AS318103
Drone Matching – Aligning your 3D Concept Over an Existing Site

Presenter:

Christopher Lyner

Practice & Innovation Leader

Experience Design Team - VLK Architects

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About the speaker

Christopher Lyner – VLK Architects

Having worked in the Architectural Visualization industry for the past 14 years, I bring professional experience to architectural and engineering projects, large or small. I have worked on projects all over the globe from entire cities to mega sports and entertainment complexes, to world class hospitals, hotels, museums, government facilities, auto malls, high-end residential, and educational facilities. I have worked with large firms, small firms, and everything in between. I work for VLK Architects as an Experience Designer promoting our services to clients through the use of 3d renderings, animations, and video. Some of the projects I have worked on that have won notable awards and recognition are: Hail Edutainment District, Sidra, Bahrain Medical Center, Dammam Hospital, Doha Ports, Mayo Clinic, Regions Hospital, Children's Hospital, U.S. Bank Stadium, TDECU Stadium,

Vaught-Hemingway Stadium, Cyber-Ops Center,Exxon Mobil HQ,

Capitol Tower, Hard Rock Hotel, Fifth & West Tower,

Condit Elementary, Energy Institute, Dan Dipert CTE.

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VLK | ARCHITECTS

VLK TODAY

82 TASA/TASB STARS OF DISTINCTION

2019 CAUDILL AWARD FINALIST
DAN DIPERT
Career + Technical Center

CONDIT ELEMENTARY RECEIVED 2018 CAUDILL AWARD
HIGHEST HONOR IN PUBLIC EDUCATION DESIGN AWARDS

EDSPACES PRESENTATIONS
2017 — *"DESIGNING CULTURE AS OPPOSED TO DESIGNING SPACES"*

THE IMPACT OF ***LEARNING ENVIRONMENTS*** ON STUDENT ENGAGEMENTS — 2018

5TH LARGEST EDUCATION FIRM IN THE NATION
BUILDING DESIGN + CONSTRUCTION "GIANTS 300 REPORT"

AMERICAN INSTITUTE OF ARCHITECTS DESIGN AWARDS 32

2019 NSBA PRESENTERS
PHILIDELPHIA, PENNSYLVANIA

SXSW EDU PRESENTERS 2018
AMERICAN EDUCATION RESEARCH ASSOCIATION NATIONAL CONFERENCE SPEAKERS

"THE IMPACT OF LEARNING ENVIRONMENTS ON STUDENT ENGAGEMENT"

AUTODESK® UNIVERSITY


EXPERIENCE DESIGN

MISSION

VLK Experience Design's purpose is to tell the unique stories of our clients while pushing the boundaries of technology and innovation.

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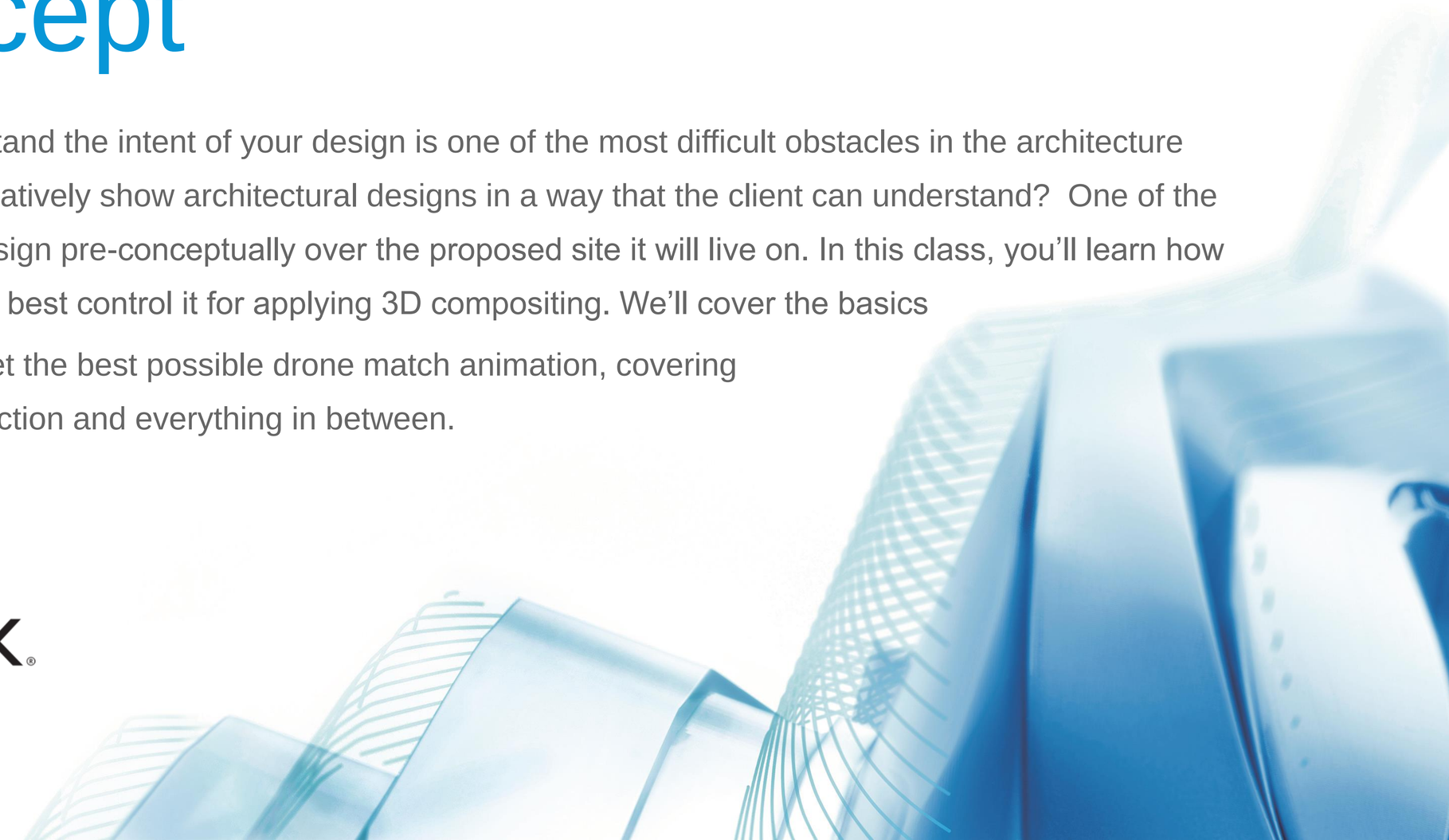
Drone Matching – Aligning your 3D Concept

Getting your client to understand the intent of your design is one of the most difficult obstacles in the architecture business. So how do we creatively show architectural designs in a way that the client can understand? One of the best ways is to show that design pre-conceptually over the proposed site it will live on. In this class, you'll learn how to set up a drone and how to best control it for applying 3D compositing. We'll cover the basics (as well as some tricks) to get the best possible drone match animation, covering pre-production to post-production and everything in between.



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Main Objectives:

OBJECTIVE 1

PRE-PRODUCTION:

DISCOVER BASIC DRONE SETUP AND FLIGHT CONTROL FOR GETTING THE BEST FOOTAGE. EXPORTING SHOTS FOR CAMERA MATCHING

OBJECTIVE 2

PRODUCTION:

DISCOVER BASIC IMPORT TECHNIQUES WITHIN SYNTHEYES TO CALCULATE THE BEST POINT DATA

OBJECTIVE 3

PRODUCTION:

IMPORTING THE POINT DATA FROM SYNTHEYES TO 3DS MAX AND ALIGNING THE DATA TO YOUR 3D MODEL

OBJECTIVE 4

POST-PRODUCTION:

UNDERSTANDING HOW TO COMPOSITE THE RENDER DATA WITH THE CAPTURED FOOTAGE

Main Objectives:

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DISCOVER BASIC DRONE SETUP AND FLIGHT CONTROL FOR GETTING THE BEST FOOTAGE. EXPORTING SHOTS FOR CAMERA MATCHING

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POST-PRODUCTION:

UNDERSTANDING HOW TO COMPOSITE THE RENDER DATA WITH THE CAPTURED FOOTAGE

- Now what???

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- Now what???
- Shooting method

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- Now what???
- Shooting method
- Frame size

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- Now what???
- Shooting method
- Frame size
- Frame rate

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- Now what???
- Shooting method
- Frame size
- Frame rate
- YouTube

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- Now what???
- Shooting method
- Frame size
- Frame rate
- YouTube
- Let’s Connect!

clyner@vlkarchitects.com

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Main Objectives:

+

OBJECTIVE 1

PRE-PRODUCTION:

DISCOVER BASIC DRONE SETUP AND FLIGHT CONTROL FOR GETTING THE BEST FOOTAGE. EXPORTING SHOTS FOR CAMERA MATCHING

OBJECTIVE 2

PRODUCTION:

DISCOVER BASIC IMPORT TECHNIQUES WITHIN SYNTHEYES TO CALCULATE THE BEST POINT DATA

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PRODUCTION:

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UNDERSTANDING HOW TO COMPOSITE THE RENDER DATA WITH THE CAPTURED FOOTAGE

Main Objectives:

OBJECTIVE 1

PRE-PRODUCTION:

DISCOVER BASIC DRONE SETUP AND FLIGHT CONTROL FOR GETTING THE BEST FOOTAGE.

EXPORTING SHOTS FOR CAMERA MATCHING

OBJECTIVE 2

PRODUCTION:

DISCOVER BASIC IMPORT TECHNIQUES WITHIN SYNTHEYES TO CALCULATE THE BEST POINT DATA

OBJECTIVE 3

PRODUCTION:

IMPORTING THE POINT DATA FROM SYNTHEYES TO 3DS MAX AND ALIGNING THE DATA TO YOUR 3D MODEL

OBJECTIVE 4

POST-PRODUCTION:

UNDERSTANDING HOW TO COMPOSITE THE RENDER DATA WITH THE CAPTURED FOOTAGE

Adobe Premiere Pro 2019 - X:\01_3D_Projects\Waller_ISD\1960.00_New_HS\Animation\Compositing\Waller HS_3.prproj *

File Edit Clip Sequence Markers Graphics View Window Help

Learning Assembly Editing Color Effects Audio Graphics Libraries Lyner

Project: Waller HS_3

Waller HS_3.prproj

1 of 28 items sel...

Name Frame Rate

- Animation
- Audio
- Footage
- Graphics
- Images
- Renderings
- Sequences
  - 00_Aerial 29.97 fps
  - 01_Aerial 29.97 fps
  - 02_Aerial 29.97 fps
  - ChoppingBlock 29.97 fps
  - Collab_Ext 29.97 fps
  - DroneFootageRAW 29.97 fps
  - DroneMatch01_Scale 29.97 fps
  - DronePOV 29.97 fps
  - Logo 29.97 fps
  - Logo End 29.97 fps

Effect Controls | Audio Clip Mixer: DroneFootageRAW | Metadata

Master * DJI_0039.MP4 > DroneFootageRAW * DJI_0039.MP4

Video

DJI_0039.MP4

- Motion
  - Position 960.0 540.0
  - Scale 100.0
  - Scale Width 100.0
  - Uniform Scale
  - Rotation 0.0
  - Anchor Point 960.0 540.0
  - Anti-flicker Filter 0.00
- Opacity
  - Opacity 100.0 %
  - Blend Mode Normal
- Time Remapping

Source: (no clips) | Program: DroneFootageRAW

0 Fit 1/2 2655

Info | Effects | Mark

- Presets
- Lumetri Presets
- Audio Effects
- Audio Transitions
- Video Effects
- Video Transitions

DroneFootageRAW

0 480 960 1440 1920 2400 2880 3360 3840 4320 4800

V2 V1 A1 M S Master 0.0

DJI_0039.MP4 [1 | DJI_0041.M | DJI_0041.M | DJI_0042.MP4 | DJI_0042.M | DJI_0 | DJI_0042.

Main Objectives:

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File Edit View Track Shot Script Window Help

Summary Roto Masking Features Trackers Planar GeoHTrack Graphs Lens Solver Phases Coordinates 3-D Lights

Active Tracker Host: Camera01 Layout: Camera

Msg D/L Sug IA

(no selection)

AUTO

Normal Motion

Green Screen

Zoom lens
On Tripod Hold
Corners Settings
Fine-tune

Run Auto-tracker

Solve

Not solved

Run tracker cleanup
Run auto-place

Place Coords

Lens Workflow

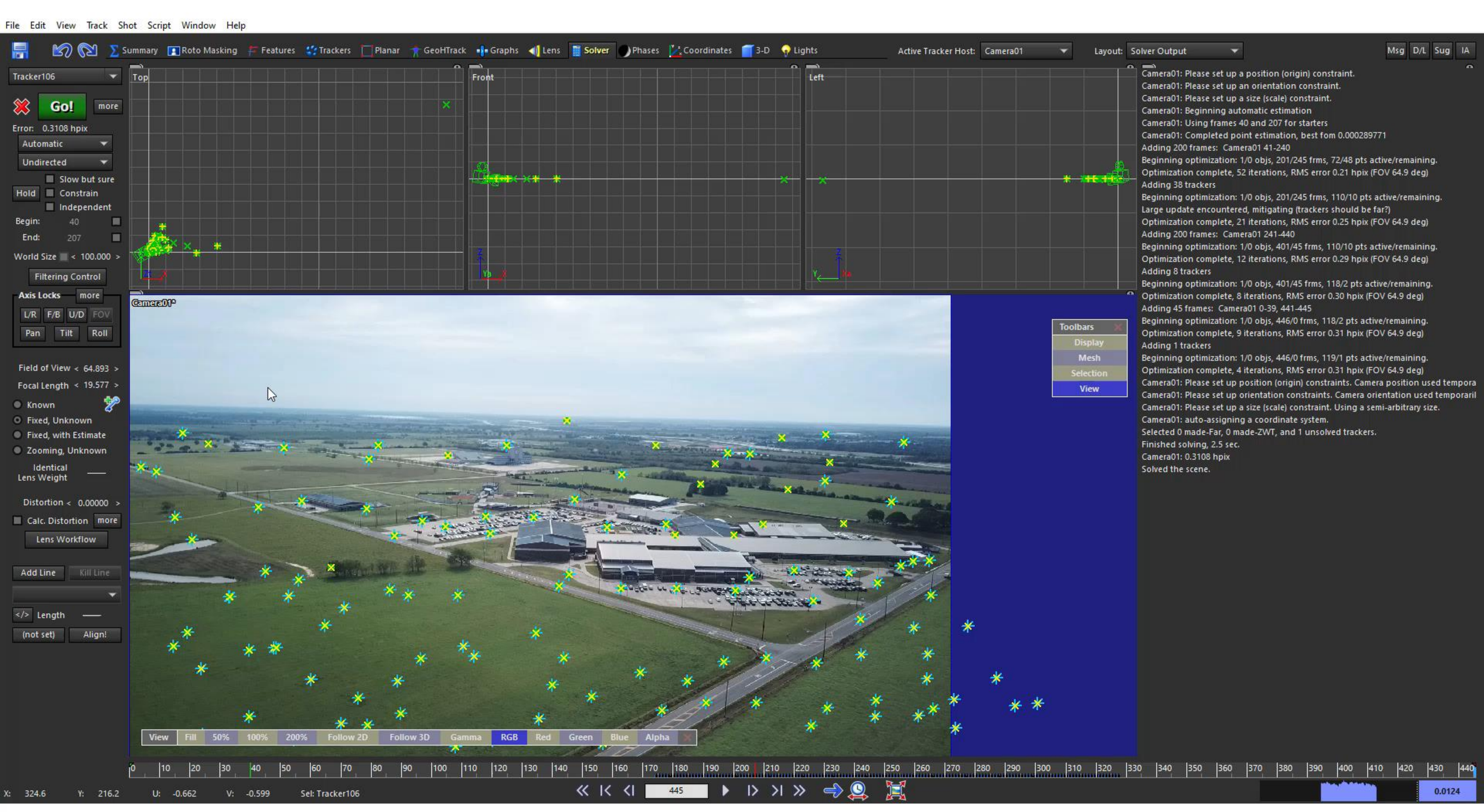
Save Sequence

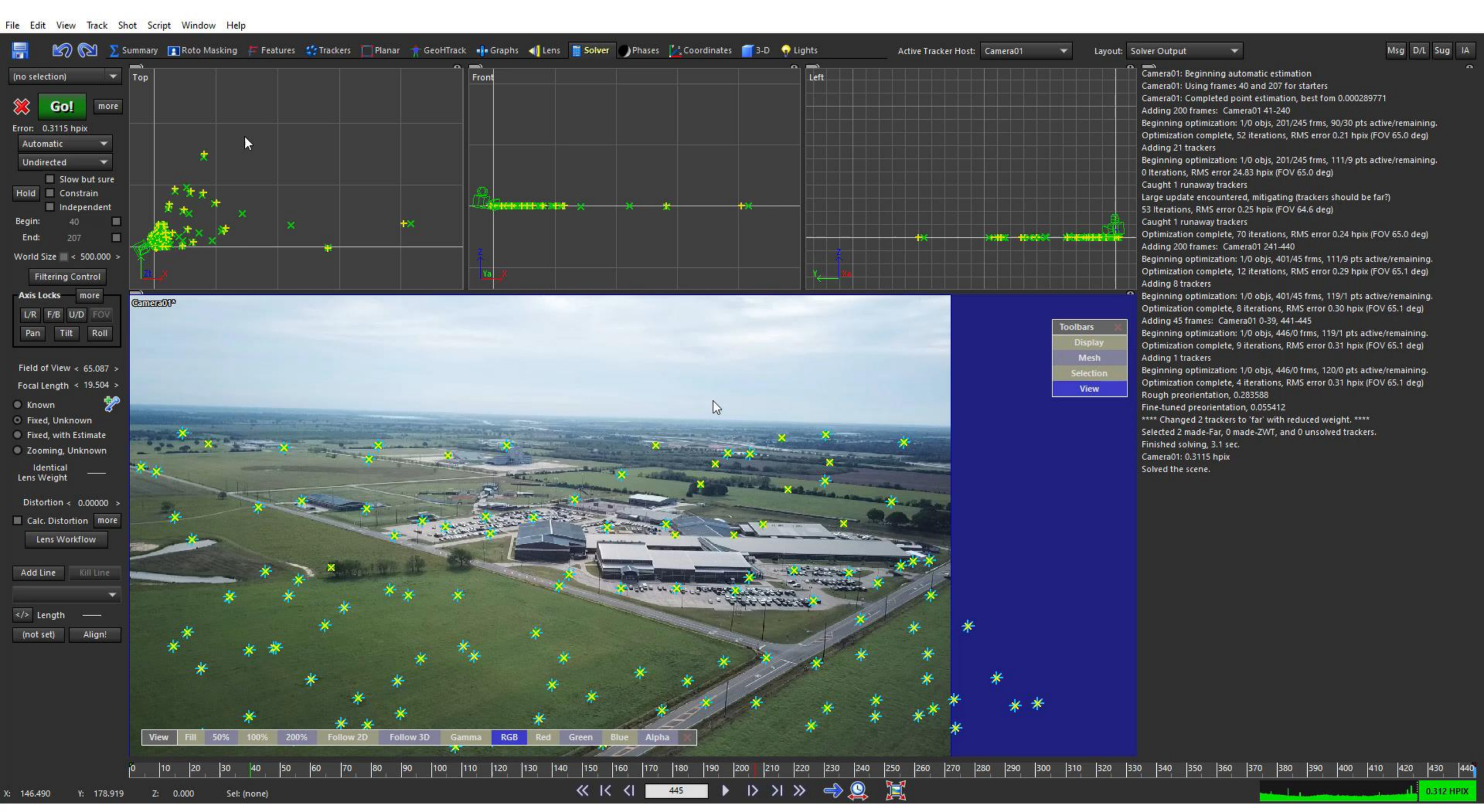
0 1 2 3 4 5 6 7 8 9

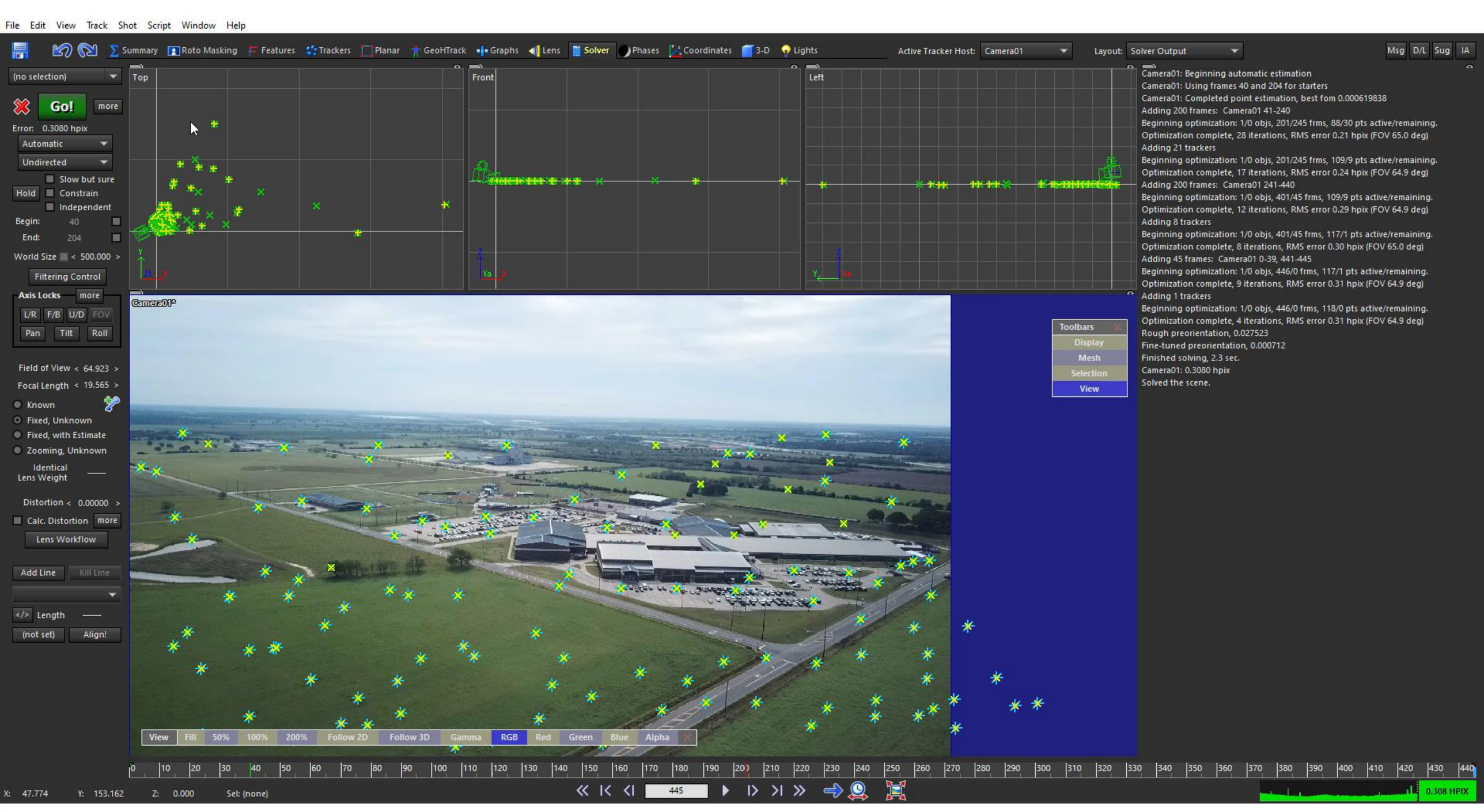
0

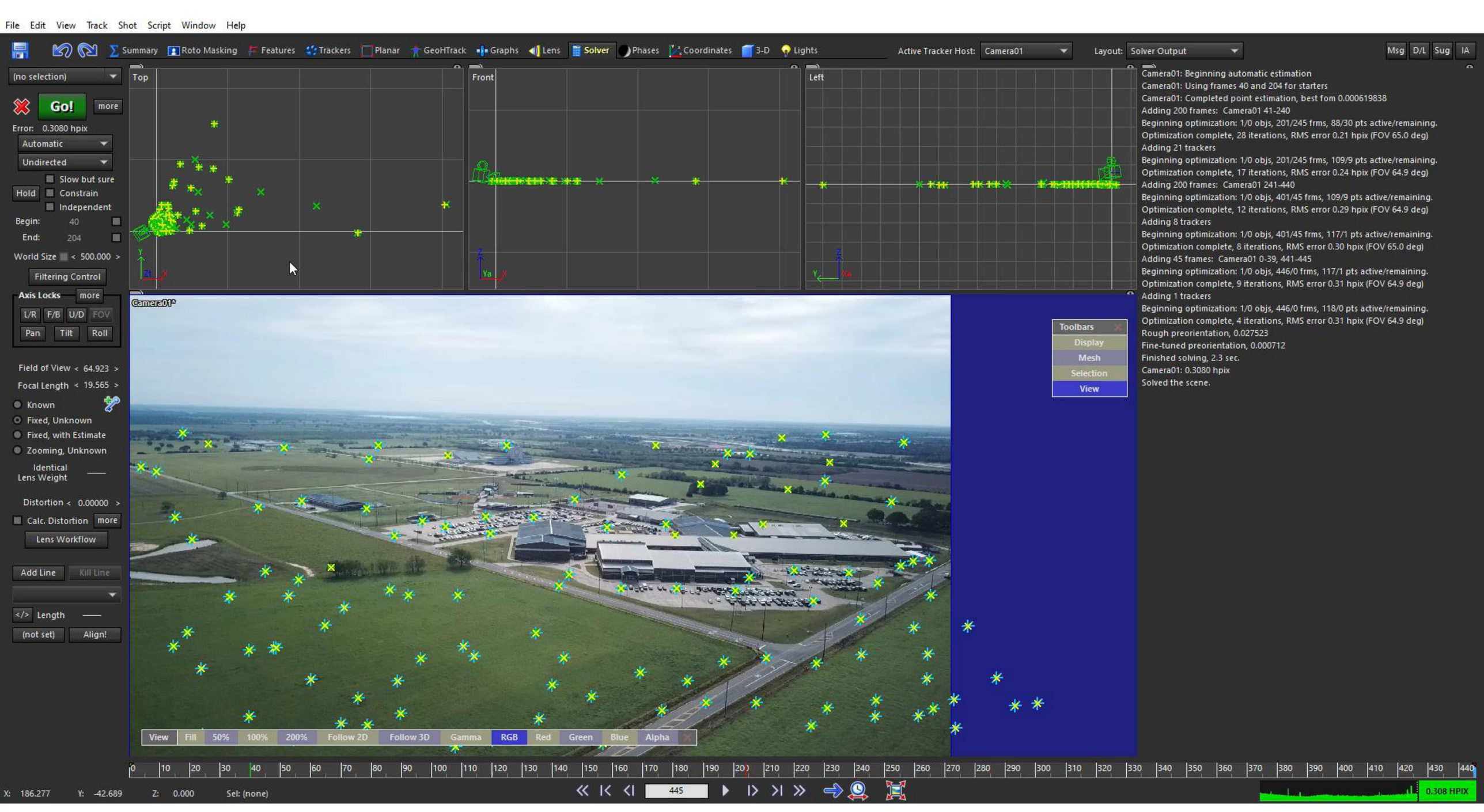
Overall size: 1936 x 1056 Content: 1743 x 891

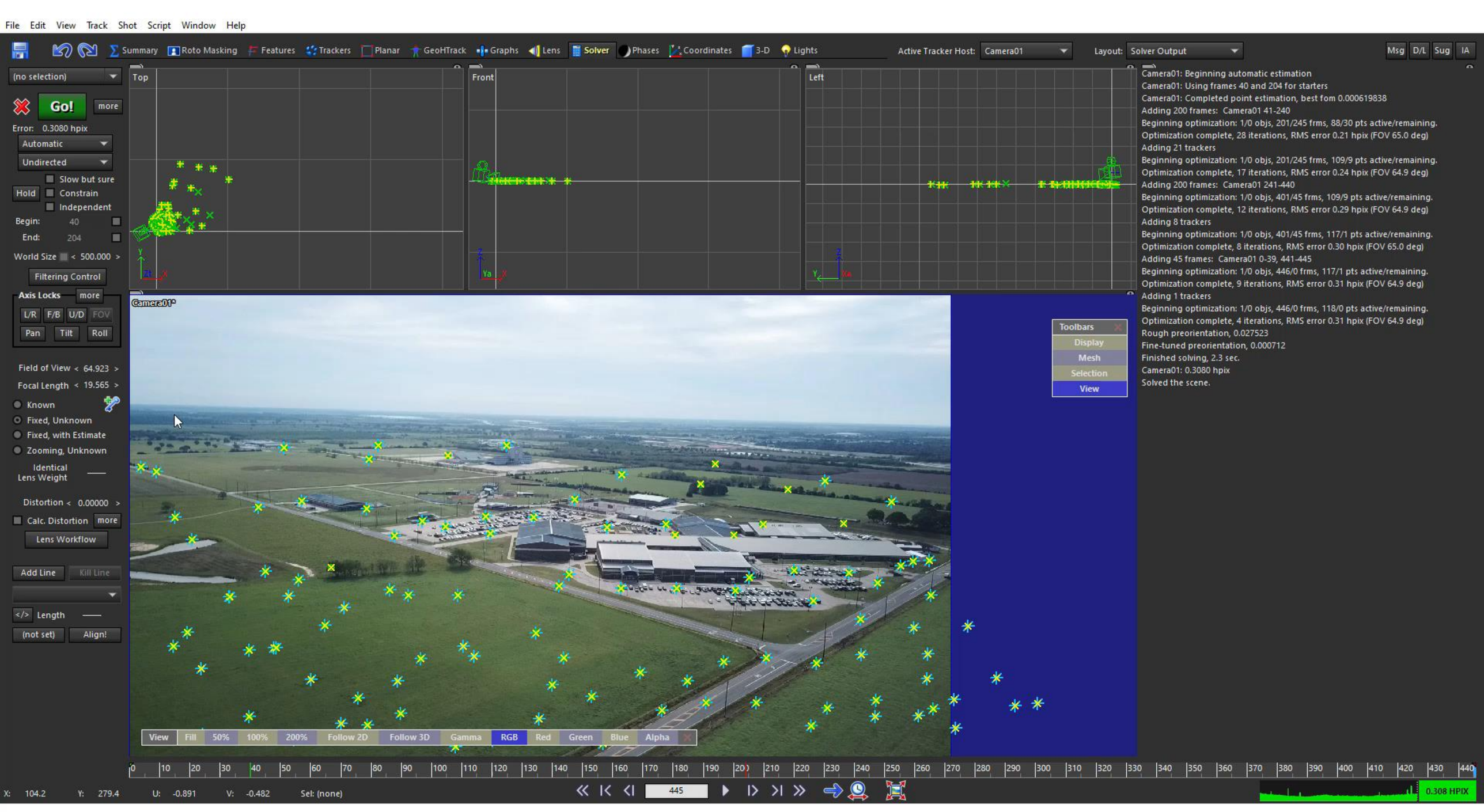

File Edit View Track Shot Script Window Help
Summary Roto Masking Features Trackers Planar GeoHTrack Graphs Lens Solver Phases Coordinates 3-D Lights
Active Tracker Host: Camera01
Layout: Camera
Msg D/L Sug IA
(no selection)
AUTO
Normal Motion
Green Screen
Zoom lens
On Tripod
Corners
Fine-tune
Hold
Settings
Run Auto-tracker
Solve
Not solved
Run tracker cleanup
Run auto-place
Place
Coords
Lens Workflow
Save Sequence
Camera01*
Toolbars
Display
Mesh
Selection
View
View Fill 50% 100% 200% Follow 2D Follow 3D Gamma RGB Red Green Blue Alpha
X: 235.9 Y: 158.3 U: -0.754 V: -0.707 Sel: (none)


File Edit View Track Shot Script Window Help
Summary Roto Masking Features Trackers Planar GeoHTrack Graphs Lens Solver Phases Coordinates 3-D Lights
Active Tracker Host: Camera01
Layout: Solver Output
Msg D/L Sug IA
Tracker106
Go!
more
Error: 0.3108 hpix
Automatic
Undirected
Slow but sure
Hold
Constrain
Independent
Begin: 40
End: 207
World Size < 100.000 >
Filtering Control
Axis Locks
more
L/R F/B U/D FOV
Pan Tilt Roll
Field of View < 64.893 >
Focal Length < 19.577 >
Known
Fixed, Unknown
Fixed, with Estimate
Zooming, Unknown
Identical Lens Weight
Distortion < 0.00000 >
Calc. Distortion
more
Lens Workflow
Add Line
Kill Line
Length
(not set)
Align!
Top
Front
Left
Camera01*
Toolbars
Display
Mesh
Selection
View
View Fill 50% 100% 200% Follow 2D Follow 3D Gamma RGB Red Green Blue Alpha
Camera01: Please set up a position (origin) constraint.
Camera01: Please set up an orientation constraint.
Camera01: Please set up a size (scale) constraint.
Camera01: Beginning automatic estimation
Camera01: Using frames 40 and 207 for starters
Camera01: Completed point estimation, best fom 0.000289771
Adding 200 frames: Camera01 41-240
Beginning optimization: 1/0 objs, 201/245 frms, 72/48 pts active/remaining.
Optimization complete, 52 iterations, RMS error 0.21 hpix (FOV 64.9 deg)
Adding 38 trackers
Beginning optimization: 1/0 objs, 201/245 frms, 110/10 pts active/remaining.
Large update encountered, mitigating (trackers should be far?)
Optimization complete, 21 iterations, RMS error 0.25 hpix (FOV 64.9 deg)
Adding 200 frames: Camera01 241-440
Beginning optimization: 1/0 objs, 401/45 frms, 110/10 pts active/remaining.
Optimization complete, 12 iterations, RMS error 0.29 hpix (FOV 64.9 deg)
Adding 8 trackers
Beginning optimization: 1/0 objs, 401/45 frms, 118/2 pts active/remaining.
Optimization complete, 8 iterations, RMS error 0.30 hpix (FOV 64.9 deg)
Adding 45 frames: Camera01 0-39, 441-445
Beginning optimization: 1/0 objs, 446/0 frms, 118/2 pts active/remaining.
Optimization complete, 9 iterations, RMS error 0.31 hpix (FOV 64.9 deg)
Adding 1 trackers
Beginning optimization: 1/0 objs, 446/0 frms, 119/1 pts active/remaining.
Optimization complete, 4 iterations, RMS error 0.31 hpix (FOV 64.9 deg)
Camera01: Please set up position (origin) constraints. Camera position used tempora
Camera01: Please set up orientation constraints. Camera orientation used temporaril
Camera01: Please set up a size (scale) constraint. Using a semi-arbitrary size.
Camera01: auto-assigning a coordinate system.
Selected 0 made-Far, 0 made-ZWT, and 1 unsolved trackers.
Finished solving, 2.5 sec.
Camera01: 0.3108 hpix
Solved the scene.
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440
X: 324.6 Y: 216.2 U: -0.662 V: -0.599 Sel: Tracker106
445
0.0124


File Edit View Track Shot Script Window Help
Summary Roto Masking Features Trackers Planar GeoHTrack Graphs Lens Solver Phases Coordinates 3-D Lights
Active Tracker Host: Camera01
Layout: Solver Output
Msg D/L Sug IA
(no selection)
Go!
more
Error: 0.3115 hpix
Automatic
Undirected
Slow but sure
Hold
Constrain
Independent
Begin: 40
End: 207
World Size < 500.000 >
Filtering Control
Axis Locks
more
L/R F/B U/D FOV
Pan Tilt Roll
Field of View < 65.087 >
Focal Length < 19.504 >
Known
Fixed, Unknown
Fixed, with Estimate
Zooming, Unknown
Identical Lens Weight
Distortion < 0.00000 >
Calc. Distortion
more
Lens Workflow
Add Line
Kill Line
Length
(not set)
Align!
Top
Front
Left
Camera01*
Toolbars
Display
Mesh
Selection
View
View Fill 50% 100% 200% Follow 2D Follow 3D Gamma RGB Red Green Blue Alpha
Camera01: Beginning automatic estimation
Camera01: Using frames 40 and 207 for starters
Camera01: Completed point estimation, best fom 0.000289771
Adding 200 frames: Camera01 41-240
Beginning optimization: 1/0 objs, 201/245 frms, 90/30 pts active/remaining.
Optimization complete, 52 iterations, RMS error 0.21 hpix (FOV 65.0 deg)
Adding 21 trackers
Beginning optimization: 1/0 objs, 201/245 frms, 111/9 pts active/remaining.
0 Iterations, RMS error 24.83 hpix (FOV 65.0 deg)
Caught 1 runaway trackers
Large update encountered, mitigating (trackers should be far?)
53 Iterations, RMS error 0.25 hpix (FOV 64.6 deg)
Caught 1 runaway trackers
Optimization complete, 70 iterations, RMS error 0.24 hpix (FOV 65.0 deg)
Adding 200 frames: Camera01 241-440
Beginning optimization: 1/0 objs, 401/45 frms, 111/9 pts active/remaining.
Optimization complete, 12 iterations, RMS error 0.29 hpix (FOV 65.1 deg)
Adding 8 trackers
Beginning optimization: 1/0 objs, 401/45 frms, 119/1 pts active/remaining.
Optimization complete, 8 iterations, RMS error 0.30 hpix (FOV 65.1 deg)
Adding 45 frames: Camera01 0-39, 441-445
Beginning optimization: 1/0 objs, 446/0 frms, 119/1 pts active/remaining.
Optimization complete, 9 iterations, RMS error 0.31 hpix (FOV 65.1 deg)
Adding 1 trackers
Beginning optimization: 1/0 objs, 446/0 frms, 120/0 pts active/remaining.
Optimization complete, 4 iterations, RMS error 0.31 hpix (FOV 65.1 deg)
Rough preorientation, 0.283588
Fine-tuned preorientation, 0.055412
**** Changed 2 trackers to 'far' with reduced weight. ****
Selected 2 made-Far, 0 made-ZWT, and 0 unsolved trackers.
Finished solving, 3.1 sec.
Camera01: 0.3115 hpix
Solved the scene.
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440
X: 146.490 Y: 178.919 Z: 0.000 Sel: (none)
445
0.312 HPIX


File Edit View Track Shot Script Window Help
Summary Roto Masking Features Trackers Planar GeoHTrack Graphs Lens Solver Phases Coordinates 3-D Lights
Active Tracker Host: Camera01
Layout: Solver Output
Msg D/L Sug IA
(no selection)
Go!
more
Error: 0.3080 hpix
Automatic
Undirected
Slow but sure
Hold
Constrain
Independent
Begin: 40
End: 204
World Size < 500.000 >
Filtering Control
Axis Locks
more
L/R F/B U/D FOV
Pan Tilt Roll
Field of View < 64.923 >
Focal Length < 19.565 >
Known
Fixed, Unknown
Fixed, with Estimate
Zooming, Unknown
Identical Lens Weight
Distortion < 0.00000 >
Calc. Distortion
more
Lens Workflow
Add Line
Kill Line
Length
(not set)
Align!
Top
Front
Left
Camera01*
Toolbars
Display
Mesh
Selection
View
View Fill 50% 100% 200% Follow 2D Follow 3D Gamma RGB Red Green Blue Alpha
Camera01: Beginning automatic estimation
Camera01: Using frames 40 and 204 for starters
Camera01: Completed point estimation, best fom 0.000619838
Adding 200 frames: Camera01 41-240
Beginning optimization: 1/0 objs, 201/245 frms, 88/30 pts active/remaining.
Optimization complete, 28 iterations, RMS error 0.21 hpix (FOV 65.0 deg)
Adding 21 trackers
Beginning optimization: 1/0 objs, 201/245 frms, 109/9 pts active/remaining.
Optimization complete, 17 iterations, RMS error 0.24 hpix (FOV 64.9 deg)
Adding 200 frames: Camera01 241-440
Beginning optimization: 1/0 objs, 401/45 frms, 109/9 pts active/remaining.
Optimization complete, 12 iterations, RMS error 0.29 hpix (FOV 64.9 deg)
Adding 8 trackers
Beginning optimization: 1/0 objs, 401/45 frms, 117/1 pts active/remaining.
Optimization complete, 8 iterations, RMS error 0.30 hpix (FOV 65.0 deg)
Adding 45 frames: Camera01 0-39, 441-445
Beginning optimization: 1/0 objs, 446/0 frms, 117/1 pts active/remaining.
Optimization complete, 9 iterations, RMS error 0.31 hpix (FOV 64.9 deg)
Adding 1 trackers
Beginning optimization: 1/0 objs, 446/0 frms, 118/0 pts active/remaining.
Optimization complete, 4 iterations, RMS error 0.31 hpix (FOV 64.9 deg)
Rough preorientation, 0.027523
Fine-tuned preorientation, 0.000712
Finished solving, 2.3 sec.
Camera01: 0.3080 hpix
Solved the scene.
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440
X: 47.774 Y: 153.162 Z: 0.000 Sel: (none)
445
0.308 HPIX


File Edit View Track Shot Script Window Help
Summary Roto Masking Features Trackers Planar GeoHTrack Graphs Lens Solver Phases Coordinates 3-D Lights
Active Tracker Host: Camera01
Layout: Solver Output
Msg D/L Sug IA
(no selection)
Go!
more
Error: 0.3080 hpix
Automatic
Undirected
Slow but sure
Hold
Constrain
Independent
Begin: 40
End: 204
World Size < 500.000 >
Filtering Control
Axis Locks
more
L/R F/B U/D FOV
Pan Tilt Roll
Field of View < 64.923 >
Focal Length < 19.565 >
Known
Fixed, Unknown
Fixed, with Estimate
Zooming, Unknown
Identical Lens Weight
Distortion < 0.00000 >
Calc. Distortion
more
Lens Workflow
Add Line
Kill Line
Length
(not set)
Align!
Top
Front
Left
Camera01*
Toolbars
Display
Mesh
Selection
View
View Fill 50% 100% 200% Follow 2D Follow 3D Gamma RGB Red Green Blue Alpha
Camera01: Beginning automatic estimation
Camera01: Using frames 40 and 204 for starters
Camera01: Completed point estimation, best fom 0.000619838
Adding 200 frames: Camera01 41-240
Beginning optimization: 1/0 objs, 201/245 frms, 88/30 pts active/remaining.
Optimization complete, 28 iterations, RMS error 0.21 hpix (FOV 65.0 deg)
Adding 21 trackers
Beginning optimization: 1/0 objs, 201/245 frms, 109/9 pts active/remaining.
Optimization complete, 17 iterations, RMS error 0.24 hpix (FOV 64.9 deg)
Adding 200 frames: Camera01 241-440
Beginning optimization: 1/0 objs, 401/45 frms, 109/9 pts active/remaining.
Optimization complete, 12 iterations, RMS error 0.29 hpix (FOV 64.9 deg)
Adding 8 trackers
Beginning optimization: 1/0 objs, 401/45 frms, 117/1 pts active/remaining.
Optimization complete, 8 iterations, RMS error 0.30 hpix (FOV 65.0 deg)
Adding 45 frames: Camera01 0-39, 441-445
Beginning optimization: 1/0 objs, 446/0 frms, 117/1 pts active/remaining.
Optimization complete, 9 iterations, RMS error 0.31 hpix (FOV 64.9 deg)
Adding 1 trackers
Beginning optimization: 1/0 objs, 446/0 frms, 118/0 pts active/remaining.
Optimization complete, 4 iterations, RMS error 0.31 hpix (FOV 64.9 deg)
Rough preorientation, 0.027523
Fine-tuned preorientation, 0.000712
Finished solving, 2.3 sec.
Camera01: 0.3080 hpix
Solved the scene.
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440
X: 186.277 Y: -42.689 Z: 0.000 Sel: (none)
445
0.308 HPIX


File Edit View Track Shot Script Window Help
Summary Roto Masking Features Trackers Planar GeoHTrack Graphs Lens Solver Phases Coordinates 3-D Lights
Active Tracker Host: Camera01
Layout: Solver Output
Msg D/L Sug IA
(no selection)
Go!
more
Error: 0.3080 hpix
Automatic
Undirected
Slow but sure
Hold
Constrain
Independent
Begin: 40
End: 204
World Size < 500.000 >
Filtering Control
Axis Locks
more
L/R F/B U/D FOV
Pan Tilt Roll
Field of View < 64.923 >
Focal Length < 19.565 >
Known
Fixed, Unknown
Fixed, with Estimate
Zooming, Unknown
Identical Lens Weight
Distortion < 0.00000 >
Calc. Distortion
more
Lens Workflow
Add Line
Kill Line
Length
(not set)
Align!
Top
Front
Left
Camera01*
Toolbars
Display
Mesh
Selection
View
View Fill 50% 100% 200% Follow 2D Follow 3D Gamma RGB Red Green Blue Alpha
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Beginning optimization: 1/0 objs, 201/245 frms, 109/9 pts active/remaining.
Optimization complete, 17 iterations, RMS error 0.24 hpix (FOV 64.9 deg)
Adding 200 frames: Camera01 241-440
Beginning optimization: 1/0 objs, 401/45 frms, 109/9 pts active/remaining.
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Optimization complete, 8 iterations, RMS error 0.30 hpix (FOV 65.0 deg)
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Beginning optimization: 1/0 objs, 446/0 frms, 117/1 pts active/remaining.
Optimization complete, 9 iterations, RMS error 0.31 hpix (FOV 64.9 deg)
Adding 1 trackers
Beginning optimization: 1/0 objs, 446/0 frms, 118/0 pts active/remaining.
Optimization complete, 4 iterations, RMS error 0.31 hpix (FOV 64.9 deg)
Rough preorientation, 0.027523
Fine-tuned preorientation, 0.000712
Finished solving, 2.3 sec.
Camera01: 0.3080 hpix
Solved the scene.
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440
X: 104.2 Y: 279.4 U: -0.891 V: -0.482 Sel: (none)
445
0.308 HPIX

Main Objectives:

OBJECTIVE 1

PRE-PRODUCTION:

DISCOVER BASIC DRONE SETUP AND FLIGHT CONTROL FOR GETTING THE BEST FOOTAGE. EXPORTING SHOTS FOR CAMERA MATCHING

OBJECTIVE 2

PRODUCTION:

DISCOVER BASIC IMPORT TECHNIQUES WITHIN SYNTHEYES TO CALCULATE THE BEST POINT DATA

OBJECTIVE 3

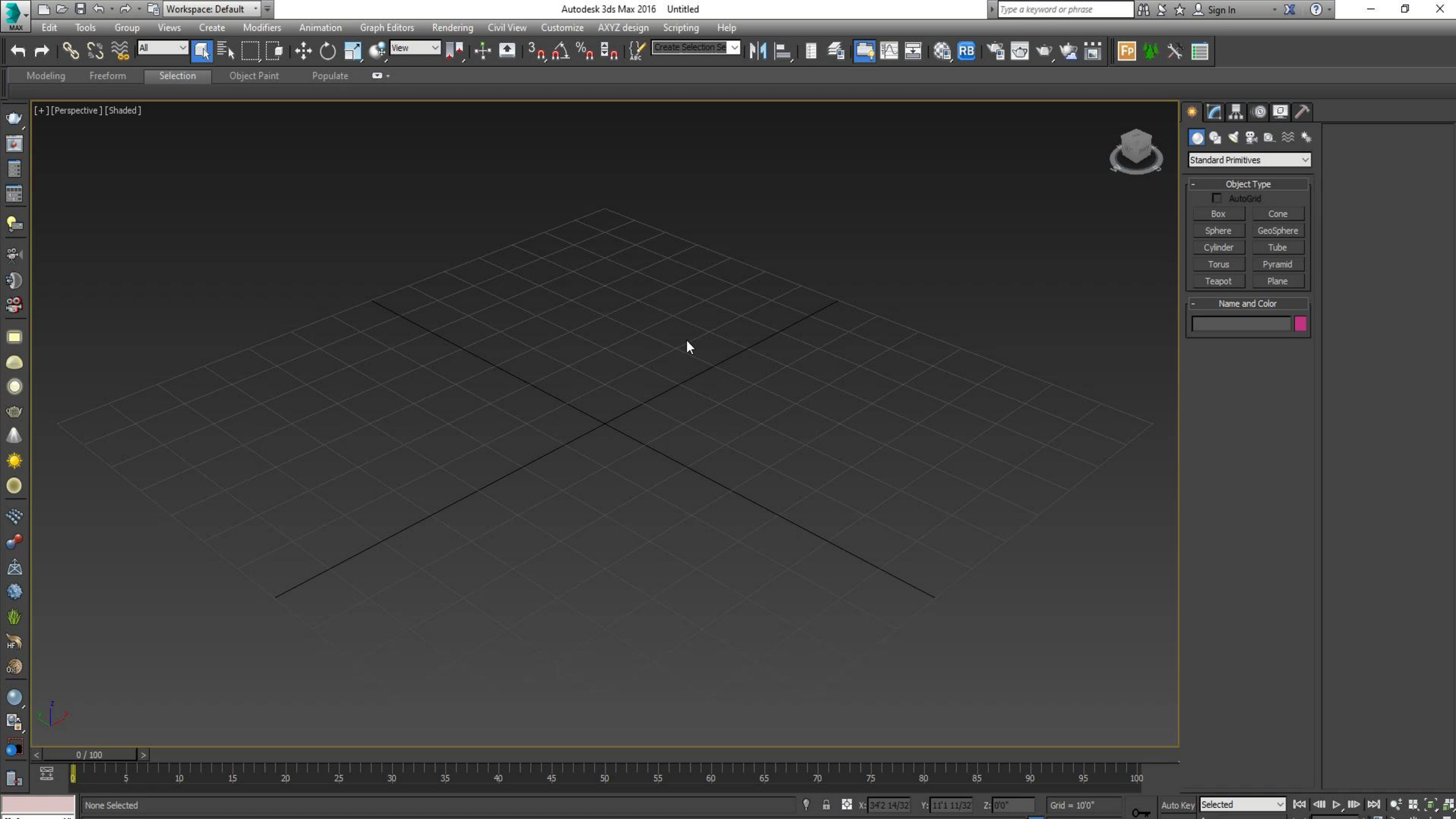
PRODUCTION:

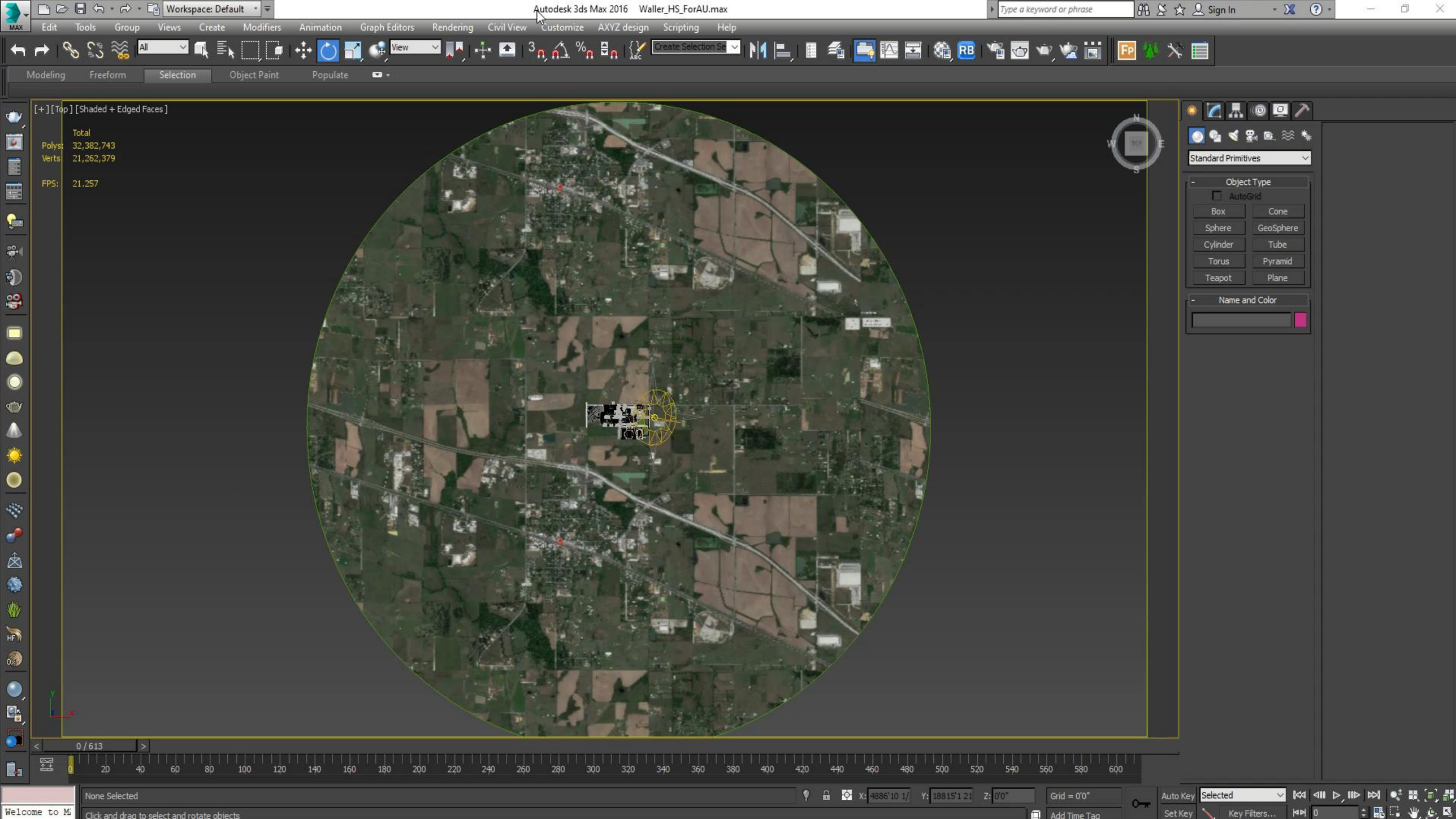
IMPORTING THE POINT DATA FROM SYNTHEYES TO 3DS MAX AND ALIGNING THE DATA TO YOUR 3D MODEL

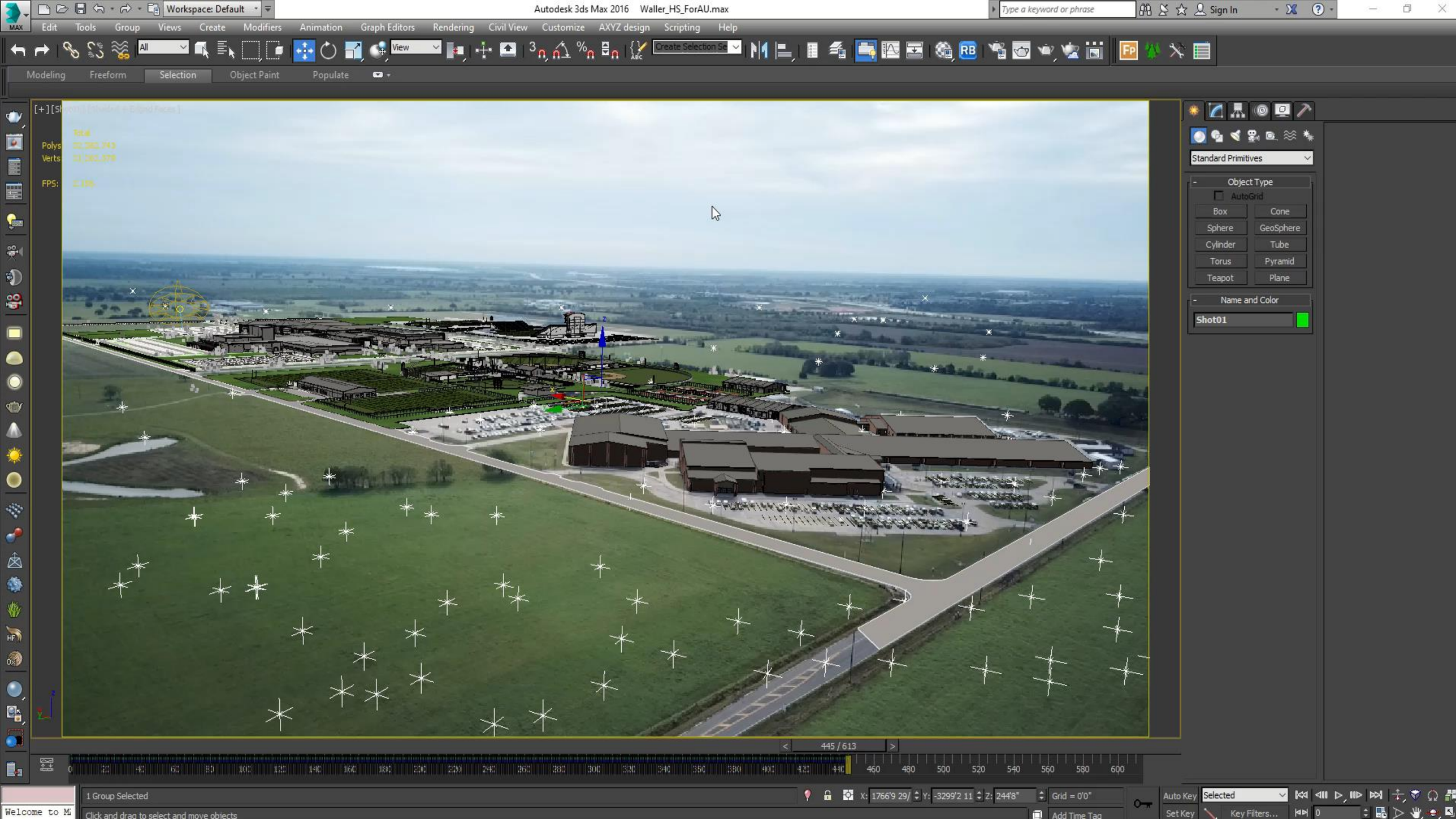
OBJECTIVE 4

POST-PRODUCTION:

UNDERSTANDING HOW TO COMPOSITE THE RENDER DATA WITH THE CAPTURED FOOTAGE


Workspace: Default
Autodesk 3ds Max 2016 Untitled
Type a keyword or phrase
Sign In
Edit Tools Group Views Create Modifiers Animation Graph Editors Rendering Civil View Customize AXYZ design Scripting Help
Modeling Freeform Selection Object Paint Populate
[+] [Perspective] [Shaded]
Standard Primitives
Object Type
AutoGrid
Box Cone
Sphere GeoSphere
Cylinder Tube
Torus Pyramid
Teapot Plane
Name and Color
0 / 100
None Selected
Auto Key
Selected


Autodesk 3ds Max 2016 Waller_HS_ForAU.max
Workspace: Default
Edit Tools Group Views Create Modifiers Animation Graph Editors Rendering Civil View Customize AXYZ design Scripting Help
Modeling Freeform Selection Object Paint Populate
[+] [Top] [Shaded + Edged Faces]
Total
Polys: 32,382,743
Verts: 21,262,379
FPS: 21.257
Standard Primitives
Object Type
AutoGrid
Box Cone
Sphere GeoSphere
Cylinder Tube
Torus Pyramid
Teapot Plane
Name and Color
0 / 613
None Selected
Click and drag to select and rotate objects
Add Time Tag
Auto Key Selected
Set Key Key Filters...


Autodesk 3ds Max 2016 Waller_HS_ForAU.max
Workspace: Default
Edit Tools Group Views Create Modifiers Animation Graph Editors Rendering Civil View Customize AXYZ design Scripting Help
Modeling Freeform Selection Object Paint Populate
Standard Primitives
Object Type
AutoGrid
Box Cone
Sphere GeoSphere
Cylinder Tube
Torus Pyramid
Teapot Plane
Name and Color
Shot01
445 / 613
1 Group Selected
Click and drag to select and move objects
Auto Key Selected
Set Key Key Filters...

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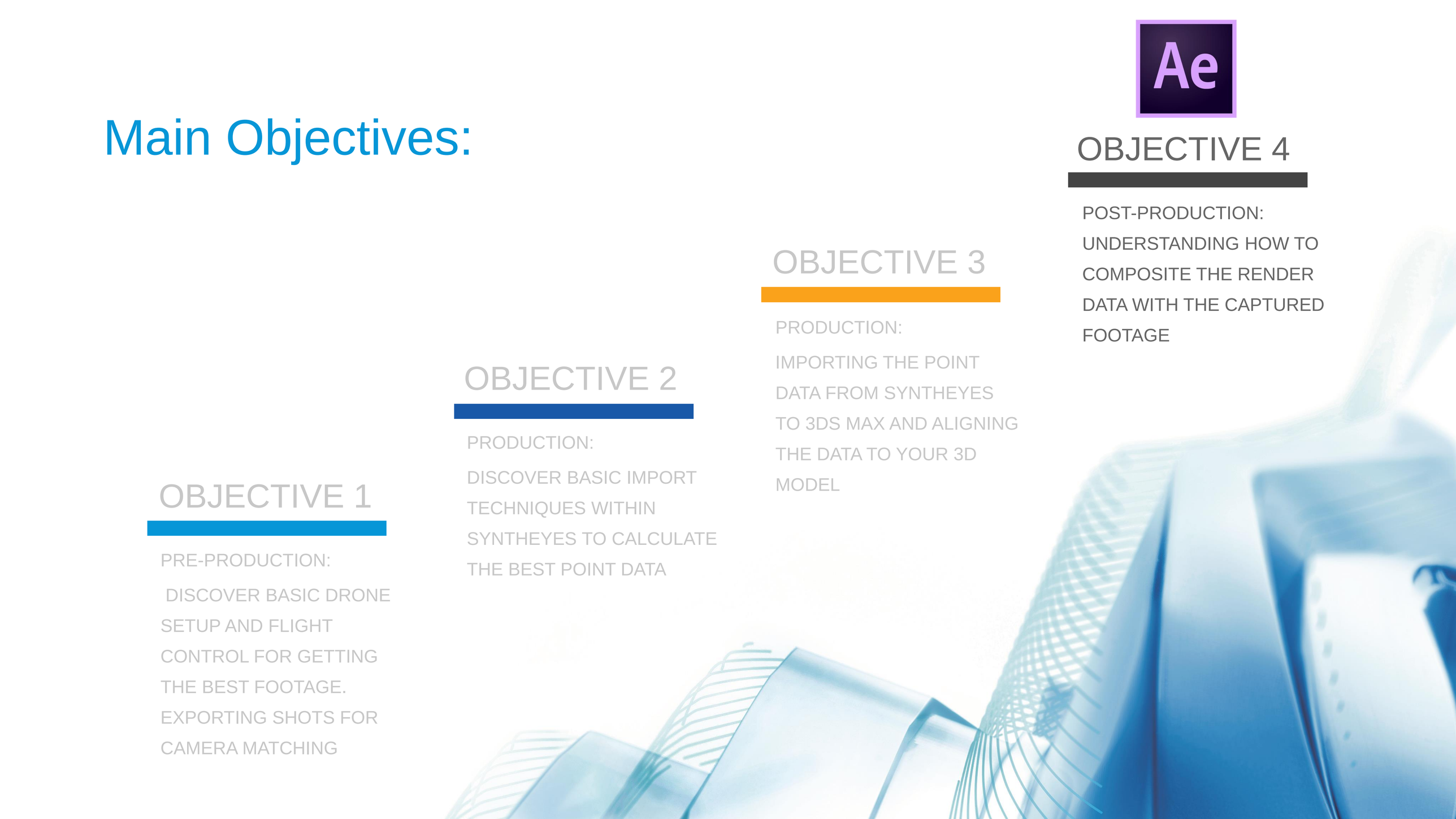

Adobe After Effects - Untitled Project.aep

File Edit Composition Layer Effect Animation View Window Help

Snapping

Default Learn Standard Small Screen Libraries

Search Help

Project

Effect Controls (none)

Layer (none) Footage (none) Composition (none)

Name Type

8 bpc

New Composition

New Composition From Footage

Info

Audio

Preview

Align

Libraries

Character

Paragraph

Tracker

Content-Aware Fill

Effects & Presets

* Animation Presets
3D Channel
Audio
Blur & Sharpen
Boris FX Mocha
Channel
CINEMA 4D
Color Correction
Distort
Expression Controls
Generate
Immersive Video
Keying
Matte
Noise & Grain
Obsolete
Perspective
Red Giant
RG Magic Bullet
Simulation
Stylize
Text

(none)

Source Name Mode T .TrkMat Parent & Link

Adobe After Effects - Untitled Project.aep *

File Edit Composition Layer

Adobe Media Encoder 2019

File Edit Preset Window Help

Media Browser

Favorites
Local Drives
C: (Local Disk)
D: (Local Disk)
E: (HOU_Archive)
M: (USB DISK)
Network Drives
A: (\\wlk-fs01\Experience)
K: (\\wlk-fs01\Projects)
L: (\\wlk-fs01\Resource)
X: (\\wlk-fs02\Experience)

Queue Watch Folders

Auto-Encode Watch Folders

Format	Preset	Output File	Status
DroneShot_01_Final			
H.264	Lyner_Vimeo 1080p_NoAudio	C:\User...itled Project_AME\DroneShot_01_Final.mp4	Ready

Renderer: Mercury Playback Engine GPU Acceleration (CUDA)

Preset Browser

Apply Preset

Preset Name	Format	Frame Size	Frame Rate	Target Rate	Comment
User Presets & Groups					
Lyner_HD 1080p 29.97	Windows...	1920x1080	29.97 fps	-	Custom
Lyner_Vimeo 1080p	H.264	1920x1080	Based on s...	16 Mbps	Custom
Lyner_Vimeo 1080p_No_Audio	H.264	1920x1080	Based on s...	16 Mbps	Custom
Lyner_Vimeo 1080p_NoAudio	H.264	1920x1080	Based on s...	16 Mbps	Custom
System Presets					
Audio Only					
Broadcast					
Apple ProRes					
AS-10					
AS-11					
DNxHD MXF OP1a					
DNxHR MXF OP1a					

Encoding

Not currently encoding.

Project

DroneSh...
1920 x 1080
Δ 00446, 30.0

Name
DroneShot01
Drone01_tteElement.[0000
Drone01_eElement01.[000
Drone01_eElement02.[000
Drone01_459289734.[0000
Drone01_Illumination.[000
Drone01_yReflection.[000
Drone01_yRefraction.[000
Drone01_otalLighting.[000
Drone01_[0000-0445].png
Drone01_ppl_[0000-0445]
DroneShot[01000-01445].j
DroneShot_01_Final
DroneShot_01_precomp

8 bpc

DroneShot_01_precomp
00445
0:00:14:25 (30.00 fps)

Source Nam
1 Drone
2 Drone

Search Help

Info
Audio
Preview
Align
Libraries
Character
Paragraph
Tracker
Content-Aware Fill

Effects & Presets

curv

* Animation Presets
Backgrounds
Sweeping Curves
Color Correction
Curves

00375 00400 00425

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