2025

EWN + landscape architecture

designing and communicating arid nature-based solutions

Steven Bailey

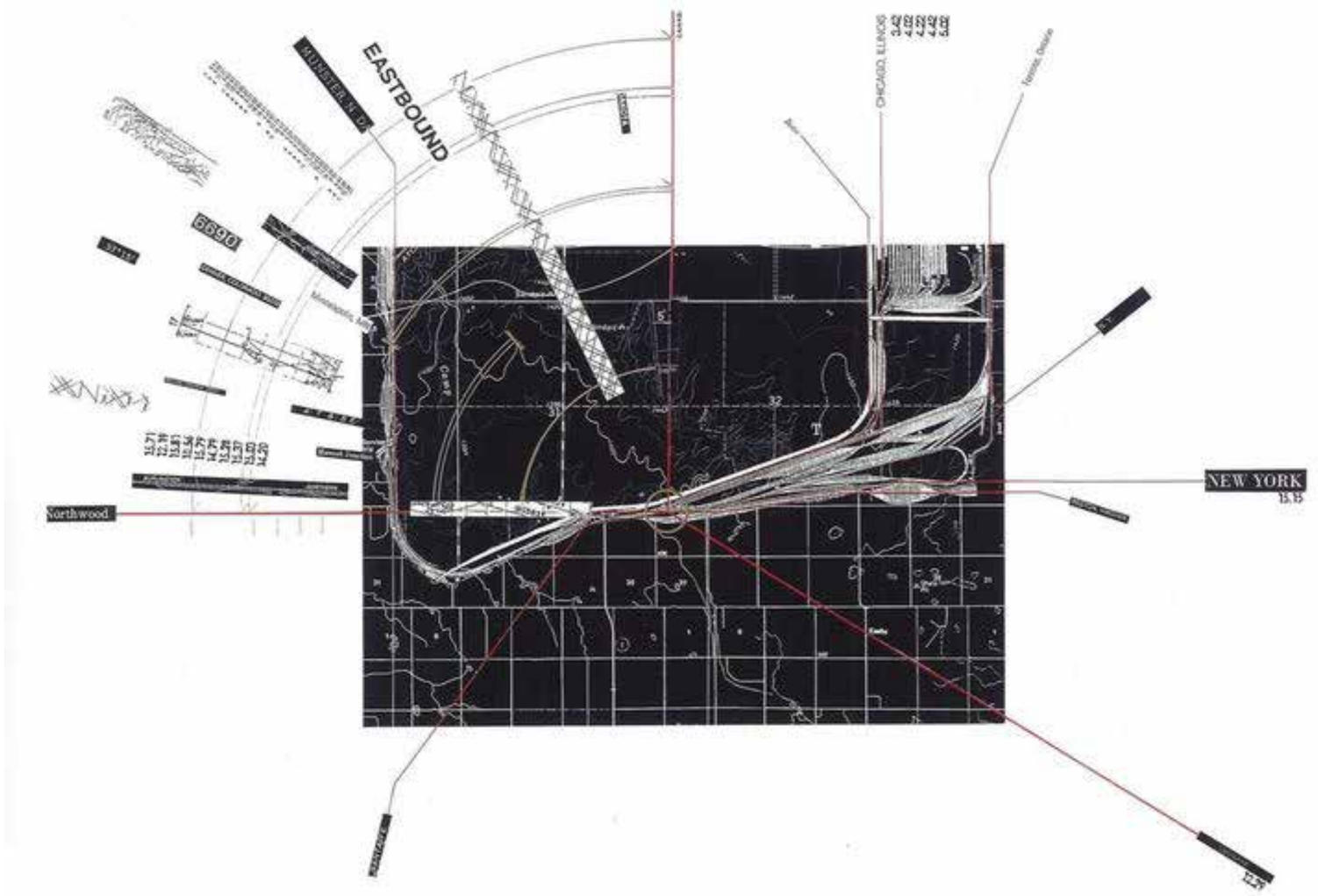
my background

Did I ever think I would be working as a Landscape Architect? Certainly not. Quite frankly, I did not even know that was a thing until I went to university. My path was tumultuous, starting off in engineering and changing my major at the last second (Junior Year) to a design focused field. Graduating summer of 2020, jobs were not the easiest to find and I worked in Florida as a contractor developing property; inevitably destroying wetlands. This did not sit well with me at all, and at that point I knew that I needed to shift the paradigm of my future. Mississippi State offered me a paid scholarship through their Master of Landscape Architecture program which was a dream come true. The more I learned the more I realized that everything I enjoy about life is manifested in this field. Creativity, communication, ecology and more. Upon graduation I knew that Mississippi is where I needed to stay. The state supported me, now it is my turn to give back.

Auburn University - Bachelors of Science Environmental Design
Mississippi State - Masters of Landscape Architecture

“our view of life is more about efficiency of means and ends, methods and techniques, than questions of existence and being”

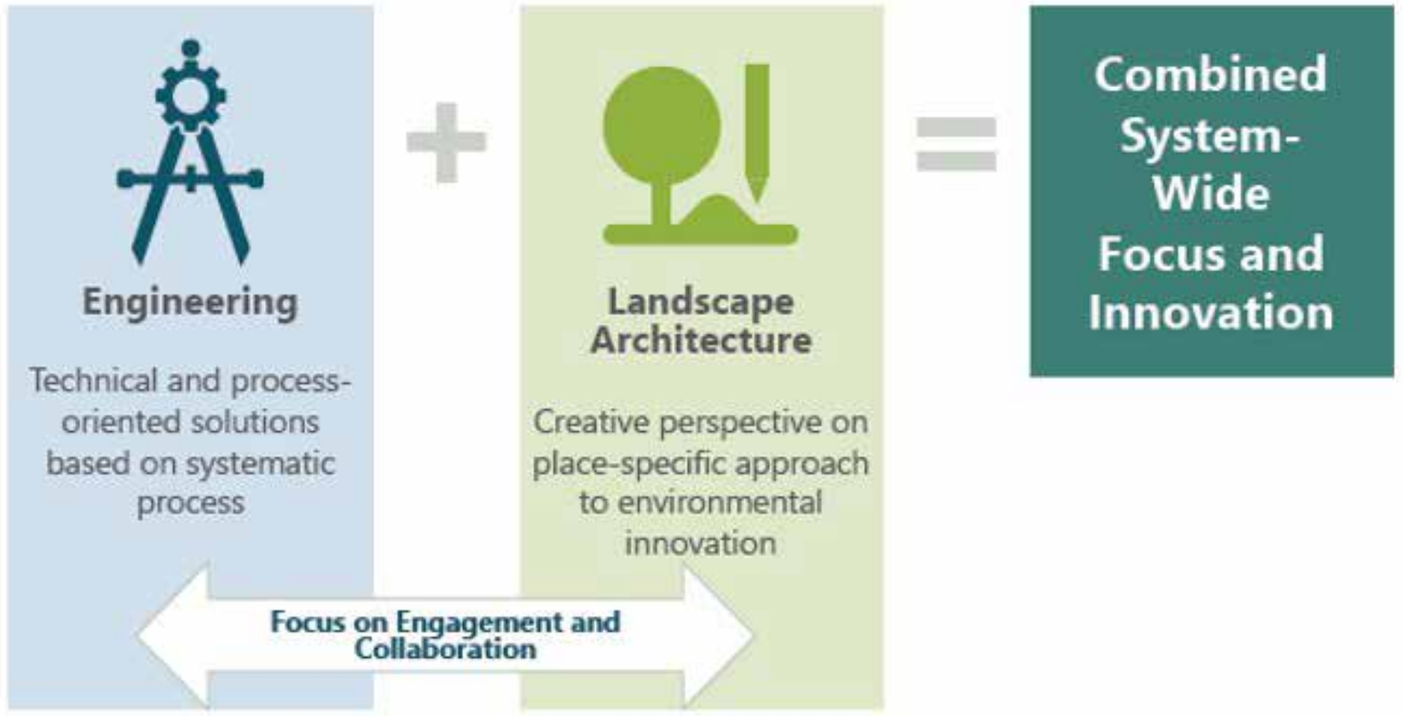
James Corner



PERGOLA AND BENCH BY ARCHITECT
FLUSH
+ 5.70
PLANTER
LOOSE RIVER ROCKS
SCULPTURE ON OOLITE PEDESTAL
4'-0"
6'-0"
+ 6.0 T.W.
ALUMINUM EDGING
+ T.W. 6.0
SLOPES DOWN
+ 7.7 T.W.
OOLITE LAWN STEPS
8"
3'-0"
2'-2"
9'-11"
1'-2"
LIGHTS
EXTEND POOL WALL 16" BEYOND NEGATIVE EDGE
LEEWARD POOL (DETAIL 8a) - REFER TO POOL ENG. PLANS (HYDRAZZO INTERIOR FINISH)
(3) SPOUTS IN FLOOR OF POOL W/ FIBER OPTIC LIGHT
4"
19'-0"
22'-10"
1'-4"
3'-0"
18'-7"
KEYSTONE
+ 7.2
EXISTING BELVEDERE
FLUSH
2'-0"
8" X 8" CUBAN TILES OVER 1" MORTAR OVER SLAB (TO MATCH TILES AT POOL PARTY HOUSE / GUEST)
POOL CL OF BELVEDERE
LAWN
+ 7.0
12" x 24" OOLITE TO MATCH PERGOLA BORDER
STONE OVER SAND WITH 2" ZOYSIA JOINTS
(5) JETS IN FLOOR @ 4' O.C.- "JANDY" WITH FIBER OPTIC LIGHT
1'-2"
5'-0" DEEP
+ 5.70
WATER RECIRCULATION TROUGH FOR "POND EDGE"
1% SLOPE
4" LOOSE ROCK JOINT
1'-4"
PLANTER ABOVE - REFER TO ARCH PLANS
T.W. 7.7
T.W. 6.0
6'-0"
8'-3"
14" TYP.
1'-6"
FLUSH
1'-2"
2'-1"
T.C. 9.2
+ 5.2
5.5 +
5'-0"
PLANTER
T.C. 9.2
T.C. 7.2
T.W. 7.5
3'-0"
+ 5.33
3'-9"
3'-4"
5'-8"
+ 5.0
+ 5.0
2'-8"
4'-6"
1'-2"
8'-6"
20"
20" TYP.
5'-0"
T.V. TO BE SELECTED BY OWNER
HB
SPA - REFER TO POOL ENG. PLANS
19'-0"
13'-0"
15'-9"
20"
2'-6"
1'-4"
+ 5.5
T.C. 7.0
+ 5.5
+ T.W. 9.7
SLOPES DOWN
3'-1"
T.W. 10.2
ELEC.
CL SPA & TRELLIS
T.W. 10.0
+ 5.0
+ 5.0
+ 5.0
+ 5.0
GRAVEL WALK
3'-6"
STONE WALL
ELEC.
HB
4' ALUMINUM FENCE WITH 3'-6" WIDE GATE WITH SELF LATCHING AND CLOSING DEVICE FOR POOL CODE
WALK AT GRADE +4 STEPS UP
STRUCTURAL ROCK WALL AND KEYSTONE STEPS (SEE DETAIL 20)
SPIRAL STAIR BY ARCHITECT
OOLITE BOULDERS DRYSTACK, TYP.
4' - 5' WIDE GREY GRANITE PATHWAY LINED WITH OOLITE RUBBLE
BENCH
+ 9.0
+ 11.50
+ 10.0
+ 5.0
T.C. 15.49
+ 15.0
PLANTER

EWN & Landscape Architecture

Landscape architecture and engineering are complementary disciplines that, when integrated, strengthen the effectiveness of Engineering With Nature approaches. Engineers contribute deep technical expertise in structural systems, modeling, and performance metrics. Landscape architects, meanwhile, bring a systems-based understanding of ecology, hydrology, spatial design, and human experience—ensuring that solutions are resilient, place-based, and multi-functional.



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In the Field:

All of this sounds fine and dandy, but how do we apply this expertise to field work? How do landscape architecture skill-sets translate to the first steps on the ground—initial site visits, inventory, and analysis? This is where the value of a landscape architect truly begins to show. Trained to see both the big picture and the fine-grain details, landscape architects bring a unique lens to early site assessments—recognizing patterns, identifying constraints and opportunities, and gathering critical spatial and ecological data that informs the entire design process. Our presence onsite from the beginning ensures that designs are rooted in context, responsive to real-world conditions, and aligned with long-term project goals.

Rills: Occur on side Slopes

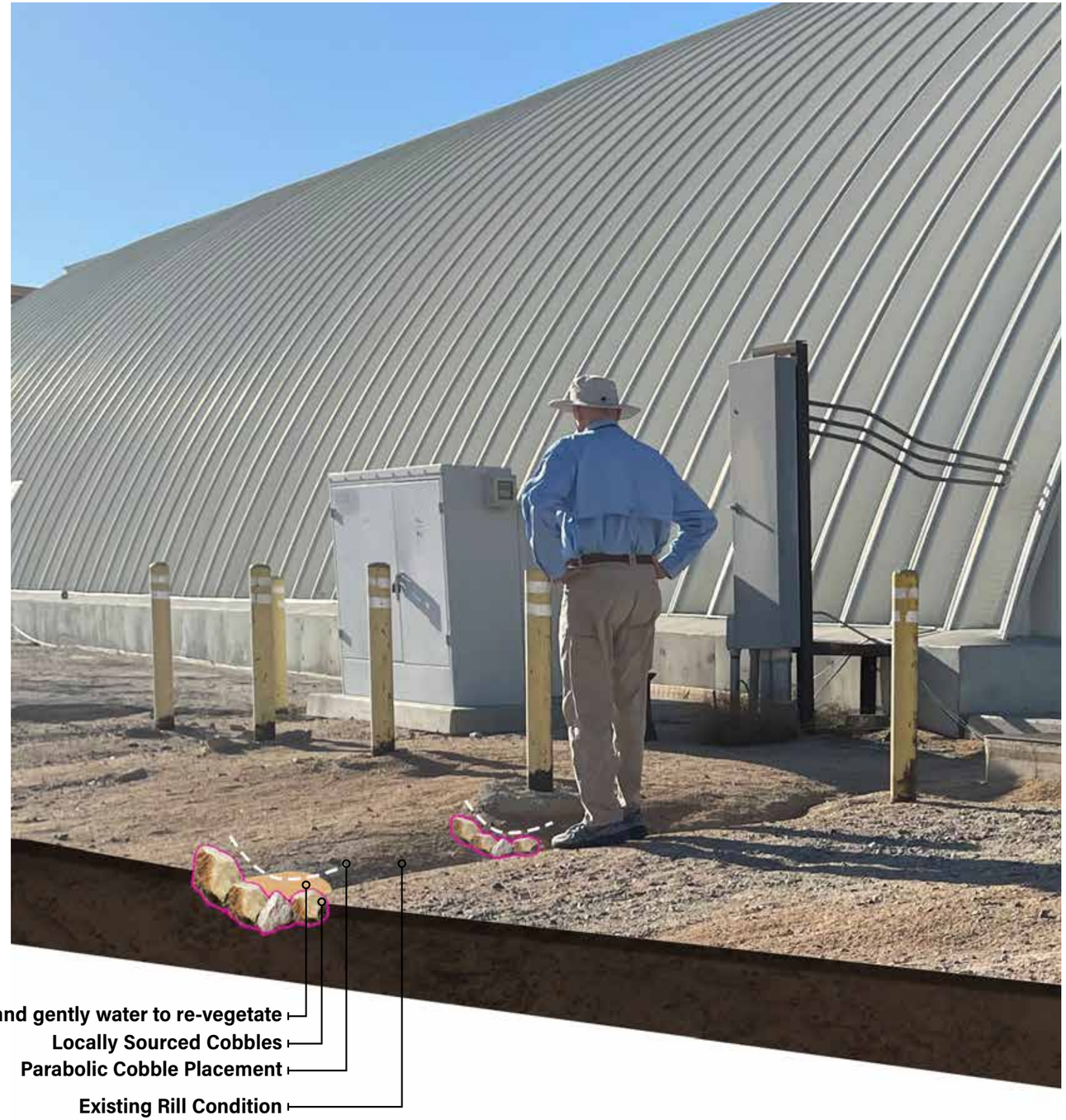
Treatment:

1. Promote vegetation attenuate water velocity

2. Rock Trench mitigate erosion

Rills are narrow and shallow channels forming on hillslopes, often forming from erosion following construction activities or removal of vegetation. Sandy soils on a slope are subject to rill formation. Not only does the erosion of soil lead to further instability, but these features can also transport significant water at many points across a hillside.

Treatment for rills arrests the erosion by providing a resistance perpendicular to the flow path, as well as increase infiltration to reduce the stream power of water. This may be achieved by contour tilling (earthwork to retain water across the slope), placement of rock trenches, and revegetation. Revegetation benefits from placement of woody debris, rocks, so that seeds are not washed away. Gentle watering following seeding may help with germination and also can test the integrity of the placement of earthwork or rock structures.



1. USDA NCRS, "Restoration of Rare or Declining Natural Communities; Zeedyk Structures for Riparian Areas and Wet Meadows," Conservation Practice 643 – Specification Sheet , accessed October 3, 2024, https://streamdynamics.us/resource/nrcs-approved-erosion-control.

EWN Engineering With Nature ®

Notes:

Cobble sized placement of counter-flow. Keep profile low, and key in across erosion area. Seed and gently water to re-vegetate (and also check integrity of cobble structure). One rock dams need to go beyond the banks to be "keyed" in.

Channels: Sources of concentrated flow

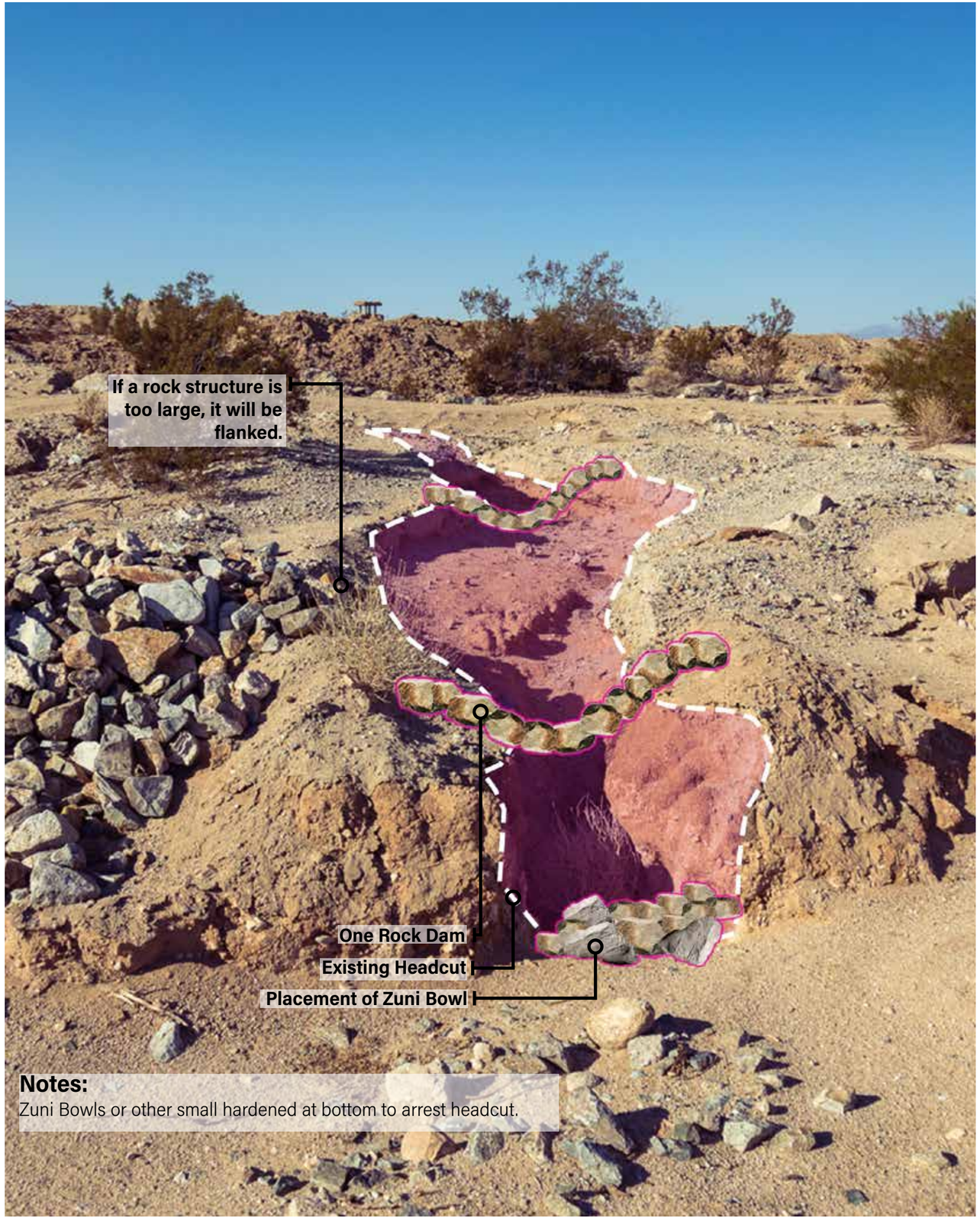
Treatment:

1. Zuni Bowls mitigate erosion

2. One Rock Dams attenuate water velocity

Channels are main pathways for water transport and consolidate flow efficiently between two defined banks. In the arid-southwest these are often ephemeral and referred to as arroyos. Characteristic of the arid southwest, the bed and banks of arroyos are sediment material as opposed to bedrock. This means that banks and bed can both be subject to erosion, leading to meandering and incision if stream powers are too great. Though this geomorphic feature "flows", it is also an important water storage feature, allowing for infiltration and development of riparian vegetation. In natural systems, these would be dynamic features with woody debris an/or rocky materials providing habitat structure. Placement of one rock dams, rocky or woody material, may promote revegetation which increases infiltration capacity in these arid environments. Since the placement of the material may promote bank erosion or reduce channel capacity, these should be inspected to mitigate harmful effects.

Additionally, considering the magnitude of development, channel courses should be considered during other maintenance activities. If spoil placement during road grading blocks existing river courses, then the channel flow may be diverted away from its downstream connection, causing flooding in unexpected places. This may be treated by ensuring downstream connection is not impinged or encouraging proper flow direction by the placement of broad-based dips or by water turnouts along roads.



Notes:
Zuni Bowls or other small hardened at bottom to arrest headcut.

2025

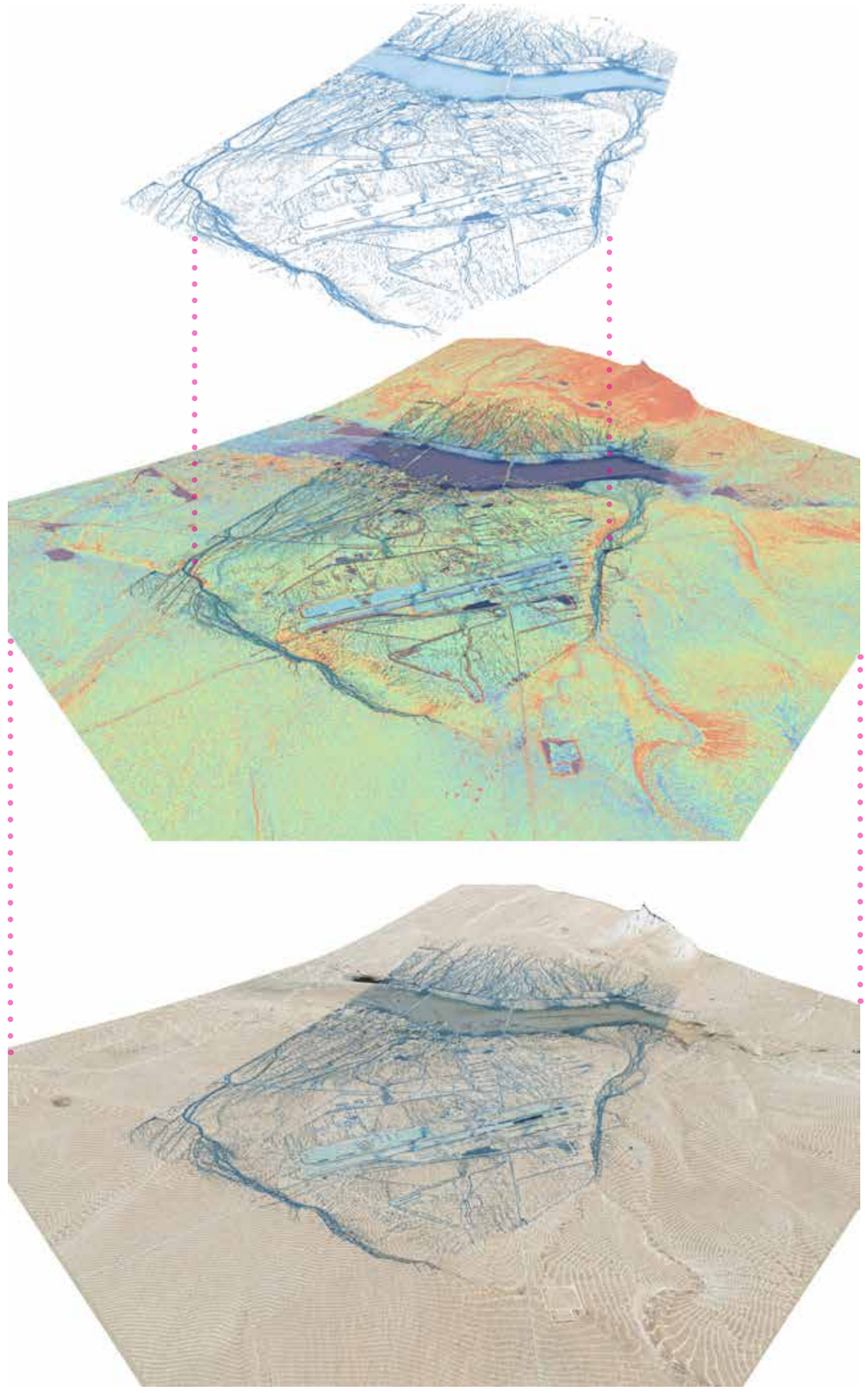
0 1,000 2,000 ft

2025

0 1,000 2,000 ft

Layers of information

We now have all the key components of relevant site data: overland flow results, slope analysis, site imagery, and contour lines. The next step is to organize this information into a clear, layered hierarchy that communicates how these elements interact. In this visualization, overland flow serves as the connecting thread—linking topography, slope, and imagery to illustrate the site's hydrodynamic behavior in a way that's both analytical and intuitive.



Data to NBS Concept:
water bunds

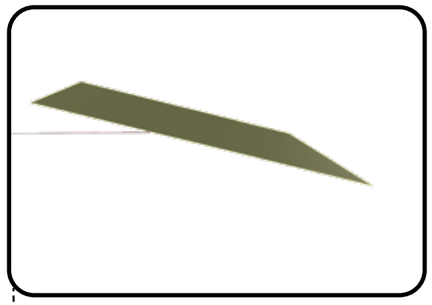
Source: https://justdiggit.org

Water bund services

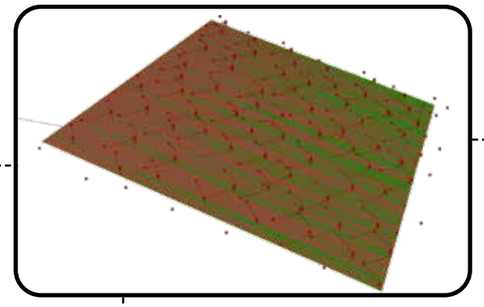
+ Recharge
+ Retention
+ Erosion control
+ Sediment trapping
+ Water flow regulation

Water bund topographic modeling

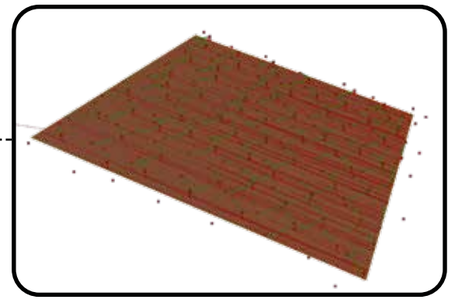
Mesh Data



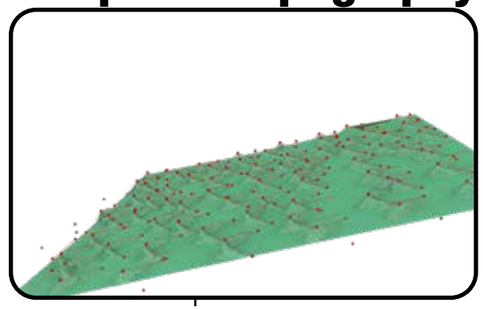
Flow lines



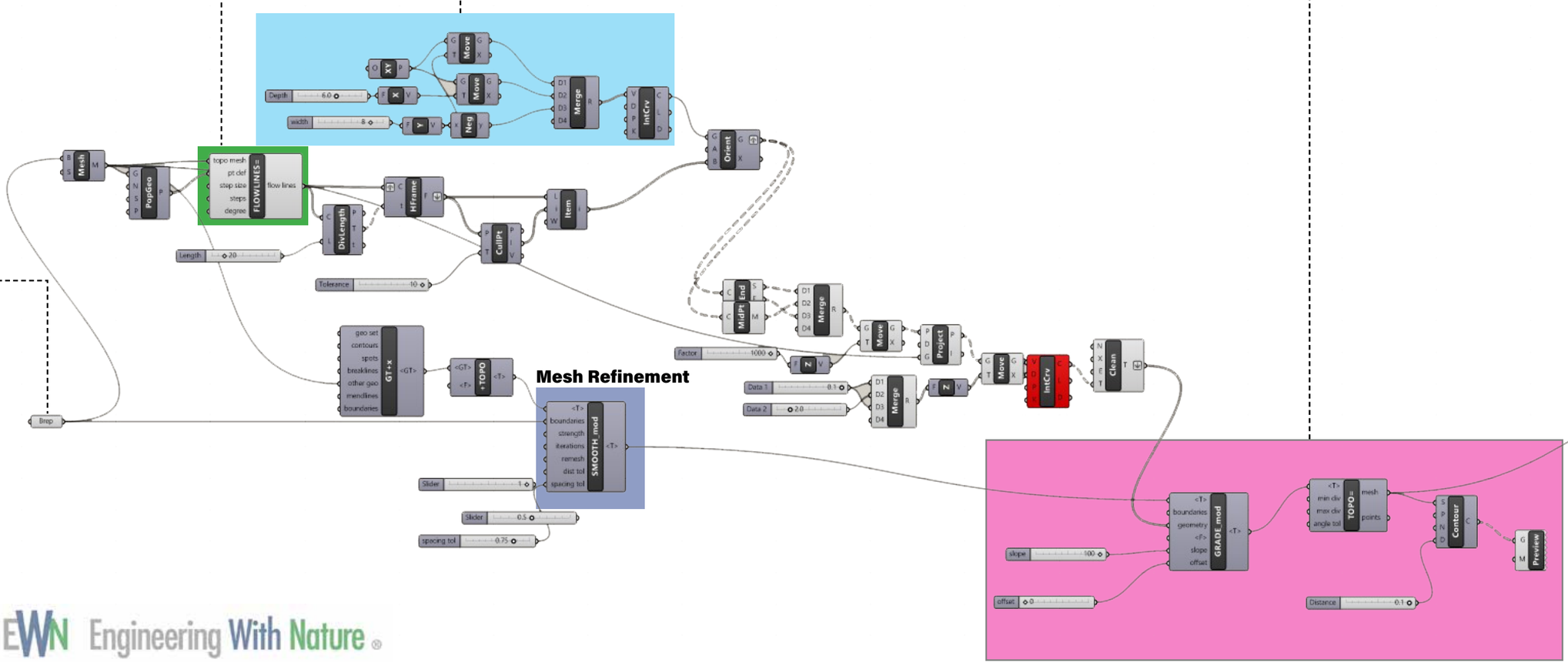
Bund curves



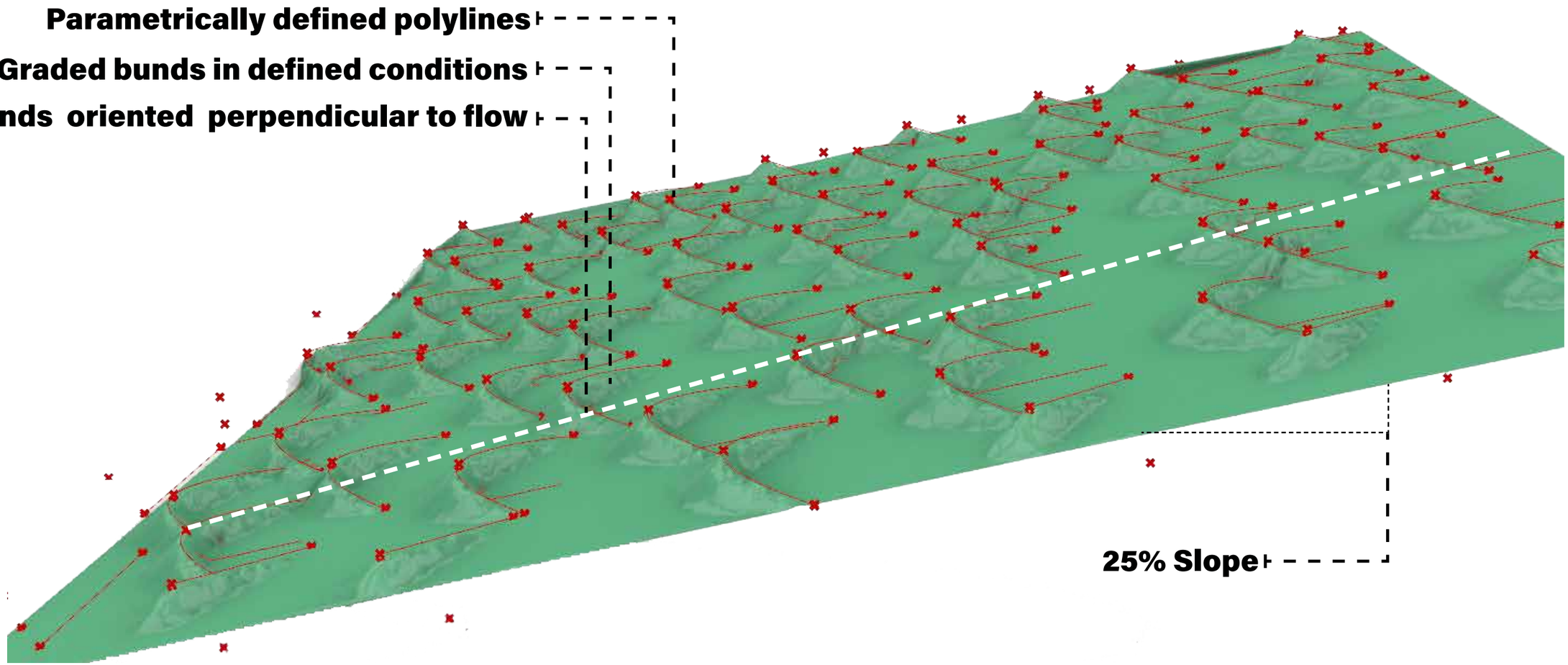
Proposed topography modeled



Mesh Refinement



Topographic modeling output



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