



CUMBERLAND POINTE FUTSAL (SOCCER) COURT

Sean McCormick, Troy Harris, Jr.



Introduction

The soccer team, Walaalos United, was founded by Daniel Thompson of Aroma Missions in 2011. The soccer team has helped the young boys in the community come together and work toward a common goal of playing the best soccer possible while learning many life lessons. Aroma Missions and the Collaboratory started a project to build a soccer field on the grounds of the apartment complex where the players of Walaalos United live. The futsal court will be built in a space that is currently occupied by an old disheveled dirt volleyball court. The Collaboratory project team has done surveying of the site, and developed a court solution of which fits in the constraints of the space while still providing the best experience for the kids. The project team has also developed the paperwork/drawings necessary to apply for a building and stormwater permits for the court's construction.

Goals

- Design a Futsal Court for the children at Cumberland Pointe
- Provide a positive outlet for the children to express themselves and spend their time
- Construct a facility for AROMA, where they can share the love of Christ with the people of Cumberland Pointe (a primarily Muslim community)

Further Information

Danny Thompson — Dthompson@messiah.edu
J. Scott Heisey — Heisey@messiah.edu
Jacob Artuso — Ja1271@messiah.edu

Engineering Applications

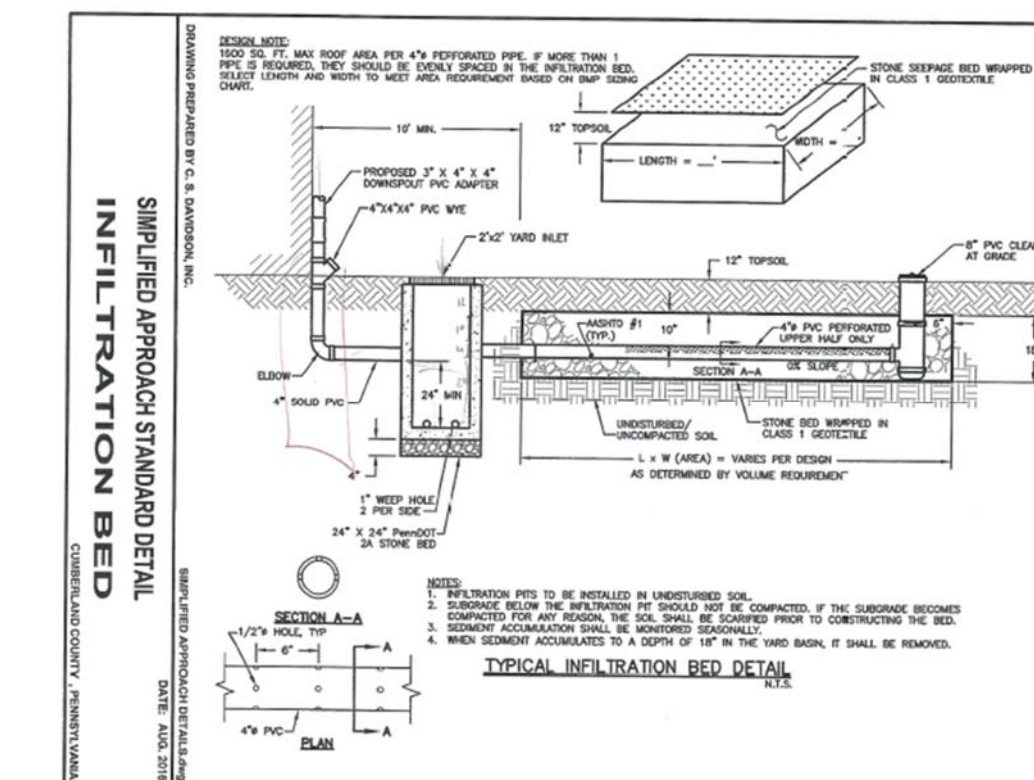
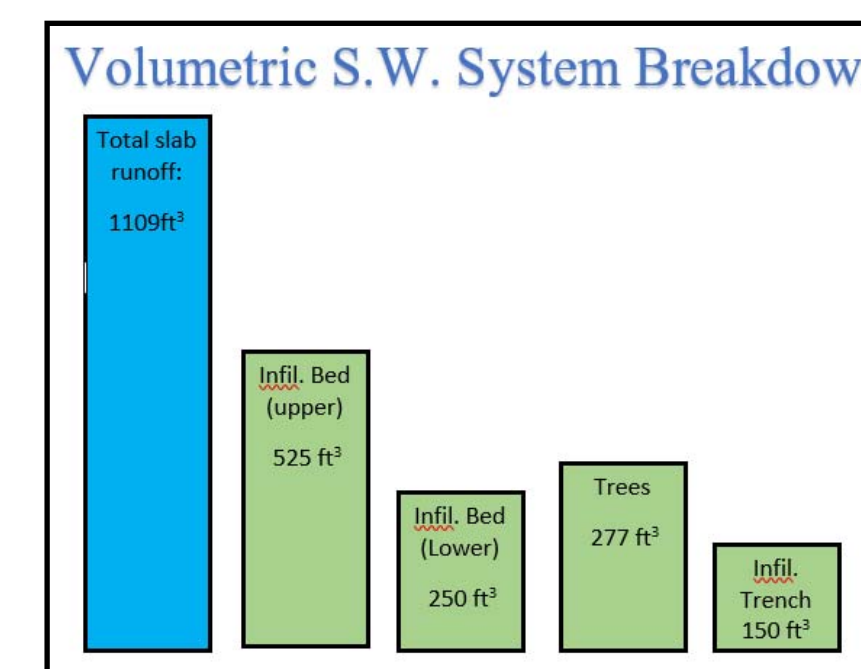
Stormwater Permit Application/Forms

- Accounts for all of the impermeable surfaces and according BMP accommodation using simplified approach methodology
- Drawings and site mapping developed for water flow

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Number of Impervious Surfaces	Area of Impervious Surface (ft ²)	Drainage District (DD#)	Runoff Coefficient (C)	Runoff Volume (ft ³)	Runoff Rate (ft ³ /hr)	Runoff Time (hr)	Runoff Volume (ft ³)
PROPOSED IMPERVIOUS AREA SINCE JANUARY 16, 2017							
1	1400	Concrete Plat	NO	350	1.0	30.10089	350
2	1110	Concrete Plat	NO	277	1.0	24.225	277
3	1930	Concrete Plat	NO	483	1.0	42.270	483
4							
5							
6							
7							
8							
9							
10							
EXISTING IMPERVIOUS AREA BEFORE JANUARY 16, 2017							
A	600	Concrete Plat	NO	150	1.0	13.2675	150
B	1400	Asph	NO	350	1.0	30.10089	350

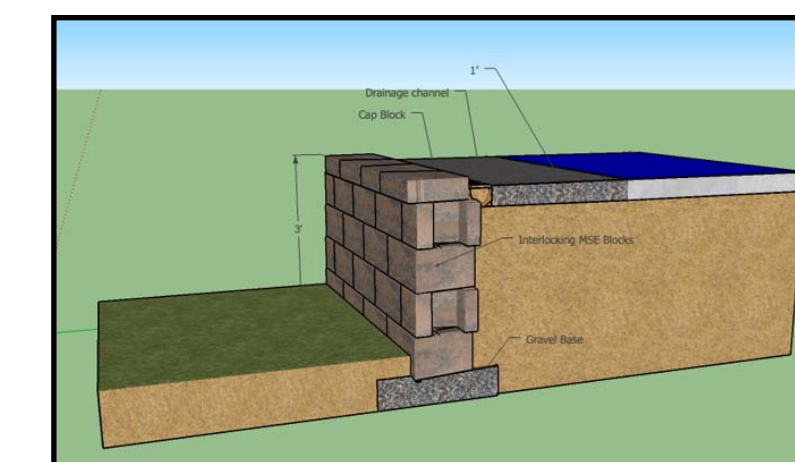
Stormwater Plan

- Engineering BMP's developed in order to absorb total volumetric runoff of a storm
- Drawings and site mapping developed
- "0-sum" methodology used, allowable in new codes



Court Slab

- Based off of surface providers specifications
- 4in standard thickness with 6x6 W1.4 x W1.4
- 6in turndowns along perimeter
- 3000 psi 28 day strength minimum

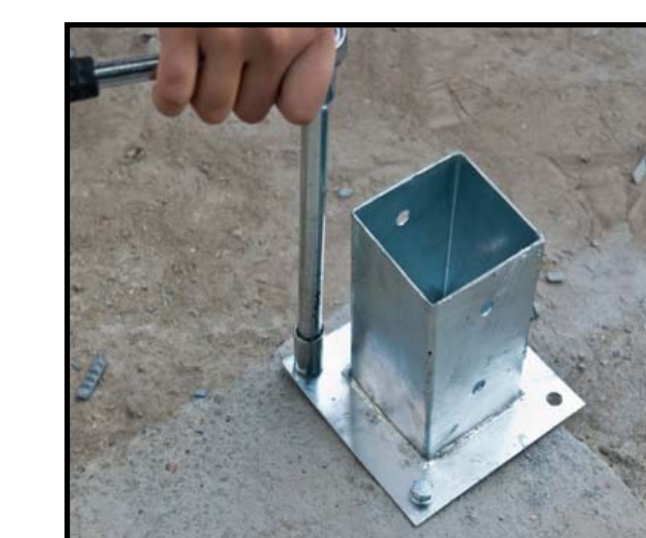
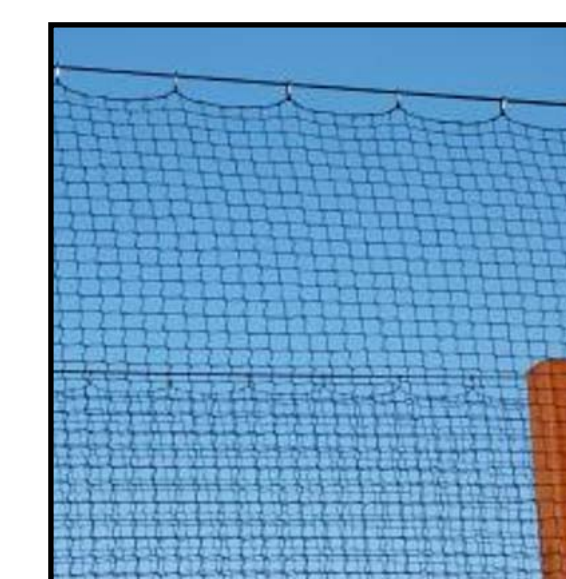


Retaining Walls

- Walls needed to run the perimeter of the court
- Consists of pin-less interlocking MSE blocks
- 3ft tall west side, 2:1 grade to surface on Southside

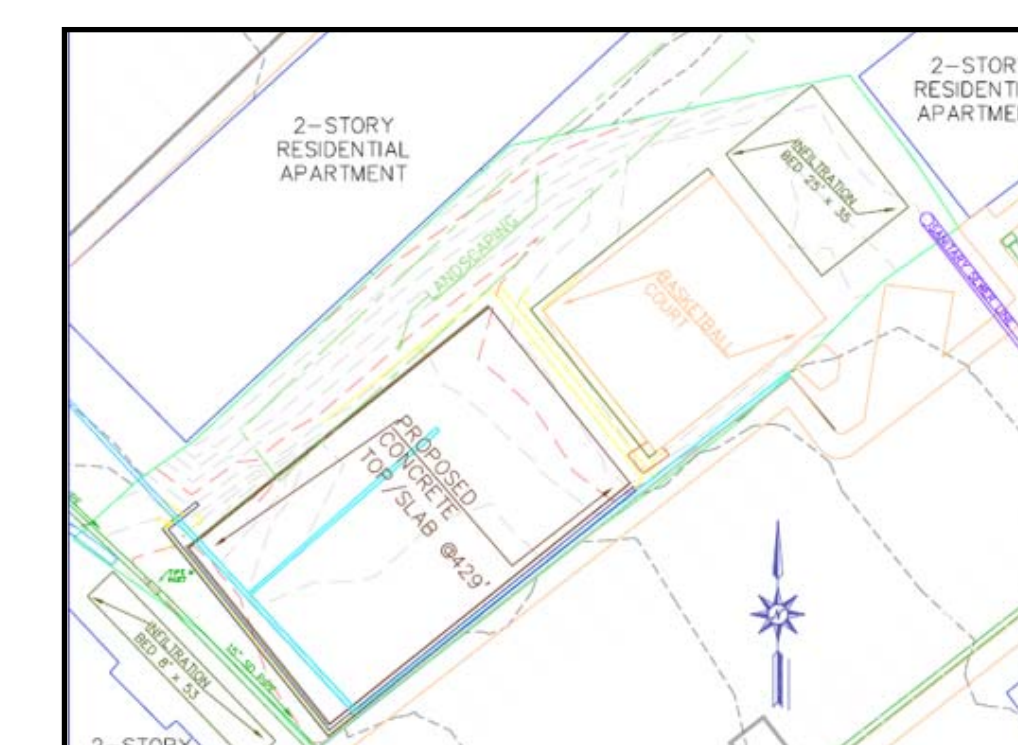
Netting System

- Keeps balls in play and protects surrounding buildings
- Constructed of 15ft high nylon mesh, on all sides of court
- Supported by steel poles, anchored to slab, spaced 9ft apart



Site Plan

- Developed from survey data taken by team
- Accurately maps all existing infrastructure and topography
- Critical for developing consistent construction/permit drawings



Conclusions

With the design elements for the project complete for the most part, the team is transitioning to the development of necessary drawings for finalized permit submission and construction purposes. All going as planned, the team will conclude the project at the end of the semester. Continuing beyond the semester, fundraising efforts will begin with the eventual construction of the court to follow. If you are interested in donating to the goal of CP Futsal, please contact Danny Thompson (dthompson@messiah.edu).



Acknowledgements

We would like to thank our advisors and partners:

Danny Thompson, Josh Weidler, Scott Heisey, Sam Hepner, Aaron Faro, Lisa Thompson, Jason Webb, Patrick Wolfkill and Cumberland Pointe Apartment Management

