

Leveraging GIS to Improve School Operations

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Banning High School



- Three years ago Banning USD started a GIS pathway
 - While intended to be 7-12, budget cuts have restricted the program to the high school level
 - Program goals:
 - Provide opportunities for students to acquire GIS skills
 - Create a pathway that allows GIS students to move into a certificate or A.S. program at the local community college
 - Let students tackle real world problems, by applying their GIS skills to improve something at school or out in the community.

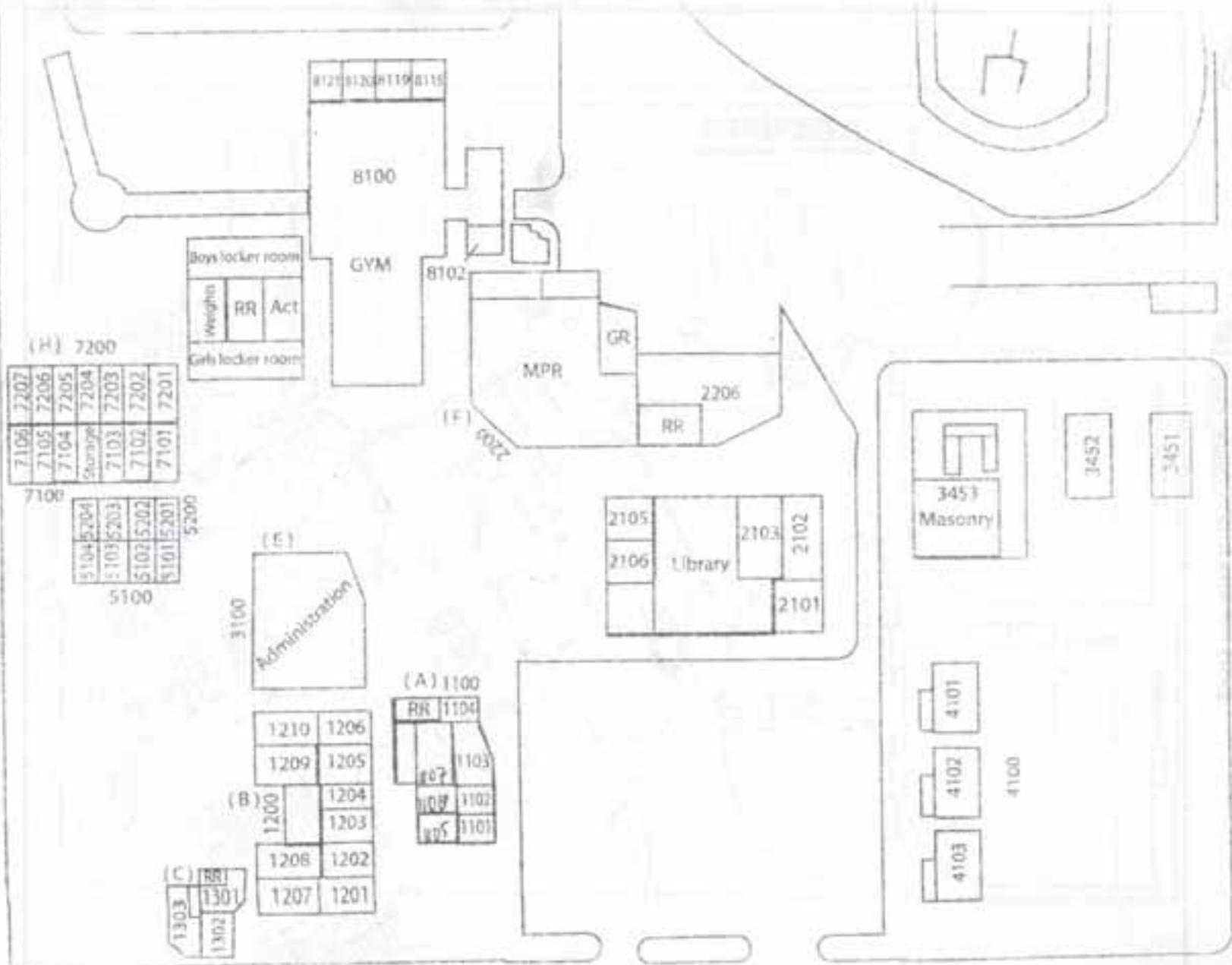
- As students need a range of experiences, work for the district tends to be small in scope and often requires improvements or expansion of our data sets.
 - Tends to be a cycle of create, revise and expand

- Stage 1:
 - Had no data
 - Wanted to provide learning experiences
 - Students had no previous GIS experience
 - Learned about digitizing/feature editing
 - Attributes
 - Table joins
 - Basic cartographic concepts
 - Wanted to meet some high priority needs at the site level.

- Stage 2:
 - Recycled data from earlier projects and beginning to move from focusing on data creation to analysis.
- Stage 3:
 - Look at the whole district and not just the high school.

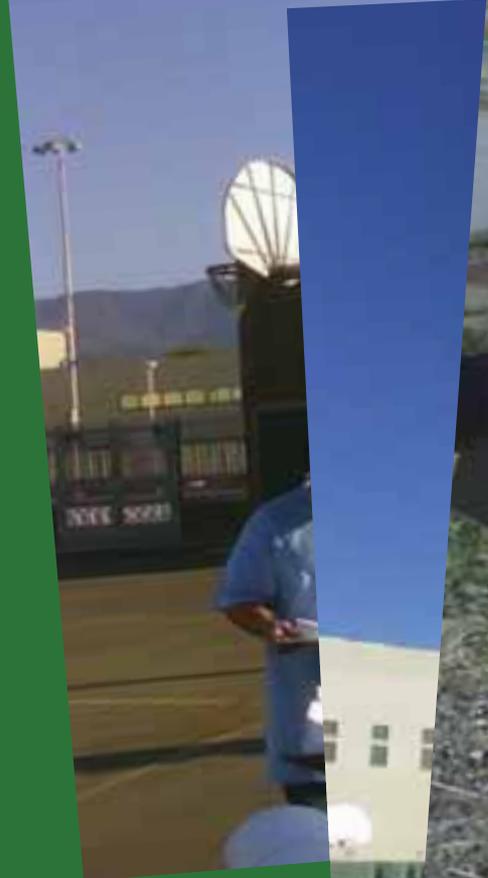
Stage 1 Projects

- School safety plans:
 - Required the creation of a campus basemap
 - Students located and identified various hazards
 - Falling hazards, e.g. stadium lights
 - Minimum safe distance from hazardous material storage
 - Worked with admin and fire marshal to create an evacuation plan.
 - Student created plans were implemented
 - Students handle request for updates and alterations from admin
 - At the request of the Fire Marshall, the school safety plan work was expanded into an eight map pre-fire plan



BRUNNEN HIGH GYMNASIUM





Jerry Stanton Fischer

8-29-11

Banning High School

period: #1

Every Student, Every Chance, Every Day



Evacuation Site

1. fire hydrant
2. fire lane
3. dirt field
4. fire hazard (light roof)
5. fire hazard (light post)
6. store supply (wood building)
7. gate (maybe locked)
8. gate (panic bar)
9. parking lot (falling lights)
10. football field (falling lights, goal post fences)
11. store supply
12. gate (maybe locked)
13. gate (never locked)
14. gate (maybe locked)
15. open field
16. fire hydrant
17. flag pole
- T. treat patients/injured
- M. marque
18. over head





Pre-Fire Plan

Banning High School
Banning, Ca

Map #6:
Evacuation Plan



Revised:
4/20/13



Pre-Fire Plan

Banning High School
Banning, Ca

Map #2:
Fire Suppression Systems

- + Fire Hydrants
- ◆ Extinguish Foam - Manual
- HC Standpipe Connect
- Automatic Sprinkler System
- Smoke Detectors Only

Stage 2 Projects

- Completion of the school safety plans laid the ground work for looking at other issues related the plant operations.
- Visual Master Schedule – shows room assignments each period and is color coded by subject area.
 - The Visual master schedule’s main function is to provide an at a glance overview of empty classrooms each period.
- Custodial Map – Started with the types of areas assigned to each custodian
 - custodians and administrators then used this information to adjust work assignments

Stage 2 Projects

- Recently we have focused on security issues.
- Student involvement was restricted to gathering data
 - BHS has limited security staff and security needs to be highly visible to act as a deterrent to minor discipline issues.
 - Students were tasked with gathering data on various obstructions
 - Admin then adjusted security patrol based on maximum visibility
 - Video cameras and the areas they show were also documented
 - A proposal for additional cameras is currently being drafted.

Stage 3 Projects

- Students have begun working on basemaps for other campuses.
 - Next year we plan to carry out some of the same work for other sites
- We also studied bus routes and identified hazards
 - Traffic accident data
 - Crime rate
 - Meagan's law
- We've also begun looking at school attendance boundaries

The future

- Enrollment projections
 - Identify faster growing areas of the district
 - Determine what resources needed to be allocated to each school over the next few years
- Discipline tracking
 - Identify trouble spots and adjust security accordingly