



Will Coombs

Innovation Lead, Transmission & Distribution Solutions



Manitoba
HYDRO INTERNATIONAL

Today's Agenda

- Introduction
- VisualSpection Software Overview (Part 1)
- Web Portal Overview
- Software Overview (Part 2: Augmented Reality)
- Project Highlights/Testimonials
- Questions





What is
 VISUAL SPECTATION

Tablet



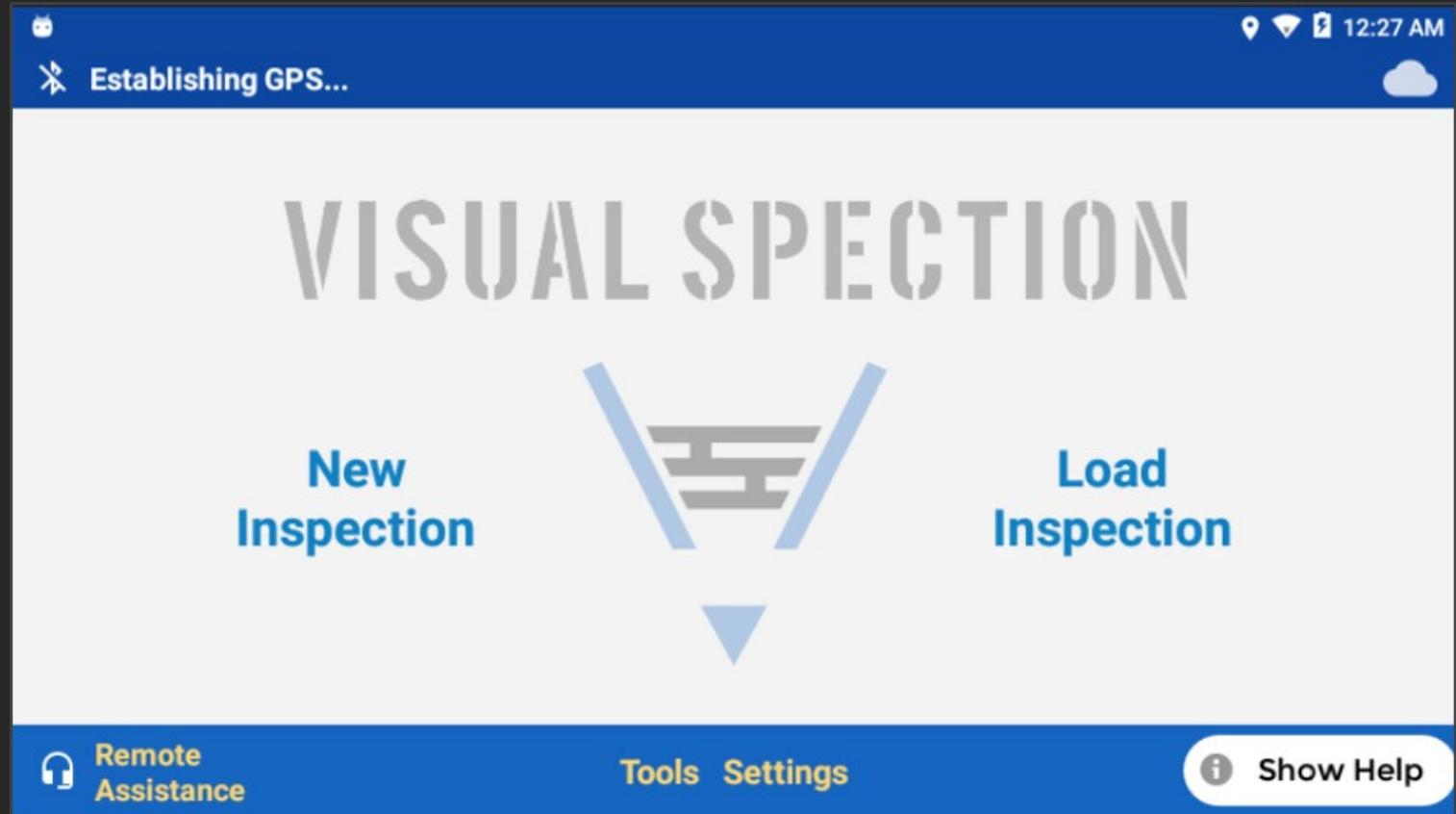
VS

Smart Glasses



- Painful Data Entry
- Heads Down
- Work Stops

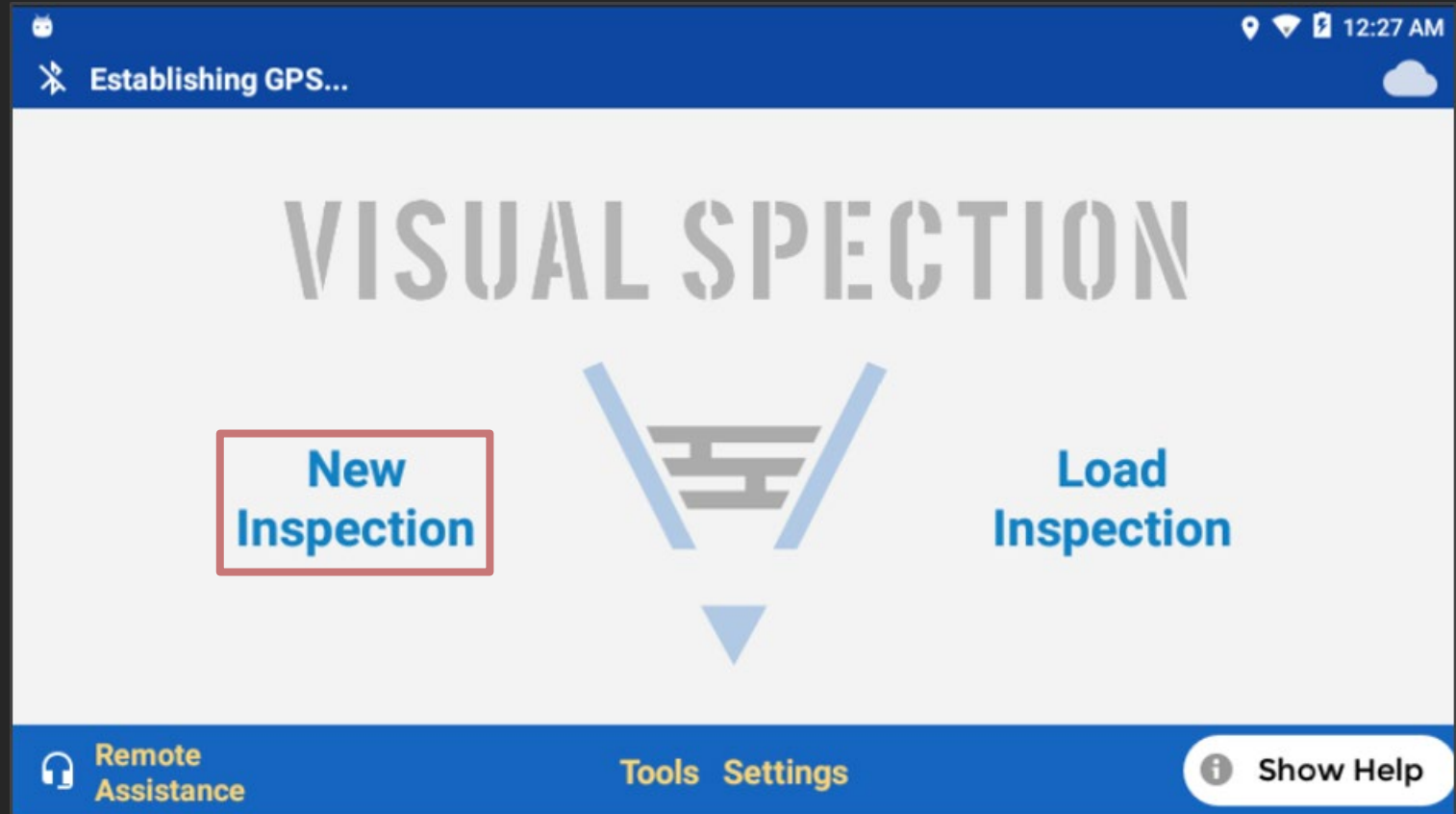
- Voice to Text (10x faster)
- Heads Up (Increased safety)
- Hands Free (30%+ efficiency)



New Inspection – Voice-Driven, Hands-Free

Load Inspection – Augmented Reality

Remote Assistance – Peer to Peer Communication



New Inspection – Voice-Driven, Hands-Free

Load Inspection – Augmented Reality

Remote Assistance – Peer to Peer Communication



✂ 49.831, -97.217 ± 24m

Uploading 2 items 



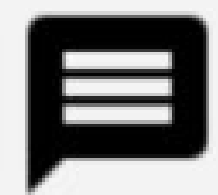
Video



Photo



Annotated
Photo



Voice
Note



Remote
Assistance



Rapid Fire Finish Inspection

 Show Help



Establishing GPS...

Uploading 1 items

Arch Building 9 - Feature 1

Type	Wall
Area	Exterior
Location	
Length	0.0
Height	0.0
Common	No
Item Number	0
Quantity	1
Condition Rating	3
Comment	No Media File(s)

Features Completed

Next Feature

Add Distress

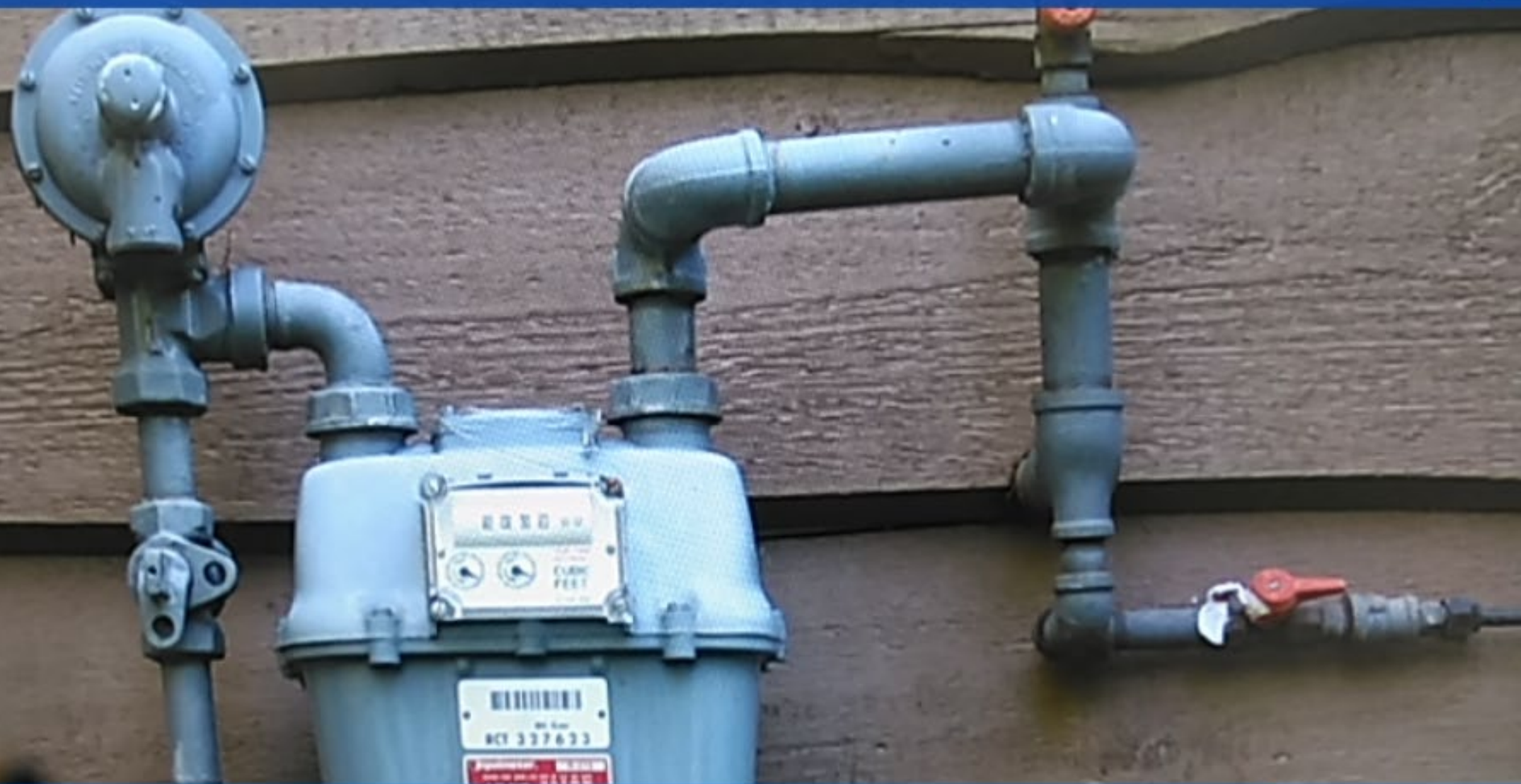
Remote
Assistance

Show Help



49.831, -97.217 ± 212m

Switch To Hi-Res



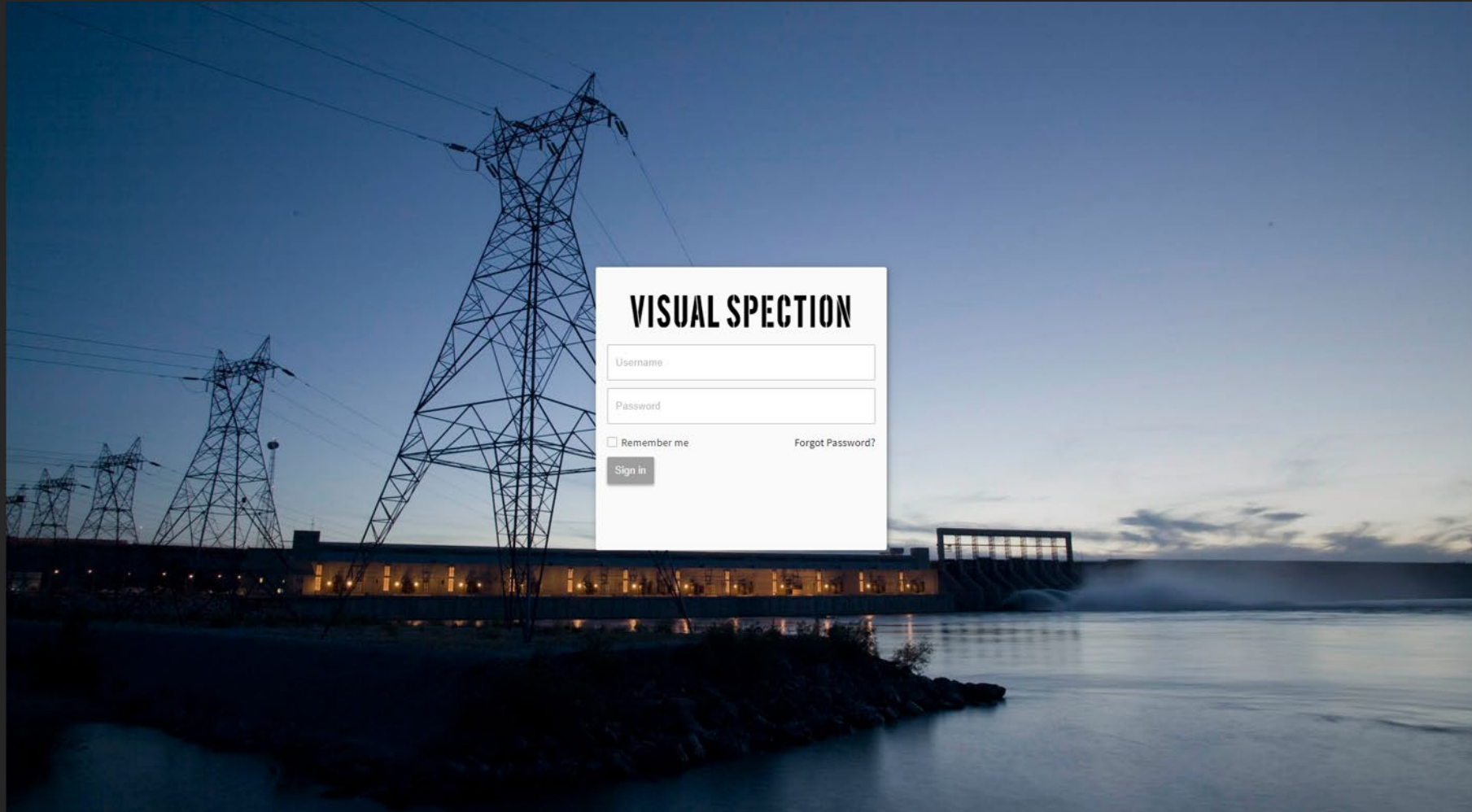
Flashlight

Take Photo



Show Help

Web Portal Overview



Mauritius

Date:

18 Jun 2018

Created By:

PTC2

Latitude:

-20.43898°

Longitude:

57.31989°

Route Distance:

6.47171 km

Inspection Duration:

N/A

Beach Spot	
Resort	
2018-06-18 03:48:18	
2018-06-18 03:31:57	
2018-06-18 03:22:44	
Communications Tower	
2018-06-18 03:45:03	
2018-06-18 03:31:08	
2018-06-18 03:15:56	
2018-06-18 03:33:35	
2018-06-18 03:14:37	
2018-06-18 03:40:44	
2018-06-18 03:19:02	
2018-06-18 03:25:16	
2018-06-18 03:30:15	

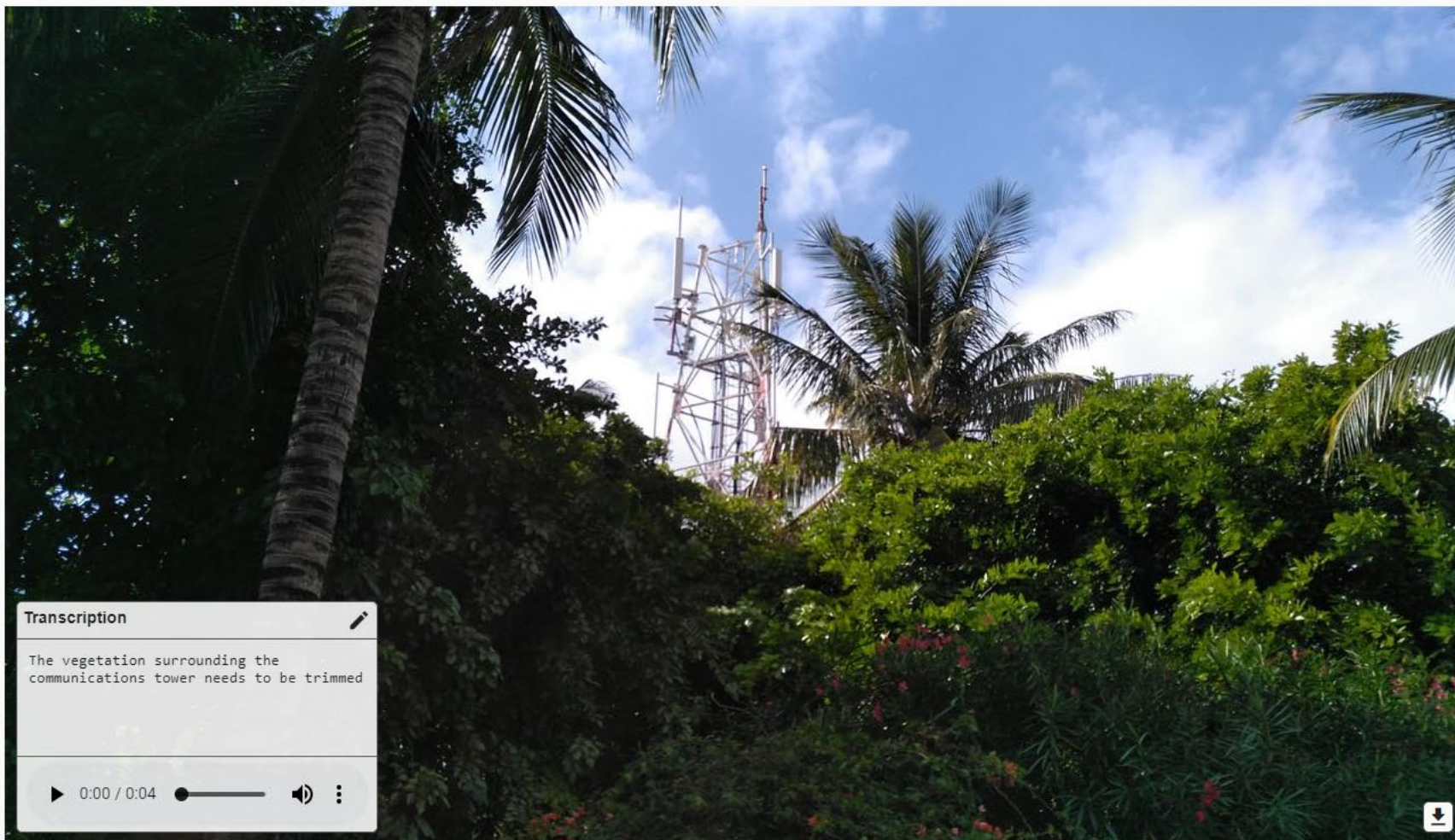
Back to Asset Groups



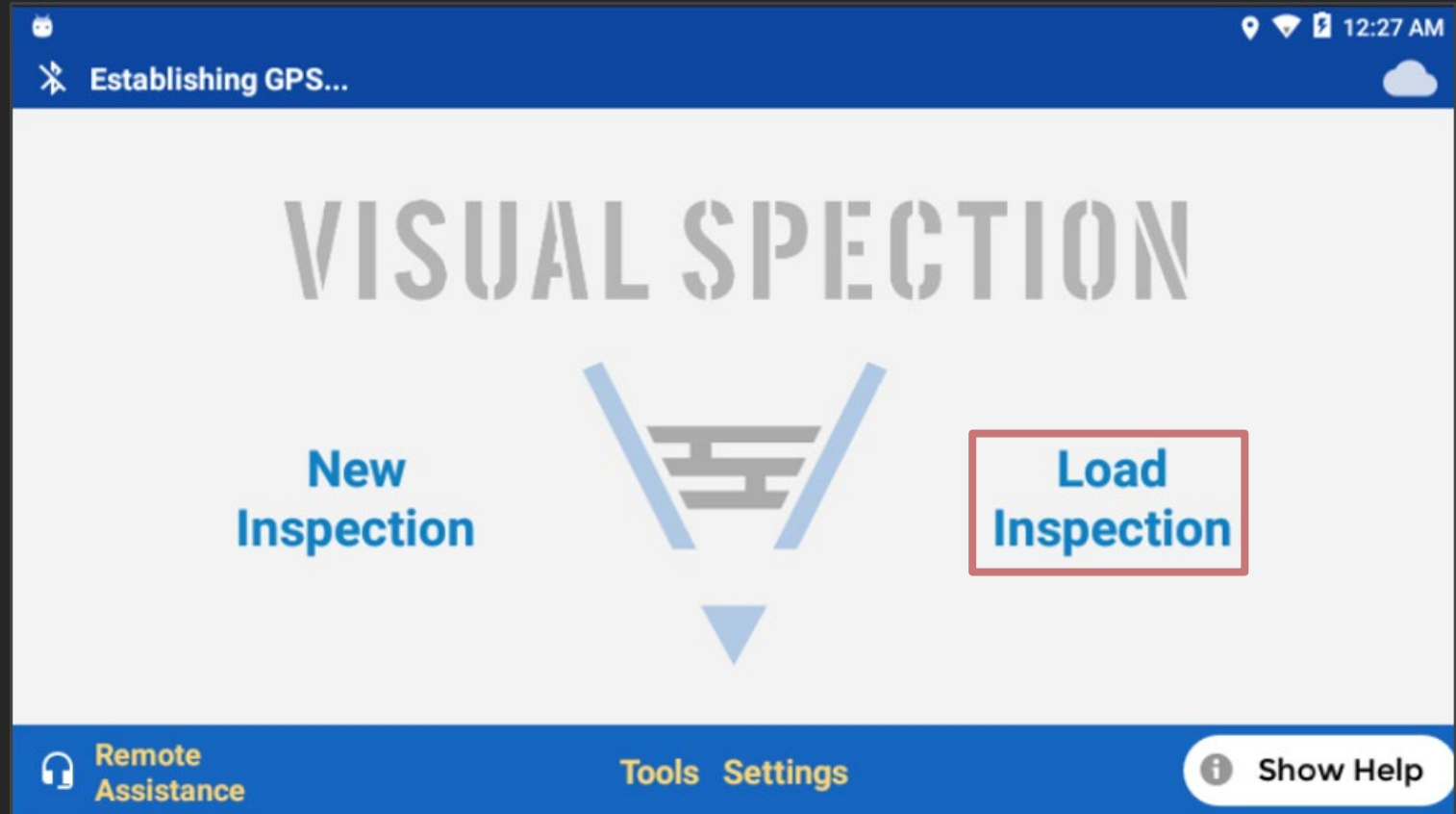
Map Satellite

- ☐ Move Assets
- ☐ Draw MOE
- ☐ Draw Route

Date:	18 Jun 20
Created By:	PTC
Latitude:	-20.4389
Longitude:	57.3198
Route Distance:	6.47171 k
Inspection Duration:	N



Cancel



New Inspection – Voice-Driven, Hands-Free

Load Inspection – Augmented Reality

Remote Assistance – Peer to Peer Communication

Vegetation Surrounding Ri...

Date:7 Nov 2018

Created By:avitt

Latitude:49.19623°

Longitude:-123.12683°

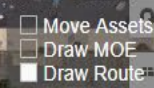
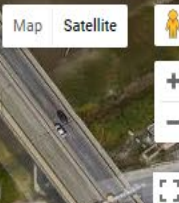
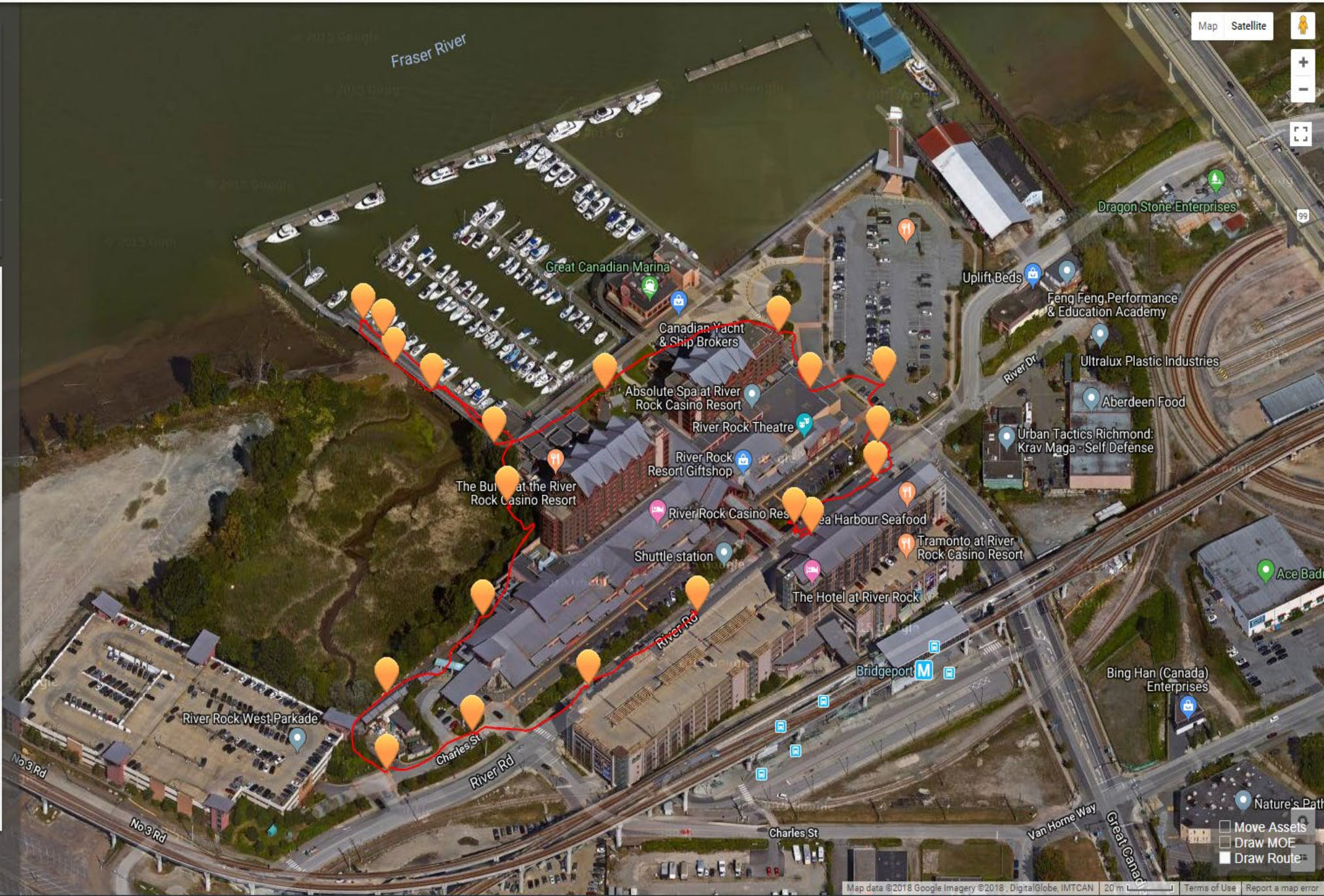
Route Distance:1.12758 km

Inspection Duration:N/A



- Small Plant
- Tree Top
- Tree Base
- Foliage
- Young Birch Tree
- Old Birch Tree
- Stump
- Bush Row
- Marsh (Main)
- Marsh (Right)
- Chair in Marsh
- Marina
- Signage
- Marsh (Left)

Back to Asset Groups



Marker 1

DBH: 38

MAINT: no maintenance nee...

COND: 90 - Very Good

ACTIVE: 1

DBHMETHOD: DBH Tape

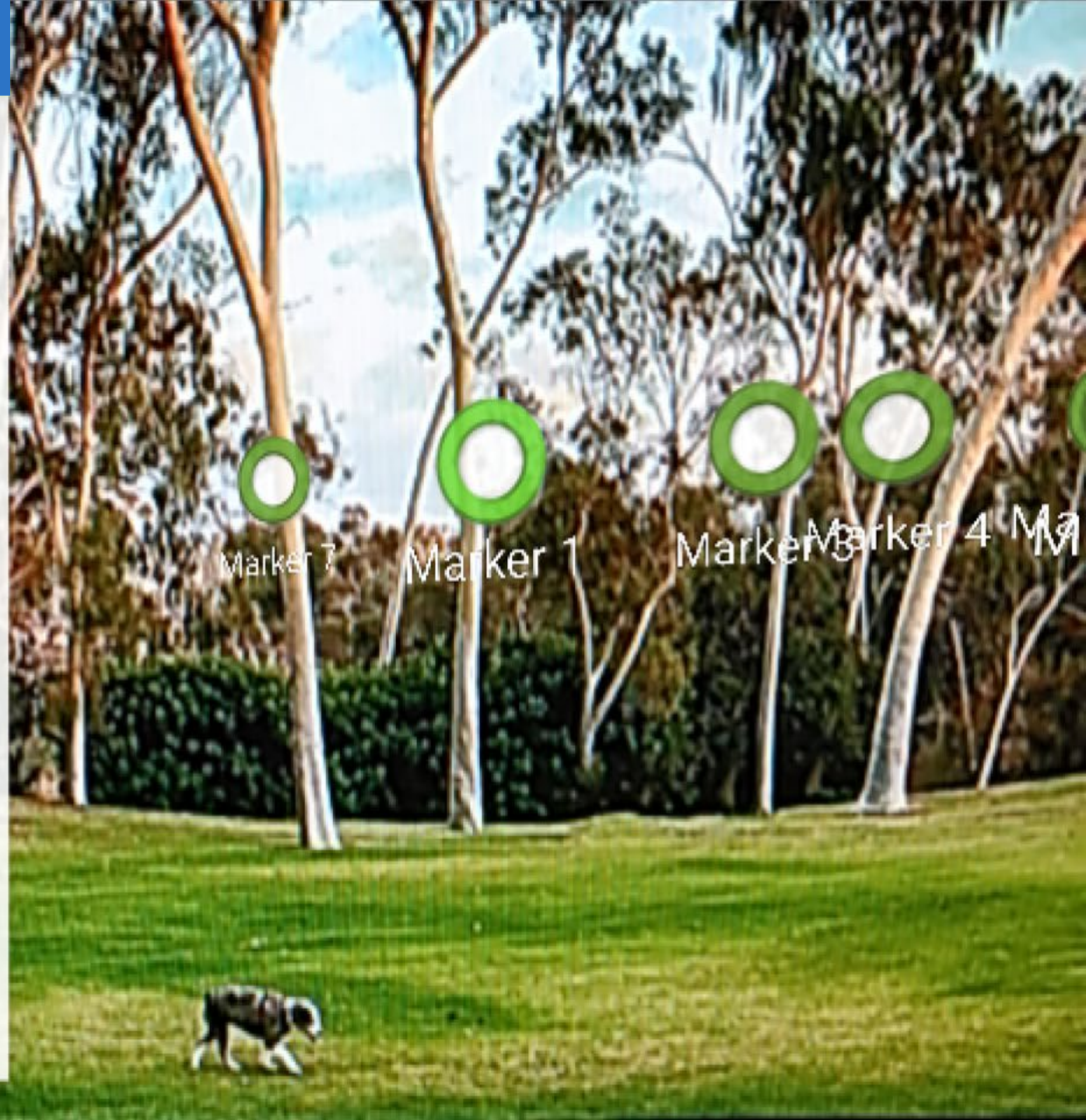
GROWSPC: Tree Lawn

HDSCAPE: No

HEIGHT: 25

ID: 52

INSPECT: No





49.830, -97.214 ± 3m

Internet disconnected.

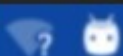


Remote Assistance

Range : 70m Mark Location



Show Help



49.830, -97.214 ± 3m

Internet disconnected.



Details

Properties

Tasks



Photos



Videos



Name: Commerce Transfomer2

Latitude: 49.830041

Longitude: -97.214280

Altitude: 0.0m

Bearing: -1°

Accuracy: 0m

[Add Media](#) [Rename Marker](#)Remote
Assistance

Close



Show Help



49.831, -97.217 ± 79m



Select a task to perform

Select 1

Record oil level condition

Resolved

Select 2

Take photo of nameplate

Incomplete

Select 3

Record oil flush temperature

Resolved



Remote
Assistance

Close

Show Help



✂ 49.830, -97.214 ± 3m

Internet disconnected. 1

Take photo of nameplate

Previous

Take Photo

Next



✖ 49.831, -97.217 ± 79m



Select a task to perform

Select 1

Record oil level condition

Resolved

Select 2

Take photo of nameplate

Resolved

Select 3

Record oil flush temperature

Resolved



Remote
Assistance

Close



Show Help



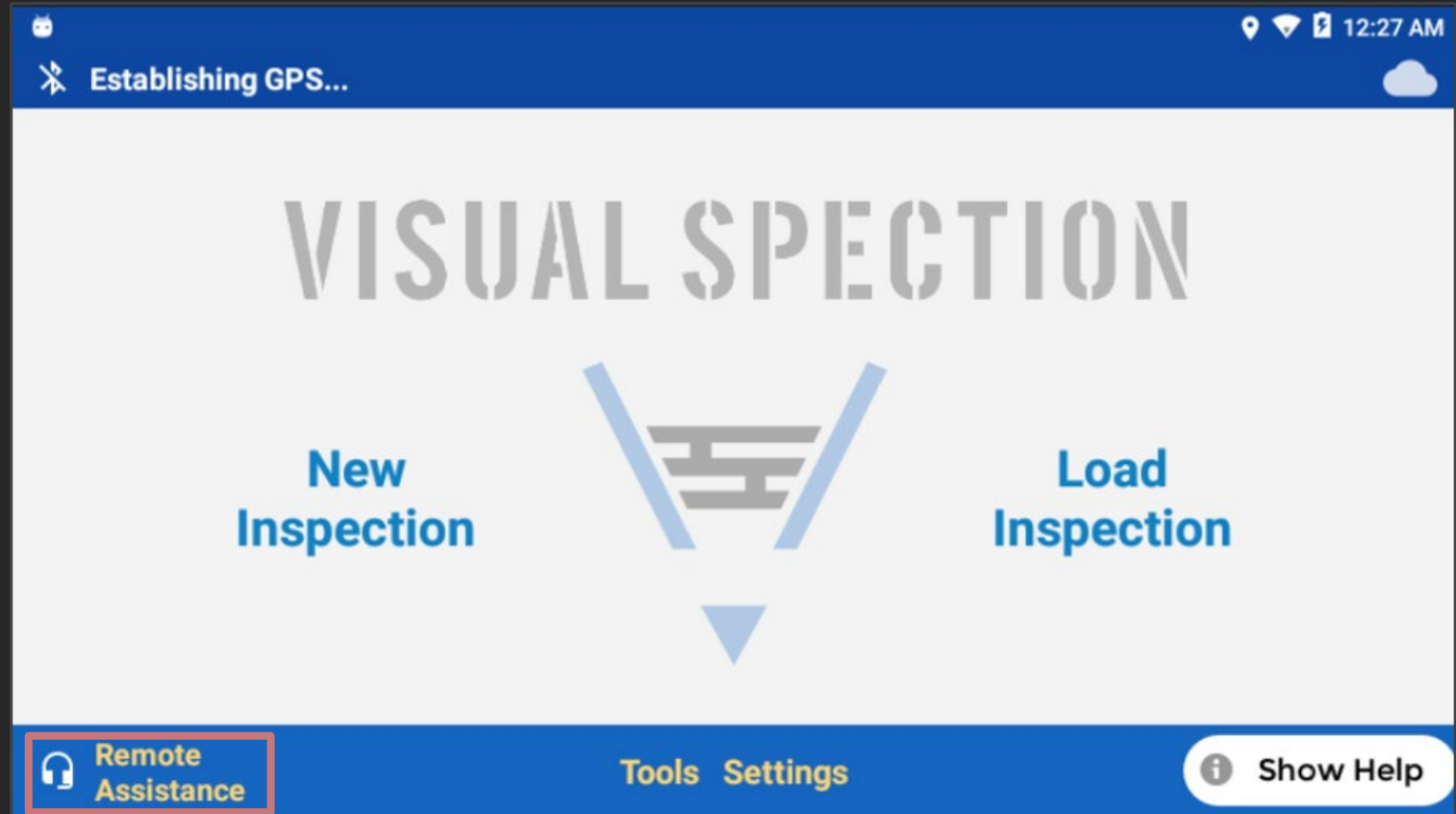
49.831, -97.217 ± 79m



Remote Assistance

Range : 70m Mark Location List View

Show Help



New Inspection – Voice-Driven, Hands-Free

Load Inspection – Augmented Reality

Remote Assistance – Peer to Peer Communication



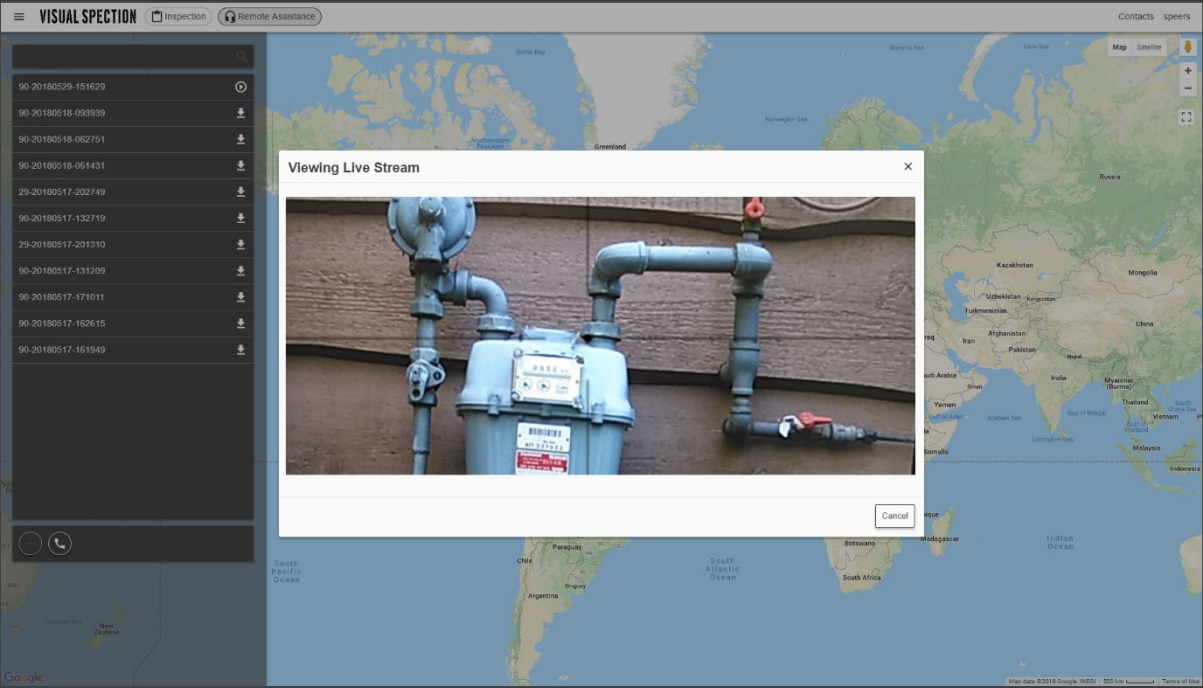
49.831, -97.217 ± 12m



Request Assistance From

Select 1	John Smith	555-555-5555
Select 2	Abraham Lincoln	555-555-5556
Select 3	Stephan Winchester	555-555-5557
Select 4	Dennis Reynolds	555-555-5558
Select 5	Art Vandelay	555-555-5559

Online Portal – Remote Expert View



Field Worker View





Project Highlights

Station Inspections via Heads-Up Displays

Project Overview

- Pen & paper inspections vs. smart glasses

Achieved Results

- Saved 1 hour per day in redundant data entry





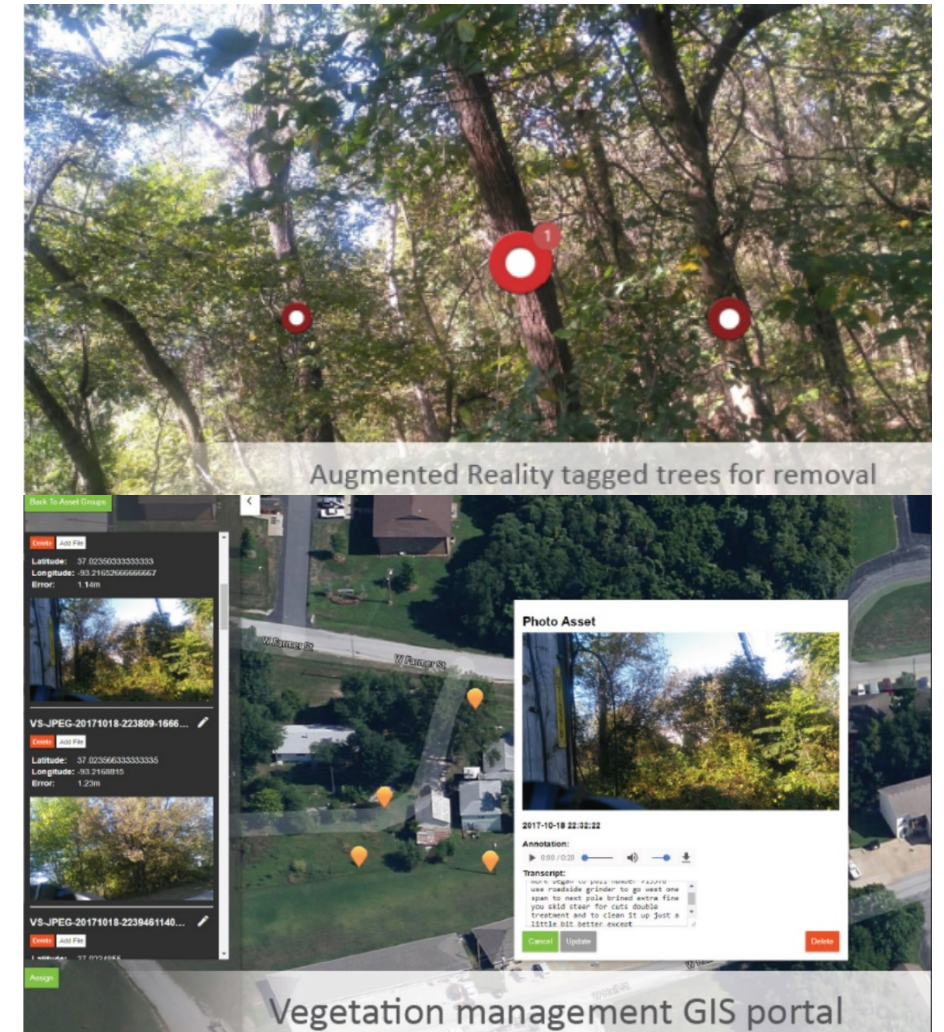
Empire DistrictTM
A Liberty Utilities Company

Project Overview

- Vegetation management & asset inventory via augmented reality

Achieved Results

- 3 to 1 ROI
- 67% faster collection of individual data points





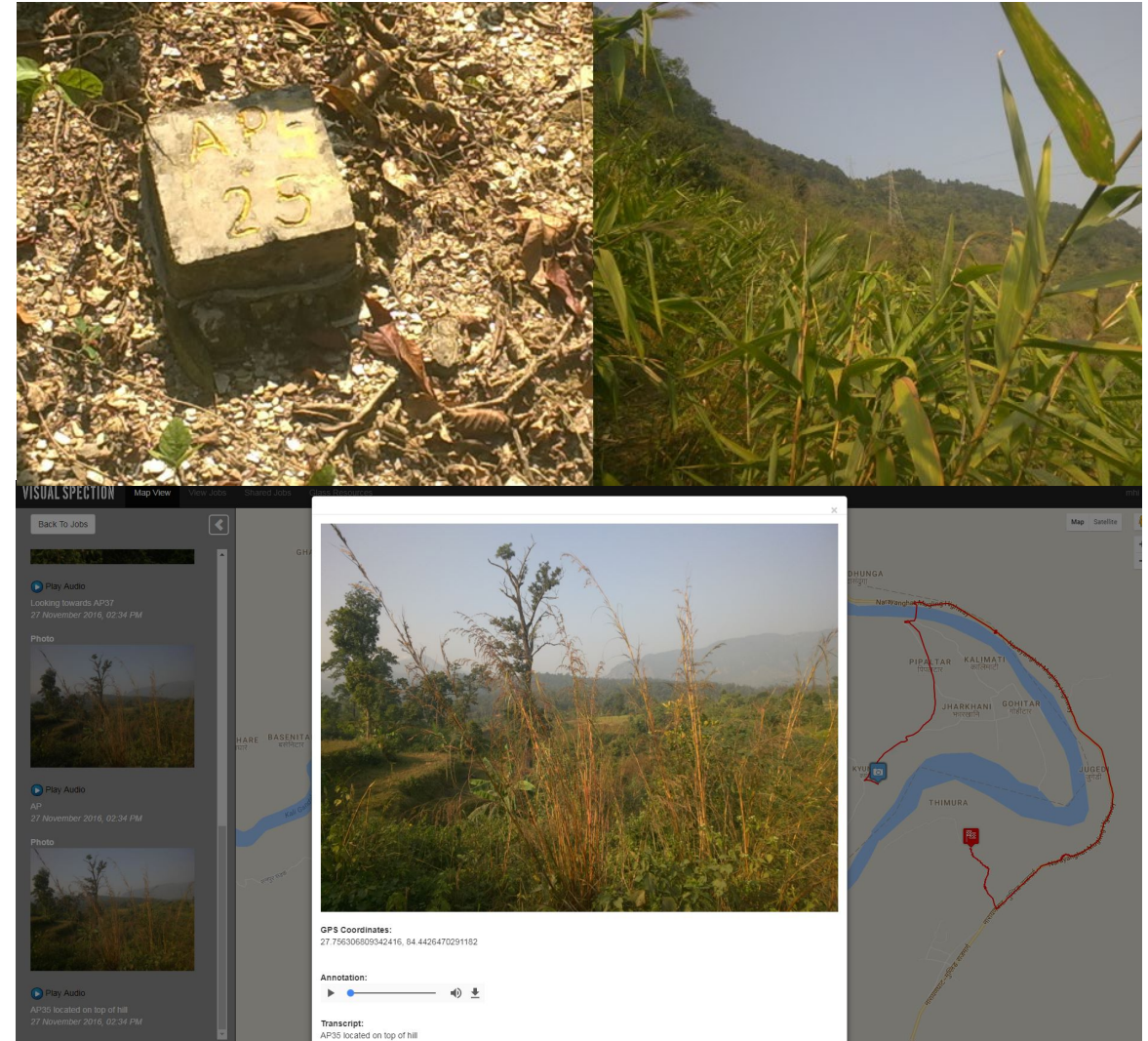
तनहुँ हाइड्रोपावर लिमिटेड
Tanahu Hydropower Limited

Project Overview

- Verification of dead-end structure placement for new transmission lines

Achieved Results

- Near real-time media documentation for accountability
- \$50k+ cost savings on labor





Project Overview

- Universal system for documenting walk downs and site visits.

Achieved Results

- Improved productivity, increase efficiency, increase profitability, and reduce errors
- Reduced travel costs





Manitoba
HYDRO INTERNATIONAL

 **120+**

**Countries trust us
to manage their utilities**

Thank you

Will Coombs
wcoombs@mhi.ca