

# LTPBR WORKSHOP

## EXERCISE

### Building a Post-Line Wicker Weave



**Learning:** workshop participants building a post-line wicker weave structure, in a parking lot.



# How many BDAs have you built?

|              |      |
|--------------|------|
| 1            | 47   |
| 2-5          | 91   |
| 5-10         | 44   |
| More than 10 | 52   |
| None (yet)   | 772  |
| Grand Total  | 1006 |

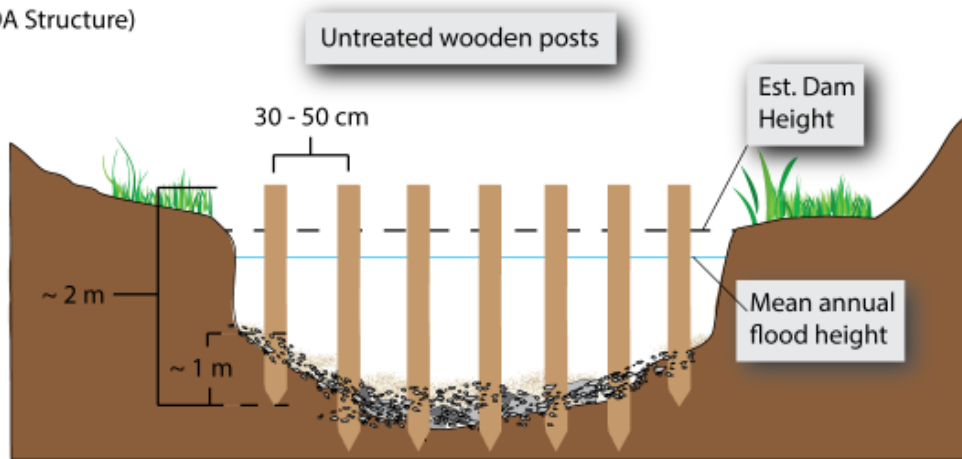
Most that have built a few (e.g. pilots)

Most of you have not!

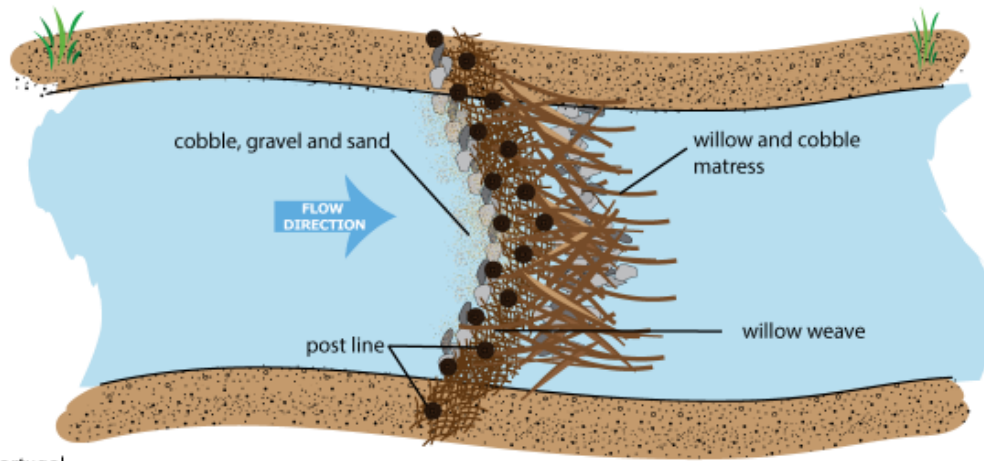
# Ever seen this detail?

From Chap 4 Appendix of Wheaton et al. (2019)  
LTPBR Manual. DOI: [10.13140/RG.2.2.19590.63049/1](https://doi.org/10.13140/RG.2.2.19590.63049/1)

Cross Section View  
(Generic BDA Structure)



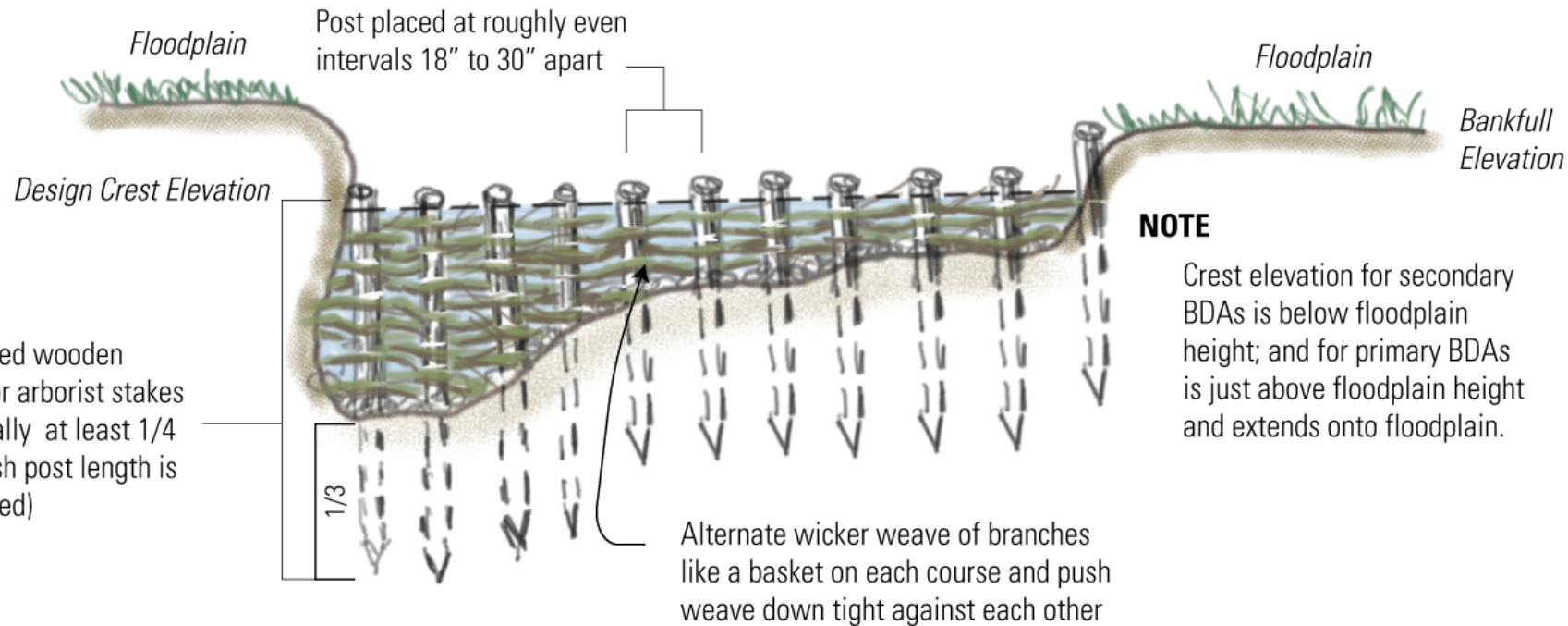
Plan View  
(Convex Primary Dam)



 Elijah Portugal

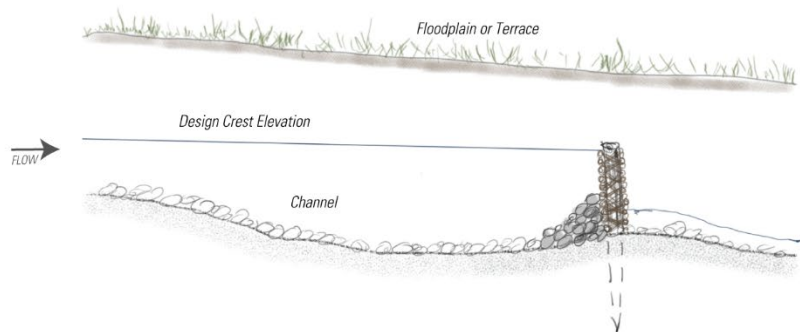
Figure 21 – Conceptual illustration of BDAs incorporating a downstream “mattress” and double post line. In practice BDAs can be built with or without posts and using a range of natural materials. Illustration credit: Elijah Portugal.

## X-SECTION VIEW

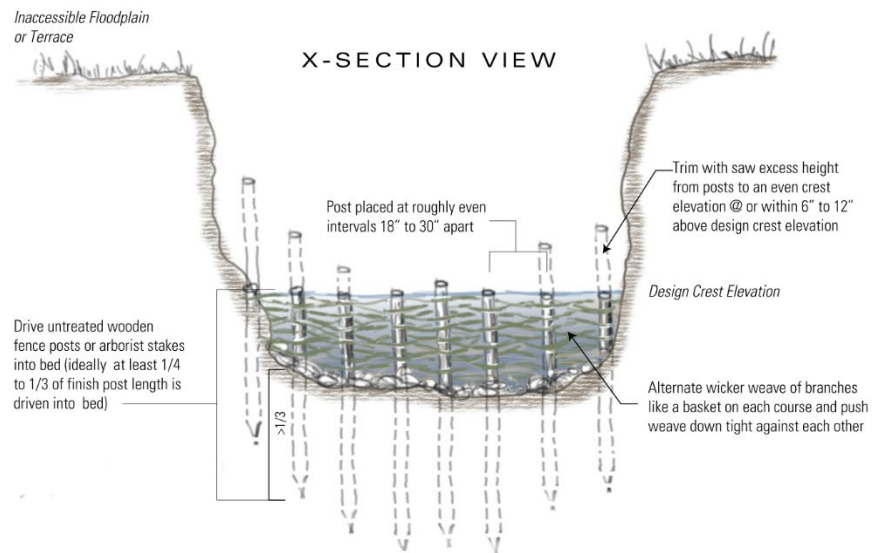




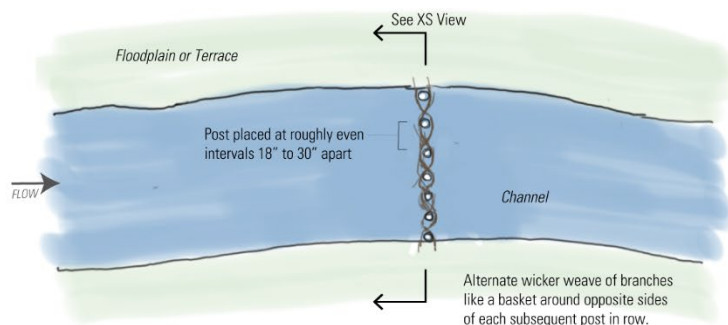
# PROFILE VIEW



## X-SECTION VIEW



## PLANFORM VIEW



NOT-TO-SCALE

From Chap 4 Appendix of Wheaton et al. (2019)  
LTPBR Manual. DOI: [10.13140/RG.2.2.19590.63049/1](https://doi.org/10.13140/RG.2.2.19590.63049/1)



**Learning:** workshop participants building a post-line wicker weave structure, in a parking lot.



## PARKING LOT BDA EXERCISE

**PURPOSE:** To simulate many of the safety, design and construction considerations encountered when building post-line wicker weave low-tech structures (e.g., beaver dam analogues).

### INGREDIENTS

- » 4 - 6 Untreated wooden fence posts (nominal diameter of 3" and cut to 4' to 5' in length)
- » 4 - 6 Five-gallon buckets
- » Willow weave material (long, i.e., > 4 ft), limbed branches of 1/4" to 2" diameter willow branches
- » Cobble fill (to fill each bucket about half way up with post)

### TOOLS

- » Personal Protective Equipment
  - » Closed-toed shoes
  - » Work gloves
  - » Eye protection (e.g., safety glasses)
  - » Hard Hat

### INSTRUCTIONS

- 1** Decide location of BDA dam crest, configuration (e.g., straight or convex downstream), and crest elevation. Position yourself with your eye level at proposed crest elevation of dam (make sure it is < 1.5 meters in height), and look upstream to find where the pond will backwater to. Adjust crest elevation as necessary to achieve desired size of pond, inundation extent, and overflow patterns.
- 2** Put one post in each five gallon bucket, hold post plumb in center of bucket, and fill bucket half way up with cobble to keep post upright.
- 3** Place posts roughly one to two bucket widths apart in desired dam crest configuration.
- 4** Weave willow branches in between posts across the channel. Alternate weave pattern and pack branches down to minimize voids. Build up to desired design crest elevation.
- 5** Work a willow mattress (laying branches parallel to flow) into dam on downstream side and build to provide energy dissipation to overtopping flows.



From pages 55-56 of Pocket Guide; Wheaton et al. (2019)

DOI: [10.13140/RG.2.2.28222.13123/1](https://doi.org/10.13140/RG.2.2.28222.13123/1)

# What we do...



# We watch and laugh (University Sanctioned Hazing?)

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BDA Parking Lot Example

PALS Parking Lot Example

The details from which PALS were built

Bank-Attached Bank Blaster

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Mid-Channel

Fun examples from past workshops

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## Fun examples from past workshops



Click on image for album  from past workshops.

In the album  you will find multiple time-lapses and photos like the one below:



[http://lowtechpbr.restoration.usu.edu/resources/Topics/01\\_Overview/parkinglot.html](http://lowtechpbr.restoration.usu.edu/resources/Topics/01_Overview/parkinglot.html)

# CERTIFICATE OF COMPLETION YOU

have established your proficiency in mindlessly following a recipe for:

## UNDER WATER BASKET WEAVING BUILDING A POST-ASSISTED BEAVER DAM ANALOGUE

for a few Professional Amateur Development Hours

With no official Knowledge Transfer,  
University Credit or Endorsement by  
Utah State University

LEAD DOWN YELLOW BRICK ROAD BY:





Then we let them explain what they did, and critique each other...

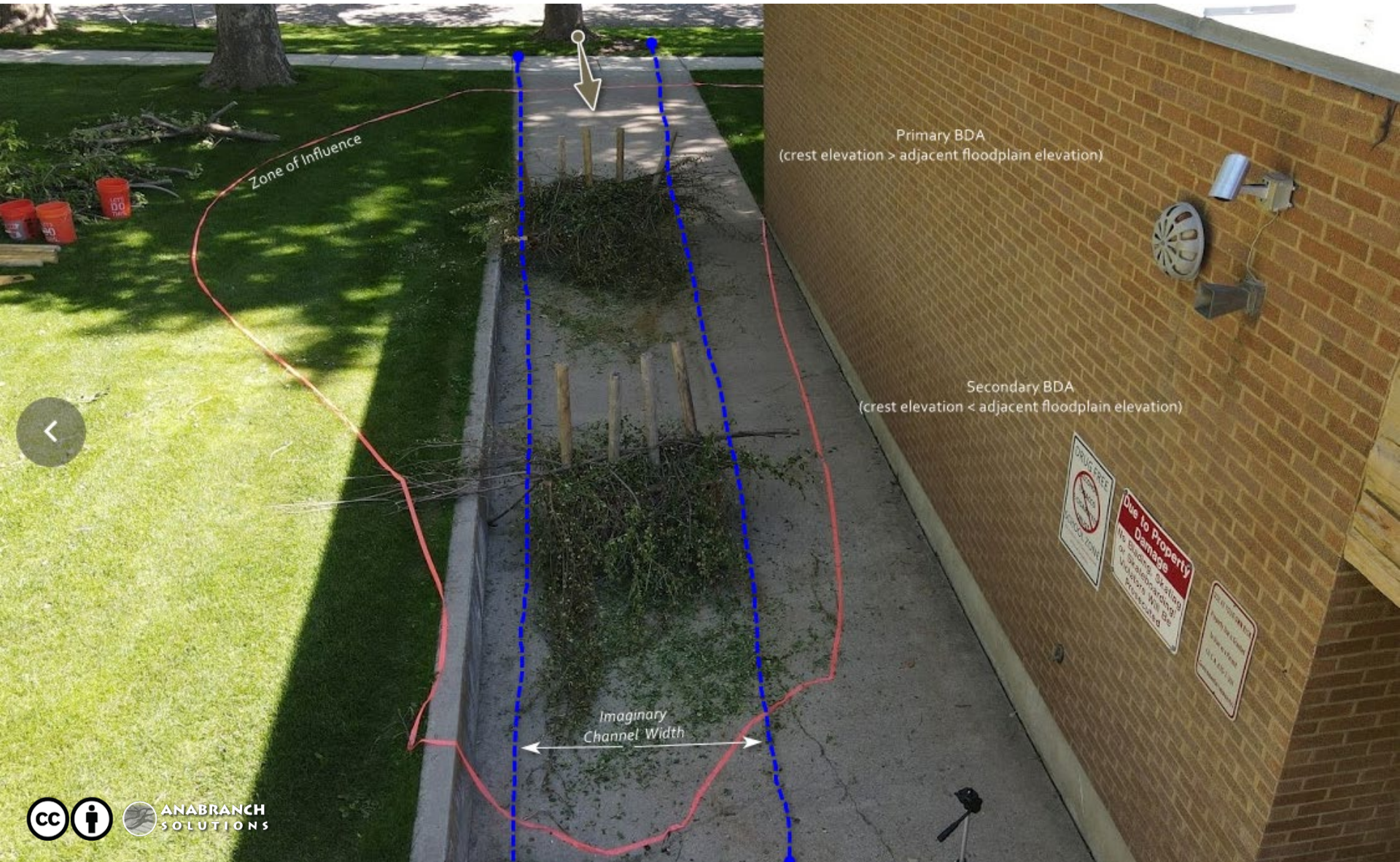
What the h\*\*\* were they thinking?



Joe Wheaton



# BDA: An extra touch... Add flagging for ZOI





# PALS: Can build PALS too! *Even Quicker*

