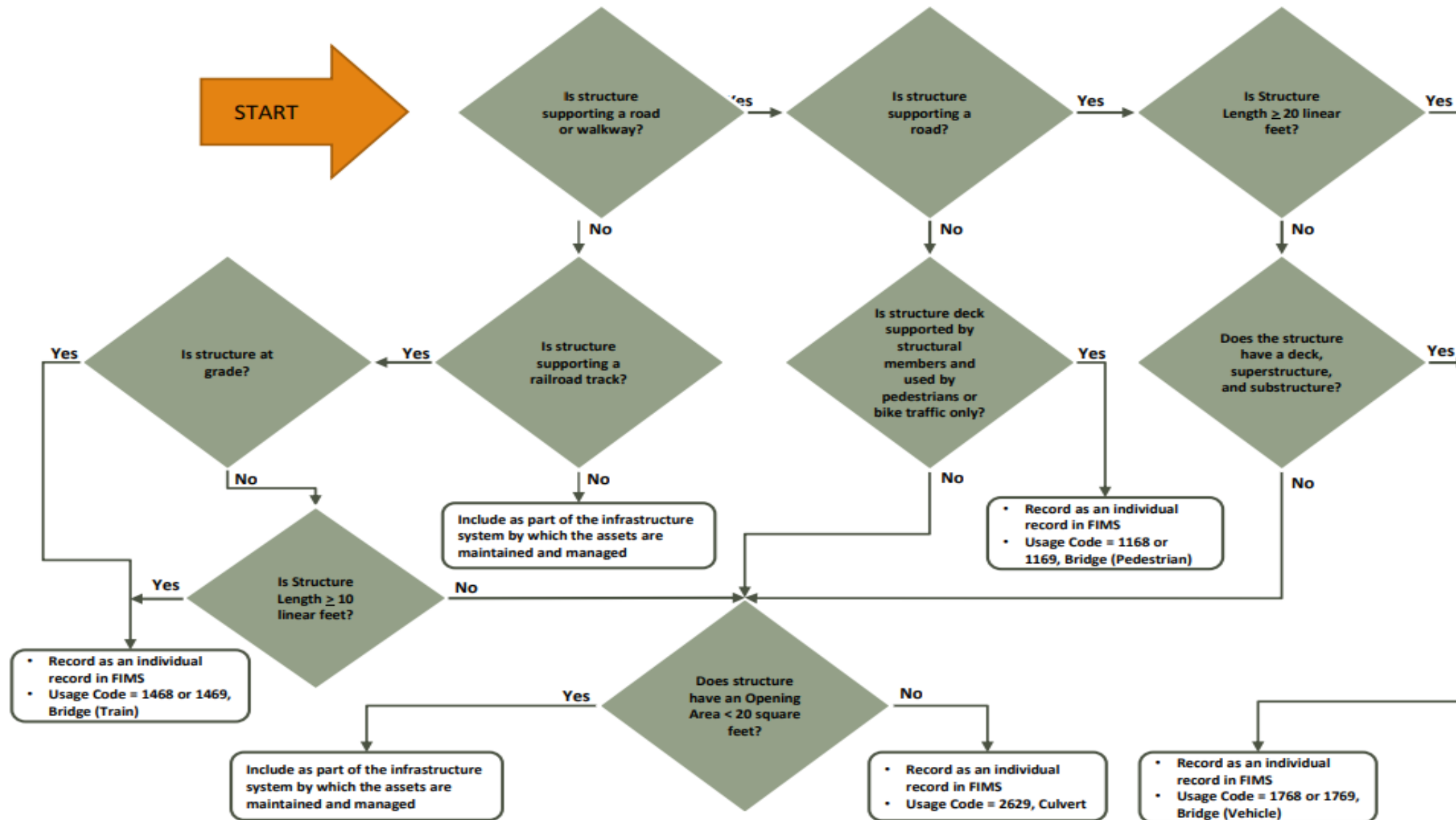




# Bridge or Culvert?

# Bridge or Culvert Flowchart



- 1168/1169 Bridge (Pedestrian)

A structure that carries primarily pedestrian, bicycle, and equestrian traffic but may include light maintenance vehicles over a chasm, waterway, ditch, or other obstacle or convey pedestrian traffic from one building or structure to another including enclosed walkways.

- 1468/1469 Bridge (Railroad)

A structure including supports erected over a depression or an obstruction, such as water, highway or railway, and having a track for carrying moving loads and used exclusively by trains.

(span > 10 feet)

- 1768/1769 Bridge (Vehicular)

A structure including supports erected over a depression or an obstruction, such as water, highway or railway, and having a passageway for carrying traffic or other moving loads.

(National Bridge Inventory (NBI) reportable - span > 20 feet)

- 2629 Culvert

A transverse structure, pipe, or series of multiple pipes constructed to convey water or utilities under a road or railway.

(Opening area > 20 sqft) (Size =Culvert Length)

# Required Information

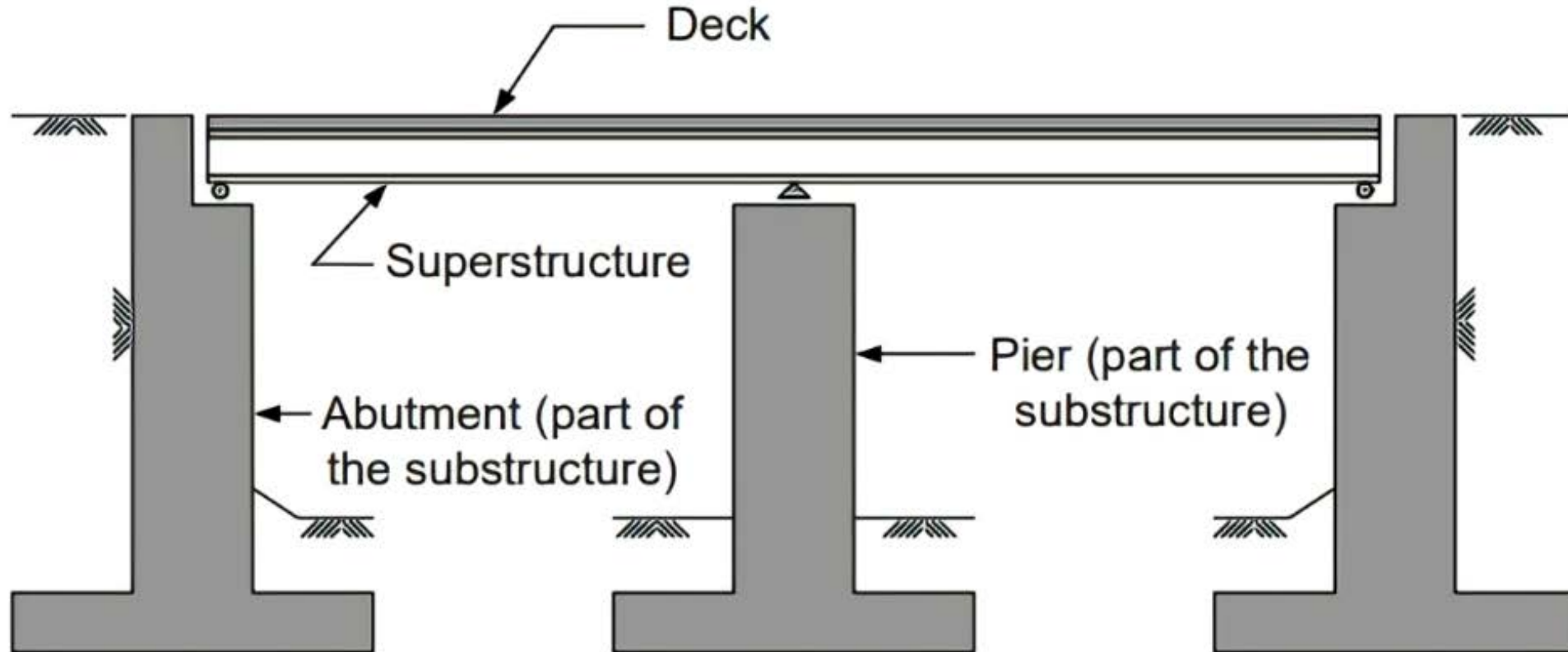


- What is supported by the structure
  - Walkway, road, or railroad
- Type of traffic carried by structure
  - Pedestrians and Bicycles, Trains, Vehicles
- Does the structure have a Deck, Superstructure, and a Substructure
- Structure Length
- Opening Area, *if necessary*
- Culvert Length, *if necessary*
- Location of structure in relation to site boundaries
  - Public Access or Controlled Access

WHAT  
DO YOU  
NEED TO  
KNOW



# Basic Bridge Components

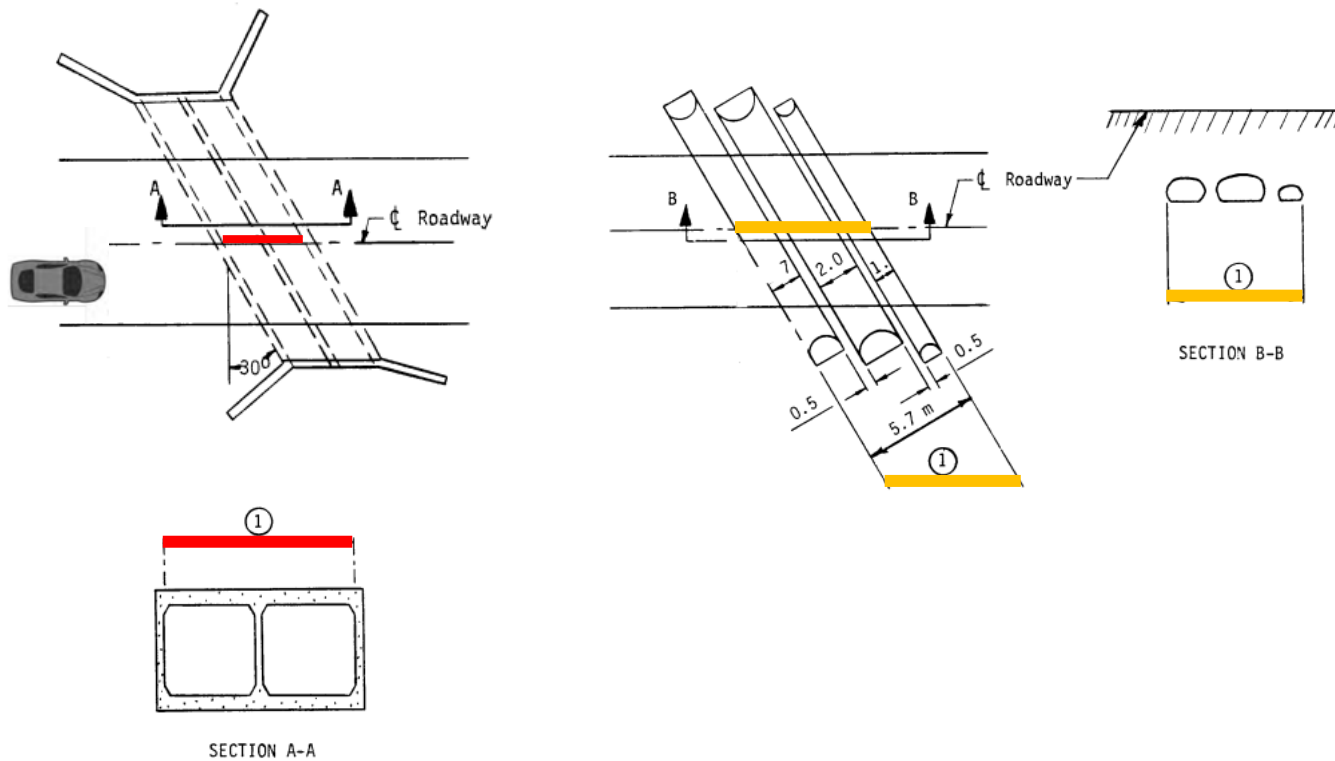


# Structure Length



The **Structure Length** of a bridge or culvert is the length of roadway, railway, or walkway supported on the structure.  
(National Bridge Inventory (NBI) reportable - span  $\geq 20$  feet)

Length measured along the **centerline** (i.e. parallel) to road





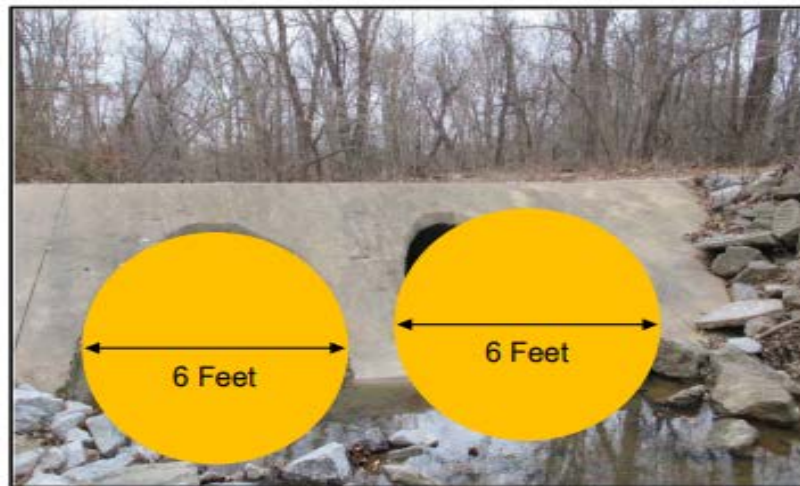
# Opening Area



The Opening Area is the total cross-sectional area, measured in square feet. Consider a series of multiple pipes as a single unit when the clear distance between openings is less than half of the smaller contiguous opening.

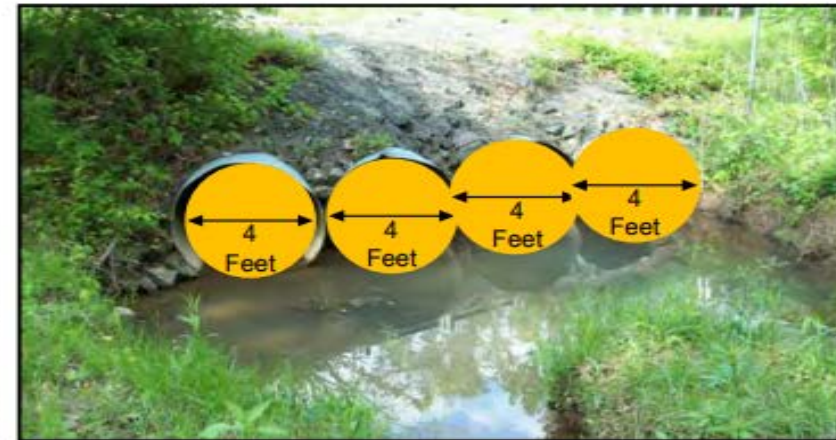
Opening Area < 20 Square Feet

A 5' diameter culvert has an opening area of 19.6 SF < 20 Square Feet



Opening Area = 56.5 SF

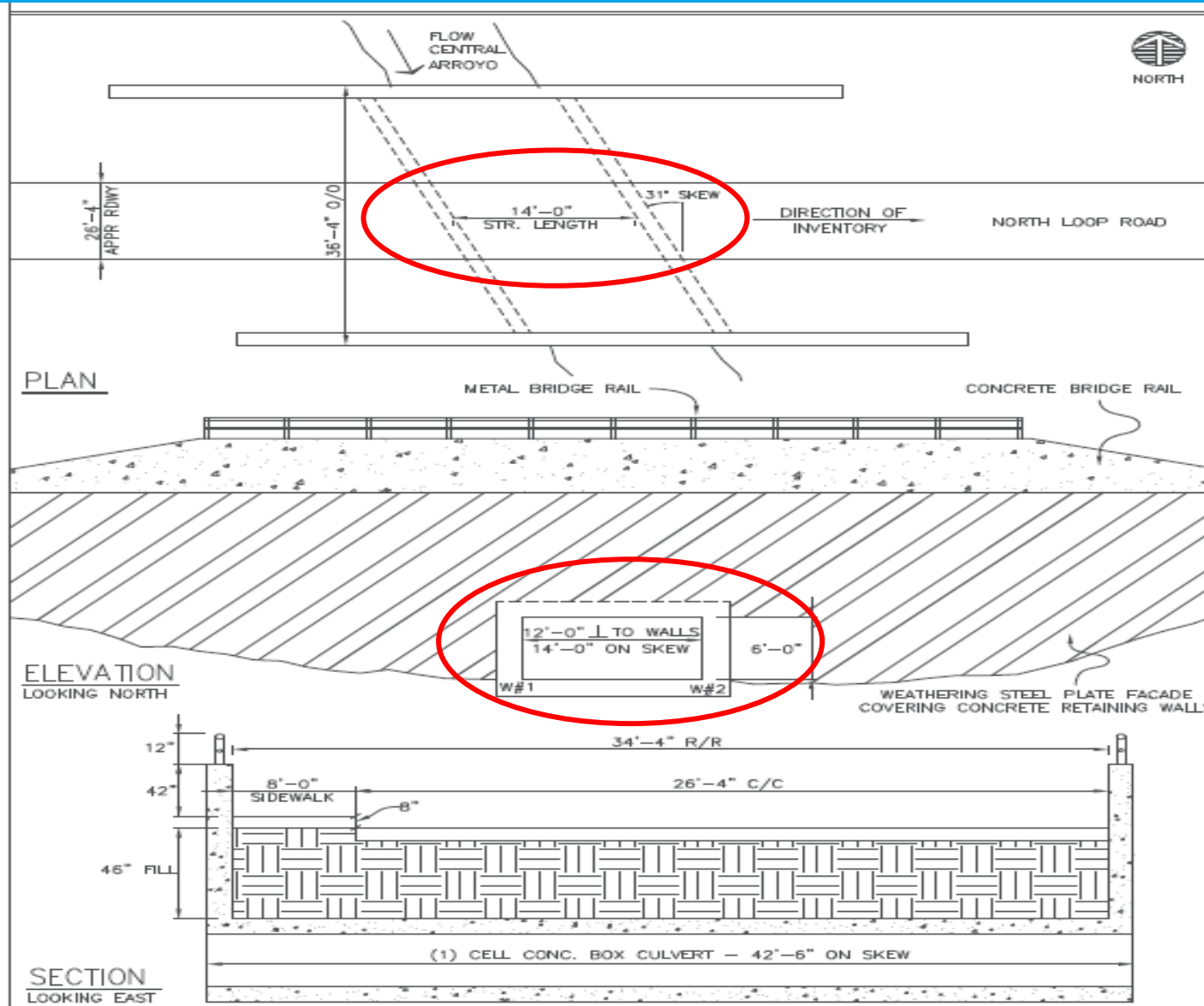
$$\text{Opening Area} = \pi(3)^2 = 28.274 \text{ SF} \times 2 = 56.54 \text{ SF}$$



Opening Area = 50.3 SF

$$\text{Opening Area} = \pi(2)^2 = 12.566 \text{ SF} \times 4 = 50.264 \text{ SF}$$

# Structure Length & Opening Area



Structure Length:  
Measured along the centerline, parallel to the road 14' - 0"

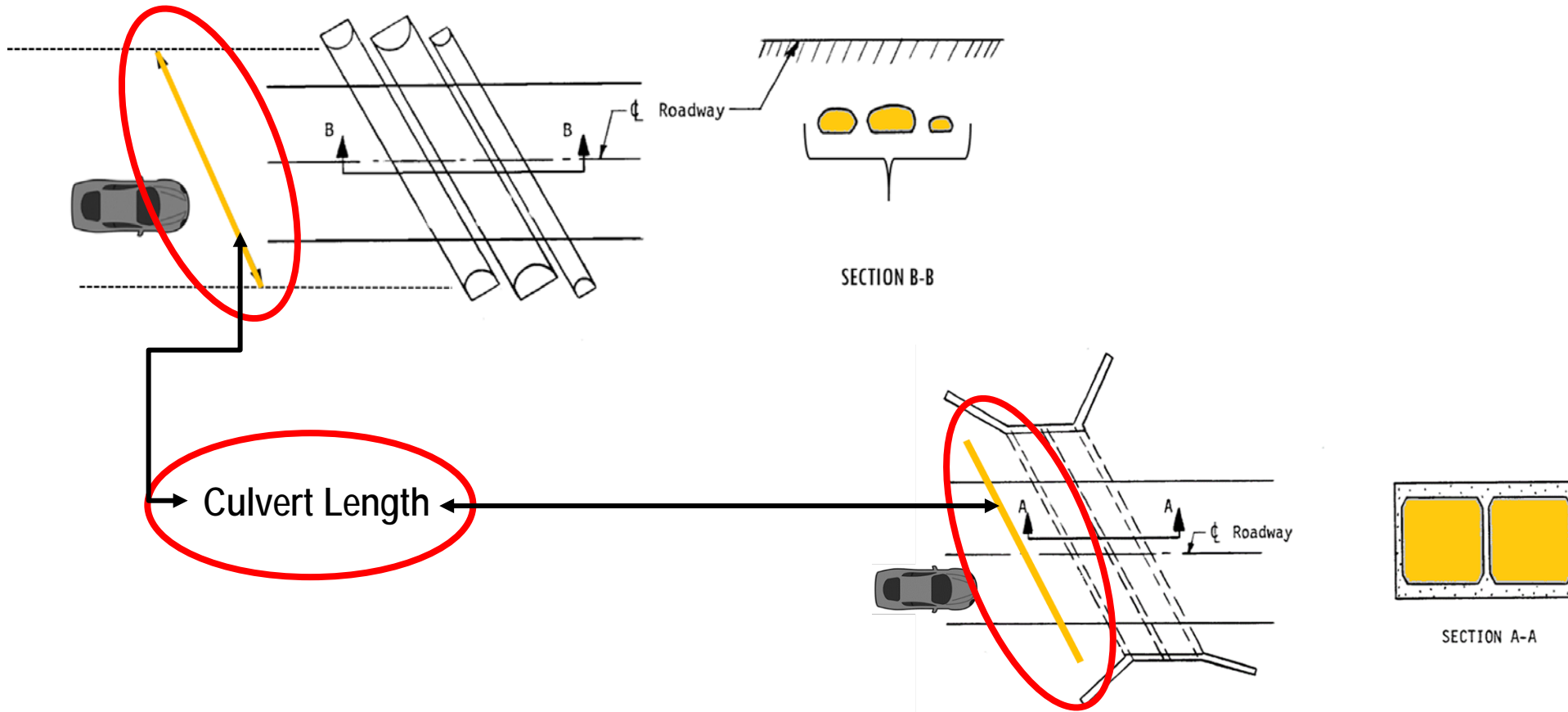
Opening Area:  
12' x 6' = 72 SF



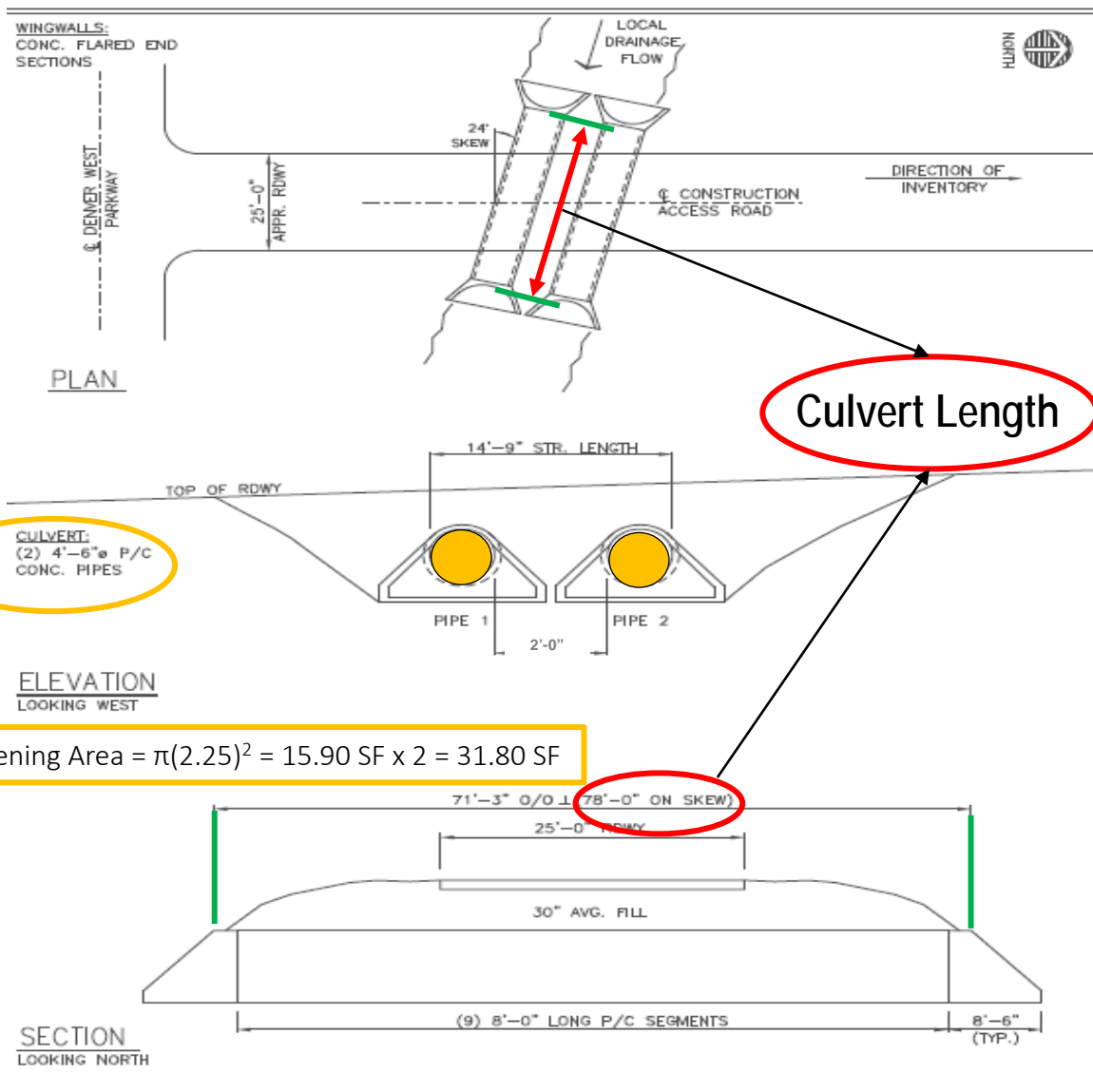
# Culvert Length



The Culvert Length is measured longitudinally along the structure, pipe, or series of multiple pipes.



# Culvert Length



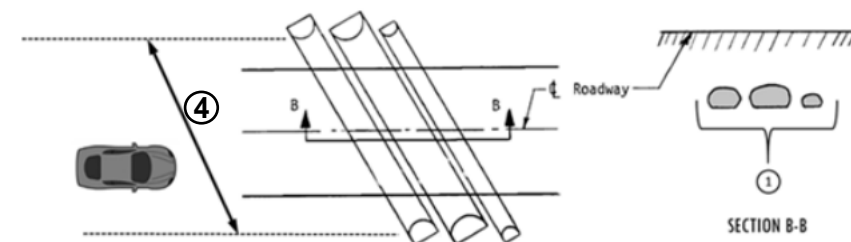
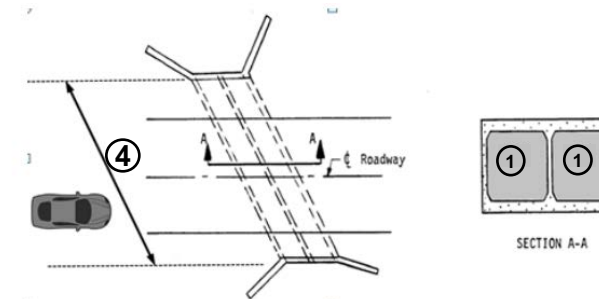
## FIMS USERS GUIDE

**Note 1:** The Opening Area is the total cross-sectional area, measured in square feet. Consider a series of multiple pipes as a single unit when the clear distance between openings is less than half of the smaller contiguous opening. The Opening Area is indicated by ① in the examples below.

**Note 2:** When including these assets with other infrastructure system such as Roads, Piping-Gravity (Stormwater), or others depending on site precedent, use the notes section to record basic information about the smaller assets, such as: Individual ID #, Size, Length, or GPS coordinates to support site management practices.

Sites always have the option of recording a structure as an individual property record in FIMS when deemed critical to site operations, when site topography heightens the risk of flooding or overtopping, or to support site management practices.

**Note 3:** The Culvert Length is measured longitudinally along the structure, pipe, or series of multiple pipes. The Culvert Length is indicated by ④ in the examples below





- Which measurement is it?
  - Structure Length
  - Culvert Length
  - Opening Area



Structure Length

- Which measurement is it?
  - Structure Length
  - Culvert Length
  - Opening Area



Culvert Length

- Which measurement is it?
  - Structure Length
  - Culvert Length
  - Opening Area



Opening Area



- Which measurement is it?
  - Structure Length
  - Culvert Length
  - Opening Area

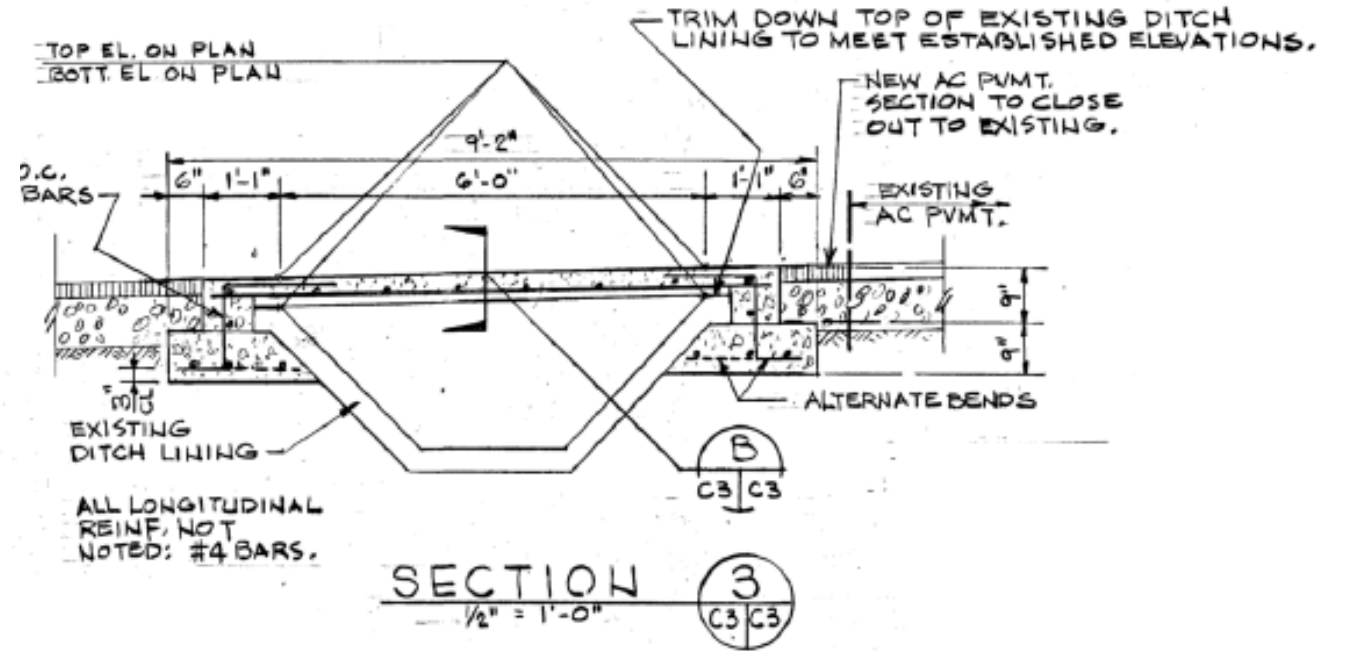
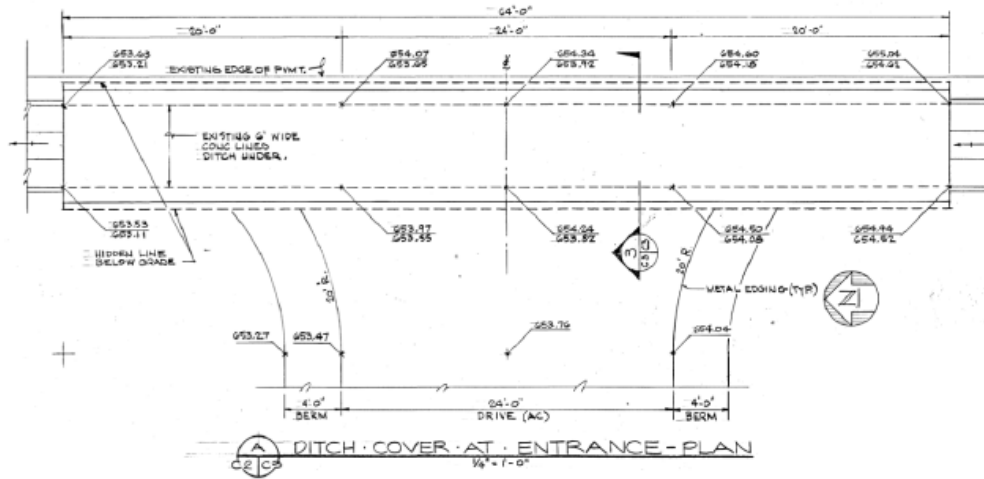


Structure Length



Is this a Bridge or Culvert ?

# Bridge or Culvert



# Basic Bridge Components

