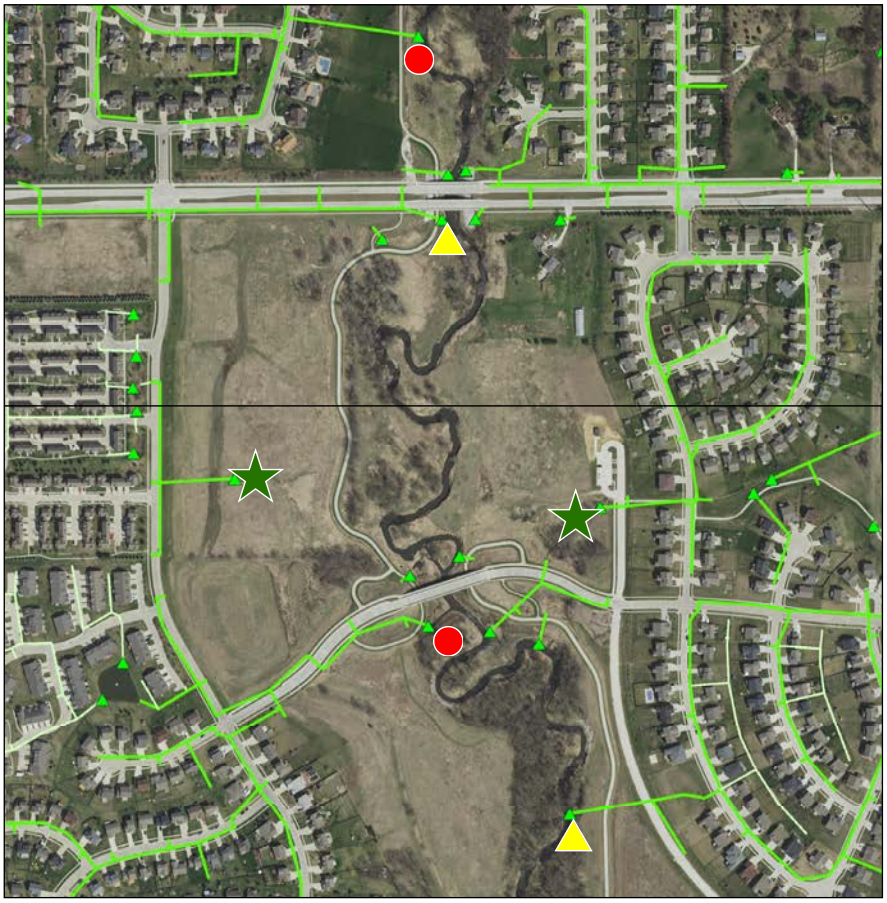
STORMWATER WETLAND **SITE SELECTION**

Stormwater wetlands are able to treat flow at the end of a drainage swale or stormwater pipe. Many urban areas have limited space to install retrofit practices. Stormwater wetlands often can be located in parks or open space areas at the outlet of stormwater pipes or drainage swales. Unlike other options, they can be used to treat runoff from large drainage areas with a single end of pipe practice. That creates efficiencies by treating a larger area with only one stormwater practice to inspect and maintain.

A public area allows the community to control the installation, maintenance and use of the wetland and buffer area. They are perfect for greenways and park space and provide additional community benefits such as recreation, habitat and education.

STORMWATER PIPE AND SURFACE DRAINAGE MAP



These maps are a good source of reference to determine potential wetland sites.

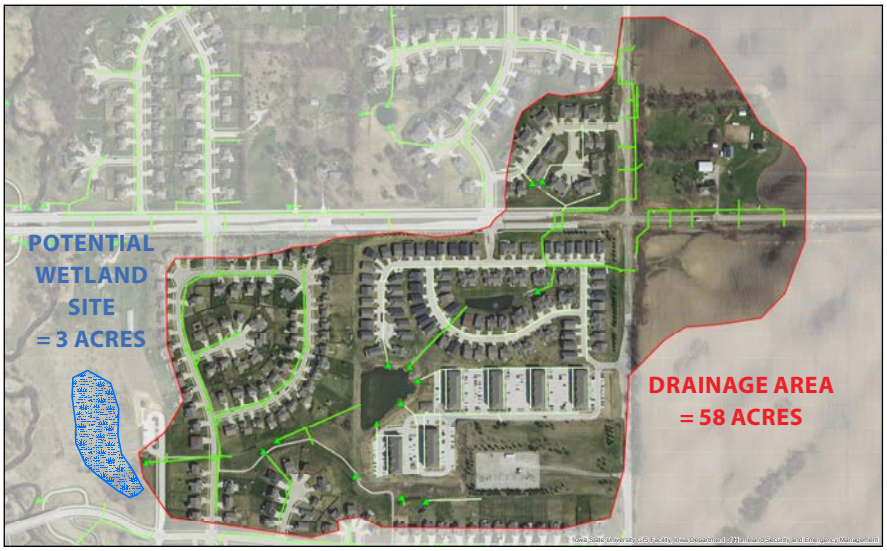
- Look for pipe outlets and drainage swales that flow to open space or public areas near a stream.
- Check the sites to be sure there is enough elevation change to bring the stormdrain water to the surface and into the wetland and to a wetland outlet.
- Avoid existing wetlands and sensitive areas.

● UNSUITABLE WETLAND SITE
- too close to stream
- not enough space

▲ POTENTIAL WETLAND SITE WITH PIPE REDIRECT
- utilize nearby area
- move pipe outlet

★ SUITABLE WETLAND SITE
- adequate space
- elevation considerations

→ STORMDRAIN PIPES AND OUTLETS



DRAINAGE AREA AND WETLAND SIZE GUIDANCE

10 acres minimum drainage area

3-5% of drainage area needed to treat water quality volume

6-12% of drainage area needed to manage large flood events

Once a potential wetland site is identified:
- Determine the drainage area to check if wetland site is adequate.
- An engineer can further study the site feasibility.

DESIGN **ELEMENTS**

Stormwater wetlands can be designed to address both stormwater quality and quantity using the unified sizing criteria. Refer to the Iowa Stormwater Management Manual for complete design guidelines and calculation worksheets.

DESIGN HIGHLIGHTS

- Be able to pass or manage all the storm events safely through the wetland
- Minimum treatment is for water quality volume storage in the permanent pool (1.25" 24 hour rain)
- Channel protection volume (1 year storm) can usually be managed within the same footprint as WQv and is highly recommended for downstream protection
- Pre-treatment at each inflow is critical to minimize sediment loading into the stormwater wetland and to increase lifespan and provide efficient maintenance