

FORCON
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SOUTHERN SURETY AND FIDELITY CLAIMS CONFERENCE

ATLANTA, GA
APRIL 26 AND 27, 1990

THE CHANGE ORDER CHALLENGE FROM
CONSULTANTS STANDPOINT ON REPROCUREMENT

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"THE CHANGE ORDER CHALLENGE FROM
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Sureties traditionally have not encountered many problems with change orders when they were faced with reprocurring a defaulted contract. This may be changing in light of general contractors positioning themselves to avoid delay claims by their subcontractors.

There has been a substantial amount of activity where the general contractor makes an agreement with the owner agreeing to have change order work completed prior to a dollar amount being agreed upon. The following text will review what should have been a simple situation and how it grew in complexity. The result was a exercise in unraveling the change orders so responsive bids could be obtained.

Traditionally, a contract has the following language regarding change orders:

A change order is a written order to the contractor signed by the owner and the architect, issued after execution of the contract, authorizing a change in the work or an adjustment in the contract sum or contract time. The contract sum and the contract time may be changed only by change order. A change order signed by the contractor indicates his agreement therewith, including the adjustment in the contract sum or the contract time.

The owner, without invalidating the contract, may order changes in the work within the general scope of the contract consisting of additions, deletions or other revisions, the Contract Sum and the Contract Time being adjusted accordingly. All such changes in the work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents.

The cost or credit to the Owner resulting from a change in the Work shall be determined in one or more of the following ways:

1. By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
2. By unit prices stated in the Contract Documents or subsequently agreed upon;
3. By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed, percentage fee.

The original contract agreement between the owner and contractor specifies the method whereby change orders will be processed and approved. However, during the duration of the work, deals on changes may be made between the owner and the contractor that will affect the total cost of the refer contract.

In preparing the "Invitation to Bid" the surety may request a fixed price, or a fixed price with a ceiling or guaranteed maximum, expecting that all the change order items are included in the rebid.

Change orders can and will get lost, mislaid or misfiled, since change orders can have several different numbers for the same change order. For example:

C.O. #5 - Change Order #5

Could be tagged

R.C.O. #7 - Request for Change

Could be tagged

C.C.O. #9 - Construction Change Order

Could be tagged

C.C.A. #13 - Construction Change Authorization

To add to the confusion other numbers may be added, for example:

RFI #4 - Request for Information

FG #15 - File Guide Number

CI #28 - Contractor Identity Number

Also, change orders can have different categories of change that must be sorted to get the total amounts in the correct place in the financial summary. For example:

"Executed Change Orders"

"Pending Change Orders"

"Disputed Change Orders"

"Rejected Change Orders"

"Unknown Status Change Orders"

The resolution of all outstanding change orders is of paramount importance in the reprocurement of the contract. The consultant can effectively undertake and execute this "Change Order Challenge" and unravel all the change orders into meaningful sort lists and change order categories that will show the total exposure from these change orders. Included as part of this paper are (5) five typical sort lists for information and review.

In conclusion, when the various types of change orders are resolved and categorized the consultant can then prepare an accurate total exposure of the Performance & Payment Bonds for the surety. This exposure is presented in a computer generated Financial Spread Sheet which will show the surety the:

1. Contract Financial Summary;
2. Contract Balance Analysis;
3. Remaining Cost Analysis;
4. Liquidated Damages and Contingency Analysis; and
5. Potential Recovery Analysis

Included as part of this paper is a sample Financial Spread Sheet for information and review.

EXECUTED CHANGE ORDER SORT

| CO# | RCO# | DESCRIPTION | CONTRACTOR AMOUNT | ARCH AMOUNT | OWNER AMOUNT | CODE |
|-------|------|----------------------|----------------------|----------------|-----------------|------|
| 1 | 26 | STAIRWELL FIXTURES | -9,810 | -9,810 | -9,810 | 1 |
| 2 | 23 | VING CARDS | 844 | 844 | 844 | 1 |
| 3 | 30 | GAS SLEEVE & VENT | 0 | 0 | 0 | 1 |
| 4 | 55 | FUSED DISCONNECTS | 5,261 | 5,261 | 5,261 | 1 |
| 5 | 59 | WHITE OAK SUBSTITUTE | -16,000 | -16,000 | -16,000 | 1 |
| 6 | 8 | UTILITY CONFLICTS | 5,805 | 5,805 | 5,805 | 1 |
| 7 | 9 | UTILITY REVISIONS | -595 | -595 | -595 | 1 |
| 8 | 58 | DELETE WINDOW WASH | -7,225 | -7,225 | -7,225 | 1 |
| 9 | 64 | DELETE PAINTING | -3,696 | -3,696 | -3,696 | 1 |
| 10 | 59 | DELETE RCO #59 | 16,000 | 16,000 | 16,000 | 1 |
| 11 | 74 | REVISE PARTITIONS | 0 | 0 | 0 | 1 |
| 13 | 1 | WATERPROOFING | 6,060 | 6,060 | 6,060 | 1 |
| 14 | 66 | HEAT LAMPS | 56,409 | 56,409 | 56,409 | 1 |
| 15 | 16 | ENERGY MANAGEMENT | 69,092 | 69,092 | 69,092 | 1 |
| 16 | 18 | CONCRETE BEAM | 246 | 246 | 246 | 1 |
| 17 | 24 | HARDWARE REVISIONS | 360 | 360 | 360 | 1 |
| 18 | 43 | CCA #12 | 3,884 | 3,884 | 3,884 | 1 |
| 19 | 57 | CCTV | 7,960 | 7,960 | 7,960 | 1 |
| 20 | 75 | REVISE FIXTURE | 708 | 708 | 708 | 1 |
| 21 | 95 | PRESSURE VALVES | 1,870 | 1,870 | 1,870 | 1 |
| 22 | 96 | DELETE SHUTTERS | -12,236 | -12,236 | -12,236 | 1 |
| 23 | 100 | CONCRETE BEAM | 1,100 | 1,100 | 1,100 | 1 |
| 24 | 110 | LOCKER LOCKS | 1,705 | 1,705 | 1,705 | 1 |
| 25 | 10 | FILL CMU CELLS | 365 | 365 | 365 | 1 |
| 26 | 92 | ADD CONDUIT | 1,368 | 1,368 | 1,368 | 1 |
| 27 | 90 | REVISE STAIRS | 416 | 416 | 416 | 1 |
| 28 | 93 | ADD FOOTING | 1,588 | 1,588 | 1,588 | 1 |
| 29 | 42 | BEAMS & SLAB | 116 | 116 | 116 | 1 |
| 30 | 22 | CONCRETE & REBAR | 1,166 | 1,166 | 1,166 | 1 |
| 31 | 36 | CHILLED WATER | -6,055 | -6,055 | -6,055 | 1 |
| 32 | 72 | IMPACT WALL | 1,073 | 1,073 | 1,073 | 1 |
| 34 | 151 | XFORMER VAULT DOORS | 3,864 | 3,864 | 3,864 | 1 |
| 35 | 112 | HARDWARE REVISIONS | 3,407 | 3,407 | 3,407 | 1 |
| 36 | 126 | CHANGE FOOTING | 530 | 530 | 530 | 1 |
| 37 | 116 | DWG DETAILS | 686 | 686 | 686 | 1 |
| 38 | 44 | EXOTIC BLUE UPGRADE | 36,131 | 36,131 | 36,131 | 1 |
| 39 | 111 | MISC REVISIONS | 6,074 | 6,074 | 6,074 | 1 |
| 41 | 211 | EXTEND CONDUIT | 400 | 400 | 400 | 1 |
| 42 | 252 | WOOD MOULDING | -2,236 | -2,236 | -2,236 | 1 |
| 43 | 253 | DOOR MIRRORS | -117 | -117 | -117 | 1 |
| 44.02 | 14 | SITWORK & UTILITIES | 0 | 0 | 0 | 1 |
| 44.03 | 14 | AUGER CAST PILES | 0 | 0 | 0 | 1 |
| 44.04 | 14 | DEMOLITION | 570 | 570 | 570 | 1 |
| 44.05 | 14 | CONCRETE | 48,565 | 48,565 | 48,565 | 1 |
| 44.09 | 14 | STEEL | 204,761 | 204,761 | 204,761 | 1 |

| | | | | | | |
|-------|-----|----------------------|---------|---------|---------|---|
| 44.10 | 14 | ALUMINUM | -1,260 | -1,260 | -1,260 | 1 |
| 44.11 | 14 | MARBLE | 0 | 0 | 0 | 1 |
| 44.12 | 14 | TILE | -11,256 | -11,256 | -11,256 | 1 |
| 44.13 | 14 | CULTURED MARBLE | -1,006 | -1,006 | -1,006 | 1 |
| 44.14 | 14 | CARPENTRY | -712 | -712 | -712 | 1 |
| 44.18 | 14 | CAULKING | 0 | 0 | 0 | 1 |
| 44.24 | 14 | COILING DOORS | -3,598 | -3,598 | -3,598 | 1 |
| 44.25 | 14 | DRYWALL/EIFS | 62,745 | 62,745 | 62,745 | 1 |
| 44.27 | 14 | PAINTING | -165 | -165 | -165 | 1 |
| 44.31 | 14 | POOL | 0 | 0 | 0 | 1 |
| 44.32 | 14 | ELEVATORS | 0 | 0 | 0 | 1 |
| 44.33 | 14 | LINEN CHUTES | 0 | 0 | 0 | 1 |
| 44.34 | 14 | MECHANICAL | 103,000 | 103,000 | 103,000 | 1 |
| 44.35 | 14 | FIRE PROTECTION | 5,200 | 5,200 | 5,200 | 1 |
| 44.36 | 14 | ELECTRICAL | 22,218 | 22,218 | 22,218 | 1 |
| 44.37 | 14 | FURNITURE | 0 | 0 | 0 | 1 |
| 44.38 | 14 | SPRAY FIREPROOFING | 24,000 | 24,000 | 24,000 | 1 |
| 46 | 97 | RETAIL SPRINKLERS | 29,731 | 29,731 | 29,731 | 1 |
| 47 | 106 | BATH ACCESSORIES | 1,636 | 1,636 | 1,636 | 1 |
| 48 | 207 | 400A CIRCUIT BREAKER | 3,145 | 3,145 | 3,145 | 1 |
| 49 | 229 | DISCONNECT SWITCH | 247 | 247 | 247 | 1 |
| 50 | 145 | ELEVATOR DISCONNECTS | 8,273 | 8,273 | 8,273 | 1 |
| 51 | 115 | SOAP DISH & GRAB BAR | 9,906 | 9,906 | 9,906 | 1 |
| 52 | 191 | CABLE RUNS | 1,152 | 1,152 | 1,152 | 1 |
| 53 | 192 | LIGHT FIXTURES | 286 | 286 | 286 | 1 |
| 54 | 267 | POOL DOORS | 3,610 | 3,610 | 3,610 | 1 |
| 56 | 251 | ADD STRIP LIGHTS | 10,263 | 10,263 | 10,263 | 1 |
| 57 | 116 | JAM DETAIL | | 13,060* | 13,060 | 1 |
| 57 | 118 | EXHAUST DUCT | | | | 1 |
| 57 | 150 | STOREFRONT RAILINGS | | | | 1 |
| 57 | 220 | TERRACE RAILING | | | | 1 |
| 57 | 224 | EXHAUST FAN | | | | 1 |
| 57 | 242 | VANITY | 120 | | | 1 |
| 57 | 273 | ADD STUDS | 2,143 | | | 1 |
| 57 | 279 | CEILING SUBSTITUTE | 2,465 | | | 1 |
| 57 | 283 | FURRING | 341 | | | 1 |
| 60 | 177 | GFI & ELECT OUTLETS | 4,960 | 4,960 | 4,960 | 1 |
| 61 | 220 | ALUMINUM RAILS | 5,007 | 5,007 | 5,007 | 1 |
| 63 | 264 | COLUMNS & WALLS | 996 | 996 | 996 | 1 |
| 64 | 224 | EIFS REVISIONS | 2,734 | 2,734 | 2,734 | 1 |
| 65 | 174 | UPGRADE VFCU's | 17,002 | 17,002* | 17,002 | 1 |
| 65 | 221 | ADD EIFS | 3,812 | | | 1 |
| 65 | 240 | RELOCATE METER ROOM | | | | 1 |
| 65 | 257 | LOUNGE EIFS | 3,888 | | | 1 |
| 65 | 258 | DRYWALL | 1,752 | | | 1 |
| 65 | 268 | CCA #35 | | | | 1 |
| 65 | 285 | COLOR CAULKING | 3,851 | | | 1 |

TOTALS 746,900 741,588 741,588

PENDING CHANGE ORDER SORT

| CO# | RCO# | DESCRIPTION | CONTRACTOR AMOUNT | ARCH AMOUNT | OWNER AMOUNT | CODE |
|-----|------|----------------------|----------------------|----------------|-----------------|------|
| 40 | 324 | COOLER PRESSURE REGS | 9,419 | 9,419 | 9,419 | 2 |
| 55 | 76 | DOOR REVISIONS | 2,828 | 2,828 | 2,828 | 2 |
| 57 | 437 | SOFFIT FRAMING | 171 | | 155 | 2 |
| 57 | 438 | HIGH LOBBY FRAMING | 395 | | 357 | 2 |
| 58 | 99 | STOREFRONT REVISION | 18,105 | 18,105 | 18,105 | 2 |
| 59 | 131 | XFORMER VAULT | 7,526 | 7,526 | 7,526 | 2 |
| 67 | 313 | CIVIL DWG REVISIONS | 14,434 | 14,434 | 14,434 | 2 |
| 70 | 155 | SAFE SIZE | 2,948 | 12,349* | 2,948 | 2 |
| 70 | 304 | MISC REVS | 4,669 | | -1 | 2 |
| 70 | 326 | FE CABINETS REVISED | 2,158 | | 1,948 | 2 |
| 70 | 403 | TOILET PARTITIONS | 310 | | | 2 |
| 71 | 105 | REDUCE SPRINKLERS | -4,901 | -4,901 | -4,901 | 2 |
| 72 | 175 | J DRAIN FOR OWNER | 33,592 | 33,592 | 33,592 | 2 |
| 73 | 176 | KITCHEN EQUIP'T | 4,882 | 1,996 | 4,856 | 2 |
| 74 | 202 | SPRINKLER S' PIPE | 5,340 | 5,340 | 5,340 | 2 |
| 75 | 187 | TUB BENCH | 4,945 | 4,742 | 0 | 2 |
| 77 | 241 | VENDING AREAS | 1,499 | 1,499 | 1,499 | 2 |
| 78 | 178 | WATERPROOFING | 13,742 | 13,742 | 13,742 | 2 |
| 79 | 296 | AUDIO VISUAL | 9,221 | 2,464 | 0 | 2 |
| 81 | 310 | LAMP FIXTURE | 602 | 601 | 601 | 2 |
| 82 | 489 | RETAIL TELEPHONE | 1,195 | 1,195 | 1,195 | 2 |
| 83 | 280 | MISC REVS | 115,399 | 15,343* | 115,399 | 2 |
| 83 | 280 | CCA #36 | 66,565 | | 44,051 | 2 |
| 83 | 302 | POOL ARCHWAY | 798 | | -1 | 2 |
| 83 | 305 | PORCH CEILINGS | 2,692 | | 2,552 | 2 |
| 83 | 309 | GAZEBO CORNICE | 0 | | -4,000 | 2 |
| 83 | 340 | RETAIL COLUMNS | 1,835 | | 1,676 | 2 |
| 83 | 343 | CONCIERGE DESK | 135 | | 135 | 2 |
| 84 | 214 | MISC REVS | 13,989 | 27,125* | 12,630 | 2 |
| 84 | 268 | MISC REVS | 35,571 | | 7,949 | 2 |
| 84 | 354 | MISC REVS | 43,440 | | 38,194 | 2 |
| 84 | 414 | RELOCATE SPRINKLER | 178 | | 161 | 2 |
| 84 | 415 | ADD SPRINKLER | 0 | | 0 | 2 |
| 84 | 417 | POOL GRILLE | 313 | | 283 | 2 |
| 85 | 80 | EJECTOR PUMPS | 8,618 | 30,853* | 8,402 | 2 |
| 85 | 222 | RELOCATE CONDUIT | 258 | | 0 | 2 |
| 85 | 235 | 220V OUTLETS | 1,324 | | 1,195 | 2 |
| 85 | 287 | 220V RECEPTICAL | 447 | | 408 | 2 |
| 85 | 389 | EMERGENCY POWER | 2,171 | | 1,960 | 2 |
| 85 | 382 | ADD CONDUIT | 5,762 | | 0 | 2 |
| 85 | 397 | FLOU & TAMPER SW | 1,585 | | 0 | 2 |
| 85 | 399 | ELEV PIT LIGHT | 173 | | 0 | 2 |
| 85 | 401 | SMOKE DETECTORS | 136 | | 123 | 2 |
| 85 | 404 | EMERGENCY POWER | 650 | | 587 | 2 |
| 86 | 173 | STRUCTURAL STEEL | 885 | 3,169* | 885 | 2 |

| | | | | | | |
|-----|-----|---------------------|--------|----------|--------|---|
| 86 | 225 | PENTHOUSE FRAMING | 25,580 | | 13,692 | 2 |
| 86 | 405 | STRUCTURAL STEEL | 1,525 | | 1,523 | 2 |
| 86 | 440 | STRUCTURAL STEEL | 759 | | 759 | 2 |
| 87 | 54 | XFMR VAULT RELOCATE | 16,292 | | 16,292 | 2 |
| 87 | 111 | FR #10 | 7,800 | 166,813* | 5,387 | 2 |
| 87 | 118 | EXHAUST DUCT | 9,271 | | 0 | 2 |
| 87 | 157 | RETAIL UTILITIES | 2,879 | | 2,597 | 2 |
| 87 | 292 | LANDSCAPE | 2,848 | | 1,610 | 2 |
| 87 | 428 | HVAC PLENUM | 2,657 | | 0 | 2 |
| 88 | 226 | LIGHT SWITCH | 177 | 33,351* | 162 | 2 |
| 88 | 291 | ELECTRICAL OUTLET | 1,706 | | 0 | 2 |
| 88 | 295 | FR #43 | 10,812 | | 9,760 | 2 |
| 88 | 400 | LIGHT FIXTURES | 456 | | 412 | 2 |
| 88 | 421 | 100A BREAKER | 445 | | 402 | 2 |
| 88 | 434 | MISC ELECTRICAL | 1,054 | | 952 | 2 |
| 89 | 240 | METER ROOM | 4,119 | 10,555* | 2,035 | 2 |
| 89 | 288 | ELECT OVERTIME | 0 | | 0 | 2 |
| 89 | 394 | VAC PAC | 1,579 | | 1,529 | 2 |
| 89 | 395 | ADD GFI OUTLETS | 1,961 | | 1,770 | 2 |
| 89 | 465 | TRI CITY #72-74 | 934 | | 843 | 2 |
| 89 | 466 | FAN IN LOUNGE | 364 | | 329 | 2 |
| 89 | 468 | GFI SFA LIGHTS | 388 | | 350 | 2 |
| 90 | 117 | POOL GLAZING | 6,433 | 52,041* | 6,103 | 2 |
| 90 | 127 | HARDWARE | 624 | | 553 | 2 |
| 90 | 128 | HARDWARE | 7,414 | | 6,695 | 2 |
| 90 | 147 | HARDWARE | 518 | | 467 | 2 |
| 90 | 198 | DOOR HARDWARE | 4,735 | | 4,275 | 2 |
| 90 | 201 | TISSUE HOLDER | 2,482 | | 2,188 | 2 |
| 90 | 259 | HARDWARE | 5,162 | | 4,660 | 2 |
| 90 | 357 | CCA #43 | 1,462 | | 1,319 | 2 |
| 90 | 360 | ADD DOOR | 454 | | 410 | 2 |
| 90 | 380 | MODIFY DOORS | 2,738 | | 0 | 2 |
| 90 | 389 | EXIT DEVICE | 1,584 | | 1,430 | 2 |
| 90 | 390 | DOOR HARDWARE | 2,961 | | 0 | 2 |
| 90 | 391 | REPLACE DOORS | 352 | | 0 | 2 |
| 90 | 435 | HARDWARE | 3,323 | | 0 | 2 |
| 90 | 447 | HARDWARE | 11,704 | | 4,066 | 2 |
| 91 | 51 | REPLACE PAVEMENT | 7,588 | 7,592 | -6,140 | 2 |
| 92 | 94 | LANDSCAPING | 7,304 | 7,304 | 0 | 2 |
| 93 | 144 | ADD COLUMNS | 1,246 | 1,246 | 1,246 | 2 |
| 94 | 156 | LOBBY STEEL | 1,220 | 1,220 | 1,220 | 2 |
| 95 | 133 | ADD WINDOWS | 9,187 | 8,275 | 8,275 | 2 |
| 96 | 167 | ENERGY MANAGEMENT | 815 | 816 | 816 | 2 |
| 97 | 193 | MISC REVS | 7,173 | 7,178 | 7,178 | 2 |
| 98 | 265 | CREDIT | -4,278 | -4,278 | -4,278 | 2 |
| 99 | 227 | ELEVATOR CONTROL | 0 | 1,669 | 0 | 2 |
| 100 | 299 | ADD STUDS | 501 | 501 | 501 | 2 |
| 102 | 325 | CARPENTRY | 1,382 | 1,382 | 1,382 | 2 |
| 102 | 334 | DAMAGED CONCRETE | 136 | 136 | 0 | 2 |
| 104 | 335 | CUT MIRRORS | 454 | 454 | 454 | 2 |
| 105 | 336 | REVISE CABINETS | 230 | 230 | 230 | 2 |
| 106 | 322 | ENTRANCE LOUNGE | 31,471 | -305 | 28,275 | 2 |
| 109 | 246 | STEEL SHELVING | 3,337 | 3,337 | 3,337 | 2 |
| 110 | 365 | ADD MARBLE | 337 | 337 | 337 | 2 |

| | | | | | | |
|-----|-----|---------------------|---------|----------|---------|---|
| 111 | 345 | CCA #41 | 7,315 | 14,144* | 6,603 | 2 |
| 111 | 353 | STUCCO FINISH | 8,184 | | -1 | 2 |
| 111 | 392 | EIFS FINISH | 631 | | 0 | 2 |
| 112 | 386 | CCA #44 | 6,524 | 14,810* | 5,633 | 2 |
| 113 | 268 | MISC REVISIONS | 35,571 | 7,949 | 29,514 | 2 |
| 114 | 62 | TOILET CHASE | 3,554 | 269,442* | 3,554 | 2 |
| 114 | 137 | STEEL | 3,472 | | 3,472 | 2 |
| 114 | 150 | STOREFRONT RAILINGS | 2,331 | | 2,104 | 2 |
| 114 | 217 | ROOF CURB | 208 | | 208 | 2 |
| 114 | 228 | COOLING SHUTTER | 1,080 | | 1,080 | 2 |
| 114 | 256 | CONCRETE SAMPLES | 1,211 | | 1,211 | 2 |
| 114 | 266 | LOUNGE GLASS | 474 | | 474 | 2 |
| 114 | 274 | REVISE DUCTWORK | 1,026 | | 0 | 2 |
| 114 | 282 | ADD SPRINKLER HEADS | 1,577 | | 1,577 | 2 |
| 114 | 294 | BALLROOM DOORS | 1,071 | | 1,064 | 2 |
| 114 | 316 | CAULKING | 972 | | 0 | 2 |
| 114 | 344 | DOOR GLAZING | 772 | | 772 | 2 |
| 114 | 346 | KITCHEN SOFFIT | 600 | | 600 | 2 |
| 114 | 355 | VINYL BASE | 96 | | 96 | 2 |
| 114 | 358 | SMOKE DETECTORS | 3,023 | | 3,023 | 2 |
| 114 | 359 | ADD RAILING | 300 | | 300 | 2 |
| 114 | 362 | BALLROOM ELEC | 2,332 | | 2,332 | 2 |
| 114 | 366 | ADD MARBLE | 1,851 | | 1,851 | 2 |
| 114 | 367 | ADD TILE | 251 | | 251 | 2 |
| 114 | 371 | VALLEY GUTTER | 366 | | 366 | 2 |
| 114 | 375 | GLASS BLOCK | 225 | | 225 | 2 |
| 114 | 383 | RELOCATE OUTLETS | 1,108 | | 1,105 | 2 |
| 114 | 387 | ADD CEILING | 1,204 | | 1,087 | 2 |
| 114 | 402 | SIGNAGE | 541 | | 541 | 2 |
| 114 | 409 | CCA #45 | 7,166 | | 6,682 | 2 |
| 114 | 410 | ADD MIRRORS | 854 | | 0 | 2 |
| 114 | 412 | PRECAST CAPS | 3,667 | | 3,049 | 2 |
| 114 | 422 | ADJUST FRAMES | 437 | | 437 | 2 |
| 114 | 427 | CCA #40 | 9,553 | | 7,823 | 2 |
| 114 | 429 | ANGLE PLATES | 600 | | 600 | 2 |
| 114 | 431 | WATER FALL | 1,994 | | 0 | 2 |
| 114 | 436 | HANDRAIL | 9,519 | | 9,523 | 2 |
| 114 | 441 | EXIT DEVICE | 1,117 | | 1,117 | 2 |
| 114 | 450 | ADD SOFFIT | 150 | | 0 | 2 |
| 114 | 453 | ADD BULKHEAD | 502 | | 0 | 2 |
| 114 | 454 | ADD WIRE GLASS | 115 | | 114 | 2 |
| 114 | 455 | RELOCATE PIU | 1,826 | | 0 | 2 |
| 114 | 457 | ADD ROOF DRAIN | 436 | | 0 | 2 |
| 114 | 458 | RELOCATE STEAM GEN | 554 | | 554 | 2 |
| 114 | 459 | ADD PLANTER DRAINS | 1,817 | | 1,817 | 2 |
| 114 | 470 | WAX CURING | 2,437 | | 0 | 2 |
| 114 | 473 | XFORMER CURBS | 820 | | 820 | 2 |
| 114 | 474 | LOADING DOCK | 189 | | 190 | 2 |
| 114 | 486 | ADDBACK CLAIM | 395,288 | | 284,720 | 2 |
| 114 | 487 | CREDITS CLAIM | 0 | | 0 | 2 |
| 114 | 488 | A/V CABLE | 1,662 | | 1,662 | 2 |
| | 75 | DELETE ANGLE | -1,255 | | -1,255 | 2 |
| | 104 | VOC CHANGES | 1,228 | | 1,228 | 2 |
| | 213 | RETAINING WALL | 2,200 | | 2,200 | 2 |

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|-----|---------------------|---------|--|---------|---|
| 250 | KITCHEN EQUIPMENT | 1,426 | | 1,426 | 2 |
| 269 | REVISE SIGNAGE | 312 | | 312 | 2 |
| 277 | UPGRADE TILE | 1,664 | | 1,669 | 2 |
| 278 | CONCIERGE CABINETS | 2,517 | | 2,517 | 2 |
| 303 | LATTICE PANELS | 864 | | 864 | 2 |
| 306 | SPEAKER COVERS | 1,468 | | 1,454 | 2 |
| 307 | CUT BAR | 288 | | 283 | 2 |
| 319 | CHANGE CARPET | 256 | | 253 | 2 |
| 377 | TRIM DOORS | 288 | | 285 | 2 |
| 379 | BRASS RAIL | 173 | | 171 | 2 |
| 398 | PULL STATION | 667 | | 0 | 2 |
| 424 | RELOCATE THERMOSTAT | 222 | | 0 | 2 |
| 428 | ADD TREES | 1,966 | | 1,948 | 2 |
| 456 | MODIFY BRACE | 5,000 | | 5,000 | 2 |
| 482 | POLITICS | 182,511 | | 182,511 | 2 |

TOTALS

1,380,027

807,620

1,070,664

UNKNOWN STATUS CHANGE ORDER SORT

filename: lecc011

| CG# | RCO# | DESCRIPTION | CONTRACTOR AMOUNT | ARCH AMOUNT | OWNER AMOUNT | CODE |
|--------|------|---------------------|----------------------|----------------|-----------------|------|
| 33 | 17 | VALUE ENGINEERING | -96,315 | | | 5 |
| | 49 | OWNER'S REQUEST #12 | 400 | | | 5 |
| | 93 | LOBBY SKYLIGHT | -1,200 | | -6,000 | 5 |
| | 237 | ROOF SCUPPER | 11,269 | | 0 | 5 |
| | 351 | DEDUCT DISPLAY | -787 | | -787 | 5 |
| | 372 | DOOR CHANGES | 0 | | | 5 |
| | 419 | TRAVEL EXPENSE | 2,471 | | 0 | 5 |
| | 469 | DEPRESSION | 484 | | 0 | 5 |
| | 471 | CURB HEIGHT | 209 | | 0 | 5 |
| | 475 | MASONRY WALLS | 0 | | -2,000 | 5 |
| | 476 | DELETE RETAIL SOG | -4,446 | | -11,400 | 5 |
| | 477 | FIBREMESH | 1,982 | | 1,982 | 5 |
| | 478 | RETAIL SOG | 4,314 | | 500 | 5 |
| | 479 | PUB SHEERWALL | 687 | | 0 | 5 |
| TOTALS | | | -80,932 | 0 | -17,705 | |

REJECTED CHANGE ORDER SORT

| CO# | ROO# | DESCRIPTION | CONTRACTOR AMOUNT | ARCH AMOUNT | OWNER AMOUNT | CGDE |
|--------|------|--------------------|----------------------|----------------|-----------------|------|
| 44.07 | 14 | POLITICAL | 0 | 0 | 0 | 4 |
| 44.08 | 14 | MASONRY | 0 | 0 | 0 | 4 |
| | 86 | REVISE STAIRS | 1,552 | | 0 | 4 |
| | 183 | FPL PREMIUM TIME | 7,355 | | 0 | 4 |
| | 194 | COLUMN DETAIL | 1,243 | | 0 | 4 |
| | 218 | RF #32 | 1,353 | | 0 | 4 |
| | 245 | LOUNGE BLOCK | 707 | | 0 | 4 |
| | 423 | GUESTROOM CLIPS | 443 | | 0 | 4 |
| | 442 | MOVE REG DESK | 173 | | 0 | 4 |
| | 445 | ADD CABINETS | 3,157 | | 0 | 4 |
| | 449 | OVERTIME | 450,000 | | 0 | 4 |
| | 452 | MARBLE AT COLUMNS | 1,258 | | 0 | 4 |
| | 460 | VENT DUCT | 6,442 | | 0 | 4 |
| | 462 | GLASS ETCHING | 14,360 | | 0 | 4 |
| | 463 | DECORATIVE GLASS | 419 | | 0 | 4 |
| | 467 | TRI CITY KITCHEN | 1,289 | | 0 | 4 |
| | 481 | PARTITION SUPPORTS | 6,401 | | 0 | 4 |
| TOTALS | | | 496,152 | 0 | 0 | |

DISPUTED CHANGE ORDER SORT

| CO# | PO# | DESCRIPTION | CONTRACTOR AMOUNT | ARCH AMOUNT | OWNER AMOUNT | CODE |
|--------|-----|------------------|----------------------|----------------|-----------------|------|
| 44.01 | 14 | | 25,352 | | | |
| 44.06 | 14 | CONCRETE | 9,893 | | | |
| 44.09 | 12 | STEEL | 2,512 | | | |
| 44.15 | 14 | CEDAR | 9,575 | | | |
| 44.16 | 14 | SKYLIGHTS | 32,143 | | | |
| 44.17 | 14 | WATERPROOFING | 42,787 | | | |
| 44.19 | 14 | ROOFING | 0 | | | |
| 44.20 | 14 | METAL ROOFING | 2,440 | | | |
| 44.21 | 14 | GLASS | 18,242 | | | |
| 44.22 | 14 | DOOR FRAMES | 1,519 | | | |
| 44.23 | 14 | DOORS | 0 | | | |
| 44.26 | 14 | CEILINGS | 3,585 | | | |
| 44.28 | 14 | TOILET ACCESS | 2,070 | | | |
| 44.29 | 14 | TOILET ACCESS | 0 | | | |
| 44.30 | 14 | TOILET ACCESS | 0 | | | |
| 44.38 | 14 | FINAL CLEANUP | 0 | | | |
| 44.38 | 14 | FIREPROOFING | 13,401 | | | |
| 44.39 | 14 | | 2,894 | | | |
| 89 | 464 | TRI CITY #55/56 | 3,611 | | 3,260 | |
| 115 | 488 | EXTERIOR SIGNAGE | 8,192 | | -10,000 | |
| | 206 | PLAZA DECK | 3,115 | | 0 | |
| | 234 | CCA #31 | 23,666 | | 5,000 | |
| | 364 | GREEN MARBLE | 1,700 | | 172 | |
| | 418 | AWNING COLOR | 4,000 | | 0 | |
| | 420 | WELLER EXTRA'S | 1,363 | | 480 | |
| | 432 | SPA SPEAKERS | 482 | | 0 | |
| | 446 | GPI EXOTIC BLUE | 14,706 | | 14,000 | |
| | 451 | LIFT FOR BRAY | 1,932 | | 0 | |
| | 480 | REIMBURSABLES | 20,247 | | 0 | |
| | 484 | INT PLANTING | 42,493 | | 40,086 | |
| | 485 | INT SIGNAGE | 24,320 | | 21,954 | |
| TOTALS | | | 316,180 | 0 | 74,952 | |

Arnold M. Frost, P.E.

MANAGEMENT RESPONSIBILITIES

Over thirty years of highly diversified management experience in engineering, design, construction and construction management involving Hi-Tech Security, Industrial, Wastewater Treatment, Sewage Treatment, Commercial, Chemical, Petrochemical, Refinery, Pharmaceutical & Hospital Facilities. During past decade total Profit/Loss responsibility for several Operating divisions. Responsibility included technical competence, client relations, contract negotiations, developing, implementing and coordinating Operational and Marketing programs. Responsible for regional group of 200 - 300 professionals.

Extensive experience as PROGRAM DIRECTOR and in PROJECT MANAGEMENT, having had complete responsibility for the engineering, procurement and construction of work programs with values in excess of \$500 million. Also have provided expert CONSULTING SERVICES on a multitude of complex construction litigation matters and multi-project contract default matters as well as involvement in millions of dollars in construction claims.

CAREER RESPONSIBILITIES

1989 - 1985

Associate Consultant - Forcon International Corp. Consulted on a multitude of complex construction claim and default matters. Negotiated settlement of construction claim, takeover agreements, sole source contracts, and numerous bond claims.

Prepared construction claims analysis and provided expert consulting services on construction contract defaults. Determined and evaluated various projects' status, cost to complete, schedule, problem areas and field management operations; oversaw successful completion of the work.

Forensic Consulting on electrical fires, automobile fires, cause & origin, lightning strike and surge to transformers, computer systems and computerized telephone systems, trip and fall, lighting studies and expert witness for property casualty cases.

Career Responsibilities (Continued)

1985 - 1983

Vice President - Program Director for a major Engineering, Design Build company with complete responsibility for the Engineering, Procurement and Construction of projects such as:

Trident 111 building for the assembly and testing of the Trident III rocket.

Thermal Vacuum Chamber Building for the testing of space equipment. The type of equipment utilized was large pumps, compressors and large vacuum pumps.

Fire and Emergency Services Building. This building was designed as an earthquake proof building that would remain standing when all others had failed.

and Large Hospital Building addition.

Had complete responsibility for work program in excess of \$500 million for a 700 acre overall site development program for ten major Hi-Tech building. Directed the Architects, Project Managers and Project Design Teams in producing the construction drawings and specifications to build over 3 million square feet of facilities totaling over \$500 million in constructed value. Supervised and coordinated three groups totaling 200 engineers, designers and craftsmen, in three geographic areas: Lockheed Missiles & Space; San Jose, CA, Concord, CA, Austin, TX.

1983 - 1976

Vice-President Operations for a major Engineering, Design Build company; complete Profit/Loss responsibility, Client relations, Contract negotiations; Developing, implementing and Coordinating Operational and Marketing programs. Responsible for group of 250-300 professionals; Jacobs Engineering Group; Mt. Side, NJ, Lakeland, FL, Pasadena, CA. Extensive overseas work - Europe, South Africa, Lima Peru, Lagos Nigeria & United Kingdom.

1983 - 1976

Engineering Manager: Responsible for the Engineering,

Career Responsibilities (continued)

Procurement and Construction of projects, such as; penicillin, ampicillan, bulk pharmaceuticals & packaging facilities, including clean room design from class 100 (super clean) to class 10,000. Hospital, Prison, Hi-rise, Waste Treatment Plants,

High Pressure 9000 # Acetic Acid Plant utilizing high pressure Urea Pumps, high pressure reactors and 9000 # piping systems 3" OD with 1/2" ID. All this type equipment manufactured in Germany. High pressure control valves were manufactured in France.

and High Speed Floor Covering Facility in Dublin Ireland. Directed Project Managers in Planning, Technical content and execution of projects. Supervised a group of 160-200 engineers, designers and draftsmen.

1976 - 1970

Project Manager: Complete responsibility for Engineering, Design, Procurement, Scheduling, Estimating and Cost Control for several major Chemical, Petrochemical, Refinery and Pharmaceutical Facilities, Hospitals, Prison, Hi-rise and Waste Treatment Plants. Supervised a group of 70 engineers and designers.

1970 - 1967

Chief Electrical Engineer: Responsible for all electrical engineering, design construction documents and specifications of several major projects, e.g. chemical, petro chemical, pharmaceutical. Duties included eletrical subcontract bid package preparation and field follow up. Supervised a group of 20 engineers and designers.

1967 - 1960

Sr. Electrical Engineer: complete responsibility for the electrical engineering of major oil refineries, polyethelene, polyurethane and polyvinyl chloride facilities. Duties included engineering design scheduling, estimating, subcontracting and field start-up. Supervised a group of 15 engineers and designers.

Career Responsibilities (Continued)

1960 - 1956

Electrical Engineer with major building products company. Responsible for all automatic high-speed floor tile lines, roofing shingle lines and asbestos piping and insulation. Duties included start-up of facilities, and subcontract field supervision.

1956 - 1953

Field Electrical Engineer for major plastics company. Responsible for all field electrical construction on new plant projects. Projects included Hi-speed polyethelene winding for food wrapping.

1953 - 1951

Royal Air Force assigned to a radar base in England as Radar Service Technician on Ground Control Approach Equipment. Also responsible for the Variable Speed D.C. Drives for the antennas. Honorable discharge after 2 years National Service.

1953 - 1951

Time Served (5 Years) Electricial License:

| | |
|--------------------------|------------------------------------|
| Motor Rewinding | Crane Repair/Motor & Control AC/DC |
| Armature Winding | Industrial Power & Control |
| Ship Installation | Commercial Power & Control |
| Plant Installation | Residential Wiring |
| Transformer Rewinding | Industrial Plant Power Generation |
| Large AC/DC Motor Repair | AC/DC Generation |

EDUCATION

B.S. Electrical Engineering
Glasgow Technical College, Scotland
Registered Professional Engineer

SPECIFIC FACILITIES

Refineries

| | |
|--------------|--------------------|
| Shell Oil | Sarinia, Canada |
| Exxon | Bay Way, NJ |
| Exxon-M.E.K. | Bay Way, NJ |
| Shell Oil | Illinois |
| Shell Oil | Martinez, CA |
| Shell Oil | Monroe, LA |
| Corco | Ponce, Puerto Rico |

Chemicals

| | | |
|--------------------------------------|---------------------|-----------------------------|
| Caustic Chlorine | GAF | Linden, NJ |
| Caustic Chlorine | FMC | Charleston, W.VA |
| Acetic Acid | Borden Chemical | LA |
| Acetic Acid Equipment Inspection | Borden Chemical | Germany London France |
| Phosphoric Acid | Gardiner Inc. | FL |
| Uranium Extraction | Gardiner Inc. | FL |
| Melamene Plastics | Cyanamid Co. | FR |
| Shell Oil | Specialty Chemicals | NJ |
| Dry Bleach Swimming Pool Chlorine | Olin Chemicals | GA |

Pharmaceuticals

| | | |
|----------------------------|---------------|----|
| Liquid & Powder Penicillan | Beecham | NJ |
| Bulk Packaging Penicillan | Merck | FR |
| Penicillan/Ampicillan | Squibb | FR |
| Vallium Tablet Coating | Abbott | FR |
| Vallium Tablet Coating | Merck | PA |
| Penicillin Liquid | Bristol Myers | PR |

Petrochemicals

| | | |
|-----------------------|---------------|----------------|
| PVC from Ethelene | ICI Chemicals | London |
| Polyvnyl Facility | ICI Chemicals | Liverpool |
| Polyurethane Facility | A B Chemicals | Texas |
| Total Infrastructure | | Lima, Peru |
| Nitrogen Fertilizer | | Lagos, Nigeria |

FORCON INTERNATIONAL

Buildings

| | | |
|--|--------|------------------|
| Trident III Building | LMSC | CA |
| Worlds Largest Thermal Vacuum Chamber | LMSC | CA |
| Fire & Safety Buildings | LMSC | CA |
| Earthquake Proof San Gabriel Hospital | Jacobs | CA |
| 3 - 100,000 Specialty Bldgs | LMSC | CA Austin, TX |
| Hi-Tech Security 800,000 Sq. Ft. Floor Covering Building | G.A.F. | Ireland |