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Addendum Number 01

Request for Bids
For
Shuttle Landing Facility Aircraft Ground Equipment Shelter Demolition and Construction of New Aircraft Ground Equipment Shelter Carport

RFB 01-0-2026

Date:	April 21, 2026
To:	All Interested Bidders and Other Interested Parties
From:	Annette O'Donnell, Vice President of Contracts & Procurement

Space Florida issues the following Addendum Number 1 and considers it part a part of the Request for Bid (RFB) document.

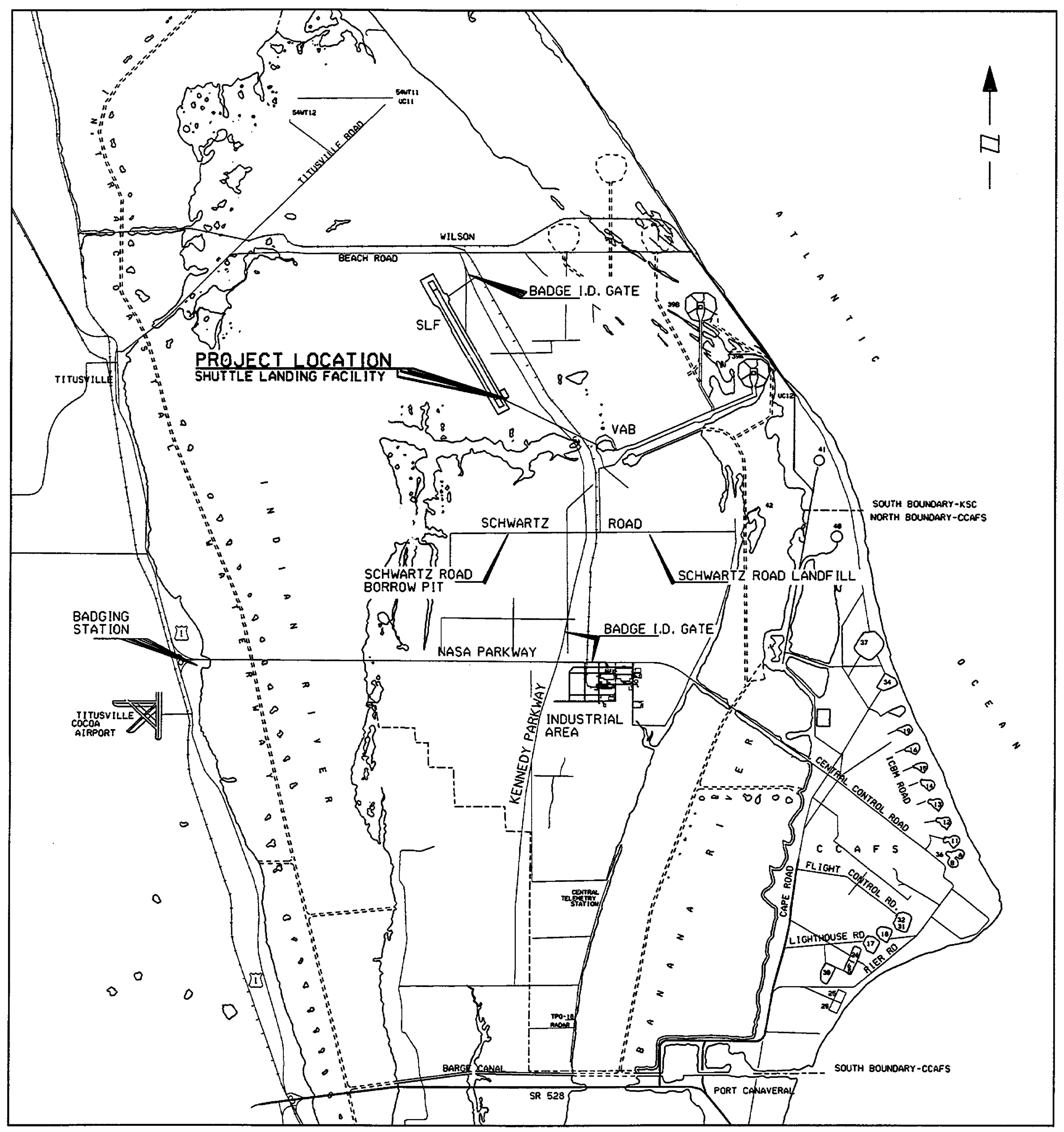
1. **Exhibit A Statement of Work - Space Life SLSL Boiler Replacement is replaced in its entirety with the revised Statement of Work attached. New language is underlined.**

   Section 3, 1. Demolition (g)
   Please see Exhibit A, Shuttle Landing Facility Install Additional A.G.E. Storage Area Site Plan and Specifications, 81K02154 <u>including additional pages 2-7</u>.
   Note – This is most readable version of the document in Space Florida's possession.

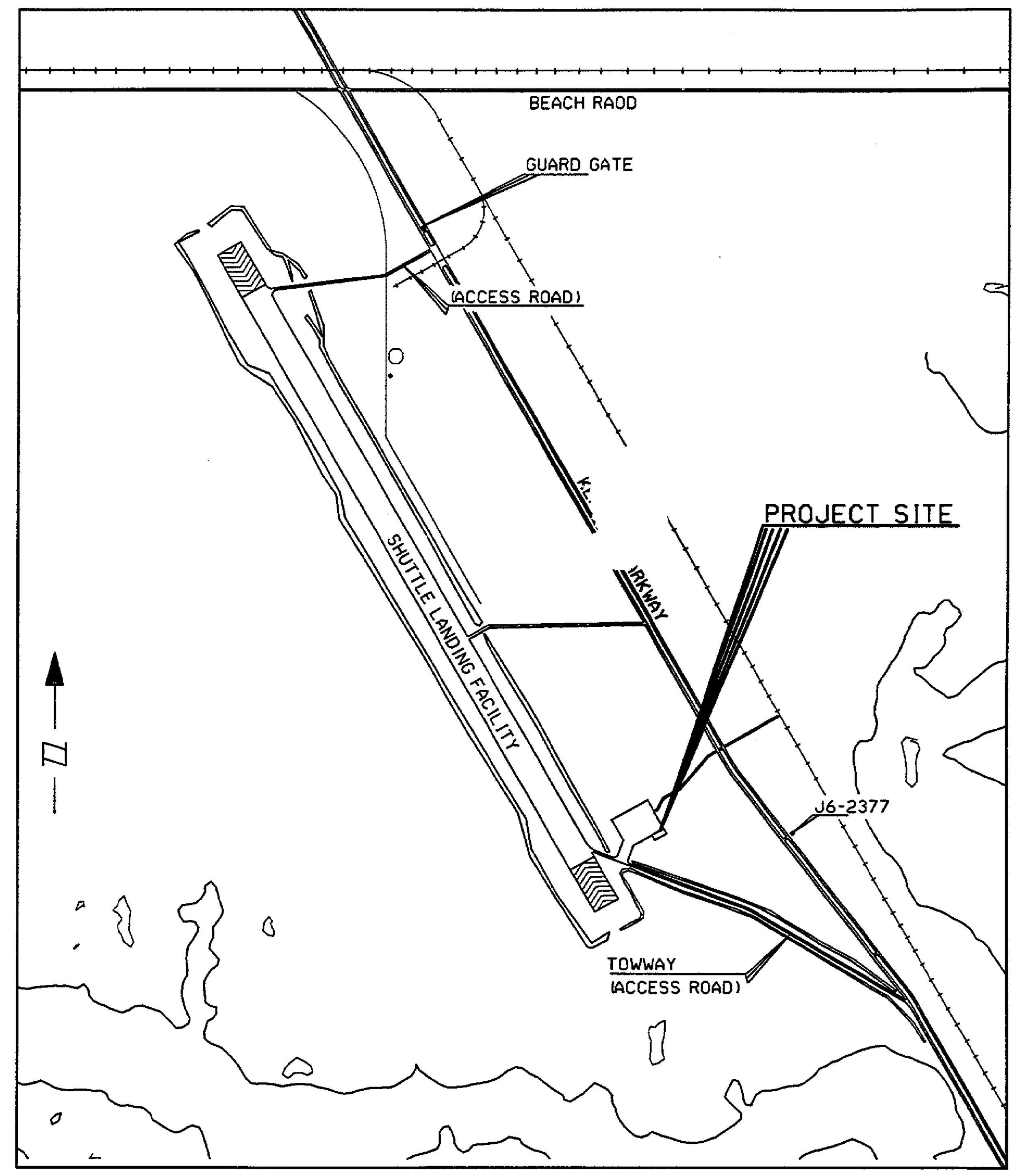
2. **There are no additional specification documents, drawings, plan sets, or documents other than what is included in the Request for Bids.**

Exhibit A

KSC SLF AREA
SHUTTLE LANDING FACILITY
A.G.E. STORAGE SHELTER



VICINITY MAP
N.T.S.



LOCATION MAP
N.T.S.

SHEET INDEX			
SHEET NO.	SHEET DISP.	REV STAT.	SHEET DESCRIPTION
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2	C-1		NOTES, SITE PLAN AND DETAILS
3	C-2		SPECIFICATIONS AND NOTES
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7	E-4		PLAN AND RISER DETAILS

SCOPE OF WORK:

THE SCOPE OF WORK FOR THIS PROJECT CONSISTS OF PROVIDING THE LABOR, EQUIPMENT AND MATERIALS TO CONSTRUCT A PREFABRICATED STEEL SHELTER ON CONCRETE FOUNDATIONS AT THE SHUTTLE LANDING FACILITY, KENNEDY SPACE CENTER, FLORIDA.

DESCRIPTION OF WORK:

THE WORK TO BE PERFORMED FOR THIS PROJECT CONSISTS OF, BUT IS NOT LIMITED TO, CONCRETE DEMOLITION, EXCAVATION, CONCRETE FOUNDATION CONSTRUCTION, STRUCTURAL STEEL ERECTION, ROOFING, PAINTING, AND ELECTRICAL INSTALLATIONS.

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES	DATE
DRAWN [signature]	2/07/92
CHECKED [signature]	2/27/92
ENGINEER ANDREW MINER [signature]	2/27/92
SUBMITTED ANDREW MINER [signature]	2/27/92
APPROVED [signature]	2/27/92
TITLE BRANCH MANAGER	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER

KSC SLF AREA
SHUTTLE LANDING FACILITY

A.G.E. STORAGE SHELTER

VICINITY AND LOCATION MAPS

SIZE F | DWG. NO. 81K04248 | REV

PROJ. NO. WPCN 122640 | SHEET 1 OF 7

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COMPUTER DESIGN FILE NAME
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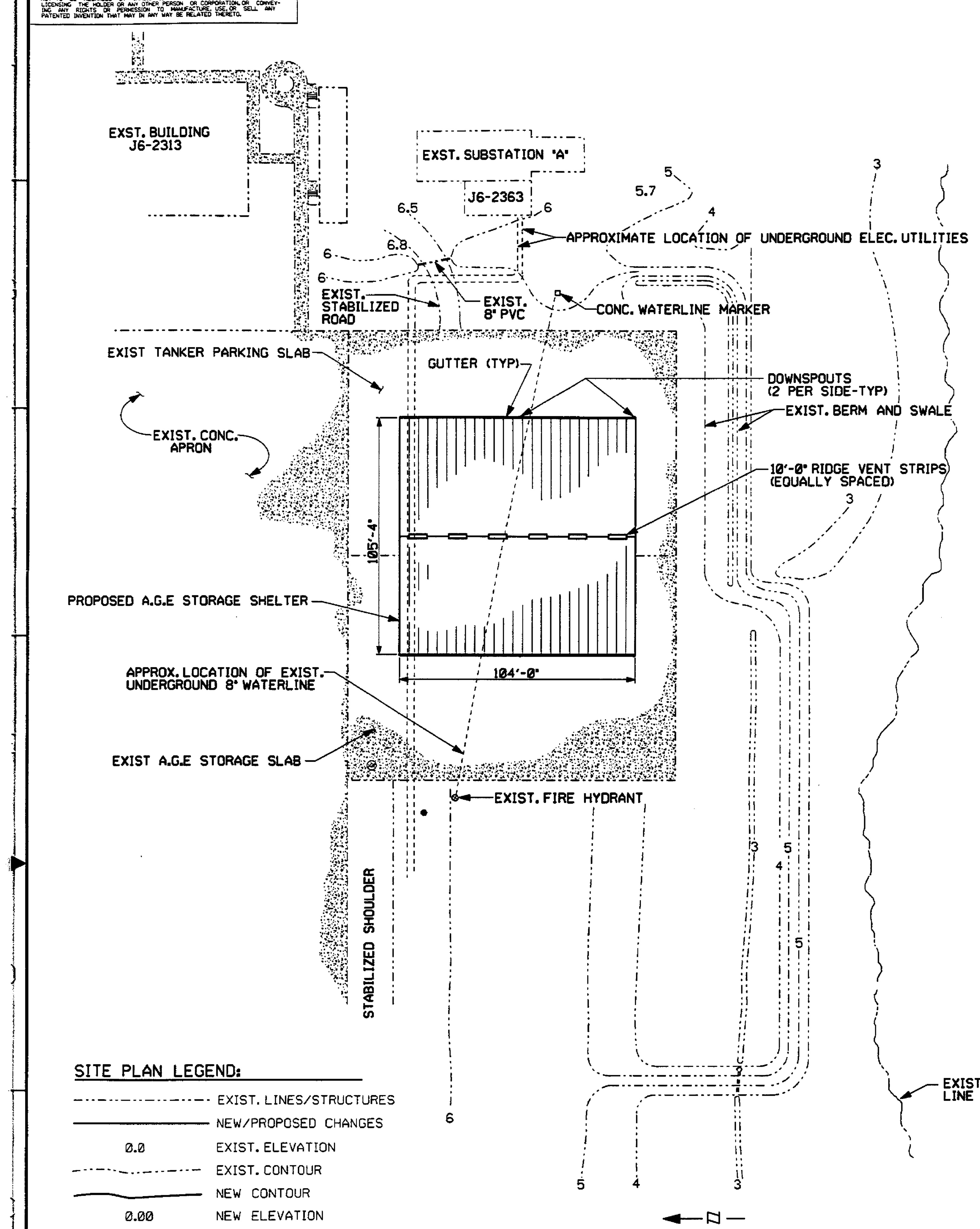
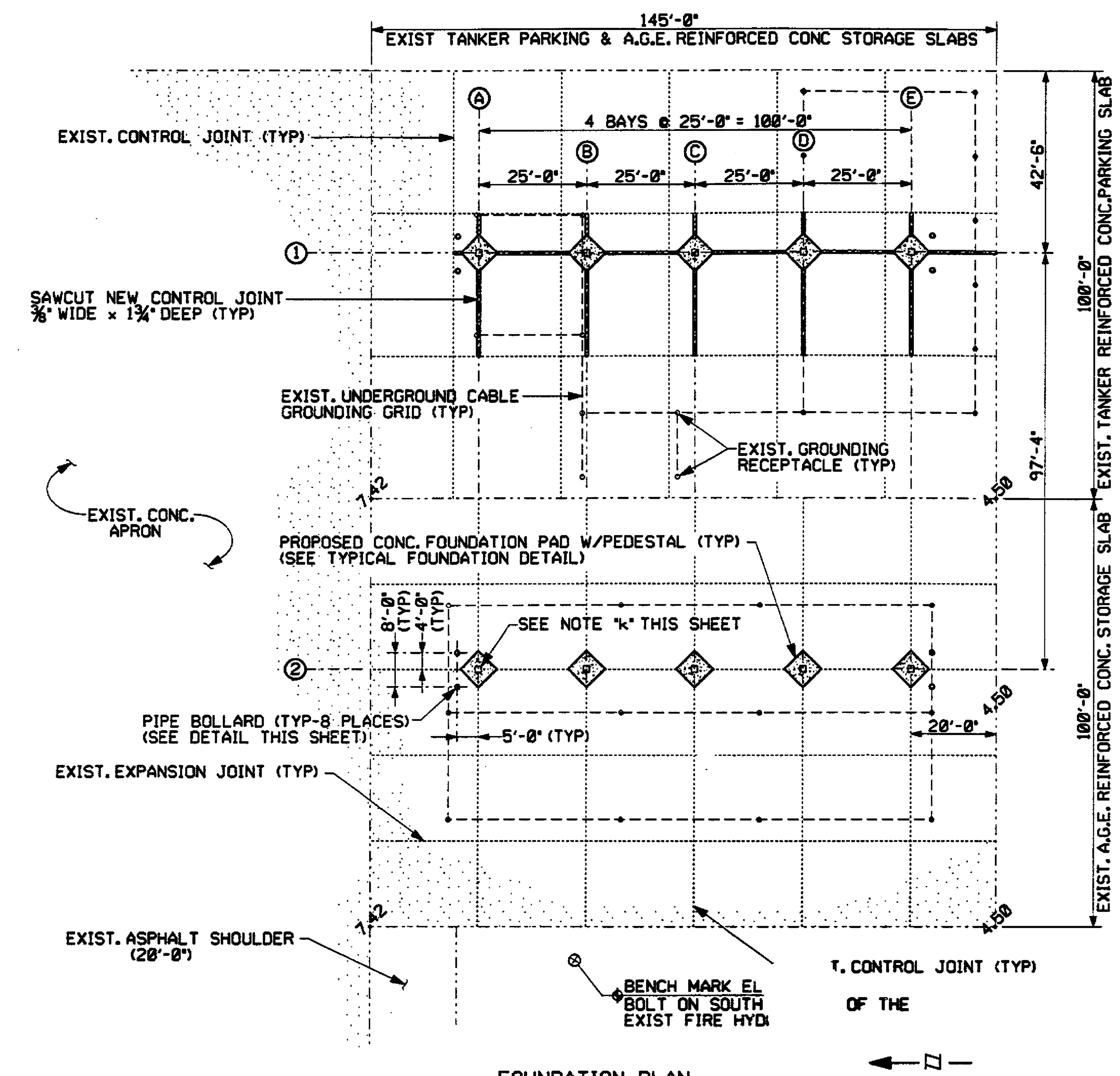
V-1 | EG&G FLORIDA



SITE PLAN
SCALE: 1"= 30'-0"



FOUNDATION PLAN
SCALE: 1"= 20'-0"

SITE WORK:

a. MATERIALS FOR BACKFILL AND FILL SHALL BE FREE OF CLAY CLODS, ROCK OR GRAVEL LARGER THAN 2 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER DELETERIOUS MATTER AND SHALL BE SATISFACTORY SOIL MATERIALS AS FOLLOWS:

AREA CLASSIFICATION	BACKFILL OR FILL MATERIALS
IN EXCAVATIONS, UNLESS OTHERWISE SPECIFIED	EXCAVATED OR BORROW MATERIAL THAT HAS BEEN SAMPLED, TESTED, AND APPROVED AS "SATISFACTORY SOIL MATERIAL"
UNDER GRASSED AREAS	EXCAVATED OR BORROW MATERIAL THAT HAS BEEN SAMPLED, TESTED, AND APPROVED AS "SATISFACTORY SOIL MATERIAL"
UNDER WALKS, STEPS, AND PAVED AREAS	SUBBASE MATERIAL OR EXCAVATED

b. BEFORE EARTHWORK IS STARTED, THE LOCATION OF UNDERGROUND UTILITIES SHALL BE CAREFULLY VERIFIED BY HAND METHODS. UTILITIES TO BE LEFT IN PLACE SHALL BE PROTECTED FROM DAMAGE.

c. EXCAVATIONS, FILLING, BACKFILLING, AND GRADING SHALL BE TO SUB-GRADE ELEVATIONS SPECIFIED.

d. EXCAVATED MATERIALS SUITABLE FOR BACKFILL SHALL BE PILED IN AN ORDERLY MANNER SUFFICIENTLY DISTANT FROM EXCAVATIONS TO PREVENT OVERLOADING, SLIDES, AND CAVE-INS.

e. EXCAVATIONS SHALL BE DONE IN WAYS THAT WILL PREVENT SURFACE WATER AND SUBSURFACE WATER FROM FLOWING INTO EXCAVATIONS AND WILL ALSO PREVENT FLOODING OF THE SITE AND SURROUNDING AREA.

f. BACKFILL AND FILL MATERIALS SHALL BE PLACED IN LAYERS NOT MORE THAN 6 INCHES IN LOOSE DEPTH. BEFORE COMPACTION, EACH LAYER OF BACKFILL OR FILL MATERIAL SHALL BE MOISTENED OR AERATED AS NECESSARY TO PROVIDE THE OPTIMUM MOISTURE CONTENT OF THE SOIL MATERIAL AND SHALL THEN BE COMPACTED TO THE PERCENTAGE OF MAXIMUM DENSITY FOR EACH AREA CLASSIFICATION AS SPECIFIED. BACKFILL OR FILL MATERIAL SHALL NOT BE PLACED ON SURFACES THAT ARE MUDDY, FROZEN, ICY, OR CONTAIN FROST.

g. BACKFILL AND FILL MATERIALS ADJACENT TO STRUCTURES SHALL BE BROUGHT UP EVENLY AROUND STRUCTURES AND SHALL BE CARRIED UP TO THE INDICATED ELEVATIONS.

h. COMPACTION ADJACENT TO STRUCTURES, WITHIN A HORIZONTAL DISTANCE FROM THE FACE OF THE STRUCTURE EQUAL TO THE DEPTH OF BACKFILL OR FILL MATERIAL (MEASURED FROM THE BOTTOM OF FOOTING OR BOTTOM OF FOUNDATION OR RETAINING WALL) TO FINAL GRADE, SHALL BE DONE WITH POWER-DRIVEN HAND TAMPERS.

i. AREAS OUTSIDE THE BUILDING LINES FOR EACH STRUCTURE SHALL BE HAND-GRADED TO DRAIN AWAY FROM THE STRUCTURE AND TO PREVENT PONDING OF WATER AFTE RAINS. THE FINISHED SURFACE SHALL BE WITHIN THE TOLERANCE SPECIFIED BELOW FOR EACH AREA CLASSIFICATION, COMPACTED AS SPECIFIED, AND FREE FROM IRREGULAR SURFACE CHANGES.

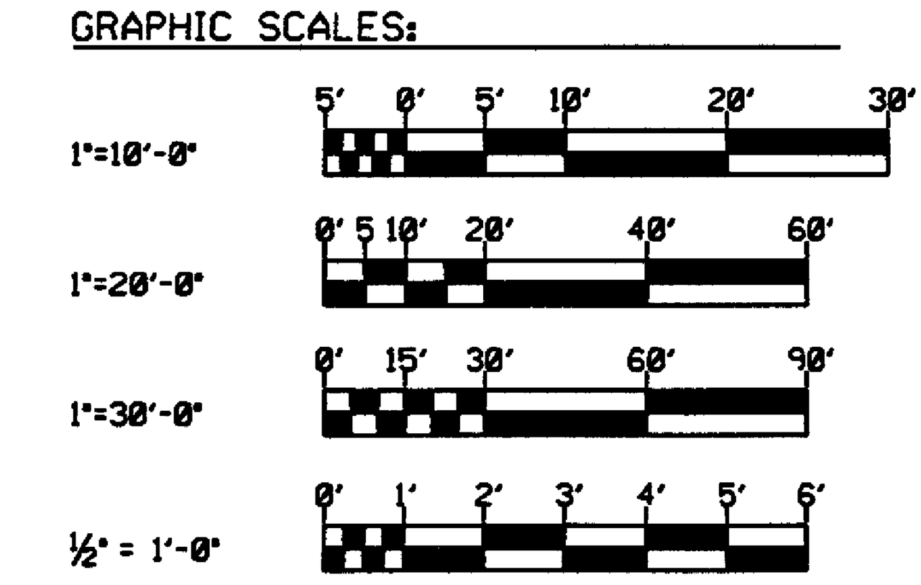
j. WHERE APPROVED COMPACTED AREAS ARE DISTURBED BY SUBSEQUENT CONSTRUCTION OPERATIONS OR ADVERSE WEATHER, THE SURFACE SHALL BE SCARIFIED, RESHAPED, AND COMPACTED AS SPECIFIED TO THE REQUIRED DENSITY PRIOR TO FURTHER CONSTRUCTION.

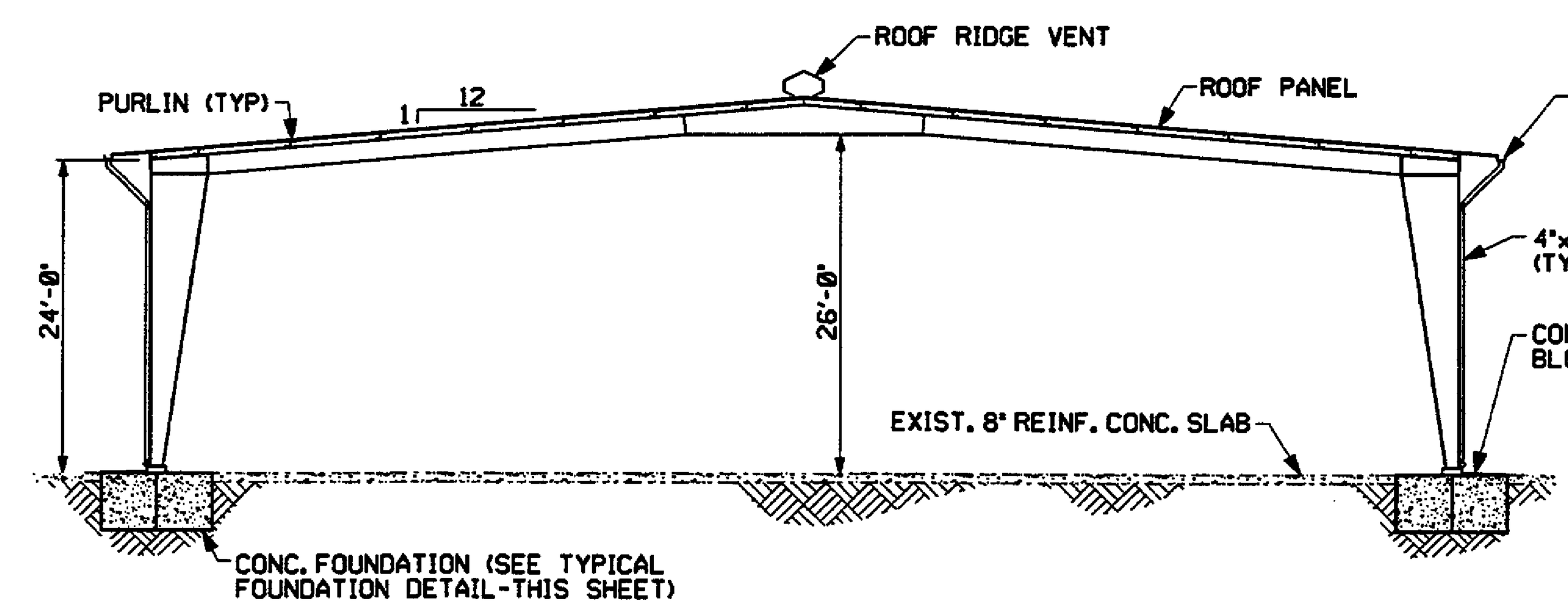
k. THE ANCHOR BOLT SYSTEM INSTALLED FOR COLUMNS 1-C AND 2-C SHALL REQUIRE 4 ANCHOR BOLTS AT EACH COLUMN.

l. PEDEATALS FOR COLUMNS 1D, 1E, 2D, AND 2E SHALL BE 2'-0" x 2'-0" SQUARE.

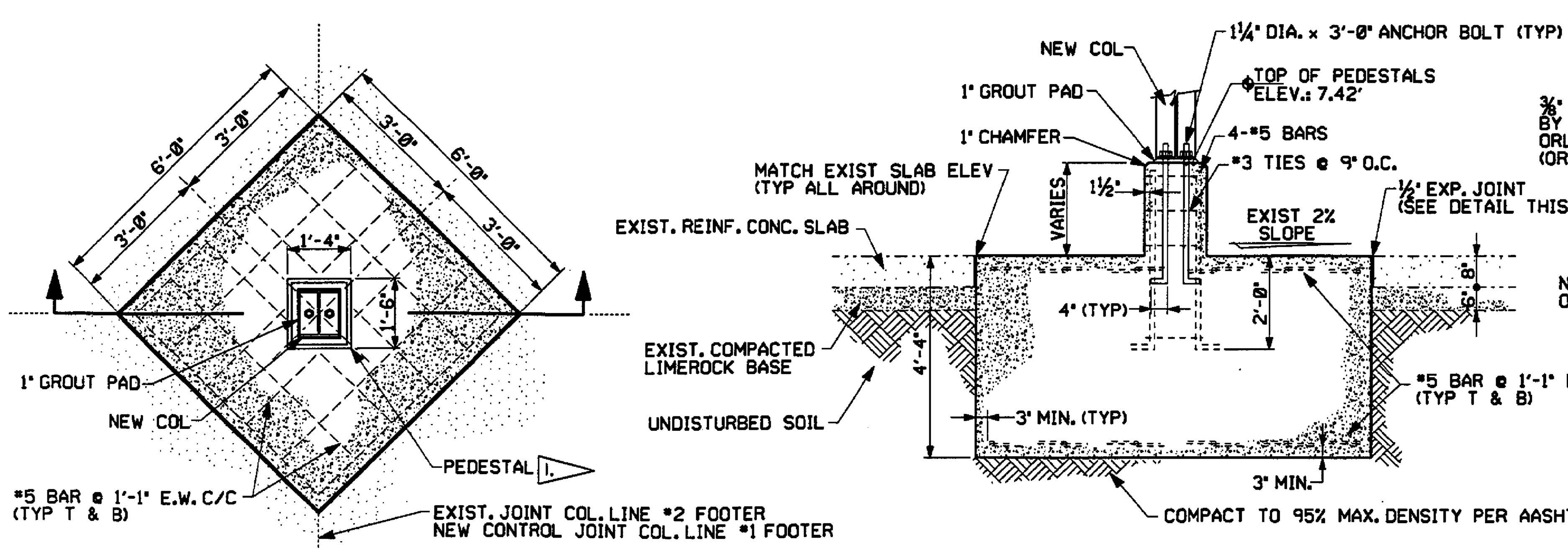
m. DUE TO THE NATURE OF OPERATIONS TAKING PLACE IN THE PROJECT SITE AREA AND ADJACENT AREAS THE SUBCONTRACTOR SHALL, ON A DAILY BASIS, BE REQUIRED TO CONTROL ALL CONSTRUCTION DEBRIS WHICH MAY CAUSE DAMAGE TO GOVERNMENT EQUIPMENT OR PROPERTY.

GRAPHIC SCALES:





SHELTER ELEVATION
SCALE: 1"= 10'-0"



TYPICAL FOUNDATION DETAIL
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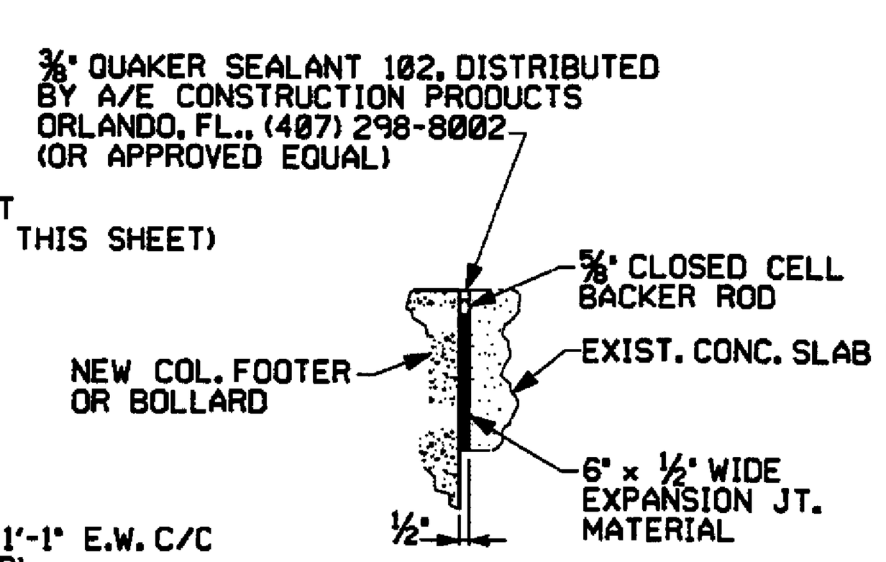

TYPICAL JOINT DETAIL
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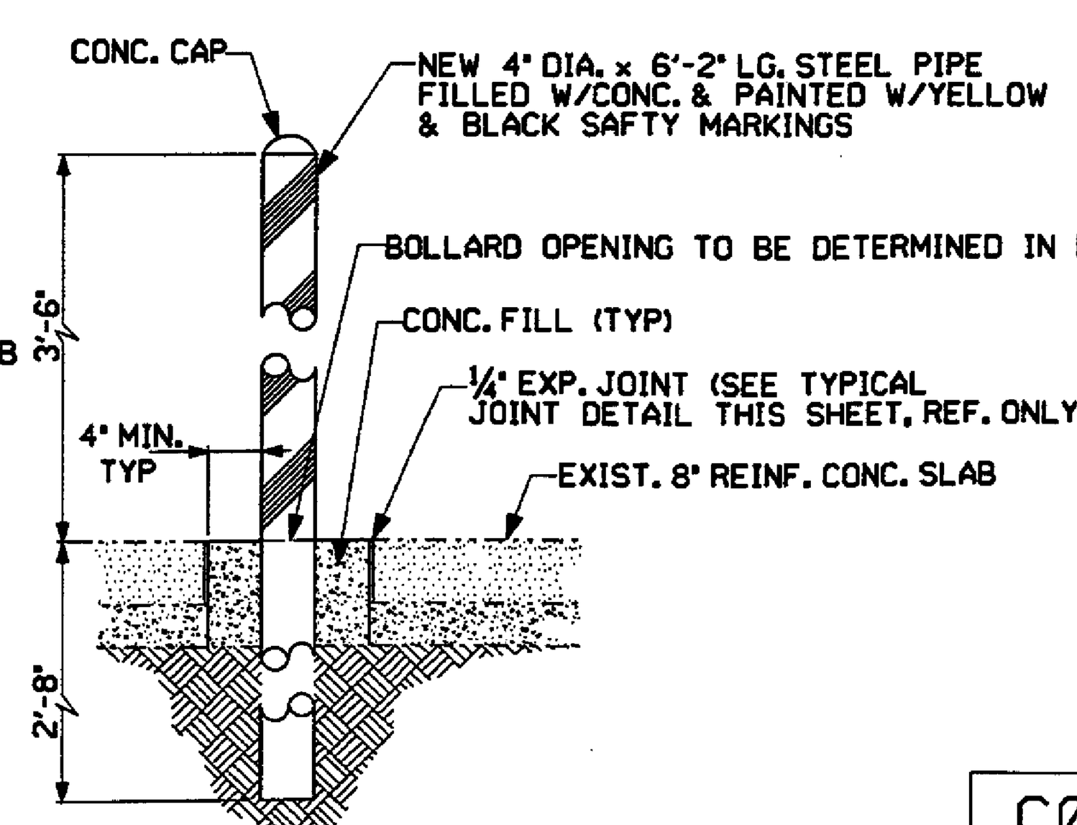

TYPICAL BOLLARD DETAIL
SCALE: NONE

SYM	ZONE	DESCRIPTION	DATE	APPROVED
REVISIONS				

SIGNATURES	DATE
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KSC SLF AREA
SHUTTLE LANDING FACILITY

A.G.E. STORAGE SHELTER

NOTES, SITE PLAN & DETAILS

SIZE F | DWG. NO. 81K04248 | REV
PROJ. NO. WPCN 122640 | SHEET 2

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COMPUTER DESIGN FILE NAME
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C-1

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SPECIFICATIONS:

PART 1 GENERAL

1.1 SUBMITTALS

THE FOLLOWING SHALL BE SUBMITTED BY THE SUBCONTRACTOR TO THE CONTRACTOR FOR REVIEW AND APPROVAL IN SUFFICIENT DETAIL TO SHOW FULL COMPLIANCE WITH THE SPECIFICATION:

SD-01 DATA
DESIGN ANALYSIS AND CALCULATIONS FOR THE FOLLOWING ITEMS SHALL BE IN ACCORDANCE WITH THE PARAGRAPH ENTITLED, "DESIGN CRITERIA," OF THIS SECTION. STRUCTURAL CALCULATIONS SHALL BE PREPARED AND CERTIFIED BY A REGISTERED PROFESSIONAL STRUCTURAL ENGINEER.

PRE-ENGINEERED METAL BUILDINGS
STRUCTURAL STEEL MEMBERS AND
METAL ROOFING

SD-01 DATA
MANUFACTURER'S CATALOG DATA SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS, INCLUDING ACCESSORIES AND INSTALLATION MATERIALS.

STRUCTURAL STEEL PRIMARY MEMBERS
STRUCTURAL STEEL SECONDARY MEMBERS
SUBFRAMING
ROOFING
COATINGS
ACCESSORIES
ROOF RIDGE VENTS
GUTTERS AND DOWNSPOUTS

SD-04 DRAWINGS
FABRICATION DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS:

STRUCTURAL STEEL PRIMARY MEMBERS
STRUCTURAL STEEL SECONDARY MEMBERS
SUBFRAMING
ROOFING
ACCESSORIES
ROOF RIDGE VENTS
GUTTERS AND DOWNSPOUTS

SD-04 DRAWINGS
INSTALLATION DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE IN ACCORDANCE WITH THE PARAGRAPH ENTITLED, "ASSEMBLY AND ERECTION," OF THIS SECTION.

PRE-ENGINEERED BUILDING SYSTEMS
ROOF RIDGE VENTS
GUTTERS AND DOWNSPOUTS

SD-06 INSTRUCTIONS
MANUFACTURER'S INSTRUCTIONS SHALL BE SUBMITTED FOR PRE-ENGINEERED BUILDING SYSTEMS, INDICATING THE RECOMMENDED INSTALLATION METHODS AND SEQUENCE.

SD-08 STATEMENTS

LISTING OF PRODUCT INSTALLATIONS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS:

METAL BUILDING MANUFACTURER

SD-13 CERTIFICATES

CERTIFICATES OF COMPLIANCE SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS SHOWING CONFORMANCE WITH THE REFERENCED STANDARDS CONTAINED IN THIS SECTION.

MATERIALS
EQUIPMENT
ACCESSORIES

SD-14 SAMPLES

THE SUBCONTRACTOR SHALL PROVIDE THE FOLLOWING SAMPLES:

METAL ROOFING AND SIDING: ONE PIECE, 9 INCHES WIDTH OF PANEL.

1.2 DESIGN CRITERIA

THE STRUCTURE SHALL BE DESIGNED TO WITHSTAND A LIVE LOAD ON THE ROOF, IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND WIND AND SEISMIC LOADING AS REQUIRED BY THE SECTION ENTITLED, "DESIGN PRACTICES," OF THE MBMA-01 LOW RISE BUILDING SYSTEMS MANUAL FOR THE PARTICULAR LOCALITY. LOADS SHALL BE COMBINED FOR DETERMINING MAXIMUM STRESS AS REQUIRED BY THE SECTION ENTITLED, "DESIGN PRACTICES," OF THE MBMA-01 LOW RISE BUILDING SYSTEMS MANUAL.

ALLOWABLE STRESSES MAY BE INCREASED ONE-THIRD FOR DESIGN-LOAD COMBINATIONS INVOLVING WIND.

STRUCTURAL STEEL MEMBERS SHALL BE DESIGNED IN ACCORDANCE WITH AISC S326 AND AISI SG-673.

THE DESIGN OF PRE-ENGINEERED METAL BUILDINGS SHALL BE IN ACCORDANCE WITH THE MBMA-01 LOW RISE BUILDING SYSTEMS MANUAL.

DEFLECTION OF METAL ROOFING AND SIDING PANELS SHALL NOT EXCEED 1/180 OF THE SPAN ON SINGLE SPAN LOADING UNDER THE INDICATED TOTAL LIVE AND WIND LOAD.

1.3 FRAMING SYSTEM

1.3.1 TAPERED COLUMN, TAPERED RAFTER, AND RIGID FRAME

FRAMING SHALL CONSIST OF TAPERED SECTION COLUMNS, SPLICE PLATES FIELD BOLTED TO TAPERED RAFTERS AND SHALL BE OF THE SPAN, EAVE HIEGHT AND BAY SPACING INDICATED.

PART 2 PRODUCTS

2.1 PRIMARY MEMBERS

STEEL FOR HOT-ROLLED MILL SHAPES, PLATES, AND BARS SHALL CONFORM TO ASTM A 36.

HOT-ROLLED STEEL SHEET, PLATE, AND STRIP OF WELDED ASSEMBLIES SHALL CONFORM TO ASTM A 529, ASTM A 570, OR ASTM A 572, GRADE 42 OR 50.

STEEL TUBING SHALL CONFORM TO ASTM A 501 OR ASTM A 500, GRADE B.

DIAGONAL-ROD BRACING STEEL SHALL CONFORM TO ASTM A 572, GRADE 60 OR 65, OR ASTM A 36 NOT LESS THAN 3/8-INCH DIAMETER. THREADS SHALL BE ROLLED OR CUT. NUTS SHALL BE SEMIFINISHED HEX-HEAD.

ANCHOR BOLTS SHALL BE UNCOATED, CARBON STEEL CONFORMING TO ASTM A 36 HOT-DIPPED GALVANIZED PER ASTM A 153.

PRIMARY MEMBERS SHALL BE PREPARED AND COATED IN ACCORDANCE WITH NOTES 3 THRU 11 OF THIS SHEET.

2.2 SECONDARY MEMBERS

MEMBERS SHALL CONFORM TO ASTM A 446, GRADE C, OR TO ASTM A 570, GRADE 40, 45, OR 50. MINIMUM THICKNESS OF MEMBERS SHALL BE 16 GAGE. MEMBERS SHALL BE PREPUNCHED FOR BOLTED FIELD ASSEMBLY.

SECONDARY MEMBERS SHALL BE PREPARED AND COATED IN ACCORDANCE WITH NOTES 3 THRU 11 OF THIS SHEET.

2.3 SUBFRAMING

SUBFRAMING SHALL BE DIEFORMED SHAPES CONFORMING TO FS QQ-S-775, TYPE I, CLASS D, OR MAY BE BAR-SIZE SHAPES CONFORMING TO ASTM A 36. SHOP PRIME PAINT SHALL BE RUST-IHIBITIVE. MINIMUM UNCOATED THICKNESS SHALL BE 18 GAGE. BAR SHAPES SHALL BE AT LEAST 1/4INCH BY 1 INCH. T-BARS SHALL HAVE A MINIMUM UNCOATED THICKNESS OF 22 GAGE AND Z-BARS A MINIMUM UNCOATED THICKNESS OF 14 GAGE.

PART 2 PRODUCTS (CONTINUED)

2.3 SUBFRAMING (CONTINUED)

CONCEALED CLIPS SHALL BE FABRICATED FROM HOT-DIP GALVANIZED STEEL CONFORMING TO ASTM A 366. ZINC COATING SHALL BE IN ACCORDANCE WITH ASTM A 525, G90.

SUBFRAMING SHALL BE PREPARED AND COATED IN ACCORDANCE WITH NOTES 3 THRU 11 OF THIS SHEET.

2.4 ROOFING

PANELS SHALL CONFORM TO ASTM A 446, GRADE A, B, C, D, OR E AS OPTIONAL WITH THE MANUFACTURER, NOT LESS THAN 26-GAGE THICK, BEFORE COATING. ZINC COATING SHALL CONFORM TO ASTM A 525, G90.

METAL FASCIA SHALL BE OF THE SAME MATERIAL AS THE ROOFING AND SIDING AND NOT LESS THAN 26-GAGE.

ROOFING SHEETS SHALL BE OF SUFFICIENT LENGTH TO BRIDGE AT LEAST 3 PURLIN SPANS PLUS THE REQUIRED END LAP. ROOFING SHEETS SHALL EXTEND FULL WIDTH FROM RIDGE TO EAVE IN BUILDINGS 60 FEET AND LESS IN WIDTH. ROOFING SHEETS SHALL HAVE CONCEALED, SEMICONCEALD OR EXPOSED ON EXTERIOR.

2.5 FINISH

BAKED ENAMEL COATING SHALL BE A TWO COAT, THERMOSETTING, ACRYLIC ENAMEL OR VINYL-SOLUTION FINISH STANDARD WITH THE MANUFACTURER, APPLIED TO OUTSIDE OF PANELS.

2.6 ACCESSORIES

SHEET-METAL ACCESSORIES SHALL BE FORMED OF MATERIAL OF THE SAME TYPE AND FINISH AS ROOFING AND SIDING PANELS AND SHALL BE NOT LESS THAN 26 GAGE.

FILLER STRIPS SHALL BE PREMOLDED NEOPRENE OR POLYVINYLCHLORIDE.

2.6 VENTILATORS

VENTILATORS SHALL BE THE MANUFACTURER'S STANDARD OF GALVANIZED STEEL CONFORMING TO ASTM A 526. ZINC COATING SHALL BE IN ACCORDANCE WITH ASTM A 525, G90. EXTERIOR AND INTERIOR SURFACES SHALL BE PRIMED. EXTERIOR SHALL BE COATED WITH A TWO COAT BAKED ENAMEL FINISH.

2.7 GUTTERS AND DOWNSPOUTS

GUTTERS AND DOWNSPOUTS SHALL CONFORM TO ASTM A 526. ZINC COATING SHALL BE IN ACCORDANCE WITH ASTM A 525, G90. MATERIAL SHALL BE NOT LESS THAN 26 GAGE.

PART 3 EXECUTION

3.1 ASSEMBLY AND ERECTION

ASSEMBLY AND ERECTION SHALL BE ON A PREPARED FOUNDATION IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

THE MANUFACTURER SHALL FURNISH EITHER TEMPLATES OR AN ANCHOR BOLT LAYOUT DRAWING THAT MUST BE USED FOR THE LOCATION OF ANCHOR BOLTS.

NOTES:

1. DEMOLITION:
   a. THE SUBCONTRACTOR SHALL DEMOLISH AND REMOVE THE REQUIRED AREAS OF EXISTING 8 INCH THICK REINFORCED CONCRETE SLAB.
   b. ANY DEMOLITION WORK CAUSING DAMAGE TO EXISTING EQUIPMENT OR FACILITIES SHALL BE REPAIRED OR REPLACED TO ITS ORIGINAL CONDITION BY THE SUBCONTRACTOR, AT NO COST TO THE CONTRACTOR.
2. CONCRETE:
   a. CONCRETE SHALL BE MANUFACTURED AND DELIVERED TO THE PROJECT SITE BY A READY-MIX CONCRETE MANUFACTURER EXPERIENCED IN READY-MIX CONCRETE.
   b. CONCRETE SHALL BE READY-MIX CONCRETE AND SHALL CONFORM TO ASTM C 94, MINIMUM COMPRESSIVE STRENGTH 3000 PSI AT 28 DAYS. SLUMP SHALL BE BETWEEN 3 AND 4 INCHES.
   c. WATER-REDUCING ADMIXTURES, RETARDING ADMIXTURES, ACCELERATING ADMIXTURES, WATER-REDUCING AND ACCELERATING ADMIXTURES, AND WATER-REDUCING AND RETARDING ADMIXTURES SHALL CONFORM TO ASTM C 494.
   d. FLY ASH OR OTHER POZZOLANS USED AS ADMIXTURES SHALL CONFORM TO ASTM C 618, CLASS C WITH 4 PERCENT MAXIMUM LOSS ON IGNITION AND 20 PERCENT MAXIMUM CEMENT REPLACEMENT BY WEIGHT.
   e. STEEL BARS SHALL CONFORM TO ASTM A 615, GRADE 60 AND ACI 318.
   f. STEEL REINFORCEMENT SHALL BE SHOP FABRICATED IN ACCORDANCE WITH ACI 315. SHOP DETAILS AND BENDING SHALL BE IN ACCORDANCE WITH ACI 318.
   g. REINFORCEMENT SHALL BE FREE FROM LOOSE, FLAKY RUST AND SCALE, AND FREE FROM OIL, GREASE, OR OTHER COATING WHICH MIGHT DESTROY OR REDUCE THE REINFORCEMENT'S BOND WITH THE CONCRETE.
   h. REINFORCEMENT SHALL BE SECURED IN PLACE BY THE USE OF METAL OR CONCRETE SUPPORTS, SPACERS, OR TIES.
   i. FORMS SHALL BE TRUE TO LINE AND GRADE, MORTAR-TIGHT, AND SUFFICIENTLY RIGID TO PREVENT OBJECTIONABLE DEFORMATION UNDER LOAD. FORM SUFACES FOR PERMANENTLY EXPOSED FACES SHALL BE SMOOTH, FREE FROM IRREGULARITIES, DENTS, SAGS, OR HOLES. EXPOSED JOINTS AND EXPOSED EDGES SHALL BE CHAMFERED. INTERNAL TIES SHALL BE SO ARRANGED THAT WHEN THE FORMS ARE REMOVED, THE FORM TIS WILL BE NOT LESS THAN 2 INCHES FROM CONCRETE SURFACES PERMANENTLY EXPOSED TO VIEW OR EXPOSED TO WATER ON THE FINISHED STRUCTURE.
   j. BEFORE PLACING CONCRETE, CARE SHALL BE TAKEN TO DETERMINE THAT ALL EMBEDDED ITEMS ARE FIRMLY AND SECURELY FASTENED IN PLACE. EMBEDDED ITEMS SHALL BE FREE OF OIL AND OTHER FOREIGN MATTER SUCH AS LOOSE COATINGS OF RUST, PAINT AND SCALE. EMBEDDING OF WOOD IN CONCRETE WILL BE PERMITTED ONLY WHEN SPECIFICALLY AUTHORIZED OR DIRECTED.
   k. CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 318.
   l. CONCRETE SHALL BE WORKED INTO THE CORNERS AND ANGLES OF THE FORMS AND AROUND REINFORCEMENT AND EMBEDDED ITEMS WITHOUT PERMITTING THE MATERIALS TO SEGREGATE. CONCRETE SHALL BE PLACED WITHIN 90 MINUTES AFTER IT HAS BEEN DISCHARGED. SHALL BE PLACED ON CLEAN, DAMP SURFACES FREE FROM WATER, ICE, FROST, MUD, DEBRIS, OR OBJECTIONABLE COATINGS. CONCRETE SHALL BE CONSOLIDATED WITH THE AID OF MECHANICAL VIBRATING EQUIPMENT SUPPLEMENTED BY HANDSPADING AND TAMPING. VIBRATING EQUIPMENT SHALL BE OF THE INTERNAL TYPE.
   m. DEFECTIVE CONCRETE, VOIDS LEFT BY THE REMOVAL OF TIE RODS, AND RIDGES AND LOCAL BULGING ON CONCRETE SURFACES PERMANENTLY EXPOSED TO VIEW OR EXPOSED TO WATER ON THE FINISHED STRUCTURE SHALL BE REPAIRED IMMEDIATELY AFTER THE REMOVAL OF FORMS. VOIDS LEFT BY THE REMOVAL OF THE TIE RODS SHALL BE REAMED AND COMPLETELY FILLED WITH DRY-PATCHING MORTAR. DEFECTIVE CONCRETE SHALL BE REPAIRED BY CUTTING OUT THE UNSATISFACTORY MATERIAL AND PLACING NEW CONCRETE SECURED WITH KEYS, DOVETAILS, OR ANCHORS. EXCESSIVE RUBBING OF FORMED SURFACES WILL NOT BE PERMITTED. UNFORMED SURFACES OF CONCRETE EXPOSED IN THE COMPLETED WORK SHALL HAVE A WOOD FLOAT FINISH WITHOUT ADDITIONAL MORTAR AND SHALL BE TRUE TO INDICATED ELEVATIONS. OTHER SURFACES SHALL BE BROUGHT TO SPECIFIED ELEVATIONS AND LEFT TRUE AND REGULAR.
   n. A TROWEL FINISH SHALL BE APPLIED TO FOUNDATION AND PEDESTAL SURFACES THAT ARE TO BE EXPOSED TO VIEW AND EXPOSED SURFACES SEALED WITH SIL-ACT ATS-42, AS DISTRIBUTED BY A&E CONSTRUCTION PRODUCTS, ORLANDO, FLORIDA 298-8002 OR APPROVED EQUAL.

NOTES: (CONTINUED)

   o. CONCRETE SHALL BE CURED IN ACCORDANCE WITH ASTM C 405.
   p. CURING SHALL BE ACCOMPLISHED BY MOIST CURING, BY MOISTURE-RETAINING COVER CURING, BY MEMBRANE CURING, OR BY COMBINATIONS THEREOF.
   q. MOISTURE-RETAINING COVER CURING SHALL BE ACCOMPLISHED BY COVERING CONCRETE SURFACES WITH MOISTURE-RETAINING COVER FOR CURING CONCRETE.
   r. MEMBRANE CURING SHALL BE ACCOMPLISHED BY APPLYING SPECIFIED MEMBRANE-FORMING CURING COMPOUND TO DAMP CONCRETE SURFACES AS SOON A MOISTURE FILM HAS DISAPPEARED.
   s. MOIST CURING SHALL BE ACCOMPLISHED BY KEEPING SURFACE OF CONCRETE WET OR BY COVERING WITH ABSORPTIVE COVER SATURATED WITH WATER AND KEPT WET.
   t. TESTING SHALL CONFORM TO ASTM C 39, QUALITY-CONTROL DURING CONSTRUCTION SHALL BE BY THE CONTRACTOR.
   u. SPECIMENS SHALL BE TESTED FOR COMPRESSIVE STRENGTH AT 7 DAYS AND AT 28 DAYS AND 4 INCHES SLUMP FOR EACH DESIGN MIX. SLUMP SHALL BE IN ACCORDANCE WITH ASTM C 143, AND SHALL BE CONDUCTED BY AN INDEPENDANT TESTING LABORATORY.
3. FINISHES:
   SUBMITTALS:
   a. THE FOLLOWING SHALL BE SUBMITTED BY THE SUBCONTRACTOR TO THE CONTRACTOR FOR REVIEW AND APPROVAL IN SUFFICIENT DETAIL TO SHOW FULL COMPLIANCE WITH THE FOLLOWING REQUIREMENTS:

      MIX DESIGNS SHALL BE SUBMITTED FOR EACH TYPE OF PROTECTIVE COATING INCLUDING A COMPLETE LIST OF INGREDIENTS AND ADMIXTURES. THE APPLICABLE TEST REPORT SHALL VERIFY THAT THE MIX HAS BEEN SUCCESSFULLY TESTED AND MEETS DESIGN REQUIREMENTS.

   b. MANUFACTURER'S CATALOG DATA SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS:

      ABRASIVE BLASTING MATERIAL
      SEALANT COMPOUND
      INORGANIC ZINC COATINGS

   c. MANUFACTURER'S INSTRUCTIONS SHALL BE SUBMITTED FOR PROTECTIVE COATINGS INCLUDING DETAILS OF THINNING, MIXING, HANDLING, AND APPLICATION.
   d. CERTIFICATES OF COMPLIANCE SHALL BE SUBMITTED FOR FOLLOWING ITEMS SHOWING CONFORMANCE WITH THE REFERENCED STANDARDS CONTAINED IN THIS SECTION.

      INORGANIC ZINC COATINGS

   e. INSPECTION FORMS SHALL BE SUBMITTED AT THE PREWORK CONFERENCE WHICH SHALL BE USED BY THE COATING INSPECTOR AND FORWARDED TO THE SUBCONTRACT ADMINISTRATOR PRIOR TO DELIVERY OF THE COATED WORK TO THE JOB SITE.
4. DELIVERY, HANDLING, AND STORAGE
   a. MATERIALS SHALL BE DELIVERED IN ORIGINAL, UNOPENED CONTAINERS BEARING THE MANUFACTURER'S NAME, BRAND LIFE, PRODUCT IDENTIFICATION, AND BATCH NUMBER.
   b. COATINGS, THINNERS, AND CLEANERS SHALL BE STORED IN TIGHTLY CLOSED CONTAINERS IN A COVERED, WELL-VENTILATED AREA WHERE THEY WILL BE PROTECTED FROM EXPOSURE TO EXTREME COLD OR HEAT, SPARKS, FLAME, DIRECT SUNLIGHT, OR RAINFALL. THE MANUFACTURER'S INSTRUCTIONS FOR STORAGE LIMITATIONS SHALL BE FOLLOWED.
5. PROTECTIVE COATINGS
   a. COATING SYSTEM 1 SHALL CONSIST OF INORGANIC ZINC ONLY COATINGS SHALL BE SELECTED FROM THE FOLLOWING LISTING AND ALL COATINGS, THINNERS, AND CLEANERS SHALL BE THE PRODUCT OF THE SAME MANUFACTURER.

COATING SYSTEM 1	
INORGANIC ZINC	MANUFACTURER
CATHA-COAT 304	DEVOE & REYNOLDS CO., 4000 DUPONT CIRCLE P. O. BOX 7600, LOUISVILLE, KY. 40207 [(502) 897-9861]
GANICIN 347-931	DUPONT COMPANY, MAINTENANCE FINISHES, WILSON BUILDING CONCORD PLAZA, WILMINGTON, DE. 19898 [(800) 346-4748]
MOBILZINC 7	VALSPAR CORP., 1401 SEVERN STREET, BALTIMORE, MD. 21230 [(301) 625-7200]
ZINC-LOCK 311	PORTER PAINT CO., P. O. BOX 1439, LOUISVILLE, KY. 40201 [(502) 588-9200]

6. SURFACE PREPARATION
   a. SURFACES THAT WILL BECOME INACCESSIBLE AFTER INSTALLATION, AND FAYING. SURFACES SHALL BE ABRASIVE BLASTED AND COATED WITH INORGANIC ZINC, PRIOR TO INSTALLATION.
   b. SURFACES THAT ARE PART OF FRICTION-TYPE JOINTS, SHALL BE ABRASIVE BLASTED AND COATED WITH INORGANIC ZINC ONLY, PRIOR TO INSTALLATION.
   c. SURFACES TO BE WELDED SHALL BE LEFT UNCOATED. WELDED AREAS SHALL THEN BE MASKED AND TOUCHED UP
   d. PREPARED SURFACES SHALL BE COATED WITHIN 6 HOURS AFTER COMPLETION OF SURFACE PREPARATION AND BEFORE RUSTING OR RECONTAMINATION OCCURS. SURFACES NOT COATED WITHIN 6 HOURS OR WHICH SHOW RUSTING OR CONTAMINATION, REGARDLESS OF THE LENGTH OF TIME AFTER PREPARATION, SHALL BE REPEPARED.
   e. SURFACE PREPARATION AND COATING OPERATIONS SHALL BE SEQUENCED SO THAT FRESHLY APPLIED COATINGS WILL NOT BE CONTAMINATED BY DUST OR FOREIGN MATTER.
   f. SURFACES SHALL BE INSPECTED AND DEGREASED AS REQUIRED PRIOR TO SUBSEQUENT SURFACE PREPARATION AND THE APPLICATION OF PROTECTIVE COATINGS. DEGREASING SHALL BE BY SOLVENT CLEANING, DETERGENT WASHING, OR STEAM CLEANING. SSPC SP 1 SHALL APPLY FOR SOLVENT CLEANING.
6. ABRASIVE BLASTING (AB)
   a. ABRASIVE BLASTING SHALL CONFORM TO SSPC SP 10, "NEAR-WHITE BLAST CLEANING."
   b. COMPRESSED AIR USED FOR ABRASIVE BLASTING SHALL BE FREE OF MOISTURE AND OIL.
   c. SURFACES NOT TO BE BLASTED ARE:
      GALVANIZED STEEL AND PREFINISHED SURFACES EXCEPT WHEN SPECIFIED TO BE BLAST-CLEANED IN THE COATING SCHEDULE
6. ABRASIVE BLASTING (CONTINUED)
   d. A MINIMUM NOZZLE PRESSURE OF 90 POUNDS PER SQUARE INCH SHALL BE MAINTAINED.
   e. WELD SLAG, WELD SPLATTER, AND FOREIGN MATTER SHALL BE REMOVED FROM SURFACES TO BE COATED PRIOR TO ABRASIVE BLASTING USING MECAHANICAL METHODS AS SPECIFIED.
   f. BLAST CLEANING SHALL ACHIEVE A 1 TO 2 MIL ANCHOR PROFILE AS INDICATED BY A SURFACE PROFILE COMPARATOR, REPLICA TAPE, OR SIMILAR DEVICE.
   g. RUST AND CORROSION SHALL BE REMOVED FROM PITS AND DEPRESSIONS.
   h. ABRASIVE BLAST AGGRAGATE SHALL NOT BE REUSED.
   i. ALL TRACES OF ABRASIVE RESIDUE AND DUST SHALL BE REMOVED FROM THE SURFACE, LEAVING IT CLEAN AND DRY.
7. COATING APPLICATION
   a. THE MANUFACTURER'S INSTRUCTIONS FOR THINNING, MIXING, HANDLING, AND APPLYING HIS PRODUCT SHALL BE CONSIDERED A PART OF THIS SPECIFICATION. IN THE EVENT OF CONFLICT BETWEEN THE REQUIREMENTS, THIS SPECIFICATION SHALL TAKE PRECEDENCE.
   b. COMPRESSED AIR USED FOR SPRAYING COATINGS SHALL BE FREE OF MOISTURE AND OIL.
   c. EACH COAT OF MATERIAL APPLIED SHALL BE FREE FROM RUNS; SAGS; BLISTERS; BUBBLES; MUD CRACKING; VARIATIONS IN COLOR, GLOSS, AND TEXTURE; HOLIDAYS (MISSED AREAS); EXCESSIVE FILM BUILD; FOREIGN CONTAMINANTS; AND DRY OVERSPRAY.
   d. NO COATING SHALL BE APPLIED WHEN RAIN IS IMMINENT OR WHEN THE TEMPERATURE OR HUMIDITY IS OUTSIDE THE LIMITS RECOMMENDED BY THE COATING MANUFACTURER.
   e. SURFACE TEMPERATURE SHALL BE AT LEAST 5 DEGREES F ABOVE THE DEW POINT.
   f. COATINGS SHALL BE THOROUGHLY WORKED INTO ALL JOINTS, CREVICES, AND OPEN SPACES. SPECIAL ATTENTION SHALL BE PAID TO WELDS, CUTOUTS, SHARP EDGES, RIVETS, CREVICES, AND BOLTS TO ENSURE PROPER COVERAGE AND THICKNESS.
   g. NEWLY COATED SURFACES SHALL BE ADEQUATELY PROTECTED FROM DAMAGE.
   h. COATINGS SHALL BE APPLIED BY AIRLESS OR CONVENTIONAL SPRAY. AIRLESS SPRAYING SHALL BE USED FOR UNIFORM LARGE SURFACE AREAS. CONVENTIONAL SPRAYING SHALL BE USED FOR SMALL AREAS OR INTRICATE CONFIGURATION AND FOR TOUCHUP. DURING APPLICATION OF INORGANIC ZINC COATINGS, MAINTAIN UNIFORM SUSPENSION. CONTINUOUS RAPID AGITATION SHALL BE AVOIDED.
   i. THE MATERIAL SHALL BE THINNED FOR WORKABILITY AND IMPROVED SPRAY CHARACTERISTICS ONLY.
8. MIXING AND APPLICATIONS PROCEDURES
   a. MATERIAL SHALL BE STIRRED THOROUGHLY USING AN INSTRUMENT THAT WILL NOT INDUCE AIR INTO COATING.
   b. THE MIXED MATERIAL SHALL BE STRAINED THROUGH A 30- TO 60- MESH SCREEN.
   c. THE MATERIAL SHALL BE APPLIED IN EVEN, PARALLEL PASSES, OVERLAPPING 50 PERCENT. SPECIAL ATTENTION SHALL BE PAID TO WELDS, CUTOUTS, SHARP EDGES, RIVETS, CREVICES, AND BOLTS TO ENSURE PROPER COVERAGE AND THICKNESS.
   d. THE COATINGS SHALL BE APPLIED TO THE FOLLOWING DRY-FILM THICKNESSES (DFT):

      INORGANIC ZINC COATINGS SYSTEM 3 TO 6 MILS

   e. WHEN DRY THROUGH (DRY TO HANDLE), THE FILM THICKNESS SHALL BE CHECKED WITH A CALIBRATED NONDESTRUCTIVE DRY-FILM THICKNESS GAGE. IF LESS THAN SPECIFIED THICKNESS, ADDITIONAL MATERIAL SHALL BE APPLIED AS REQUIRED. THE PROPER DFT FOR THE INORGANIC ZINC COATING SHALL BE OBTAINED IN A SINGLE APPLICATION WHICH MAY CONSIST OF MULTIPLE PASSES, WHILE COATING IS STILL WET.
9. TOUCH-UP

   ABRASIONS THAT OCCURRED DURING SHIPMENT OR ERECTION SHALL BE TOUCHED UP AS FOLLOWS:

      INORGANIC ZINC SHALL BE USED FOR TOUCH-UP AND REPAIR OF INORGANIC ZINC.

10. INSPECTION

    ON-SITE WORK AS DESCRIBED HEREIN SHALL BE INSPECTED FOR COMPLIANCE WITH THIS SPECIFICATION BY AN INDEPENDENT NACE (NATIONAL ASSOCIATION OF CORROSION ENGINEERS) CERTIFIED COATING INSPECTOR PROVIDED BY THE SUBCONTRACTOR.

11. COATING SCHEDULE

SURFACE DESCRIPTION	SURFACE PREPARATION	COATING SYSTEM
CARBON STEEL	ABRASIVE BLASTING	1

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES | DATE
DRAWN [illegible] | 5/9/96
CHECKED [illegible] | 5/9/96
ENGINEER [illegible] | 5/9/96
[illegible] | 5/9/96
SUBMITTED [illegible] | 5/9/96
APPROVED [illegible] | DATE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER

KSC SLF AREA
SHUTTLE LANDING FACILITY

A.G.E. STORAGE SHELTER

SPECIFICATIONS AND NOTES

C0424800.002
COMPUTER DESIGN FILE NAME
THIS DRAWING CREATED ON INTERGRAPH MICROSTATION CAD SYSTEM AND SHALL BE REVISED BY COMPUTER ONLY.

C-2

EG&G FLORIDA

SIZE F | DWG. NO. 81K04248 | REV
TITLE BRANCH MANAGER | PROJ. NO. WPCN 122640 | SHEET 3

NOTES:

1. REMOVE EXISTING 3P, 100 AMP BREAKER AND REPLACE WITH (3) 1P, 20 AMP BREAKERS.
2. DESIGN DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS, BENDS, ELBOWS, OR OTHER SPECIFIC ELEMENTS THAT MAY BE REQUIRED FOR PROPER INSTALLATION OF THE WORK. SUCH WORK SHALL BE VERIFIED AT THE SITE. ADDITIONAL BENDS, OFFSETS AND CONDUIT AS REQUIRED BY VERTICAL AND HORIZONTAL EQUIPMENT LOCATIONS OR OTHER JOB CONDITIONS, SHALL BE PROVIDED TO COMPLETE THE WORK AS NO ADDITIONAL COST TO THE CONTRACTOR.
3. EXCEPT WHERE SHOWN IN DIMENSIONAL DETAIL, THE LOCATIONS OF LIGHTS, OUTLETS AND OTHER EQUIPMENT SHOWN ON THE PLANS ARE APPROXIMATE. SUCH ITEMS SHALL BE PLACED TO ELIMINATE INTERFERENCE WITH PIPING, DUCTS, AND EQUIPMENT. THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD.
4. EQUIPMENT SIZES INDICATED ARE MINIMUM. BEFORE INSTALLING ANY WIRE OR CONDUIT, THE SUBCONTRACTOR SHALL OBTAIN THE EXACT EQUIPMENT REQUIREMENTS AND SHALL INSTALL WIRE CONDUIT, CIRCUIT BREAKERS AND OTHER ITEMS OF THE CORRECT SIZE FOR THE EQUIPMENT ACTUALLY INSTALLED. HOWEVER, WIRE AND CONDUIT SIZES SHOWN ON THE DRAWINGS SHALL BE TAKEN AS A MINIMUM AND SHALL NOT BE REDUCED WITHOUT WRITTEN APPROVAL.
5. EQUIPMENT DESIGN, FABRICATION, TESTING, PERFORMANCE, AND INSTALLATION SHALL, UNLESS SHOWN OR SPECIFIED OTHERWISE, COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70, NEC, AND NFPA 72 (LATEST EDITION).
6. EXPOSED SURFACES OF WIREWAYS, CONDUIT SYSTEMS AND EQUIPMENT THAT HAVE BECOME COVERED WITH DIRT, OR OTHER MATERIAL DURING HANDLING AND CONSTRUCTION SHALL BE THOROUGHLY CLEANED.
7. THE ELECTRICAL WORK SHALL BE COORDINATED WITH THE WORK OF ALL OTHER TRADES.
8. THE SUBCONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MINIMIZE INTERFERENCE WITH THE ELECTRICAL SERVICE TO ANY EXISTING STRUCTURE. SPECIFIC APPROVAL SHALL BE OBTAINED BEFORE ANY EXISTING SERVICE IS INTERRUPTED, EITHER MOMENTARILY OR FOR EXTENDED PERIOD OF TIME. WHEN SUCH WORK IS CONTEMPLATED, THE SUBCONTRACTOR SHALL NOTIFY THE SUBCONTRACT ADMINISTRATOR AT LEAST 10 WORKING DAYS IN ADVANCE OF THE TIME SUCH WORK IS PLANNED AND THE SUBCONTRACTOR SHALL NOT PROCEED WITH THE WORK UNTIL APPROVAL HAS BEEN GIVEN FOR INTERRUPTION OF SERVICE DURING THE TIME REQUESTED.
9. CONDUIT TYPE SHALL BE AS SHOWN ON THE DRAWINGS. WHERE NOT SHOWN, RIGID STEEL CONDUIT SHALL BE USED. CONDUITS AND RACEWAYS SHALL BE NOT LESS THAN 3/4-INCH TRADE SIZE, OR AS OTHERWISE SPECIFIED IN THE DRAWINGS. CONDUIT SHALL BE UL LISTED.
10. MANUFACTURERS AND CATALOG NUMBERS SHOWN ARE INDICATIVE OF THE GENERAL TYPE DESIRED AND ARE NOT INTENDED TO RESTRICT THE SELECTION OF FIXTURES OF ANY PARTICULAR MANUFACTURER. FIXTURES WITH THE SAME SALIENT FEATURES AND EQUIVALENT LIGHT DISTRIBUTION AND BRIGHTNESS CHARACTERISTICS, OF EQUAL FINISH AND QUALITY, WILL BE ACCEPTABLE UPON APPROVAL. LAMPS OF THE PROPER TYPE AND WATTAGE SHALL BE PROVIDED FOR EACH FIXTURE.
11. HIGH INTENSITY DISCHARGE LIGHTING FIXTURES SHALL HAVE PREWIRED INTEGRAL BALLASTS AND CAST ALUMINUM HOUSING COMPLETE WITH TEMPERED GLASS LENSES SUITABLE FOR INSTALLATION IN DAMP OR WET LOCATIONS. FIXTURES AND LAMPS SHALL BE AS INDICATED ON THE CONTRACT DRAWINGS.
12. HID LIGHTING FIXTURES AND THEIR ACCESSORIES SHALL BE DEMONSTRATED TO OPERATE SATISFACTORILY IN THE PRESENCE OF THE CONTRACTOR.
13. NO COMBINATION OF MATERIAL SHALL BE USED THAT FORMS AN ELECTROLYTIC COUPLE OF SUCH NATURE THAT CORROSION IS ACCELERATED IN THE PRESENCE OF MOISTURE UNLESS MOISTURE IS PERMANENTLY EXCLUDED FROM THE JUNCTION OF SUCH METALS.
14. AIR TERMINALS SHALL BE ½" X 12" HIGHLY POLISHED SOLID BAR COPPER POINT WITH NICKEL TIP, WITH ATTACHED SADDLE ADAPTER. THOMPSON #55 OR APPROVED EQUAL. USE THOMPSON #688 WITH #27 SWIVEL ADAPTER OR APPROVED EQUAL TO CONNECT TO GROUND WIRE. ADHESIVE SHALL BE THOMPSON #731 OR APPROVED EQUAL.
15. GROUND RODS SHALL BE NO LESS THAN 3/4-INCH IN DIAMETER AND 40 FEET IN LENGTH. TEN-FOOT EXOTHERMIC-FUSION-WELDED SECTION RODS SHALL BE UTILIZED TO MAKE UP THE LENGTH OF ROD REQUIRED.
16. THE LIGHTNING PROTECTION SYSTEM SHALL CONSIST OF AIR TERMINALS, ROOF CONDUCTORS, DOWN CONDUCTORS, GROUND CONNECTIONS AND GROUNDS, ELECTRICALLY INTERCONNECTED TO FORM THE SHORTEST DISTANCE TO GROUND WITHOUT PASSING THROUGH ANY NONCONDUCTING PARTS OF THE STRUCTURE. ALL CONDUCTORS ON THE STRUCTURES SHALL BE EXPOSED ON THE OUTSIDE WALLS. SECONDARY CONDUCTORS SHALL INTERCONNECT WITH GROUNDED METALLIC PARTS WITHIN THE BUILDING. INTERCONNECTIONS MADE WITHIN SIDE-FLASH DISTANCES SHALL BE AT OR ABOVE THE LEVEL OF THE GROUNDED METALLIC PARTS.
17. THE SUBCONTRACTOR SHALL PROVIDE AND KEEP UP TO DATE A COMPLETE RECORD SET OF DRAWINGS WHICH SHALL BE CORRECTED AND SHOW EVERY CHANGE FROM ORIGINAL DRAWINGS. PRINTS FOR THIS PURPOSE MAY BE OBTAINED FROM THE CONTRACTING OFFICER. THIS SET OF PRINTS SHALL BE KEPT ON THE JOBSITE AND SHALL BE USED ONLY AS A RECORD SET. THIS SHALL NOT BE CONSTRUED AS AUTHORIZATION FOR THE SUBCONTRACTOR TO MAKE CHANGES IN THE LAYOUT WITHOUT APPROVAL. UPON COMPLETION OF WORK, AND BEFORE FINAL PAYMENT, THE RECORD DRAWINGS (AS-BUILTS) SHALL BE SUBMITTED FOR APPROVAL. UPON APPROVAL, THE RECORED SET WILL BE RETAINED BY THE SUBCONTRACT ADMINISTRATOR.
18. WORK SHALL NOT BE COVERED UP OR ENCLOSED UNTIL IT HAS BEEN INSPECTED, TESTED, AND APPROVED. ANY WORK THAT IS COVERED UP OR ENCLOSED BEFORE SUCH INSPECTION AND TEST SHALL BE UNCOVERED. AFTER IT HAS BEEN INSPECTED AND APPROVED WORK SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE CONTRACTOR.
19. THE SUBCONTRACTOR SHALL INSTALL HIS WORK IN SUCH A MANNER AND AT SUCH A TIME AS WILL REQUIRE A MINIMUM OF CUTTING AND PATCHING OF STRUCTURES.
20. ALL REQUIRED REPAIRS AND REPLACEMENT OF DAMAGED WORK SHALL BE DONE AS DIRECTED BY AND SUBJECT TO THE APPROVAL OF THE SUBCONTRACT ADMINISTRATOR, AT NO ADDITIONAL COST TO THE CONTRACTOR.
21. BEFORE FINAL ACCEPTANCE, ALL ELECTRICAL EQUIPMENT SHALL BE CLEAN AND FREE FROM DIRT, GREASE, AND FINGER MARKS.
22. THE SUBCONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES TO CONSTRUCT, INSTALL AND TEST THE COMPLETE ELECTRICAL SYSTEM AND RELATED WORK AS INDICATED.
23. EXISTING GROUND CABLE TO BE CUT SHALL BE CADWELDED TOGETHER AND TESTED FOR RESISTANCE PRIOR TO POURING NEW CONCRETE PATCH.
24. CLEAN BONDING SURFACES IN STRICT ACCORDANCE WITH KSC-STD-E-0012-B.
25. ALL CADWELDING SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
26. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL BOND CONNECTIONS AND SHALL NOT EXCEED 1.0 MILLIOHMS.
27. PRIOR TO THE CONNECTION OF THE 4/0 CABLE, THE ROD AND EARTH RESISTANCE AND THE RESISTANCE FROM THE STRUCTURE BOND CONNECTION TO THE EARTH, WITH THE 4/0 CABLE DISCONNECTED FROM THE STRUCTURE, SHALL BE RECORDED AND FURNISHED TO THE SUBCONTRACT ADMINISTRATOR. THE RESISTANCE SHALL BE IN ACCORDANCE WITH KSC-STD-E-0012-B.
28. THE SUBCONTRACT ADMINISTRATOR SHALL ISSUE A CHANGE ORDER FOR THE SUBCONTRACTOR TO EXTEND THE GROUNDING SYSTEM TO ACHIEVE 25 OHMS IN AREAS WHERE THE RESISTANCE FROM THE STRUCTURE TO EARTH EXCEEDS 25 OHMS.
29. THE GROUNDING CABLE SHALL BE BARE, CLASS B, STRANDED SOFT OR MEDIUM DRAWN COPPER.
30. THE SUBCONTRACTOR SHALL SUBMIT FOR APPROVAL, AND PERFORM A TEST OF TH" COMPLETED INSTALLATION THAT SHALL FULLY DEMONSTRATE ALL ASPECTS OF THE SYSTEM. THE SUBCONTRACTOR SHALL PROVIDE THE SUBCONTRACT ADMINISTRATOR WRITTEN NOTIFICATION 10 WORKING DAYS PRIOR TO THE PLANNED TEST. THIS TEST SHALL BE PERFORMED IN THE PRESENCE OF THE CONTRACTOR'S REPRESENATIVE.
31. MOUNT FIRE ALARM PULL STATIONS ON STEEL COLUMNS 54" ABOVE SLAB. MOUNT FIRE ALARM BELLS AND STROBE LIGHTS 7' ABOVE SLAB.
32. ALL ELECTRICAL CIRCUITS SHALL BE FIELD VERIFIED PRIOR TO START OF WORK.
33. FIRE ALARM PANEL, STROBES, AND BELLS SHALL BE FURNISHED BY THE CONTRACTOR.
34. THE SERVICES OF A CERTIFIED SPECIALIST THOROUGHLY EXPERIENCED IN FIRE ALARM AND DETECTION WORK SHALL BE PROVIDED ON SITE TO PERFORM OR DIRECTLY SUPERVISE THE INSTALLATION, MAKE ALL ADJUSTMENTS AND PERFORM ALL TEST ON THE FIRE ALARM SYSTEM AT THE SITE. CERTIFICATION OF QUALIFIED PERSONNEL SHALL BE SUBMITTED TO SUBCONTRACT ADMINISTRATOR PRIOR TO START OF WORK.
35. THE SPECIALIST SHALL BE CONSIDERED CERTIFIED IF THE SPECIALIST HOLDS EITHER A VALID FIRE ALARM SPECIALIST LEVEL III CERTIFICATION FROM THE NATIONAL INSTITUTION FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES; A VALID LEVEL III FIRE ALARM ENGINEERING TECHNICIAN CERTIFICATION FROM THE INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION (IMSA); OR, IS LICENSED BY THE STATE OF FLORIDA AS A FIRE ALARM CONTRACTOR PER FLORIDA STATE STATUE, CHAPTER 489, PART II.
36. EACH MANUAL PULL STATION, STROBE LIGHT AND BELL SHALL BE ACTIVATED TO DEMONSTRATE PROPER OPERATION.
37. AFTER FINAL ACCEPTANCE TESTING HAS BEEN SUCCESSFULLY COMPLETED, THE SUBCONTRACTOR SHALL SUBMIT TEST DATA UNDER THE TERM OF THE "SHOP DRAWINGS" CLAUSE OF THIS CONTRACT.
38. CONDUCTORS SHALL BE INSTALLED UNBROKEN FROM DEVICE TO DEVICE. INTERMEDIATE SPLICES ARE NOT PERMITTED.

LEGEND:

- 10-8 — HOME RUN TO PANEL BOARD, NUMBER OF CIRCUITS INDICATED BY NUMBER OF ARROWS, TICK MARKS INDICATE NUMBER OF WIRES. LONG MARK INDICATES NUETRAL. GROUND NOT SHOWN. 10-8 INDICATES PANEL AND CIRCUIT NUMBER
- CIRCUIT BREAKER
- NEW EQUIPMENT
- EXISTING EQUIPMENT
- UNDERGROUND
- LIGHT FIXTURE
- WP — WEATHER PROOF
- STROBE
- F — FIRE ALARM BELL
- F — FIRE ALARM PULL STATION
- S A — SWITCH. A DESIGNATES SWITCH LEG
- J — JUNCTION BOX
- F — FIRE ALARM CONTROL PANEL

SYM	ZONE	DESCRIPTION	DATE	APPROVED
REVISIONS				

SIGNATURES		DATE
DRAWN	MURPHY	2/24/92
CHECKED		
ENGINEER	Robert Hoag	2/24/92
SUBMITTED	Robert Hoag	2/24/92
APPROVED	Donna	2/26/92
TITLE	MANAGER	DATE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER

KSC SLF AREA
SHUTTLE LANDING FACILITY

A.G.E. STORAGE SHELTER

NOTES AND LEGEND

SIZE F | 81K04248 | REV

PROJ NO WPCN #122640 | SHEET 4

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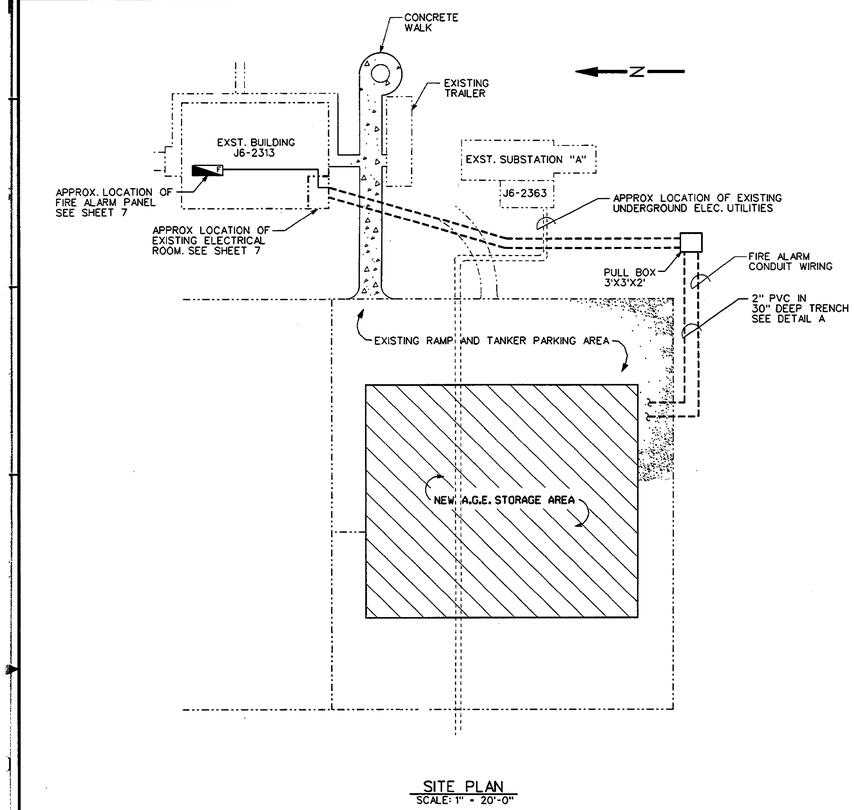
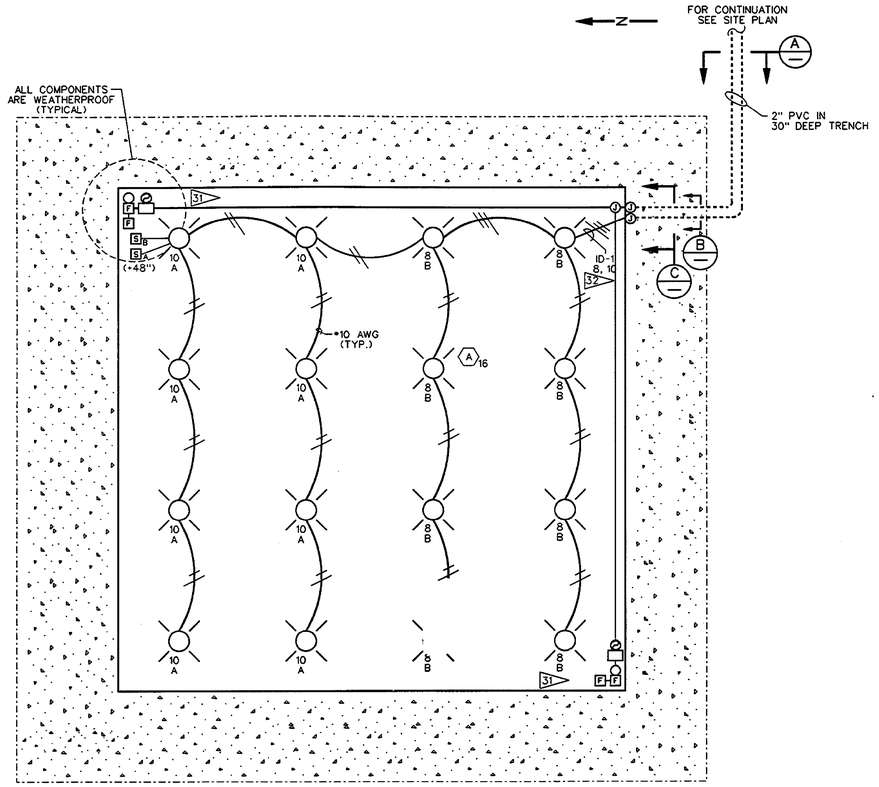
FILE = C0424800.004

EG&G FLORIDA

E-1



SITE PLAN
SCALE: 1" = 20'-0"



LIGHTING AND FIRE ALARM PLAN
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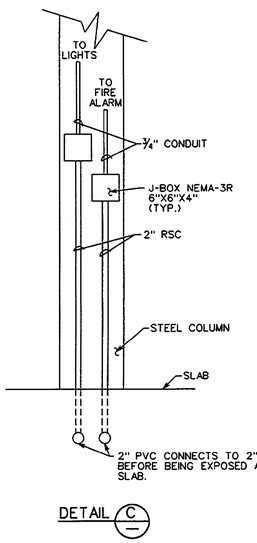
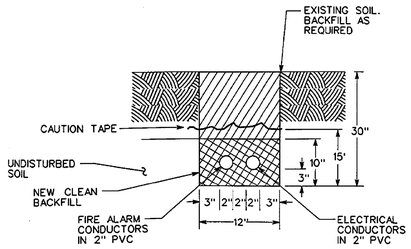
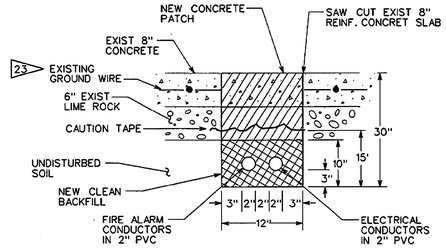


DETAIL C



TRENCH DETAIL
DUCT INSTALLATION
NTS
A



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DUCT INSTALLATION
NTS
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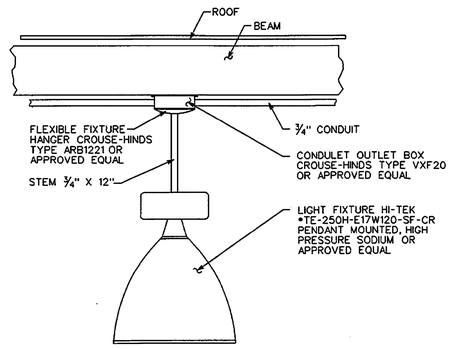

LIGHT FIXTURE DETAIL
NTS

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES	DATE
DRAWN MURPHY	2/24/92
CHECKED	
ENGINEER	2/24/92
SUBMITTED	2/24/92
APPROVED	DATE
TITLE MANAGER	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER

KSC SLF AREA
SHUTTLE LANDING FACILITY

A.G.E. STORAGE SHELTER
SITE PLANS AND DETAILS

SIZE F | 81K04248 | REV

PROJ NO WPCN *122640 | SHEET 5

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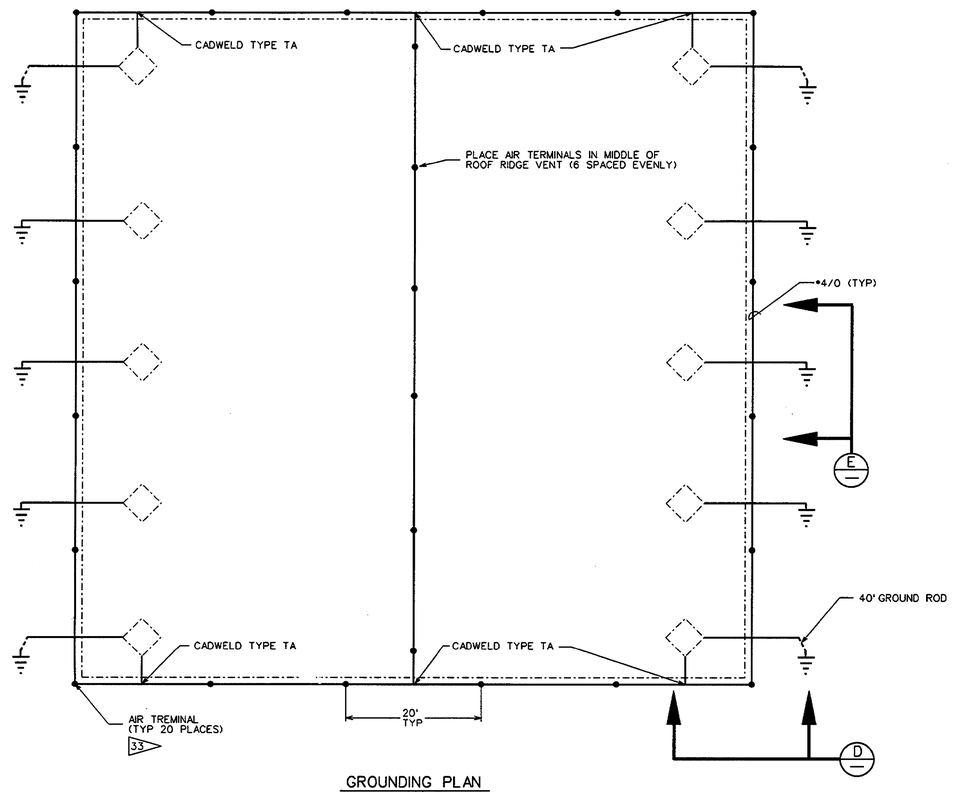
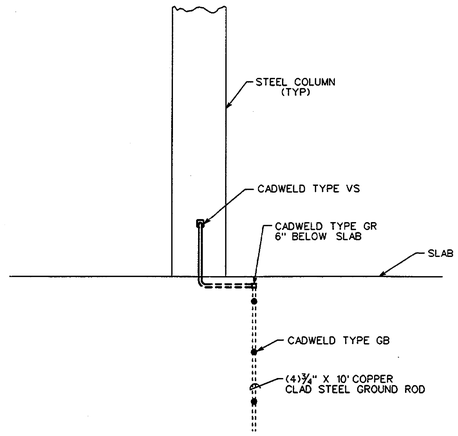
FILE: C0424800.005

E&S FLORIDA

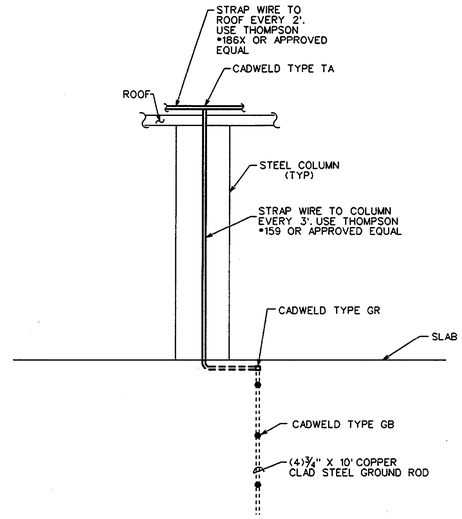
E-2



GROUNDING PLAN
SCALE: 1/8" = 1'0"



GROUNDING DETAIL E
NTS



GROUNDING DETAIL D
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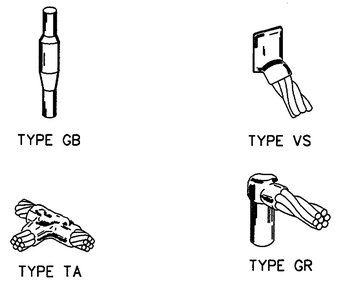
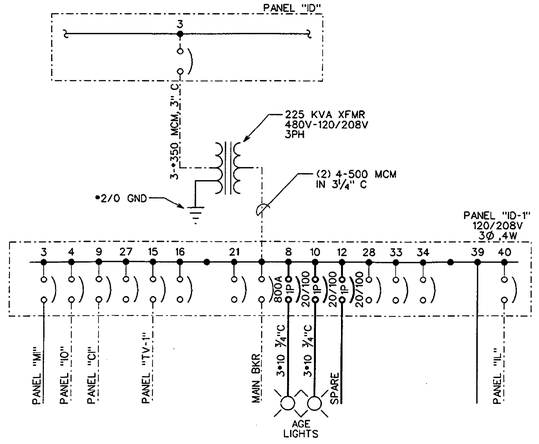
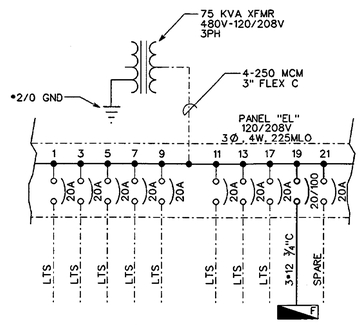


CADWELD DETAILS
NTS



SINGLE LINE DIAGRAM
NTS



SINGLE LINE DIAGRAM
EMERGENCY POWER
NTS

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FILE = C0424800.006

EG&G FLORIDA

E-3

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

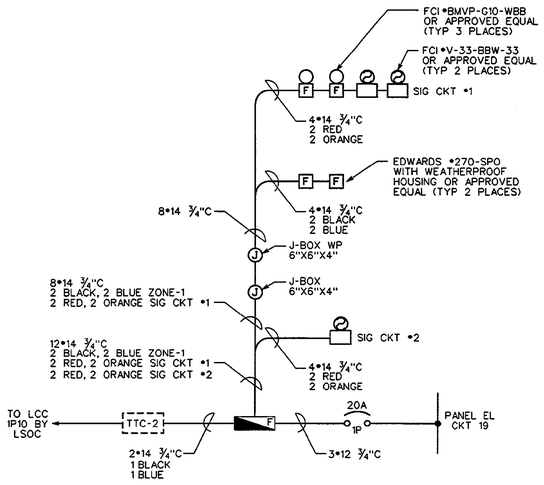
SIGNATURES	DATE
DRAWN MURPHY	2/24/92
CHECKED	
ENGINEER	2/24/92
SUBMITTED	2/24/92
APPROVED	DATE 2/24/92
TITLE MANAGER	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER

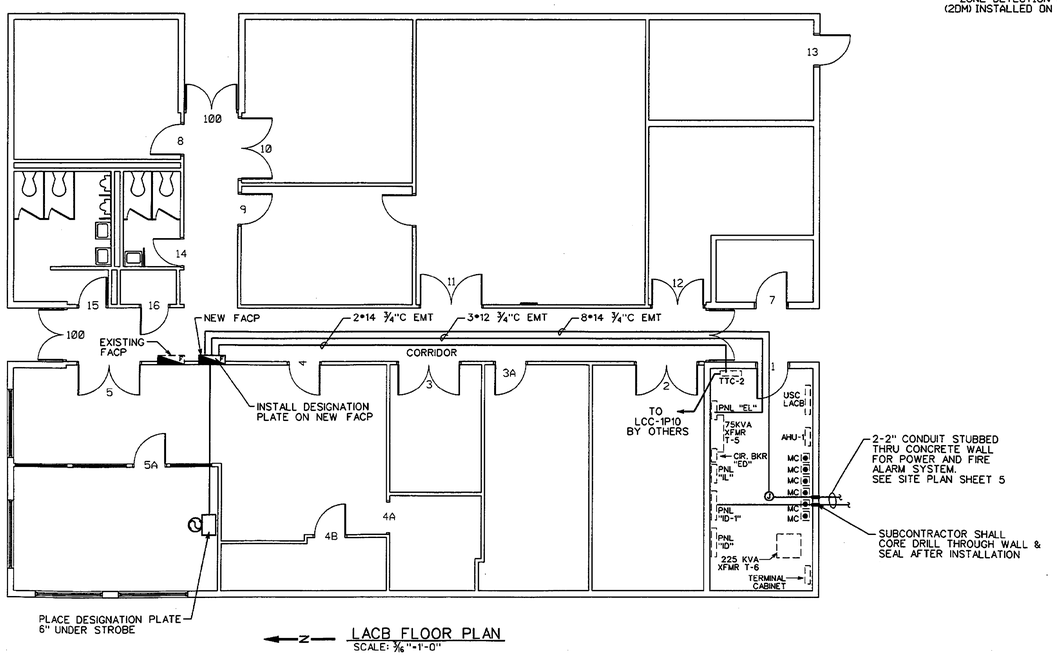
KSC SLF AREA
SHUTTLE LANDING FACILITY

A.G.E. STORAGE SHELTER
PLAN, DETAILS AND DIAGRAMS

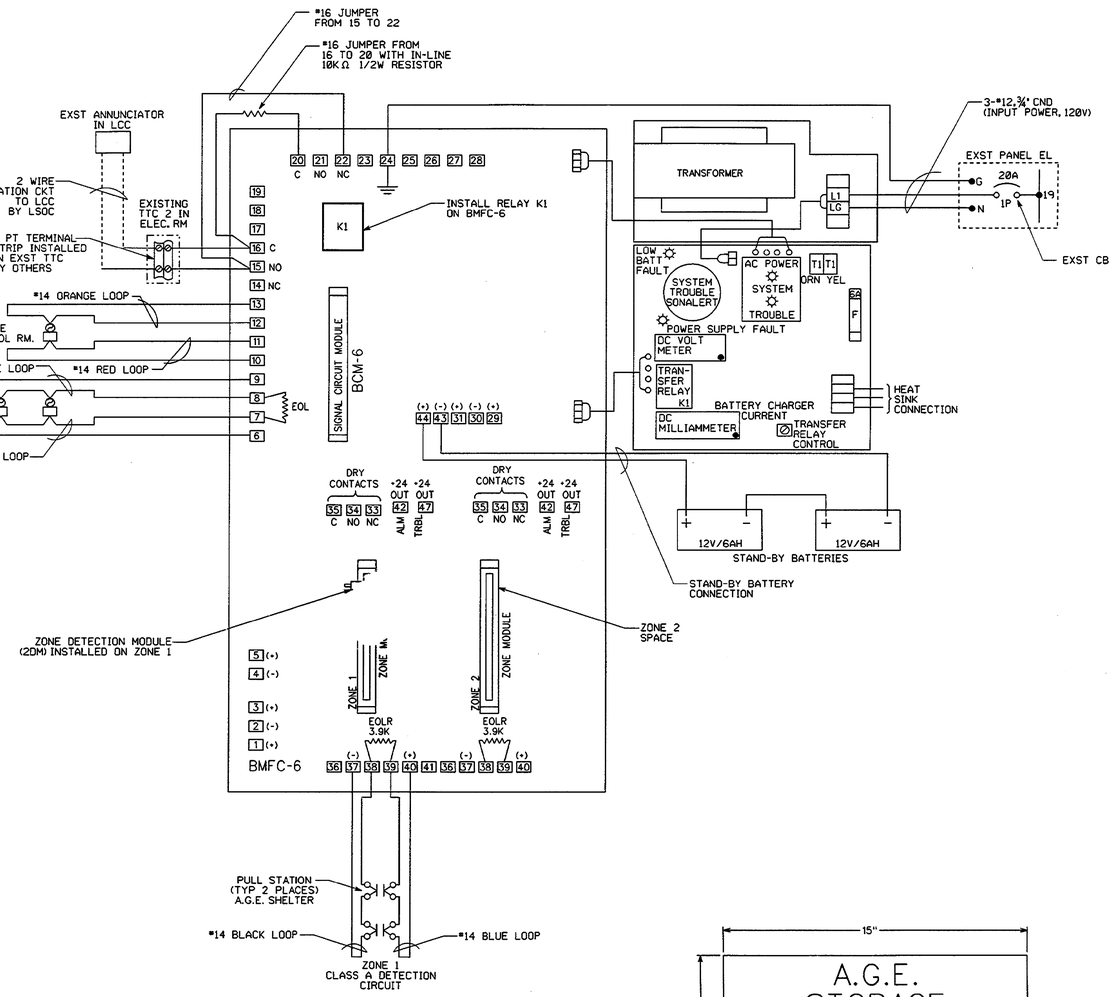
SIZE		REV
F	81K04248	
PROJ NO WPCN #122640	SHEET 6	



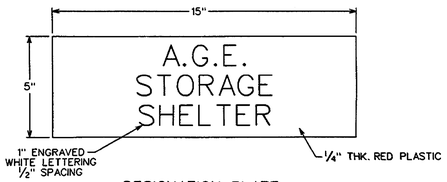
FIRE ALARM RISER DIAGRAM
SCALE: NONE



LACB FLOOR PLAN
SCALE: 3/16"=1'-0"



33 FIRE ALARM PANEL WIRING DIAGRAM



DESIGNATION PLATE
(TYPICAL 2 PLACES)
SCALE: NONE

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES	DATE
DRAWN MURPHY	2/20/02
CHECKED	
ENGINEER	2/24/02
SUBMITTED	2/26/02
APPROVED	2/26/02
TITLE MANAGER	DATE

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PLAN, RISER AND DETAILS

SIZE F | 81K04248 | REV

PROJ NO WPCN *122640 | SHEET 7 OF 7

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