

STEP-BY-STEP

A "How To" Manual
for Locating I&I

The iTracking® Guide Book

First Edition

iTracking I&I Micro Detection
Simply and Clearly Explained

ONLINE SUPPORT 1-800-226-3569 Ext.1



The Sensor

State-of-the-art iTracker® wireless sensors monitor wastewater collection system performance on a 24/7 basis without the need for confined-space entry, continuous maintenance and hazardous "in the road" data retrieval.



The iTracking® Guidebook

I&I Micro Detection for Wastewater Professionals

The following pages have been designed to provide utility-based iTracking users with a set of easily understandable instructions for quickly and successfully conducting an I&I Micro Detection Study.

The Guidebook is a text-based support document for iTracking's Customer Success Program consisting of Instructional Videos, Monthly Training Sessions, Online Technical Assistance and Live Customer Support.

THE GUIDEBOOK HAS BEEN DIVIDED INTO 2 SEPARATE SECTIONS:

SECTION 1. A full description and set of step-by-step instructions for conducting an I&I Study comprised of Major Basin and Branch areas.

IMPORTANT: STEPS 03, 04 AND 05 WILL BE COMPLETED FOR YOU BY EASTECH FACTORY PERSONNEL.

SECTION 2. Appendix: Alternate iTracker Mounting Options
Downloading Data with SD Cards
Battery Information and Safety

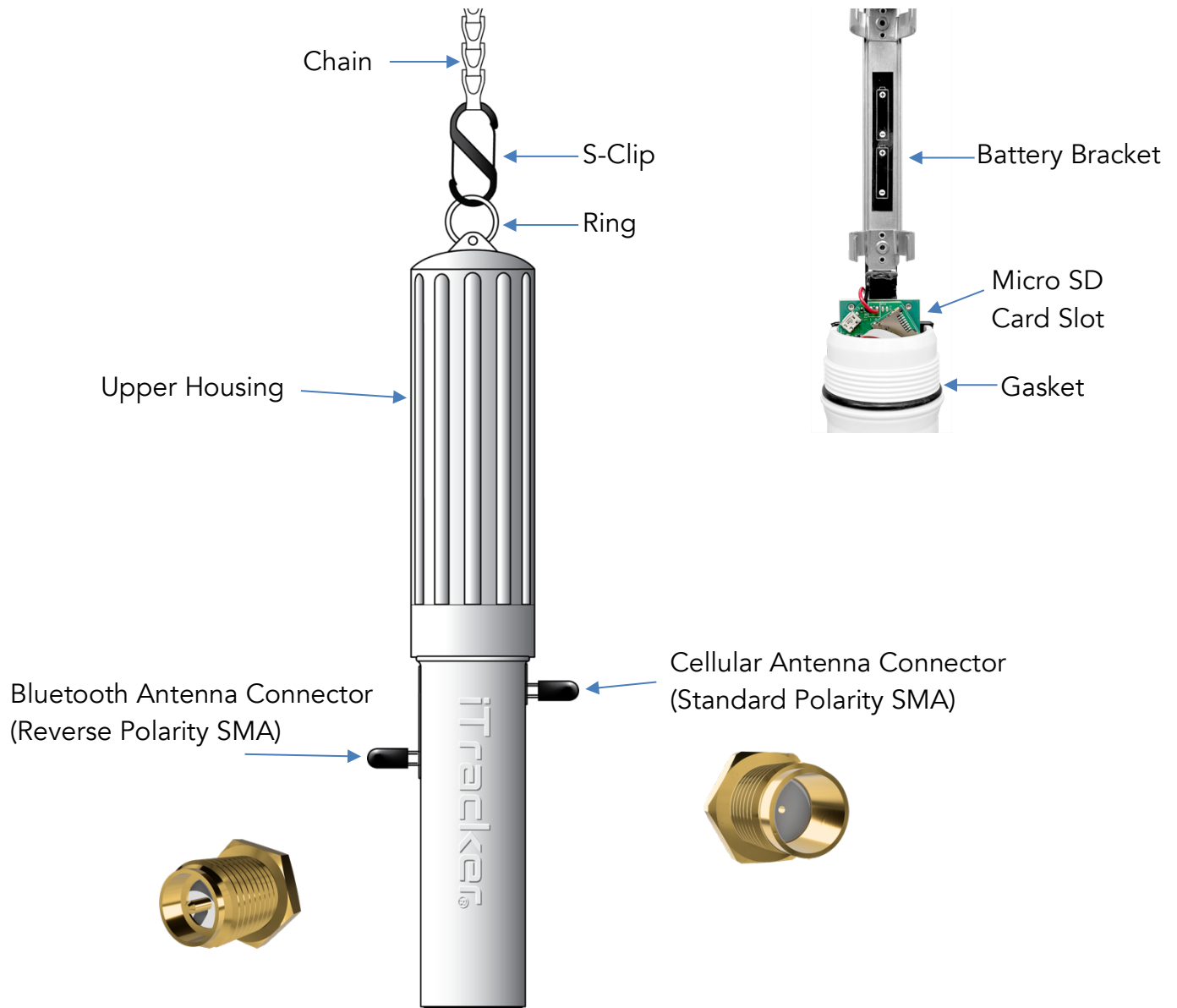


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BEFORE STARTING A STUDY, PLEASE MAKE SURE THAT YOU
HAVE RECEIVED ALL THE NECESSARY COMPONENTS
INCLUDED WITH THE iTRACKING® SYSTEM.

iTracking® System Design Components



iTracker – Bluetooth Enabled



Level Measurement Pole



Expansion Bar



Laser Alignment Tool (LAT)



Bluetooth Ant.



Talcum Powder



S-Clip | S-Chain



(2) 3.6V Lithium-ION
Batteries



01

MAJOR BASIN/BRANCH STUDY

If you are not sure which area of the collection network is contributing the greatest amounts of I&I, it is suggested that prior to conducting a **Branch Study** (see page 10), iTracker sensors are initially utilized to quickly conduct a select number of **Major Basin Studies** (see Page 9) to ascertain the I&I severity within those areas suspected of having faulty infrastructure.



 iTracker®

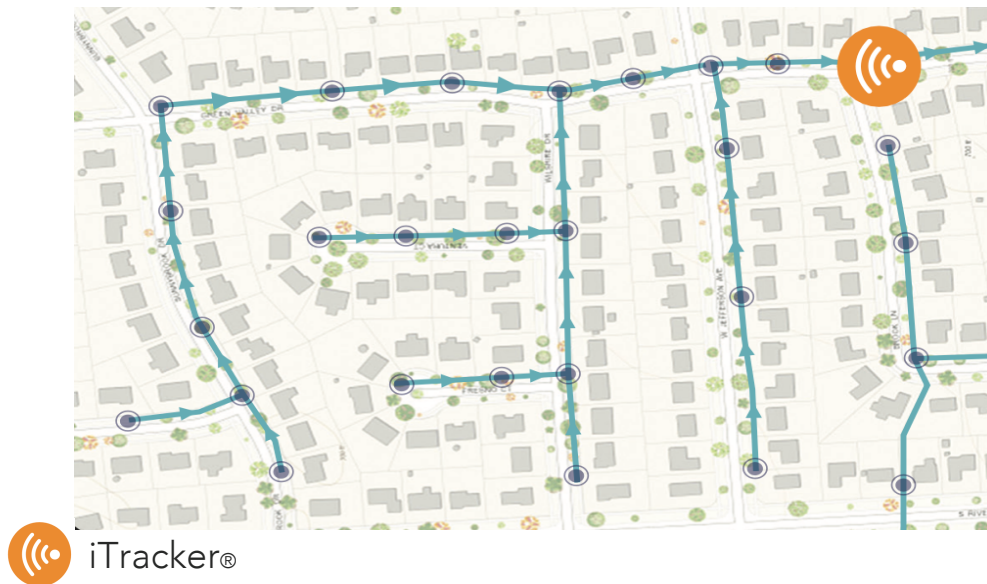
A Major Basin Study approach will accomplish 2 things:

1. Confirm the fact that the area you have selected for study is problematic and worthy of a **"Branch"** I&I investigation.
2. Provide the opportunity to "Test Drive" iTracking by quickly familiarizing oneself with the System prior to initiating a multi-sensor "Branch" investigation.

SELECT AN AREA FOR A MAJOR BASIN/BRANCH STUDY.

Decide upon a 1 – 2 linear mile section of the collection system for a Major Basin investigation. Once you are ready to begin the Study, an iTracker smart sensor will be installed at the most downstream manhole of the Major Basin study area as depicted below.

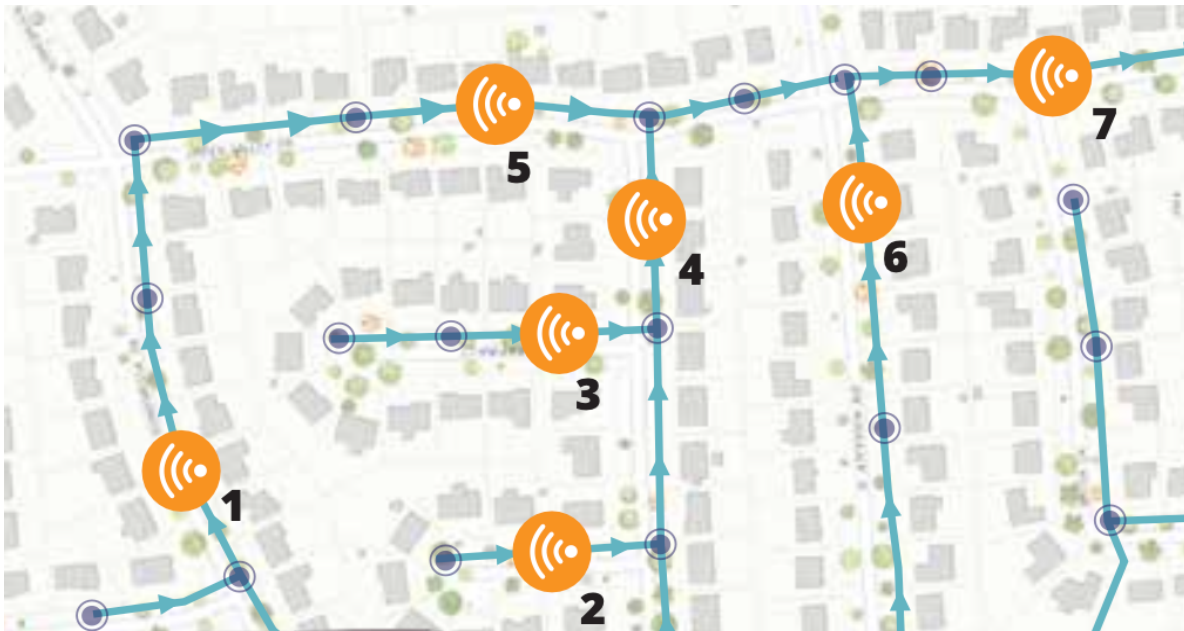
MAJOR BASIN STUDY



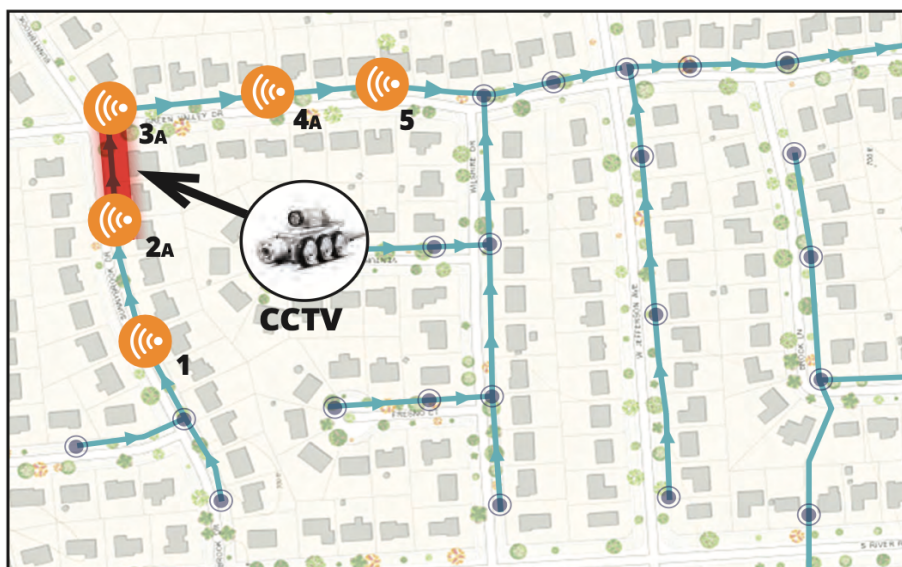
If the iTracker at the base of the Major Basin selected for investigation proves out to be a contributor of substantial volumes of I&I, it is suggested that additional iTracker sensors be placed at the base of each of the Branches (see diagram next page) that make up the Major Basin.

It has been proven over thousands of I&I Studies that 80% of the I&I resides in just 20% of the collection network. By positioning iTracker sensors at the base of each Branch, the 80% I&I can usually be located to between a few manholes after just a single rain event.

BRANCH STUDY

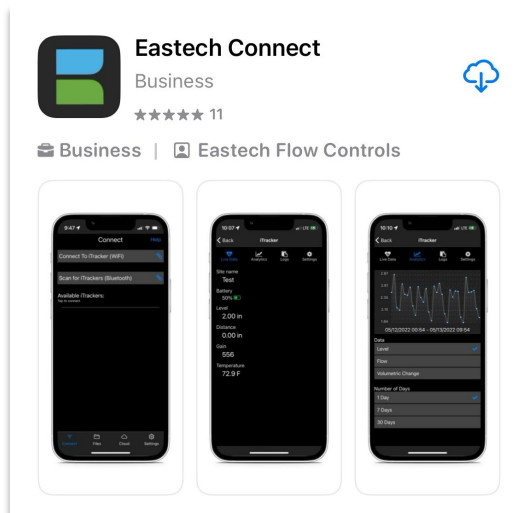


Once the Branches responsible for the majority of I&I are discovered (in this case Branch 5), a further investigation can be initiated that employs CCTV, smoke testing or additional iTracker's to pinpoint the cause of the problem to between a set of adjacent manholes.



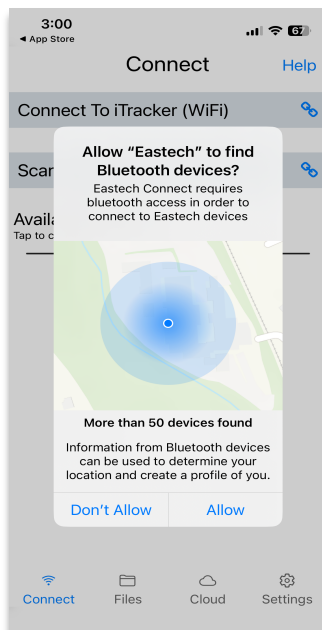
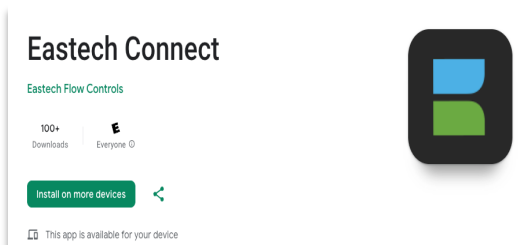
02

INSTALL THE EASTECH CONNECT MOBILE APP



It is recommended to install the Eastech Connect App on your mobile phone prior to iTracker sensor installation.

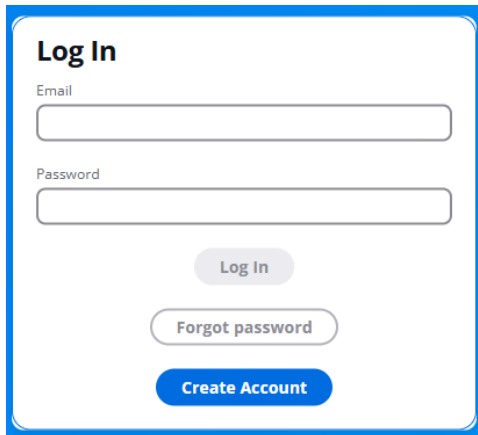
To install the App, visit the Apple App Store or Google Play and search for *Eastech Connect*.



When first connecting to the Eastech App, a search will be conducted for all Bluetooth devices. **Select Allow.**

03

CREATE AN ACCOUNT

A screenshot of a 'Log In' form. It has a title 'Log In' in bold. Below it are two input fields: 'Email' and 'Password'. Under the 'Password' field is a 'Log In' button. Below that is a 'Forgot password' button. At the bottom is a blue 'Create Account' button.

Log In

Email

Password

Log In

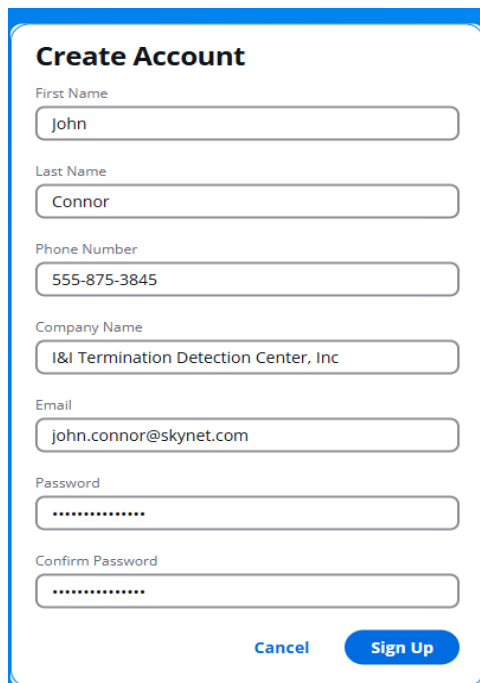
Forgot password

Create Account

To log in, you will need to create an account with a valid email address.

Go to tracking.eastechflow.com

Select *Create Account* which will bring you to the next page.

A screenshot of a 'Create Account' form. It has a title 'Create Account' in bold. Below it are several input fields: 'First Name' (filled with 'John'), 'Last Name' (filled with 'Connor'), 'Phone Number' (filled with '555-875-3845'), 'Company Name' (filled with 'I&I Termination Detection Center, Inc'), 'Email' (filled with 'john.connor@skynet.com'), 'Password' (filled with dots), and 'Confirm Password' (filled with dots). At the bottom right are two buttons: 'Cancel' and a blue 'Sign Up' button.

Create Account

First Name

John

Last Name

Connor

Phone Number

555-875-3845

Company Name

I&I Termination Detection Center, Inc

Email

john.connor@skynet.com

Password

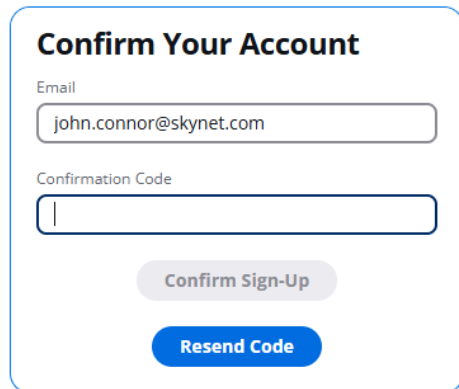
Confirm Password

Cancel Sign Up

Enter your E-Mail Address and Password, along with any optional Information such as Name, Phone Number, and Company Name for your profile.

Click "Sign Up" to proceed.

Create Account



Confirm Your Account

Email

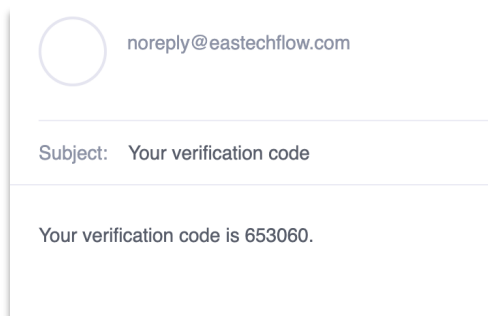
Confirmation Code

[Confirm Sign-Up](#)

[Resend Code](#)

The Create Account Window will appear, prompting you to enter a Confirmation Code.

Check your email for a verification code. If you do not receive a code within 5 minutes, check your 'Junk' email folder for the following email:



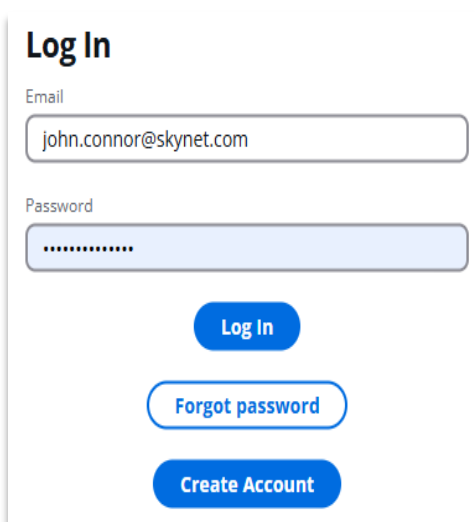
 noreply@eastechflow.com

Subject: Your verification code

Your verification code is 653060.

If you cannot locate the email, select 'Resend Code'. If you do not receive your email, please contact Eastech Flow Controls at (918) 664-1212 Ext. 1 to set up an account for you. Enter the Confirmation Code to complete the process.

Log in:



Log In

Email

Password

[Log In](#)

[Forgot password](#)

[Create Account](#)

After confirming your account, you will be able to log into the Eastech Customer Portal.

04

CREAT YOUR ACCOUNT & AN ORGANIZATION

Once logged into the Eastech Customer Portal, if changes are needed, select 'Account' from the navigation window on the left. If the Navigation window is not visible, select the menu icon to display the window.

Select Menu Icon

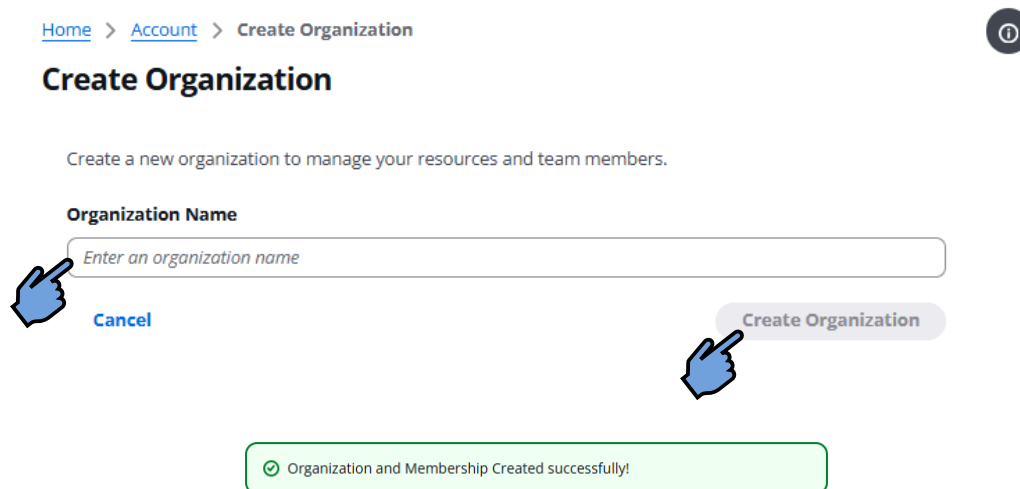


Organizations allow grouping iTrackers, logs and studies by utilities, municipalities or firms. While only one organization may initially be required, additional organizations can be created if needed when working with multiple users or collection systems.

To create an organization, select 'Create' from the lower right corner of the account window.

Enter an organization name and select 'Create Organization'

Your organization will appear next to your "username" on the right side of the top ribbon.



The screenshot shows a web interface for creating an organization. At the top, there is a breadcrumb trail: [Home](#) > [Account](#) > [Create Organization](#). To the right of the breadcrumbs is a circular help icon with an 'i'. Below the breadcrumbs is the title **Create Organization**. Underneath the title is a subtitle: "Create a new organization to manage your resources and team members." The main form area has a label **Organization Name** above a text input field. The input field contains the placeholder text "Enter an organization name". To the left of the input field is a blue hand icon pointing at it. Below the input field are two buttons: "Cancel" and "Create Organization". A blue hand icon is pointing at the "Create Organization" button. Below the buttons is a green success message box that says "✔ Organization and Membership Created successfully!"

Navigating the Organization List Page

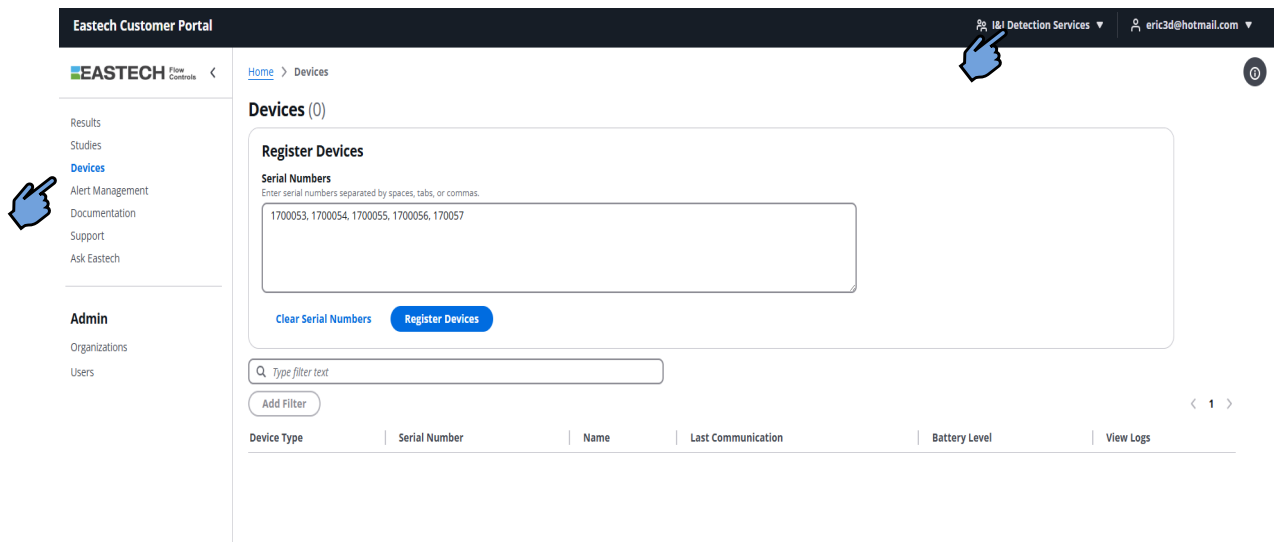
Over time, multiple organizations may appear on the account page. Once a new organization is created, it will appear as an active organization next to the "username" on the right side of the top ribbon.

To switch organizations, click the dropdown arrow and select an organization from the Member List.

05

REGISTERING iTRACKER DEVICES

Select an Organization from the Navigation window and go to "Devices".



Enter the serial numbers of the iTrackers you want to add in the Register Devices window. The serial number can be found on your device by removing the cover and viewing the decal on the back of the battery holder.

Click "Register Devices" to complete the process.

Devices have been successfully registered:

- Successfully registered devices: 1900079

If any errors occur while registering your device, please contact Eastech Customer support at (918) 664-1212 Ext 1.

06

INSTALLING THE iTRACKER

See installation video at:

https://www.youtube.com/watch?v=nOQNgyllOil&t=7s&ab_channel=EastechFlowControls

Once the sites to be monitored have been determined, install the iTrackers to begin the process of gathering data. Be sure to note the site location and serial number of each iTracker so a representation of it can be added to your map.

Locate the most downstream manhole in the either the Major Basin or a Branch (Mini-Basin).

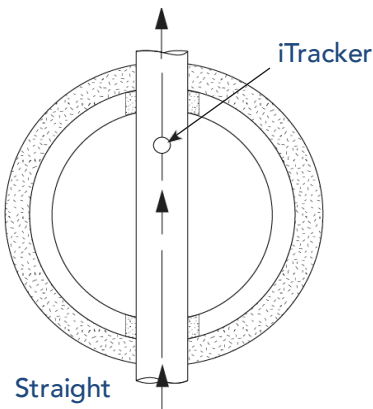
Prior to installation, evaluate the flow and manhole conditions for suitability. Take a picture of the manhole for record keeping.

The way flow moves through a manhole impacts the quality of the Study. Use the below illustrations to help evaluate each manhole. If a manhole is deemed unsuitable, consider moving upstream or downstream to locate a site with more suitable conditions.

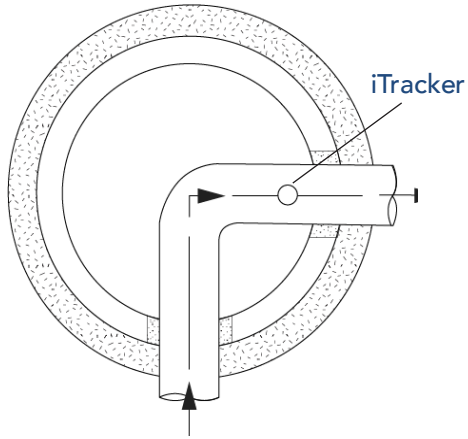


Photo of a Manhole

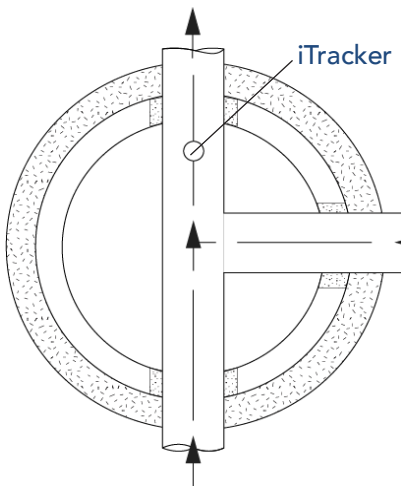
Some Helpful Hints:



A straight-through half-round trough has the best results. When the flow is straight through with a positive slope of between .4 to .5 percent and free of debris the flow is usually tranquil with a smooth surface. These conditions result in the best readings.



A sharp turn in a manhole can cause standing waves and turbulence. Position the sensor closer to the outflowing pipe to get the best results. Pay attention to any wakes and be aware that they may move as the flow changes. If the flow is turbulent, increase the damping setting. Increasing the damping results in a larger number of readings per interval.



Intersecting manholes can create wakes and turbulence. Position the sensor close to the outflow to minimize the effects of an intersection and get the best representation of combined flows.

IMPORTANT: Do not insert batteries during the initial installation phase

The Expansion Bar functions as a “secure connection point” for the iTracker. Make sure that the Bar intersects the trough in the optimum location at the bottom of the manhole. The Bar expands outward as it is manually rotated. Continue to rotate both sections of the Bar until it is securely locked against the walls of the manhole.



Connect the Bluetooth antenna to the iTracker. Slide the Laser Alignment Tool (LAT) over the sensor face of the iTracker and tighten. The LAT will automatically turn on. Attach one end of the carabiner to the end of the SS chain and then attach the other end of the carabiner to the upper housing of the iTracker. Firmly grasping the SS chain attached to the iTracker, lower the iTracker so that it is suspended approximately 2'–3' above the trough.



Upon reaching a satisfactory 2' – 3' height above the trough, attach one end of the second carabiner to the SS chain and secure the other end to the Eyelet Bracket on the Expansion Bar.

Using the laser beam from the LAT as a reference, slide the Eyelet Bracket along the Expansion Bar or rotate the Expansion Bar itself until the iTracker is positioned directly over the center of the manhole trough. Once centered, make sure that both the Eyelet Bracket and Expansion Bar are securely locked in place.



Once the iTracker is centered over the trough, use the chain to pull the iTracker back up to street level and remove the LAT.

The iTracker is now ready for calibration.





Calibration

Install a new set of batteries into the iTracker and watch for the LED flash sequences to confirm activation.

If the LEDs do not flash, check that the orientation of the batteries matches the label on the battery holder. If the orientation is correct, replace both batteries with a new set or contact customer support (1-800-226-3569 Ext. 1).

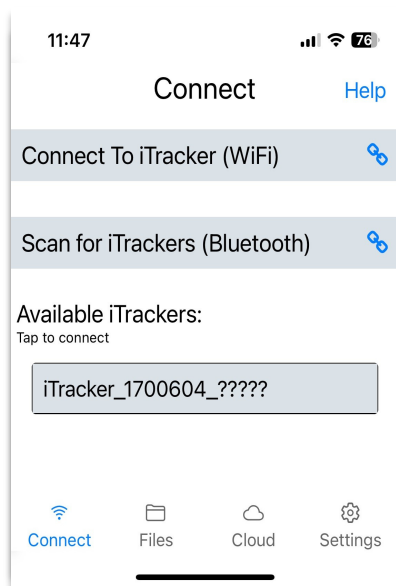
The iTracker does not have a physical on-off switch. Installing the batteries automatically powers on the device and enables Bluetooth connectivity for 10 minutes. Once connected through the Eastech App, the connection will remain active as long as the phone or tablet stays awake. If **“connection” is lost, removing the batteries for 15 seconds and then reinserting the batteries will reactivate Bluetooth for an additional 10 minutes.**



Eastech

From your phone or mobile device, open the Eastech App. If the app is not already installed, **see Section 02, Page 11.**

Launching the App will open the Connect window.



Connecting to the iTracker using Bluetooth:

Select Scan for iTrackers (Bluetooth)

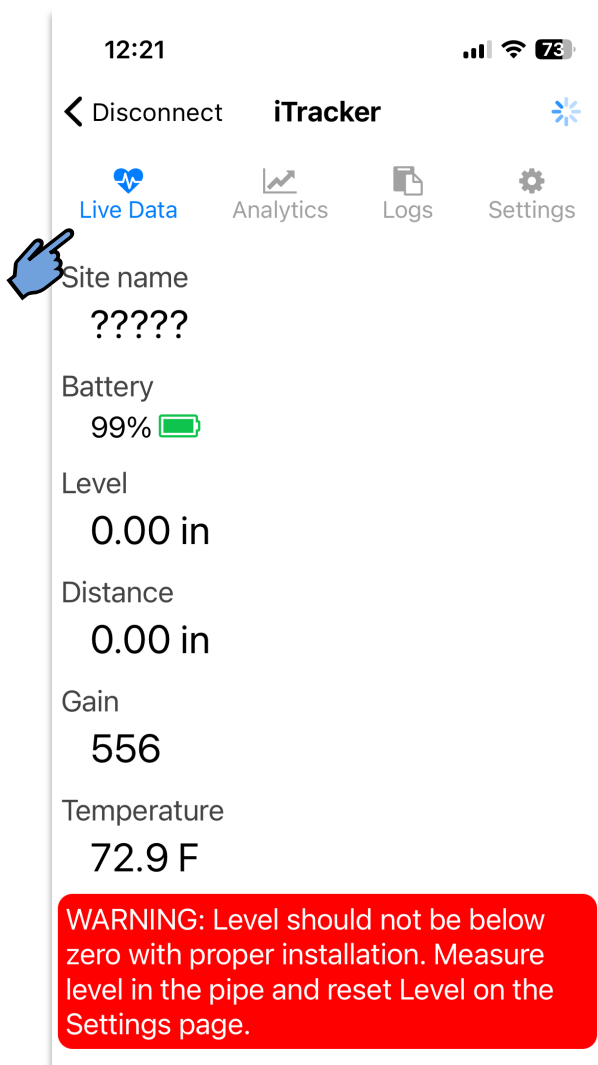
Under Available iTrackers there will be a list of devices which are available to connect through Bluetooth.

The default name of the device (iTracker) will be shown. The first 7 digits will be the Serial Number of your device. The question marks will be changed to your unique Site Name under settings.

NOTE: If an iTracker does not appear on the list, it may be connected to a secondary mobile device. iTrackers only support one Bluetooth connection at a time. If this is the case, it will be necessary to disconnect the iTracker from the secondary mobile device presently not in use.

Live Data Screen

Upon connection, the Eastech App opens to the [Live Data](#) page. Initially, the iTracker will automatically perform a distance measurement. While measuring, the Function Icons along the top of the page will gray out and become non-responsive. The Icons will become active between readings.



Note: Upon start up, the following Warning may appear. This will be automatically corrected under "Settings" during final calibration of the iTracker.

12:08 📶 🔋 74

⬅ Disconnect **iTracker**

📶 Live Data
📊 Analytics
📄 Logs
⚙ Settings

Site name

Households

Pipe size

Damping

Log interval

Units of measure

Submit

Level
 Submit

Date/Time
06/11/2025 10:56:56 **Sync Time**

Battery
99% **Reset**

New Site

Factory Reset

Alerts ▶

Network ▶

Advanced ▶

Serial Number
1700604

Firmware Version
5.0.242

Site Name – Enter an appropriate name for the site. We recommend using a manhole identifier that matches the number on the digital map referenced in the iTracker Cloud Software.

Households – At present, ignore Households. This feature is only required for **Advanced iTracking Studies**.

Pipe Size – Enter the nominal pipe size within the manhole under investigation.

Damping – The default setting is three. With turbulent flows, increase the damping number to average more measurements during each level reading.

Logging Time Interval – A dropdown list of several time intervals offers choices from one log every minute to one log every hour. Choose longer intervals for better battery life and shorter intervals for more readings over the study duration. **For I&I Studies, a 15-minute data logging interval is usually standard.**

Units of Measure – Choose between *Metric* for millimeters and *English* for inches.

***Note:** After entering the site information and preferences, use the ‘**Submit**’ button to activate and store the new settings before proceeding.

Click out of keyboard before hitting Submit, or the data will not save.

Level – Do not add a value until the iTracker is ready to be commissioned in the next Section.

To begin a new installation, select ‘**New Site**’. This will clear out all fields within the App.

Pipe Size	Minimum Mounting Height	Recommended Mounting Height
6" to 8"	17"	24" to 28"
10" to 12"	21"	28" to 36"
15" to 20"	29"	36" to 46"
24" to 30"	39"	46" to 52"

REPOSITION THE iTRACKER

The iTracker is now active and ready to lower back into position. Use the table at left to determine the proper "approximate" mounting height for the iTracker. **iTrackers should be mounted a minimum 10" above top invert of pipe.**

NOTE: Check "Live Data " to confirm sensor height.

When changing Logging Time Intervals, save any current logs and clear them from memory to avoid timing issues.

Perform the following depth level measurement with the iTracker hanging in its final measurement position.

Assemble the Level (Depth) Measurement Pole

Connect enough sections to reach the bottom of the manhole.

Prepare the Measurement Pole

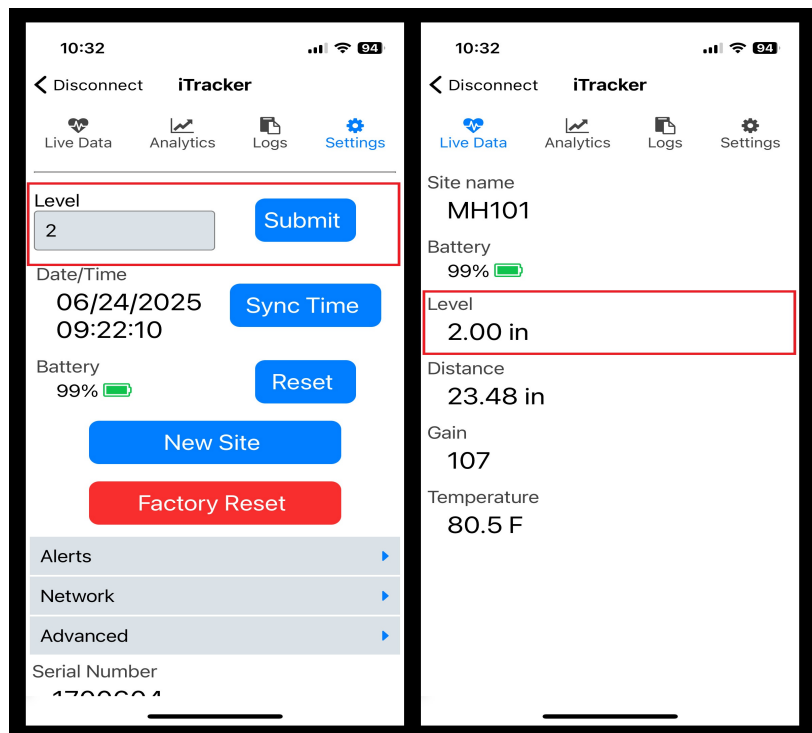
Apply powder to the graduated end of the provided Level Measurement Pole ensuring coverage higher than the expected water depth.



Measuring and Entering the Water Level (Depth in Trough)

1. Measure the Level (Depth) Manually using the Level Measurement Pole.
Dip the powdered end of the Level Measurement Pole into the center of the water flow directly beneath the iTracker. As the flow washes away the powder, it will reveal a clear mark showing the water depth.
2. Enter the Level into the App
In the Level input box on the app, enter the measured depth (in inches or millimeters, depending on your unit setting). Then tap Submit to save the value.
Click out of keyboard before hitting Submit, or your data will not save.
3. Wait for the iTracker to Record Distance
Make sure the app is not in Data Entry Mode—the icons at the top of the screen will temporarily gray out while the iTracker takes its automatic distance measurement.
4. Distance Reading
The iTracker will automatically measure the distance from the bottom of the sensor to the top of the water surface. This is shown as "Distance" on the Live Data screen.
5. Return to the Live Data screen to confirm that the calculated Level (depth of water in the trough) is accurate and matches your expectations.

The iTracker will now begin collecting data at the time intervals you have selected.



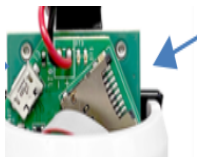
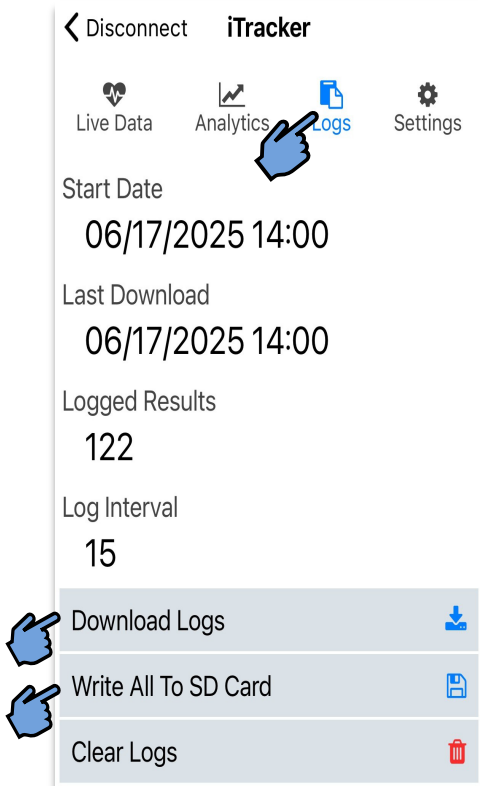
07

COLLECTING DATA FROM THE iTRACKER

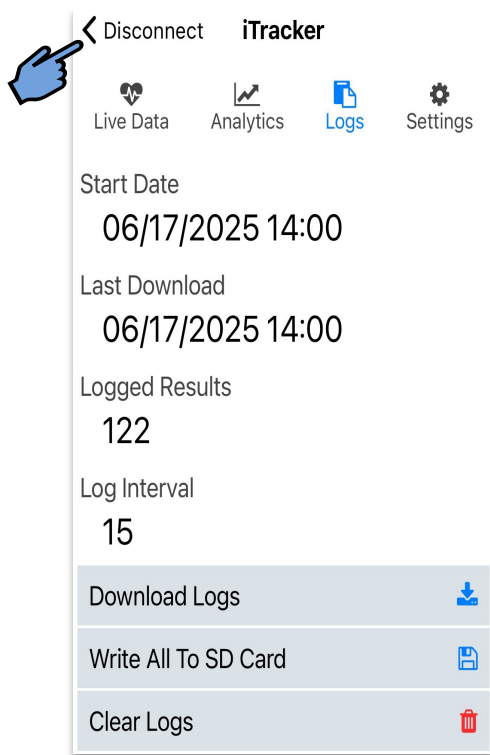
The iTracker will continuously collect data based on the time intervals you have configured. To establish a baseline, allow the device to record for at least one week of dry weather. This will define a typical dry-day diurnal pattern. After this period, the iTracker will capture data during rain events for comparison.

Once the rain events have occurred, return to each site when convenient to retrieve the data via Bluetooth. To begin downloading data from the iTracker:

1. Carefully remove the iTracker from its installed position.
2. Remove the batteries, wait approximately 15 seconds, then reinsert them to activate Bluetooth mode.
3. Launch the Eastech Connect app on your mobile device.
4. Scan for available iTrackers and select the one you wish to download data from.
5. From the top of the screen, tap "Logs" to open the download options.
6. Choose one of the following two methods to download data:
 - a. **Download to Mobile Device** – Saves data locally for review and export. Download Logs locally to your device (10,000 Records, 90 Second Load Time).
 - b. **Download to SD Card (if applicable):**
Tap "Write All to SD Card" to save the data directly to the iTracker's internal Micro SD card. (Capacity: 10,000 records / Approx. 5-second load time) Note: (2) Micro SD cards formatted as FAT32 is included with each iTracking order. (32 GB Max)
SEE APPENDIX: PAGE 38



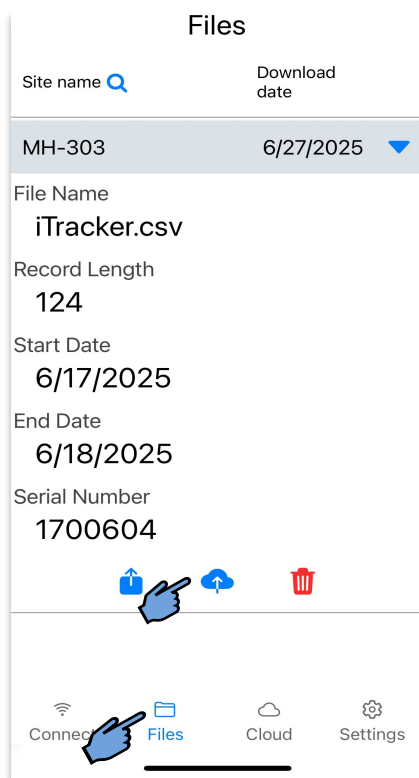
Ensure that the SD card is inserted prior to selecting this option. Log files will need to be uploaded manually to the Eastech Cloud when using the SD Card.



After downloading the log files to your mobile device, you can upload them to the Eastech Cloud for automatic analysis.

1. Tap **Disconnect** in the upper-left corner of the app.
2. At the bottom of the screen, tap **Files**.
3. Find your log, listed under the site name created during setup.
4. Tap the **Cloud** icon to upload the file to your organization.

Note: If you are in an area without cellular reception, you can temporarily save log files by selecting the “Files” icon. This allows the files to be attached to an email or saved to a local folder for later access. Once you are in a location with a reliable internet connection, the log files can be manually uploaded to the Eastech Cloud.



08

QUICK DATA VIEWING & PLAYBACK™

Using EPA Guidance for Conducting a Quick and Cost-Effective I&I Study



EPA PUBLICATION 97-03

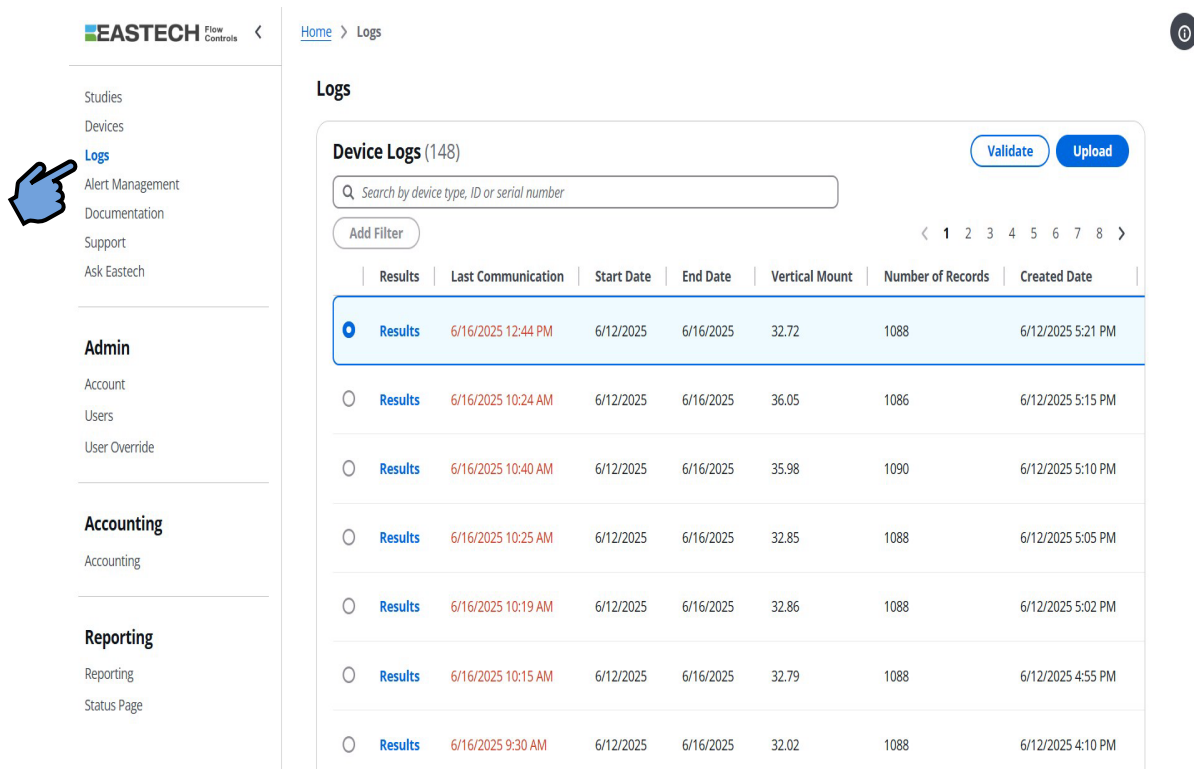
EPA's Inflow and Infiltration I/I Analysis and Project Certification brochure (Publication 97-03) uses Wet Weather Flows greater than 275 gallons per person per day as a basis for determining excessive I&I.

When compared to the EPA recognized Average Flow per Person per Day of 60 GPD, the greater than 275 Gallons per Person per Day represents an excessive increase of **4.5 times** the expected 60 gallon per person average daily flow.

iTracking uses the EPA's I&I Guidance recommendations (Wet Weather Flows exceeding **4.5 times** the 60 GPD per person average daily flow) as the primary reference value for identifying each major and micro basin within the wastewater collection network responsible for contributing excessive volumes of I&I.

QUICK VIEW

To quickly view your data, navigate to the 'Log' section. This will display a list of log files captured by the iTracker. These logs include files previously uploaded either through the mobile app or via the SD Card method (outlined in the appendix).



EASTECH Flow Controls < Home > Logs

Studies
Devices
Logs
Alert Management
Documentation
Support
Ask Eastech

Admin
Account
Users
User Override

Accounting
Accounting

Reporting
Reporting
Status Page

Logs

Device Logs (148) [Validate](#) [Upload](#)

Search by device type, ID or serial number

Add Filter

< 1 2 3 4 5 6 7 8 >

	Results	Last Communication	Start Date	End Date	Vertical Mount	Number of Records	Created Date
☒	Results	6/16/2025 12:44 PM	6/12/2025	6/16/2025	32.72	1088	6/12/2025 5:21 PM
☐	Results	6/16/2025 10:24 AM	6/12/2025	6/16/2025	36.05	1086	6/12/2025 5:15 PM
☐	Results	6/16/2025 10:40 AM	6/12/2025	6/16/2025	35.98	1090	6/12/2025 5:10 PM
☐	Results	6/16/2025 10:25 AM	6/12/2025	6/16/2025	32.85	1088	6/12/2025 5:05 PM
☐	Results	6/16/2025 10:19 AM	6/12/2025	6/16/2025	32.86	1088	6/12/2025 5:02 PM
☐	Results	6/16/2025 10:15 AM	6/12/2025	6/16/2025	32.79	1088	6/12/2025 4:55 PM
☐	Results	6/16/2025 9:30 AM	6/12/2025	6/16/2025	32.02	1088	6/12/2025 4:10 PM

DATA REFINEMENT

As part of our wastewater analytics platform, we offer a powerful 'Data Refinement' tool that improves the quality and reliability of water level data used in infiltration and inflow (I&I) analysis. After selecting the log of interest by clicking the radial button, you will see the level data graph and refinement section, where you can apply filters to smooth out the data if required. The graph includes two sections.

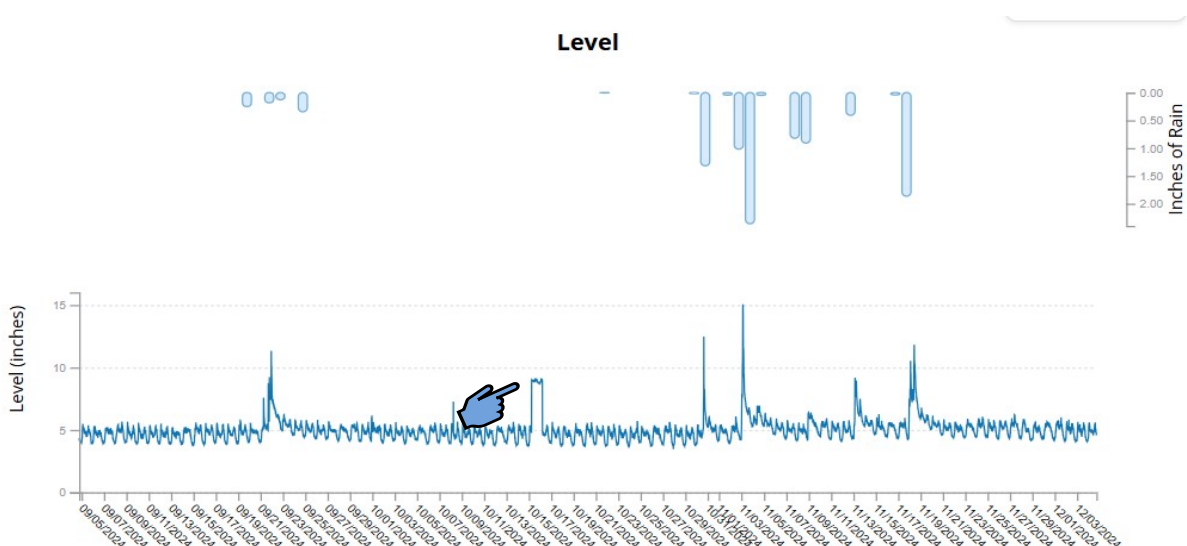
- A **line chart** showing recorded water levels over time.
- An overlaid **bar chart** that displays rainfall events during the same study period, providing valuable environmental context for interpreting level trends.

This interface allows users to visually assess the relationship between water levels and precipitation, making it easier to identify anomalous or suspect data.

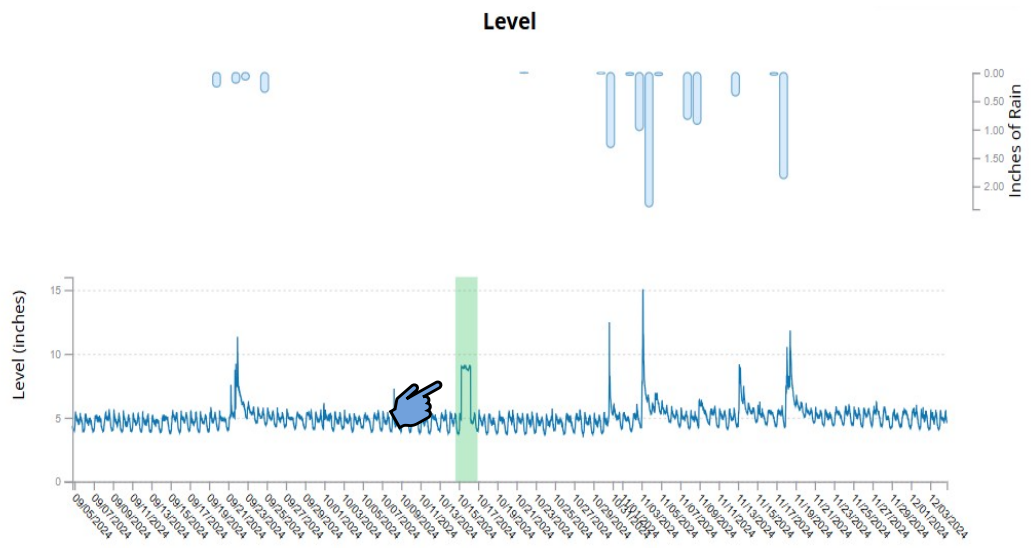
REPLACE

The graph below illustrates a scenario in which "suspect" data should be replaced with a representative dry-day pattern to preserve overall data integrity. Use a click and drag motion over the segments in question to **highlight** them in green and click 'Apply' to **replace the highlighted data** with values generated from a **random sampling of dry-day averages**. This technique simulates what normal water levels would likely have been in the absence of unusual activity or errors.

Uncorrected raw data with an anomaly.



Anomaly highlighted in green.

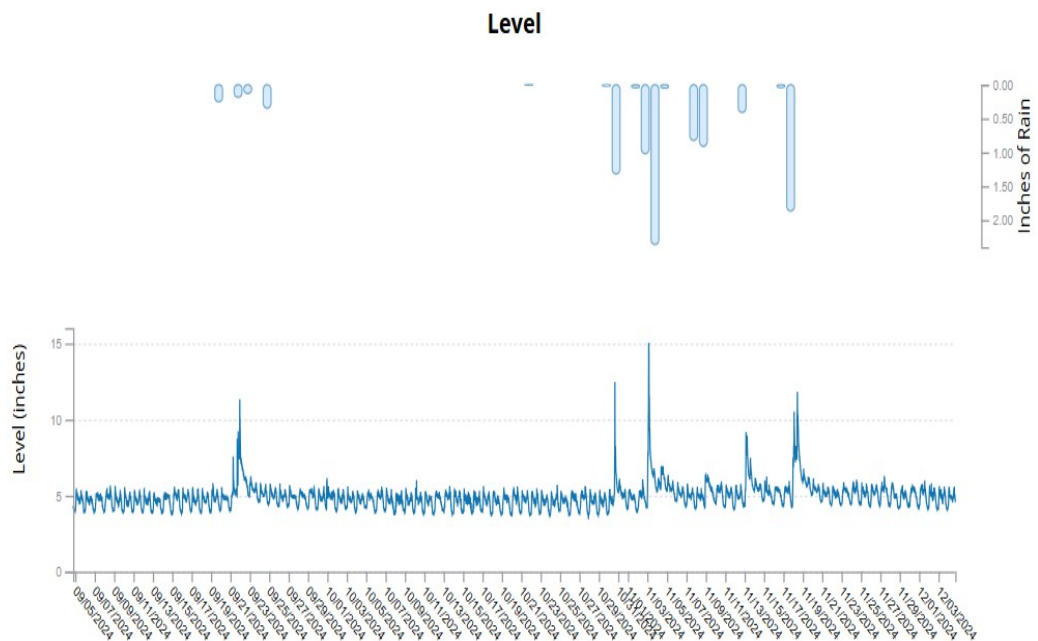


Data Refinement: [Info](#)

☐ Z-Score Threshold: ☐ Interquartile Range

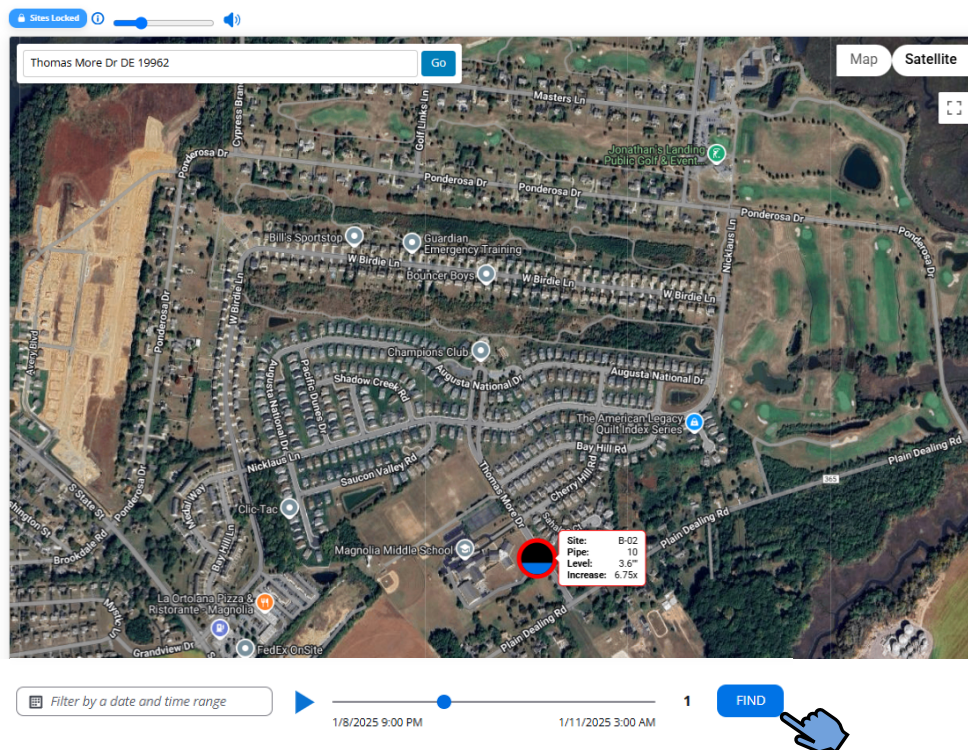
☐ Savitzky-Golay Window Size: ☐ Exponential Smoothing Alpha: Polynomial:

Anomaly replaced with a normal dry day pattern.

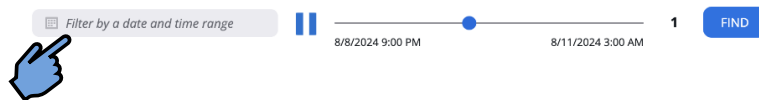
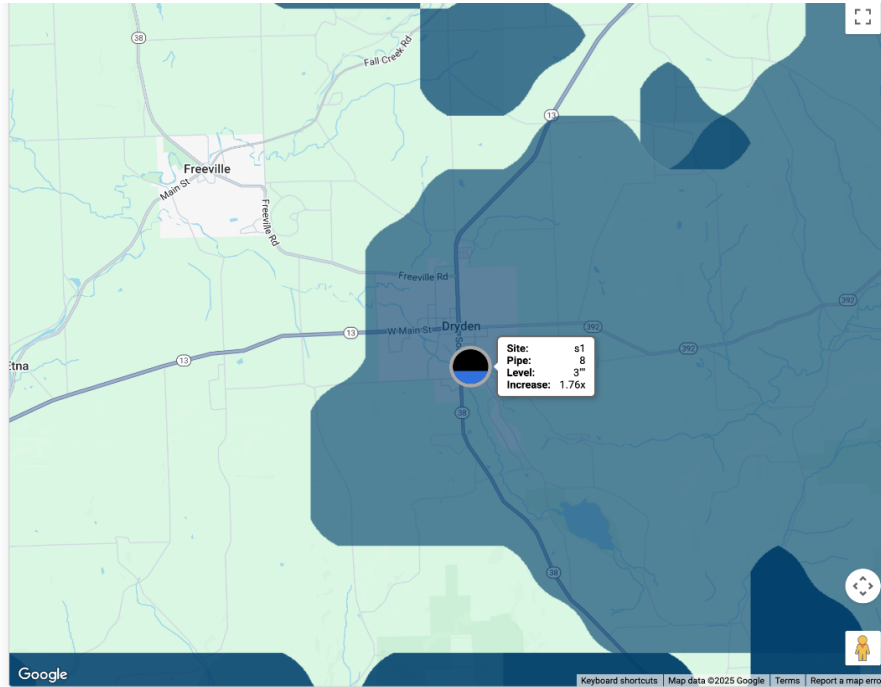


PLAYBACK™

Select 'Results' (first column on 'Logs' page) to see the "PLAYBACK" feature. An icon representing a cross-section of the sewer line will appear near your current location. During your first review, you will be prompted to position this icon to accurately match the true location of the manhole. Once positioned, select **Lock Location** to save the icon's placement and ensure it remains persistent across future sessions.



Click 'Find' to view Playback (features described below). With iTracking's unique Playback™ feature, the I&I discovery process becomes as simple as watching an animated video of the performance of your collection network under both normal and adverse weather conditions. Users can view wastewater volumes rising or receding in relation to storm intensity and follow along as dynamic visuals provide a moving timeline of I&I contribution for each Major or Branch basin. Updated every 5 minutes, The event having the greatest increase of I&I is automatically presented and highlighted by a highly visible color-coded ring depicting wet day I&I severity when compared to normal dry day flows. (2X-3X Daily Increase in Flow: YELLOW, 3X-4.5X Daily Increase: ORANGE, 4.5X Daily Increase or greater: RED).



To select (filter) the time range of Playback while Playback is in process, select the 'Pause' button, then select the 'Filter Range' button. A calendar will pop up allowing you to select the time range you would like to review.

Relative

Absolute

☐ Last 5 minutes
 ☐ Last 30 minutes
 ☐ Last 1 hour
 ☐ Last 6 hours
 ☐ Last 12 hours
 ☐ Last 24 hours
 ☐ Custom range
 Set a custom range in the past

Cancel

Apply

Relative

Absolute

<

May 2025

June 2025

>

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2	3	1	2	3	4	5	6
4	5	6	7	8	9	10	8	9	10	11	12	13	14
11	12	13	14	15	16	17	15	16	17	18	19	20	21
18	19	20	21	22	23	24	22	23	24	25	26	27	28
25	26	27	28	29	30	31	29	30					

YYYY/MM/DD

hh:mm

YYYY/MM/DD

hh:mm

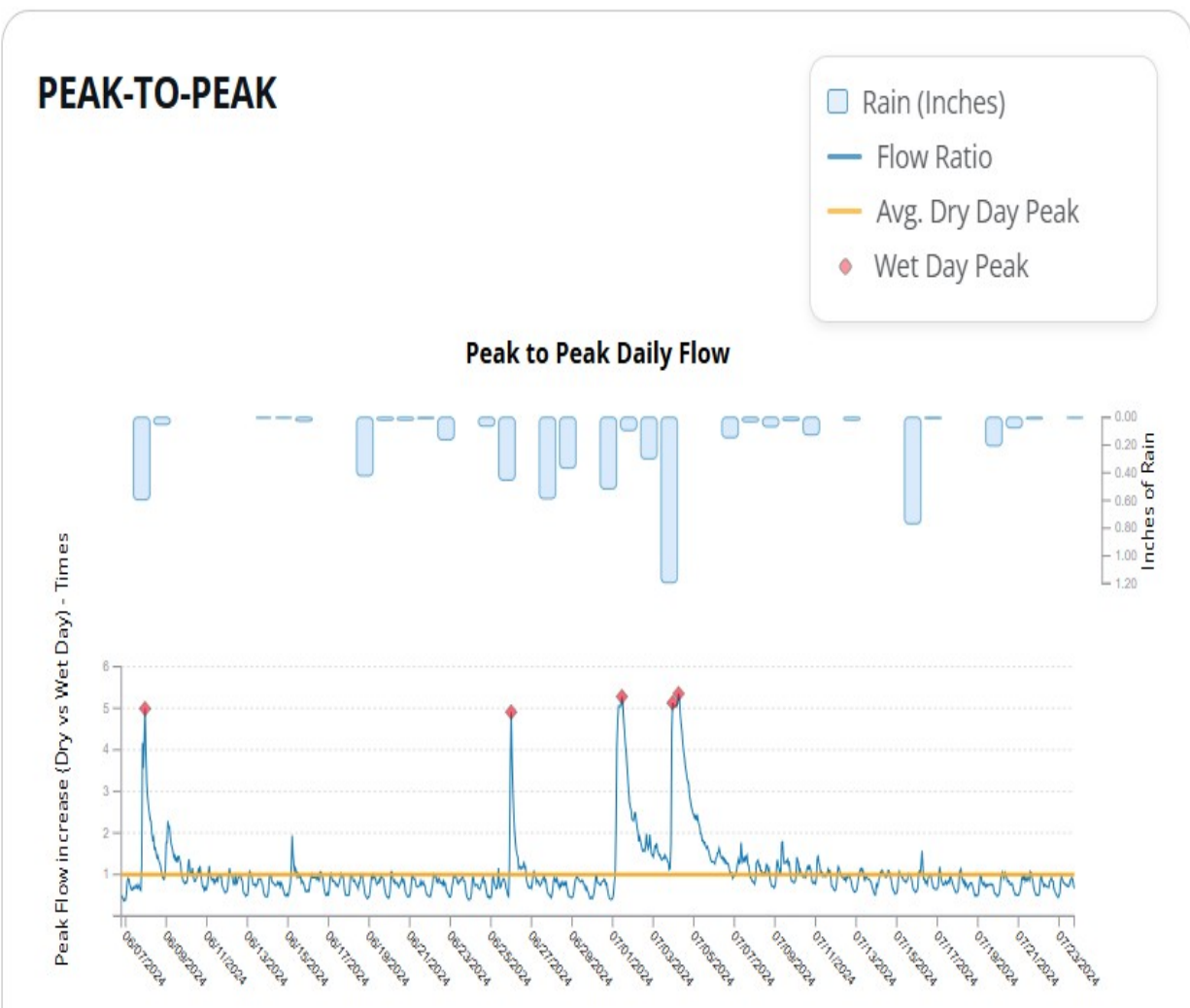
Cancel

Apply

PEAK-TO-PEAK GRAPH

Scroll down to see the “PEAK-TO-PEAK” graph with Peak flow indications. The X axis indicates the volumetric increase in flow relative to the peak on a typical dry day. Red Diamonds will highlight flow increases in danger of exceeding the EPA’s definition of excessive (4.5X). The yellow line represents the Average Dry Day Peak Flow represented by a value of (1).

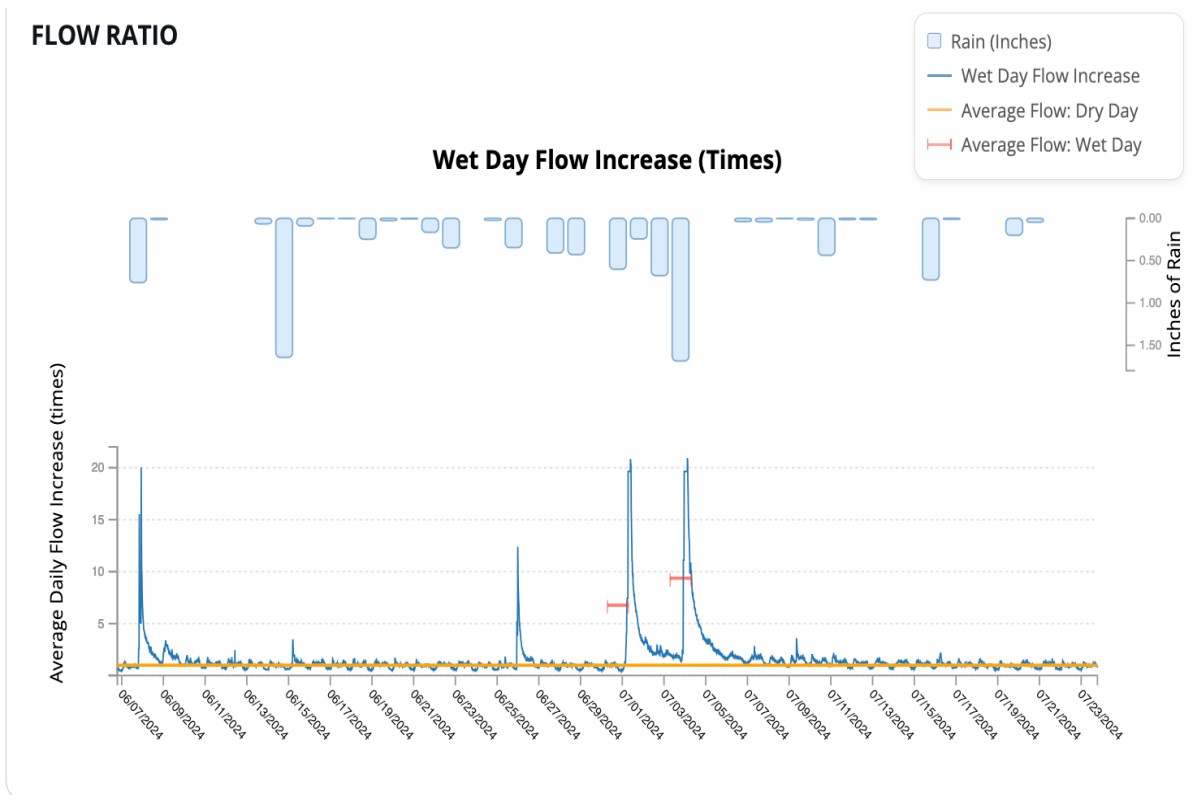
EXAMPLE: Looking at the initial Peak at the left of the graph, The Red Diamond denotes a 5X (times) increase in flow over the Peak flow (Yellow Line – represented by a value of ‘1’) on a typical dry day.



FLOW RATIO (I&I SEVERITY) GRAPH

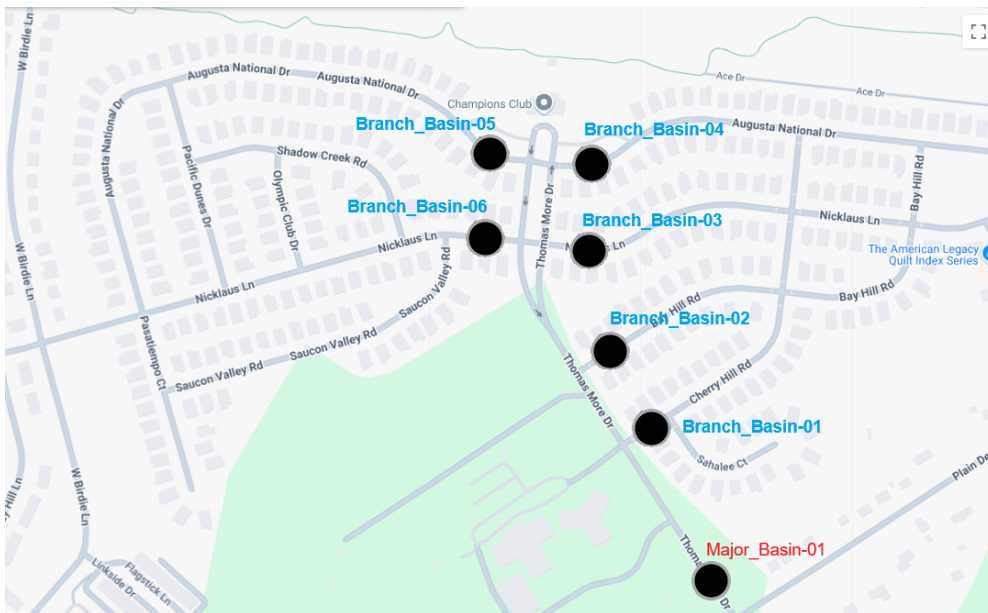
Scroll down to see the “FLOW RATIO” graph. The X-axis of the Flow Ratio graph represents the volumetric increase in Average Daily Wet Day Flows as compared to the Average Daily Dry Day Flows. Horizontal Red Bars will indicate the increase in Average Daily Wet Day Flows that exceed the EPA’s definition of excessive Daily Flow (4.5X). The yellow line designates the Average Daily Dry Day Flow represented by a value of (1).

EXAMPLE: On 07/01/2024 the Average Daily Wet Day Flow was 7X (times) greater than the Average Daily Dry Day Flow thereby exceeding the EPA’s definition (4.5X [times]) of “excessive” I&I.



BRANCH BASIN INVESTIGATION

For each **Branch** investigation, position the remaining iTrackers at the end of each **Branch** line that makes up the **Major Basin** under investigation. See the example below for reference. Repeat the steps outlined on pages 28 through 34 for each Branch Basin being evaluated. Each Branch Basin will be investigated in the identical manner as a Major Basin.



Once the Branches responsible for the majority of I&I are located down to between a few manholes, a further investigation can be initiated that employs either smoke testing, CCTV or additional iTracker sensors to pinpoint the cause of the problem to between a set of adjacent manholes within each Branch.

For online assistance please contact Eastech customer support.
1-800-226-3569 Ext. 1

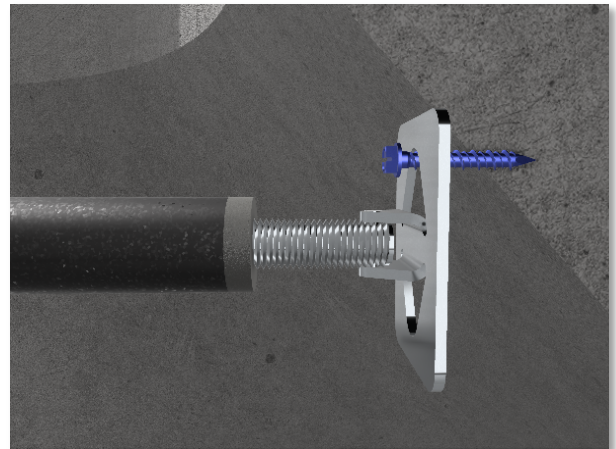
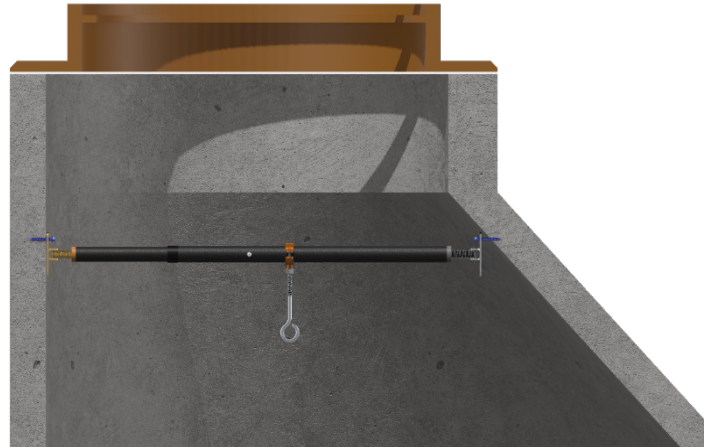
Appendix

ALTERNATE CROSSBAR MOUNTING OPTIONS

Conical chimneys:

Conical chimneys do not provide parallel walls for a secure friction mount of the crossbar. Use concrete anchoring screws when mounting an iTracker in a manhole lacking parallel walls. Follow the fastener manufacturer's instructions for the wall material. Removing the rubber friction pads from the end of the crossbars exposes the metal ends. Place the top inverted "V" openings over the anchors and twist to expand as normal.

The anchors create a hard stop for the spreading "V" openings creating a secure mount when hand-tightened to a snug fit.



Offset chimneys:

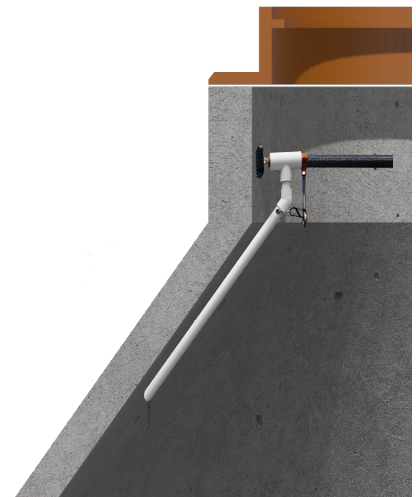
Offset chimneys may not provide a crossbar mounting point over the trough. Use a PVC offset hanger to reposition the sensor over the center of the channel. Purchase Offset hangers from Eastech or construct your own from standard PVC plumbing parts.

Parts:

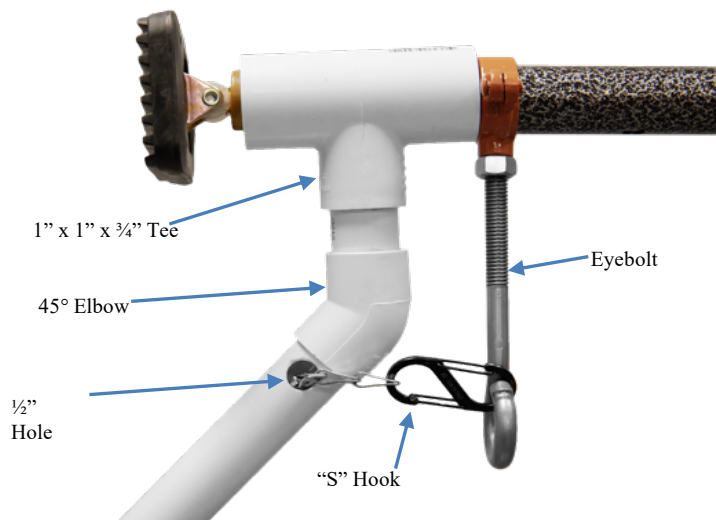
1. PVC Reducing Tee 1" x 1" x $\frac{3}{4}$ ".
2. PVC $\frac{3}{4}$ " 45° Elbow
3. PVC Pipe $\frac{3}{4}$ " long enough to position the iTracker over the trough.

Assembly

1. Cut two PVC tubes (one for the vertical and one for the diagonal) to the required length.
2. Glue the short vertical piece into the $\frac{3}{4}$ " Tee fitting.
3. Glue the $\frac{3}{4}$ " 45° Elbow over the Vertical piece and rotate it to align with the 1" section of the Tee.
4. Glue the $\frac{3}{4}$ " diagonal pipe into the Elbow.
5. Drill a $\frac{1}{2}$ " hole near the top of the $\frac{3}{4}$ " diagonal pipe.
6. Separate the two tubes of the crossbar by pressing both silver buttons and pulling on each end.
7. Remove the rubber bushing from the open end of the outer crossbar. Slip the 1" portion of the PVC Tee over the larger side. Orient the silver release buttons of the spanner bar, so they do not expand into the $\frac{3}{4}$ " opening.
8. Reassemble the crossbar, starting with the rubber ring.
9. Thread the chain through the diagonal pipe and use an S-hook to attach it to the eyebolt.



10. Use the clamp at the top of the eyebolt to hold the offset fixture in place



DOWNLOADING WITH SD CARDS:

Using an SD Card for downloading can be a quick option on site but will require you to copy the data to an internet connected computer. Once copied to a computer you can go to the Eastech Cloud, navigate to 'Logs' and use the upload button to copy your data to your organizations list of log files.

Logs (1 / 148) Validate Upload

Add Filter < 1 2 3 4 5 6 7 ... 22 >

☐	Site Name	Serial Number	Upload Date	Vertical Mount	Active		
☐	S125-155	1700939	5/2/2025 12:03 PM	35.21	No	Download	Delete
☒	S102-353	1701061	1/8/2025 12:18 AM	33.13	No	Download	Delete
☐	S125-142	1701125	12/30/2024 3:46 PM	26.94	No	Download	Delete
☐	S125-123	1700946	12/23/2024 1:31 AM	35.76	No	Download	Delete
☐	S102-353	1701061	12/23/2024 12:15 AM	33.13	No	Download	Delete
☐	S125-278	1701115	12/22/2024 9:33 PM	29.81	No	Download	Delete
☐	S125-278	1701115	12/22/2024 9:02 PM	29.81	No	Download	Delete

Battery Information and Safety Guidelines

The iTracker requires two D-cell lithium inorganic batteries with a 3.6V output and maximum available amp-hour capacity. Due to its high energy density (19Ah) and wide operating temperature range (-55°C to $+85^{\circ}\text{C}$), the Tadiran TL-5930 battery is highly recommended.

Under typical conditions—with logging set at 15-minute intervals and the cellular feature disabled—these batteries can power the iTracker for up to one year.

The device includes an internal battery monitor that tracks usage over time. It is critical to update the battery status in the Eastech Connect app both:

- During initial setup
- Immediately after replacing the batteries

Important Safety Instructions:

- Always follow the polarity markings on the battery bracket during installation.
- Do not mix old and new batteries.
- Lithium batteries are considered hazardous materials and must only be shipped by trained and certified personnel in accordance with applicable regulations.
- Do not dispose of batteries in trash or incinerate them.
- If a battery smokes or emits gas, submerge it in a bucket of salt water to rapidly neutralize it.
- Avoid direct skin contact with a damaged or overheating battery, as it may become extremely hot and cause injury.





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Fax: 918-664-8494