RN4020 Shield Modification Ideas/Suggestions

My comments:

- Add DNP to schematic for JP2, JP3, JP6, JP7
- Consider Diode(s) for MOSFETs (although we will need to add a H_Volt input terminal block connection and then decide if we connect the same H_Volt for all terminal blocks or a separate H_Volt input for each separate MOSFET, I can put together a drawing/schematic of what I mean if needed, the diode would need to be connected in reverse from the drain of MOSFET to the H_Volt input)
- Consider terminal connections for MOSFETs http://www.taydaelectronics.com/connectors-sockets/terminal-blocks/dg350-screw-terminal-block-2-positions-3-5mm.html Lowest cost I have found are from Tayda (15 cents each, 3.5mm wide). Note: they do make 2.54mm wide version terminal blocks, but they are expensive from what I have seen but would save room.
- Switch MOSFETs to slightly lower cost option (look around for other options possibly, this one SeeedStudio stocks for 10 cents each in sets of ten) these will also avoid the soldering issue seen on Rev C since Rev C MOSFETs have such tiny pins compared to the new suggested cheaper version http://www.digikey.com/product-detail/en/IRLML2502TRPBF/IRLML2502PBFDKR-ND/1647129 or http://www.futureelectronics.com/en/technologies/semiconductors/discretes/transistors/mosfets/Pages/2246858-IRLML2502TRPBF.aspx?IM=0
- Stronger Stackable headers:
    - Direct Company Source: https://www.samtec.com/ They might make 2x8 versions and 2x6 versions but you will have to contact them and ask.
      Current pin connectors used on RevB/RevC 1x8 and 1x6 part numbers for SamTec,
      Part Numbers:
      SSQ-106-03-G-S
      SSQ-108-03-G-S
    - A second hand seller, U.S. Company that sells them (60 cents each): http://www.rugged-circuits.com/components/8-pin-stacking-header and http://www.rugged-circuits.com/components/6-pin-stacking-header

Brian's Comments:

1) FET outputs to screw terminals as you suggest. (I agree)
2) There needs to be a better way on the silk screen to indicate which UART Jumper position means what. I keep getting confused. (I think once documentation is put together this isn't that critical)
3) I also had to solder on my inner rows of headers, as the sketches that run on chipKIT32 use the second UART on those pins. If this product really is only for Arduino users, then having those headers soldered in is not important, but it will be important to change the supplied sample sketches to use a software serial port then. (If you go with stronger pin headers populating these might not be such a challenge when attaching the shield to the board, compared to the flimsy pin connector versions that are on Rev B and Rev C which make it hard because they bend easy)

Matt's Comment:

1. Add two pin connections for SDA and SCL above the 34-41 pin headers (newer uC32's and newer Arduinos have those pins) (I think this isn't that critical, but is a relatively easy change and you most likely wouldn't populate the pin connectors on the shield, note: SDA and SCL are available through A4 and A5 currently already it is just new boards (uC32 and Arduino) repeat the pins on other side of the board again)