Carrboro SWAC
May 3, 2023

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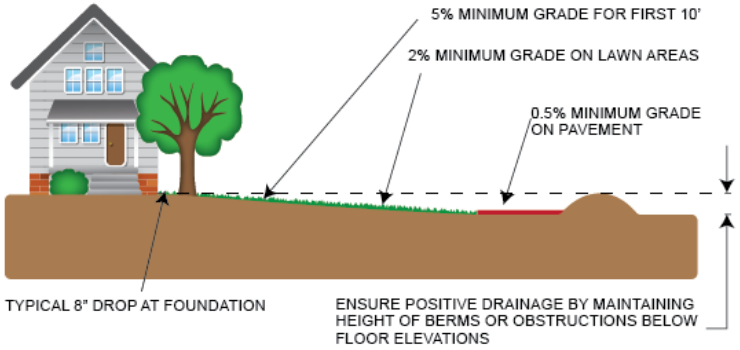
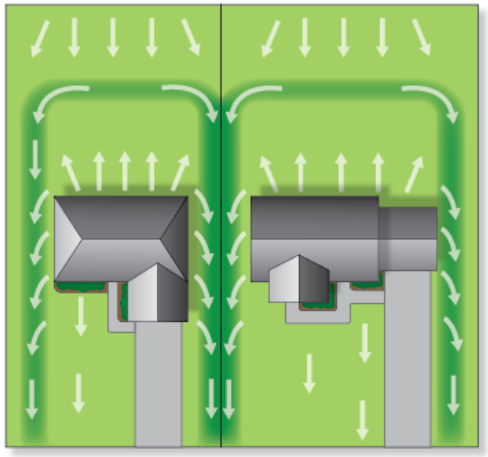
DBA Feather Village Farms & Services
Final Report RAPP

Indoor Air Quality & Drainage

PROTECT YOUR INVESTMENT WITH EFFECTIVE DRAINAGE PRINCIPLES

Properly sized gutters are your first line of defense.
Piping water 5 feet away from the foundation is your second line of defense.

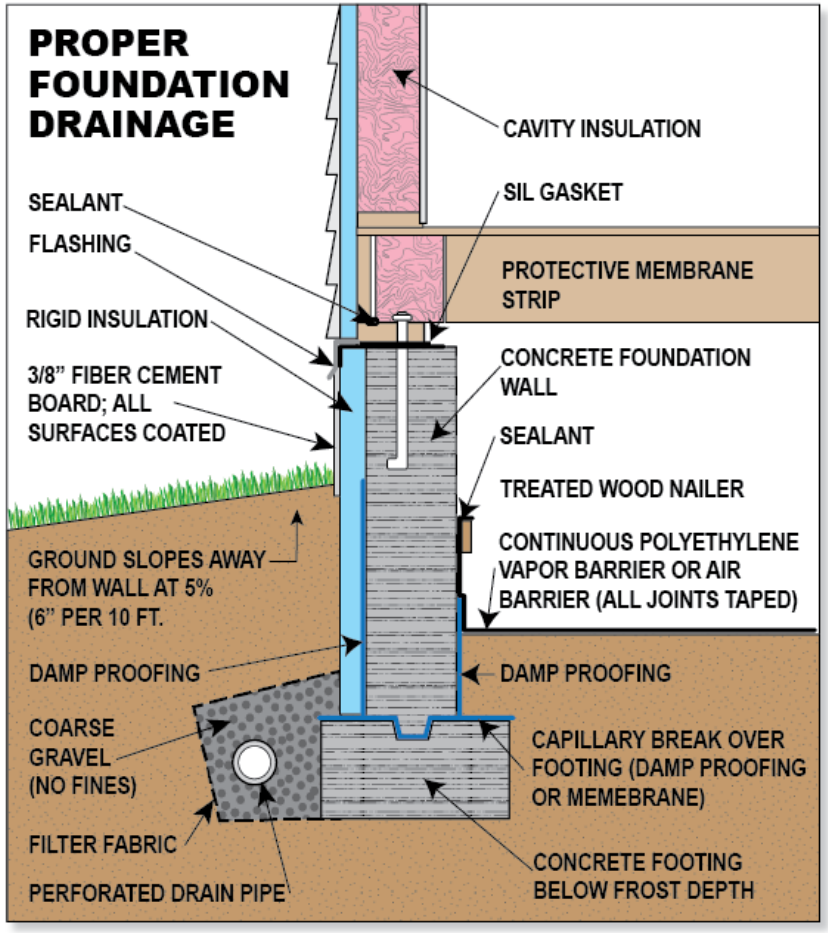




DRAINAGE SWALES

When surface water drainage goes toward the house, swales can be used to redirect water away from the foundation and other structures.

A grass drainage swale is an open channel that collects water from hard surfaces and allows it to percolate into the ground, reducing the amount of runoff leaving the road or property. The grass covering the side slopes and swale bottom provides a filtration surface for the water and helps to reduce the flow velocity.



Protecting your home with a perimeter drain and foundation water proofing is essential.

No Air Space below Crawl Space doors or vents

No air space below crawl space door/water from adjacent downspout has a path into the crawl space.

Air vent is below grade/organic matter is against the siding

No 5% slope away from the structure

Water is flowing towards the house not away

Water is flowing into the crawl space

No piping away from the structure

Improper pipe connections

Crawl space door and positive drain of foundation are near/below a downspout

No 5% or 2% slope

No 2% swale along side of the house

No slope for runoff

Other observations

Deck built in an ephemeral channel

Landowner had a contractor expose a drainage culvert and cut a hole in the top of the pipe to allow surface water to enter

Green Infrastructure

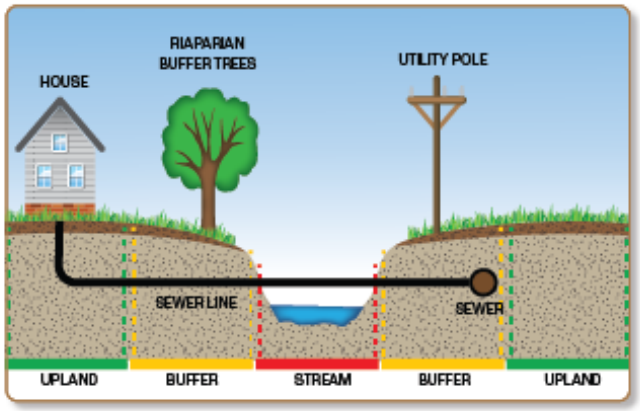
BEST PRACTICES TO PROTECT WATERWAYS

CRITICAL AREA PLANTING/ EROSION CONTROL

We recommend planting areas with native perennial vegetative cover to control erosion. Benefits may include reduced soil erosion and increased wildlife habitat.

RIPARIAN BUFFER

An area of perennial vegetative cover (grass, shrubs, trees, or a combination of vegetation types) established adjacent to and up-gradient from waterways. Benefits include reduced soil erosion and nutrient delivery as well as providing wildlife habitat.



STREAMBANK & SHORELINE PROTECTION

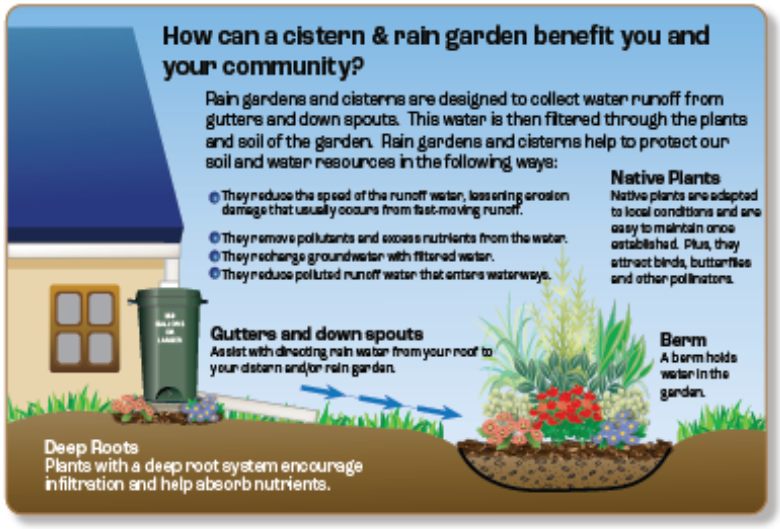
The use of vegetation and bank reshaping to stabilize and protect banks of streams. This practice is used to prevent the loss of land or damage to utilities, roads, buildings or other facilities adjacent to the banks. It also increases the capacity of the channel during a rain which reduces stream erosion and provides wildlife habitat.

RAIN GARDEN

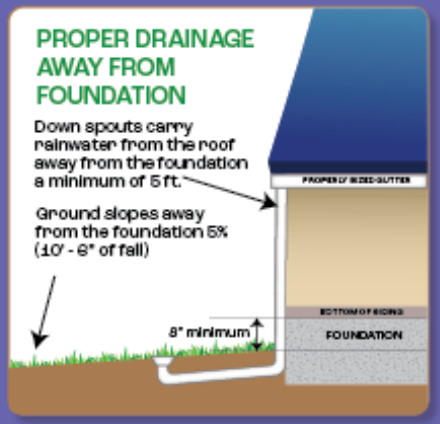
A shallow depression in the ground that captures runoff from a driveway, roof or lawn and allows it to soak into the ground, rather than running off into storm drains or streams.

CISTERNS

Rainwater harvesting systems used to collect and store rainwater. They are intended to reduce stormwater runoff, encourage landowners to use harvested water and to conserve potable water.



PROPER DRAINAGE AWAY FROM FOUNDATION



DISCONNECTED IMPERVIOUS SURFACES

This is the practice of directing stormwater runoff from impervious areas to properly sized, sloped and vegetated areas. Both roofs and paved areas can be disconnected and treated using turf or other perennial vegetation.

GRASS SWALES

A natural or constructed channel that is graded to required dimensions and established in turf for the stable conveyance of runoff. Benefits include reduced soil erosion, and sediment delivery to our water ways.

SCM Practices Designed

SCM Practice Type	Number of Designs	Storage Volume gallons per 1" rain	Soil Loss Tons per year	Soil Loss Lbs. per Year	Total Area Treated Sq. Ft.
Rain Garden	31	23,226.84		183.458	136,708
Cistern	27	9960		75.324	11,990
Critical Area Planting	19			89.5951	80,892
Streambank Stabilization	5		118.3		
Grass Swale	34			145.72859	197,377
Impervious Surface Conversion	1	57.37		6.36	9.71
Permeable Pavement	1	310		5.24	496
Wetland	1	1809.60		7.29	17,509
Disconnected Impervious Surface	1			4.028	667
Total	120	35,363.81	118.3	517.02369	445,648.71

PracticeKeeper

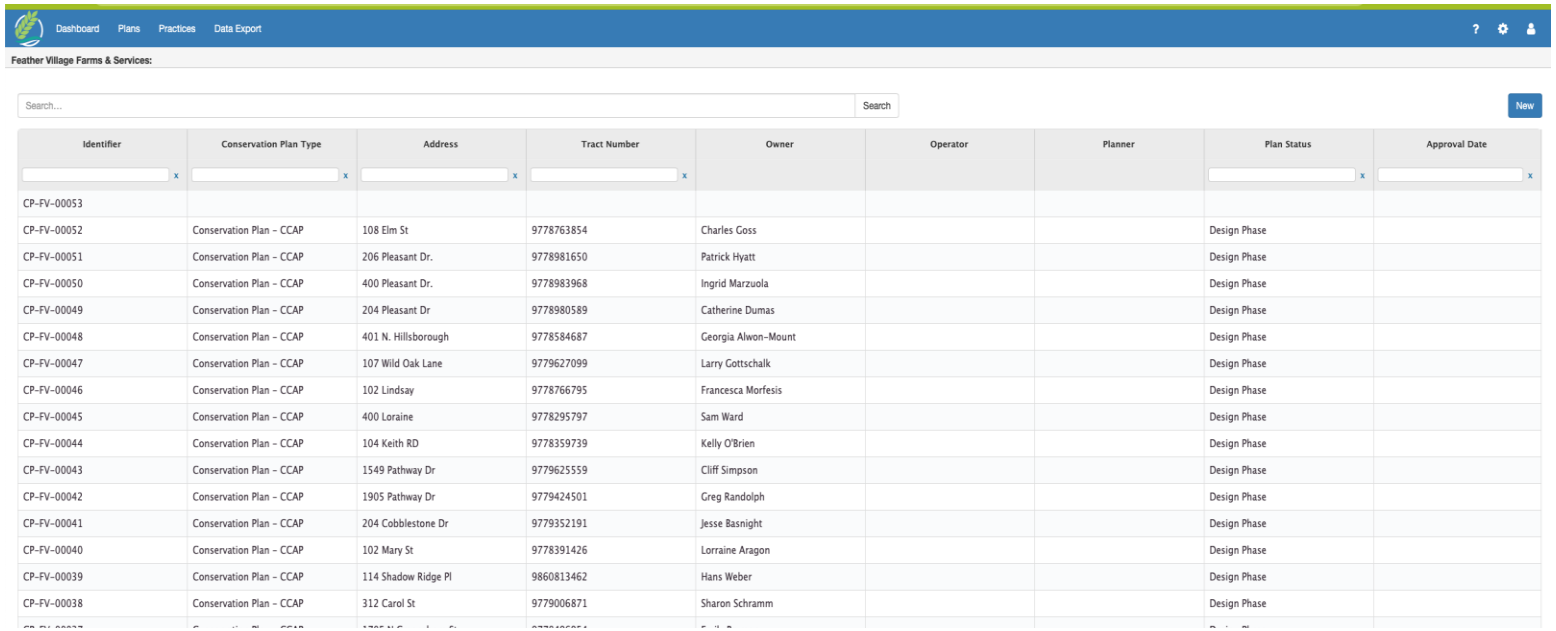
Spatial Mapping

Conservation Plans

Technical Reports for Landowners

Conservation Plan Report	Home Owner Information Removed
Objective(s)	Improve drainage to protect the residential structure, maintain proper indoor air quality by reducing crawl space moisture and reducing stormwater runoff and the associated pollutant delivery downstream.

Conservation Plan Tracking



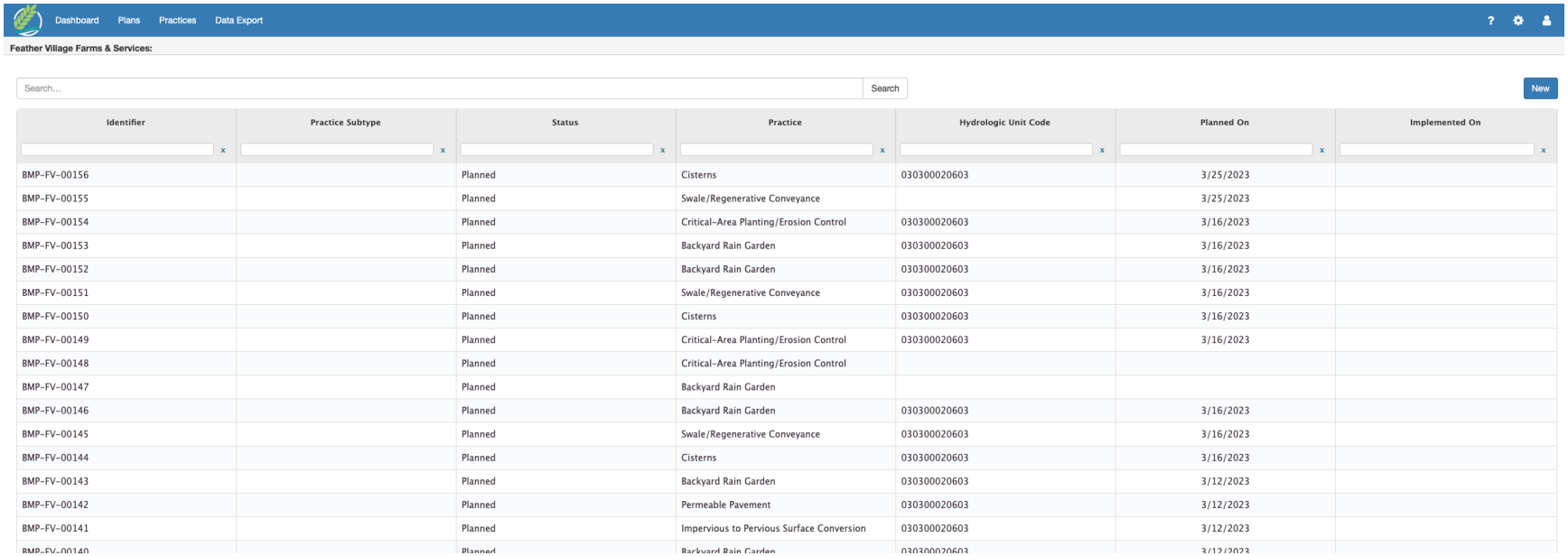
Dashboard Plans Practices Data Export

Feather Village Farms & Services:

Search... Search New

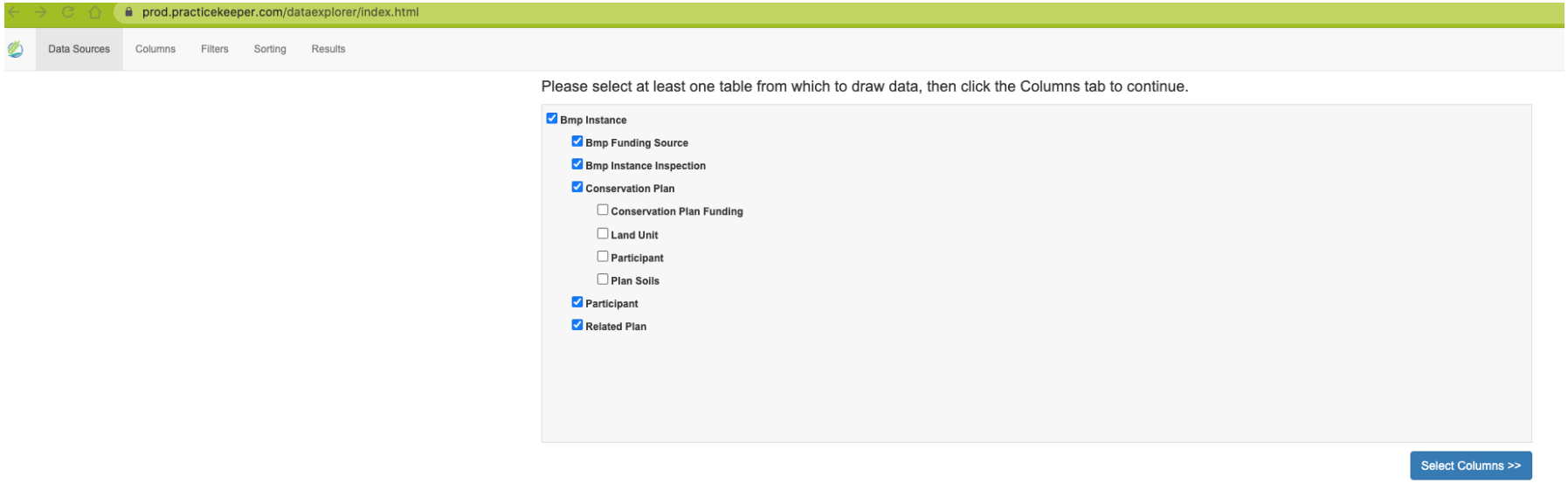
Identifier	Conservation Plan Type	Address	Tract Number	Owner	Operator	Planner	Plan Status	Approval Date
CP-FV-00053								
CP-FV-00052	Conservation Plan - CCAP	108 Elm St	9778763854	Charles Goss			Design Phase	
CP-FV-00051	Conservation Plan - CCAP	206 Pleasant Dr.	9778981650	Patrick Hyatt			Design Phase	
CP-FV-00050	Conservation Plan - CCAP	400 Pleasant Dr.	9778983968	Ingrid Marzuola			Design Phase	
CP-FV-00049	Conservation Plan - CCAP	204 Pleasant Dr	9778980589	Catherine Dumas			Design Phase	
CP-FV-00048	Conservation Plan - CCAP	401 N. Hillsborough	9778584687	Georgia Alwon-Mount			Design Phase	
CP-FV-00047	Conservation Plan - CCAP	107 Wild Oak Lane	9779627099	Larry Gottschalk			Design Phase	
CP-FV-00046	Conservation Plan - CCAP	102 Lindsay	9778766795	Francesca Morfesis			Design Phase	
CP-FV-00045	Conservation Plan - CCAP	400 Loraine	9778295797	Sam Ward			Design Phase	
CP-FV-00044	Conservation Plan - CCAP	104 Keith RD	9778359739	Kelly O'Brien			Design Phase	
CP-FV-00043	Conservation Plan - CCAP	1549 Pathway Dr	9779625559	Cliff Simpson			Design Phase	
CP-FV-00042	Conservation Plan - CCAP	1905 Pathway Dr	9779424501	Greg Randolph			Design Phase	
CP-FV-00041	Conservation Plan - CCAP	204 Cobblestone Dr	9779352191	Jesse Basnight			Design Phase	
CP-FV-00040	Conservation Plan - CCAP	102 Mary St	9778391426	Lorraine Aragon			Design Phase	
CP-FV-00039	Conservation Plan - CCAP	114 Shadow Ridge Pl	9860813462	Hans Weber			Design Phase	
CP-FV-00038	Conservation Plan - CCAP	312 Carol St	9779006871	Sharon Schramm			Design Phase	

SCM Tracking



Identifier	Practice Subtype	Status	Practice	Hydrologic Unit Code	Planned On	Implemented On
BMP-FV-00156		Planned	Cisterns	030300020603	3/25/2023	
BMP-FV-00155		Planned	Swale/Regenerative Conveyance		3/25/2023	
BMP-FV-00154		Planned	Critical-Area Planting/Erosion Control	030300020603	3/16/2023	
BMP-FV-00153		Planned	Backyard Rain Garden	030300020603	3/16/2023	
BMP-FV-00152		Planned	Backyard Rain Garden	030300020603	3/16/2023	
BMP-FV-00151		Planned	Swale/Regenerative Conveyance	030300020603	3/16/2023	
BMP-FV-00150		Planned	Cisterns	030300020603	3/16/2023	
BMP-FV-00149		Planned	Critical-Area Planting/Erosion Control	030300020603	3/16/2023	
BMP-FV-00148		Planned	Critical-Area Planting/Erosion Control			
BMP-FV-00147		Planned	Backyard Rain Garden			
BMP-FV-00146		Planned	Backyard Rain Garden	030300020603	3/16/2023	
BMP-FV-00145		Planned	Swale/Regenerative Conveyance	030300020603	3/16/2023	
BMP-FV-00144		Planned	Cisterns	030300020603	3/16/2023	
BMP-FV-00143		Planned	Backyard Rain Garden	030300020603	3/12/2023	
BMP-FV-00142		Planned	Permeable Pavement	030300020603	3/12/2023	
BMP-FV-00141		Planned	Impervious to Pervious Surface Conversion	030300020603	3/12/2023	
BMP-FV-00140		Planned	Backyard Rain Garden	030300020603	3/12/2023	

Data Management



Buffer Management

Perennial Waterway Buffer

Ephemeral Waterway Buffer

Erosion Control

Sediment delivery to a curb

Erosion of a slope

Streambank Erosion

Streambank Erosion

Vegetation management near sewers

Side opposite of the sewer has room for SBS

Findings

- Grass swales
- Vegetation management in buffers
- Streambank Stabilization
- Rain Gardens or Down Spout Disconnect
- Cisterns with micro irrigation