

CONSTRUCTION DOCUMENTS

VALDEZ CONTAINER TERMINAL AND KELSEY DOCK
SECURITY UPGRADES
FOR THE
CITY OF VALDEZ

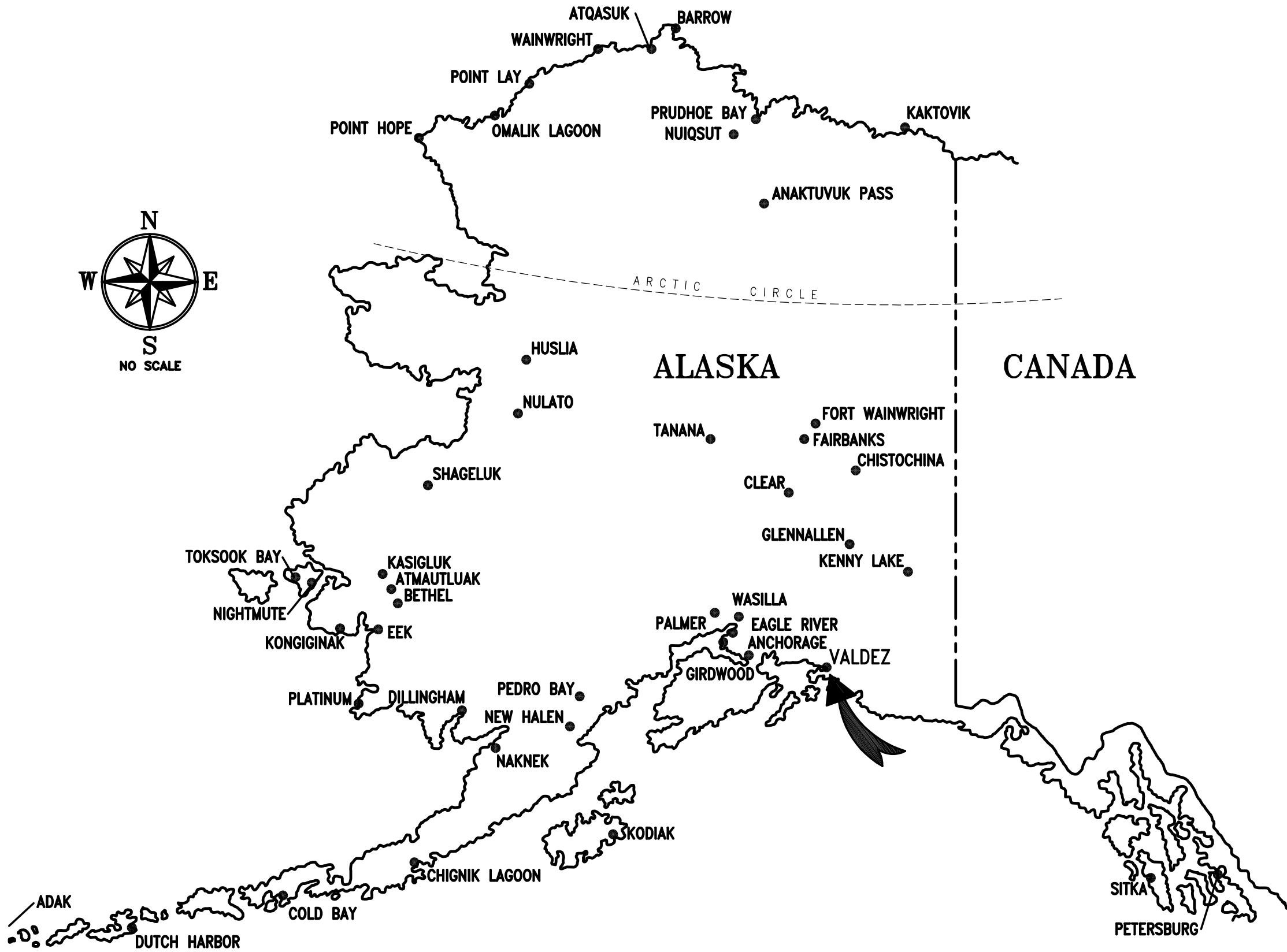
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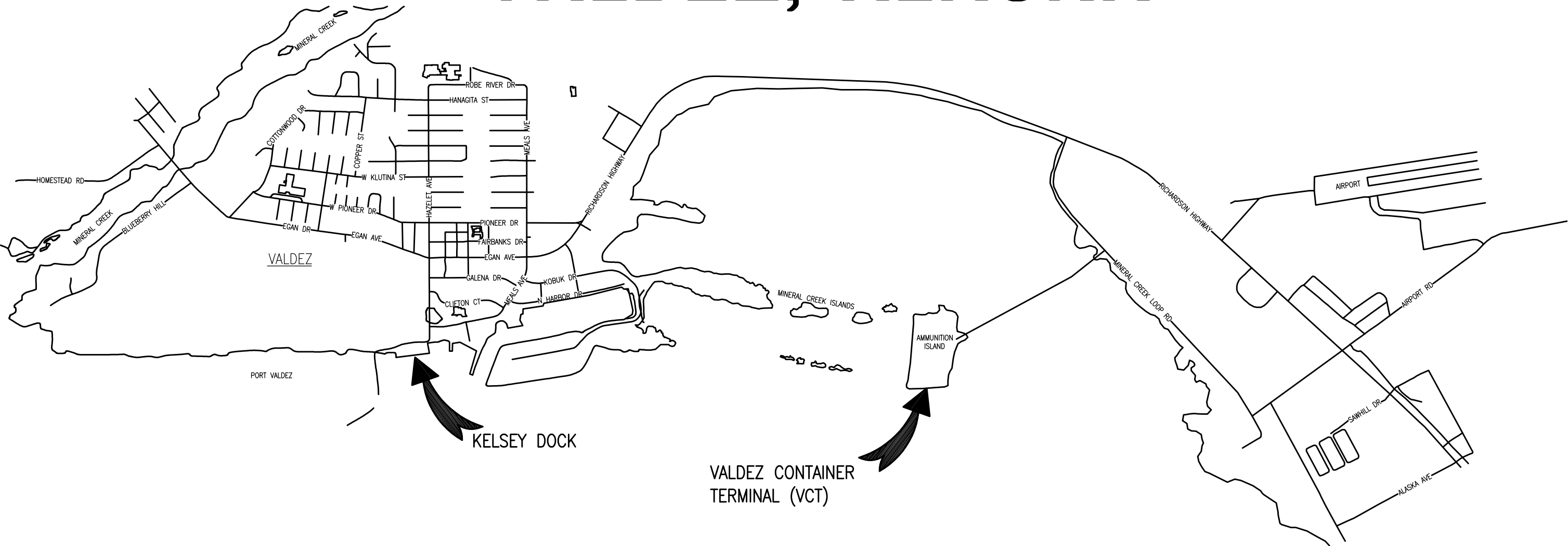
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VALDEZ, ALASKA



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ELECTRICAL

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SUMMARY OF WORK:

INSTALLATION AND INFRASTRUCTURE FOR HIGH-RESOLUTION CAMERAS AT THE VALDEZ CONTAINER TERMINAL (VCT) AND KELSEY DOCK. CONTRACTOR TO PROVIDE CONDUIT, CABLING, CAMERAS, LICENSES, AND REQUIRED MOUNTING HARDWARE. CITY OF VALDEZ TO PROVIDE SERVER STORAGE AND NETWORK SWITCHES. CAMERAS WILL BE CONNECTED TO EXISTING CITY VIDEO SYSTEM.

ELECTRICAL SPECIFICATIONS

26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL

- A. SCOPE OF WORK: FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT FOR A COMPLETE AND WORKABLE ELECTRICAL SYSTEM AS INDICATED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.
- B. STANDARDS, CODES AND REGULATIONS: COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, INTERNATIONAL BUILDING CODE, AND INTERNATIONAL FIRE CODE INCLUDING ALL STATE AND LOCAL AMENDMENTS TO THESE CODES. COMPLY WITH THE LATEST PUBLISHED VERSION OF THE NECA STANDARD OF INSTALLATION.
- C. DRAWINGS: THE DRAWINGS ARE DIAGRAMMATIC, NOT NECESSARILY SHOWING ALL OFFSETS OR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. UNLESS SPECIFICALLY DIMENSIONED. REVIEW THE DRAWINGS AND SPECIFICATIONS FOR EQUIPMENT FURNISHED BY OTHER CRAFTS BUT INSTALLED IN ACCORDANCE WITH THIS SECTION. BRING QUESTIONABLE OR OBSCURE ITEMS, APPARENT CONFLICTS BETWEEN PLANS AND SPECIFICATIONS, GOVERNING CODES OR UTILITIES REGULATIONS TO THE ATTENTION OF THE OWNER. CODES, ORDINANCES, REGULATIONS, MANUFACTURER’S INSTRUCTIONS OR STANDARDS TAKE PRECEDENCE WHEN THEY ARE MORE STRINGENT OR CONFLICT WITH THE DRAWINGS AND SPECIFICATIONS.
- D. RECORD DRAWINGS: MARK UP A CLEAN SET OF DRAWINGS AS THE WORK PROGRESSES TO SHOW THE DIMENSIONED LOCATION AND ROUTING OF ALL ELECTRICAL WORK WHICH WILL BECOME PERMANENTLY CONCEALED. SHOW ROUTING OF WORK IN PERMANENTLY CONCEALED BLIND SPACES WITHIN THE BUILDING. SHOW COMPLETE ROUTING AND SIZING OF ANY SIGNIFICANT REVISIONS TO THE SYSTEMS SHOWN.
- E. WORKMANSHIP: INSTALLATION OF ALL WORK SHALL BE MADE SO THAT ITS SEVERAL COMPONENT PARTS SHALL FUNCTION AS A WORKABLE SYSTEM COMPLETE WITH ALL ACCESSORIES NECESSARY FOR ITS OPERATION. ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER’S RECOMMENDATIONS, INSTRUCTIONS AND/OR INSTALLATION DRAWINGS AND IN ACCORDANCE WITH NECA STANDARDS. MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM WITH APPLICABLE INDUSTRY STANDARDS, NEMA STANDARDS AND UNDERWRITERS LABORATORIES STANDARDS WHERE APPLICABLE.
- F. SUBMITTALS: PROVIDE MATERIAL AND EQUIPMENT SUBMITTALS CONTAINING A COMPLETE LISTING OF MATERIAL AND EQUIPMENT SHOWN ON THE DRAWINGS. INCLUDE CATALOG NUMBERS, WIRING DIAGRAMS, ROUGH-IN DIMENSIONS AND PERFORMANCE DATA FOR ALL MATERIAL AND EQUIPMENT. SUBMITTALS SHALL BE IN ELECTRONIC .PDF FORMAT, SEPARATE FROM WORK FURNISHED UNDER OTHER DIVISIONS. INDEX AND CLEARLY IDENTIFY ALL MATERIAL AND EQUIPMENT BY ITEM, NAME OR DESIGNATION USED ON THE DRAWINGS. SUBMITTAL REVIEW IS FOR GENERAL DESIGN AND ARRANGEMENT ONLY AND DOES NOT RELIEVE THE CONTRACTOR FROM ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE SUBMITTALS ARE NOT CHECKED FOR QUANTITY, DIMENSION, OR FOR PROPER OPERATION. WHERE DEVIATIONS OF A SUBSTITUTE PRODUCT OR SYSTEM PERFORMANCE HAVE NOT BEEN SPECIFICALLY NOTED IN THE SUBMITTAL BY THE CONTRACTOR, PROVISIONS OF A COMPLETE AND SATISFACTORY WORKING INSTALLATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- G. OPERATION AND MAINTENANCE MANUALS: PROVIDE OPERATION AND MAINTENANCE MANUALS FOR TRAINING OF THE OWNER’S PERSONNEL. PROVIDE INSTRUCTIONS AND A SCHEDULE OF PREVENTIVE MAINTENANCE IN TABULAR FORM FOR ALL ROUTINE CLEANING, INSPECTION AND LUBRICATION WITH RECOMMENDED LUBRICANTS. PROVIDE INSTRUCTIONS FOR MINOR REPAIR OR ADJUSTMENTS REQUIRED FOR PREVENTIVE MAINTENANCE ROUTINES. PROVIDE MANUFACTURER’S DESCRIPTIVE LITERATURE INCLUDING APPROVED SHOP DRAWINGS COVERING DEVICES USED IN ANY CONTRACTOR–PROVIDED EQUIPMENT OR SYSTEMS WITH ILLUSTRATION, EXPLODED VIEWS, ETC.
- H. WARRANTY: THE CONTRACTOR SHALL GUARANTEE ALL WORK EXECUTED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM BENEFICIAL OCCUPANCY. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE GUARANTEE PERIOD.
- I. PERMITS: SECURE AND PAY FOR ALL FEES, PERMITS, ETC. REQUIRED BY LOCAL AND STATE AGENCIES.
- J. REFERENCE SYMBOLS: THE ELECTRICAL “LEGEND” ON THE DRAWINGS IS A STANDARDIZED VERSION, AND ALL SYMBOLS SHOWN MAY NOT BE USED. USE THE “LEGEND” AS A REFERENCE FOR THE SYMBOLS USED ON THE DRAWINGS.

26 05 19 – WIRE AND CABLE

- A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION.
- B. MATERIALS:
1. ALL CONDUCTORS SHALL BE COPPER TYPE XHHW INSULATION. MINIMUM BRANCH CIRCUIT CONDUCTOR SIZE SHALL BE #12 AWG. MINIMUM CONTROL CIRCUIT CONDUCTOR SIZE SHALL BE #18 AWG.
- C. INSTALLATION:
1. COLOR CODE WIRES BY LINE OR PHASE. COLOR CODE THE 120/208V CONDUCTORS BLACK, RED, BLUE, AND WHITE.
 2. DO NOT SHARE NEUTRAL CONDUCTORS. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL.
 3. USE PROPERLY SIZED INSULATED SPRING WIRE CONNECTORS WITH PLASTIC CAPS FOR ALL CONDUCTORS #8 AWG AND SMALLER.

26 05 26 – GROUNDING AND BONDING

- A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION.
- B. INSTALLATION:
1. PROVIDE A SEPARATE, INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ALL NEW BRANCH CIRCUITS AND FEEDERS. TERMINATE EACH END ON A GROUNDING LUG, BUS, OR BUSHING.
 2. BOND TOGETHER EXPOSED NON–CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT, METAL RACEWAY SYSTEMS, GROUNDING CONDUCTOR IN RACEWAYS AND CABLES.

26 05 33 – RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

- A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION.
- B. MATERIALS:
1. RIGID STEEL CONDUIT: ANSI C80.1. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; THREADED TYPE WITH INSULATED THROAT BUSHINGS, MATERIAL TO MATCH CONDUIT.

2. INTERMEDIATE METAL CONDUIT (IMC): GALVANIZED STEEL. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; USE FITTINGS AND CONDUIT BODIES SPECIFIED ABOVE FOR RIGID STEEL CONDUIT.
 3. LIQUIDTIGHT FLEXIBLE CONDUIT: FLEXIBLE METAL CONDUIT WITH PVC JACKET. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; STEEL OR MALLEABLE IRON WITH INSULATED THROAT BUSHINGS. DIE CAST FITTINGS ARE NOT ACCEPTABLE.
 4. RIGID NONMETALLIC CONDUIT: NEMA TC 2; SCHEDULE 40 PVC, RATED FOR 90° C CABLE.
 5. PROVIDE CAST ALUMINUM OR FERALLOY TYPE BOXES WITH GASKETED COVER, THREADED HUBS AND NEMA 3R RATING FOR USE IN EXTERIOR LOCATIONS.
 6. POLYMER CONCRETE JUNCTION BOXES FOR UNDERGROUND INSTALLATIONS: POLYMER CONCRETE CONSISTING OF SAND AND AGGREGATE BOUND TOGETHER WITH A POLYMER RESIN. INTERNAL REINFORCEMENT SHALL BE PROVIDED BY MEANS OF STEEL, FIBERGLASS OR A COMBINATION OF THE TWO. THE INSTALLED ENCLOSURE SHALL BE RATED FOR A MINIMUM TEST LOAD OF 7500 POUNDS DISTRIBUTED OVER A 10 INCH BY 10 INCH AREA AND USED IN OCCASIONAL, NON–DELIBERATE VEHICULAR TRAFFIC OR PEDESTRIAN TRAFFIC APPLICATION. ALL HARDWARE SHALL BE STAINLESS STEEL.
- C. INSTALLATION:
1. INSTALL CONDUIT FOR ALL SYSTEMS UNLESS OTHERWISE NOTED, 1/2 INCH MINIMUM SIZE, EXCEPT CONDUIT FOR SPECIAL SYSTEMS SHALL BE 1” MINIMUM. IN EXPOSED OUTDOOR LOCATIONS, SHALL BE RIGID STEEL CONDUIT OR INTERMEDIATE METAL CONDUIT. BELOW BELOW GRADE SHALL BE RIGID NON–METALLIC CONDUIT.
 2. EXPOSED DRY INTERIOR LOCATIONS SHALL BE RIGID STEEL CONDUIT OR INTERMEDIATE METAL CONDUIT.
 3. PAINT ALL EXPOSED CONDUIT TO MATCH SURFACE TO WHICH IT IS ATTACHED OR CROSSES. CLEAN GREASY OR DIRTY CONDUIT PRIOR TO PAINTING IN ACCORDANCE WITH PAINT MANUFACTURER’S INSTRUCTIONS.
 4. ALL CONDUIT FOR THE TELECOMMUNICATIONS DISTRIBUTION SYSTEM SHALL BE INSTALLED WITH NO MORE THAN THREE 90–DEGREE BENDS BETWEEN PULLBOXES. PULL BOXES SHALL NOT BE USED IN LIEU OF CONDUIT BENDS. CONDULETS (LB FITTINGS) SHALL NOT BE INSTALLED IN ANY TELECOMMUNICATIONS RACEWAY.
 5. PROVIDE OUTLET BOXES AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, DEVICE INSTALLATION AND CODE COMPLIANCE.
 6. SUPPORT BOXES INDEPENDENTLY OF CONDUIT.
 7. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF OUTLETS MOUNTED ABOVE COUNTERS, BENCHES AND BACKSPLASHES.

26 05 53 – IDENTIFICATION FOR ELECTRICAL SYSTEMS

- A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION.
- B. MATERIALS:
1. TAPE LABELS: ADHESIVE TAPE LABELS, WITH 3/16 INCH BOLD BLACK LETTERS ON CLEAR BACKGROUND MADE USING DYMO RHINO SERIES OR EQUAL LABEL PRINTER.
 2. WIRE AND CABLE MARKERS: CLOTH MARKERS, SPLIT SLEEVE OR TUBING TYPE.
- C. INSTALLATION:
1. CONDUITS: MARK ALL CONDUITS ENTERING OR LEAVING PANELBOARDS WITH INDELIBLE BLACK MAGIC MARKER WITH THE CIRCUIT NUMBERS OF THE CIRCUITS CONTAINED INSIDE. LABEL FEEDER CONDUITS AND SPARE CONDUITS AT EACH END WITH SOURCE AND TERMINATION POINT.
 2. JUNCTION BOXES: MARK ALL CIRCUIT NUMBERS OF WIRING ON ALL JUNCTION BOXES WITH SHEET STEEL COVERS. MARK WITH INDELIBLE BLACK MARKER. ON EXPOSED JUNCTION BOXES IN PUBLIC AREAS, MARK ON INSIDE OF COVER. MARK ALL FIRE ALARM SYSTEM JUNCTION BOXES WITH SHEET STEEL COVERS WITH “FA.” MARK WITH INDELIBLE RED MARKER. MARK ALL OTHER SPECIAL SYSTEM JUNCTION BOXES WITH SHEET STEEL COVERS.
 3. WIRE IDENTIFICATION: PROVIDE WIRE MARKERS ON EACH CONDUCTOR IN PANELBOARD GUTTERS, PULL BOXES, OUTLET AND JUNCTION BOXES, AND AT LOAD CONNECTION. MARKERS SHALL BE LOCATED WITHIN ONE INCH OF EACH CABLE END, EXCEPT AT PANELBOARDS, WHERE MARKERS FOR BRANCH CIRCUIT CONDUCTORS SHALL BE VISIBLE WITHOUT REMOVING PANEL DEADFRONT.
 4. DEVICE PLATES: LABEL EACH RECEPTACLE DEVICE PLATE OR POINT OF CONNECTION DENOTING THE PANELBOARD NAME AND CIRCUIT NUMBER. INSTALL LABEL ON THE TOP OF EACH PLATE.

26 24 16 – PANELBOARDS

- A. SUBMITTALS: SUBMIT PRODUCT DATA FOR APPROVAL.
- B. MATERIAL:
1. MANUFACTURERS: MATCH EXISTING.
 2. NEW BREAKERS IN EXISTING PANELS: NEMA AB 1; UL LISTED FOR USE IN THE PANEL, AMPERE RATING AND NUMBER OF POLES AS INDICATED ON PLANS. AIC RATING SHALL MATCH THE LOWEST RATED DEVICE IN THE PANEL.
- C. INSTALLATION:
1. INSTALL NEW BREAKER(S) IN EXISTING PANEL(S) AND TEST FOR PROPER OPERATION. UPDATE CIRCUIT DIRECTORY TO REFLECT ALL CHANGES.

27 10 00 – STRUCTURED CABLING

- A. SUMMARY: THIS SECTION INCLUDES REQUIREMENTS FOR THE DESIGN AND INSTALLATION OF A TELECOMMUNICATIONS CABLING SYSTEM INCLUDING COMMUNICATIONS CABLE, EQUIPMENT RACKS, ETC. AS REQUIRED FOR A COMPLETE AND FUNCTIONAL TELECOMMUNICATIONS CABLING SYSTEM. QUALITY ASSURANCE: ALL PRODUCTS SHALL BE OF ONE MANUFACTURER’S STRUCTURED CABLING SYSTEM. THE MANUFACTURER SHALL BE A COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED WITH A MINIMUM 5 YEARS DOCUMENTED EXPERIENCE. THE INSTALLER SHALL BE A COMPANY SPECIALIZING IN PERFORMING THIS TYPE OF WORK WITH A MINIMUM 3 YEARS DOCUMENTED EXPERIENCE AND MANUFACTURER’S CERTIFICATION TO INSTALL THE PRODUCT. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS: TIA/EIA 568–B.1–3, TIA/EIA 569_A, AND TIA/EIA 607.
- B. SUBMITTALS: SUBMIT PRODUCT DATA AND DETAILED SHOP DRAWINGS FOR APPROVAL.

C. MATERIALS:

1. ALL MATERIALS SHALL BE LATEST AVAILABLE PRODUCT AT TIME OF SUBMITTALS.
 2. WALL CABINET: CHATSWORTH #11900–736 OR APPROVED EQUAL, 36–INCH HIGH, 24–INCH DEEP, THREE–PART SWING OUT DOOR WITH FRONT AND REAR ACCESS, 19 RACK–MOUNT UNITS OF USABLE SPACE, CLEAR FINISH, VERTICAL CABLE MANAGEMENT ON HINGE SIDE OF RACK, AND LOW–DECIBEL DUAL–FAN WITH FILTER. THE WALL CABINET SHALL BE CAPABLE OF SUPPORTING 150 POUNDS AND SHALL OPEN TO 180 DEGREES. PROVIDE WITH CHATSWORTH #RACK–MOUNTED GROUNDING KIT (MOUNTED ON THE EQUIPMENT RACK), AND ONE TRIPP–LITE # ISOBAR12–20ULTRA OR APPROVED EQUAL RACK–MOUNTED SURGE PROTECTIVE OUTLET STRIP MOUNTED AT BASE OF RACK.
 3. UTP TELECOMMUNICATION CABLE: PLENUM–RATED CL2P, CATEGORY 6, 4 PAIR, 24 AWG, SOLID COPPER CONDUCTOR TELECOMMUNICATIONS CABLE. SUPERIOR ESSEX “DATAGAIN” CMP OR APPROVED EQUAL.
 4. UTP TELECOMMUNICATIONS JACK: RJ–45, CATEGORY 6, T568A/B, 8P8C, SINGLE, WHITE FINISH, TELECOMMUNICATIONS JACK WITH FLUSH EXIT WITH SINGLE–GANG FACEPLATES WITH FINISH TO MATCH JACK. ORTRONICS “TRACJACK CLARITY 6” #OR–TJ600 OR APPROVED EQUAL.
 5. FIBER OPTIC CABLE: ALL SINGLE–MODE FIBER OPTIC CABLES SHALL BE UL LISTED, LOOSE TUBE, WATER BLOCKING, DRY CORE. SUPERIOR ESSEX #11012KT01 OR EQUAL.
 6. CABLE SUPPORT: ALL CABLES NOT INSTALLED IN CONDUIT SHALL BE SUPPORTED USING J–HOOKS, CADDY CABLECAT SERIES OR APPROVED EQUAL, WITH A MINIMUM J–HOOK SIZE EQUIVALENT TO CADDY #CAT32 OR APPROVED EQUAL. SIZE ALL J–HOOKS TO SUPPORT THE QUANTITY OF CABLES INSTALLED, PLUS A MINIMUM OF 25% SPARE CAPACITY. FIBER OPTIC CABLES SHALL BE ROUTED IN 1” INNERDUCT THAT IS SUPPORTED ON A SEPARATE J–HOOK ABOVE THE J–HOOK SUPPORTING THE COPPER CABLES.
 7. FIBER CONNECTORS: ALL FIBERS SHALL BE FIELD INSTALLABLE WITH DUPLEX LC TYPE CONNECTORS WITH CERAMIC FERRULE. ORTRONICS “OPTIMO” #205KAS9GA–09 OR APPROVED EQUAL.
 8. FIBER CONNECTOR PANELS: ALL FIBER CONNECTOR PANELS SHALL BE FIELD INSTALLABLE WITH DUPLEX LC FIBER ADAPTERS WITH CERAMIC SLEEVE AND FIBER DESIGNATION STRIP. (12 FIBERS)ORTRONICS #OR–OFF–LCD12AC OR APPROVED EQUAL. (24 FIBERS)ORTRONICS #OR–OFF–LC0244C OR APPROVED EQUAL.
 9. FIBER CONNECTOR HOUSINGS: SINGLE–DRAWER HOUSING WITH SPACE FOR HORIZONTALLY MOUNTED CONNECTOR PANELS. HOUSING SHALL HAVE A SLIDE–OUT DRAWER WITH LABEL SHEET, SMOKED SHATTERPROOF POLYCARBONATE DOOR WITH LATCH, AND DEEP FRONT SHELF AREA TO PROVIDE ADEQUATE RELIEF FOR CABLES. ORTRONICS #OR–FC02U–P OR APPROVED EQUAL HOUSING WITH CAPACITY FOR UP TO 60 LC FIBERS.
 10. FIBER PATCH CORDS: SINGLE MODE FIBER OPTIC PATCH CORDS SHALL BE UL LISTED, 1–METER FIBER CORDS WITH FLAME–RESISTANT PVC OUTER JACKET. CABLES SHALL HAVE DUPLEX LC TYPE CONNECTORS WITH CERAMIC FERRULE. PATCH CORDS SHALL BE FACTORY TERMINATED AND TESTED TO 10 Gb/s DATA RATES. ORTRONICS #OR–P1DC2IRSZS001M OR APPROVED EQUAL.
 11. MEDIA CONVERTER: ETHERNET TO SFP, 4–PORT POE GIGABIT ETHERNET, OPERATING TEMPERATURE TO –40°C. IFC #MC352–4P–2S OR APPROVED EQUAL. PROVIDE WITH TRANSCEIVERS AND POWER SUPPLY.
 12. FIELD CASSETTE FOR FIBER: 12 FIBER, LC DUPLEX, OS2. LEGRAND #M4LCD12–09S1A1 OR APPROVED EQUAL.
- D. INSTALLATION:
1. STORE A MAXIMUM OF 12 INCHES OF SLACK CABLE AT EACH CAMERA AND A MINIMUM OF 10 FEET OF SLACK CABLE AT EACH RACK. CABLE JACKET SHALL BE MAINTAINED TO WITHIN .5 INCH OF JACK AND TWISTS SHALL BE MAINTAINED TO WITHIN .25 INCH OF TERMINATION POINT. COMPLY WITH CABLE MANUFACTURERS MAXIMUM PULLING TENSION AND MINIMUM BEND RADIUS REQUIREMENTS. DO NOT STRETCH, STRESS, TIGHTLY COIL, BEND OR CRIMP CABLES. PERFORM END–TO–END TESTS OF EACH CABLE AFTER INSTALLATION AND TERMINATION TO SHOW COMPLIANCE WITH ANSI/TIA/EIA REQUIREMENTS.
 2. EACH UTP CABLE SHALL BE TESTED FOR COMPLIANCE WITH TIA/EIA 568–B.1 AND TIA/EIA 568B.2 CATEGORY 6 STANDARDS AFTER INSTALLATION USING A FLUKE #DTX OR APPROVED EQUAL TESTER. EACH FIBER OPTIC CABLE SHALL BE INITIALLY TESTED WITH A LIGHT SOURCE AND POWER METER, PER TIA/EIA–526–14A. MEASURED RESULTS SHALL BE PLUS/MINUS 1DB OF SUBMITTED LOSS BUDGET CALCULATIONS. PROVIDE TEST RESULTS FOR ALL TESTS NOTED ABOVE IN THE FORM OF PRINTOUTS FROM THE TEST EQUIPMENT AND PROVIDE AN ELECTRONIC COPY OF THE TEST DATA FOR EACH CABLE. WHERE ANY PORTION OF THE SYSTEM DOES NOT MEET THE SPECIFICATIONS, THE CONTRACTOR SHALL CORRECT THE DEVIATION AND REPEAT ANY APPLICABLE TESTING AT NO ADDITIONAL COST TO THE OWNER. ACCEPTANCE OF THE TELECOMMUNICATIONS SYSTEM SHALL BE BASED ON THE RESULTS OF THE ABOVE TESTS, FUNCTIONALITY, AND THE RECEIPT OF DOCUMENTATION.
 3. ALL FIBER OPTIC CABLES SHALL BE RUN CONTINUOUS WITH NO SPLICES.
 4. ALL FIBER OPTIC CABLES SHALL BE TERMINATED AT EACH END OF THEIR RESPECTIVE CONNECTORS.
 5. INITIALLY TEST EACH FIBER OPTIC CABLE WITH A LIGHT SOURCE AND POWER METER, UTILIZING MEET MEET THE REQUIREMENTS OF TIA/EIA–526–7. MEASURED RESULTS SHALL BE PLUS/MINUS 1DB OF SUBMITTED LOSS BUDGET CALCULATIONS. IF LOSS FIGURES ARE OUTSIDE THIS RANGE, TEST CABLE WITH AN OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) IN ACCORDANCE WITH TIA/EIA 455–61 TO DETERMINE THE CAUSE OF VARIATION. IMPROPER TERMINATIONS SHALL BE RE–DONE AND DAMAGED CABLE SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER. THE MAXIMUM ACCEPTABLE SIGNAL LOSS THROUGH THE ENTIRE FIBER PATH, INCLUDING CABLE, COUPLINGS, AND JUMPERS SHALL NOT EXCEED TIA/EIA 568–B.3 STANDARDS.



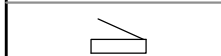
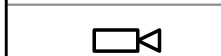




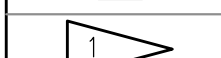
28 23 00 – VIDEO SURVEILLANCE

- A. SUMMARY: THIS SECTION INCLUDES A NEW VIDEO SURVEILLANCE SYSTEM IN THE FACILITY COMPLETE WITH EXTERIOR IP CAMERAS. .

- B. SUBMITTALS: SUBMIT PRODUCT DATA AND DETAILED SHOP DRAWINGS FOR APPROVAL.

C. MATERIALS:

1. ALL MATERIALS SHALL BE LATEST AVAILABLE PRODUCT AT TIME OF SUBMITTALS.
 2. TYPE ‘A’: EXTERIOR IP FIXED PENDANT DOME CAMERA, AVIGILON #2.0C–H4A–DP1–B OR APPROVED EQUAL 2.0 MEGAPIXEL, IP COLOR CAMERA.
 3. TYPE ‘B’: EXTERIOR IP FIXED PENDANT DOME CAMERA, AVIGILON #8L–HAPRO–B OR APPROVED EQUAL 8.0 MEGAPIXEL, IP COLOR CAMERA.
 4. TYPE ‘C’: EXTERIOR IP PAN–TILT–ZOOM DOME CAMERA: AVIGILON #2.0C–H4PTZ–DP30 OR APPROVED EQUAL 2.0 MEGAPIXEL, IP COLOR CAMERA.
 5. GENERAL HARDWARE AND MOUNTS: AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
 6. TYPE ‘D’: EXTERIOR IP 360° PENDANT DOME CAMERA: AVIGILON #12C–H4A–4MH–360 OR APPROVED EQUAL 4 SENSOR, 3.0 MEGAPIXEL, IP COLOR CAMERA.
 7. GENERAL HARDWARE AND MOUNTS: AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
 8. WIRE AND CABLE: PER SECTION 27 10 00 EXCEPT WITH GREEN JACKET.
 9. SERVER, NETWORK SWITCH, WORKSTATIONS: OWNER FURNISHED AND CONTRACTOR INSTALLED.
 10. VIDEO MANAGEMENT SYSTEM: CITY OF VALDEZ AVIGILON SYSTEM. CONTRACTOR SHALL PROVIDE NEW LICENSES FOR ALL NEW CAMERAS.
- D. INSTALLATION:
1. INSTALL AND TEST WIRING PER SECTION 27 10 00.
 2. NO WIRING OTHER THAN THAT DIRECTLY ASSOCIATED WITH THE VIDEO SURVEILLANCE SYSTEM SHALL BE PERMITTED IN VIDEO SURVEILLANCE SYSTEM CONDUITS AND PATHWAYS.
 3. COORDINATE ALL FINAL CAMERA LOCATIONS WITH OWNER’S REPRESENTATIVE PRIOR TO ROUGH–IN AND AVOID CONFLICTS WITH EXISTING EQUIPMENT AND OBJECTS THAT MAY OBSTRUCT THE FIELD OF VIEW OR, IN THE CASE OF LIGHT FIXTURES, MAY AFFECT THE CAMERA PERFORMANCE AND QUALITY OF THE VIDEO IMAGE.
 4. ANY CAMERA THAT IS LOCATED SO THAT CAMERA PERFORMANCE OR FIELD OF VIEW IS ADVERSELY AFFECTED SHALL BE RELOCATED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
 5. LABEL ALL VIDEO SURVEILLANCE SYSTEM JUNCTION BOXES. FOR JUNCTION BOXES ABOVE CEILINGS, MARK THE BOX COVER WITH “IP VIDEO” USING PERMANENT BLACK MARKER. FOR JUNCTION BOXES IN FINISHED AREAS, MARK THE INSIDE OF THE COVER.
 6. FIXED CAMERAS: THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO OBTAIN THE DESIRED FIELD OF VIEW FOR EACH NEW CAMERA. THIS INCLUDES, BUT IS NOT LIMITED TO, ADJUSTING CAMERA AIMING POINT, WHITE BALANCE, BACKLIGHT COMPENSATION, AGC, IRIS CONTROL, VIEWING ANGLE, AND ADJUSTING VARI–FOCAL LENSES.
 7. INSTALL AND TEST IN ACCORDANCE WITH THE MANUFACTURER’S RECOMMENDATIONS

LEGEND	
	CONDUIT
	JUNCTION BOX
	EXISTING PANEL
	IP VIDEO CAMERA (POLE MOUNTED)
	PAN–TILT–ZOOM IP VIDEO CAMERA (POLE MOUNTED)
	360° IP VIDEO CAMERA (POLE OR CANOPY MOUNTED)
	FIBER CASSETTE
	PoE MEDIA CONVERTER
	NOTE TAG (No. INDICATES NOTE)
AFG	ABOVE FINISHED GRADE
C	CONDUIT
CO	CONDUIT ONLY
COV	CITY OF VALDEZ
CVT	COPPER VALLEY TELECOM
E	DENOTES EXISTING ITEM
GRSC	GALVANIZED RIGID STEEL CONDUIT
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
OFOI	OWNER FURNISHED, OWNER INSTALLED
R	DENOTES EXISTING ITEM THAT HAS BEEN RELOCATED
TTB	TELEPHONE TERMINAL BACKBOARD
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF



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VALDEZ CONTAINER TERMINAL & KELSEY DOCK SECURITY UPGRADES

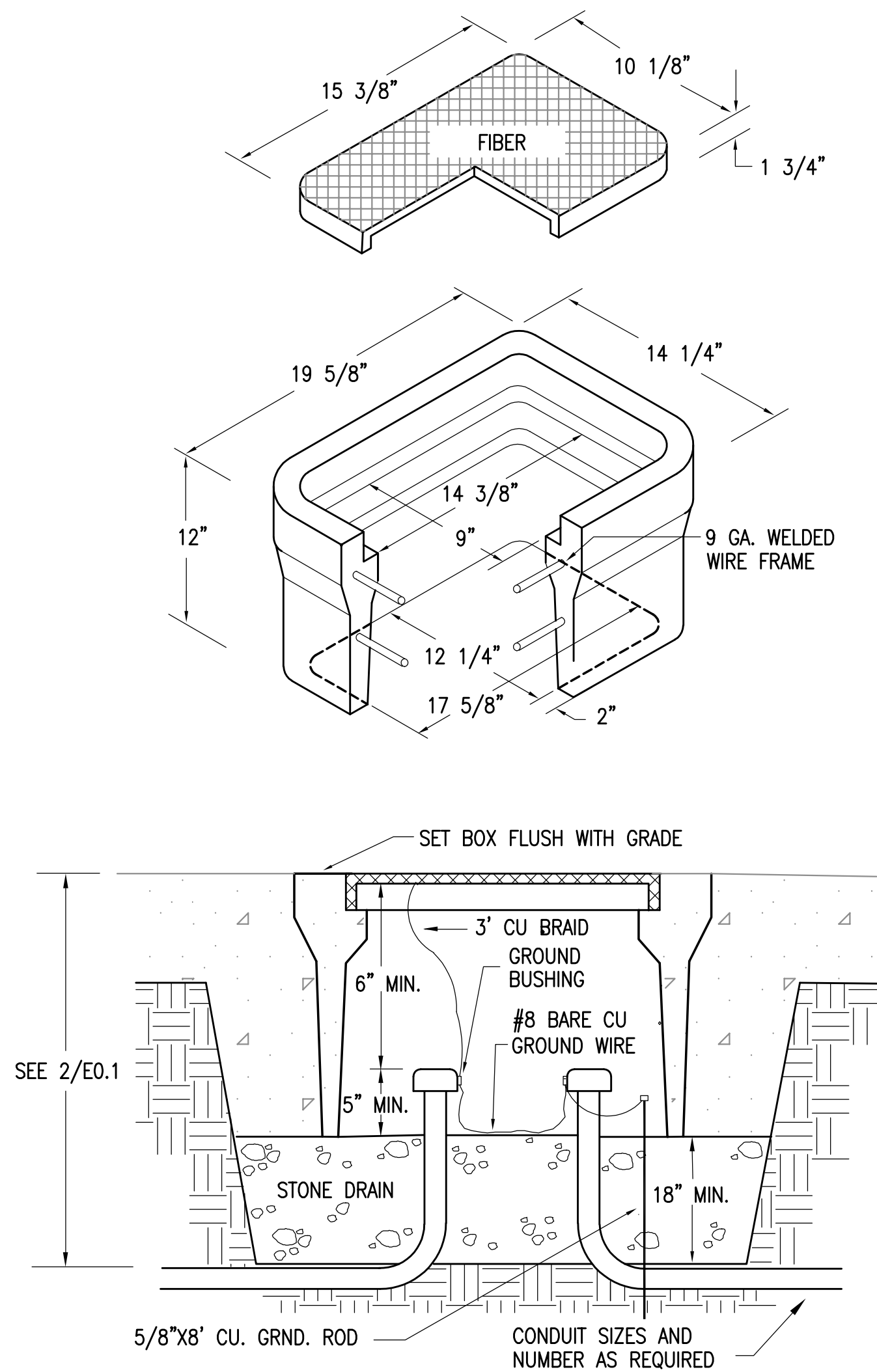
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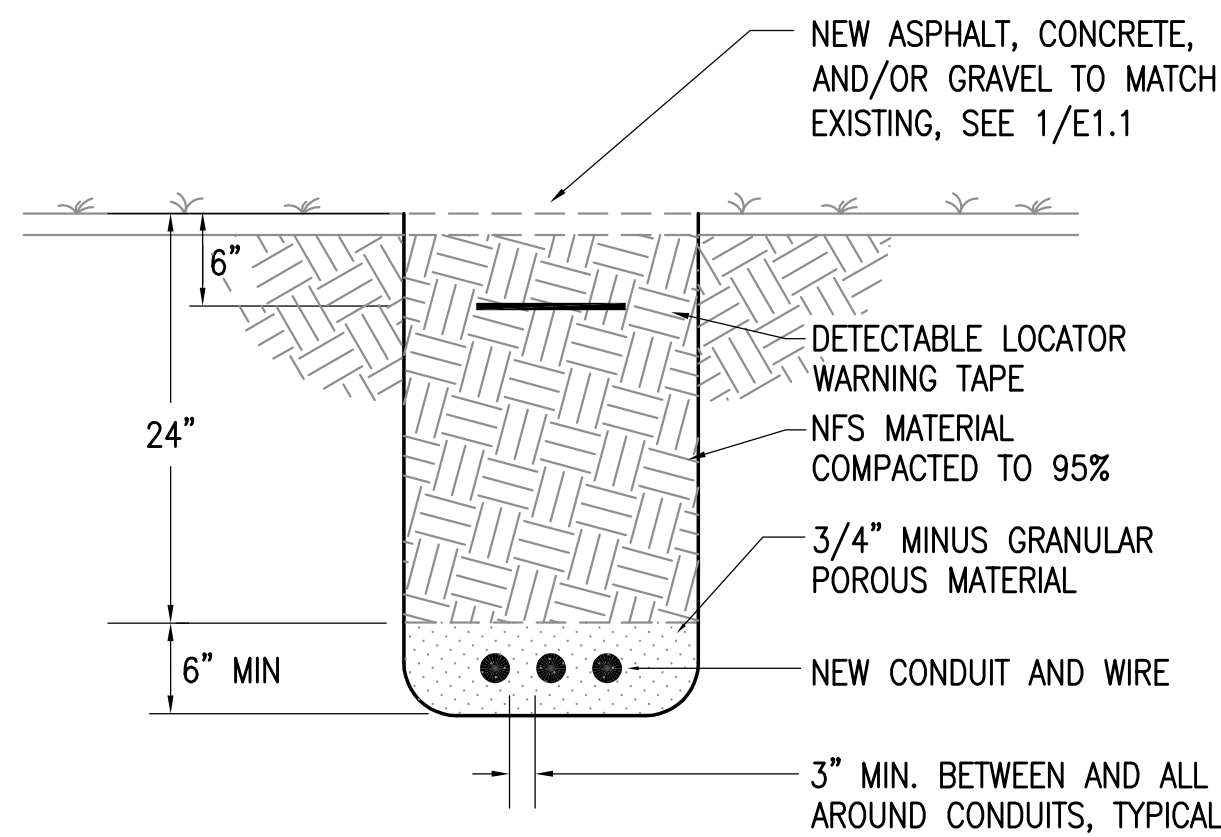
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JOB NUMBER:	L9040
DWG FILE:	L9040 - ESeries

DRAWING TITLE:
ELECTRICAL LEGEND AND SPECIFICATIONS

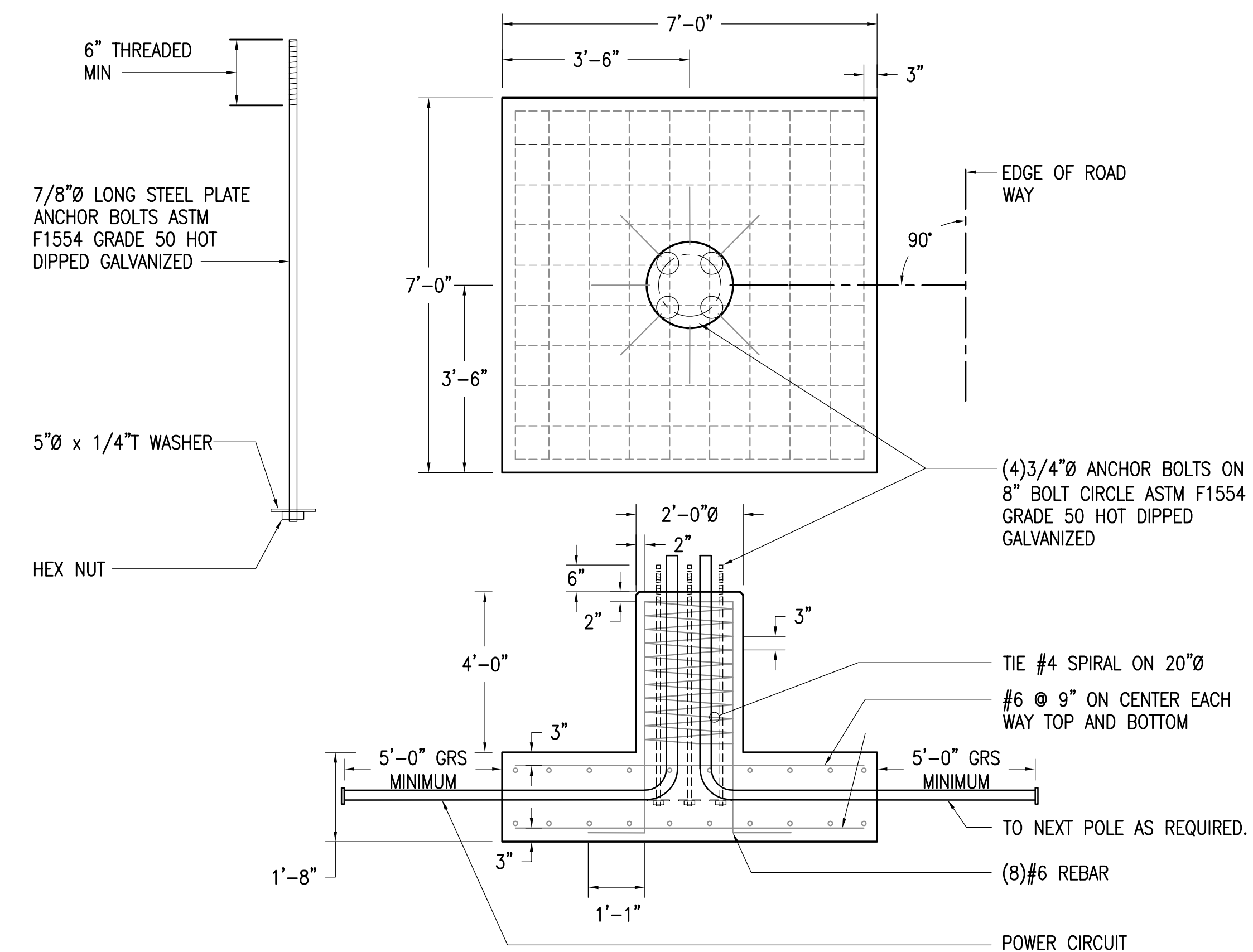
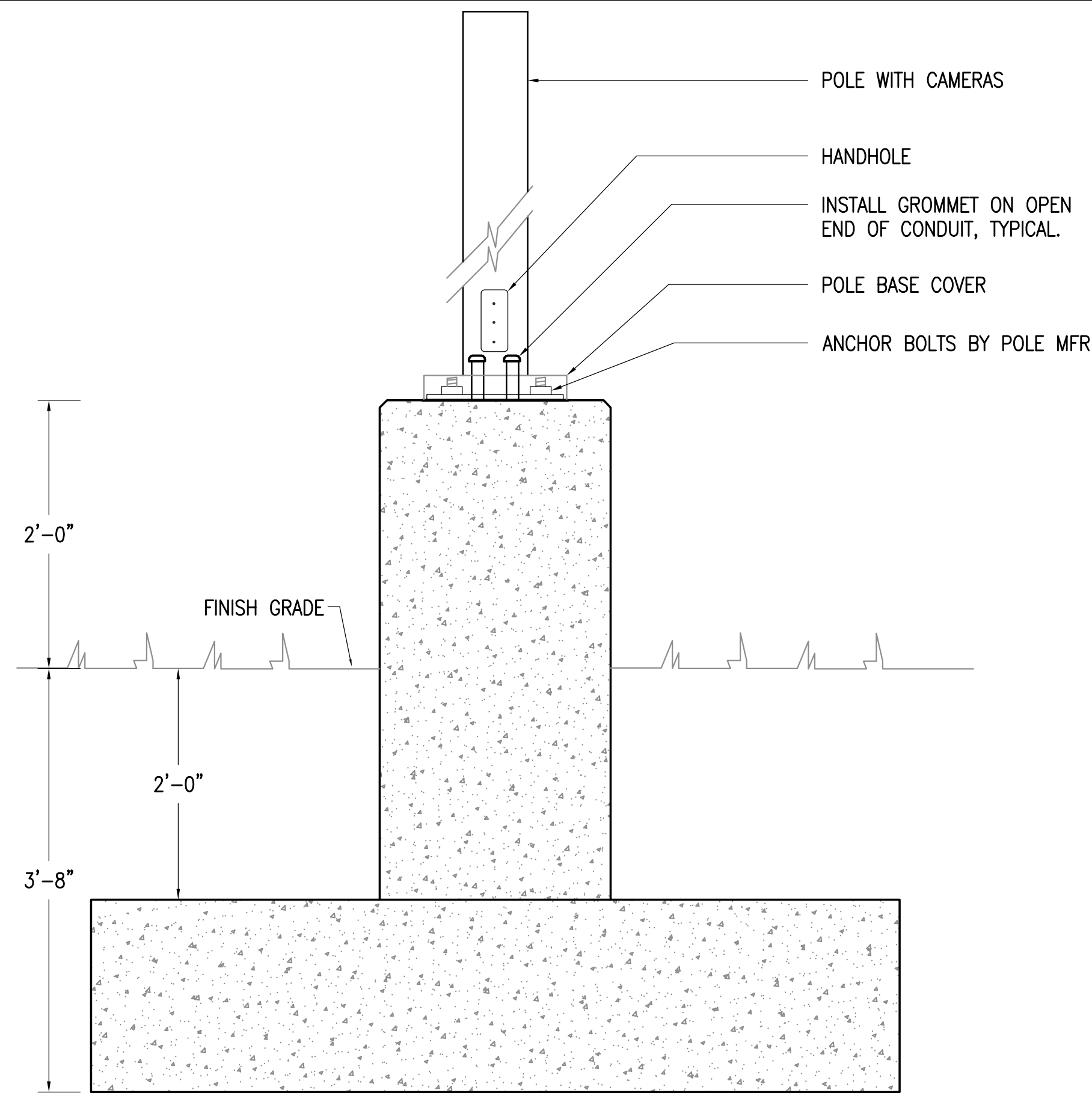
SHEET:
E0.1



1 IN-GRADE BOX DETAIL
NO SCALE



2 TRENCHING DETAIL
NO SCALE



3 POLE BASE DETAIL - VCT
NO SCALE



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**VALDEZ CONTAINER TERMINAL &
KELSEY DOCK SECURITY UPGRADES**

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

REVISIONS:

DRAWN BY: FWS
CHECKED BY: JAM,RLW
DATE: 12/17/2019
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DRAWING TITLE:
ELECTRICAL DETAILS

SHEET:
E0.2

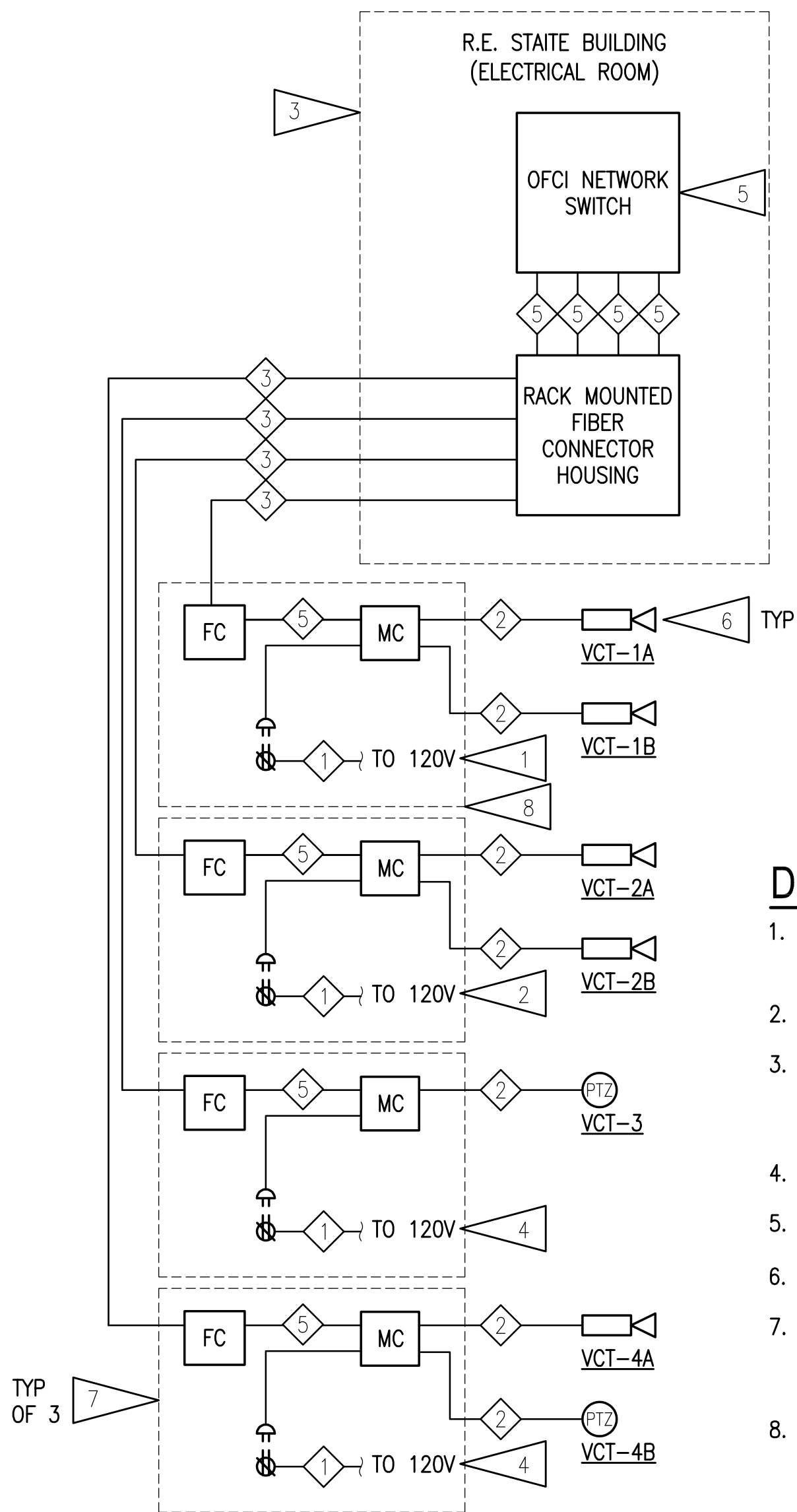
0"
1"
2"
3"

IP VIDEO SYSTEM CABLE SCHEDULE

CABLE NUMBER	DESCRIPTION
1	3#10AWG LINE VOLTAGE CONDUCTORS
2	CAMERA FIELD PATCH CORD, CAT 6 UTP, LENGTH AS REQUIRED. EXTERIOR RATED 2#14AWG FOR LOW-VOLTAGE POWER
3	12-STRAND INDOOR/OUTDOOR RATED FIBER OPTIC CABLE
4	CAMERA PoE CABLES, CAT 6 UTP
5	2-STRAND INDOOR/OUTDOOR FIBER PATCH CORD
6	NETWORK PATCH CABLE, CAT 6 UTP

IP SYSTEM CAMERA SCHEDULE

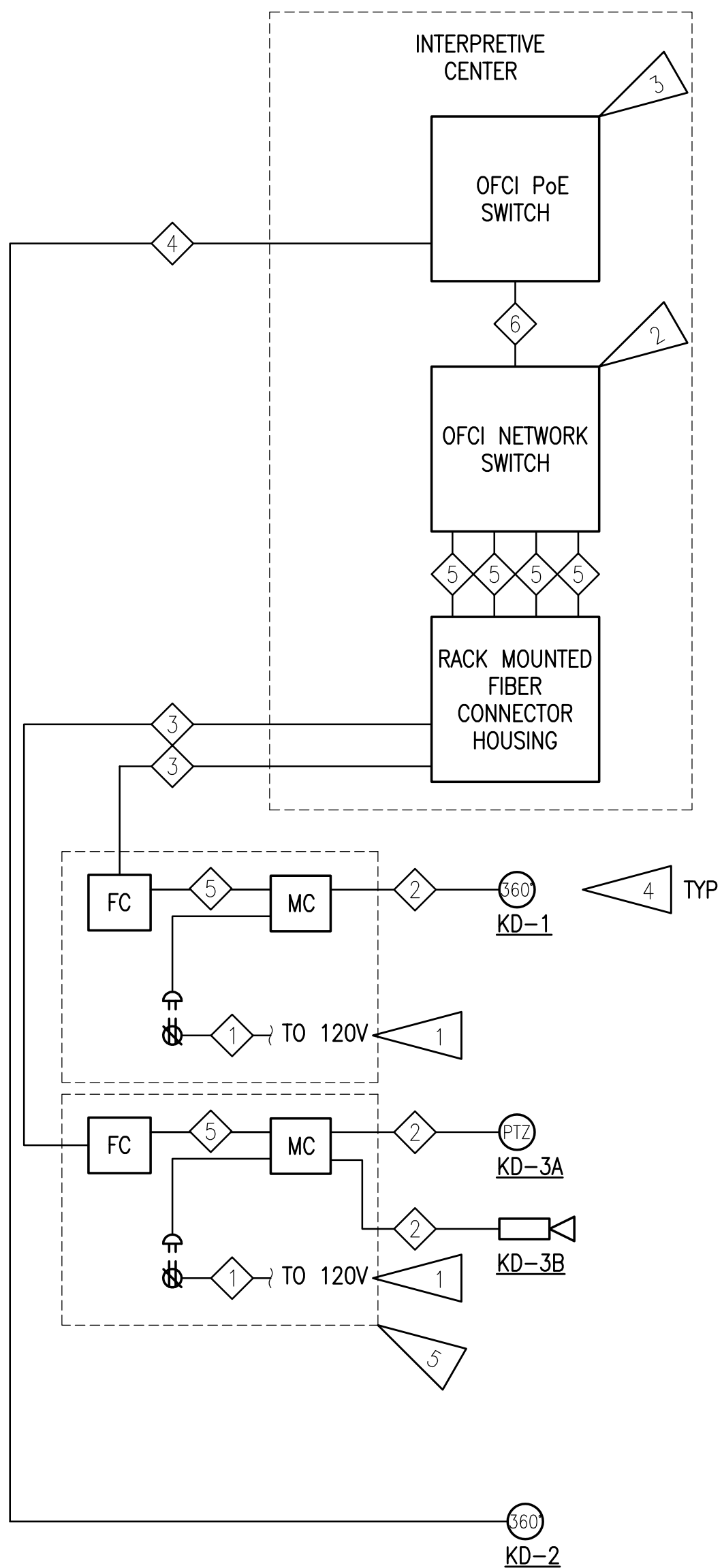
CAMERA DESIGNATION	CAMERA LOCATION (SEE PLANS)	INTENDED COVERAGE AREA	CAMERA TYPE (SEE SPECS)
VCT-1A	CONTAINER TERMINAL ACCESS GATE	LICENCE PLATE AND FACIAL RECOGNITION OF TRAFFIC ENTERING CONTAINER TERMINAL	TYPE 'A'
VCT-1B	CONTAINER TERMINAL ACCESS GATE	LICENCE PLATE AND FACIAL RECOGNITION OF TRAFFIC EXITING CONTAINER TERMINAL	TYPE 'A'
VCT-2A	CONTAINER TERMINAL WEIGH STATION	GENERAL COVERAGE OF TRAFFIC ENTERING/LEAVING THE CONTAINER TERMINAL	TYPE 'A'
VCT-2B	CONTAINER TERMINAL WEIGH STATION	GENERAL COVERAGE OF ACTIVITY AT WEIGH STATION	TYPE 'A'
VCT-3	ELECTRICAL BUILDING	GENERAL COVERAGE OF CONTAINER AREA PTZ COVERAGE ON AUTOMATED PAN OF VCT	TYPE 'C'
VCT-4A	MAINTENANCE BUILDING	GENERAL COVERAGE OF ACTIVITY ON PIER STATIC COVERAGE HIGH PRIORITY ACTIVITY	TYPE 'B'
VCT-4B	MAINTENANCE BUILDING	GENERAL COVERAGE OF ACTIVITY ON PIER PTZ COVERAGE ON AUTOMATED PAN OF PEIR	TYPE 'C'
KD-1	KELSEY DOCK LIGHT POLE AT WEST DOCK ENTRANCE	GENERAL COVERAGE OF TRAFFIC AROUND WEST ENTRANCE OF DOCK	TYPE 'D'
KD-2	KELSEY DOCK INTERPRETIVE CENTER	GENERAL COVERAGE OF TRAFFIC AROUND INTERPRETIVE CENTER AND MIDDLE DOCK ENTRANCE.	TYPE 'D'
KD-3A	KELSEY DOCK LIGHT POLE AT EAST DOCK ENTRANCE	PAN-TILT-ZOOM WITH RETURN TO VIEW SETTING LOOKING DOWN DOCK	TYPE 'C'
KD-3B	KELSEY DOCK LIGHT POLE AT EAST DOCK ENTRANCE	GENERAL COVERAGE OF TRAFFIC THROUGH EAST ENTRANCE.	TYPE 'A'



DETAIL NOTES:

- PROVIDE 120V POWER FROM MINI-POWER ZONE NEAR VCT TRESTLE GATE. SEE 2/E1.2.
- PROVIDE 120V POWER FROM SCALE BUILDING. SEE 1/E1.1.
- PROVIDE WALL-MOUNTED TELECOM CABINET AND INSTALL IN ELECTRICAL ROOM. PROVIDE 120V RECEPTACLE CIRCUIT FOR SURGE PROTECTION AND CONNECT TO AVAILABLE SPARE BREAKER IN NEARBY 120/208V PANEL IN ELECTRICAL ROOM.
- PROVIDE 120V POWER FROM MAINTENANCE BUILDING. SEE 1/E1.1.
- NEW OWNER-FURNISHED, CONTRACTOR-INSTALLED FIBER SWITCH.
- SEE 1/E1.1 AND 1/E1.2 FOR LOCATION.
- PROVIDE LOCKABLE ENCLOSURE TO HOUSE FIBER CASSETTE, MEDIA CONVERTER AND RECEPTACLE. COORDINATE WITH COV PROJECT MANAGER TO FIELD LOCATE ENCLOSURE IN BUILDING.
- PROVIDE LOCKABLE NEMA 3R STAINLESS STEEL BOX TO HOUSE FIBER CASSETTE, MEDIA CONVERTER, AND RECEPTACLE. SECURE TO EXISTING LIGHT POLE. SEE 1/E1.2 FOR POLE LOCATION.

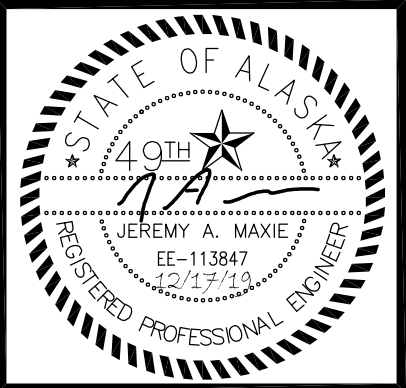
1 VCT IP VIDEO ONE-LINE DIAGRAM
NO SCALE



DETAIL NOTES:

- CONNECT TO AVAILABLE SPARE CIRCUIT IN VISITOR CENTER. A SINGLE CIRCUIT MAY BE USED FOR CAMERAS FOR BOTH CAMERA LOCATIONS. PROVIDE 3#10 AWG WIRE IN EXISTING CONDUIT.
- NEW OWNER-FURNISHED, CONTRACTOR-INSTALLED FIBER SWITCH. MOUNT IN EXISTING TELECOM RACK. SEE 1/E2.1 FOR APPROXIMATE LOCATION.
- NEW OWNER-FURNISHED, CONTRACTOR-INSTALLED POE SWITCH. MOUNT IN EXISTING TELECOM RACK. SEE 1/E2.1 FOR APPROXIMATE LOCATION.
- SEE 1/E2.1 FOR LOCATION.
- PROVIDE LOCKABLE NEMA 3R STAINLESS STEEL BOX TO HOUSE FIBER CASSETTE, MEDIA CONVERTER, AND RECEPTACLE. SECURE TO EXISTING LIGHT POLE. SEE 1/E2.1 FOR POLE LOCATION.

2 KELSEY DOCK IP VIDEO ONE-LINE DIAGRAM
NO SCALE



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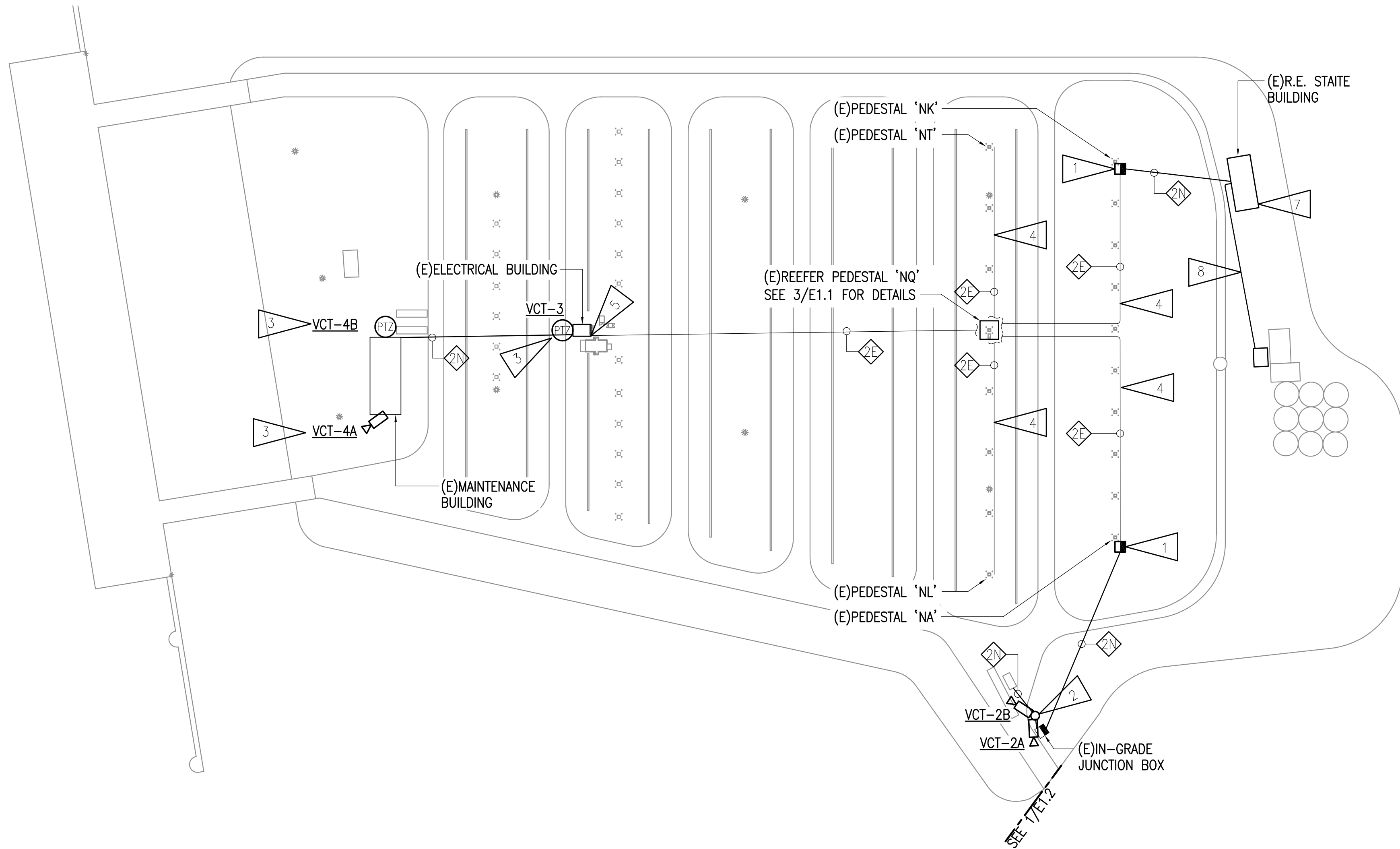
DRAWN BY: FWS
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DWG FILE: L9040 - ESeries

DRAWING TITLE:
IP VIDEO SCHEDULE AND
RISER DIAGRAMS

SHEET:

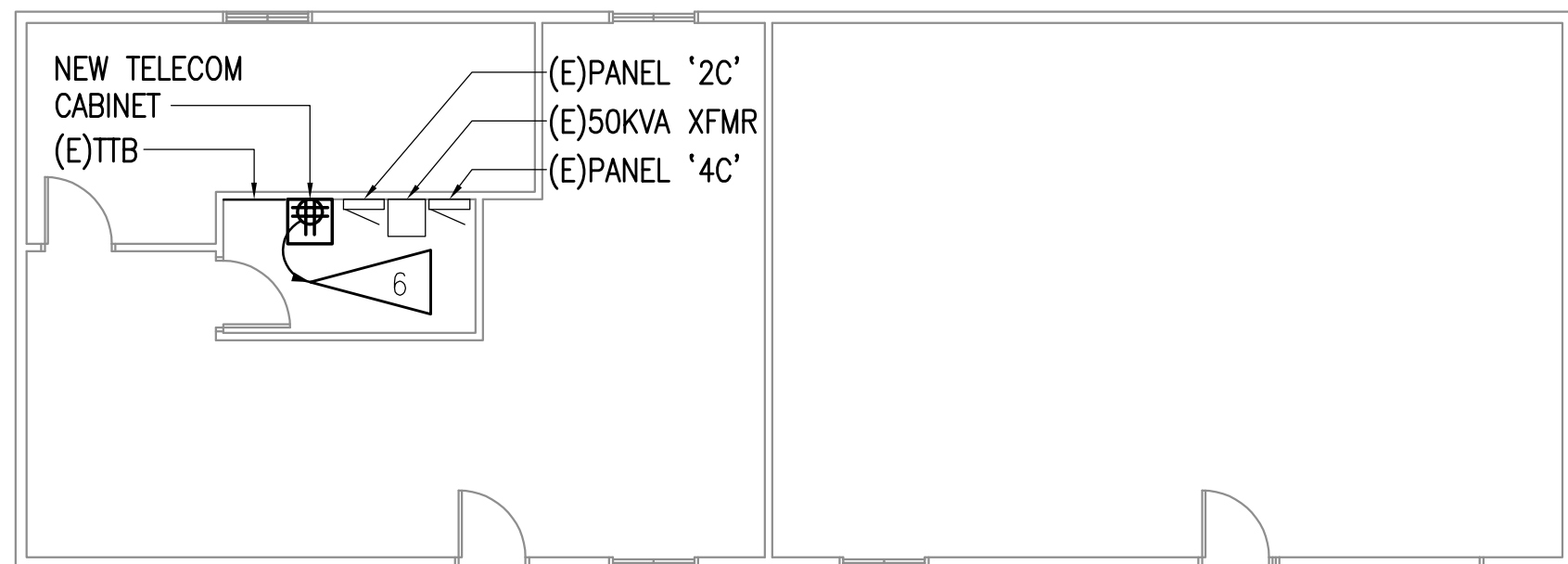
E0.3

0"
1"
2"
3"



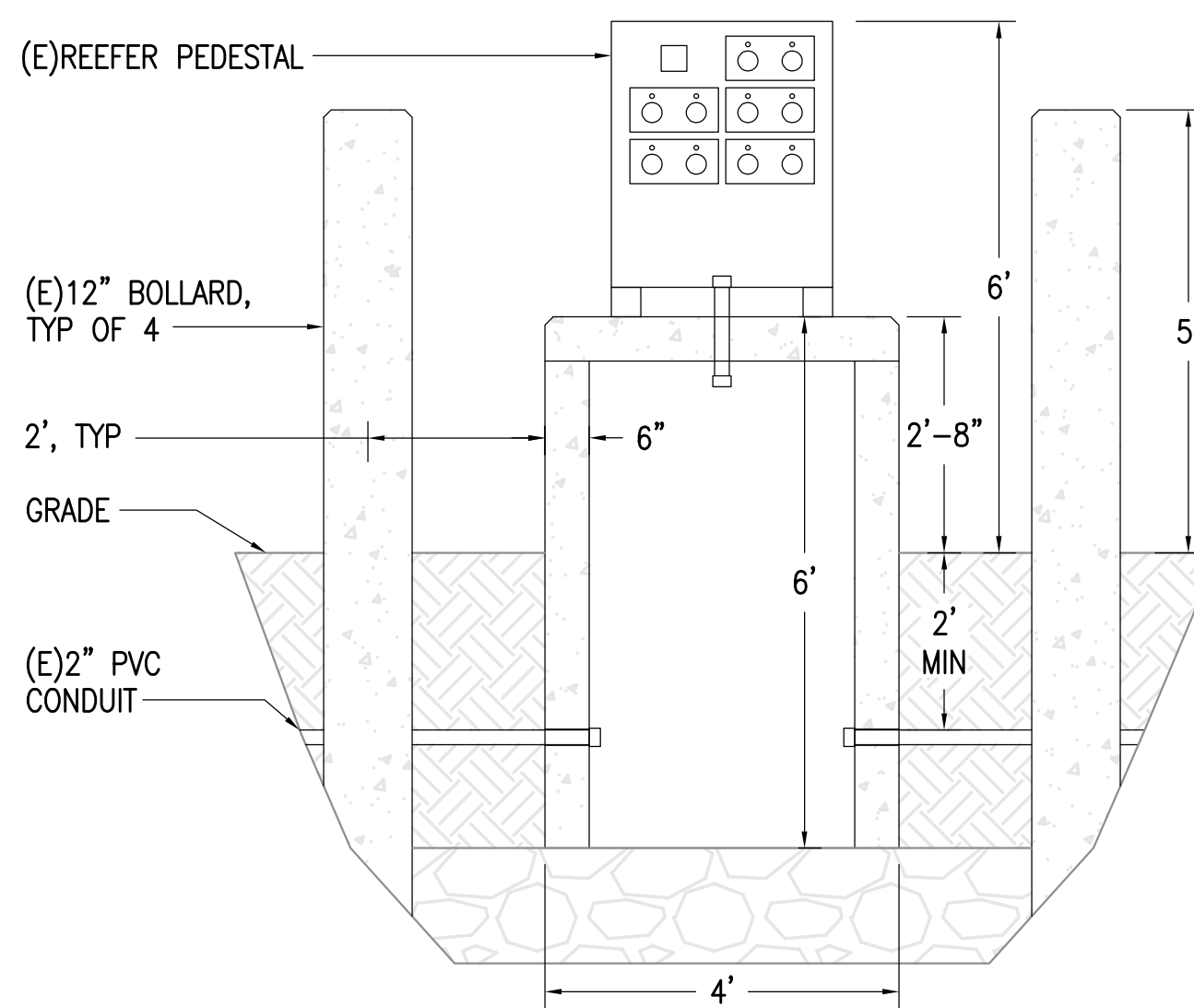
1 VCT SITE PLAN

1" = 100'-0"

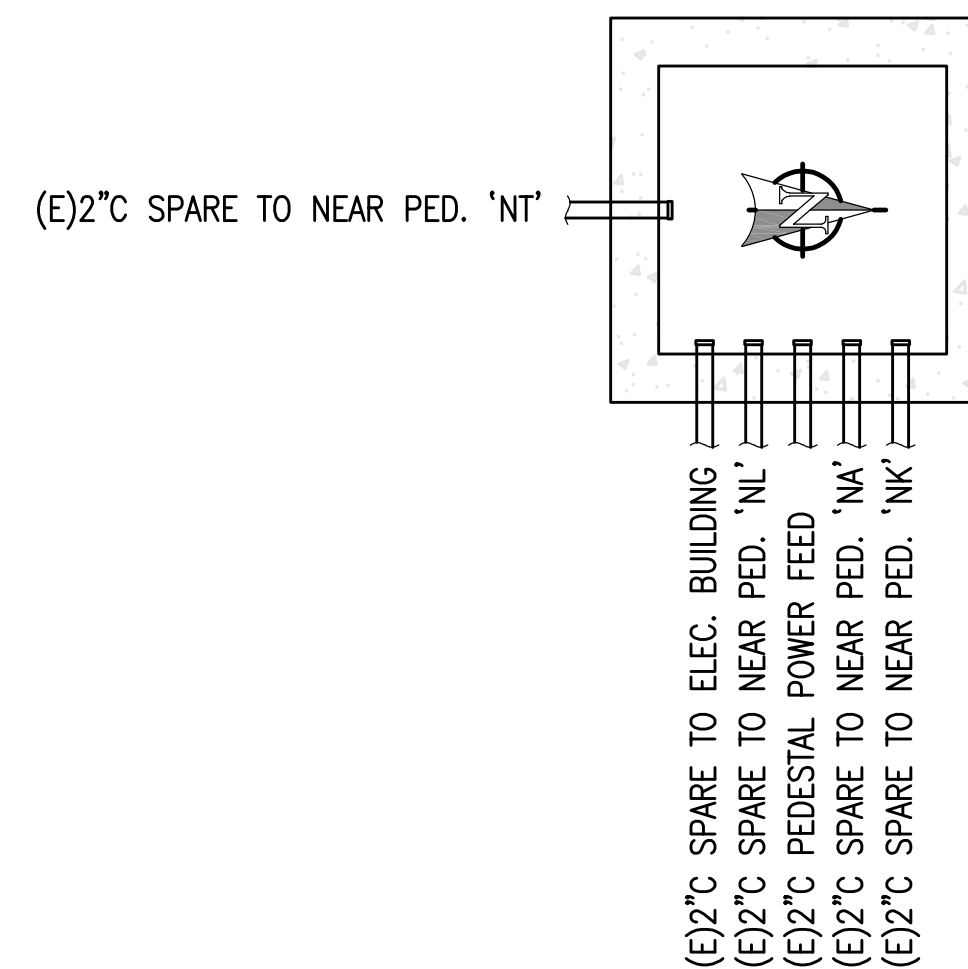


2 R.E. STAITE BUILDING

NOT TO SCALE



ELEVATION



PLAN VIEW

CONDUIT SCHEDULE

- 2N NEW 2" PVC SCH. 40
- 2E EXISTING 2" PVC SCH. 40

GENERAL NOTES:

- A. SEE 1/E0.3 FOR VIDEO ONE-LINE DIAGRAM AND ADDITIONAL DETAIL.

SHEET NOTES:

- NEW IN-GRADE JUNCTION BOX FOR EXTENDING EXISTING 2" PVC.
- PROVIDE NEW 25' LIGHT POLE FOR CAMERAS. MOUNT CAMERAS +15' AFG. NO LIGHT FIXTURE SHALL BE INSTALLED AT THIS TIME. LITHONIA #RSS-25-5B-VD-IC-DBXD OR APPROVED EQUAL.
- CAMERA SHALL BE MOUNTED 10' ABOVE ROOF LINE. PROVIDE 4" MAST, ANCHORED IN AT LEAST (2) LOCATIONS TO THE BUILDING WITH MINIMUM 3' SPACING. ROUTE CABLING THROUGH BUILDING TO NEW TRENCH ROUTE.
- EXISTING 2" CONDUIT ARE STUBBED INTO REEFER PEDESTAL 'NQ' ONLY AND ARE RAN CONTINUOUSLY FROM PED. 'NQ' TO THEIR STUB UP LOCATIONS.
- EXISTING 2" PVC CONDUIT STUBBED UP ABOVE GRADE AT ELECTRICAL BUILDING. EXTEND INTO ELECTRICAL BUILDING AND SEAL PENETRATION.
- CONNECT TO AVAILABLE SPARE BREAKER IN PANEL 2C.
- LOCATE NEW TELECOM CABINET IN ELECTRICAL ROOM. PROVIDE 120V POWER FROM SPARE CIRCUIT IN PANEL 2C. SEE 2/E1.1 FOR BUILDING FLOOR PLAN.
- CONDUIT, CABLING AND TRENCHING OF CVT UTILITIES TO BE PROVIDED BY CVT. COORDINATE WITH CVT AND PROVIDE 2"C PATHWAY WAY FROM UTILITY ENTRANCE IN R.E. STAITE BUILDING TO TELECOM LOCATION.



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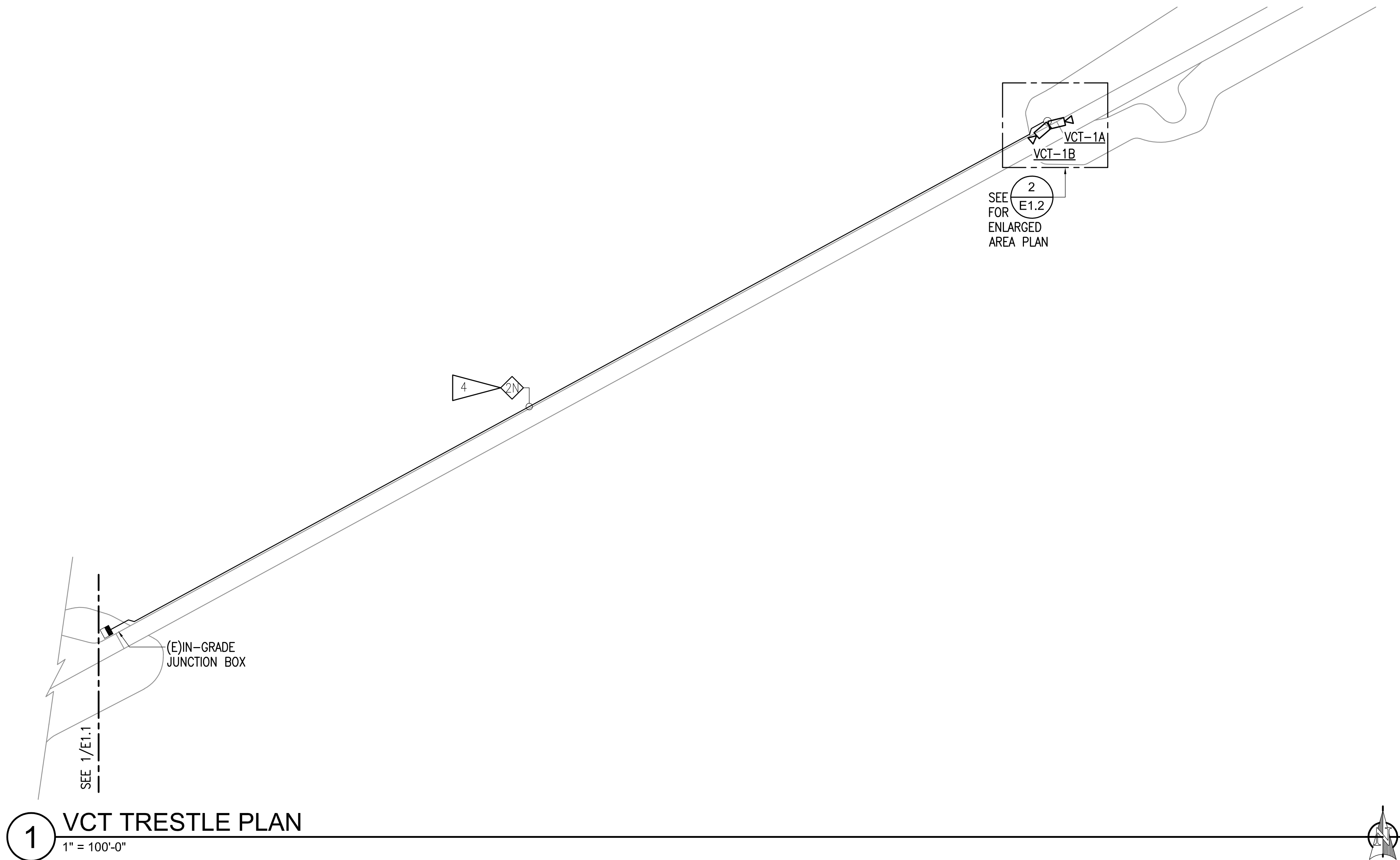
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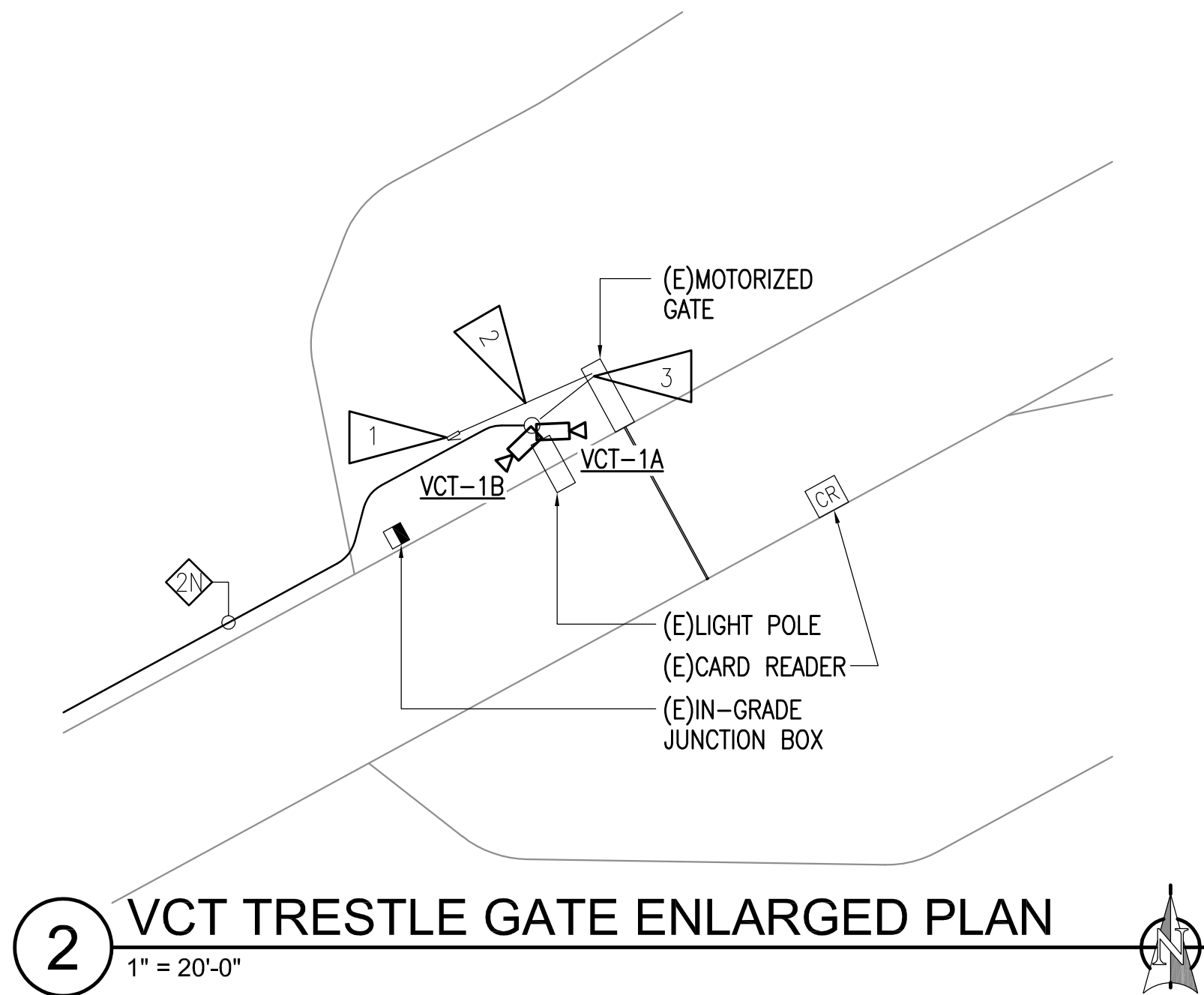
DRAWING TITLE:
VCT SITE PLAN
(ALTERNATE)

SHEET:
E1.1

0"
1"
2"
3"



1 VCT TRESTLE PLAN
1" = 100'-0"



2 VCT TRESTLE GATE ENLARGED PLAN
1" = 20'-0"

CONDUIT SCHEDULE

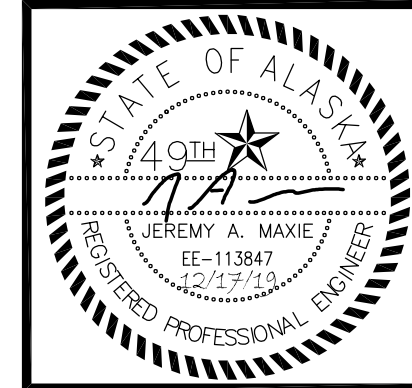
NEW 2" PVC SCH. 40

GENERAL NOTES:

A. SEE E1.1 FOR GENERAL NOTES.

SHEET NOTES:

1. INSTALL NEW 20A, 1P, CIRCUIT BREAKER IN SPACE AVAILABLE IN THE EXISTING MINI-POWER ZONE. THE EXISTING PANEL IS A EATON TYPE P48G11S10S6CUB, 120/240V, 1Ø, 3W, WITH A 40A MAIN BREAKER AND 50A SECONDARY BREAKER. THE NEW CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH AND LISTED FOR USE IN THE EXISTING PANEL AND SHALL HAVE A MINIMUM SHORT CIRCUIT AIC RATING TO MATCH THE LOWEST RATED EXISTING DEVICE IN THE PANEL.
2. EXISTING UNDERGROUND CONDUIT FROM MINI-POWER ZONE TO MOTORIZED GATE.
3. EXISTING SPARE CONDUIT FROM GATE STUBBED UP NEXT TO LIGHT POLE. EXTEND CONDUIT AS NEEDED FOR MEDIA CONVERTER POWER.
4. MOUNT CONDUIT TO TRESTLE STRUCTURAL SIDE MEMBERS. SPACING IS APPROXIMATELY 6' BETWEEN SUPPORTS.



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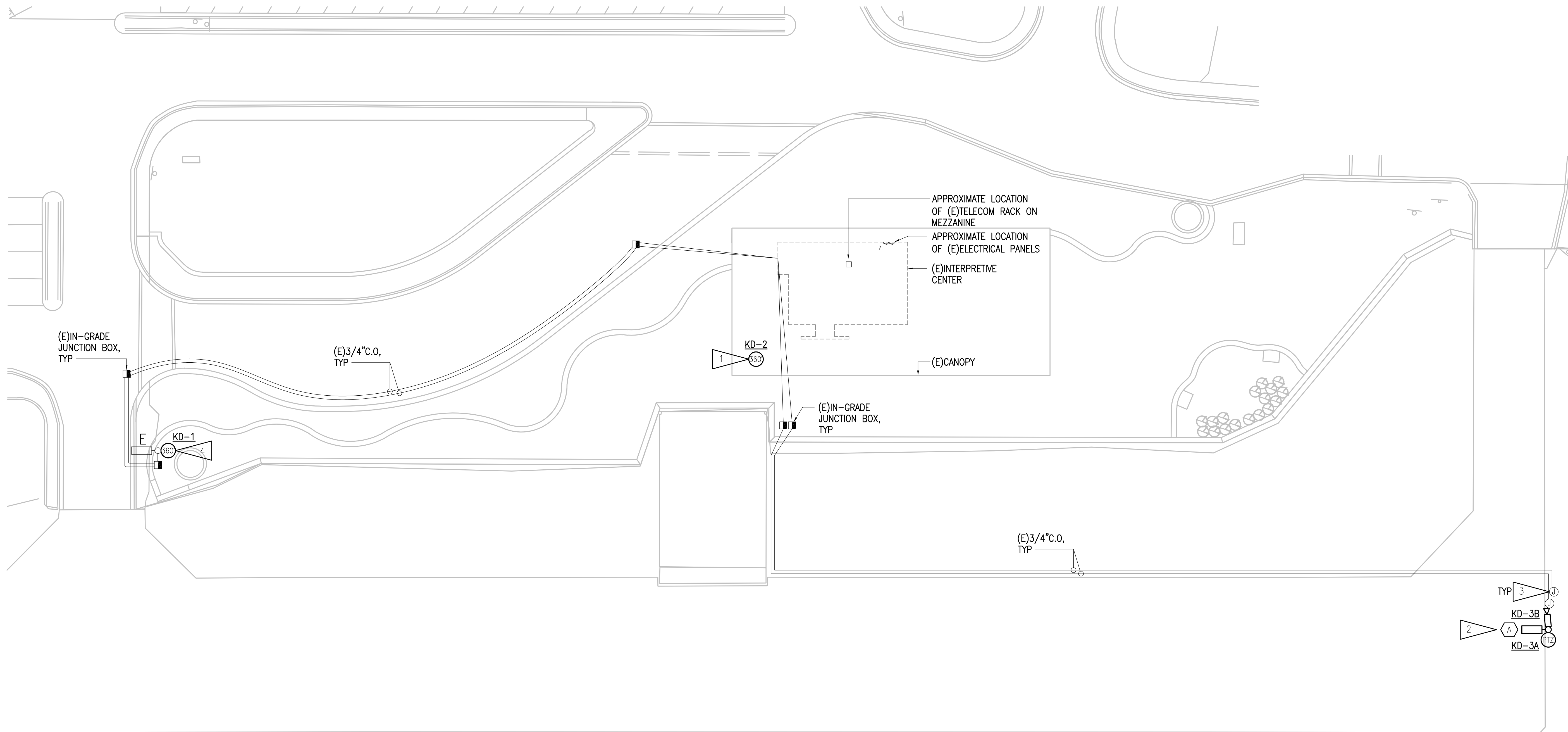
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JOB NUMBER: L9040
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DRAWING TITLE:
VCT TRESTLE SITE PLAN

SHEET:

E1.2

0"
1"
2"
3"



1 KELSEY DOCK SITE PLAN
1" = 20'-0"

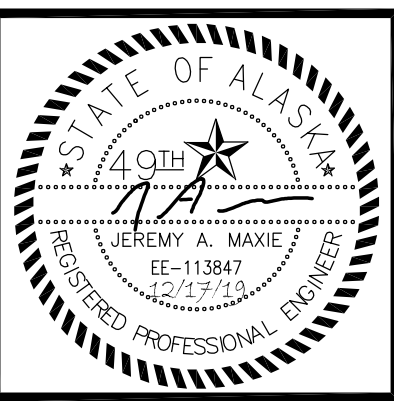
GERERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK.
2. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.
3. UTILIZE EXISTING CONDUIT PATHS FOR ALL NEW CABLING AND CIRCUITS.

SHEET NOTES:

1. NEW CAMERA INSTALLED AT EXISTING JUNCTION BOX UNDER VISITOR CENTER CANOPY.
2. DEMOLISH EXISTING POLE, LIGHT FIXTURE AND IP VIDEO CAMERA. INSTALL NEW POLE IN EXISTING LOCATION. VERIFY BOLT PATTERN PRIOR TO ORDERING. MOUNT NEW LIGHT FIXTURE AND CAMERAS TO NEW POLE. POLE IS MOUNTED TO SIDE OF DOCK ON PILE.
3. EXISTING NEMA 3R JUNCTION BOX MOUNTED TO SIDE OF DOCK FOR CAMERA POWER AND SIGNAL.
4. MOUNT CAMERA TO EXISTING LIGHTING POLE.

LIGHT FIXTURE SCHEDULE								
TYPE	LOCATION	MANUFACTURER AND CATALOG NUMBER (OR APPROVED EQUAL)	LUMINAIRE DESCRIPTION	MOUNTING		LAMPS	BALLAST/DRIVER	TOTAL INPUT WATTS
				TYPE	HEIGHT			
A	KELSEY DOCK	LITHONIA #DSX1 LED P2 40K T2M #MVOLT SPA DDBXD #SSS 20 4G VD IC DDBXD	33"Lx13"Wx3.5"D AREA LIGHT, 27LBS, 1.01FT ² EPA, TYPE II MEDIUM DISTRIBUTION, SQUARE POLE MOUNTING, DARK BRONZE FINISH. 20' TALL, 4" SQUARE STRAIGHT STEEL POLE, 0.1793" WALL THICKNESS, VIBRATION DAMPER, INTERIOR ANTI-CORROSION COATING, DARK BRONZE FINISH	POLE	18'-0"	3000K LED 8,283LM	120/277V LED DRIVER	70



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DRAWING TITLE:
KELSEY DOCK SITE PLAN

SHEET:
E2.1