GENERAL NOTES

1. KEY NOTES FOR THIS SHEET ARE LOCATED ON SHEET E-102.
2. THE COMMUNICATION CABLE AND IT'S TERMINATION EQUIPMENT IS OWNED, MAINTAINED, AND OPERATED BY AT&T COMMUNICATIONS COMPANY. ALL REQUIRED WORK ASSOCIATED WITH THE COMMUNICATION CABLE, THE REMOVAL OF THIS CABLE, AND THE REINSTALLATION OF THIS COMMUNICATION CABLE SHALL BE PERFORMED BY AT&T. ALSO SEE GENERAL NOTE 3 BELOW.
3. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THE NEW CONDUIT RACEWAY TO FACILITATE AND ACCOMMODATE THE NEW RELOCATED COMMUNICATIONS CABLE. CONTRACTOR SHALL INSTALL A PULL STRING IN THE NEW EMPTY COMMUNICATION CONDUIT FOR IT'S FULL LENGTH FOR USE BY AT&T TO PULL IN THE NEW COMMUNICATION CABLE. THE CONSTRUCTION CONTRACTOR SHALL COORDINATE ALL FEATURES OF THE COMMUNICATION CABLE WORK WITH AT&T AND SHALL PAY ALL ASSOCIATED INCURRED COSTS TO AT&T. THE POINT OF CONTACT FOR COORIDATING WITH AT&T IS AS FOLLOWS:

   POC: MR. BOB HODOROWICZ
   TELEPHONE: (815) 727-8299
4. THE CONTRACTOR SHALL DEMOLISH AND PROPERLY DISPOSE OF THE EXISTING COMMUICATION CONDUIT AND JUNCTION BOXES (3 EACH) AFTER THE NEW COMMUNICATION CABLE INSTALLATION IS FULLY COMPLETED AND TESTED. ALSO SEE KEY NOTE 6 ON SHEET E-102.

A1 ELECTRICAL WORK PLAN I

SCALE : 1"=60'-0"

0 60' 120'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ROCK ISLAND DISTRICT
ROCK ISLAND, ILLINOIS

DESIGNED BY: BGR
DWN BY: NPP
CKD BY: KRR
SUBMITTED BY: JWB
PLOT SCALE: AS SHOWN
SIZE: ANSI D
PLOT DATE:
FILE NAME: LP26_E-101.dgn
DATE: 2013/08/16
SOLICITATION NO.: W912EK-13-R-0040
CONTRACT NO.:
PROJECT CODE: LP26

ILLINOIS WATERWAY
LOCKPORT POOL
LOCKPORT, IL
LOCKPORT POOL MAJOR REHABILITATION
STAGE IC, FOREBAY WALL, PHASE I
ELECTRICAL WORK PLAN I

Sheet ID
E-101

b5ecdalg
8/27/2013
LP26_E-101.dgn

PRELIMINARY - NOT FOR CONSTRUCTION

A1 ELECTRICAL WORK PLAN II

SCALE : 1"=60'-0"

0 60' 120'

N

Z0MVRBD9
8/20/2013
LP26_E-102.dgn

KEY NOTES

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL ONE NEW 2" RIGID GALVANIZED STEEL (RGS) COMMUNICATION CONDUIT INSTALLED UNDER THE ENTRANCE ROAD IN THE LOCATION INDICATED. ALSO SEE CIVIL DRAWINGS C-103 AND C-104. THE CONTRACTOR SHALL ALSO PROVIDE AND INSTALL NEW 2" RGS COMMUNICATION CONDUIT FROM THE NEW ROAD CROSSING, ROUTED ON THE CANAL SIDE OF THE EXISTING GUARD RAIL, EXISTING FLOOD WALL, EXISTING GUARDRAIL/HANDRAIL, AND TRANSITIONING TO BE INSTALLED EMBEDDED IN CONCRETE TO AN EXISTING PENETRATION IN THE WESTWARD END OF THE UPSTREAM POWERHOUSE WALL. THE NEW RGS CONDUIT SHALL ENTER THE POWERHOUSE THROUGH EXISTING PENETRATION. WATERTIGHT SEAL CONDUIT AFTER INSTALLATION. RGS CONDUIT SHALL TRANSITION TO PVC SCHEDULE 80 CONDUIT UPSTREAM ON THE INSIDE OF THE POWERHOUSE NEAR THE POINT OF ENTRY INTO THE POWER-HOUSE. CONTRACTOR SHALL PROVIDE AND INSTALL AT LEAST THE MINIMUM NUMBER OF JUNCTION BOXES AND CONDUIT EXPANSION FITTINGS AS SHOWN AND NOTED FOR THE NEW COMMUNICATION CABLE CONDUIT.

2. THE CONTRACTOR SHALL DISCONNECT THE EXISTING COMMUNICATION CONDUIT FOR AT&T WORK ON CABLE & MAKE SPLICE TO CHANGE TO THE NEW COMMUNICATION CABLE. PROVIDE AND INSTALL A NEW 36" x 36" x 12" NEMA 4X STAINLESS STEEL JUNCTION BOX ENCLOSURE WITH TWO NEMA 4X DRAINS ON IT'S BOTTOM SIDE. ATTACH AND SUPPORT NEW ENCLOSURE BY INSTALLING NEW GALVANIZED STEEL CHANNEL STRUT ONTO AND SPANNING BETWEEN EXISTING GUARD RAIL POSTS. REMOVE THE EXISTING COMMUNICATION CABLE AFTER THE NEW COMMUNICATION CABLE IS OPERATIONAL FROM THE NEW JUNCTION BOX AT THE NEW ROAD CROSSING LOCATION TO THE EXISTING COMMUNICATION BACKBOARD LOCATED ON THE SECOND FLOOR IN THE POWERHOUSE (ALSO SEE SHEET E-103). REMOVE EXISTING COMMUNICATION RISER POLE, EXISTING OVERHEAD CABLE, AND EXISTING 2" PVC COMMUNICATION CONDUIT ROUTED INSIDE THE POWERHOUSE FROM AN EXISTING WALL PENETRATION LOCATED ABOVE THE WEST WINDOW LOCATED ON THE POWERHOUSE SECOND FLOOR TO THE COMMUNICATION BACKBOARD LOCATED ABOUT 80 FEET INSIDE DIMENSION FROM THE WEST WALL. THE EXISTING COMMUNICATION CABLE AND EQUIPMENT SHALL BE KEPT IN PLACE AND MAINTAINED UNTIL THE COMMUNICATION SERVICE IS SUCCESSFULLY CHANGED OVER TO THE NEW CABLE. THE HOLE REMAINING FROM THE REMOVAL OF THE CONDUIT PENETRATION ABOVE THE WEST WINDOW SHALL BE RESTORED AND SEALED WEATHERTIGHT. ALSO SEE KEY NOTE 1, KEY NOTE 13 AND GENERAL NOTES BELOW.

3. EXISTING 208 VOLT, THREE PHASE SLUICE GATE POWER CIRCUIT CONDUCTORS ROUTE IN AN OUTDOOR CONCRETE-EMBEDDED CONDUIT FROM THE UPSTREAM POWERHOUSE EXTERIOR WALL TO AN EXISTING IN-GROUND JUNCTION BOX (JBOX), THROUGH THE JBOX TO THE OLD ABANDONED SUBSTATION. THE FEEDER CIRCUIT TERMINATES ON AN EXISTING 100 AMPERE CIRCUIT BREAKER AND THEN CONTINUES FROM THIS CIRCUIT BREAKER THROUGH ANOTHER SEPARATE AND DIFFERENT EMBEDDED CONDUIT ROUTED BACK TO AND THROUGH THE AFOREMENTIONED IN-GROUND JBOX. THE CONTRACTOR SHALL "CLEAN UP" THIS POWER FEEDER TO ELIMINATE THE UNNECESSARY CIRCUIT LOOP ROUTE FROM THE JBOX TO THE OLD SUBSTATION BREAKER. THE EXISTING SLUICE GATE FEEDER CONDUCTORS SHALL BE REMOVED FROM BOTH OF THEIR RESPECTIVE CONDUITS BETWEEN THE OLD SUBSTATION AND THE EXISTING IN-GROUND JBOX. THE EXISTING INGROUND JBOX SHALL BE REMOVED AND REPLACED WITH A NEW 24" (WIDE) X 24" (WIDE) X 12" (DEEP) IN-GROUND CAST IRON JUNCTION BOX. THE NEW JBOX SHALL BE RATED NEMA 4 AND A GASKETED, 4-BOLT COVER WHICH SHALL HAVE NOT LESS THAN AASHTO TIER H-20 VEHICULAR LOAD RATING. THE NEW JUNCTION BOX SHALL BE INSTALLED NEARLY FLUSH, BUT INSTALLED SO THE COVER IS A LITTLE HIGHER THAN THE SURROUNDING CONCRETE SO WATER SHEDS AWAY FROM THE JBOX, SLOPE CONCRETE BLENDED TO SURROUNDING ADJACENT CONCRETE SO WATER DOES NOT COLLECT AT THE NEW JBOX. EXISTING CONDUITS AND CABLES SHALL PENETRATE THE NEW JBOX ON THE SOUTH (DOWNSTREAM) SIDE AND EAST (CANAL) SIDE OF THE JBOX. PROVIDE AND INSTALL LOCK NUTS TO SECURE BOTH CONDUITS IN THEIR PENETRATIONS, INSULATED THROAT BUSHINGS ON THE ENDS OF CONDUITS, AND SEAL THE CONDUIT PENETRATIONS INTO THE JBOX FROM THE POWERHOUSE TO THE JBOX AND FROM THE JBOX TO THE SLUICE GATE. THE EXISTING SLUICE GATE CONDUCTORS SHALL BE WATERTIGHT SPLICED INSIDE THE NEW JBOX. THE EXISTING SLUICE GATE FEEDER CIRCUIT SUPPLY CIRCUIT BREAKER IS LOCATED ON THE SECOND FLOOR POWER PANELBOARD INSIDE THE POWERHOUSE AND IS CLEARLY MARKED (SAME PANELBOARD FROM WHICH THE NEW GARAGE CIRCUIT BREAKER SHALL BE INSTALLED (SEE SHEET E-103). ALL SAFETY LOCKOUT AND TAGOUT PROCEDURES SHALL BE STRICTLY ADHERED TO. ALSO SEE GENERAL NOTES BELOW.

4. CONTRACTOR SHALL LOCATE EXISTING PANELBOARD ON SECOND FLOOR INSIDE THE POWERHOUSE AND INSTALL A NEW 3-POLE, 100 AMPERE, CIRCUIT BREAKER INTO THE EXISTING PANELBOARD. EXISTING PANELBOARD IS THE SQUARE D COMPANY. SEE ALSO NOTE 2 ON SHEET E-103.

5. CONTRACTOR SHALL INSTALL TWO 2" RGS CONDUITS FROM THE EXISTING PANELBOARD (SEE KEY NOTE 4) TO THE NEW PANELBOARD LRP1 BEING INSTALLED IN THE NEW STORAGE GARAGE. ONE CONDUIT SHALL HAVE THREE 1 AWG AND ONE 8 AWG GROUND CONDUCTOR. ALL CONDUCTORS SHALL BE RATED 90 DEGREE CELSIUS TYPE XHHW COPPER. THE SECOND CONDUIT SHALL BE A SPARE TERMINATED JUST INSIDE THE POWER HOUSE, WITH PULL STRING INSTALLED AND EITHER CAPPED OR PLUGGED ON BOTH ENDS. ALSO SEE GARAGE ELECTRICAL PLAN ON ELECTRICAL SHEET E-104.

6. CONTRACTOR SHALL SCHEDULE A COMMUNICATIONS CABLE OUTAGE TO PERFORM CONNECTION CHANGE OVER AND TRANSFER OF SERVICE FROM THE EXISTING COMMUNICATIONS CABLE TO THE NEW COMMUNICATIONS CABLE. NEW COMMUNICATIONS CABLE TERMINATIONS SHALL BE MADE BOTH INSIDE THE POWER HOUSE AND WHERE THE NEW CABLE IS TO BE CONNECTED TO THE EXISTING CABLE IN A NEW COMMUNICATION JUNCTION BOX NEAR STA. 38+25 (ALSO SEE SHEET E-103). CONTRACTOR SHALL REMOVE THE EXISTING COMMUNICATIONS CABLE ONLY AFTER THE NEW COMMUNICATIONS EQUIPMENT IS COMPLETELY INSTALLED, INTEGRITY-TESTED, ACCEPTABLE FOR COMMUNICATION SERVICE CHANGE OVER, AND GOVERNMENT APPROVAL IS RECEIVED. THE HOURS COMMUNICATIONS CABLE OUTAGE SHALL BE ALLOWED ON ONLY ONE OCCASION AND THE OUTAGE SHALL BE LESS THAN EIGHT (8) IN DURATION UNLESS OTHERWISE COORDINATED AND APPROVED BY THE CONTRACTING OFFICER'S REPRESENTATIVE. CONTRACTOR SHALL REQUEST AN OUTAGE TIME AND RECEIVE APPROVAL NOT LESS THAN TEN (10) CALENDAR DAYS PRIOR TO PROPOSED OUTAGE TIME TO ALLOW MWRD POWERHOUSE MANAGEMENT TO PREPARE AND COMPENSATE FOR THE COMMUNICATION OUTAGE.

7. PROVIDE AND INSTALL NEW CONCRETE PAD-MOUNTED TELEPHONE COMMUNICATION JUNCTION BOX. TERMINATE AND CONNECT THE EXISTING 2" PVC-COATED RIGID GALVANIZED STEEL (RGS) CONDUIT ENTERING FROM THE NORTH (UPSTREAM) DIRECTION AND INSTALL NEW 2" RGS CONDUIT ENTRANCE WHICH WILL BE INSTALLED UNDER THE ACCESS ROAD. ELECTRICAL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES.

8. PROVIDE AND INSTALL NEW JUNCTION BOXES AT INTERVALS OF APPROXIMATELY 500 FEET TO BE USED AS PULL BOXES TO FACILITATE CABLE INSTALLATION. THE JUNCTION BOXES SHALL BE UL LISTED, UL 514A, HOT-DIPPED GALVANIZED STEEL, 2" CONDUIT HUBS X 18" LONG (OR AS OTHERWISE APPROVED) WITH STAINLESS STEEL COVER SCREWS AND GASKETED COVER. BASIS OF DESIGN IS CROUSE-HINDS PTC SERIES PULL BOX (PENCIL BOX) WITH GALVANIZED COATED CARBON STEEL BODY FINISH OPTION.

9. PROVIDE AND INSTALL NEW 2" RIGID GALVANIZED STEEL (RGS) CONDUIT EXPANSION FITTINGS AT INTERVALS NOT EXCEEDING 300 FEET. NEW EXPANSION FITTINGS SHALL ALLOW 8 INCH MAXIMUM LATERAL MOVEMENT EQUAL TO 4 INCHES IN EITHER DIRECTION. THE BASIS OF DESIGN IS O-Z GEDNEY TYPE AX-8. PROVIDE GROUNDING BONDING JUMPERS FOR EACH CONDUIT EXPANSION FITTING TO ENSURE CONTINUOUS GROUND.

10. CONTRACTOR SHALL ROUTE NEW RGS CONDUIT FROM THE HANDRAIL TYPE GUARDRAIL DOWN TO THE TOP OF THE CANAL WALL ALONG THE TOP OF EXISTING CANAL WALL STAIRWAY RECESS AND ACROSS WALK PATH TO MINIMIZE OBSTRUCTION AT EXISTING STAIRWAY WALK PATH.

11. CONTRACTOR SHALL ROUTE CONDUIT FROM THE HANDRAIL TYPE GUARDRAIL DOWN TO THE TOP OF THE CANAL WALL ALONG THE TOP OF EXISTING CANAL WALL AND ACROSS EXISTING FENDER WALL WALK PATH ADJACENT TO OTHER EXISTING CONDUITS TO MINIMIZE OBSTRUCTION AT EXISTING FENDER WALL WALK PATH.

12. CONTRACTOR SHALL ROUTE NEW RGS CONDUIT ON THE CANAL-SIDE, EXTERIOR WALL OF THE EXISTING BUILDING UNDER THE BUILDING'S EXPOSED CANTILEVER SECTION. INSTALLATION OF RGS CONDUIT ON THIS EXTERIOR BUILDING WALL WILL REQUIRE A BOAT OR OTHER FLOATING WORK PLATFORM TO ACCESS THE AREA FROM THE CANAL WHICH IS ACCESSIBLE ONLY FROM THE CANAL. ROUTE THE NEW COMMUNICATION CONDUIT AROUND THE EXISTING SAMPLING-PORT VERTICAL PIPE COLUMN AND AROUND THE BUILDING USING ONLY SWEEPING BENDS ENSURING THAT FULL ACCESS TO AND USE OF THE SAMPLING-PORT IS NOT IMPEDDED.

13. CONTRACTOR SHALL PLAN AND COORDINATE NEW COMMUNICATON RGS CONDUIT ROUTING AND OBTAIN GOVERNMENT APPROVAL PRIOR TO INSTALLING ANY NEW COMMUNICATION CONDUITS.

GENERAL NOTES:

1. ALL ELECTRICAL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, NFPA 70 AND WITH ALL STATE AND LOCAL BUILDING CODES. SEE LEGEND AND ABBREVIATIONS ON SHEET E-104.
2. THE CONTRACTOR SHALL COORDINATE ALL CONDUIT ROUTING AND SHALL SUBMIT CONDUIT ROUTING PLANS BY FORMAL TRANSMITTAL AND SHALL RECEIVE GOVERNMENT APPROVAL PRIOR TO INSTALLING ANY CONDUITS.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

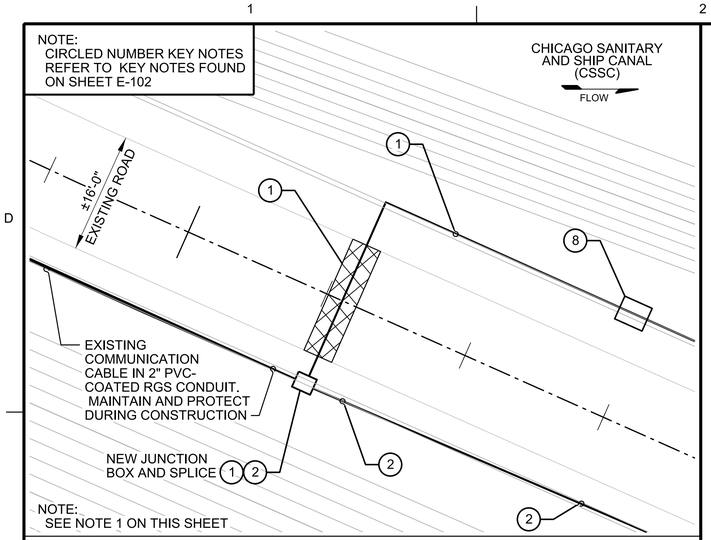
U.S. ARMY CORPS OF ENGINEERS
ROCK ISLAND DISTRICT
ROCK ISLAND, ILLINOIS

DESIGNED BY: BGR	DATE: 2013/08/16		
DWN BY: AER	CKD BY: KRR	SOLICITATION NO.: W912EK-13-R-0040	
SUBMITTED BY: JWB		CONTRACT NO.:	
PLOT SCALE: AS SHOWN	PLOT DATE:	PROJECT CODE: LP26	
SIZE: ANSI D	FILE NAME: LP26_E-102.dgn		

ILLINOIS WATERWAY
LOCKPORT POOL
LOCKPORT, IL
LOCKPORT POOL MAJOR REHABILITATION
STAGE IC, FOREBAY WALL, PHASE I
ELECTRICAL WORK PLAN II

Sheet ID
E-102

NOTE:
CIRCLED NUMBER KEY NOTES REFER TO KEY NOTES FOUND ON SHEET E-102



NOTE:
SEE NOTE 1 ON THIS SHEET

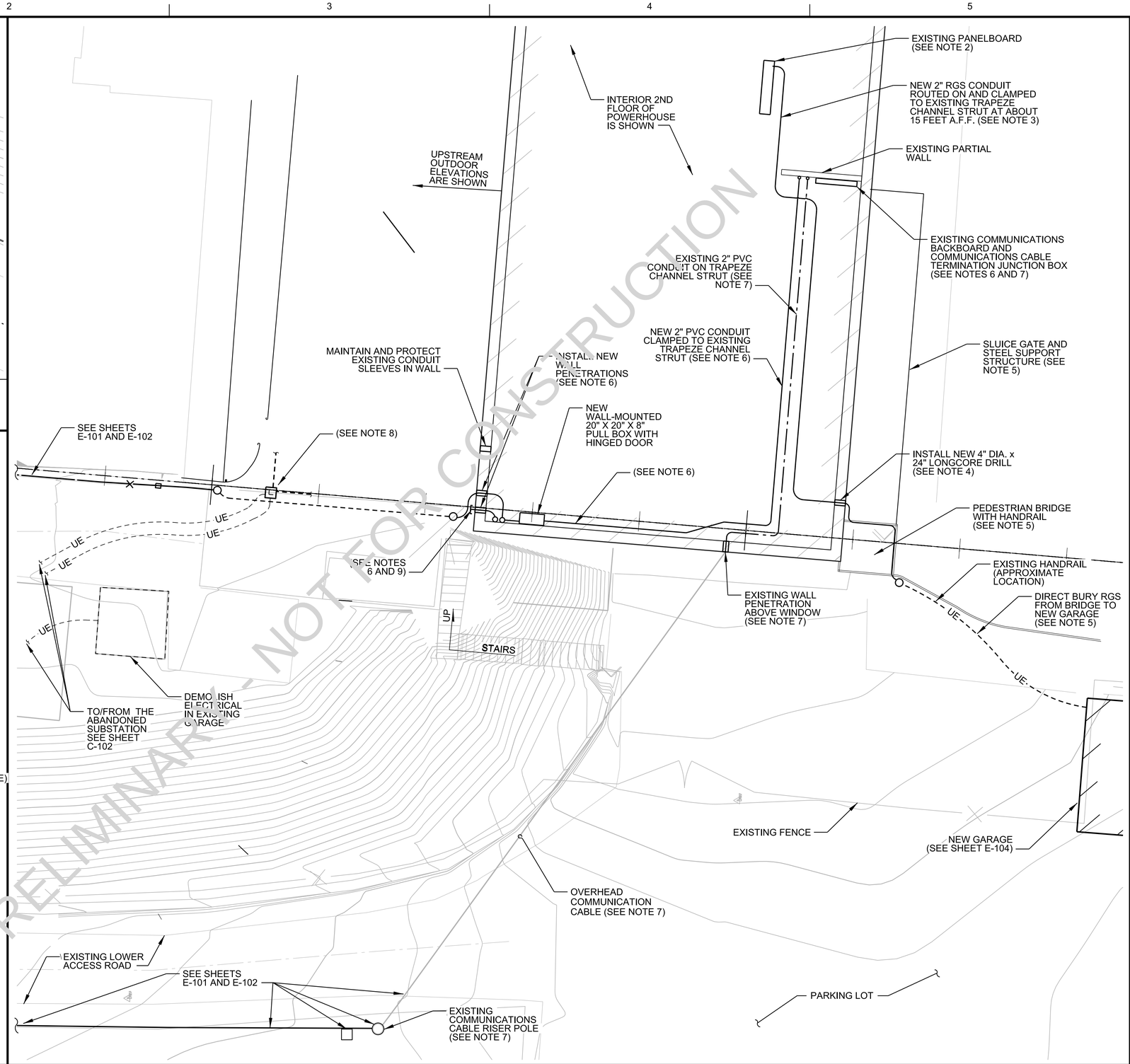
C1 UPSTREAM ELECTRICAL WORK PLAN

SCALE : 1"=10'-0"

0 10' 20'

1. ALL CONDUIT ROUTING PLANS SHALL BE COORDINATED WITH, SUBMITTED TO, AND APPROVED BY THE GOVERNMENT BEFORE CONDUIT MAY BE INSTALLED.
2. PROVIDE AND INSTALL ONE NEW 100 AMPERE, 3 POLE CIRCUIT BREAKER IN EXISTING PANELBOARD. NEW CIRCUIT BREAKER SHALL BE COMAPATABLE WITH EXISTING PANELBOARD MANUFACTURED BY SQUARE D COMPANY. AN EXISTING 100 AMP CIRCUIT BREAKER HAS THE MODEL NUMBER, SQUARE D COMPANY FHP361002100. CONTRACTOR SHALL VERIFY THE RATINGS OF THE EXISTING PANELBOARD TO ENSURE NEW EQUIPMENT IS COMPATIBLE. PANELBOARD EXISTS IN THE EASTWARD MOST SECTION OF EXISTING SWITCHBOARD UNIT LOCATED ON SECOND FLOOR OF THE POWERHOUSE.
3. PROVIDE AND INSTALL NEW 2 INCH RIGID GALVANIZED STEEL (RGS) CONDUIT FROM PANELBOARD TO NEW WALL PENETRATION CLAMPED TO EXISTING CHANNEL STRUT TRAPEZE HANGERS.
4. CORE DRILL TWO NEW 4 INCH DIAMETER X 24 INCHES LONG CORES THROUGH EXISTING DOWNSTREAM CONCRETE WALL AT ELEVATION ABOVE AND ASIDE THE WEST MOST SECOND FLOOR ARCHED WINDOW. DO NOT CORE THE WALL WITHIN THE WINDOW FRAME OR IN THE ARCHED CONCRETE FRAMING BLOCKS. INSTALL NEW 2"RGS GARAGE POWER FEEDER IN ONE CORE AND THE NEW SPARE 2" RGS IN THE OTHER CORE. INSTALL NON-SHRINK GROUT AROUND THE CONDUITS FOR THE FULL WIDTH OF THE WALL TO FULLY SEAL THE PENETRATIONS. TERMINATE THE NEW SPARE 2" RGS CONDUIT SUCH THAT IT IS STUBBED, THREADED, AND CAPPED APPROXIMATELY 2" IMMEDIATELY INSIDE THE BUILDING SUITABLE FOR FUTURE EXTENSION. CORE DRILLS AND CONDUIT PENETRATIONS WILL BE IN EXCESS OF 20 FEET ABOVE THE OUTSIDE GRADE.
5. NEW RGS CONDUITS SHALL BE BEAM CLAMPED TO EXISTING SLUICE GATE HOIST STEEL STRUCTURE. CONDUITS SHALL BE ROUTED ON PERIMETER BEAMS AND COLUMNS TO KEEP CLEARANCES AND CAUSE NO ITERFERENCE WITH THE TRAVELING HOIST MECHANISM. CONDUIT SHALL BE INSTALLED VERTICALLY DOWN TO THE EXISTING PEDESTRIAN BRIDGE WHERE IT SHALL CROSS TO THE LAND. INSTALL ONE EXPANSION COUPLING IN EACH CONDUIT AT EXPANSION END OF BRIDGE TO ALLOW MOVEMENT. CONDUITS SHALL TRANSITION TO DIRECT BURY UPON CLEARING THE BRIDGE ON THE LAND AND SHALL BE DIRECT BURIED NOT LESS THAN 18 INCHES FROM THE BRIDGE TRANSITION TO THE NEW GARAGE.
6. INSTALL NEW COMMUNICATIONS (COMM.) EMBEDDED CONDUIT. TRANSITION TO EXPOSED RGS CONDUIT WHICH SHALL THEN ENTER THE UPSTREAM POWERHOUSE WALL. PROVIDE TWO NEW CORE DRILL HOLES THROUGH THE EXISTING UPSTREAM POWERHOUSE WALL AT AN ELEVATION SO THEY ARE ABOVE THE OVERHEAD CRANE RAIL (INSIDE THE POWERHOUSE) AND ALLOW CONDUIT ROUTING INSIDE THE POWERHOUSE. ONE CORE DRILL SHALL BE FOR THE NEW COMM. CONDUIT AND THE OTHER CONDUIT SHALL BE INSTALLED AS A SPARE COMM. CONDUIT. ALOT OF ELECTRICAL EQUIPMENT EXISTS ON BOTH THE OUTSIDE WALL AND ON THE INSIDE WALL IN THIS AREA SO THE CONTRACTOR SHALL COORDINATE THE LOCATION OF THE NEW CORE DRILLS TO ALLOW THE CONDUIT TO PENETRATE AND BE INSTALLED SO THAT IT DOES NOT INTERFERE IN ANY WAY WITH THE EXISTING OVERHEAD CRANE. EXISTING WALL PENETRATIONS ARE APPROXIMATLY 12" ABOVE THE UPSTREAM OUTSIDE GRADE ELEVATION AND ARE NOT USABLE BECAUSE THEY ENTER THE POWERHOUSE WHERE THE OVERHEAD CRANE MUST TRAVEL. THE ELEVATION OF THE PENETRATION INDOORS WILL BE APPROXIMATLY 25-30 FEET ABOVE THE POWERHOUSE FLOOR. PROVIDE AND INSTALL TWO NEW 2" RGS CONDUITS FROM THE PENETRATIONS AT THIS ELEVATION THEN ROUTED AND SECURED INDOORS ALONG THE POWERHOUSE WEST WALL DOWN TO A NEW PULL BOX ENCLOSURE AND THEN TWO NEW CONDUITS INSTALLED ON EXISTING CONDUIT HANGERS TO THE EXISTING COMMUNICATION BACKBOARD LOCATION. ALSO SEE NOTE 9.
7. EXISTING COMMUNICATIONS (COMM.) JUNCTION BOX ON GUARDRAIL, EXISTING COMM. CABLE RISER POLE, OVERHEAD SPAN, EXISTING WALL PENETRATION ABOVE EXISTING WINDOW ON POWERHOUSE SECOND FLOOR, AND 2"PVC CONDUIT & COMM. CABLE FROM PENETRATION TO COMM. BACKBOARD SHOWN. THIS EXISTING COMM. EQUIPMENT SHALL BE REMOVED ONLY AFTER INSTALLATION, CHANGEOVER TO, CORRECT OPERATION VERIFICATION OF THE NEW COMM. CABLE TO THE EXISTING COMM. BACKBOARD AND UPON RECEIVING GOVERNMENT APPROVAL TO REMOVE THIS EXISTING COMM. EQUIPMENT.
8. REMOVE AND REPLACE EXISTING INGROUND POWER JUNCTION BOX AND SPLICE EXISTING SLUICE GATE CONDUCTORS. SEE ALSO KEY NOTE 3 ON SHEET E-102.
9. INSTALL NON-SHRINK GROUT IN ANNULAR SPACE AROUND NEW CONDUIT PENETRATIONS FOR FULL WIDTH OF WALL TO WATERTIGHT SEAL THE NEW PENETRATIONS. NEW CABLE SHALL BE INSTALLED IN ONE (EASTWARD) CONDUIT AND THE OTHER CONDUIT (WESTWARD) SHALL BE WATERTIGHT CAPPED ON THE OUTSIDE OF WALL PENETRATION FOR FUTURE EXTENSION. INSTALL ELECTRICIAN'S PUTTY IN CONDUIT AT JUNCTION BOX TO SEAL INSIDE OF CONDUIT FROM OUTSIDE AIR. INSTALL PULL STRINGS IN BOTH CONDUITS.

NOTES



A2 DOWNSTREAM ELECTRICAL WORK PLAN

SCALE : 1"=10'-0"

0 10' 20'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ROCK ISLAND DISTRICT
ROCK ISLAND, ILLINOIS

DESIGNED BY: BGR
DWN BY: AER
CKD BY: KRR
SUBMITTED BY: JWB
PLOT SCALE: AS SHOWN
PLOT DATE:
SIZE: ANSI D
FILE NAME: LP26_E-103.dgn
DATE: 2013/08/16
SOLICITATION NO.: W912EK-13-R-0040
CONTRACT NO.:
PROJECT CODE: LP26

ILLINOIS WATERWAY
LOCKPORT POOL
LOCKPORT, IL
LOCKPORT POOL MAJOR REHABILITATION
STAGE IC, FOREBAY WALL, PHASE I
ELECTRICAL WORK PLAN - DETAILS

Sheet ID
E-103

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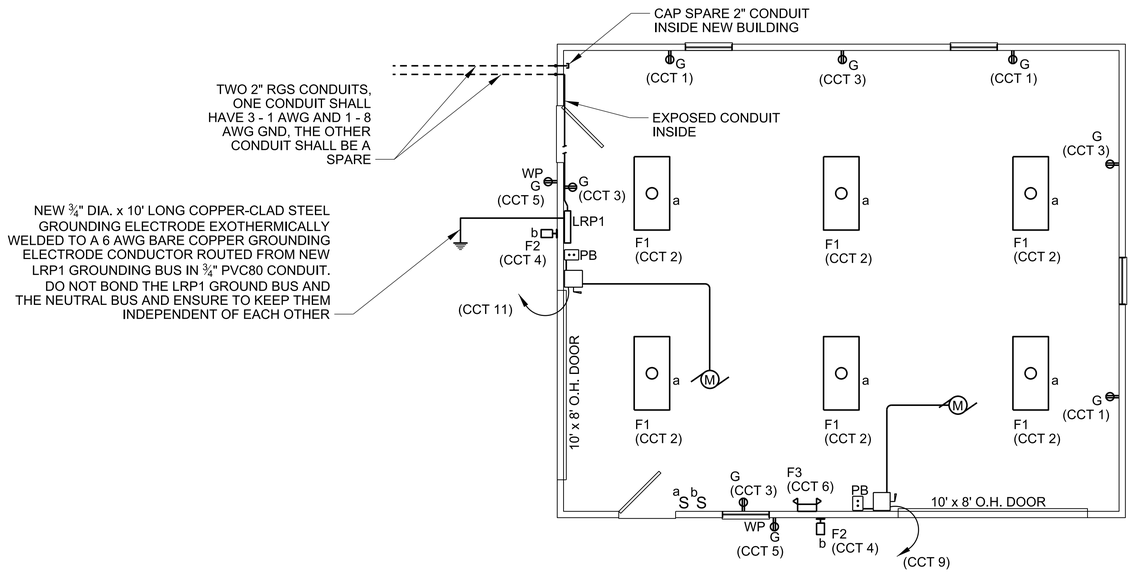
8/16/2013
LP26_E-103.dgn



DWG REF(s) :

C1 LIGHTING AND POWER PLAN

SCALE : 1/4"=1'-0" 0 2' 4' 8'

PANELBOARD "LRP1" -- 240/120VAC, THREE PHASE, FOUR WIRE, 100 AMPERES BUS, 100 MAIN CIRCUIT BREAKER, SOLID NEUTRAL, GROUNDING BUS, BOLT-ON BREAKERS, 22,000 AIC SHORT CIRCUIT RATING

	P	NOTES	LOAD DESCRIPTION	DEMAND CODE	VA	CKT	PH A	PH B	PH C	CKT	VA	DEMAND CODE	LOAD DESCRIPTION	NOTES	P	
20	1		GFCI RECEPTACLES	GEN	540	1	1308			2	768	LTS	LIGHT FIXTURES F1		1	20
20	1		GFCI RECEPTACLES	GEN	720	3		862		4	142	LTS	LIGHT FIXTURES F2		1	20
20	1		WP GFCI RECEPTACLES	GEN	360	5			386	6	26	LTS	EMERGENCY LIGHT FIXTURE		1	20
20	1		SPARE	GEN		7	0			8		GEN	SPARE		1	20
30	1		OVERHEAD DOOR OPENER	MTR	1920	9		1920		10		GEN	SPARE		1	20
30	1		OVERHEAD DOOR OPENER	MTR	1920	11			1920	12		GEN	SPARE		1	20
--	1		SPACE	GEN		13	0			14		GEN	SPACE		1	--
--	1		SPACE	GEN		15		0		16		GEN	SPACE		1	--
--	1		SPACE	GEN		17			0	18		GEN	SPACE		1	--

DWG REF(s) :

A1 PANELBOARD LRP1 SCHEDULE

GENERAL NOTES

1. CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS SHALL NOT BE USED. BALANCE THE LOAD ON PANELBOARD AS EVENLY AS POSSIBLE BETWEEN EACH PHASE. ALL CONDUIT, FITTINGS, AND BOXES SHALL BE SURFACE MOUNTED.
2. THE CONTRACTOR SHALL COORDINATE ALL EQUIPMENT LOCATIONS PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. CONDUITS SHALL BE GROUTED OR SEALED INTO OPENINGS. USE FLAMEPROOF MATERIALS FOR OPENINGS IN FIRE RATED WALLS, DO NOT DRILL HOLES INTO OR THROUGH EXISTING JOISTS.
4. ALL ELECTRICAL EQUIPMENT SHALL BE EITHER UL APPROVED OR UL LISTED.
5. CONTRACTOR SHALL VERIFY OVERCURRENT PROTECTION SIZES COORDINATE WITH MANUFACTURER RECOMMENDED CIRCUIT PROTECTION.
6. ALL EQUIPMENT INCLUDING, BUT NOT LIMITED TO: CONDUIT, WIRE, AND WIRE LABELS SHALL COMPLY WITH RELEVANT AMERICAN INDUSTRY STANDARDS (NEMA, ANSI, ETC.).
7. UNLESS OTHERWISE NOTED, ALL CONDUIT SHALL BE EMT INDOORS AND RIGID GALVANIZED STEEL (RGS) CONDUIT OUTDOORS
8. ALL FEATURES OF ELECTRICAL WORK AND INSTALLATION SHALL BE IN ACCORDANCE WITH LATEST EDITION OF NFPA 70, NATIONALELECTRICAL CODE AND LOCAL ELECTRICAL BUILDING CODES.
9. ALL EQUIPMENT SHALL BE PROVIDED WITH MANUFACTURER'S STANDARD WARRANTY AND WITH OPERATION & MAINTENANCE MANUALS.
10. ELECTRICAL EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF OPERATION AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL EQUIPMENT AND PRODUCTS ON EQUIPMENT SHALL BE COORDINATED PRIOR TO INSTALLATION.
11. ALL FINAL ELECTRICAL CONNECTIONS TO EQUIPMENT THAT VIBRATES SHALL BE MADE WITH FLEXIBLE METAL CONDUIT. USE LIQUIDTIGHT CONDUIT AND FITTINGS WHERE SUBJECT TO MOISTURE. ROUTE GROUND WIRE WITH CIRCUIT WIRES FROM CIRCUIT GROUND TO MOTOR GROUND THROUGH FLEXIBLE CONDUIT. FLEXIBLE CONDUIT SHALL NOT EXCEED 6 FEET IN LENGTH.
12. CONTRACTOR SHALL PROVIDE TYPED DIRECTORIES FOR THE PANELBOARD.
13. CIRCUITS SERVING EMERGENCY FIXTURES SHALL BE RUN IN SEPARATE RACEWAYS FROM ALL OTHER CIRCUITS. INSTALL MANUFACTURERS "LOCK OFF" DEVICES ON CIRCUIT BREAKERS FEEDING NEW EMERGENCY CIRCUITS.
14. SURFACE MOUNT ALL NEW LIGHT SWITCHES, THERMOSTATS, RECEPTACLES, PUSHBUTTON STATIONS, AND CONDUIT AT +4 FEET AFF EXCEPT AS NOTED OTHERWISE ON THE ROOF.
15. WIRING FOR POWER, LIGHTING, AND BRANCH CIRCUITS SHALL BE COPPER, TYPE XHHW. USE SOLID FOR #10 AWG AND SMALLER, AND STRANDED FOR #8 AWG AND LARGER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG, AND MINIMUM CONDUIT SIZE SHALL BE 3/4 INCH.
16. ARRANGE CONDUIT TO MAINTAIN MAXIMUM HEADROOM AND PRESENT A NEAT APPEARANCE. UNLESS NOTED OTHERWISE, RUN CONDUIT TIGHT TO BUILDING STRUCTURE CEILING WHEREVER POSSIBLE.
17. CONDUIT SHALL BE INSTALLED PARALLEL AND PERPENDICULAR TO WALLS. MAINTAIN 12 INCH CLEARANCE BETWEEN CONDUIT AND HEAT SOURCES.
18. PROVIDE SUPPORT AT EACH BOX. PROVIDE AN ADDITIONAL CONDUIT SUPPORT WITHIN 3 FEET OF EACH BOX AND FITTING. USE STRAP-TYPE CONDUIT SUPPORTS FOR EXPOSED CONDUITS ON WALLS. CONDUIT SHALL NOT BE SUPPORTED BY OTHER CONDUIT, PIPING, HVAC DUCTWORK, OR SUSPENDED CEILING SUPPORTS.
19. BLACK LAMINATE NAMEPLATES WITH WHITE CORE SHALL BE ENGRAVED WITH 3/16 INCH HIGH LETTER TO IDENTIFY ALL DISCONNECT SWITCHES, STARTERS, AND OTHER MAJOR PIECES OF ELECTRICAL EQUIPMENT BY NAME AND FUNCTION. OPERATING VOLTAGE, AND MAXIMUM FUSE SIZE (IF APPLICABLE). LABELING SWITCH AS S-A, S-B, ETC., DOES NOT SATISFY THIS REQUIREMENT. USE SCREWS TO ATTACH NAMEPLATES.
20. PROVIDE INSULATING BUSHINGS AT TERMINATION OF CONDUITS AT BOXES.
21. ALL BRANCH, FEEDER, AND LIGHTING CIRCUITS SHALL BE PROVIDED WITH A SEPARATE INSULATED GROUND WIRE.
22. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, WITH QUICK-MAKE, QUICK-BREAK VISIBLE BLADES.
23. GOVERNMENT SHALL HAVE FINAL APPROVAL ON ALL EQUIPMENT, LOCATIONS AND CONDUIT ROUTING.
24. EXCEPT FOR NIPPLES SHORTER THAN 24 INCHES, DO NOT RUN MORE THAN 9 CURRENT CARRYING CONDUCTORS IN ONE CONDUIT, NEUTRALS AND HOTS ARE CURRENT CARRYING, GROUND CONDUCTORS ARE NOT CONSIDERED CURRENT CARRYING.
25. KEEP LOW VOLTAGE WIRING (30 VOLTS AND LESS), 120 VOLT WIRING, AND 480 VOLT WIRING IN THREE SEPARATE CONDUITS.
26. OPEN WIRING (WITHOUT CONDUIT) IS NOT PERMITTED EXCEPT WHERE NOTED OTHERWISE.
27. ALL LIGHTING FIXTURES SHALL BE COMPLETE WITH LAMPS.

LEGEND AND ABBREVIATIONS

a F1	FLUORESCENT LIGHT FIXTURE (TYP F1 AND SWITCH a)
	EMERGENCY LIGHT FIXTURE
	OUTDOOR LED LIGHT FIXTURE
S	WALL SWITCH
	DUPLEX RECEPTACLE
PB	PUSH BUTTON STATION
M	OVERHEAD DOOR MOTOR
	HP RATED DISCONNECT SWITCH

A.F.F.	ABOVE FINISHED FLOOR
GRD	EQUIPMENT GROUNDING CONDUCTOR
RGS	RIGID GALVANIZED STEEL CONDUIT
G	GFCI RECEPTACLE
WP	WEATHERPROOF
SPD	SURGE PROTECTION DEVICE
LTS	LIGHTS LOADS
MTR	MOTOR LOADS
GEN	GENERAL LOADS

PRELIMINARY - NOT FOR CONSTRUCTION

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ROCK ISLAND DISTRICT
ROCK ISLAND, ILLINOIS

DESIGNED BY: BGR | DATE: 2013/08/16
DWN BY: AER | CKD BY: KRR | SOLICITATION NO.: W912EK-13-R-0040
SUBMITTED BY: JWB | CONTRACT NO.:
PLOT SCALE: AS SHOWN | PLOT DATE: | PROJECT CODE: LP26
SIZE: ANSI D | FILE NAME: LP26_E-104.dgn

ILLINOIS WATERWAY
LOCKPORT POOL
LOCKPORT, IL
LOCKPORT POOL MAJOR REHABILITATION
STAGE IC: FOREBAY WALL, PHASE I
NEW MAINTENANCE GARAGE
ELECTRICAL PLAN, SCHEDULE, AND NOTES

Sheet ID
E-104

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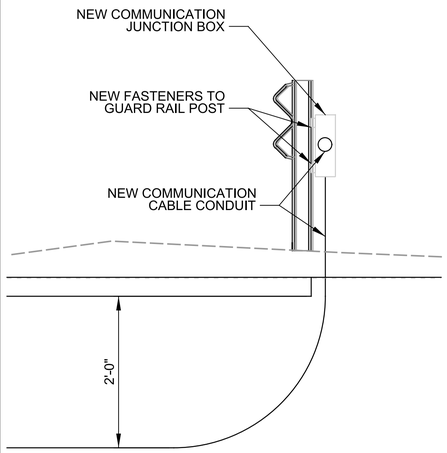
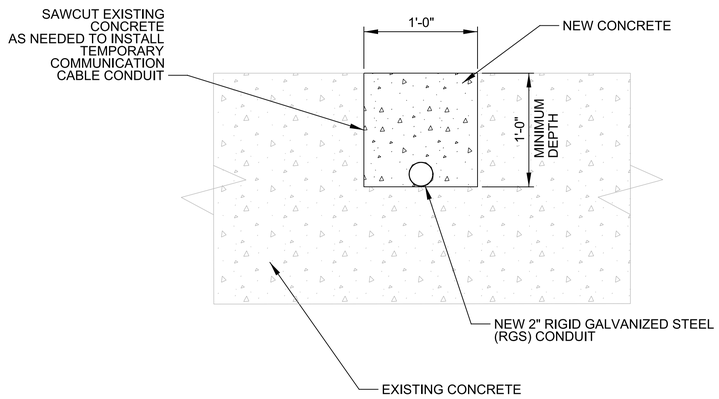
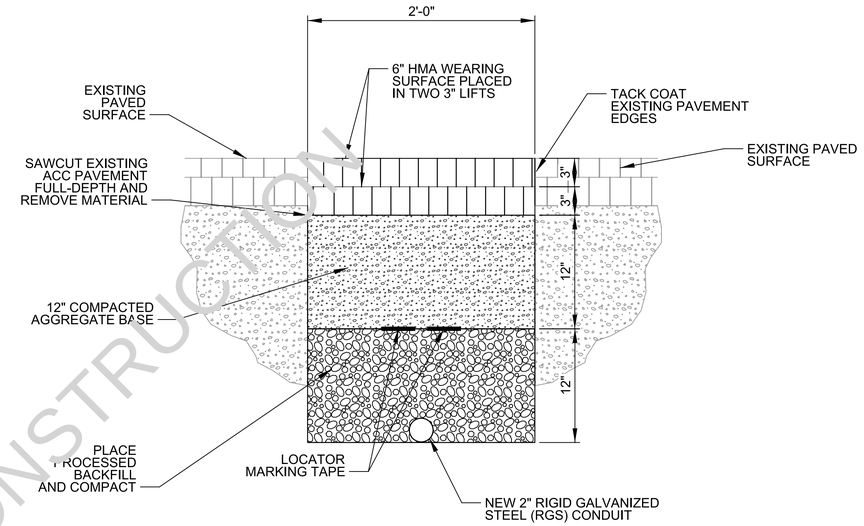
09/09/2013
LP26_E-104.dgn



C1 JUNCTION BOX DETAIL



C2 TEMP. COMM. CABLE TRENCH

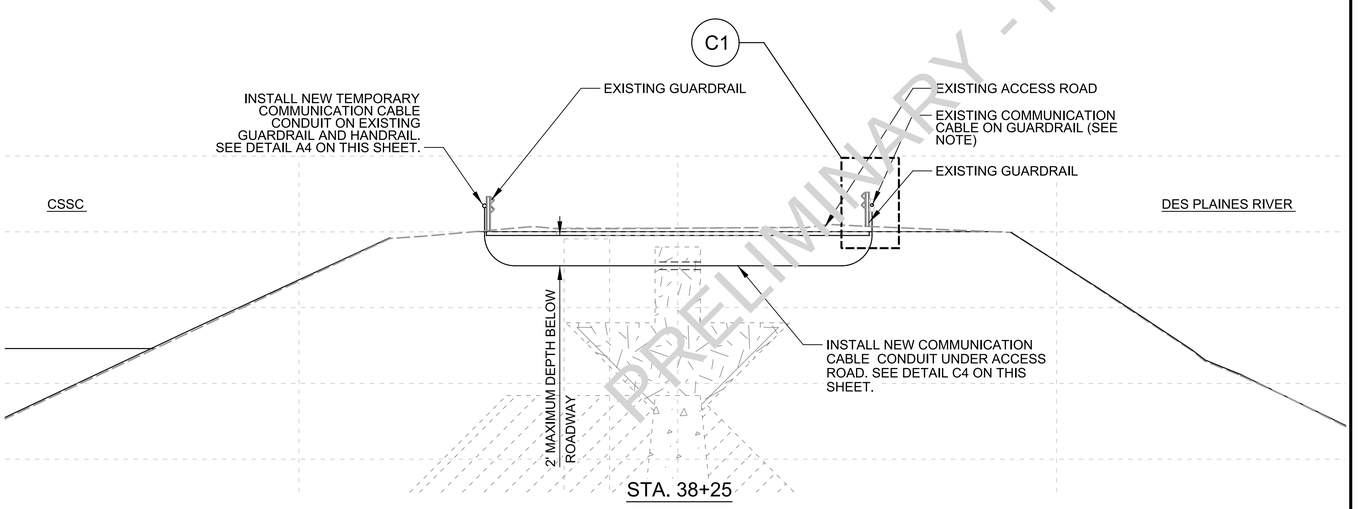


C4 UTILITY TRENCH SECTION

SCALE : 1 1/2"=1'-0" 0 6" 1' 2'

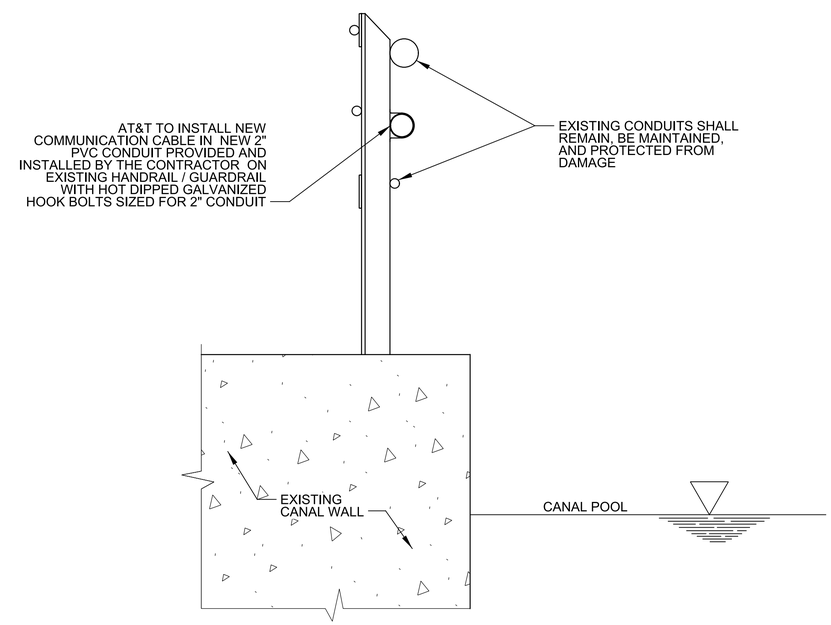
NOTE:

PROVIDE AND INSTALL NEW COMMUNICATION CABLE SPLICE JUNCTION BOX ENCLOSURE INSTALLED ON HOT-DIPPED GALVANIZED CHANNEL STRUTS INSTALLED ON AND BETWEEN EXISTING GUARD RAIL POSTS.



A1 COMMUNICATION CABLE SECTION

SCALE : 1"=5'-0" 0 5' 10'



A4 HANDRAIL / GUARDRAIL ATTACHMENT DETAIL

SCALE : 1 1/2"=1'-0" 0 6" 1' 2'

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U.S. ARMY CORPS OF ENGINEERS
ROCK ISLAND DISTRICT
ROCK ISLAND, ILLINOIS

DESIGNED BY: BGR | DATE: 2013/08/16
DWN BY: NPP | CKD BY: KER | SOLICITATION NO.: W912EK-13-R-0040
SUBMITTED BY: JWB | CONTRACT NO.:
PLOT SCALE: As shown | PLOT DATE: | PROJECT CODE: LP26
SIZE: ANSI D | FILE NAME: LP26_E-201.dgn

ILLINOIS WATERWAY
LOCKPORT POOL
LOCKPORT, IL
LOCKPORT POOL MAJOR REHABILITATION
STAGE IC, FOREBAY WALL, PHASE I
ELECTRICAL WORK
SECTIONS AND DETAILS

Sheet ID
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LP26_E-201.dgn

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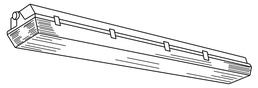


FEATURES

LAMP TYPE: 48" LONG, 54 WATT, T5HO
4100 DEGREES KELVIN

PROFILE: 2 LAMP

SHIELDING: IMPACT RESISTANT, CLEAR
STIPPLED ACRYLIC LENS

MOUNTING: CHAIN OR PENDANT MOUNTED FROM CEILING IN A MANNER
WHICH PREVENTS LATERAL MOTION. MOUNTING HIEGHT
BETWEEN JOISTS MH = 10'-0" TO BOTTOM OF LENS

BALLAST: ELECTRONIC, LOW TEMPERATURE APPLICATION

NOMINAL DIMENSIONS: 6" H X 8" W X 50" L

GENERAL DESCRIPTION

HOUSING: MOLDED HIGH-IMPACT POLYESTER OR FIBERGLASS REINFORCED
PLASTIC WITH DIE-FORMED STEEL INTERIOR COMPONENTS

REFLECTORS: INTERNAL WHITE REFLECTOR

ELECTRICAL: 120 VOLT BALLAST, LOW TEMPERATURE APPLICATION

FINISH: WHITE COLOR, WHTE ENAMEL ON METALS

OTHER: UL LISTED FOR WET LOCATIONS

BASIS OF DESIGN: COLUMBIA LIGHTING TYPE LUN HO

A1 FIXTURE F1

FEATURES

LAMP TYPE: LED (LIGHT EMITTING DIODE)
5000 - 6000 K
70-80 CRI, 4673 LUMENS

DISTRIBUTION: FULL CUTOFF WALL PACK
TYPE III IES DISTRIBUTION

LENS: TEMPERED CLEAR GLASS

MOUNTING: SURFACE WALL MOUNT

MOUNTING HEIGHT (MH): APPROXIMATELY 12 FEET ABOVE GRADE (MUST
BE VERIFIED FOR CALCULATIONS)

NOM. DIMENSIONS: 16" W X [illegible]" H X 12" D

GENERAL DESCRIPTION

HOUSING: DIE CAST ALUMINUM HOUSING AND DOOR
ASSEMBLY

ELECTRICAL: 120 VOLT, PROVIDE INTEGRALL PHOTOCELL
FOR AUTOMATIC DAYLIGHT CONTROL

OPERATING TEMPERATURE: -20 TO 105 DEGREES FAHRENHEIT

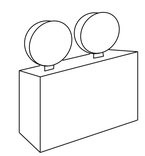
FINISH COLOR: BRONZE

REMARKS: UL RATED FOR WET LOCATIONS

BASIS OF DESIGN: HUBBELL OUTDOOR LIGHTING
LAREDO SERIES MODEL LMC SERIES-LED

WALL MOUNTED EXTERIOR LED LIGHT

A2 FIXTURE F2



FEATURES

LAMP TYPE: 9 WATT INCANDESCENT MIN.

PROFILE: 2 LAMP

MOUNTING: SURFACE WALL MOUNT

NOM. DIMENSIONS: 12" W X 10" H X 6" D

OPTIONS: SELF-DIAGNOSTIC CIRCUIT
MOMENTARY TEST SWITCH.
LED AC-ON AND HIGH CHARGE
INDICATOR LIGHTS.

GENERAL DESCRIPTION

HOUSING: HEAVY DUTY STEEL CABINET W/ BAKED ON
POWDER PAINT

LIGHTING HEADS: ADJUSTABLE METAL CONSTRUCTION

ELECTRICAL: 120 VAC

BATTERY: LEAD MAINTENANCE-FREE,
RECHARGEABLE IN 24 HRS

REMARKS: EMERGENCY ILLUMINATION SUPPLIES FOR
MINIMUM OF 90 MINUTES

BASIS OF DESIGN: BEST LIGHTING MODEL NYDXR

WALL SURFACE MOUNT
EMERGENCY LIGHTING

A3 FIXTURE F3

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ROCK ISLAND DISTRICT
ROCK ISLAND, ILLINOIS

DESIGNED BY: BGR
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ILLINOIS WATERWAY
LOCKPORT POOL
LOCKPORT, IL
LOCKPORT POOL MAJOR REHABILITATION
STAGE IC, FOREBAY WALL, PHASE I
NEW MAINTENANCE GARAGE
ELECTRICAL DETAILS

Sheet ID
E-202

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8/20/2013
LP26_E-202.dgn