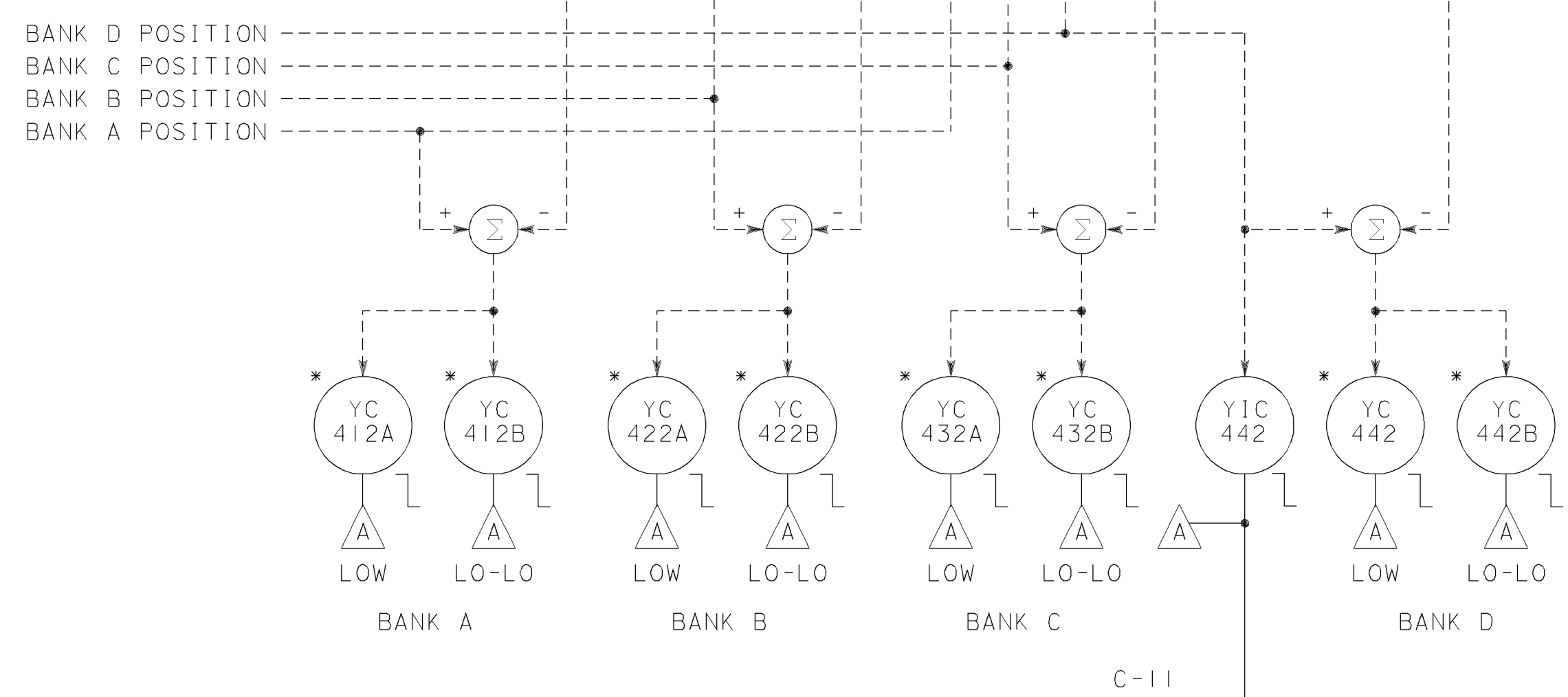
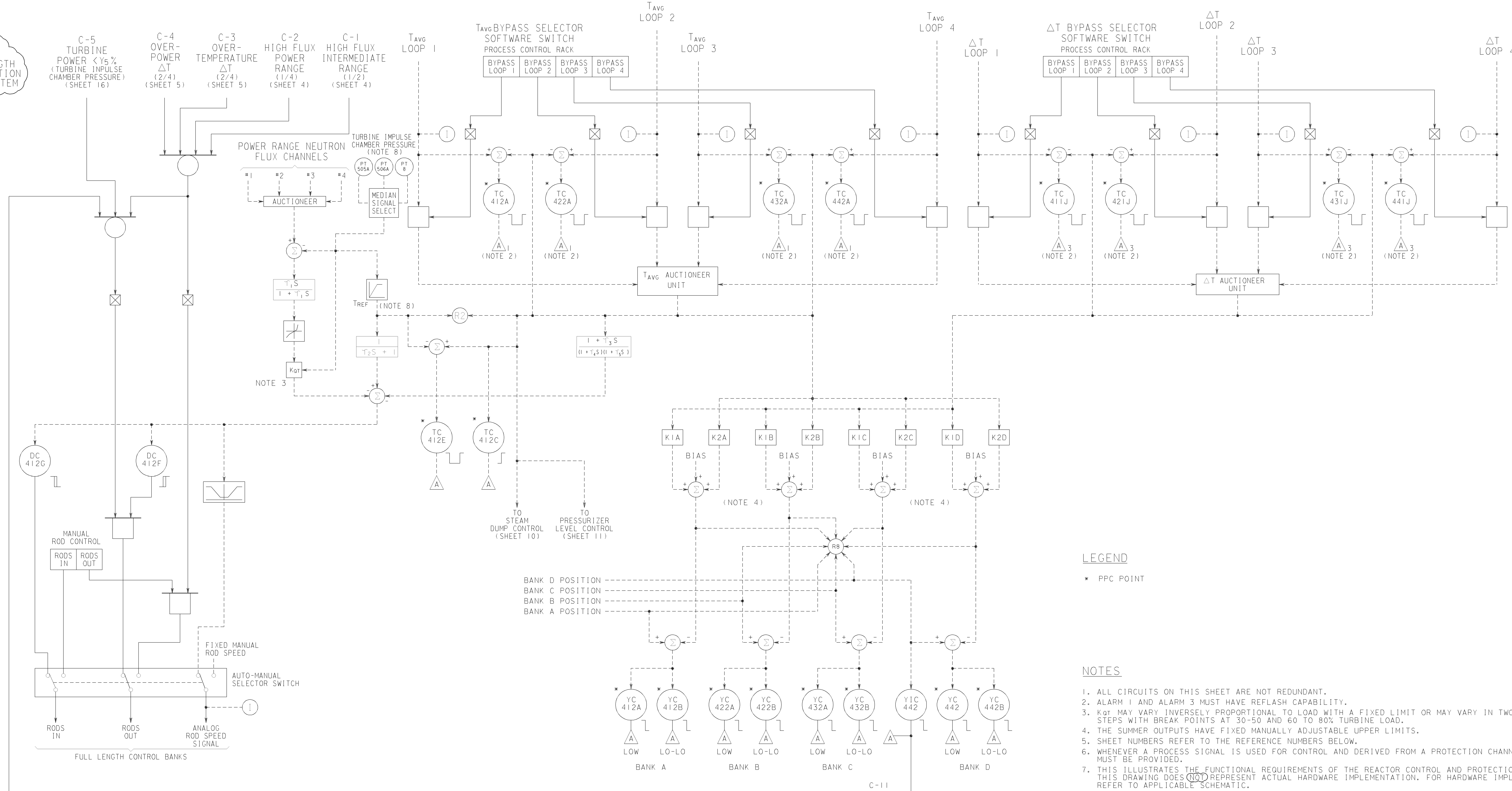


ROD BOTTOM SIGNAL  
ANY FULL LENGTH  
ROD FROM POSITION  
INDICATOR SYSTEM



LEGEND

\* PPC POINT

NOTES

1. ALL CIRCUITS ON THIS SHEET ARE NOT REDUNDANT.
2. ALARM 1 AND ALARM 3 MUST HAVE REFLASH CAPABILITY.
3.  $K_{OT}$  MAY VARY INVERSELY PROPORTIONAL TO LOAD WITH A FIXED LIMIT OR MAY VARY IN TWO DISCRETE STEPS WITH BREAK POINTS AT 30-50 AND 60 TO 80% TURBINE LOAD.
4. THE SUMMER OUTPUTS HAVE FIXED MANUALLY ADJUSTABLE UPPER LIMITS.
5. SHEET NUMBERS REFER TO THE REFERENCE NUMBERS BELOW.
6. WHENEVER A PROCESS SIGNAL IS USED FOR CONTROL AND DERIVED FROM A PROTECTION CHANNEL, ISOLATION MUST BE PROVIDED.
7. THIS ILLUSTRATES THE FUNCTIONAL REQUIREMENTS OF THE REACTOR CONTROL AND PROTECTION SYSTEM. THIS DRAWING DOES NOT REPRESENT ACTUAL HARDWARE IMPLEMENTATION. FOR HARDWARE IMPLEMENTATION, REFER TO APPLICABLE SCHEMATIC.
8. THIS MEDIAN SIGNAL SELECT AND T-REFERENCE IS DERIVED FROM SOFTWARE FUNCTION BLOCKS IN PCS SET IV. MEDIAN SIGNAL SELECT AND T-REFERENCE FOR STEAM DUMP CONTROL (REF. 10) IS DERIVED FROM SOFTWARE FUNCTION BLOCKS IN PCS SET I. THIS PROVIDES A FAULT TOLERANT SYSTEM FOR SINGLE INPUT FAILURES.

REFERENCES (NOTE 5)

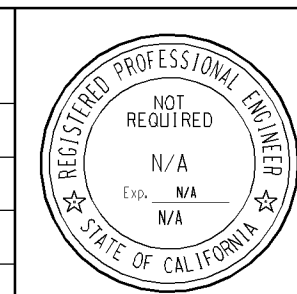
| WE DWG   | PG&E DWG          |
|--|-------------------|
| 1. FUNCTIONAL LOGIC DIAGRAM INDEX AND SYMBOLS                                      | 5653074-1 495841  |
| 2. FUNCTIONAL LOGIC DIAGRAM REACTOR TRIP SIGNALS                                   | 5653074-2 495842  |
| 3. FUNCTIONAL LOGIC DIAGRAM NUCLEAR INSTR AND MANUAL TRIP SIGNALS                  | 5653074-3 495843  |
| 4. FUNCTIONAL LOGIC DIAGRAM NUCLEAR INSTR PERMISSIVES AND BLOCKS                   | 5653074-4 495844  |
| 5. FUNCTIONAL LOGIC DIAGRAM PRIMARY COOLANT SYSTEM TRIP SIGNALS                    | 5653074-5 495845  |
| 6. FUNCTIONAL LOGIC DIAGRAM PRESSURIZER TRIP SIGNALS                               | 5653074-6 495846  |
| 7. FUNCTIONAL LOGIC DIAGRAM STEAM GENERATOR TRIP SIGNALS                           | 5653074-7 495847  |
| 8. FUNCTIONAL LOGIC DIAGRAM SAFEGUARDS ACTUATION SIGNALS                           | 5653074-8 495848  |
| 9. FUNCTIONAL LOGIC DIAGRAM ROD CONTROLS AND ROD BLOCKS                            | 5653074-9 495849  |
| 10. FUNCTIONAL LOGIC DIAGRAM STEAM DUMP CONTROL                                    | 5653074-10 495850 |
| 11. FUNCTIONAL LOGIC DIAGRAM PRESSURIZER PRESSURE AND LEVEL CONTROL                | 5653074-11 495851 |
| 12. FUNCTIONAL LOGIC DIAGRAM PRESSURIZER HEATER CONTROL                            | 5653074-12 495852 |
| 13. FUNCTIONAL LOGIC DIAGRAM FEEDWATER CONTROL AND ISOLATION                       | 5653074-13 495853 |
| 14. FUNCTIONAL LOGIC DIAGRAM FEEDWATER CONTROL AND ISOLATION                       | 5653074-14 495854 |
| 15. FUNCTIONAL LOGIC DIAGRAM AUXILIARY FEEDWATER PUMPS STARTUP                     | 5653074-15 495855 |
| 16. FUNCTIONAL LOGIC DIAGRAM TURBINE TRIPS, RUNBACKS & SIGNALS                     | 5653074-16 495856 |
| 17. FUNCTIONAL LOGIC DIAGRAM AMSAC SIGNALS   | 5653074-17 495857 |
| 18. FUNCTIONAL LOGIC DIAGRAM SEISMIC TRIP  | 8759077 495858    |
| 19. FUNCTIONAL LOGIC DIAGRAM DIGITAL FW CONT SYS INPUT SIGNAL VALIDATION           | 5653074-18 495859 |
| 20. FUNCTIONAL LOGIC DIAGRAM DIGITAL FW CONT SYS FW FLOW CONTROLLER & $C_d$ DEMAND | 5653074-19 495860 |
| 21. FUNCTIONAL LOGIC DIAGRAM DIGITAL FW CONT SYS CONT VCV SEQ & TRACKING LOGIC     | 5653074-20 495861 |
| 22. FUNCTIONAL LOGIC DIAGRAM DIGITAL FW CONT SYS SIGNAL SELECTOR LOGIC             | 5653074-21 495862 |
| 23. DRAWING INDEX SOLID STATE PROTECTION SYS INTERCONNECTION & SCHEM. DIAGRAM      | 108D442-1 458862  |

NUCLEAR SAFETY RELATED

KEY DWG. SECTION 3

UNIT I

|                    |   |                             |
|--------------------|---|-----------------------------|
| DATE<br>08-14-2013 | REVISION DESCRIPTION<br>REVISED PER DFT-7-22-41 | DWG SCALE:<br>BILL OF MAT'L |
| D.D. LCB1          |   | SUP5DS: 663195-9            |
| R.E. FAZI          |   | DRAWING SHEET PAGE REV      |
| I.V. KJD3          |   | 495849 1 0 7                |
| P.E. N/A           |   |                             |



DIVISION OF NUCLEAR SAFETY  
PACIFIC GAS AND ELECTRIC COMPANY  
SAN FRANCISCO, CALIFORNIA

PASTOR: 495849.DGN  
 DATE: 08-14-2013  
 CAD User: LCB1

SHEET NUMBER  
 495849