#### URBAN STORMWATER FACILITIES:

## ASSET OR LIABILITY?

#### **Panel Discussion**

Penn Gildersleeve, PE – Retired Cassie Kaslon, PLA - Valerian Philip Cardi, Esq – Cardi, Schulte & Ford

Robert Strine - USI

#### 1. NOT A DESIGN CRITERIA DISCUSSION

- Public Safety Guidance For Urban Stormwater Facilities 2014, ASCE ISBN 978-0-7844-1370
- Public Safety at Stormwater Management Facilities

  2013 The Stormwater Report by: Jon Jones, Charles Rowey, Ben Urbonas
- UDFCD Design Criteria Manual
- Local Entity Criteria

#### 2. LIABILITY DISCUSSION STARTING POINT







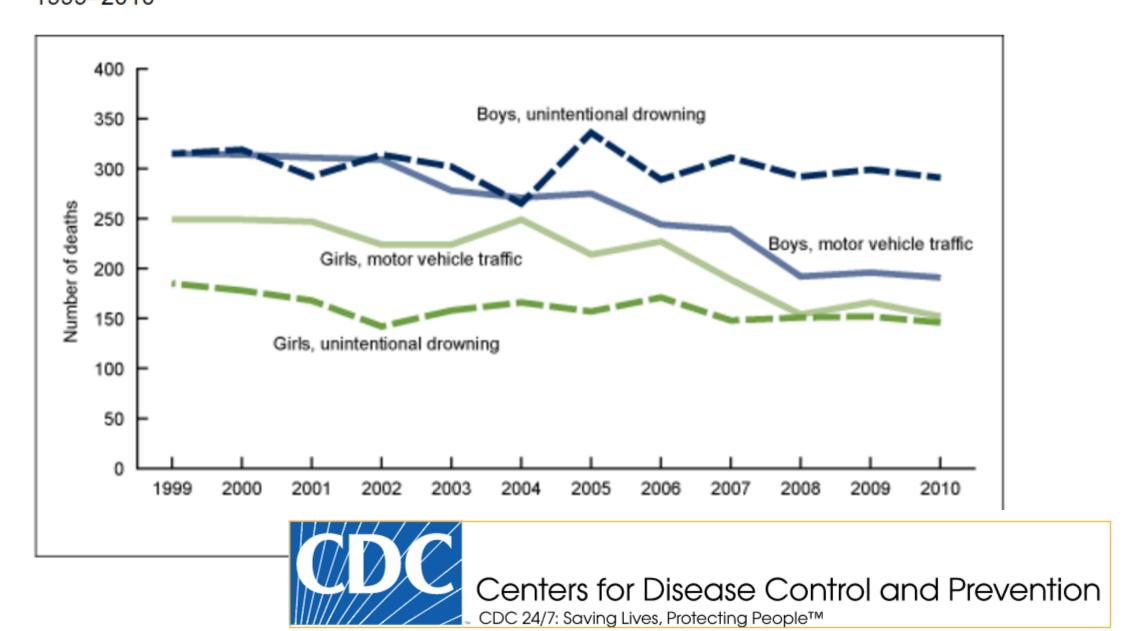


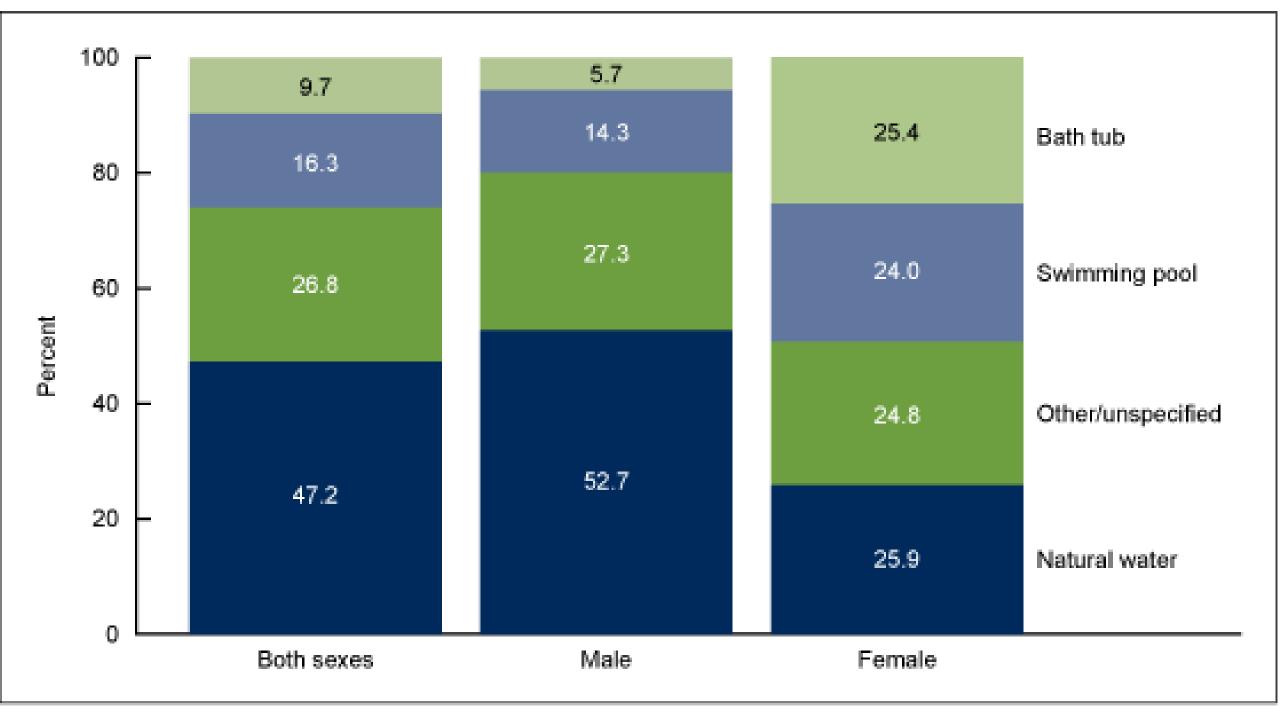
# Drowning Is The Leading Cause of Accidental Death For Boys Age 1-4



# Drowning Is The 2<sup>nd</sup> Leading Cause of Accidental Death For Girls Age 1-4

Figure 5. Deaths from two leading causes of unintentional injury for children aged 1–4 years, by sex: United States, 1999–2010







FROM 1999 THROUGH 2010, 46,419 DEATHS IN US FROM UNINTENTIONAL DROWNING (INCLUDING BOATING) AN AVERAGE OF 3,868 DEATHS PER YEAR.

- Average Of More Than 10 Drowning Deaths Each Day
- Children Under 5 Make Up 50% of all Drownings
- For Every Death There Are 5 Times That Number That Are Taken To Hospital
- Boys Are 4 Times More Likely To Drown In Natural Water Settings Than Girls

#### DROWNINGS AT USACOE RECREATION FACILITIES

From 1986 Through 1990:

- 1107 Drowning deaths
- 89% Were Male
- 44% Were Swimming / Wading
- 62% Occurred Outside
   Designated Swimming Areas



Reference: USACOE Recreation Study Plan prepared for Assistant Secretary of Army Vol 1; Main Report, September 1990



### Case Studies



## WEIR GULCH AT CONFLUENCE WITH S. PLATTE RIVER DENVER / UDFCD











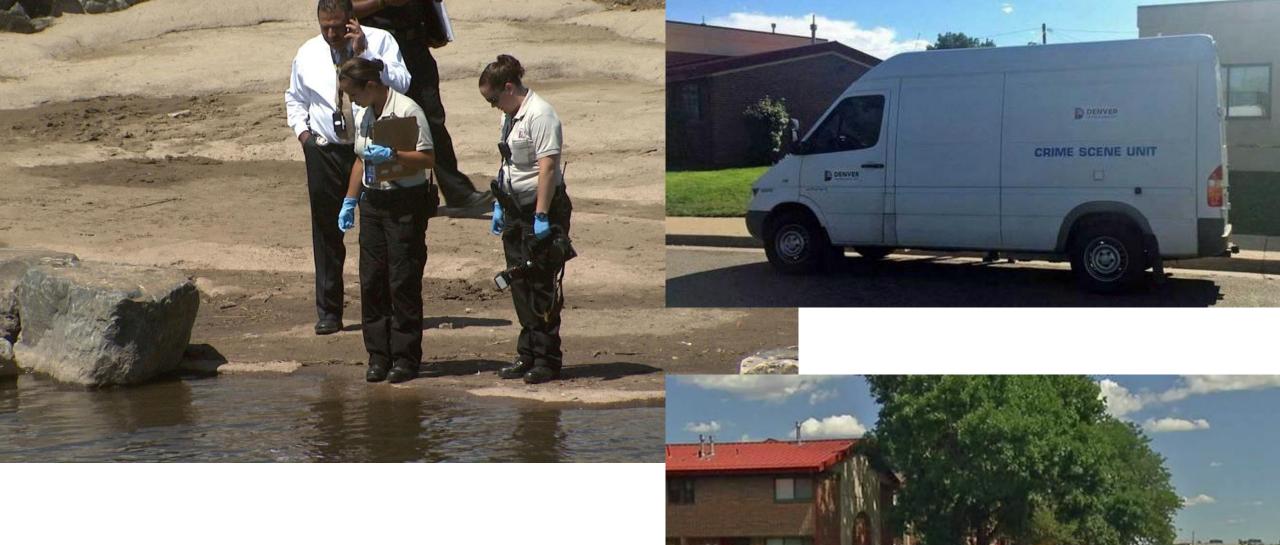
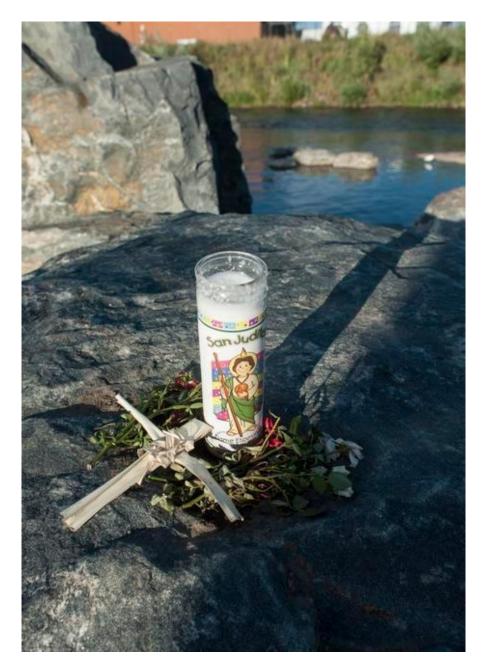


Photo Credit 9-News





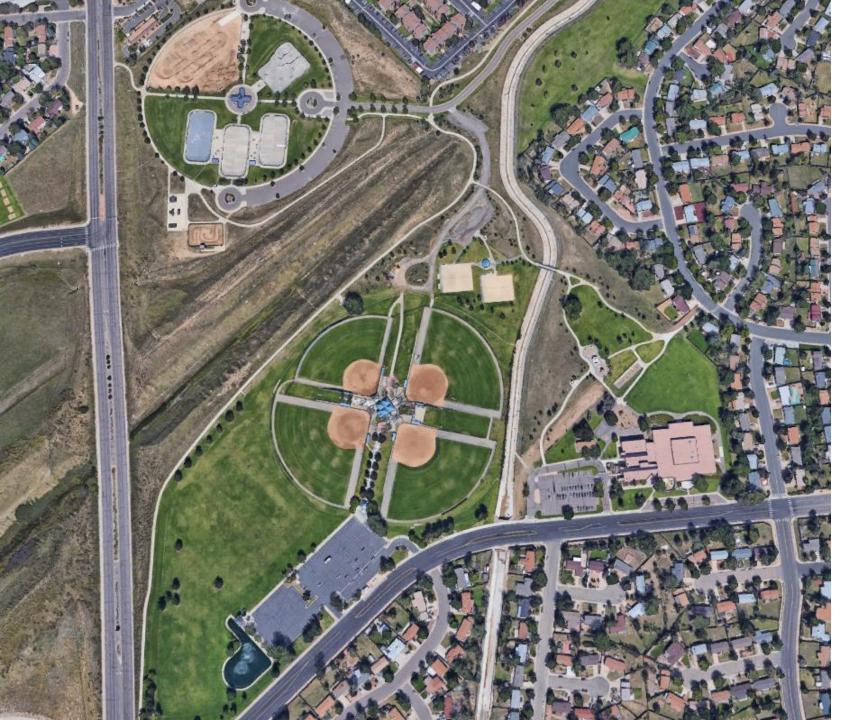
#### AMARI FURQAN DROWNED 8/16/2014

- 3-Years Old
- Clear Sky No High Water
- Pushed a screen window out from apartment and crawled out while no one was watching
- Grandmother says he was a "runner that had been punished for running away from home before"
- Neighbors saw him walking around project site and thought it "strange that a kid in diapers was out there"



#### WRONGFUL DEATH LAWSUIT FILED

- 2-Years After Death
- Denver, UDFCD, ICON and Construction Contractor
- "Technical Error" Denver and UDFCD Removed from Lawsuit
- Case Continued Against ICON and Contractor
- Court Date Assigned 3-years after Death
- Mediation (Retired Judge Presiding)
- Negotiated 25% against ICON and 75% against Contractor



#### OLYMPIC PARK AURORA

- Sports Complex
- 4-Plex Softball
- Adjacent To Wheel Park

#### OLYMPIC PARK, AURORA



Designed and Built in the 1980's

**On-Site Detention** 

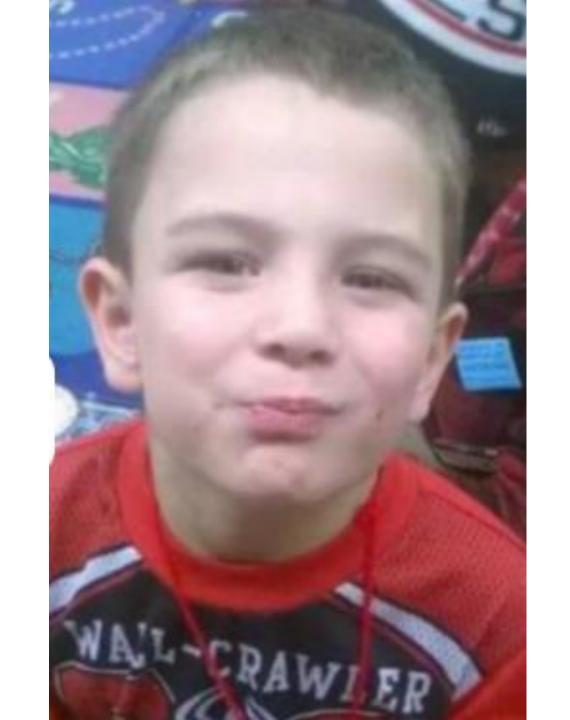
- Reflecting Pool
- Water Quality





#### DAVID PLUCKETT

- Drowned January 1, 2017
- 6-Years Old
- Found Under Ice
- History of Running Away
- Amber Alert Issued
- Assistance From FBI



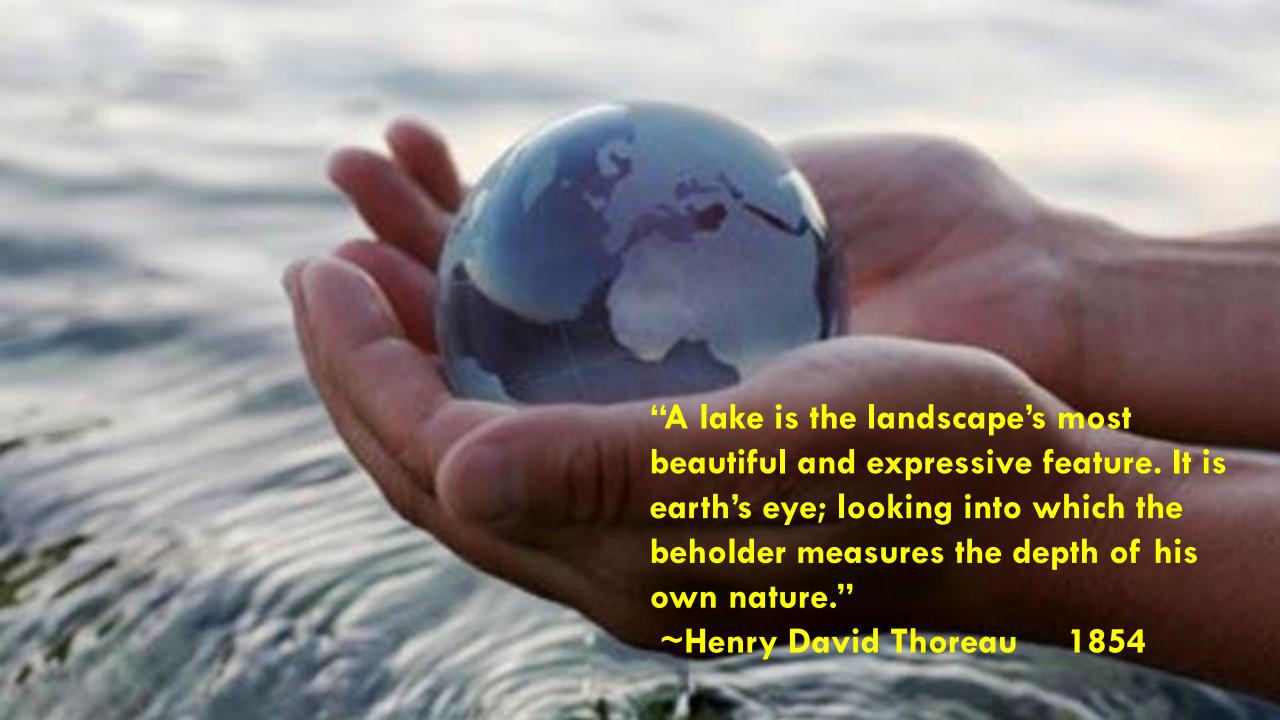
#### DESIGNER AND OWNER RESPONSIBILITY

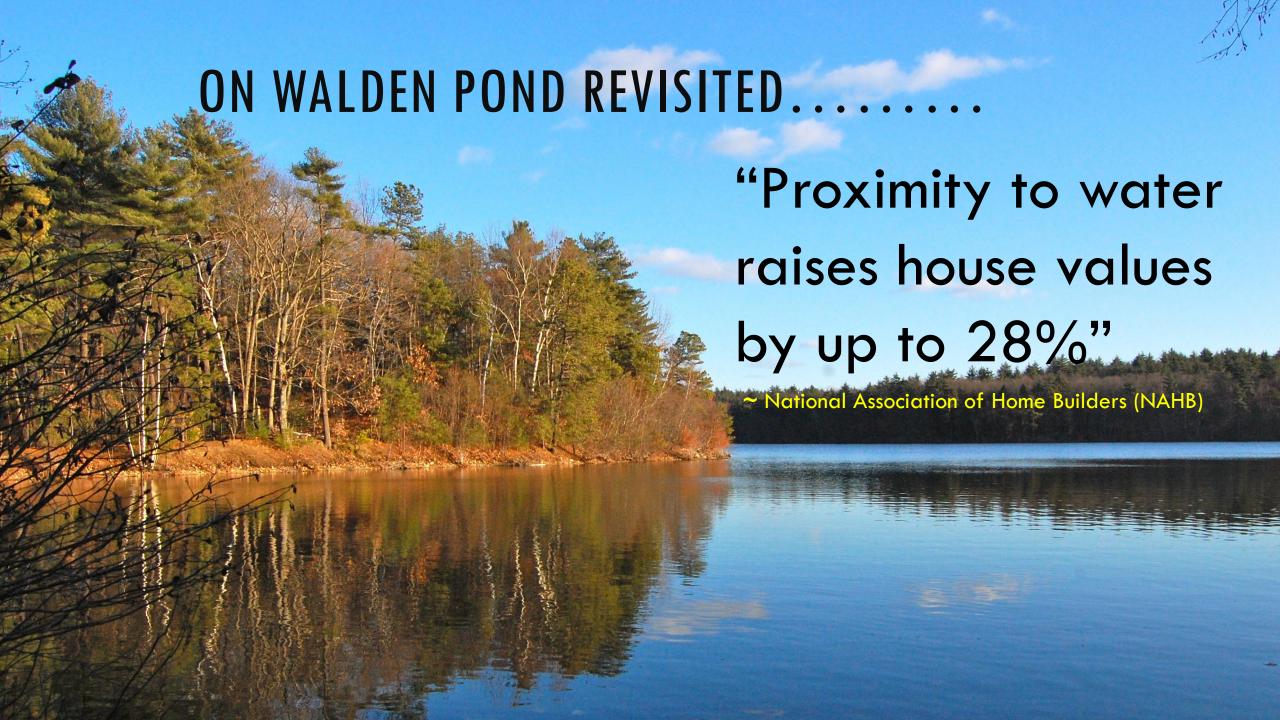
- Codes Of Ethics Require Engineers To Prevent Exposure Of The Public To <u>Unacceptable Risks</u>
- NSPE Code: "Hold Paramount The Safety, Health And Welfare Of The Public" And Design To "Accepted Engineering Standards"
- Similar Requirements For Professional Landscape Architects And City Planners

### FOR THE TWO CASE STUDIES SOME QUESTIONS TO CONSIDER....

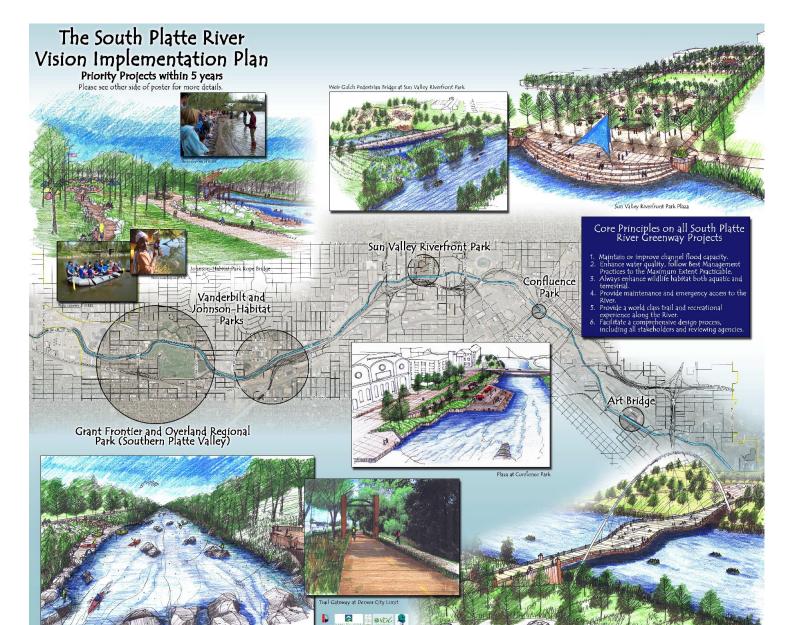
- Safety Design Standards Of The Time Were Followed And Exceeded. Is That Going Far Enough?
- How could these drownings have been prevented?
- Are Owners Now Obligated To Make Changes At These Facilities?
- What Happens If / When A Subsequent Accident Occurs At These Or Similar Facilities?

- What Laws Protect Facility Owners And Are The Laws Different For Public / Private Entities?
- Both of these projects are now owned and maintained as parks.
   What Difference Does That Make?
- In The Event Of A Tragedy, What Steps Do You Need To Take?
- If Insurance Is Part Of The Answer, How Much And What Kind Is Enough?





#### MASTERPLAN TREND



#### ANOTHER TREND

- Nationwide 18-percent of kids 6 and older are obese
- A recent study showed that the Average American child spends less than 30-minutes in unstructured outdoors play daily.
- Average American kids devote more than 7-hours a day to screen time.
- Children can now recognize over 1,000 corporate logos but fewer than 10 plants native to their region

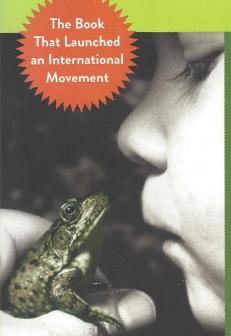
#### ANOTHER TREND

#### Denver:

- Overall Colorado Obesity Rate Is About 20%
- Colorado Has Fastest-growing Rates Of Inactivity And Obesity In The Nation (Weigel, 2017)
- 15.6% Of Children 2 To 17 Years Old Were Obese During 2015-2016 School Year
  - (Denver Post Article 8/4/17)
- Approximately 80% Of Denver Public School Students Have Never Been To The Rocky Mountains (GOCO)

NATIONAL BESTSELLER

## Last Child in the Woods



Saving
Our Children
from
Nature-Deficit
Disorder

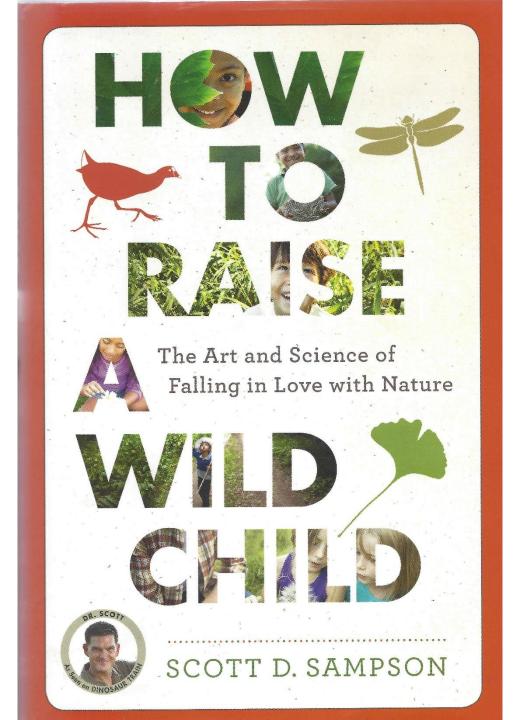


"An absolute must-read for parents."

-THE BOSTON GLOBE

#### RICHARD LOUV

RECIPIENT OF THE AUDUBON MEDAL



#### NATURE PLAY IN THE BUILT ENVIRONMENT

DESIGN STANDARDS AND GUIDELINES



#### Acknowledgments

#### Denver Parks and Recreation

Allegra "Happy" Haynes: Manager, Denver Parks and Recreation

Scott Gilmore: Deputy Manager, Parks Gordon Robertson: Director, Parks Planning Adrienne Burton: Denver Parks Planner Jeru Parikh: Senior Landscape Architect

#### Urban Drainage and Flood Control District

Barbara Chongtoua: Project Manager

#### Design Team

Valerian Ilc.: Landscape Architect

Bienenstock Natural Playgrounds: Nature Play Consultant

CH2M: Civil Engineer

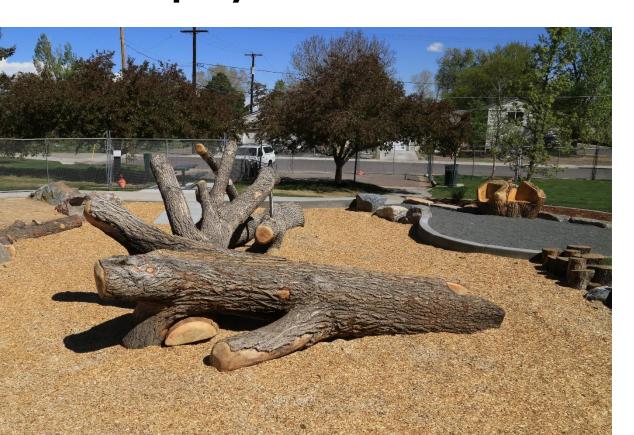




Date Issued July 28, 2017

## WHAT IS NATURE PLAY?

Intentionally designed spaces that put users in direct contact with nature with a focus on the value of play





## BENEFITS OF NATURE PLAY

- Health Benefits
- **Environmental Benefits**
- Education Benefits
- Financing and Economic Benefits

## BENEFITS OF NATURE PLAY

- Increased Play Time
- Better Play Participation
- Nature Play Engages All 5 senses
- Nature Play Teaches Risk Evaluation Skills



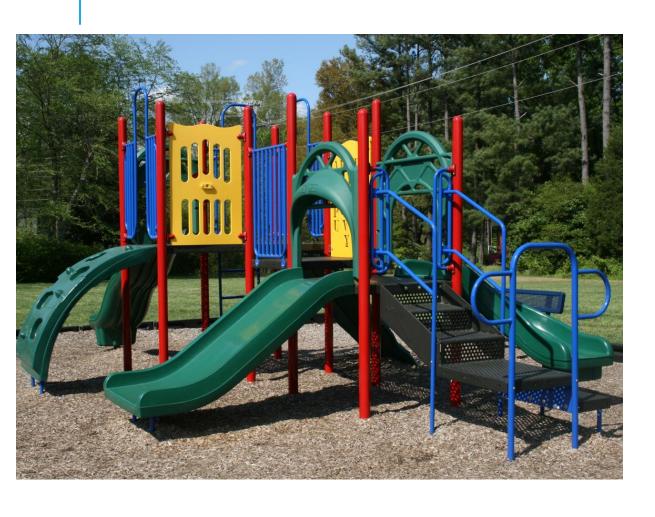
### Natural Waterways or Simulated Waterways







## NATURE PLAY IS NOT...





## **Playground Injuries**

Yearly 200,000+ children under 14 are treated for playground injuries

45% were severe: fractures, internal injuries, concussions, dislocations, amputations

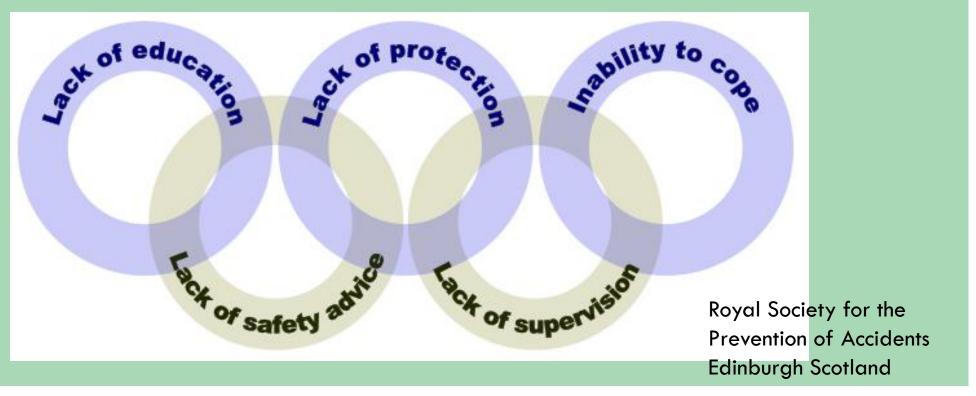
75% of nonfatal injuries related to equipment occur on public playgrounds

Between 1990 and 2000 there were 147 deaths (under 14-years old)

- 56% Strangulation; 31% Falls
- 70% of Deaths occurred on home playgrounds (swings)
- 30% Public Playgrounds (climbers)
- •55% Girls; 45% Boys
- Kids 5 to 9 more prone to injuries

## 15 Deaths/Year - Not Including Drownings

## THE DROWNING CHAIN



- Any plan to prevent drowning must aim to break one of the links in the chain
- Most successful if it breaks the first link

# THE DROWNING CHAIN PROVIDES A CLEAR BASIS FOR PREVENTING DROWNING WHICH INCLUDES:

Education And Information
Provision Of Warnings
Denial Of Access
Supervision

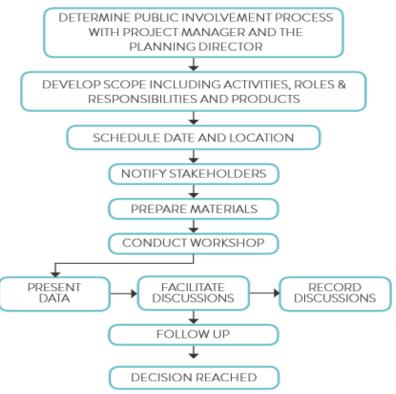
Training In Survival Skills

#### BREAKING THE DROWNING CHAIN

## **EDUCATION**



## TRADITIONAL PUBLIC MEETING PROCESS



Due to the unfamiliarity of the majority of stakeholders with nature play and its benefits, the following deviations from the standard approach are recommended.

### MEETING PROCESS

DETERMINE PUBLIC INVOLVEMENT PROCESS WITH PROJECT MANAGER AND THE PLANNING DIRECTOR NATURE PLAY: REQUIRES ADDITIONAL EDUCATION OUTREACH AND COMPREHENSIVE PUBLIC INVOLVEMENT IDENTIFY KEY STAKEHOLDERS TO ACT AS PROJECT ADVOCATES DEVELOP SCOPE INCLUDING ACTIVITIES, ROLES & RESPONSIBILITIES AND PRODUCTS SCHEDULE DATE AND LOCATION (ON SITE IF POSSIBLE) ACTIVELY ENGAGE AND NOTIFY STAKEHOLDERS USE KEY STAKEHOLDERS TO INCREASE INVOLVEMENT PREPARE MATERIALS CONDUCT WORKSHOP **FACILITATE** RECORD PRESENT DISCUSSIONS. DISCUSSIONS DATA FOLLOW UP DECISION REACHED

## **EDUCATION**



Slogans may be effective to get across a point





But...

Education can be undone by outside influences







## FENCES — DENIAL OF ACCESS?





## THE CASE AGAINST FENCES.....

- Hindrance To Rescue Operations
- Fences Can't Be Relied Upon As Only Safety Measure
- Have Not Proven To Be Effective
- Many Children Consider Fences
   To Be A Challenge To Be
   Overcome
- Even Most Substantial Fence Can Be Climbed

- Fences Block Vision
- Can Create More Danger Than They Are Meant To Mitigate
- Can Hinder Maintenance & Collect Debris
- Can Impact Floodplain

## THE CASE FOR FENCES

- Can Be Effective For Toddlers
- Can Help Establish Boundaries
   For Children with Sensory
   Processing Disorders
- A Great Place To Hang Signs



## SIGNS — PROVISION FOR WARNING





# "VERY DANGEROUS Entering Will Result In Certain Death"

Figure 9-6. Warning sign, safety cable, and safety fence at siphon inlet. 805-236-14106

From: Design of Small Canal Structures US Bureau of Reclamation, 1974

## SIGNS — WHAT IS THE MESSAGE





Fig 4. Possible Warning Sign for SuDS Ponds (Source: <a href="www.jaxshells.org/0816k.htm">www.jaxshells.org/0816k.htm</a>)



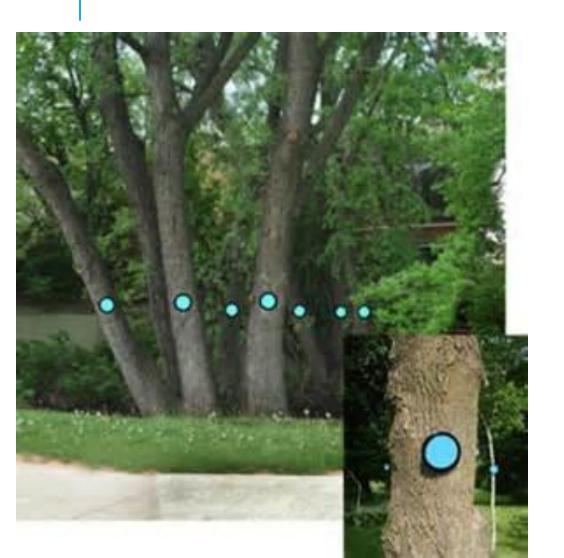
## SIGNS — WHAT IS THE MESSAGE







## SIGNS — WHAT IS THE MESSAGE



Mary Miss 2007 art project: "Connect the Dots: Mapping the Highwater Hazards and History of Boulder Creek."

#### Breaking The Drowning Chain

# SIGNS — WHAT IS THE MESSAGE



## **SUPERVISION**





## SUPERVISION AT NATURE PLAY PARKS

#### **Try This:**

- Don't Go To The Park To Parent
- Go To The Park To Give Kids Freedom From Parenting
- Let Kids Negotiate A World On Their Own
  - Test Their Bodies
  - Learn To Run and Scream
  - Make Friends
  - Learn Their Own Limits

#### **However:**

- Don't Underestimate Children's Curiosity
- Don't Overestimate Child's Sense of Judgment
- Remember: Even if a Child Verbally Acknowledges a Warning or Caution It doesn't Mean They understand the Hazard or Risk
- The Attractiveness Of Water As A Play Area Render Most Verbal Instructions Ineffective

#### Supervision Has To Be Age Appropriate

## SURVIVAL SKILL TRAINING



- Swim Lessons
- "Participation in formal swimming lessons was associated with an 88% reduction in the risk of drowning in 1- to 4-year-old children"

According to a peer reviewed article in the 2009 Journal of American Medical Association – Pediatrics

"Whether or not you plan to head to the pool, water is all around us - in rivers, lakes, drainage ditches, bath tubs, and even large puddles." - Make a Splash



## A MODEST PROPOSAL

- Standardization of Signs
  - Purple and Blue Signs
- Should CASFM Have A Safety Committee?
- Launch Safety Education Initiative
- Parks / Recreation / Engineering / Planning Need To Work Together



# CASFM 2017 Legal Liability For Injuries at Public Facilities



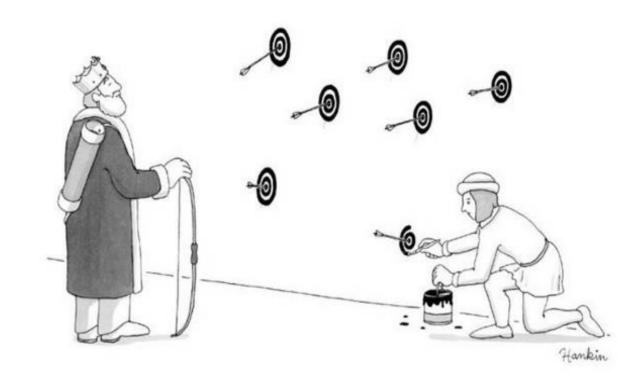
### THE GOVERNMENTAL IMMUNITY ACT

The Colorado Governmental Immunity Act (CGIA) creates general immunity from suit for public entities and employees in tort cases. C.R.S. § 24-10-106.

A tort is a wrongful act, but not necessarily an illegal act, that is committed when a person's "negligent" behavior has caused someone else to suffer bodily harm or property loss.

The CGIA protects the municipality, its officials, public employees, and volunteers so long as they are acting within the scope

of their duties. C.R.S. § 24-10-103(4)(a).



## THE EXCEPTIONS

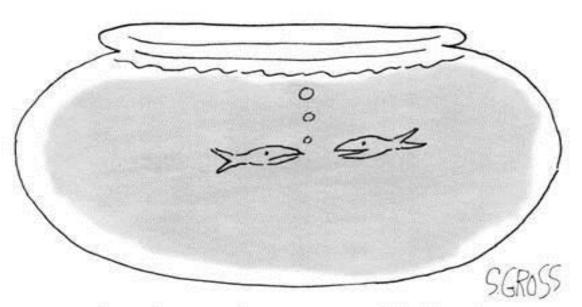
Six exceptions or "waivers" of governmental immunity exist, when there are:

- → Dangerous conditions that pose some unreasonable risk to the public's health or safety,
- → Either known or should have been known to exist,
- → Caused by a negligent act or omission in designing, constructing,
- → OR maintaining facilities. C.R.S. §24-10-106

## THE WAIVERS AFFECTING CASFM:

Operation of a public hospital, jail, public facility located in a park or recreation area maintained by the public entity, or of public water, gas, sanitation, electrical, power or swimming facility. C.R.S. § 106(1)(e).

Operation and maintenance of a **public water**, gas, **sanitation**, electrical, power, or **swimming facility**. C.R.S. § 106(1)(f).



"I just figured out the true meaning of life. Water!"

#### WHAT IS DEFINED AS A PUBLIC WATER FACILITY?

A water meter in a sidewalk is a "public water facility". Wisdom v. City of Sterling, 36 P.3d 106 (Colo. App. 2001)

A storm drain that had been relocated onto a private landowner's property was a public facility.

Burnworth v. Adams County, 826 P.2d 368 (Colo.App.1991); Scott v. City of Greeley, 931 P.2d 525 (Colo.App. 1996)

A culvert directing subdivision storm runoff across plaintiffs' property. Langlois v. Board of County Com'rs of County of El Paso, 78 P.3d 1154, (2003)

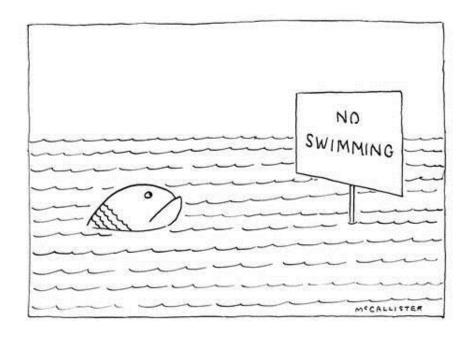
Leakage or discharge from defendant's wastewater treatment facility.

<u>Lawrence v. Buena Vista Sanitation District</u>, 989 P.2d 254, (1999)

# WHAT IS DEFINED AS A PUBLIC WATER FACILITY?

Storm drainage ditch owned by private ditch company, in which city owns shares

City of Longmont v. Henry Hobbs, 50 P.3d 906 (Colo. 2002)



## NO IMMUNITY FOR A PUBLIC EMPLOYEE'S "WILLFUL AND WANTON" CONDUCT

C.R.S. § 24-10-118

#### Willful and wanton conduct

- → an action that is purposefully committed despite the actor realizing it was dangerous,
- → or done heedlessly or recklessly,
- → without regard either to consequences or the rights and safety of others.



"Hey, don't blame me. I don't make the laws
—I just circumvent them."

## SPECIAL NOTICE REQUIRED

The injured party must file a written notice within 180 days of discovering the injury. C.R.S. § 24-10-109.

The notice is a jurisdictional pre-requisite to suit. §109(1)

The notice shall contain the following:

- (a) Name & address of claimant & attorney, if any;
- (b) A statement of the factual basis of the claim, & date, time, place, & circumstances;
- (c) Name and address of any public employee involved, if known;
- (d) Concise statement of nature & extent of injury claimed;
- (e) A statement of the amount of monetary damages sought.

C.R.S. §24-10-109

#### CAP ON DAMAGES FOR PERSONAL INJURY CASES

Liability for damages is limited to \$350,000 per person and \$990,000 per occurrence involving multiple people.

Beginning January 2018, these limits are to be adjusted every four years to reflect inflation. C.R.S. § 24-10-114.



# EXPOSURE OF PRIVATE CONSULTANTS TO CLAIMS FOR INJURY ON/IN DRAINAGE FACILITIES

Immunity from liability does **not** extend to contractors and consultants.

Public entity is not liable for dangerous condition caused by design by private entity.

Swieckowski v. City of Ft. Collins, 934 P.2d 1380 (1997)

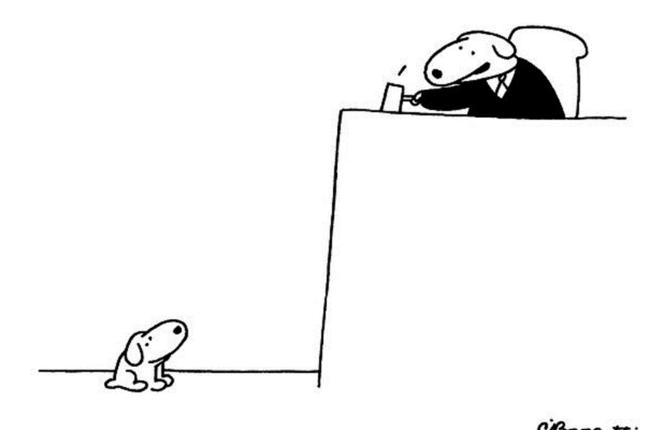
Consultants are NOT deemed public employees under the GIA. "Public employee" means an officer, employee, servant, or authorized volunteer of the public entity, whether or not compensated, elected, or appointed, **but does not include an independent contractor** or any person who is sentenced to participate in any type of useful public service.

C.R.S. §24-10-103(4)(a)

## ATTRACTIVE NUISANCE

The intuitive concept that children, due to their youth and impulsive behavior, are instinctively drawn to certain objects and are thus prone to placing themselves in danger.

S.W. v. Towers Boat Club, Inc., 315 P.3d 1257, (2013)



"Not guilty, because puppies do these things."

#### ATTRACTIVE NUISANCE

In Colorado ... If an owner sees fit to keep on his premises something that is an attraction and allurement to the natural instincts of childhood, the law ... imposes upon him the corresponding duty to take reasonable precautions to prevent the intrusion of children, or to protect from personal injury such as may be attracted hereby. Kopplekom v. Colorado Cement-Pipe Co., 64 P. 1047 (1901)



"Your mom is a little overprotective, isn't she?"

Children under 7 cannot be negligent Fletcher v. Porter, 754 P.2d 788 (Colo.App. 1988)

#### But...

Children over 14 cannot claim attractive nuisance C.R.S. 13-21-115(2)



# INSURANCE

Owner / Contractor / Design Professional

# COVERAGES

- General Liability v. Professional Liability
- Products & Completed Operations
- Bodily Injury & Property Damage
- **Economic Loss**

## CLAUSES

- Additional Insured
- Waiver of Subrogation
- **OIndemnification**

# QUESTIONS?