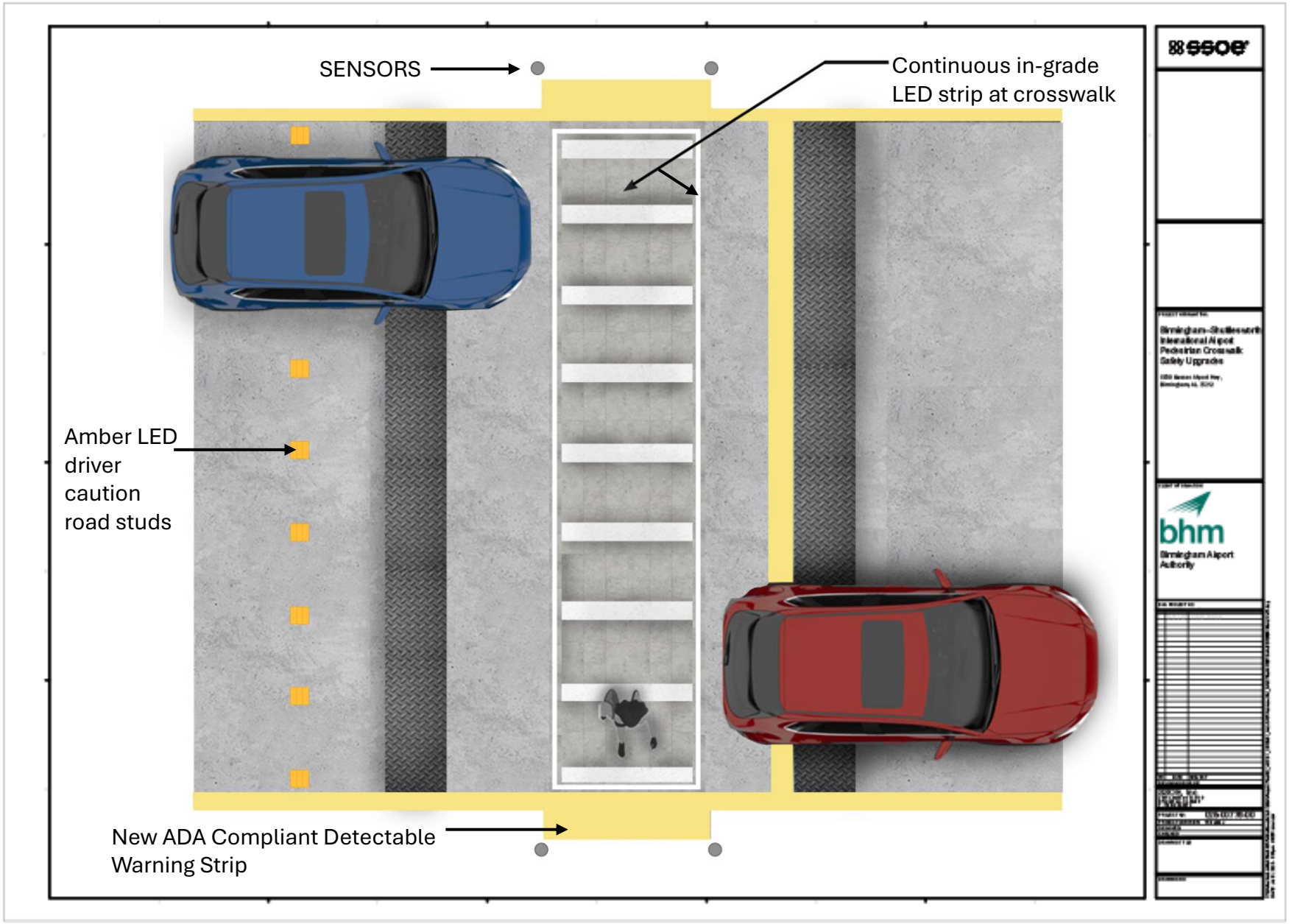
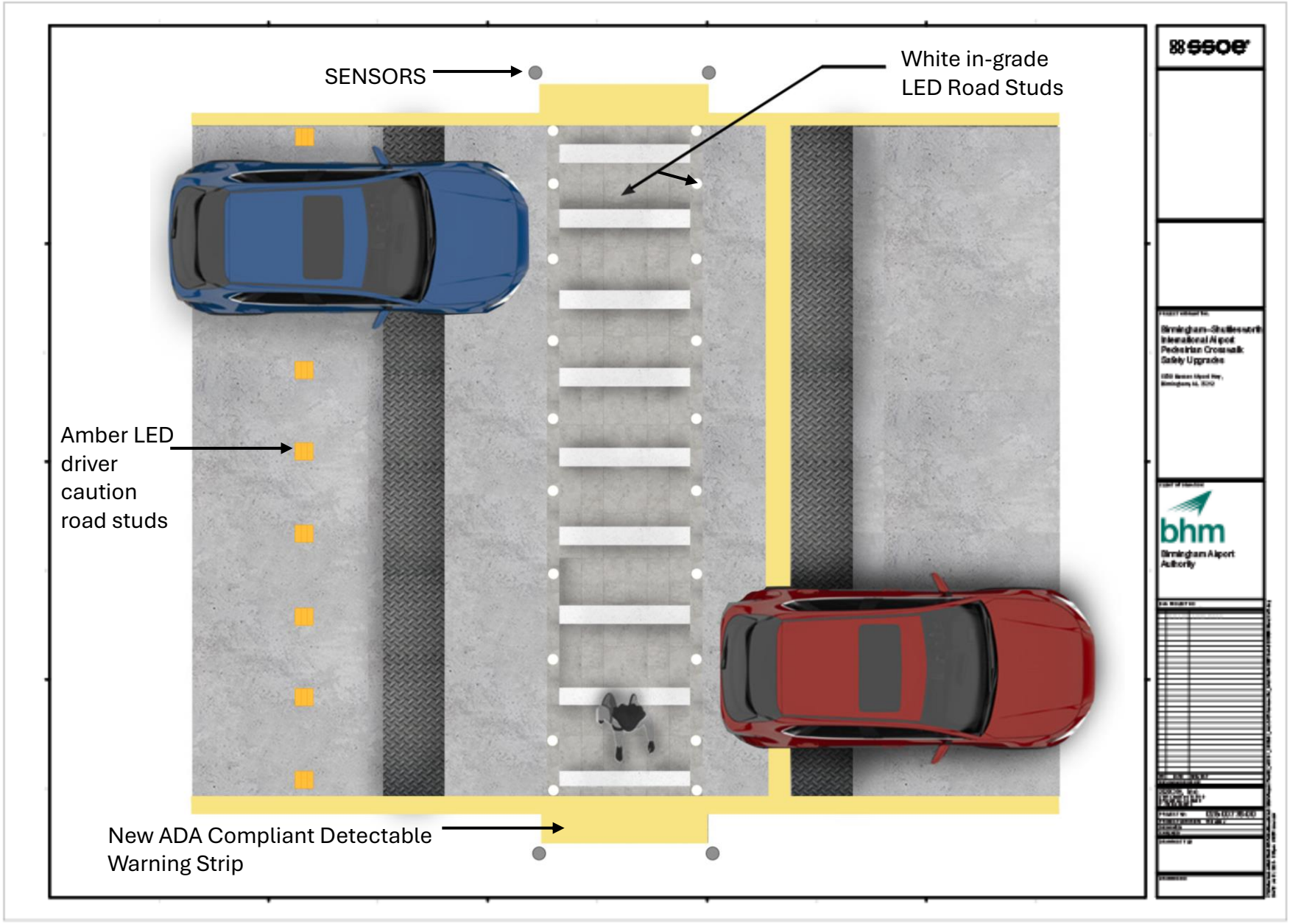
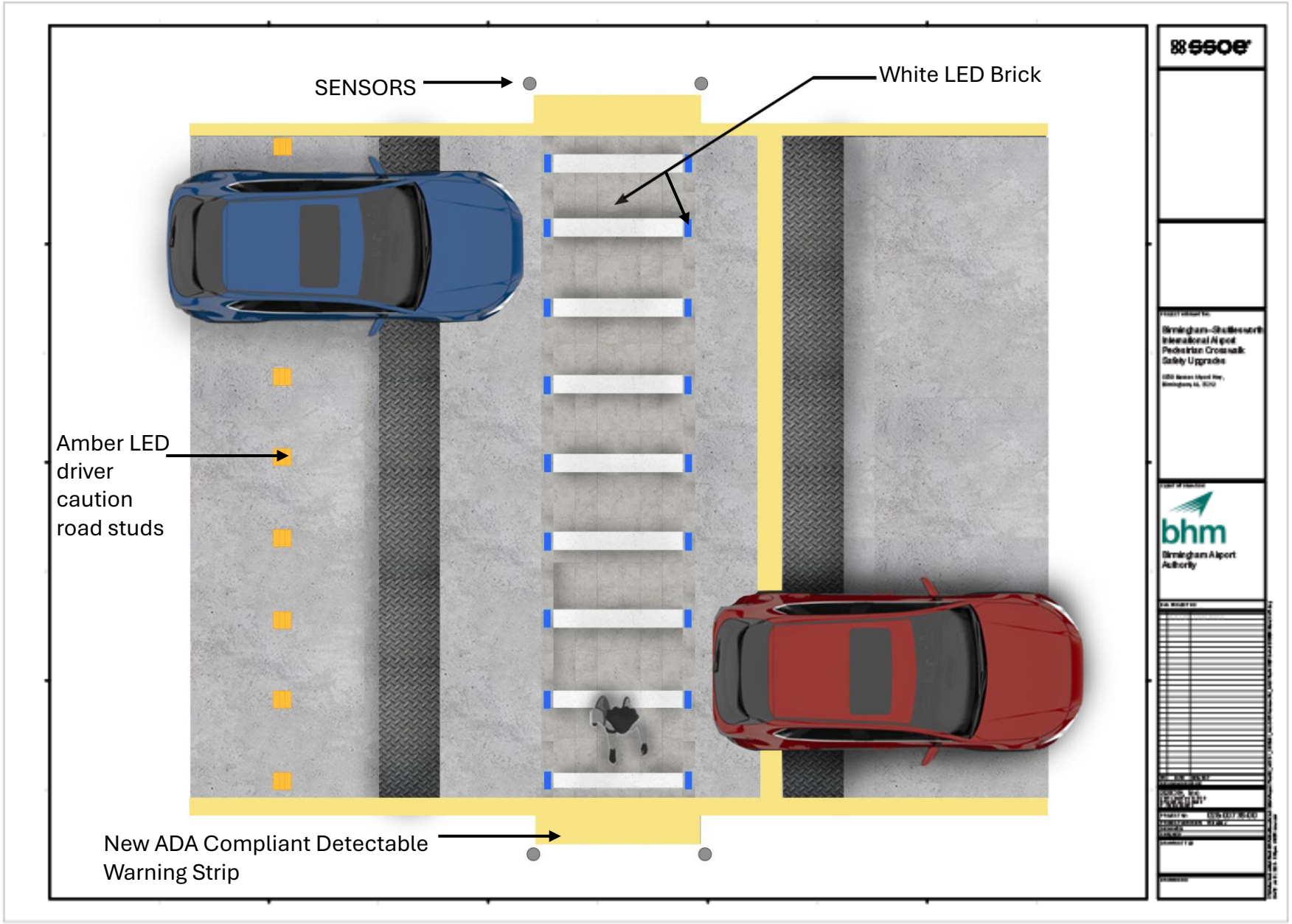
Pedestrian Crosswalk Safety Upgrade (Alternate B-White LED Crossing Box)



Pedestrian Crosswalk Safety Upgrade (Alternate A-All Road Studes)



Pedestrian Crosswalk Upgrade (Base Bid-LED Bricks at Crosswalk)