CE 503 – Homework 4 – Topographic Map Compilation

- Set up model 1-4/1-6 using the LPS (formerly called orthobase) module from erdas imagine, approximate instructions follow (available in CIVL 1212)
- Group access folder will be provided for your map files
- File -> new -> browse for location and designate a *.blk filename
- Select metric camera, frame camera
- Horizontal projection -> standard, us state plane, nad83, indiana west (1302) meters
- Vertical: navd 88 / cont us / geoid 99
- Angle option: omega, phi, kappa, units = radians, select default z-axis
- Flying height above terrain = 560m
- Import exterior orientation data from text file “str1.dat”
- Ok, ok, back to main lps page
- Edit -> frame editor, new camera, load “dickerson98.cam”
- Make image file pathnames for 1-4.tif and 1-6.tif known using the “attach” button, note the image pyramids are there and should be recognized automatically
- Go to exterior orientation tab and make sure status of 6 e/o elements are “fixed”

- Images are located on geomatics drive in folder: bethel\ce603\block\
- Go to the interior orientation tab
- Select orientation (these images work with default y-up, x-right)
- Open viewer, measure 8 fiducial marks, first two you must position the zoom box in order to measure the dot in the zoom window, may have to change brightness to see some of the dots at center of fiducial mark
- After measuring 8 points per photo, confirm that the residuals are all less than 2 pixels (getting less than 1 pixel is possible)
- After measuring interior orientation for 1-4 and 1-6 you should be prepared for compilation
- Enter stereo analyst and check coordinate at home plate on the baseball field (it is covered by a tarp so go to center of circlular tarp)
- If all above steps were done successfully you should read x:913443.3, y:575337.3, z:188.6
- Next go to stereo analyst, file -> new -> new feature project
- Browse to your group folder and enter a project filename (*.fpj)
- Then select (predefined) feature classes to be included: (1) light duty road, (2) woods, (3) building 1, (4) spot height
- Exit from feature dialogue by “ok”, model will come back with features on left

- Next go to “feature” and “properties” dialogue to add 3 custom features:
    - Sidewalk, polyline, dark green, width 1
    - Utility pole, point, brown, point size 5
    - Breakline, polyline,orange, width 1
- Exit dialogue via “ok” and the model will come back up with all features present
- Compile all information in the lower half of the model (west of intramural drive). Target map scale is 1:1000 (3.6x enlargement factor)
- Results will be evaluated on accuracy, completeness, consistency, cartographic presentation
- Subsequent project will involve processing the spot heights and breaklines into a TIN and interpolating 0.5m contours.
- You will have 3 weeks to do this, class lectures will proceed onto other topics.