SECTION 32 3113 - ELECTRIC GATE OPERATORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Charles County Specification Section 02710 "Fences" for fencing and gates associated with the gate operators specified in this Section.

B. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Electric gate operators for sliding gates.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Inspect and discuss electrical roughing-in, equipment bases, and other preparatory work specified elsewhere.
2. Review sequence of operation for each type of gate operator.
3. Review coordination of interlocked equipment specified in this Section and elsewhere.
4. Review required testing, inspecting, and certifying procedures.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:

a. Gate operators, including operating instructions and motor characteristics.

B. Shop Drawings: For each type of fence and gate assembly.

1. Include accessories, hardware, gate operation, and operational clearances.
2. Gate Operator: Show locations and details for installing operator components, switches, and controls. Indicate motor size, electrical characteristics, drive arrangement, mounting, and grounding provisions.
3. Wiring Diagrams: For power, signal, and control wiring.

C. Samples for Verification: For each type of component with factory-applied finish, prepared on Samples of size indicated below:

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For factory-authorized service representative.

B. Field quality-control reports.

C. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For gate operators to include in emergency, operation, and maintenance manuals.

1.7 QUALITY ASSURANCE

A. Testing Agency Qualifications: For testing fence grounding; member company of NETA or an NRTL.

1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

B. Emergency Access Requirements: According to requirements of authorities having jurisdiction for gates with automatic gate operators serving as a required means of access.

1.8 FIELD CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

1.9 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of electric gate operators and accessories that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Failure to comply with performance requirements.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
c. Faulty operation of gate operators and controls.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 4000 "Quality Requirements," to design electric gate operator and accessories, including coordinating components and accessories of the operator in this Section with the access control system requirements and intended operation of the gate as indicated.

2.2 GATE OPERATORS

A. Available Manufacturers: Subject to compliance with requirements, available manufacturers offering electric gate operators include, but are not limited to, the following:

1. LiftMaster Elite Series.
2. DoorKing.
3. Eagle Access Control Systems.
4. Nice Apollo.
5. Viking Access.

B. Operators: Factory-assembled, automatic, gate-operating system designed for gate size, type, weight, and frequency of use. Control system shall have characteristics suitable for Project conditions, with control stations, safety devices, and weatherproof enclosures.

1. Operator design shall allow for removal of cover or motor without disturbing limit-switch adjustment and without affecting auxiliary emergency operation.

2. Electronic components shall have built-in troubleshooting diagnostic feature.
3. Unit shall be designed and wired for both right-hand/left-hand opening, permitting universal installation.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. UL Standard: Manufacture and label gate operators according to UL 325.

E. Motors: Comply with NEMA MG 1.

1. Duty: Continuous duty at ambient temperature of 40 deg C and at altitude of 3300 feet above sea level.
2. Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor.
3. Service Factor: 1.15.
4. Electrical Characteristics:

    a. Horsepower: As recommended by manufacturer for gate weight, size, and frequency of operation.
    b. Voltage: 115 V ac, single phase, 60 hertz.

F. Gate Operators: Equipment base/pad mounted and as follows:

1. Mechanical Slide Gate Operators:

    a. Duty: Medium duty, commercial/industrial.
    b. Gate Speed: Minimum 60 feet per minute.
    c. Frequency of Use: Continuous duty.
    d. Operating Type: Roller chain, with manual release.
    e. Drive Type: Enclosed worm gear reducers, roller-chain drive.

G. Controls: Electric controls separated from gate and motor and drive mechanism, with NEMA 250, Type 4 enclosure for mounting and with space for additional optional equipment.

H. Control Devices:

1. Card access control, as indicated in the Drawings.

2. Radio Control: Digital system consisting of code-compatible universal receiver for each gate, located where recommended by gate operator manufacturer, with remote antenna with coaxial cable and mounting brackets designed to operate gates. Provide five programmable transmitter(s) with multiple-code capability, permitting validating or voiding of not less than 1000 codes per channel configured for the following functions:

    a. Transmitters: Single -button operated, with open and close function.

3. Vehicle Presence Detector: System that includes automatic closing timer with adjustable time delay before closing, timer cut-off switch, and presence detector designed to hold gate open until traffic clears.

    a. Provide retroreflective detector with adjustable detection zone pattern and sensitivity, designed to detect the presence or transit of a vehicle in gate pathway when infrared beam in zone pattern is interrupted, and to emit a signal activating the gate operator.

I. Obstruction Detection Devices: Provide each motorized gate with automatic safety sensor(s). Activation of sensor(s) causes operator to immediately function as follows:

1. Action: Reverse gate in both opening and closing cycles and hold until clear of obstruction.
2. Sensor Edge: Contact-pressure-sensitive safety edge, profile, and sensitivity designed for type of gate and component indicated, in locations as follows. Connect to control circuit using gate edge transmitter and operator receiver system.

    a. Along entire gate leaf leading edge.

J. Limit Switches: Adjustable switches, interlocked with motor controls and set to automatically stop gate at fully open and fully closed positions.

K. Emergency Release Mechanism: Quick-disconnect release of operator drive system, permitting manual operation if operator fails. Control circuit power is disconnected during manual operation.

1. Type: Integral fail-safe release, allowing gate to be pushed open without mechanical devices, keys, cranks, or special knowledge.

L. Operating Features:

1. Digital Microprocessor Control: Electronic programmable means for setting, changing, and adjusting control features. Provide unit that is isolated from voltage spikes and surges.
2. System Integration: With controlling circuit board capable of accepting any type of input from external devices.
3. Master/Slave Capability: Control stations designed and wired for gate pair operation.
4. Automatic Closing Timer: With adjustable time delay before closing.
5. Open Override Circuit: Designed to override closing commands.
6. Reversal Time Delay: Designed to protect gate system from shock load on reversal in both directions.
7. Maximum Run Timer: Designed to prevent damage to gate system by shutting down system if normal time to open gate is exceeded.

M. Accessories:

1. Warning Module: Audio, -light alarm sounding three to five seconds in advance of gate operation and continuing until gate stops moving.
2. Battery Backup System: Battery-powered drive and access-control system, independent of primary drive system.

    a. Fail Secure: Gate cycles on battery power, then fail safe when battery is discharged.

3. External electric-powered lock with delay timer allowing time for lock to release before gate operates.
4. Instructional, Safety, and Warning Labels and Signs: Manufacturer's standard for components and features specified.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, and other conditions affecting performance of the Work.

1. Do not begin installation before final grading is completed unless otherwise permitted by Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 GATE-OPERATOR INSTALLATION

A. Install gate operators according to manufacturer's written instructions, aligned and true to fence line and grade.

B. Ground electric-powered motors, controls, and other devices according to NFPA 70 and manufacturer's written instructions.

3.3 GROUNDING AND BONDING

A. Comply with requirements in Section 26 0526 "Grounding and Bonding for Electrical Systems."

B. Grounding Method: At each grounding location, drive a grounding rod vertically until the top is 6 inches below finished grade. Connect rod to fence with No. 6 AWG conductor. Connect conductor to each fence component at grounding location.

C. Connections:

1. Make connections with clean, bare metal at points of contact.
2. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
3. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
4. Make above-grade ground connections with mechanical fasteners.
5. Make below-grade ground connections with exothermic welds.
6. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

3.4 ADJUSTING

A. Automatic Gate Operator: Energize circuits to electrical equipment and devices, start units, and verify proper motor rotation and unit operation.

1. Test and adjust operators, controls, alarms, and safety devices. Replace damaged and malfunctioning controls and equipment.
2. Lubricate operator and related components.

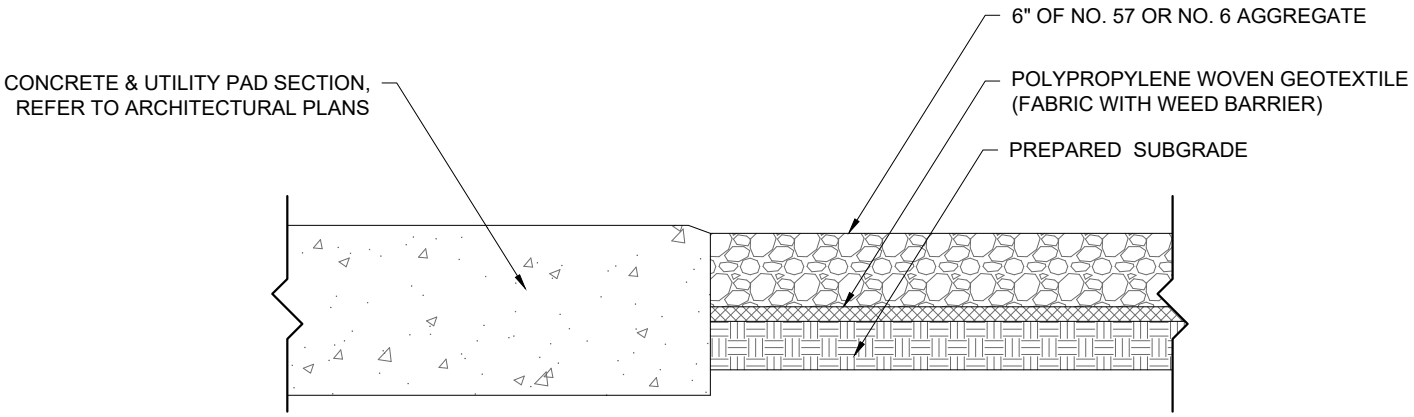
B. Lubricate hardware and other moving parts.

3.5 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain chain-link fences and gates.

END OF SECTION 32 3113

Addendum No. 4



DETAIL

SCALE: N.T.S.

UTILITY PAD & GRAVEL AREA

CHARLES COUNTY ANIMAL SHELTER

8TH ELECTION DISTRICT CHARLES COUNTY, MARYLAND

CSKC-004

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BEN DYER ASSOCIATES, INC.
Engineers / Surveyors / Planners
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DRAWN BY	DESIGNED BY	CHECKED BY	RECORD NO.
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SCALE: N.T.S.			DRWG. NO.
DATE: DECEMBER 2020			

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FENCE:

- PROVIDE A 3-RAIL SPLIT-RAIL FENCE SYSTEM IN LOCATIONS INDICATED ON DRAWINGS.
- BASIS-OF DESIGN: L**ONG FENCE 3-RAIL SPLIT RAIL FENCE WITH WIRE MESH.**

MATERIALS, GENERAL:

- FENCING SHALL BE A PREMANUFACTURED COMMERCIAL-GRADE PRODUCT COMPRISED OF PREMANUFACTURED POSTS AND RAILS DESIGNED TO BE ASSEMBLED AS A SYSTEM, WITH MECHANICALLY-FASTENED CONNECTIONS BETWEEN RAILS AND POSTS.
- FENCING SHALL BE FABRICATED FROM ROUGH-SAWN #2 GRADE PRESERVATIVE-TREATED SOUTHERN YELLOW PINE OR SIMILAR SPECIES, RATED FOR EXTREME EXPOSURE AND FOR DIRECT GROUND CONTACT.
- POSTS SHALL BE 5 BY 6-INCH NOMINAL CROSS-SECTION WITH THREE (3) PRE-MILLED THROUGH HOLES FOR RAILS, EQUALLY-SPACED AT APPROXIMATELY 14 INCHES BETWEEN EACH NOTCH AND 8 INCHES FROM TOP OF POST TO TOP OF FIRST HOLE. PROVIDE BOTH LINE POST AND CORNER POST CONFIGURATIONS TO MATCH FENCE LAYOUT INDICATED. POSTS SHALL BE MINIMUM OF 80 INCHES IN TOTAL LENGTH, WITH 68 INCHES EXPOSED ABOVE GRADE AND A MINIMUM OF 12 INCHES IMBEDDED IN POST BASES.
- RAILS SHALL BE 4 BY 4-INCH NOMINAL CROSS SECTION, OF LENGTHS NECESSARY FOR FULL INSERTION INTO POSTS AT SPACING INDICATED, WITH PRE-TAPERED ENDS FOR INSERTION INTO POST SOCKETS.
- ALL FASTENERS SHALL BE CORROSION-RESISTANT, EITHER HOT-DIP GALVANIZED STEEL OR TYPE 304 STAINLESS STEEL.
- WIRE MESH: 2 BY 4 INCH, 12.5-GAUGE STEEL WELDED WIRE FABRIC, EITHER HOT-DIP GALVANIZED OR VINYL-COATED; IN 36-INCH-WIDE ROLLS.
- CONCRETE FOR POST BASES: NO LESS THAN 3,500 PSI CONCRETE, EITHER PRE-BAGGED AND SITE-MIXED, OR PREMIXED.
- FOOTING FORMS: AT CONTRACTOR'S OPTION, EITHER EARTH-FORMED OR PREFORMED CARBOARD FORM TUBES ARE ACCEPTABLE, NO LESS THAN 16 INCHES IN DIAMETER AND IN NO CASE PROVIDING LESS THAN 4 INCHES OF CONCRETE COVER FOR IMBEDDED POSTS.

INSTALLATION, GENERAL:

- SPLIT RAIL FENCE INSTALLATION SHALL PRODUCE A CONTINUOUS, SOUND, ANIMAL-RESISTANT ENCLOSURE OF PROFILE INDICATED, WITHOUT SHARP EDGES, EXPOSED FASTENER ENDS, EXPOSED WIRES, OR SIMILAR HAZARDOUS CONDITIONS THAT WOULD POSE HARM OR RISK OF INJURY TO LIVESTOCK CONTAINED WITHIN FENCING ENCLOSURE.
- POSTS SHALL BE PLUMB, AND SET AT HEIGHTS ABOVE GRADE INDICATED TO PRODUCE RAILS THAT PARALLEL THE FINISHED GRADE BETWEEN POSTS.
- IF POST SPACING LESS THAN WHAT IS INDICATED IS REQUIRED IN ANY RUN TO ACHIEVE THE LAYOUT SHOWN IN THE DRAWINGS, THEN REDUCE SPACING EQUALLY ON BOTH ENDS OF RUN BETWEEN EACH END POST AND THE NEXT LINE POST.

POST INSTALLATION

- INSTALL POSTS AT 8'-0" MAX. ON CENTER.
- LAYOUT POSTS IN EACH FULL RUN BEFORE INSTALLATION; USE CONTINUOUS STRING LINES, BATTER BOARDS, OR OTHER LAYOUT MEANS TO ENSURE POSTS ARE PLACED TRUE-TO-LINE AND AT PROPER SPACING.
- EXCAVATE FOOTINGS AND PROP POSTS IN PLACE WITH TEMPORARY LUMBER STRUTS TO MAINTAIN HEIGHT, ALIGNMENT, AND PLUMB. MAINTAIN PROPS 6 HOURS MINIMUM AND UNTIL CONCRETE FOOTINGS HAVE SET BEFORE REMOVAL.
- TREAT ENDS OF POSTS WITH PRESERVATIVE TREATMENT BEFORE EMBEDMENT IN CONCRETE.
- PROVIDE 30-INCH-DEEP CONCRETE FOOTING AT EACH POST. IMBED POSTS 12-INCHES MINIMUM. PLACE AND ROD CONCRETE IN HOLES AROUND POST, ENSURING POSTS ARE CENTERED. FORM CONCRETE TO A DOMED TOP PROFILE TO SHED WATER, 1 ½ INCHES ABOVE FINISH GRADE.
- PROVIDE 12.5 GAUGE HIGH-TENSILE CORROSION-RESISTANT STEEL WIRE DIAGONAL BRACE AT EVERY CORNER POST, FROM TOP OF END POST TO BASE OF NEAREST LINE POST. ATTACH TO POSTS WITH CORROSION-RESISTANT EYE BOLTS, WASHERS, AND NUTS.

RAIL INSTALLATION

- FULLY INSERT RAILS INTO POST SOCKETS, WITH TAPERED END OF EACH RAIL FULLY SEATING AND LAPPING THE END OF THE ADJACENT RAIL.
- POSITIVELY FASTEN EVERY RAIL / POST JOINT WITH A MINIMUM OF TWO (2) TOE SCREWS FROM OPPOSITE SIDES EXTENDING THROUGH BOTH RAIL ENDS AND INTO THE POST, OR OTHER FASTENING SYSTEM RECOMMENDED BY FENCE MANUFACTURER TO CREATE EQUALLY-STRONG RAIL-TO-POST CONNECTIONS.
- WHERE CUT RAILS ARE REQUIRED, FIELD-CUT RAILS AND FIELD-TAPER ENDS TO MATCH FACTORY-PRECUT PROFILE AND TREAT CUT ENDS WITH LIQUID PRESERVATIVE TREATMENT.

WIRE MESH INSTALLATION:

- UNROLL AND FLATTEN WIRE MESH BEFORE INSTALLATION.
- APPLY CONTINUOUS RUN OF WIRE MESH TO OUTSIDE OF INSTALLED FENCING. BURY BOTTOM OF MESH 6 INCHES IN SOIL AND EXTEND MESH WITH TOP EDGE OF MESH ALIGNING WITH CENTERLINE OF TOP RAIL.
- LAP ENDS OF MESH NO LESS THAN TWO FULL GRIDS (8 INCHES) AND INTERCONNECT WITH WIRE TIES. LOCATE WIRE TAG ENDS TO OUTSIDE OF FENCE, AND CLIP TO PRODUCE A HAZARD-FREE FINISHED CONDITION THAT WILL NOT CUT OR HARM LIVESTOCK.
- FASTEN MESH TO RAILS AND POSTS NO GREATER THAN 6 INCHES APART WITH 2-INCH LONG, 12.5-GAUGE, HOT-DIPPED GALVANIZED STEEL STAPLES WITH CUT POINTS AND BARBS.

JOB NO:18-034

SPLIT RAIL FENCING WORK WITH SHEET A100

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DWG ISSUED ON: 12/23/20

DWG SCALE:

DWG NUMBER: **CSKA-001**

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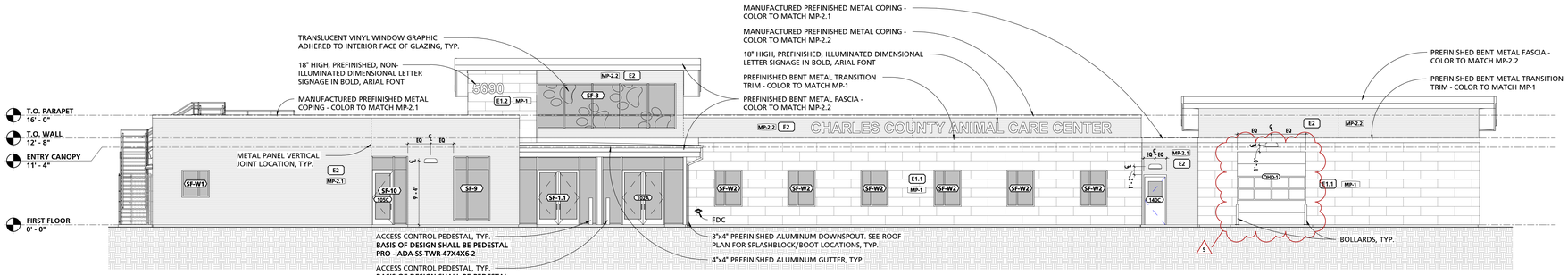
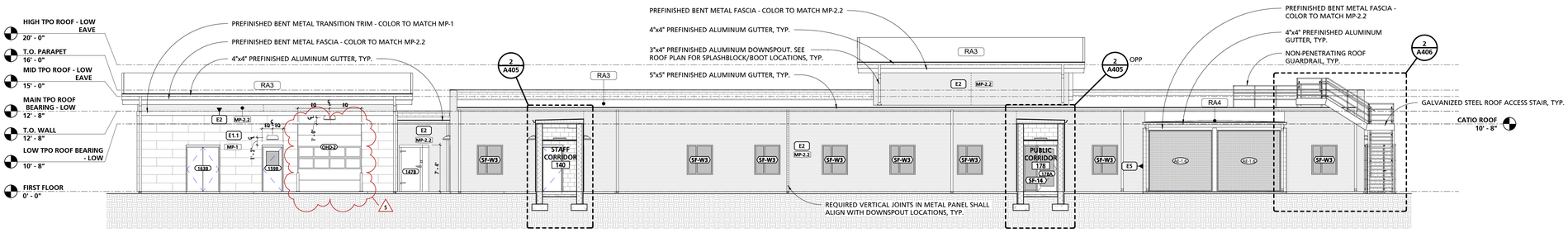
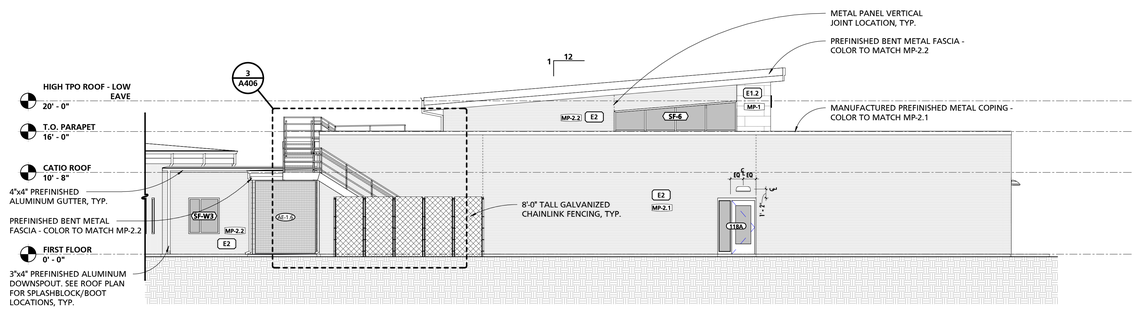


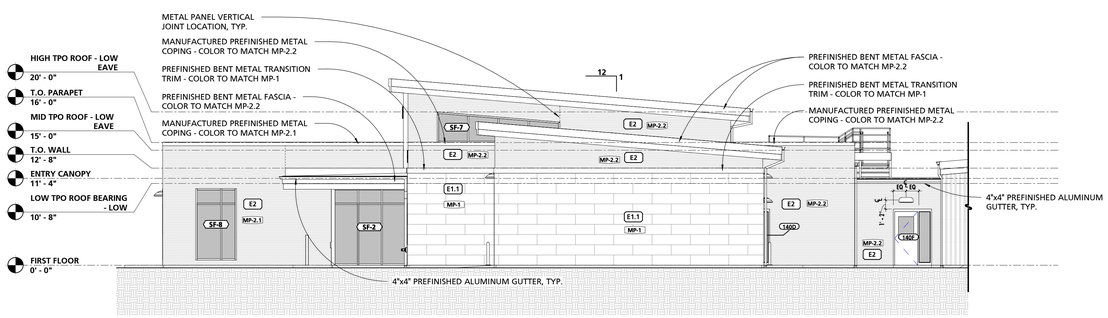
1 MAIN WING SOUTH ELEVATION
1/8" = 1'-0"



2 MAIN WING NORTH ELEVATION
1/8" = 1'-0"



3 MAIN WING WEST ELEVATION
1/8" = 1'-0"



4 MAIN WING EAST ELEVATION
1/8" = 1'-0"

EXTERIOR WALL ASSEMBLY SCHEDULE

MARK	WIDTH	DESCRIPTION
E1.1	14 1/2"	10" CMU W/ LIQUID APPLIED AIR BARRIER, 2" RIGID INSULATION, 2 1/2" STUD FURRING AND METAL WALL PANEL - TYPE 1
E1.2	20 1/2"	16" CMU W/ LIQUID APPLIED AIR BARRIER W/ 2" RIGID INSULATION, 2 1/2" STUD FURRING AND METAL WALL PANEL - TYPE 1
E2	13 1/4"	10" CMU W/ LIQUID APPLIED AIR BARRIER, 2" RIGID INSULATION, 3/4" SUBGIRTS AND METAL WALL PANEL - TYPE 2
E4	15 5/8"	8" CMU, 2" RIGID INSULATION, AIR SPACE AND 4" CMU VENEER
E5	17"	10" CMU, 2" RIGID INSULATION, AIR SPACE AND 4" CMU VENEER
E6	11 3/4"	VAPOR BARRIER LINER SYSTEM OVER 9 1/2" GIRTS W/ THERMAL BLOCKING, (2) LAYERS MIN R-13 BATT INSULATION AND PEMB WALL PANEL

ROOF ASSEMBLY SCHEDULE

MARK	DESCRIPTION
RA1	PEMB STANDING SEAM ROOF OVER 9 1/2" PURLINS W/ THERMAL BLOCKING, (1) LAYER MIN R-19 BATT INSULATION, (1) LAYER MIN R-11 BATT INSULATION AND A VAPOR BARRIER LINER SYSTEM
RA3	FULLY ADHERED TPO ROOFING OVER 1/2" GYPSUM SHEATHING, 5" RIGID INSULATION AND SLOPED 1 1/2" METAL DECK
RA4	FULLY ADHERED TPO ROOFING OVER 1/2" GYPSUM SHEATHING, MIN 1" TAPERED RIGID INSULATION AND 1 1/2" METAL DECK
RA5	FULLY ADHERED TPO ROOFING OVER 1/2" GYPSUM SHEATHING, MIN 5" TAPERED RIGID INSULATION AND 1 1/2" METAL DECK

GENERAL ELEVATION NOTES

NOTE #	NOTE
1	SEE OTHER ELEVATIONS FOR TYPICAL NOTES.
2	SEE FINISH MATERIAL KEY ON SHEET A107 FOR EXTERIOR METAL PANEL COLOR DESIGNATIONS.
3	REFER TO A500 ROOF PLAN FOR GUTTER SIZING, DOWNSPOUT SIZING AND SPLASHBLOCK/BOOT LOCATIONS.
4	REFER TO A107 FINISH SCHEDULE & DETAILS FOR FINISH MATERIAL KEY.

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SEAL:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER: #15505 EXPIRATION DATE: 8-18-2020

"Shelter Planners of America"

CHARLES COUNTY
CHARLES COUNTY ANIMAL CARE CENTER
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NO.	DESCRIPTION	DATE
5	ADDENDUM 4	12-23-20

PROJECT NUMBER: 18-034
PROJECT SET: PERMIT
DATE ISSUED: 12/23/2019

DRAWING TITLE: BUILDING ELEVATIONS - MAIN WING
SHEET NUMBER: A200

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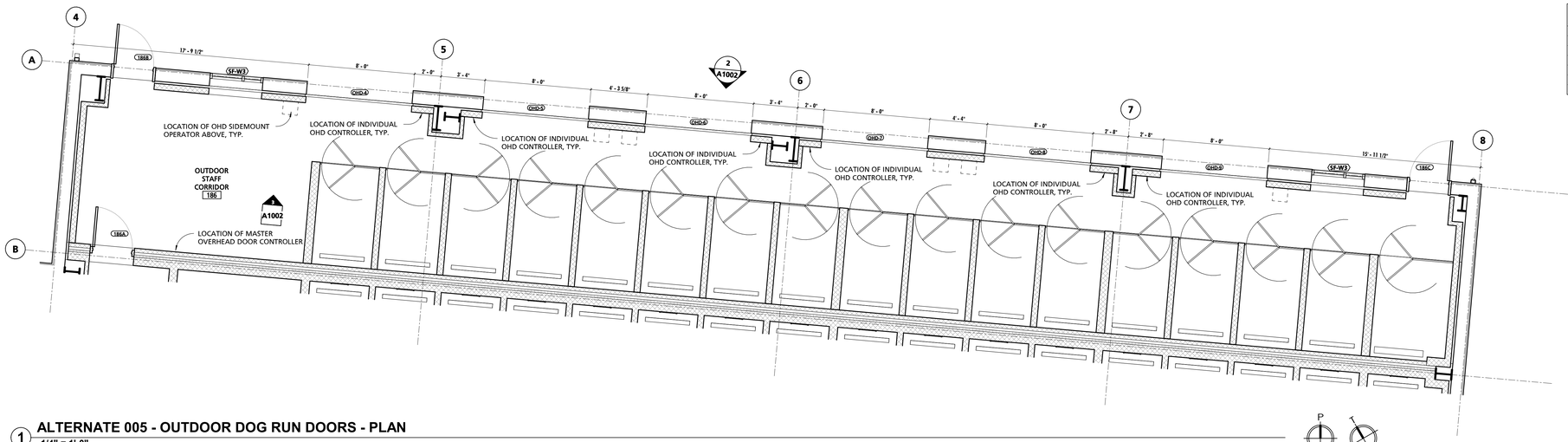
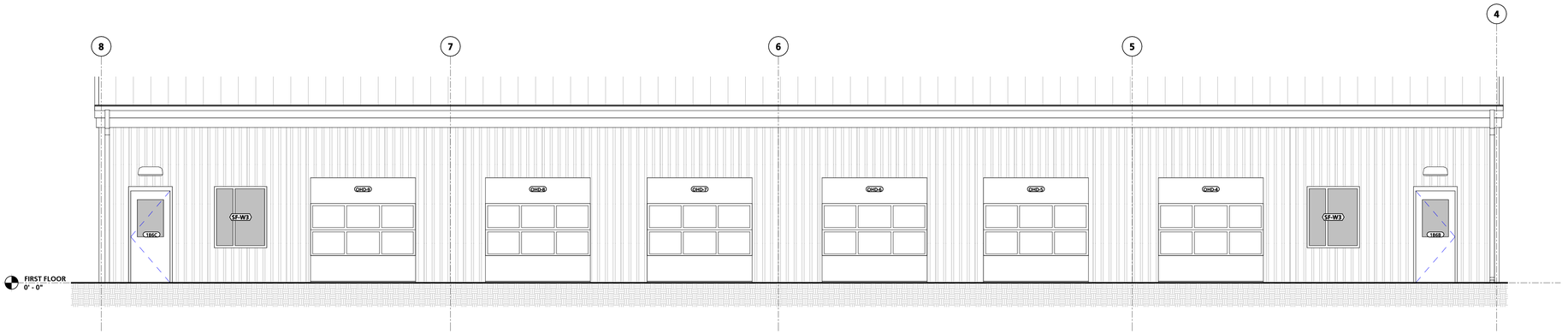


1 ALTERNATE 005 - OUTDOOR DOG RUN DOORS - PLAN

1/4" = 1'-0"

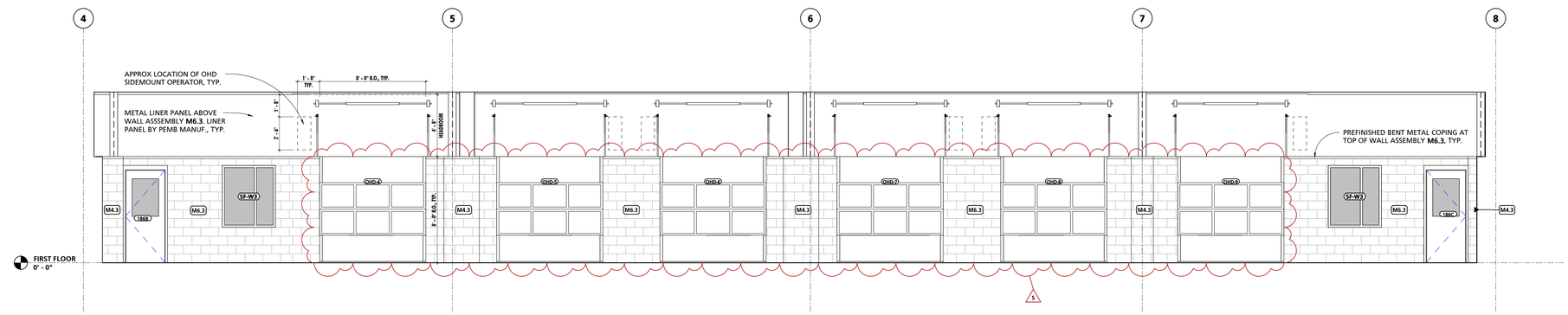
GENERAL ALTERNATE NOTES

NOTE #	NOTE
1	SEE SHEET A103 FOR BUILDING ASSEMBLY TYPES, NOTES & DETAILS.
2	SEE SHEET A107 FOR FINISH NOTES & DETAILS.
3	SEE SHEET A109 FOR FFE SCHEDULES, NOTES & DETAILS.
4	SEE SHEET SS100 FOR ADDITIONAL SPECIALTY SYSTEM REQUIREMENTS/INFORMATION.
5	SEE SHEET A600 SERIES FOR DOOR & WINDOW TYPES, NOTES & DETAILS.
6	SEE SHEET A700 FOR TYPICAL EQUIPMENT & CASEWORK DETAILS.



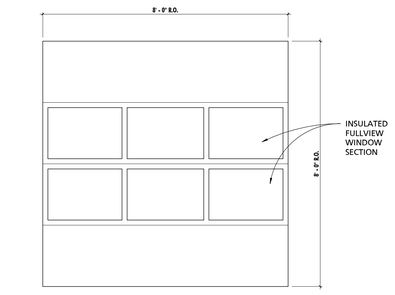
2 ALTERNATE 005 - OUTDOOR DOG RUN DOORS - EXTERIOR ELEVATION

1/4" = 1'-0"



3 ALTERNATE 005 - OUTDOOR DOG RUN DOORS - INTERIOR ELEVATION

1/4" = 1'-0"



OHD-4/5/6/7/8/9

ALTERNATE 005 - OVERHEAD DOOR PANEL TYPES

1/2" = 1'-0"

SCHEDULE - DOOR - ALTERNATE 005 - DOG RUN DOORS

MARK	DOOR PANEL SIZE	DOOR PANEL TYPE	DOOR PANEL THICKNESS	DOOR PANEL MATERIAL	DOOR PANEL FINISH	ROUGH OPENING OVERALL HEIGHT	ROUGH OPENING OVERALL WIDTH	DETAILS HEAD	DETAILS JAMB	DETAILS THRESHOLD	COMMENTS
OHD-4	8'-0" x 8'-0"	PANEL : OHD-4	1 3/4"	STEEL INSULATED	PREFINISHED	8' - 0"	8' - 0"	OH-H2	OH-J2	OH-S2	OVERHEAD DOOR TRACKS SHALL BE HIGH LIFT & ANGLED TO FOLLOW THE ROOF SLOPE. OPERATOR SHALL BE SIDEMOUNT (JACKSHAFT)
OHD-5	8'-0" x 8'-0"	PANEL : OHD-4	1 3/4"	STEEL INSULATED	PREFINISHED	8' - 0"	8' - 0"	OH-H2	OH-J2	OH-S2	OVERHEAD DOOR TRACKS SHALL BE HIGH LIFT & ANGLED TO FOLLOW THE ROOF SLOPE. OPERATOR SHALL BE SIDEMOUNT (JACKSHAFT)
OHD-6	8'-0" x 8'-0"	PANEL : OHD-4	1 3/4"	STEEL INSULATED	PREFINISHED	8' - 0"	8' - 0"	OH-H2	OH-J2	OH-S2	OVERHEAD DOOR TRACKS SHALL BE HIGH LIFT & ANGLED TO FOLLOW THE ROOF SLOPE. OPERATOR SHALL BE SIDEMOUNT (JACKSHAFT)
OHD-7	8'-0" x 8'-0"	PANEL : OHD-4	1 3/4"	STEEL INSULATED	PREFINISHED	8' - 0"	8' - 0"	OH-H2	OH-J2	OH-S2	OVERHEAD DOOR TRACKS SHALL BE HIGH LIFT & ANGLED TO FOLLOW THE ROOF SLOPE. OPERATOR SHALL BE SIDEMOUNT (JACKSHAFT)
OHD-8	8'-0" x 8'-0"	PANEL : OHD-4	1 3/4"	STEEL INSULATED	PREFINISHED	8' - 0"	8' - 0"	OH-H2	OH-J2	OH-S2	OVERHEAD DOOR TRACKS SHALL BE HIGH LIFT & ANGLED TO FOLLOW THE ROOF SLOPE. OPERATOR SHALL BE SIDEMOUNT (JACKSHAFT)
OHD-9	8'-0" x 8'-0"	PANEL : OHD-4	1 3/4"	STEEL INSULATED	PREFINISHED	8' - 0"	8' - 0"	OH-H2	OH-J2	OH-S2	OVERHEAD DOOR TRACKS SHALL BE HIGH LIFT & ANGLED TO FOLLOW THE ROOF SLOPE. OPERATOR SHALL BE SIDEMOUNT (JACKSHAFT)

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SEAL:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER: #15505 EXPIRATION DATE: 8-18-2020

"Shelter Planners of America"

CHARLES COUNTY
CHARLES COUNTY ANIMAL CARE CENTER
5690 PINEY CHURCH ROAD
WALDORF, MARYLAND 20602

NO.	DESCRIPTION	DATE
5	ADDENDUM 4	12/23/20

PROJECT NUMBER: 18-034
PROJECT SET: PERMIT
DATE ISSUED: 12/23/2019

DRAWING TITLE: ALTERNATE 005 - OUTDOOR DOG RUN DOORS
SHEET NUMBER: A1002

12/23/2020 12:55:11 PM

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
$S	20A, 120-277V AC, SINGLE POLE TOGGLE SWITCH. MH = 48" A.F.F. AS MEASURED TO BOTTOM OF DEVICE BOX.
$3	20A, 120-277V AC, THREE WAY TOGGLE SWITCH. MH = 48" A.F.F. AS MEASURED TO BOTTOM OF DEVICE BOX.
$4	20A, 120-277V AC, FOUR WAY TOGGLE SWITCH. MH = 48" A.F.F. AS MEASURED TO BOTTOM OF DEVICE BOX.
$D	20A, 120-277V AC, ON/OFF WALL SWITCH AS MANUFACTURED BY WATTSTOPPER MODEL#LMSM-101. E.C. TO INSTALL PER MANUFACTURERS WRITTEN INSTRUCTIONS. COLOR AS SELECTED BY ARCHITECT.
$DD	24V DC, SINGLE BUTTON DIGITAL DIMMING WALL SWITCH, SWITCH MOUNTING HEIGHT = 48" A.F.F. TO THE TOP OF DEVICE BOX. U.O.N. SWITCH SHALL BE MODEL NUMBER LMDM-101 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. DIGITAL WALL SWITCH SHALL BE FED BY DIGITAL ROOM CONTROLLER. CABLING BETWEEN CONTROLLER AND DIGITAL WALL SWITCH SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS. COLOR AS SELECTED BY ARCHITECT.
$OC1	20A, 120-277V AC, SINGLE BUTTON WALL MOUNT. PASSIVE INFRARED SINGLE RELAY ON/OFF OCCUPANCY SENSOR. SWITCH MOUNTING HEIGHT = 48" A.F.F. TO CENTER OF DEVICE BOX, U.O.N. OCCUPANCY SWITCH SHALL BE #PW-101 AS MANUFACTURED BY WATTSTOPPER.
$OC2	20A, 120-277V AC, TWO BUTTON WALL MOUNT, DUAL TECHNOLOGY (PASSIVE INFRARED AND ULTRASONIC), DUAL RELAY OCCUPANCY SENSOR. SWITCH MOUNTING HEIGHT = 48" A.F.F. TO CENTER OF DEVICE BOX, U.O.N. OCCUPANCY SWITCH SHALL BE #DW-200 AS MANUFACTURED BY WATTSTOPPER.
$OC3	20A, 120-277V AC, SINGLE BUTTON 0-10V DIMMING WALL MOUNT, PASSIVE INFRARED, SINGLE RELAY OCCUPANCY SENSOR. SWITCH MOUNTING HEIGHT = 48" A.F.F. TO CENTER OF DEVICE BOX, U.O.N. OCCUPANCY SWITCH SHALL BE #PW-311 AS MANUFACTURED BY WATTSTOPPER.
$D10	20A, 120-277VAC, 0-10V DIMMING SWITCH AS MANUFACTURED BY WATTSTOPPER MODEL# RHERB.SPTD. E.C. TO INSTALL PER MANUFACTURERS INSTRUCTIONS. COLOR TO BE SELECTED BY ARCHITECT.
$FC	20A, 120-277VAC, FAN CONTROLLER WALL BOX AS MANUFACTURED BY WATTSTOPPER MODEL# CD50-X. E.C. TO INSTALL PER MANUFACTURERS INSTRUCTIONS. COLOR TO BE SELECTED BY ARCHITECT.
$PL	20A, 120-277V AC, LIGHT SWITCH WITH PILOT LIGHT. MH = 48" A.F.F. AS MEASURED TO BOTTOM OF DEVICE BOX.
OC	1000 SQ. FT. COVERAGE CEILING MOUNTED OCCUPANCY SENSOR, 24V DC, DUAL TECHNOLOGY (ULTRASONIC AND PASSIVE INFRARED), SENSOR SHALL BE MODEL NUMBER LMDC-100 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. FINISH SHALL BE SELECTED BY OWNER/ARCHITECT. OCCUPANCY SENSOR SHALL BE FED FROM DIGITAL ROOM CONTROLLER. CABLING BETWEEN CONTROLLER AND OCCUPANCY SENSOR SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS.
OCB	1000 SQ. FT. COVERAGE CEILING MOUNTED EXTENDED RANGE OCCUPANCY SENSOR, 24V DC, PASSIVE INFRARED. SENSOR SHALL BE MODEL NUMBER LMPC-100 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. FINISH SHALL BE SELECTED BY OWNER/ARCHITECT. OCCUPANCY SENSOR SHALL BE FED FROM DIGITAL ROOM CONTROLLER. CABLING BETWEEN CONTROLLER AND OCCUPANCY SENSOR SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS.
RC1	20A, 120V AC, 60HZ, ON/OFF DIGITAL ROOM CONTROLLER, SINGLE RELAY, UL LISTED, U.O.N. SWITCH SHALL BE MODEL NUMBER LMRC-101 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. CABLING BETWEEN LOW VOLTAGE DEVICES AND DIGITAL ROOM CONTROLLER SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS. E.C. SHALL MOUNT DIGITAL ROOM CONTROLLER SECURELY ABOVE DROP CEILING IN ACCESSIBLE SPACE. ROOM CONTROLLERS CONTROLLING LIGHTING FED FROM EMERGENCY CIRCUITS SHALL BE PROVIDED WITH AN EMERGENCY BYPASS CONTROLLER. EMERGENCY BYPASS CONTROLLER SHALL BE MANUFACTURED BY WATTSTOPPER, MODEL ECU-230. E.C. SHALL PROVIDE (1) ONE DIGITAL WIRELESS CONFIGURATION TOOL AS MANUFACTURED BY WATTSTOPPER, MODEL LMCT-100. THE DIGITAL CONFIGURATION TOOL SHALL BE USED TO PROGRAM THE DIGITAL ROOM CONTROLLERS.
RC1D	20A, 120V AC, 60HZ, ON/OFF/0-10V DIMMING DIGITAL ROOM CONTROLLER, SINGLE RELAY, UL LISTED, U.O.N. SWITCH SHALL BE MODEL NUMBER LMRC-211 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. CABLING BETWEEN LOW VOLTAGE DEVICES AND DIGITAL ROOM CONTROLLER SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS. E.C. SHALL MOUNT DIGITAL ROOM CONTROLLER SECURELY ABOVE DROP CEILING IN ACCESSIBLE SPACE. ROOM CONTROLLERS CONTROLLING LIGHTING FED FROM EMERGENCY CIRCUITS SHALL BE PROVIDED WITH AN EMERGENCY BYPASS CONTROLLER. EMERGENCY BYPASS CONTROLLER SHALL BE MANUFACTURED BY WATTSTOPPER, MODEL ECU-230. E.C. SHALL PROVIDE (1) ONE DIGITAL WIRELESS CONFIGURATION TOOL AS MANUFACTURED BY WATTSTOPPER, MODEL LMCT-100. THE DIGITAL CONFIGURATION TOOL SHALL BE USED TO PROGRAM THE DIGITAL ROOM CONTROLLERS.
RC2D	20A, 120V AC, 60HZ, ON/OFF/0-10V DIMMING DIGITAL ROOM CONTROLLER, DUAL RELAY, UL LISTED, U.O.N. SWITCH SHALL BE MODEL NUMBER LMRC-212 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. CABLING BETWEEN LOW VOLTAGE DEVICES AND DIGITAL ROOM CONTROLLER SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS. E.C. SHALL MOUNT DIGITAL ROOM CONTROLLER SECURELY ABOVE DROP CEILING IN ACCESSIBLE SPACE. ROOM CONTROLLERS CONTROLLING LIGHTING FED FROM EMERGENCY CIRCUITS SHALL BE PROVIDED WITH AN EMERGENCY BYPASS CONTROLLER. EMERGENCY BYPASS CONTROLLER SHALL BE MANUFACTURED BY WATTSTOPPER, MODEL ECU-230. E.C. SHALL PROVIDE (1) ONE DIGITAL WIRELESS CONFIGURATION TOOL AS MANUFACTURED BY WATTSTOPPER, MODEL LMCT-100. THE DIGITAL CONFIGURATION TOOL SHALL BE USED TO PROGRAM THE DIGITAL ROOM CONTROLLERS.
RC3D	20A, 120V AC, 60HZ, ON/OFF/0-10V DIMMING DIGITAL ROOM CONTROLLER, THREE RELAY, UL LISTED, U.O.N. SWITCH SHALL BE MODEL NUMBER LMRC-213 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. CABLING BETWEEN LOW VOLTAGE DEVICES AND DIGITAL ROOM CONTROLLER SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS. E.C. SHALL MOUNT DIGITAL ROOM CONTROLLER SECURELY ABOVE DROP CEILING IN ACCESSIBLE SPACE. ROOM CONTROLLERS CONTROLLING LIGHTING FED FROM EMERGENCY CIRCUITS SHALL BE PROVIDED WITH AN EMERGENCY BYPASS CONTROLLER. EMERGENCY BYPASS CONTROLLER SHALL BE MANUFACTURED BY WATTSTOPPER, MODEL ECU-230. E.C. SHALL PROVIDE (1) ONE DIGITAL WIRELESS CONFIGURATION TOOL AS MANUFACTURED BY WATTSTOPPER, MODEL LMCT-100. THE DIGITAL CONFIGURATION TOOL SHALL BE USED TO PROGRAM THE DIGITAL ROOM CONTROLLERS.

SYMBOL	DESCRIPTION
	3 BUTTON OVERHEAD DOOR CONTROLLER
	20A, 120V AC, NEMA 5-20R, DUPLEX RECEPTACLE. MOUNTING HEIGHT TO CENTER OF DEVICE = 18" AFF TO CENTER OF DEVICE BOX, U.O.N. + = ABOVE COUNTER HEIGHT MOUNT. T = TAMPER PROOF
	20A, 120V AC, NEMA 5-20R, GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE DUPLEX RECEPTACLE. MOUNTING HEIGHT TO CENTER OF DEVICE = 18" A.F.F. + = ABOVE COUNTER HEIGHT MOUNT. T = TAMPER PROOF. GFI/GROUND FAULT CIRCUIT INTERRUPTER
WP	20A, 120V AC, NEMA 5-20R, SURFACE MOUNTED DUPLEX RECEPTACLE. MOUNTING HEIGHT TO CENTER OF DEVICE = 18" AFF TO CENTER OF DEVICE BOX, U.O.N. + = ABOVE COUNTER HEIGHT MOUNT (COORDINATE WITH MILLWORK). WP = WEATHERPROOF COVER.
S	20A, 120V AC, NEMA 5-20R, SURFACE MOUNTED DUPLEX RECEPTACLE. MOUNTING HEIGHT TO CENTER OF DEVICE = 18" AFF TO CENTER OF DEVICE BOX, U.O.N. + = ABOVE COUNTER HEIGHT MOUNT (COORDINATE WITH MILLWORK). WP = WEATHERPROOF COVER.
GFCI WP	20A, 120V AC, NEMA 5-20R, GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE DUPLEX RECEPTACLE. MOUNTING HEIGHT TO CENTER OF DEVICE = 18" A.F.F. + = ABOVE COUNTER HEIGHT MOUNT (COORDINATE WITH MILLWORK). WP = IDENTIFIES "IN USE" WEATHERPROOF COVER.
NEMA 4X	20A, 120V AC, NEMA 5-20R, NEMA 4X TYPE DUPLEX RECEPTACLE. MOUNTING HEIGHT TO CENTER OF DEVICE = 18" A.F.F. + = ABOVE COUNTER HEIGHT MOUNT (COORDINATE WITH MILLWORK). WP = IDENTIFIES "IN USE" WEATHERPROOF COVER.
	SPECIAL PURPOSE ELECTRICAL RECEPTACLE. NEMA CONFIGURATION AS SHOWN ON PLAN OR EQUIPMENT SCHEDULE.
	CLOCK (TYPE DENOTED)
	POWER POLE (OPEN OFFICE STYLE)
	JUNCTION BOX
	PULL BOX
	POWER OR DISTRIBUTION PANEL. HIDDEN LINE REPRESENTS ELECTRICAL CLEARANCE SPACE.
	TRANSFORMER (SIZE AS DENOTED)
XX-1	MOTOR
M	SINGLE-POLE OR TWO-POLE (AS REQUIRED), 250V AC, 1 HP RATED, TOGGLE TYPE MANUAL MOTOR STARTER UNIT WITH MELTING ALLOY TYPE THERMAL OVERLOAD RELAY. APPROPRIATELY SIZED THERMAL UNITS, NEMA TYPE 1 OR 4 (AS REQUIRED) ENCLOSURE, AND HANDLE GUARD/LOCK-OFF. SQUARE D CLASS 2510 FG OR FW TYPES (AS REQUIRED) OR APPROVED EQUAL. THREE-POLE, 250V AC, 1 OR 2 HP RATED (AS REQUIRED), TOGGLE TYPE MANUAL MOTOR STARTER UNIT WITH MELTING ALLOY TYPE THERMAL OVERLOAD RELAY. APPROPRIATELY SIZED THERMAL UNITS, NEMA TYPE 1 ENCLOSURE AND HANDLE GUARD/LOCK-OFF. SQUARE D CLASS 2510 K TYPE OR APPROVED EQUAL.
#A #AF NEMA#	FUSIBLE SWITCH TYPE COMBINATION STARTER UNIT WITH DOOR MOUNTED H-O-A SWITCH AND RED "MOTOR RUNNING" LED TYPE PILOT LIGHT. PROVIDE AUXILIARY CONTACT. "NEMA #" IDENTIFIES NEMA ENCLOSURE TYPE. "#A" IDENTIFIES DISCONNECT SWITCH AMPACITY RATING. "#AF" IF PRESENT, IDENTIFIES APPROXIMATE FUSE RATING. UNLESS OTHERWISE NOTED, ALL FUSIBLE DISCONNECT SWITCHES SHALL BE COMPLETE WITH APPROPRIATELY SIZED DE, TD, CL, CLASS RK5 FUSES.
#A NEMA#	NON-FUSIBLE DISCONNECT SWITCH. "#A" IDENTIFIES DISCONNECT SWITCH AMPACITY RATING. "NEMA #" IDENTIFIES NEMA ENCLOSURE TYPE.
#A #AF NEMA#	FUSIBLE DISCONNECT SWITCH. "#A" IDENTIFIES DISCONNECT FUSE SIZE. "NEMA #" IDENTIFIES NEMA ENCLOSURE TYPE.
R	RELAY
	ENCLOSED CIRCUIT BREAKER
	PRESSURE SWITCH
	FLOAT SWITCH
P	PHOTOCELL
T	TIME CLOCK
	LIGHT AND SOLID SYMBOL INDICATES EXISTING TO REMAIN
	DARK AND DASHED SYMBOL INDICATES DEMOLISHED
	DARK AND SOLID SYMBOL INDICATES NEW WORK
X-#	TYPICAL BRANCH CIRCUITING HOME RUN SYMBOL. GENERALLY, 15A AND 20A BRANCH CIRCUITS CONSISTS OF (2) #12 AWG CU. AND (1) #12 AWG CU. GND. IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. "X" IDENTIFIES PANELBOARD DESIGNATION, "#" IDENTIFIES PANELBOARD CIRCUIT NUMBER.

SYMBOL	DESCRIPTION
	COMBINATION TELEDATA OUTLET CONSISTING OF ONE 2 PORT COVERPLATE, 4" SQUARE BOX, TILE RING (DEPTH AS REQUIRED), 1 1/4" CONDUITS WITH PULLSTRING STUBBED UP INTO THE NEAREST ACCESSIBLE CEILING(S) CAT-6 CABLES RAN FROM DEVICE BOX BACK TO PATCH PANEL IN I.T. ROOM. MOUNTING HEIGHT=18" AFF TO THE CENTER OF DEVICE BOX UNLESS OTHERWISE NOTED. CAT-6 SHALL BE BLUE FOR IT, AND WHITE FOR TELEPHONE. G.C. SHALL BE RESPONSIBLE FOR TESTING OF ALL WIRES, AND TERMINATIONS ON BOTH ENDS.
	WIRELESS ACCESS POINT PROVIDED BY COUNTY CONSISTING 4" SQUARE BOX, TILE RING (DEPTH AS REQUIRED), 1 1/4" CONDUITS WITH PULLSTRING STUBBED UP INTO THE NEAREST ACCESSIBLE CEILING(S) CAT-6 CABLE RAN FROM DEVICE BOX BACK TO PATCH PANEL IN I.T. ROOM. CAT-6 SHALL BE GREEN. G.C. SHALL BE RESPONSIBLE FOR TESTING OF ALL WIRES AND TERMINATIONS.
TV	TELEVISION OUTLET. PROVIDE 4" SQUARE DEVICE BOX(SHALL BE RECESSED AT CMD LOCATIONS), TILE RING (DEPTH AS REQUIRED), STUB-UP 1 1/4" CONDUIT TO NEAREST ACCESSIBLE SPACE. RG-6 CABLE BACK TO IDF ROOM. MOUNTING HEIGHT = 18" A.F.F. TO CENTER OF DEVICE. E.C. TO FURNISH AND INSTALL DEVICES. DEVICE PLATES, AND WIRE. E.C. SHALL BE RESPONSIBLE FOR TESTING OF ALL WIRES AND TERMINATIONS ON BOTH ENDS.
MM	MULTIMEDIA OUTLET. PROVIDE DOUBLE-GANG DEVICE BOX, TILE RING (DEPTH AS REQUIRED), DEVICE PLATE (COLOR AS SPECIFIED BY ARCHITECT/ENGINEER AND/OR OWNER), AND HDMI CONNECTION. E.C. SHALL RUN HDMI AND CONDUIT TO OTHER NEARBY MULTIMEDIA OUTLET TO ALLOW FOR SCREEN MIRRORING BETWEEN PORTABLE DEVICES AND TELEVISION. REFER TO DETAIL #E ON DWG E701 FOR DETAILS.
	BUZZER
	CHIME
	DOOR SIGNAL - APT. UNIT
	SPEAKER (WALL OR CEILING MT.)
	HORN TYPE SPEAKER
	VOLUME CONTROL
	MICROPHONE OUTLET
	ANTENNA
	FIRE ALARM REMOTE ANNUNCIATOR
	SMOKE DETECTOR, E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED).
	HEAT DETECTOR, E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED).
	DUCT SMOKE DETECTOR
	F.A. PULLSTATION, E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED).
	SPRINKLER FLOW SWITCH
	SPRINKLER VALVE TAMPER SWITCH
FA	FIRE ALARM STROBE,CEILING MOUNTED, E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED). WP=WATERPROOF
FA	FIRE ALARM HORN/STROBE,CEILING MOUNTED, E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED). WP=WATERPROOF, LF=LOW FREQUENCY
C	FIRE ALARM CARBON MONOXIDE DETECTOR,CEILING MOUNTED, E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED).
WP	ELECTRIC CORD REEL, WITH WATERPROOF RECEPTACLE 20A, 120VAC
GFCI	ELECTRIC CORD REEL, WITH GFCI RECEPTACLE 20A, 120VAC
	20A, 120V AC, DOUBLE NEMA 5-20R DUPLEX RECEPTACLE, RECESSED FIRE RATED POKE-THRU WITH SURFACE STYLE COVER. (3) CENTER COMPARTMENT COMMUNICATIONS MOUNTING PLATES. FIRE RATED POKE-THRU SHALL BE MODEL #SATCP AS MANUFACTURED BY WIREMOLD LEGRAND OR APPROVED EQUAL. ALUMINUM COVER COLOR SHALL BE SELECTED BY ARCHITECT. FIRE RATED POKE-THRU IS FOR USE IN A 6" CORED HOLE.

SYMBOL	DESCRIPTION
	ELECTRIC STRIKE, CONSISTING OF 4" SQUARE JUNCTION, TILE RING(DEPTH AS REQUIRED), ELECTRIC STRIKE, STEP DOWN TRANSFORMER FOR DOOR STRIKE POWER, 3/4" CONDUIT STUBBED UP INTO NEARBY ACCESSIBLE CEILING SPACE. REFER TO S110 FOR ADDITIONAL SPECIALTY SYSTEM INFO.
	MAGNETIC LOCK, CONSISTING OF 4" SQUARE JUNCTION, TILE RING(DEPTH AS REQUIRED), STEP DOWN TRANSFORMER FOR DOOR MAGNETIC LOCK POWER, 3/4" CONDUIT STUBBED UP INTO NEARBY ACCESSIBLE CEILING SPACE. REFER TO A110 FOR ADDITIONAL SPECIALTY SYSTEM INFO.
	COMBINATION LOCK
	DOOR CONTACTS
	CARD READER, CONSISTING OF 4" SQUARE JUNCTION BOX, TILE RING(DEPTH AS REQUIRED), CARD READER, JUNCTION BOX OVERTOP OF DOOR JAM, 3/4" CONDUIT CONNECTING JUNCTION BOXES, AND CONDUIT STUBBED UP INTO EASILY ACCESSIBLE CEILING SPACE.CAT-6 RAN BACK TO CARD ACCESS CONTROL PANEL AS REQUIRED. CAT-6 SHALL BE YELLOW. REFER TO S110 FOR ADDITIONAL SPECIALTY SYSTEM INFO.
	KEYPAD, CONSISTING OF 4" SQUARE JUNCTION BOX, TILE RING(DEPTH AS REQUIRED), KEYPAD, JUNCTION BOX OVERTOP OF DOOR JAM, 3/4" CONDUIT CONNECTING JUNCTION BOXES, AND CONDUIT STUBBED UP INTO EASILY ACCESSIBLE CEILING SPACE. REFER TO S110 FOR ADDITIONAL SPECIALTY SYSTEM INFO.
	MOTION DETECTOR (TYPE DENOTED)
	NURSE CALL EMERG. STATION
	NURSE CALL CODE BLUE EMERG. STATION
	NURSE CALL DUTY STATION
	NURSE CALL STAFF STATION
	NURSE CALL SINGLE PATIENT STATION
	NURSE CALL DUAL PATIENT STATION
	NURSE CALL DOME LIGHT (2 LAMP)
1	KEYED NOTE (SEE KEYNOTE ON PLAN)
	FIRE PUMP FAIL. FIRE ALARM ADDRESSABLE MODULE
	FIRE PUMP PHASE REVERSAL. FIRE ALARM ADDRESSABLE MODULE
	FIRE PUMP RUN. FIRE ALARM ADDRESSABLE MODULE

ELECTRICAL ABBREVIATIONS LIST

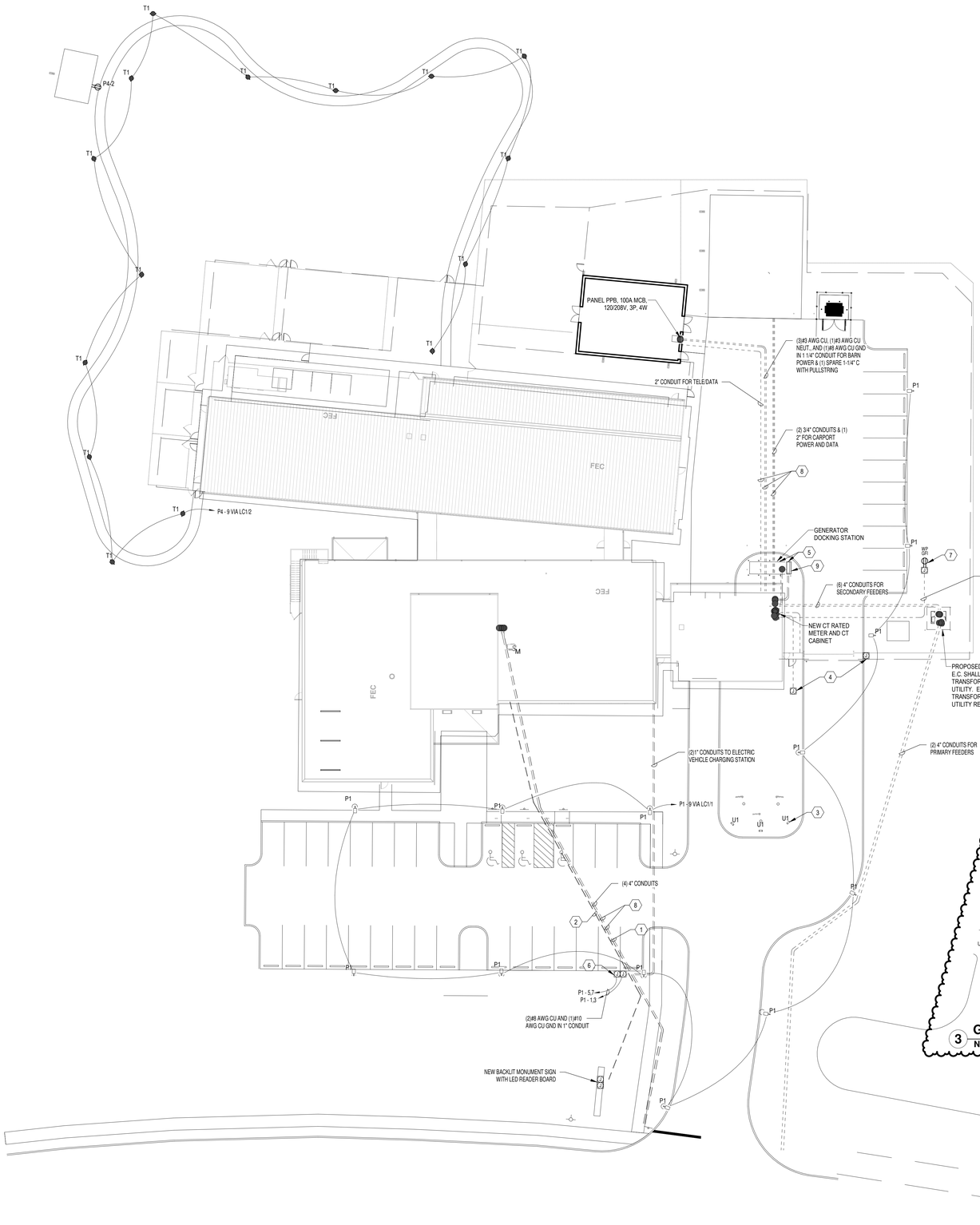
1P	1 POLE (2P, 3P, 4P, ETC.)	DCP	DOMESTIC WATER CIRCULATING PUMP	HT	HEIGHT	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
A	AMPERE	DEPT	DEPARTMENT	HTG	HEATING	NFDS	NON-FUSED SAFETY DISCONNECT SWITCH
AC	ABOVE COUNTER OR AIR CONDITIONER	DET	DETAIL	HTR	HEATER	NIC	NOT IN CONTRACT
ACLG	ABOVE CEILING	DIA	DIAMETER	HV	HIGH VOLTAGE	NL	NIGHT LIGHT
ADO	AUTOMATIC DOOR OPENER	DISC	DISCONNECT	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	N.O.	NORMALLY OPEN
AF	AMP FRAME	DIST	DISTRIBUTION	HWP	HYDRONIC WATER PUMP	NPF	NORMAL POWER FACTOR
AFF	ABOVE FINISHED FLOOR	DN	DOWN	IC	INTERRUPTING CAPACITY	NTS	NOT TO SCALE
AFG	ABOVE FINISHED GRADE	DPR	DAMPER	IG	ISOLATED GROUND	OH	OVERHEAD
AFI	ARC FAULT CIRCUIT INTERRUPTER	DS	SAFETY DISCONNECT SWITCH	IMC	INTERMEDIATE METAL CONDUIT	OL	OVERLOADS
AHU	AIR HANDLING UNIT	DT	DOUBLE THROW	INCAND	INCANDESCENT	PA	PUBLIC ADDRESS
AL	ALUMINUM	DWG	DRAWING	IR	INFRARED	PB	PULL BOX OR PUSHBUTTON
ALT	ALTERNATE	EC	ELECTRICAL CONTRACTOR	IW	INTERLOCK WITH	PE	PNEUMATIC ELECTRIC
AMP	AMPERE	ELEC	ELECTRIC, ELECTRICAL	J-BOX	JUNCTION BOX	PED	PEDESTAL
AMPL	AMPLIFIER	ELEV	ELEVATOR	KV	KILOVOLT	PF	POWER FACTOR
ANNUN	ANNUNCIATOR	EM	EMERGENCY	KVA	KILOVOLT-AMPERE	PH	PHASE
APPROX	APPROXIMATELY	EMS	ENERGY MANAGEMENT SYSTEM	KVAR	KILOVOLT-AMPERE REACTIVE	PIV	POST INDICATING VALVE
AQ-STAT	AQUASTAT	EMT	ELECTRICAL METALLIC TUBING	KW	KILOWATT	PNL	PANEL
ARCH	ARCHITECT, ARCHITECTURAL	EP	ELECTRIC PNEUMATIC	KWH	KILOWATT HOUR	POC	LOCATE OR LOCATION
AS	AMP SWITCH	EQUIP	EQUIPMENT	LOC	LOCATE OR LOCATION	PP	POWER POLE
AT	AMP TRIP	EWC	ELECTRIC WATER COOLER	LT	LIGHT	PR	PAIR
ATS	AUTOMATIC TRANSFER SWITCH	EXIST	EXISTING	LTG	LIGHTING	PRI	PRIMARY
AUTO	AUTOMATIC	EXH	EXHAUST	LTNG	LIGHTNING	PROJ	PROJECTION
AUX	AUXILIARY	EXP	EXPLOSION PROOF	LV	LOW VOLTAGE	PRV	POWER ROOF VENTILATOR
AV	AUDIO VISUAL	FA	FIRE ALARM	MAX	MAXIMUM	PT	POTENTIAL TRANSFORMER
AWG	AMERICAN WIRE GAUGE	FABP	FIRE ALARM BOOSTER POWER SUPPLY	MAG S	MAGNETIC STARTER	PVC	POLYVINYL CHLORIDE (CONDUIT)
BATT	BATTERY	FACP	FIRE ALARM CONTROL PANEL	M/C	MOMENTARY CONTACT	PWR	POWER
BD	BOARD	FCU	FAN COIL UNIT	MC	MECHANICAL CONTRACTOR	QUAN	QUANTITY
BLDG	BUILDING	FIXT	FIXTURE	MCB	MAIN CIRCUIT BREAKER	RCPT	RECEPTACLE
BMS	BUILDING MANAGEMENT SYSTEM	FLR	FLOOR	MCC	MOTOR CONTROL CENTER	REQD	REQUIRED
C	CONDUIT	FLUOR	FLUORESCENT	MDC	MAIN DISTRIBUTION CENTER	RM	ROOM
CAB	CABINET	FU	FUSE	MDP	MAIN DISTRIBUTION PANEL	RSC	RIGID STEEL CONDUIT
CAT	CATALOG	FUDS	FUSED SAFETY DISCONNECT SWITCH	MFR	MANUFACTURER	RTU	ROOF TOP UNIT
CATV	CABLE TELEVISION	GA	GAUGE	MFS	MAIN FUSED DISCONNECT SWITCH	SC	SURFACE CONDUIT
CB	CIRCUIT BREAKER	GAL	GALLON	MH	MANHOLE	SEC	SECONDARY
CCTV	CLOSED CIRCUIT TELEVISION	GALV	GALVANIZED	MIC	MICROPHONE	SHT	SHEET
CKT	CIRCUIT	GC	GENERAL CONTRACTOR	MIN	MINIMUM	SIM	SIMILAR
CLG	CEILING	GEN	GENERATOR	MISC	MISCELLANEOUS	SNU	MAIN LUGS ONLY
COMB	COMBINATION	GFI	GROUND FAULT CIRCUIT INTERRUPTER	MLO	MAIN LUGS ONLY	SPEC	SPECIFICATION
CMPR	COMPRESSOR	GFP	GROUND FAULT PROTECTOR	MMS	MANUAL MOTOR STARTER	SPKR	SPEAKER
CONN	CONNECTION	GND	GROUND	MOA	MULTIOUTLET ASSEMBLY	SP	SPARE
CONST	CONSTRUCTION	GRS	GALVANIZED RIGID STEEL (CONDUIT)	MSP	MOTOR STARTER PANELBOARD	SR	SURFACE RACEWAY
CONT	CONTINUATION OR CONTINUOUS	GYP BD	GYPSUM BOARD	MSBD	MAIN SWITCHBOARD	SS	STAINLESS STEEL
CONTR	CONTRACTOR	HOA	HAND-OFF-AUTOMATIC SWITCH	MT	MOUNT	SSW	SELECTOR SWITCH
CONV	CONVECTOR	HORIZ	HORIZONTAL	MT C	EMPTY CONDUIT	S/S	STOP/START PUSHBUTTONS
CP	CIRCULATING PUMP	HP	HORSEPOWER	MTS	MANUAL TRANSFER SWITCH	STA	STATION
CRT	CATHODE-RAY TUBE	HPF	HIGH POWER FACTOR	MTR	MOTOR, MOTORIZED	STD	STANDARD
CT	CURRENT TRANSFORMER			N.C.	NORMALLY CLOSED	SURF	SURFACE MOUNTED
CTR	CENTER			NEC	NATIONAL ELECTRICAL CODE	SW	SWITCH
CU	COPPER					SWBD	SWITCHBOARD
						SYM	SYMMETRICAL
						SYS	SYSTEM
						TEL	TELEPHONE
						TERM	TERMINAL
						TL	TWIST LOCK
						TR	TAMPER RESISTANT
						T-STAT	THERMOSTAT
						TTC	TELEPHONE TERMINAL CABINET
						TV	TELEVISION
						TVTC	TELEVISION TERMINAL CABINET
						TYP	TYPICAL
						UC	UNDER COUNTER
						UE	UNDERGROUND ELECTRICAL
						UG	UNDERGROUND
						UH	UNIT HEATER
						UT	UNDERGROUND TELEPHONE
						UTIL	UTILITY
						UV	UNIT VENTILATOR OR ULTRAVIOLET
						V	VOLT
						VA	VOLT-AMPERES
						VDT	VIDEO DISPLAY TERMINAL
						VERT	VERTICAL
						VFD	VARIABLE FREQUENCY DRIVE
						VOL	VOLUME
						W	WATT
						W/	WITH
						WG	WIRE GUARD
						WH	WATER HEATER
						W/O	WITHOUT
						WP	WEATHERPROOF
						XFMR	TRANSFORMER
						XFR	TRANSFER
						@	AT
						'	FEET
						"	INCHES
						#	NUMBER
						Ø	PHASE
						C	CENTER LINE
						P	PLATE

ELECTRICAL DRAWINGS

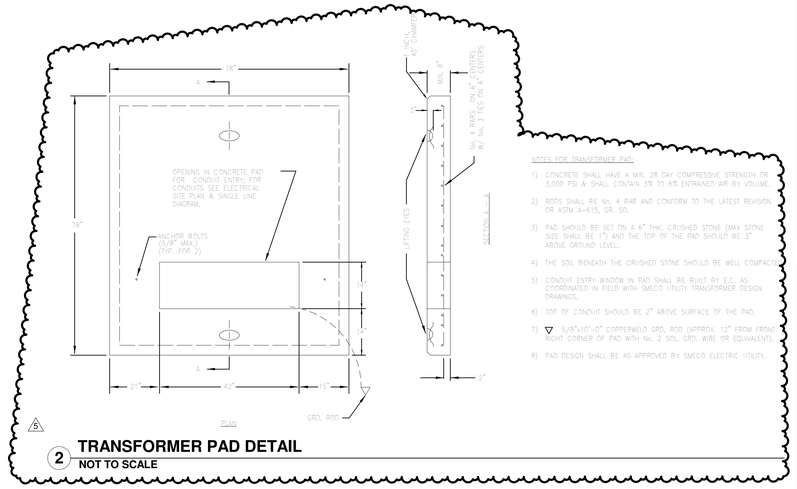
E000	ELECTRICAL SYMBOLS AND ABBREVIATIONS
E101	ELECTRICAL SITE PLAN
E201	ELECTRICAL FIRST FLOOR LIGHTING PLAN
E301	ELECTRICAL FIRST FLOOR POWER PLAN
E302	ELECTRICAL BARN AND GARAGE POWER AND LIGHTING PLANS
E303	ELECTRICAL ROOF POWER PLAN
E601	ELECTRICAL SCHEDULES
E701	ELECTRICAL SINGLE LINE AND DETAILS
E1001	ALTERNATES 003 & 004 - GENERATOR AND SPAY/NEUTER CLINIC
E1002	ALTERNATES 005 & 006 -OUTDOOR DOG RUN ALTERNATES

LIGHTING FIXTURE SCHEDULE

TAG	WATTS	VOLTAGE	LAMP TYPE	COLOR TEMP.	MODEL NUMBER	DESCRIPTION	COMMENTS
A1	36W	120V	LED	3500 K	DAY-BRITE / 2AVEG49L835-4-ACR-UNV-DIM	2'x4' LAY-IN RECESSED ARCHITECTURAL BASKET FIXTURE, WHITE ACRYLIC FINISH, RIBBED ACRYLIC WHITE LENS, 80+ CRI	ALL FIXTURES LABELED "EM" SHALL BE PROVIDED WITH AN EMERGENCY BACKUP BATTERY.
A1 EM	36W	120V	LED	3500 K	DAY-BRITE / 2AVEG49L835-4-ACR-UNV-DIM	2'x4' LAY-IN RECESSED ARCHITECTURAL BASKET FIXTURE, WHITE ACRYLIC FINISH, RIBBED ACRYLIC WHITE LENS, 80+ CRI	ALL FIXTURES LABELED "EM" SHALL BE PROVIDED WITH AN EMERGENCY BACKUP BATTERY.
A2	29W	120V	LED	3000 K	DAY-BRITE / 2AVEG32L835-2-ACR-UNV-DIM	2'x4' LAY-IN RECESSED ARCHITECTURAL BASKET FIXTURE, WHITE ACRYLIC FINISH, RIBBED ACRYLIC WHITE LENS, 80+ CRI	ALL FIXTURES LABELED "EM" SHALL BE PROVIDED WITH AN EMERGENCY BACKUP BATTERY.
A2 EM	29W	120V	LED	3000 K	DAY-BRITE / 2AVEG32L835-2-ACR-UNV-DIM	2'x4' LAY-IN RECESSED ARCHITECTURAL BASKET FIXTURE, WHITE ACRYLIC FINISH, RIBBED ACRYLIC WHITE LENS, 80+ CRI	ALL FIXTURES LABELED "EM" SHALL BE PROVIDED WITH AN EMERGENCY BACKUP BATTERY.
B1	49W	120V	LED	3500 K	DAY-BRITE / 2TG54L835-4-FA-12F-UNV-DIM COLUMBIA LIGHTING / LIT24-30HLG-FAA12125-EDU (OR APPROVED EQUAL)	2'x4 LAY-IN PRISMATIC TROFFER, .125" PATTERN 12 ACRYLIC LENS, WHITE FINISH, FLAT ALUMINUM DOOR, ELECTRONIC 0-10V DIMMING DRIVER	ALL FIXTURES LABELED "EM" SHALL BE PROVIDED WITH AN EMERGENCY BACKUP BATTERY.
B1 EM	49W	120V	LED	3500 K	DAY-BRITE / 2TG54L835-4-FA-12F-UNV-DIM COLUMBIA LIGHTING / LIT24-30HLG-FAA12125-EDU (OR APPROVED EQUAL)	2'x4 LAY-IN PRISMATIC TROFFER, .125" PATTERN 12 ACRYLIC LENS, WHITE FINISH, FLAT ALUMINUM DOOR, ELECTRONIC 0-10V DIMMING DRIVER	ALL FIXTURES LABELED "EM" SHALL BE PROVIDED WITH AN EMERGENCY BACKUP BATTERY.
B2	43W	120V	LED	3500 K	DAY-BRITE / 2TG38L835-2-FA-12F-UNV-DIM	2'x2' LAY-IN PRISMATIC TROFFER, .125" PATTERN 12 ACRYLIC LENS, WHITE FINISH, FLAT ALUMINUM DOOR, ELECTRONIC 0-



1 ELECTRICAL SITE PLAN NEW WORK
1" = 20'-0"



NOTES FOR TRANSFORMER PAD:

1) CONCRETE SHALL HAVE A MIN. 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI & SHALL CONTAIN 3% TO 6% ENTRAINED AIR BY VOLUME.
2) RODS SHALL BE No. 4 BAR AND CONFORM TO THE LATEST REVISION OF ASTM A-615, GR. 50.
3) PAD SHOULD BE SET ON A 4" THK. CRUSHED STONE (MAX STONE SIZE SHALL BE 1") AND THE TOP OF THE PAD SHOULD BE 3" ABOVE GROUND LEVEL.
4) THE SOIL BENEATH THE CRUSHED STONE SHOULD BE WELL COMPACTED.
5) CONDUIT ENTRY WINDOW IN PAD SHALL BE BUILT BY E.C. AS COORDINATED IN FIELD WITH SMECO UTILITY TRANSFORMER DESIGN DRAWINGS.
6) TOP OF CONDUIT SHOULD BE 2" ABOVE SURFACE OF THE PAD.
7) ▽ 5/8"x10'-0" COPPERWELD GRD. ROD (APPROX. 12" FROM FRONT RIGHT CORNER OF PAD WITH No. 2 SOL. GRD. WIRE OR EQUIVALENT.
8) PAD DESIGN SHALL BE AS APPROVED BY SMECO ELECTRIC UTILITY.

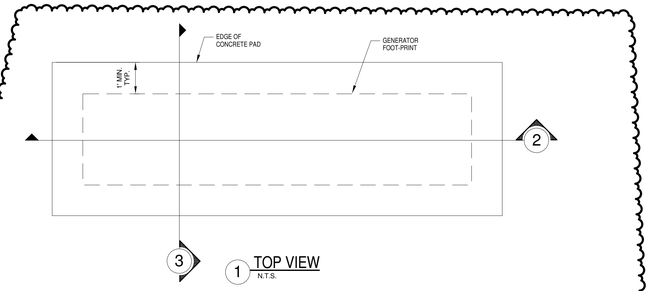
2 TRANSFORMER PAD DETAIL
NOT TO SCALE

General Notes - Site Plans

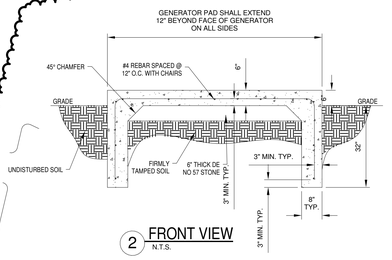
1. ALL CONDUITS SHALL BE FURNISHED AND INSTALLED WITH PULLSTRINGS. ALL CONDUITS SHALL BE INSTALLED IN TRENCH UTILIZING RED METALLIC MARKER TAPE AT A MAXIMUM OF 12" B.F.G. CENTERED OVERTOP OF CONDUITS IN TRENCH.
2. E.C. SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL PRIMARY AND SECONDARY CONDUITS FROM PRIMARY ELECTRICAL UTILITY CONNECTION POINT TO THE TRANSFORMER AND THEN FROM THE TRANSFORMER TO THE ELECTRICAL SERVICE ENTRANCE DISCONNECT. E.C. SHALL FURNISH AND INSTALL PULLSTRINGS IN ALL ELECTRICAL UTILITY SERVICE CONDUITS. E.C. SHALL FURNISH AND INSTALL NEW TRANSFORMER CONCRETE PAD AS COORDINATED WITH ELECTRICAL UTILITY. E.C. SHALL PROVIDE ALL OPENINGS IN TRANSFORMER PAD FOR PRIMARY AND SECONDARY CONDUIT INSTALLATION INTO TRANSFORMER ENCLOSURE. E.C. SHALL FURNISH AND INSTALL CT CABINET AND METER PAN FOR ELECTRICAL SERVICE.
3. ALL CONDUCTORS FEEDING EXTERIOR LIGHTING AND POWER CIRCUITS SHALL BE #10 AWG MINIMUM AND SHALL BE RAN IN 1" CONDUIT.
4. E.C. SHALL FURNISH AND INSTALL A NEW CONCRETE PAD FOR THE STANDBY GENERATOR. E.C. SHALL COORDINATE LOCATION OF GENERATOR WITH ARCHITECTURAL AND CIVIL DRAWINGS.
5. ELECTRICAL SERVICE ENTRANCE FEEDERS SHALL BE FURNISHED AND INSTALLED IN CONCRETE DUCTBANK. SEE CONCRETE DUCTBANK DETAIL ON DRAWING E601.
6. E.C. SHALL COORDINATE ALL SITE ELECTRICAL WORK IN FIELD.

KEYNOTES

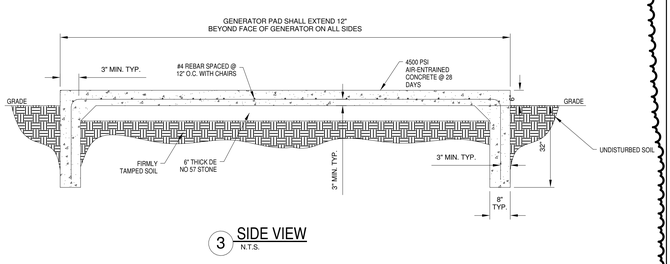
1. E.C. SHALL FURNISH AND INSTALL (4) 4" CONDUITS OUT TO UTILITY TELE/DATA UTILITY COMPANY CONNECTION POINT. E.C. SHALL COORDINATE EXACT LOCATION OF CONNECTION IN FIELD WITH UTILITY REPRESENTATIVE.
2. E.C. SHALL FURNISH AND INSTALL (2) 1" CONDUITS FROM BUILDING PERIMETER WALL OUT TO MONUMENT SIGN TO MAKE POWER AND DATA CONNECTIONS. E.C. SHALL FURNISH AND INSTALL CAT-6A CABLE TO MONUMENT SIGN FROM I.T. ROOM. E.C. SHALL INSTALL CONDUITS AT 3'-0" B.F.G. AS MEASURED TO TOP OF CONDUIT. E.C. SHALL COORDINATE ALL WORK IN FIELD.
3. FLOODLIGHTS FOR FLAGPOLE ILLUMINATION. E.C. TO COORDINATE ORIENTATION AND PLACEMENT IN FIELD WITH FLAG POLE LOCATION. E.C. SHALL ENSURE PROPER ILLUMINATION OF FLAG USING FLOODLIGHTS PRIOR TO COMPLETION OF WORK.
4. POWER AND DATA FOR GATE. E.C. SHALL COORDINATE EXACT LOCATION AND CIRCUITING REQUIREMENTS IN FIELD PRIOR TO INSTALLATION.
5. E.C. SHALL FURNISH AND INSTALL AN 800A, 120/208V, DOCKING STATION FOR CONNECTION OF A TEMPORARY ROLL-UP GENERATOR IN THE BASE BID. E.C. SHALL FURNISH A NEW CONCRETE PAD SIZED FOR A FUTURE 300KW PERMANENT GENERATOR IN THIS LOCATION AS PART OF THE BASE BID WITH CONDUITS FROM THE AUTOMATIC TRANSFER SWITCH TO THE GENERATOR PAD AND STUBBED UP. E.C. SHALL COORDINATE ALL WORK IN FIELD.
6. POWER FOR ELECTRIC VEHICLE CHARGING STATION. E.C. SHALL PROVIDE A NEMA 3R RATED JUNCTION BOX WITH WEATHERPROOF COVER FOR INSTALLATION OF ELECTRICAL CHARGING STATION BY COUNTY. E.C. SHALL COORDINATE ALL WORK WITH COUNTY.
7. E.C. SHALL PROVIDE A NEMA-3R WEATHERPROOF RECEPTACLE ON A 20FT RETRACTABLE CORD. RECEPTACLE SHALL BE A 20A, 120V SIMPLEX RECEPTACLE.
8. E.C. SHALL COORDINATE EXACT DEPTH OF CONDUIT IN FIELD WITH STORMWATER PIPING. E.C. SHALL RUN CONDUIT BELOW STORMWATER PIPING WHERE REQUIRED. E.C. SHALL COORDINATE ALL TRENCHING WORK IN FIELD PRIOR TO INSTALLATION.
9. E.C. SHALL PROVIDE A SEPARATE LINE ITEM IN THEIR BID FOR THE FOLLOWING WORK: E.C. SHALL FURNISH AND INSTALL NEW 300KW/375KVA, 120/208V, 3P, NATURAL GAS GENERATOR ON CONCRETE GENERATOR PAD.



1 TOP VIEW
N.T.S.



2 FRONT VIEW
N.T.S.



3 SIDE VIEW
N.T.S.

3 GENERATOR PAD DETAIL
NOT TO SCALE

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SEAL:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, SCOTT A. FRENCK, PE, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER: #47259 EXPIRATION DATE: 9-23-2021

CONSULTANT: DEDC ENGINEERING DESIGN CONSULTING

CHARLES COUNTY
CHARLES COUNTY ANIMAL CARE CENTER
5690 PINEY CHURCH ROAD
WALDORF, MARYLAND 20602

NO.	DESCRIPTION	DATE
5	Addendum No. 4	12-15-20

PROJECT NUMBER: 18-034
PROJECT SET: PERMIT
DATE ISSUED: 12/23/2019

DRAWING TITLE: ELECTRICAL SITE PLAN

SHEET NUMBER: E101

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