CHEROKEE NATIONAL PEACE PAVILION

SITE AND LANDSCAPE ENHANCEMENTS

TAHLEQUAH, OKLAHOMA

CHEROKEE NATION Businesses

FINAL PLANS - JANUARY 31, 2025

OWNER:

CHEROKEE NATION BUSINESSES
777 WEST CHEROKEE STREET
CATOOSA, OKLAHOMA 74015
WWW.CHEROKEENATIONBUSINESS.COM

PLANS PREPARED BY:

LANDSCAPE ARCHITECTURE
ALABACK DESIGN ASSOCIATES, INC.
3202 EAST 21st STREET, SUITE 100
TULSA, OK 74114
(918) 742-1463

CIVIL ENGINEERING
CEC CORPORATION
1300 SOUTH MAIN STREET
TULSA, OK 74119

ELECTRICAL ENGINEER
HP ENGINEERING
5400 N. GRAND BLVD., SUITE 515
OKLAHOMA CITY, OK 73112

IRRIGATION DESIGN
MDL CONSULTING
2829 W. COUNTRY CLUB RD.
SEARCY, AR 72143

TOPOGRAPHIC SURVEY
CHAFFIN SURVEYING, LLC
215 W. SHAWNEE
TAHLEQUAH, OK 74464

LOCATION MAP

SHEET INDEX:

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

STATE OF OKLAHOMA · Michael Peterson · 1588 · REGISTERED LANDSCAPE ARCHITECT
Mike Peterson
1/31/25

CHEROKEE NATIONAL PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS
CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

REVISIONS:

#	DATE	DESCRIPTION

ISSUE
FINAL PLANS

DATE:	1.31.25
PROJECT #	23019
DESIGN:	MP
DRAWN:	SF
CHECKED:	MP

SHEET TITLE
COVER SHEET

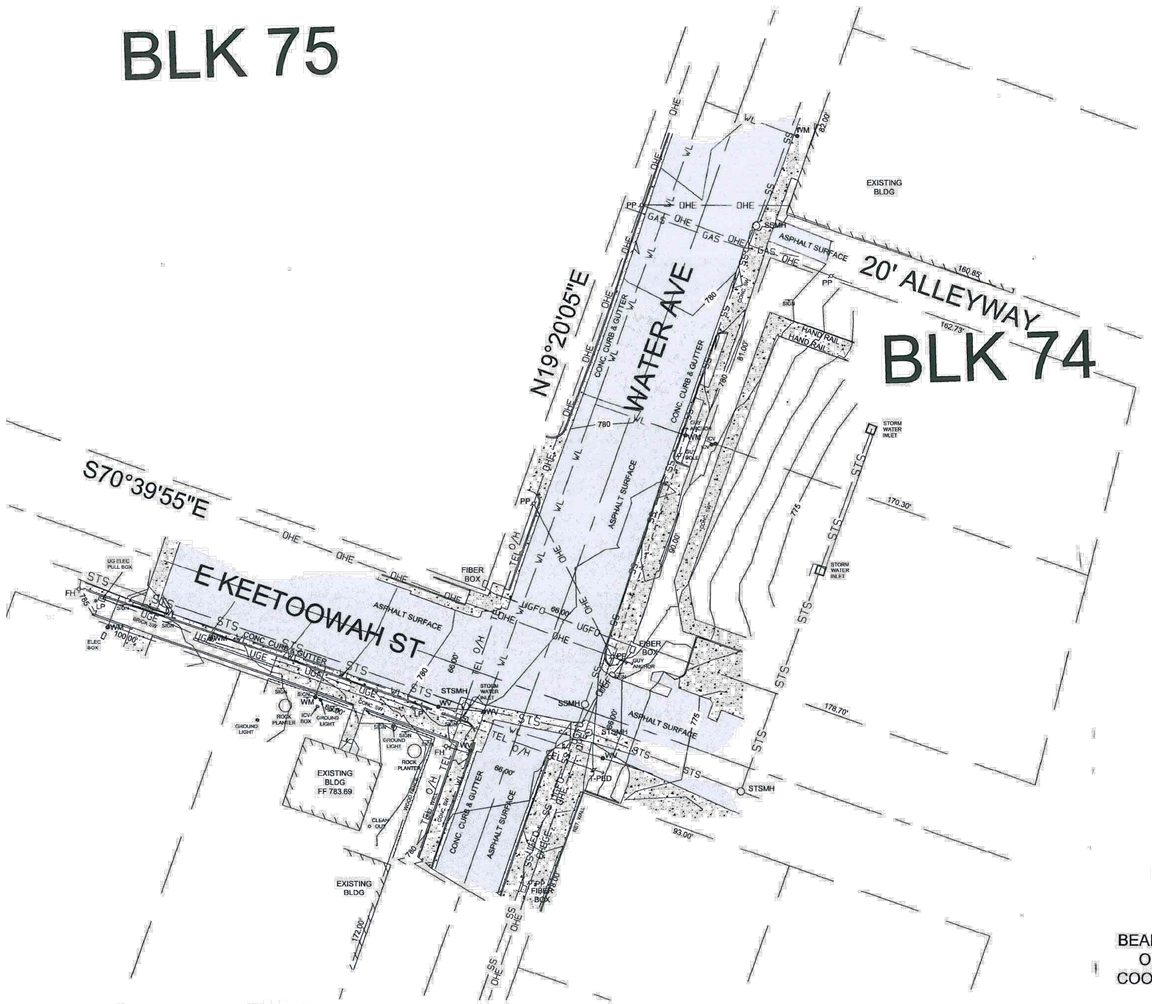
SHEET #
L0.00

Z:\Public & Park\Cherokee Nation - CDs Peace Pavilion #23019\Drawings\L SP 23019.dwg

TOPO SURVEY

INTERSECTION OF KEETOOWAH ST AND WATER AVE
CITY OF TAHLEQUAH

CHEROKEE COUNTY, OKLAHOMA



NOTE
BEARINGS ARE BASED ON STATE PLANE COORIDINATE SYSTEM

NOTES:

THE LAND DESCRIBED ON PLAT IS NOT INSIDE OF FLOOD ZONE "AE" OR "A", AS SHOWN ON FIR MAP NO. 40021C0265D.

BEARINGS SHOWN ON DRAWING MAY NOT BE THE SAME AS RECORD. BEARINGS ARE BASED ON THE OKLAHOMA STATE PLANE COORDINATE SYSTEM.

THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN HEREON ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

LEGEND

- MH — SAN. SEWER MANHOLE
- STSMH — STORM SEWER MANHOLE
- — SIGN
- FH — FIRE HYDRANT
- PP — POWER POLE
- — TELEPHONE RISER
- WM — WATER METER
- WV — WATER VALVE
- PB — PULL BOX
- — TREE
- G — GAS LINE
- SS — SAN. SEWER LINE
- W — WATER LINE
- X — FENCE LINE
- STS — STORM SEWER LINE
- E — POWER LINE
- — LIGHT POLE
- GW — GUY WIRE

TOPO AND CONTOURS BY:

Reg. Prof. Land Surveyor No. 1243
CA No. 6501
215 West Shawnee, Tahlequah, OK 74464
918-456-2577

JAMES RAY CHAFFIN, JR L.S. 1243 OKLAHOMA REGISTERED LAND SURVEYOR

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

STATE OF OKLAHOMA Michael Peterson 108 REGISTERED LANDSCAPE ARCHITECT
Mike Peterson
1/31/25

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TOPOGRAPHIC SURVEY

SHEET #
L0.10

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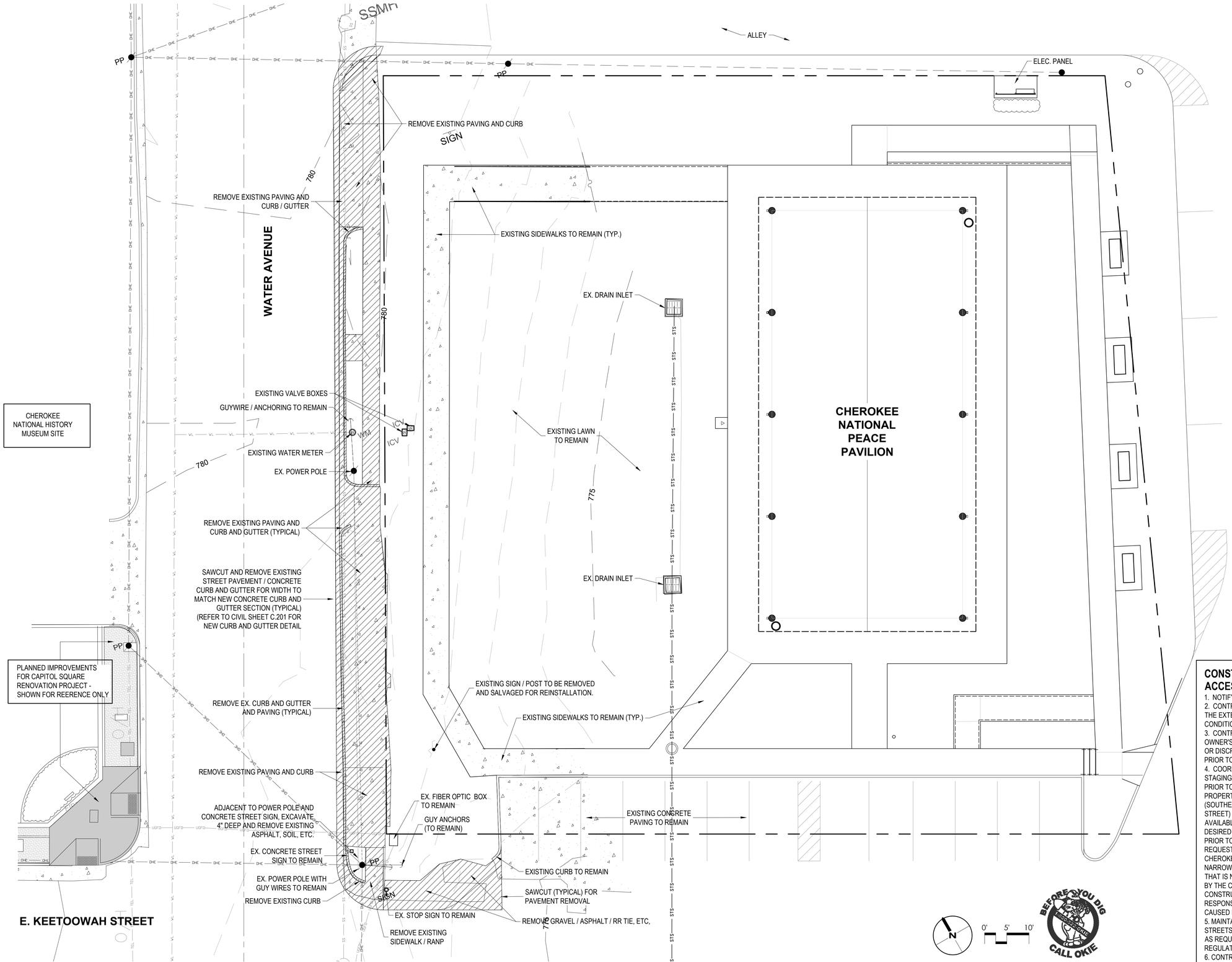

GENERAL NOTES

CALL 811 FOR INFORMATION ON THE LOCATION OF UNDERGROUND UTILITIES. CONTACT 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK OF ACTION ON THE PROJECT SITE DURING CONSTRUCTION. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE OWNER IN LOCATING THE UTILITIES PRIOR TO PERFORMING CONSTRUCTION OPERATIONS IN ANY AREA.

CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL STRUCTURES, LANDSCAPING, PAVING, AND ANY OTHER ITEMS LOCATED WITHIN AND OUTSIDE THE WORK AREA. ANY DAMAGE TO PERMANENT ITEMS INCURRED BY THE CONTRACTOR THROUGH HIS WORK IN THIS CONTRACT SHALL BE REPAIRED TO ORIGINAL CONDITION, BY THE CONTRACTOR, AT HIS OWN EXPENSE. CONTRACTORS SHALL COORDINATE WITH MAINTENANCE OPERATIONS PERSONNEL FOR TEMPORARY SHUT OFF OF UTILITIES, AS NEEDED.

ALL WORK SHALL BE IN CONFORMANCE WITH CHEROKEE NATION REQUIREMENTS AND STANDARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND FEES, INCLUDING BONDS AND INSURANCE AS REQUIRED.

EXISTING SITE FEATURES FOR WATER AVENUE STREET FRONTAGE ARE SHOWN PER TOPOGRAPHIC SURVEY (RE: SHEET L0.10). FOR AREAS OF THE SITE THAT WERE NOT INCLUDED IN THIS SURVEY, EXISTING CONDITIONS ARE SHOWN PER CHEROKEE PAVILION CONSTRUCTION PLANS (PREPARED BY TRIARCH; DATED JANUARY 2017). SITE PLAN FOR NON-SURVEYED AREAS IS APPROXIMATE ONLY - CONTRACTOR TO FIELD VERIFY.

DEMOLITION NOTES

DEMOLISH AND REMOVE ITEMS AS SHOWN ON PLANS. CONTRACTOR TO BE RESPONSIBLE TO FIELD VERIFY EXISTING CONDITIONS AND DEMOLITION SCOPE PRIOR TO BIDDING. ALL ITEMS SHOWN FOR DEMOLITION ARE TO BE REMOVED AND LEGALLY DISPOSED OF BY CONTRACTOR, UNLESS NOTED TO BE SALVAGED. COORDINATE AS NEEDED WITH OWNER AND CITY OF TAHLEQUAH FOR DEMOLITION WORK SHOWN.

FOR REMOVAL OF CONCRETE PAVEMENT AND CURB / GUTTER, SAW CUT WITH CLEAN, STRAIGHT, LINES WHERE ADJACENT TO PAVING OR CURBS THAT REMAIN.

CONSTRUCTION CONDITIONS / SITE ACCESS

1. NOTIFY OWNER 3 DAYS PRIOR TO BEGINNING WORK.
2. CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE EXTENT OF WORK AND FIELD VERIFY PROJECT CONDITIONS.
3. CONTRACTOR SHALL PHOTOGRAPH AND NOTIFY OWNER'S REPRESENTATIVE OF ANY DAMAGED ITEMS OR DISCREPANCIES WITH THE CONTRACT DOCUMENTS, PRIOR TO CONSTRUCTION.
4. COORDINATE PROJECT ACCESS AND ON-SITE STAGING AND MATERIAL STORAGE AREAS WITH OWNER PRIOR TO START OF CONSTRUCTION. THE VACANT PROPERTY NORTH OF THE ANTIQUE STORE (SOUTHEAST CORNER OF WATER AVE./DELAWARE STREET) IS OWNED BY THE CHEROKEE NATION AND IS AVAILABLE FOR CONSTRUCTION STAGING USE, IF DESIRED BY CONTRACTOR. COORDINATE WITH OWNER PRIOR TO USE OF THIS AREA. CONTRACTOR MAY REQUEST LEGAL DESCRIPTION FOR THIS SITE FROM CHEROKEE NATION IF DESIRED. NOTE THAT THE NARROW PROPERTY STRIP (APPROXIMATELY 10' WIDE THAT IS NORTH OF THE ANTIQUE SHOP IS NOT OWNED BY THE CHEROKEE NATION AND NOT TO BE USED FOR CONSTRUCTION OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF ALL DAMAGE CAUSED BY CONSTRUCTION OPERATIONS.
5. MAINTAIN TRAFFIC FLOW ON ADJACENT CITY STREETS AND PROVIDE TRAFFIC CONTROL MEASURES AS REQUIRED TO COMPLY WITH CITY OF TAHLEQUAH REGULATIONS.
6. CONTRACTOR TO BE RESPONSIBLE FOR SECURING JOBSITE (INCLUDING MATERIALS AND EQUIPMENT) WITH TEMPORARY FENCING AS REQUIRED.

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

STATE OF OKLAHOMA · Michael Peterson · Mike Peterson · 1588 · REGISTERED LANDSCAPE ARCHITECT

1/31/25

CHEROKEE NATIONAL PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS

CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

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SHEET TITLE
DEMOLITION PLAN

SHEET #
L0.40

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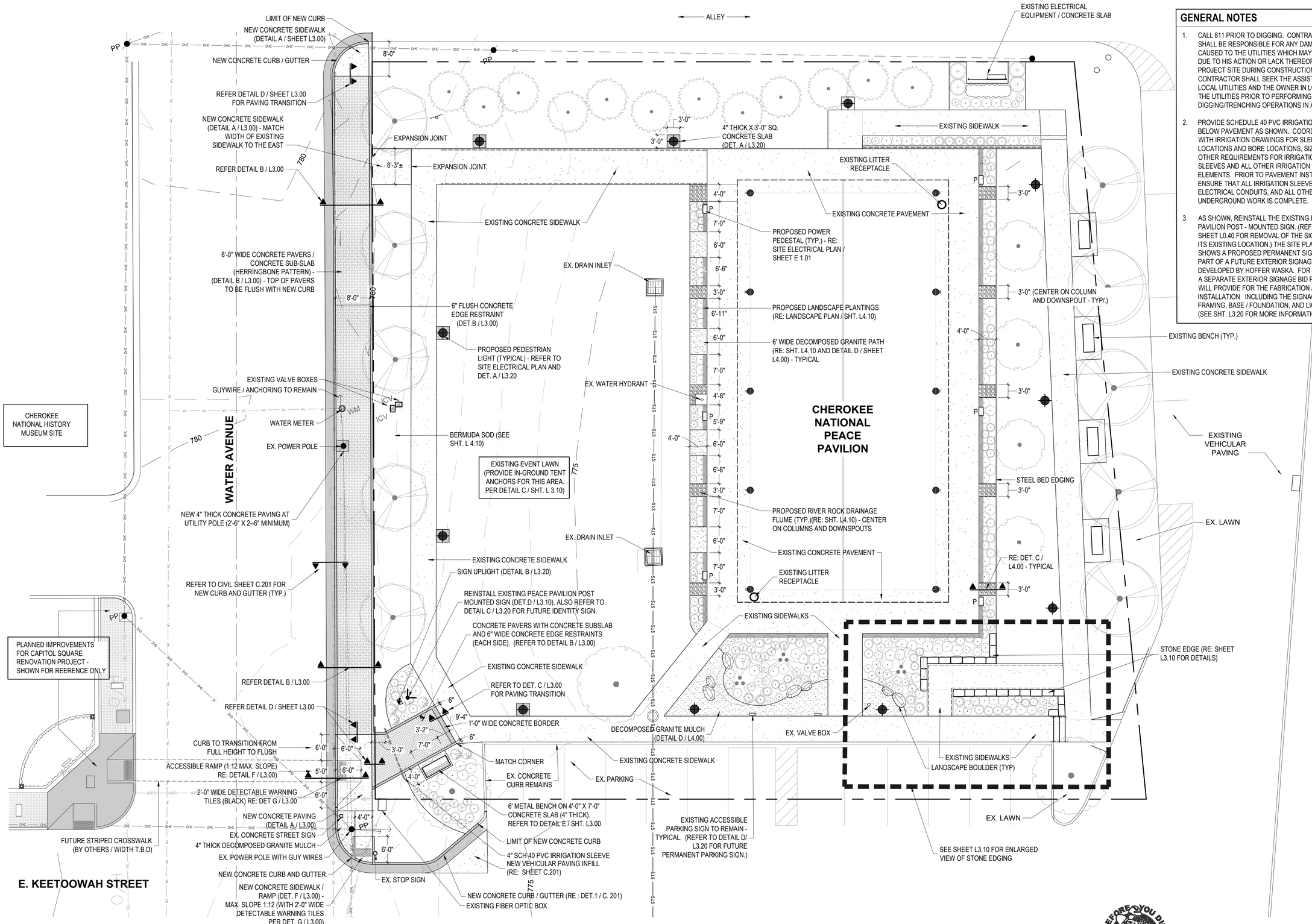

GENERAL NOTES

1. CALL 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES WHICH MAY OCCUR DUE TO HIS ACTION OR LACK THEREOF ON THE PROJECT SITE DURING CONSTRUCTION. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE OWNER IN LOCATING THE UTILITIES PRIOR TO PERFORMING DIGGING/TRENCHING OPERATIONS IN ANY AREA.
2. PROVIDE SCHEDULE 40 PVC IRRIGATION SLEEVES BELOW PAVEMENT AS SHOWN. COORDINATE WITH IRRIGATION DRAWINGS FOR SLEEVE LOCATIONS AND BORE LOCATIONS, SIZES, AND OTHER REQUIREMENTS FOR IRRIGATION SLEEVES AND ALL OTHER IRRIGATION SYSTEM ELEMENTS. PRIOR TO PAVEMENT INSTALLATION, ENSURE THAT ALL IRRIGATION SLEEVES, ELECTRICAL CONDUITS, AND ALL OTHER UNDERGROUND WORK IS COMPLETE.
3. AS SHOWN, REINSTALL THE EXISTING PEACE PAVILION POST - MOUNTED SIGN. (REFER TO SHEET L0.40 FOR REMOVAL OF THE SIGN FROM ITS EXISTING LOCATION.) THE SITE PLAN ALSO SHOWS A PROPOSED PERMANENT SIGN THAT IS PART OF A FUTURE EXTERIOR SIGNAGE SYSTEM DEVELOPED BY HOFFER WASKA. FOR THIS SIGN, A SEPARATE EXTERIOR SIGNAGE BID PACKAGE WILL PROVIDE FOR THE FABRICATION AND INSTALLATION INCLUDING THE SIGNAGE PANEL, FRAMING, BASE / FOUNDATION, AND LIGHTING. (SEE SHT. L3.20 FOR MORE INFORMATION.)

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STATE OF OKLAHOMA — Michael Peterson — Mike Peterson — 108 — LICENSED LANDSCAPE ARCHITECT

1/31/25

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SHEET TITLE: HARDSCAPE PLAN

SHEET #: L1.00

BEFORE YOU DIG OKLAHOMA — CALL OKIE

N — 0' 5' 10'

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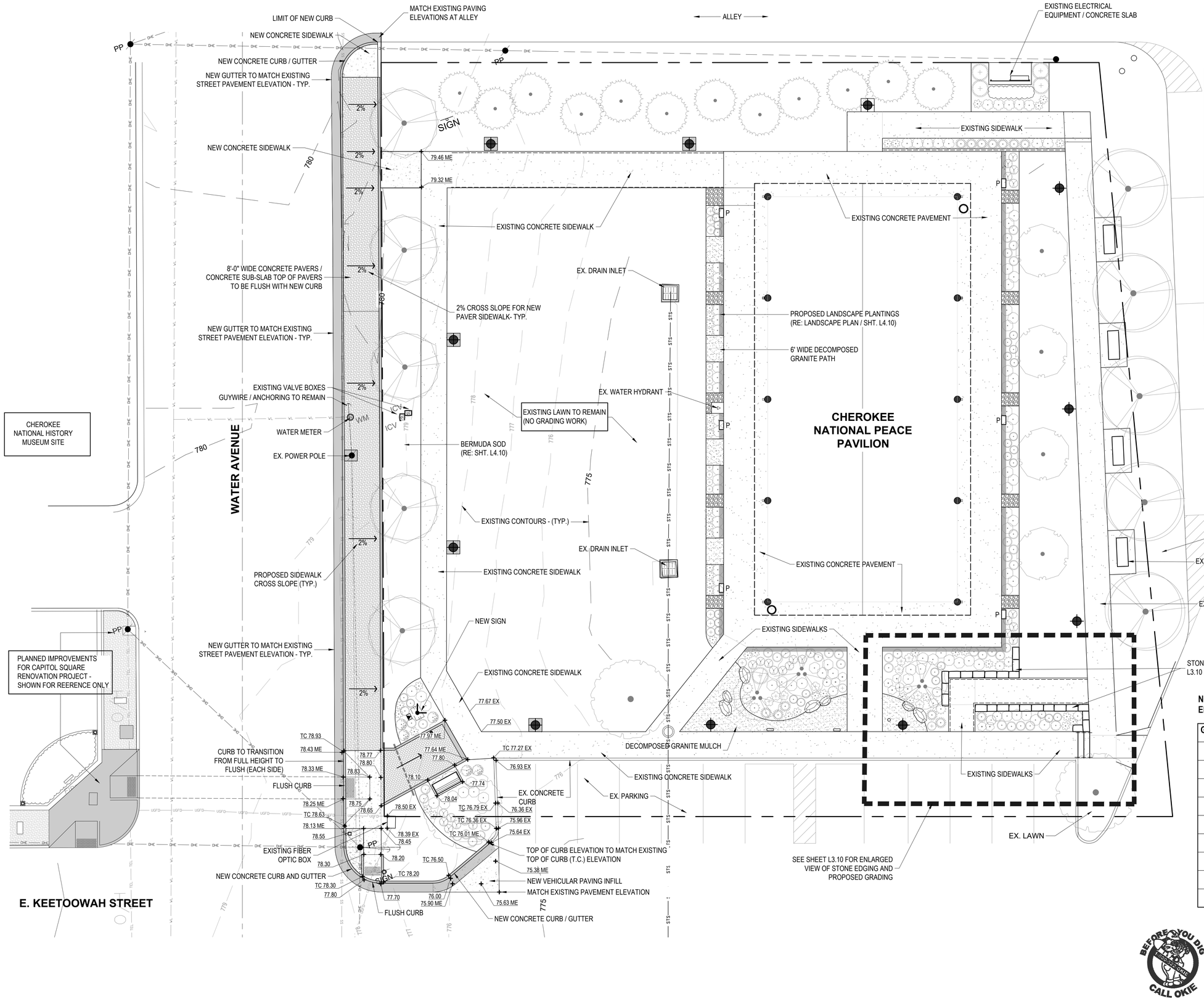

GRADING NOTES

1. CALL 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK THEREOF ON THE PROJECT SITE DURING CONSTRUCTION. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE OWNER IN LOCATING THE UTILITIES PRIOR TO PERFORMING DIGGING/TRENCHING OPERATIONS IN ANY AREA.
2. PROVIDE POSITIVE DRAINAGE IN ALL AREAS. GRADE TO ACHIEVE FINISHED SPOT ELEVATIONS AS SHOWN ON PLANS. FOR LANDSCAPE BEDS AND LAWN AREAS, PROVIDE POSITIVE DRAINAGE. PROVIDE UNIFORM SLOPES THAT ARE SMOOTH, EVEN, AND FREE OF DEPRESSIONS OR IRREGULARITIES.
3. PROVIDE IMPORTED TOPSOIL AS REQUIRED TO ACHIEVE ELEVATIONS AND GRADES SHOWN ON PLANS. FOR GENERAL FILL AND GRADING, PROVIDE TOPSOIL THAT MEETS THE FOLLOWING QUALITY CRITERIA: IMPORTED TOPSOIL SHALL BE HIGH QUALITY, CONSISTING OF FRIABLE, FERTILE SOIL OF SILTY LOAM CHARACTER WITH A LOOSE, EVEN TEXTURE. TOPSOIL SHALL BE REASONABLY FREE FROM SUBSOILS, ROOTS, CLAY LUMPS, STONES, WEEDS, STICKS, LITTER OR OTHER HARMFUL MATERIALS. PLACE BACKFILL AND COMPACT IN LAYERS OF 9" OR LESS.
4. ALL EXISTING ELEVATIONS ARE SHOWN PER JANUARY 2024 TOPOGRAPHIC SURVEY BY CHAFFIN SURVEYING LLC, TAHLEQUAH, OK (SHEET L0.10)

GRADING LEGEND

SYMBOL	MATERIAL
← 2%	APPROXIMATE DIRECTION OF SURFACE FLOW
+ 100.00	PROPOSED ELEVATION (FINISHED GRADE)
HP	HIGH POINT
TR 85.00	TOP OF ROCK ELEVATION FOR STONE EDGE
85.00 EX	EXISTING ELEVATION (PER TOPOGRAPHIC SURVEY)
85.00 ME	MATCH EXISTING ELEVATION
TC 85.00	TOP OF CURB ELEVATION
TC 85.00 ME	MATCH EXISTING TOP OF CURB ELEVATION

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

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SHEET TITLE
SITE GRADING PLAN

SHEET #
L2.00

BEFORE YOU DIG CALL OKIE

N

0' 5' 10'

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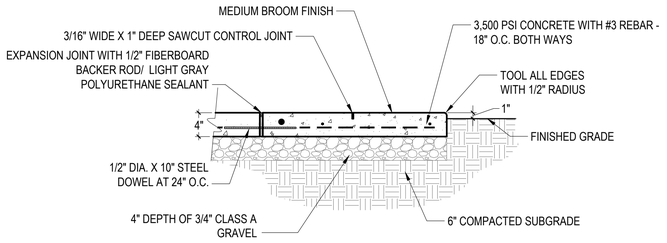
PROVIDE CONTROL AND EXPANSION JOINTS IN LOCATIONS PER SITE PLANS



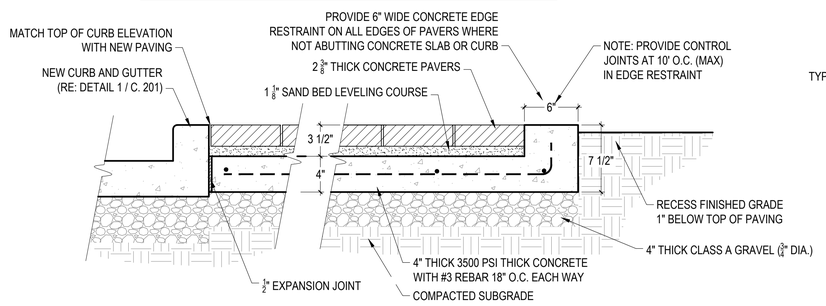
A CONCRETE SIDEWALK SECTION

SCALE 1"=1'-0"

0 1'

CONCRETE PAVER NOTES

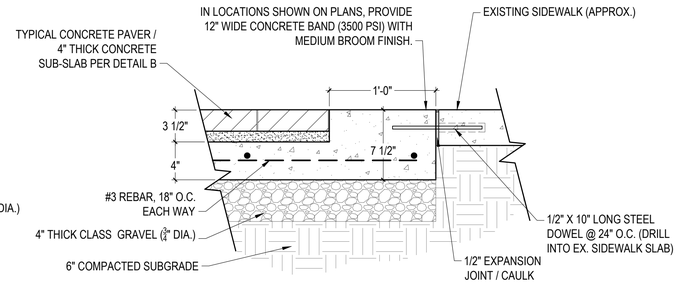
1. CONCRETE UNIT PAVERS ARE TO BE INSTALLED PER SPECIFICATION 32 1413 - CONCRETE UNIT PAVING. PAVER MFG: UNILOCK (UNILOCK.COM) 1-800-UNILOCK.
2. SUPPLIER: INDEPENDENT MATERIAL CO., 34 NORTH OWASSO AVENUE, TULSA, OKLAHOMA 74120 / PHONE: 1-918-582-0196
3. ALL PAVERS SHALL ABUT A CONCRETE EDGE RESTRAINT, PAVEMENT SLAB, OR CURB.
4. ALL PAVERS ARE TO BE 2 3/8" THICK (60 MM)
5. PAVER STYLE: COPTHORNE (2 3/8" X 7 7/8" X 2 3/8" THICK)
6. PATTERN: HERRINGBONE
7. PROVIDE PAVER SAMPLES FOR APPROVAL PER SPECIFICATION 32 1413
8. PAVER COLORS: 3 COLOR BLEND (BURGUNDY RED, BURNT CLAY AND OLD OAK). BLEND COLORS EVENLY TO CREATE A RANDOM PATTERN.



B CONCRETE PAVER DETAIL

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

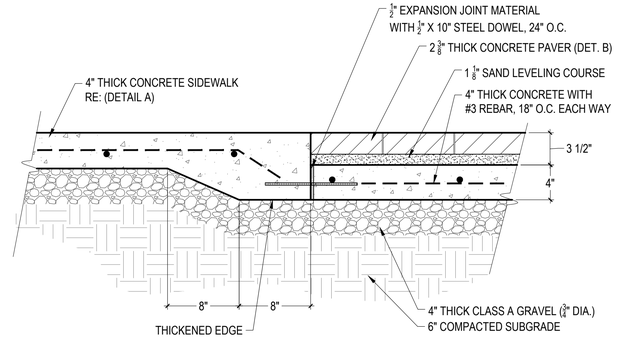
0 1'



C CONCRETE PAVER/ EXISTING SIDEWALK TRANSITION DETAIL

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

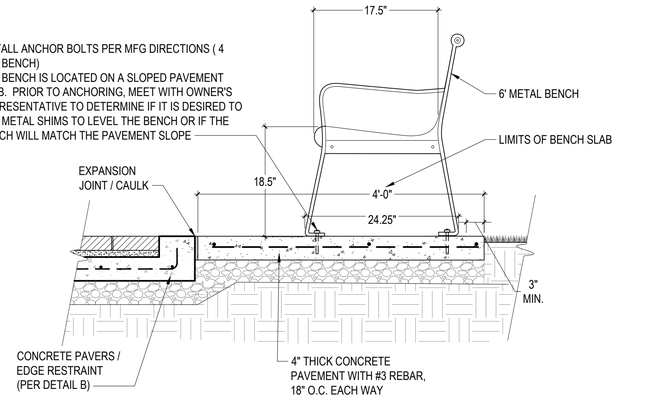
0' 1'



D CONCRETE PAVER TRANSITION DETAIL (ADJACENT TO NEW CONCRETE PAVING)

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

0 1'

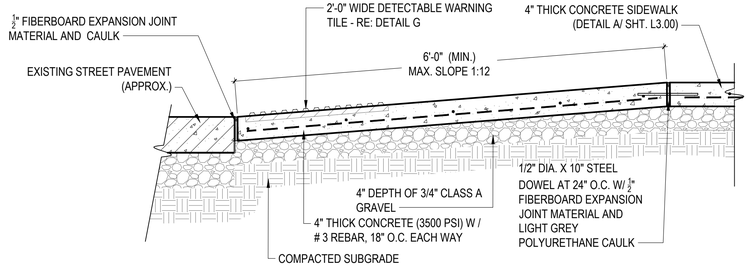


E 6' METAL BENCH DETAIL

SCALE 1"=1'-0"

0 1'

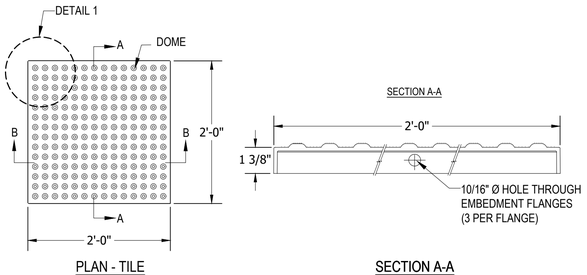
BENCH SPECFICATIONS : 6' LONG COMMERCIAL STEEL OUTDOOR BENCH WITH STRAIGHT BACK; MODEL CBPB - 6 SB - BK (74" L X 24.25" W X 33" H); COLOR : BLACK (RIVER FINISH). SURFACE MOUNT TO PAVING PER DETAILS. (NOTE: BENCH STYLE IS TO MATCH CURRENT BENCHES AT CHEROKEE NATIONAL CAPITOL MUSEUM SITE.) PROVIDE MFG. LITERATURE WITH COLOR CHART FOR APPROVAL BY OWNER PRIOR TO PURCHASING.

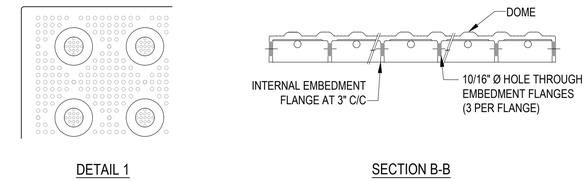


F ACCESSIBLE RAMP DETAIL

SCALE 1"=1'-0"

0 1'





SPECIFICATIONS FOR DETECTABLE WARNING TILES - 24" X 24"

Acceptable Manufacturer: Armor-Tile - www.armor-tile.com

A. Model: ADA-C-2424
   1. Size: 24" x 24"
   2. Type: CAST IN PLACE

B. Color:
   1. ONYX BLACK

C. Notes:
   1. Installation to be completed in accordance with manufacturer's specifications.

G DETECTABLE WARNING TILE DETAIL

NOT TO SCALE

ALABACK DESIGN
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3202 E 21ST ST, SUITE 100
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STATE OF OKLAHOMA — Michael Peterson — Mike Peterson — 108 — LICENSED LANDSCAPE ARCHITECT

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SHEET TITLE

SITE DETAILS - A

SHEET #

L3.00

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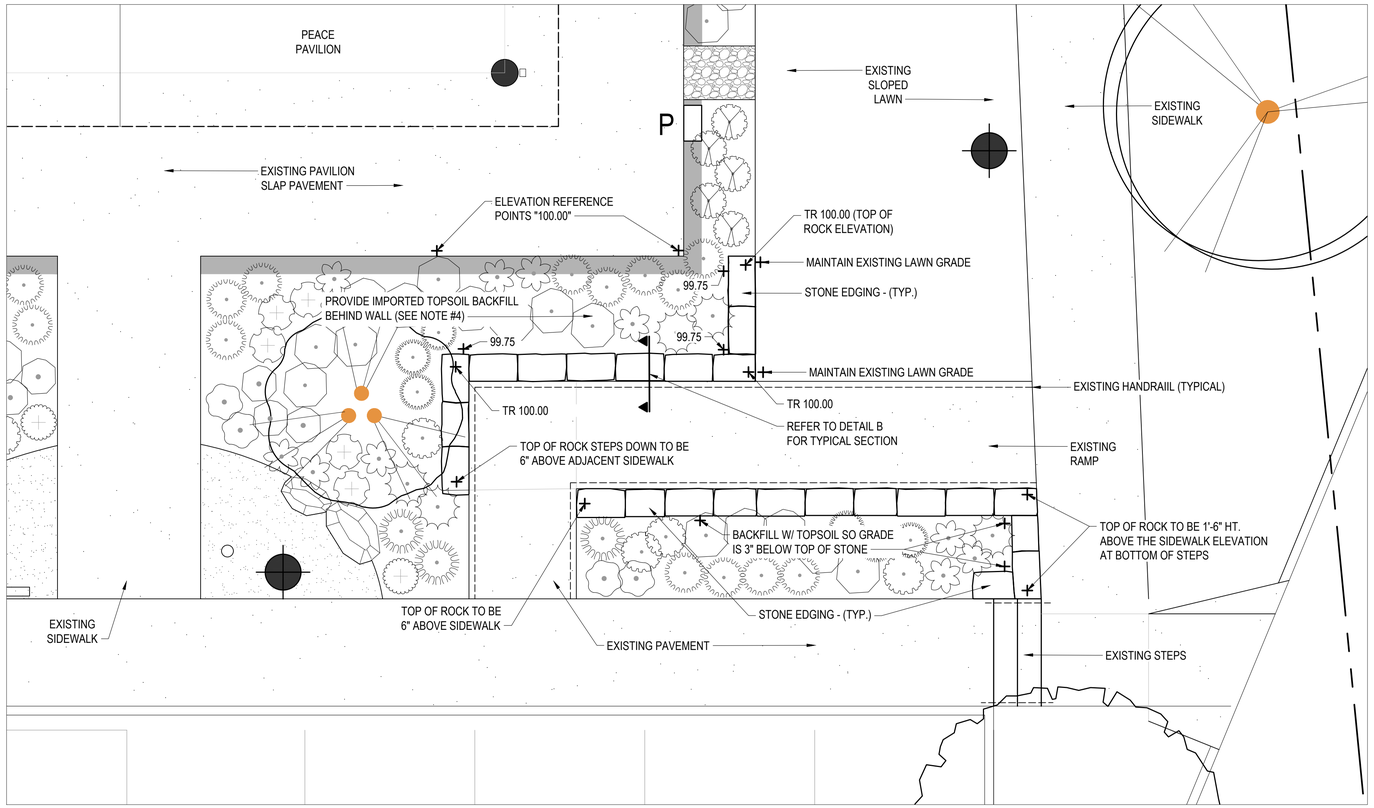


A STONE EDGING - DETAILED SITE / GRADING PLAN

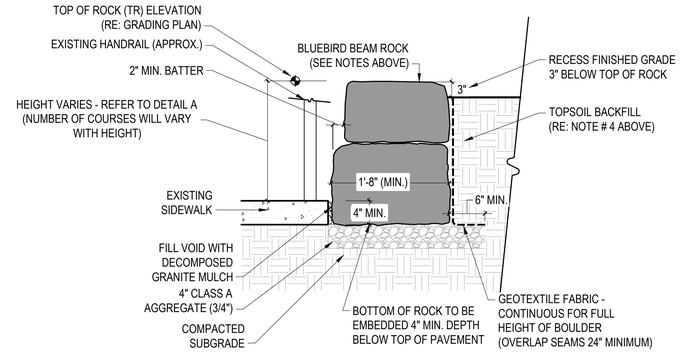
SCALE: 1"=4'-0"

1' 4'

N

STONE EDGE NOTES

1. STONE SUPPLIER: BLUEBIRD STONE; 28565 LATHAM SCHOOL RD., SHADY POINT, OK; PH. 918.647.7161; BLUEBIRD-STONE.COM; EMAIL: INFO@BLUEBIRDSTONE.COM. PROVIDE STONE AS SHOWN ON PLANS AND DETAIL (BELOW). STONE TO BE BLUEBIRD BEAM ROCK (TAWNY BEIGE SANDSTONE BEAMS). STONE WIDTH MAY EXCEED THE 20" MINIMUM SHOWN BELOW. PROVIDE PHOTOGRAPHS OF PROPOSED STONE FOR APPROVAL PRIOR TO PURCHASING AND DELIVERING.
2. ALL STONE IS TO BE SECURE AND IMMOBILE. NUMBER OF STONE COURSES WILL VARY AS REQUIRED TO ACHIEVE REQUIRED HEIGHTS (ONE OR TWO COURSES). STONE EDGING IS TO HAVE NO EXPOSED BROKEN EDGES, MECHANICAL DAMAGE, OR SHARP EDGES. PER DETAILS, PROVIDE GEOTEXTILE FABRIC BEHIND BOULDERS TO PREVENT SOIL FROM WASHING THROUGH JOINTS. FILL ALL VOIDS AND JOINTS BETWEEN SIDEWALK AND BOULDERS WITH DECOMPOSED GRANITE. BOULDERS ARE TO BE CAREFULLY HANDLED DURING TO AVOID DAMAGE. WHERE ENDS OF STONES ABUT, FILL ANY VOIDS OR OPEN JOINTS WITH SMALL ROCK PIECES OR GRAVEL.
3. GEOTEXTILE FILTER FABRIC TO BE MIRAFI 140N (OR APPROVED EQUAL) NEEDLE PUNCHED NON-WOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE FIBERS. WEIGHT: 4.5 OZ/ SY; TENSILE STRENGTH: 120 LBS.
4. REFER TO DETAIL A FOR PROPOSED HEIGHTS OF STONE EDGING. FOR STONE HEIGHTS, A TOLERANCE OF PLUS OR MINUS 3" IN OVERALL TERRACE HEIGHT IS ACCEPTABLE TO ALLOW FOR NATURAL VARIATION IN INDIVIDUAL STONE HEIGHTS. TOP OF STONE EDGING MAY STEP IN HEIGHT, BUT TOP OF EDGING IS TO BE HORIZONTAL/ LEVEL. PROVIDE IMPORTED TOPSOIL BACKFILL BEHIND WALLS TO ACHEIVE GRADING AS SHOWN. IMPORTED TOPSOIL IS TO BE HIGH QUALITY SILTY LOAM (REFER TO SPECIFICATION 32 9300 FOR TOPSOIL SPECIFICATIONS.) PRIOR TO BACKFILLING TOPSOIL, REMOVE EXISTING BERMUDA GRASS PER "SHRUB BED PLANTING NOTES"/ SHT. L4.00 AND PER SPECIFICATION 32 9300.
5. GRADING NOTE: FOR STONE EDGING, ALL ELEVATIONS SHOWN ARE RELATIVE TO AN ASSUMED ELEVATION OF "100.00" THAT IS SHOWN AT THE PERIMETER OF THE EXISTING PAVILION SLAB. THIS AREA OF THE SITE WAS NOT INCLUDED WITH THE NEW TOPOGRAPHIC SURVEY THAT IS SHOWN ON SHEET L0.10. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING PAVING AND LAWN ELEVATIONS FOR THE SITE AREA SHOWN IN DETAIL A. ADJUST PROPOSED TOP OF ROCK ELEVATIONS AS NEEDED TO MATCH EXISTING GRADES AND SITE CONDITIONS.



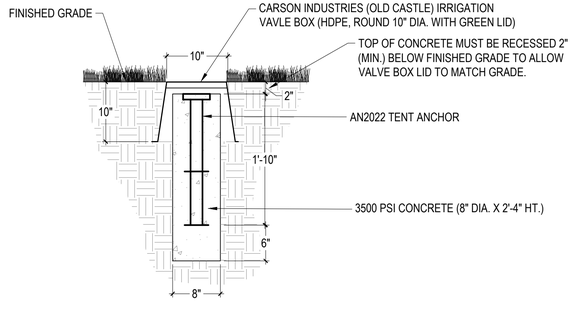
B STONE EDGE - TYPICAL DETAIL

SCALE: 1"=1'-0"

0' 1'

TENT ANCHOR SPECIFICATIONS

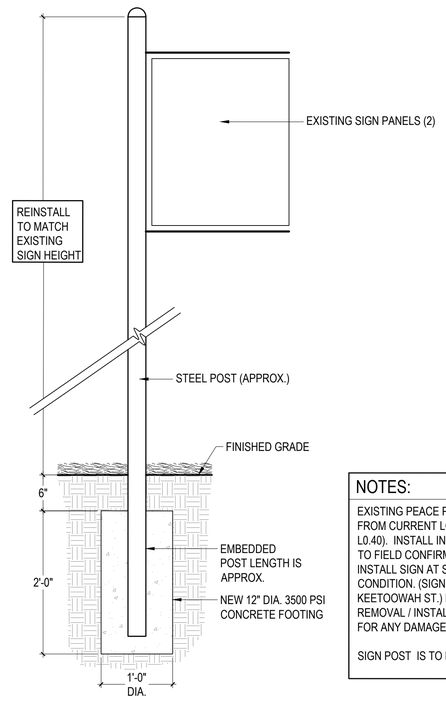
1. MANUFACTURER : ANCHOR MANUFACTURING, INC., EAGAN, MN 55121. EMAIL: INFO@ANCHORMFG.COM; PH. : 651-270-3226.
2. PROVIDE MODEL AN2022 ANCHORS. MATERIAL:304 SST. WORK LOAD: 2,000 LBS. INSTALL IN CONCRETE FOOTINGS PER DETAIL AND MFG. INSTRUCTIONS. FOOTING DIAMETER MUST BE 2" WIDER THAN WIDEST PART OF ANCHOR ON EACH SIDE, AND MUST BE 6" DEEPER THAN THE LENGTH OF THE ANCHOR. AS SHOWN, TOP OF CONCRETE FOOTING MUST BE AT LEAST 2" BELOW FINISHED GRADE TO ALLOW FOR VALVE BOX LID TO BE FLUSH WITH FINISHED LAWN GRADE.
3. LOCATIONS FOR TENT ANCHORS WILL BE FIELD DETERMINED BY OWNER IN LAWN AREA THAT IS WEST OF THE EXISTING PAVILION. INCLUDE A QUANTITY OF 16 TENT ANCHORS IN BASE BID.



C TENT ANCHOR DETAIL

SCALE 1" =1'-0"

0' 1'



D PEACE PAVILION SIGN - REINSTALLATION DETAIL

SCALE: 1" =1'-0"

0' 1'

NOTES:

EXISTING PEACE PAVILION POST SIGN IS TO BE REMOVED FROM CURRENT LOCATION (SEE DEMOLITION PLAN - SHEET L0.40). INSTALL IN NEW LOCATION PER SHEET L1.00. OWNER TO FIELD CONFIRM FINAL PLACEMENT PRIOR TO INSTALLATION. INSTALL SIGN AT SAME HEIGHT / ORIENTATION AS EXISTING CONDITION. (SIGN PANELS WILL FACE WATER AVE. AND KEETOOWAH ST.) HANDLE SIGN WITH CARE THROUGHOUT THE REMOVAL / INSTALLATION PROCESS AND BE RESPONSIBLE FOR ANY DAMAGE.

SIGN POST IS TO BE INSTALLED VERTICAL / PLUMB.

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

STATE OF OKLAHOMA · Michael Peterson · Mike Peterson · 108 · LICENSED LANDSCAPE ARCHITECT

1/31/25

CHEROKEE NATIONAL PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS

CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

REVISIONS:

#	DATE	DESCRIPTION

ISSUE

FINAL PLANS

DATE:	1.31.25
PROJECT #	23019
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DRAWN:	SF
CHECKED:	MP

SHEET TITLE

SITE DETAILS - B

SHEET #

L3.10

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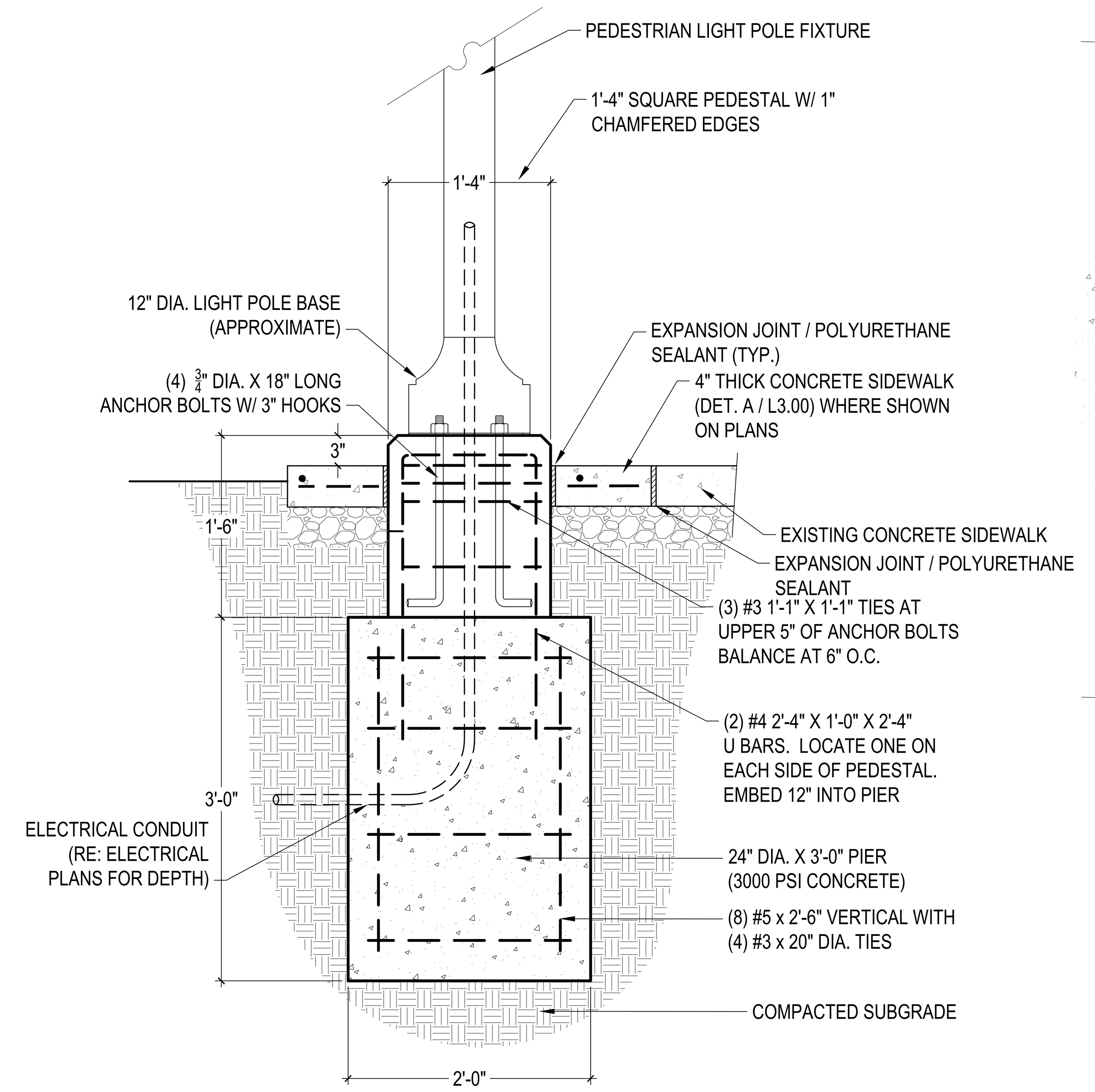
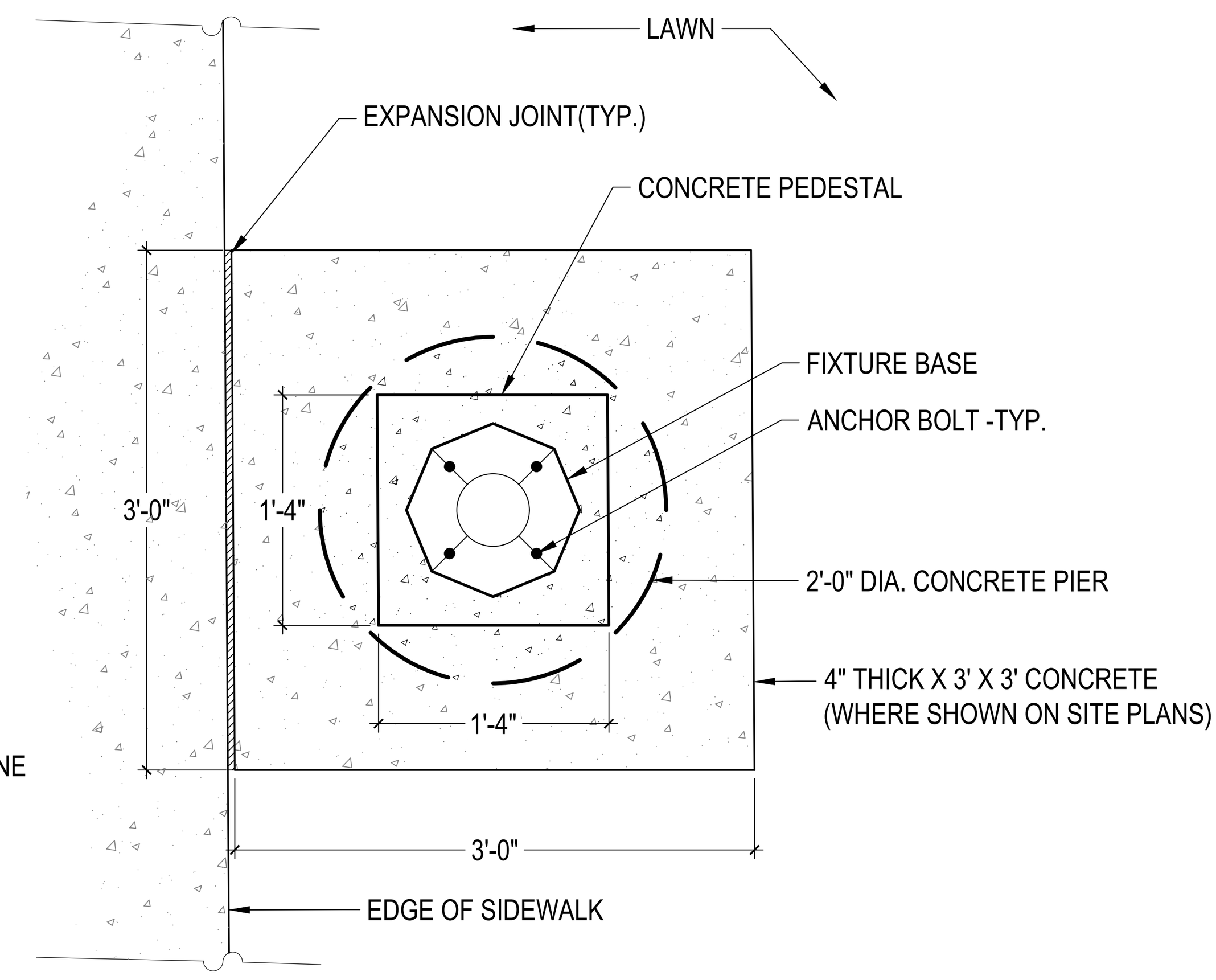


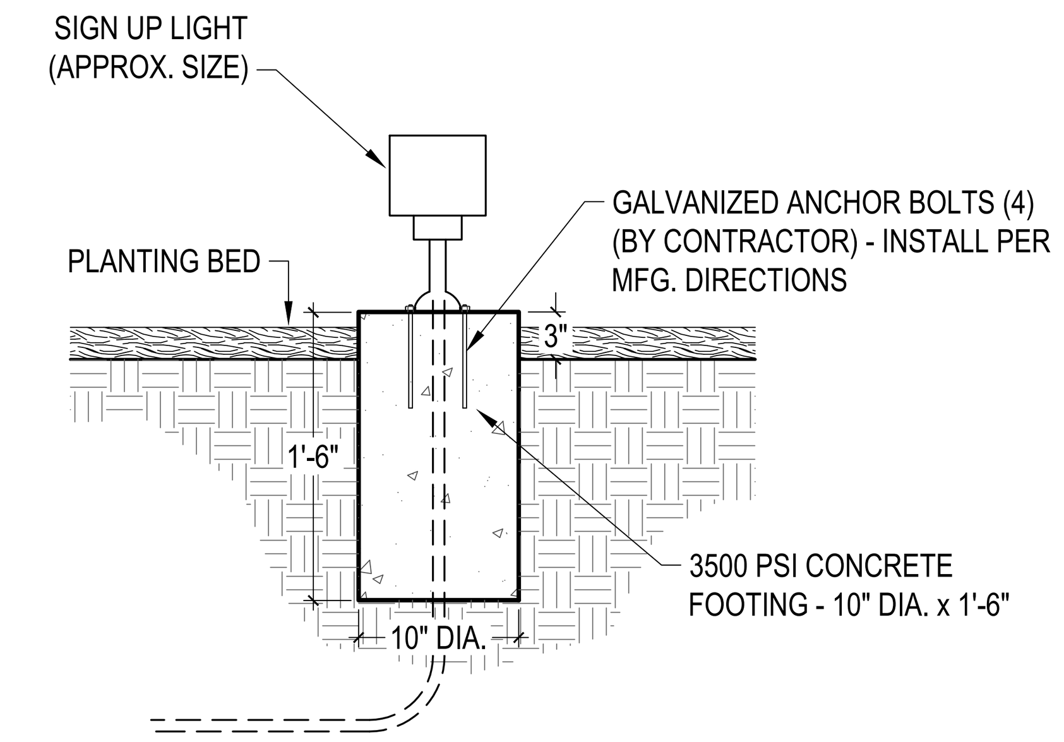


PLAN VIEW - TYPICAL

ANCHOR BOLT INSTALLATION:
INSTALL ANCHOR BOLTS PER MANUFACTURERS INSTRUCTIONS. USE ANCHOR BOLT TEMPLATE FROM MANUFACTURER. ANCHOR BOLTS TO BE SUPPLIED BY MFG. QUANTITY: 4. BOLTS ARE 3/4" DIA. X 18" L WITH 3" HOOKS, GALVANIZED STEEL.

A PEDESTRIAN LIGHT - FOOTING DETAIL
SCALE: 1" =1'-0"

0' 1'



B SIGNAGE UPLIGHT DETAIL
SCALE: 1" =1'-0"

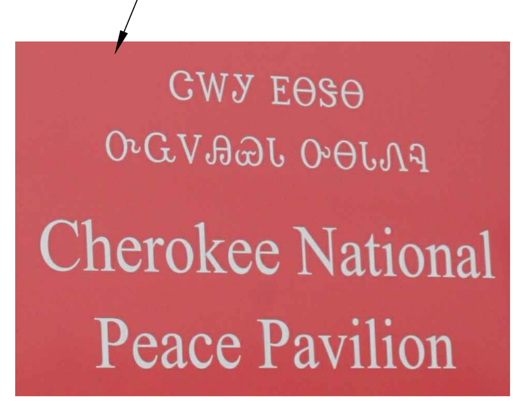
0' 1'

FOR REFERENCE ONLY - NOT IN CONTRACT

SIGNAGE QUANTITES

QTY.	SIGN TYPE
1	BUILDING IDENTITY SIGN
2	ACCESSIBLE PARKING SIGN
6	POWER PEDESTAL - DECORATIVE COVER

EXAMPLE TEXT ONLY. FINAL TEXT.



FOR REFERENCE ONLY - SIGN FABRICATION AND INSTALLATION BY OTHERS / PER SEPARATE EXTERIOR SIGNAGE PACKAGE.

NOTE: THE GENERAL CONTRACTORS SCOPE FOR THIS PROJECT INCLUDES THE REMOVAL AND REINSTALLATION OF THE EXISTING POST-MOUNTED PEACE PAVILION SIGN, AS SHOWN ON SHT. L1.00 AND DETAIL D / L3.10.

C TERTIARY BUILDING IDENTITY SIGN DETAIL
SCALE 1"=1'-0"

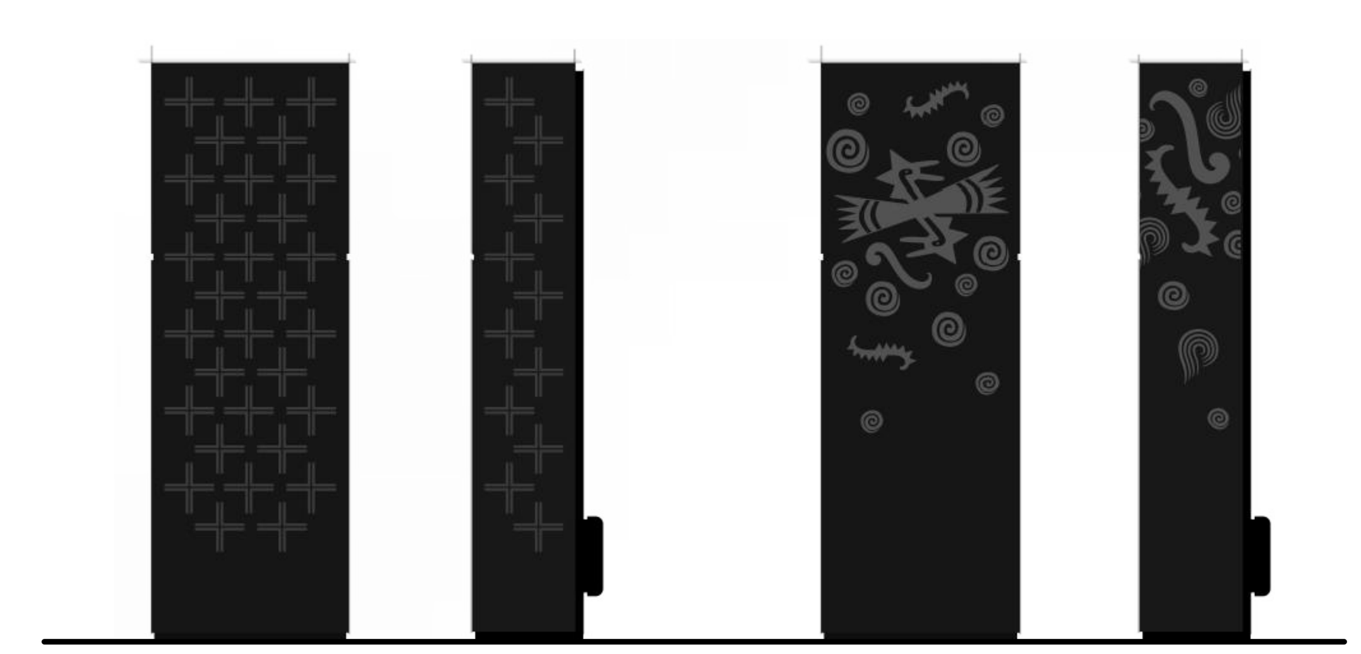
N.I.C / FOR REFERENCE ONLY

FOR REFERENCE ONLY - SIGN FABRICATION AND INSTALLATION BY OTHERS / PER SEPARATE EXTERIOR SIGNAGE PACKAGE.

D ACCESSIBLE PARKING SIGN DETAIL
SCALE 1"=1'-0"

N.I.C / FOR REFERENCE ONLY

FOR REFERENCE ONLY - SIGN FABRICATION AND INSTALLATION BY OTHERS / PER SEPARATE EXTERIOR SIGNAGE PACKAGE.



E POWER PEDESTAL - DECORATIVE COVER DETAIL
SCALE 1"=1'-0"

N.I.C / FOR REFERENCE ONLY

EXTERIOR SIGNAGE NOTES

SIGNAGE TYPES SHOWN ON THIS SHEET ARE PART OF A PROPOSED EXTERIOR SIGNAGE SYSTEM DESIGNED BY HOFFER WASKA CREATIVE. FOR THESE ELEMENTS, A SEPARATE EXTERIOR SIGNAGE BID PACKAGE WILL PROVIDE FOR THE FABRICATION AND INSTALLATION OF THESE SIGNS, INCLUDING THE SIGNAGE PANELS, FRAMING, BASES / MASONRY AND FOUNDATIONS. PRELIMINARY DETAILS FOR THESE SIGNAGE TYPES THAT ARE SHOWN ON THIS SHEET ARE FOR COORDINATION WITH OTHER SITEWORK THAT IS WITHIN THE GENERAL CONTRACTOR'S SCOPE. NOTES ARE INCLUDED TO CLARIFY ALL SIGNAGE WORK THAT IS SHOWN FOR REFERENCE ONLY.

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

1/31/25

CHEROKEE NATIONAL PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS
CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

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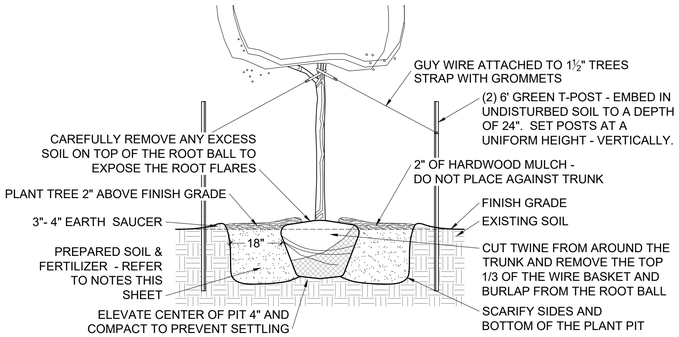
SITE DETAILS - C

SHEET #
L3.20

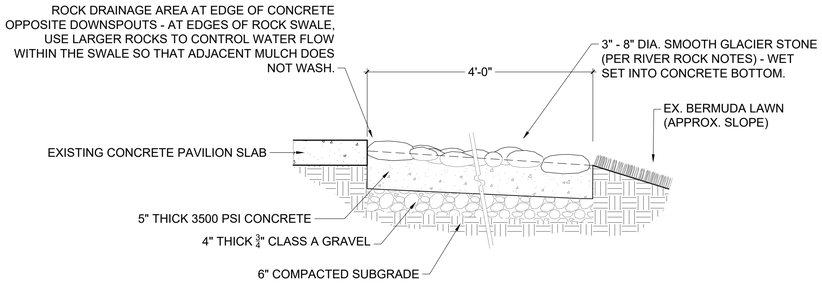
PLANT SCHEDULE

CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	CAL	SIZE	COMMENTS
TREES							
ORB	4	OKLAHOMA REDBUD	CERCIS CANADENSIS TEXENSIS `OKLAHOMA`	B&B	2" CAL	7`-8` HT., 3`-4` SPD.	FULL CANOPY
GINKGO	5	PRINCETON SENTRY GINKGO	GINKGO BILOBA 'PRINCETON SENTRY'	B&B	3" CAL	10`-12` HT.; 3`-4` SPD.	CENTRAL LEADER
NSH	12	NELLIE R. STEVENS HOLLY	ILEX X 'NELLIE R. STEVENS'	B&B		7`-8` HT., 3`-4` SPD.	FULL TO GROUND
SWOAK	5	SWAMP WHITE OAK	QUERCUS BICOLOR	B&B	3" CAL	12`-14` HT.; 4`-5` SPD.	CENTRAL LEADER, FULL BRANCHING
NOAK	3	NUTTALL OAK	QUERCUS TEXANA (NUTTALLII)	B&B	3" CAL	12`-14` HT.; 4`-5` SPD.	CENTRAL LEADER, FULL BRANCHING, 5` CLEAR TRUNK
VTX	3	SHOAL CREEK VITEX	VITEX AGNUS-CASTUS `SHOAL CREEK`	B&B		7`-8` HT, 4`-5` SPD.	MULTI-TRUNK, FULL BRANCHING
CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	SPACING	COMMENTS	
SHRUBS							
BABG	40	BLONDE AMBITION BLUE GRAMA	BOUTELOUA GRACILIS 'BLONDE AMBITION'	3 GAL	24" O.C.	FULL	
CAKF	28	FEATHER REED GRASS	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER`	3 GAL	24" O.C.	FULL	
EPPW	4	POWWOW WILD BERRY CONEFLOWER	ECHINACEA PURPUREA `POWWOW WILD BERRY`	1 GAL	AS SHOWN	FULL	
IGGB	12	GEM BOX INKBERRY	ILEX GLABRA 'SMNIGAB17'	3 GAL	30" O.C.	FULL	
IVSD	79	STOKES DWARF YAUPON HOLLY	ILEX VOMITORIA 'STOKES DWARF'	3 GAL	30" O.C.	FULL	
IRFM	26	FIZZY MIZZY® SWEETSPIRE	ITEA VIRGINICA 'SMNIVMM'	3 GAL	24" O.C.	FULL	
JCBP	8	BLUE PACIFIC SHORE JUNIPER	JUNIPERUS CONFERTA 'BLUE PACIFIC'	3 GAL	AS SHOWN	FULL	
MIS	5	ADAGIO MISCANTHUS	MISCANTHUS SINENSIS 'ADAGIO'	3 GAL	42" O.C.	FULL	
MUHLY	13	FAST FORWARD PINK MUHLY GRASS	MUHLENBERGIA CAPILLARIS 'FAST FORWARD'	3 GAL			
NCP	9	CAT'S PAJAMAS CATMINT	NEPETA X 'CAT'S PAJAMAS'	1 GAL	18" O.C.	FULL	
RSAGE	9	BLUE JEAN BABY RUSSIAN SAGE	PEROVSKIA ATRIPLICIFOLIA 'BLUE JEAN BABY'	1 GAL	24" O.C.		
WGP	6	VOLCANO® WHITE GARDEN PHLOX	PHLOX PANICULATA 'BARTHIRTYTWO'	3 GAL	24" O.C.	FULL	
RDR	5	RED DRIFT® GROUNDCOVER ROSE	ROSA X 'MEIGALPIO'	3 GAL	30" O.C.	FULL	
BES	48	BLACK-EYED SUSAN	RUDBECKIA FULGIDA SULLIVANTII `GOLDSTURM`	1 GAL	AS SHOWN	FULL	
SSMN	8	MAY NIGHT SALVIA	SALVIA X SYLVESTRIS `MAY NIGHT`	1 GAL	AS SHOWN	FULL	



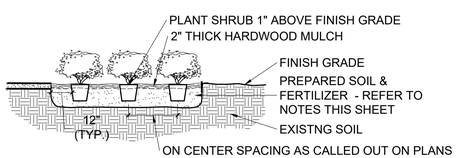
A TREE PLANTING DETAIL
NOT TO SCALE

NOTES:
RIVER ROCK IS TO BE CAREFULLY HAND PLACED INTO WET CONCRETE (BURY ⅓ TO ½ OF ROCK DEPTH) TO BE SECURELY SET. PLACE ROCKS EDGE TO EDGE TO COVER ENTIRE CONCRETE BOTTOM..

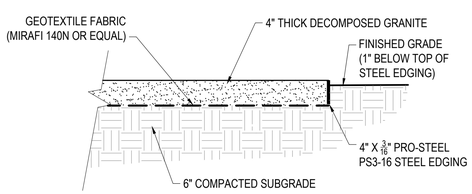


C RIVER ROCK DRAINAGE SWALE
SCALE 1"=1'-0"

0' 1'



B SHRUB PLANTING DETAIL
NOT TO SCALE



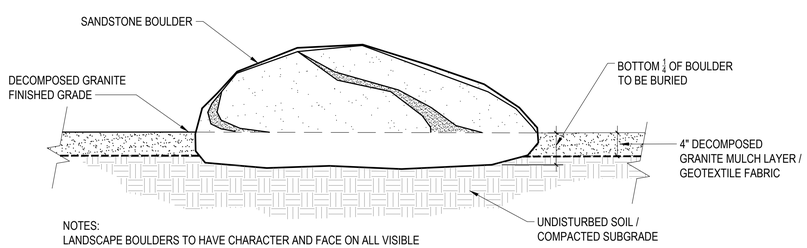
D DECOMPOSED GRANITE MULCH DETAIL
SCALE 1"=1'-0"

0' 1'

DECOMPOSED GRANITE NOTES:

1. MATERIAL
   - A. DECOMPOSED GRANITE SHALL BE NO LARGER THAN 3/8" DIAMETER. COLOR: DESERT GOLD.
   - B. MATERIAL SHALL BE FREE OF FOREIGN SOIL, DEBRIS, GRAVEL, ROCK, ORGANIC MATERIAL, AND OTHER OBJECTIONABLE MATERIAL. CONTRACTOR TO SUBMIT A ONE-QUART SAMPLE OF DECOMPOSED GRANITE FOR APPROVAL.
2. INSTALLATION
   - A. INSTALL HEAVY DUTY (3/16" THICK BY 4" HT.) STEEL EDGING (GREEN) WHERE SHOWN ON PLANS. PRIOR TO BEGINNING WORK, ENSURE THAT ALL DEMOLITION WORK HAS BEEN COMPLETED AND THAT ALL EXISTING VEGETATION AND BERMUDA GRASS HAS BEEN COMPLETELY REMOVED. SPRAY BERMUDA GRASS WITH ROUNDUP HERBICIDE TO COMPLETELY KILL THE ENTIRE ROOT SYSTEM.
   - B. PLACE GEOTEXTILE FABRIC OVER ENTIRE AREA DESIGNATED AS DECOMPOSED GRANITE MULCH, OVERLAPPING SEAMS A MINIMUM OF 18". USE 6" STAPLES ALONG EDGES AND IN FIELD AT 24" ON CENTER TO SECURE GEOTEXTILE FABRIC.
   - C. SPREAD MATERIAL EVENLY OVER THE AREA DELINEATED ON PLANS.
   - D. MATERIAL SHALL BE WATERED IN AND COMPACTED TO 90 - 95% DENSITY WITH A ROLLER OR VIBRATING PLATE COMPACTOR.
   - E. THE SURFACE SHALL BE FINE GRADED SO THAT WHEN TESTED WITH AN 8' STRAIGHT EDGE IT SHALL HAVE NO DEVIATION GREATER THAN 1" AT ANY POINT. DEVIATIONS GREATER THAN 1" SHALL BE CORRECTED.
   - F. THE FINISHED PRODUCT SHALL BE TO THE DEPTH INDICATED (AFTER COMPACTION).

NOTE: INSTALLED HEIGHT OF BOULDERS WILL VARY TO ALLOW FOR BOTTOM OF BOULDER TO BE BURIED



NOTES:
LANDSCAPE BOULDERS TO HAVE CHARACTER AND FACE ON ALL VISIBLE SIDES WITH NO BROKEN EDGES OR MECHANICAL DAMAGE. SUBMIT PHOTOGRAPHS FOR APPROVAL OF BOULDERS PRIOR TO PLACEMENT. AS SHOWN, BURY BOULDERS FOR NATURAL APPEARANCE.

BOULDER SCHEDULE

QTY.	SIZE (MINIMUM DIMENSIONS)
4	LARGE: 36" L X 24" W X 18"-24" HT.
3	MEDIUM: 24" L X 18"-24" W X 12"-18" HT.

E LANDSCAPE BOULDER DETAIL
NOT TO SCALE

GENERAL NOTES

REFER TO SPECIFICATION 32 9300 - LANDSCAPING. THE FOLLOWING IS A PARTIAL SUMMARY ONLY.

CONTACT 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK THEREOF ON THE PROJECT SITE DURING LANDSCAPE OR IRRIGATION INSTALLATION. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE OWNER IN LOCATING THE UTILITIES PRIOR TO PERFORMING DIGGING/TRENCHING OPERATIONS IN ANY AREA.

TREE PLANTING

PLANT TREES TWO (2) INCHES ABOVE FINISHED GRADE. CUT TWINE FROM AROUND THE TRUNK AND COMPLETELY REMOVE THE TOP 1/3 OF THE WIRE BASKET AND BURLAP FROM THE ROOT BALL. CAREFULLY REMOVE ANY EXCESS SOIL ON TOP OF ROOT BALL TO EXPOSE THE ROOT FLARES.

EACH TREE SHALL RECEIVE THREE (3) CUBIC FEET OF BACK TO NATURE SOIL CONDITIONER AND 10 LBS. OF AGED STERILIZED COW MANURE. MIX WITH THE EXISTING TOPSOIL AND USE AS BACKFILL. APPLY ROOTS TRANSPLANT 1-STEP AT A RATE OF FOUR (4) OUNCES PER CALIPER INCH. INCORPORATE ROOTS TRANSPLANT 1-STEP INTO THE TOP 3" - 4" OF SOIL BACKFILL.

PROVIDE TWO (2) STEEL 'T' POSTS (PAINTED GREEN OR BLACK) PER TREE. DRIVE INTO UNDISTURBED SOIL TO A DEPTH OF 2'; POSTS SHALL BE SET AT A UNIFORM HEIGHT. WHERE TREES ARE PLANTED ON SLOPES, TREE STAKES ARE TO BE PARALLEL TO THE SLOPES.

SHRUB BED PLANTINGS

ALL SHRUB, GROUNDCOVER, AND SEASONAL PLANTING AREAS SHALL RECEIVE A 10" DEEP PLANTING SOIL MIXTURE COMPRISED OF A 8" LAYER OF HIGH QUALITY IMPORTED TOPSOIL AND A 2" LAYER OF BACK TO NATURE SOIL CONDITIONER. (ROTO-TILL THOROUGHLY SO SOIL AND AMENDMENTS ARE A SMOOTH, EVEN MIXTURE). FOR ALL PLANTING BEDS, EXCAVATE AND REMOVE EXISTING SOIL AND BERMUDA GRASS ROOTS TO A DEPTH OF 10". INCORPORATE OSMOCOTE 15-9-12 PLUS MINORS TO ALL PLANTING BEDS AT A RATE OF 3 POUNDS PER 100 SQUARE FEET. INCORPORATE AMENDMENTS INTO THE TOP 3"-4" OF TOPSOIL. DO NOT WORK BEDS WHEN FROZEN OR MUDDY CONDITIONS ARE PRESENT. PROVIDE POSITIVE DRAINAGE OUT OF BED AND/OR TO AREA DRAINS.

SODDING

REFER TO SPECIFICATION 32 9200 - SODDING. THE FOLLOWING IS A PARTIAL SUMMARY ONLY.

INSTALL SOLID SOD "PATRIOT" BERMUDA GRASS FOR ALL EXISTING LAWN AREAS THAT ARE DISTURBED BY CONSTRUCTION, INCLUDING TRENCHING FOR THE SITE ELECTRICAL WORK AND FOR THE NEW IRRIGATION SYSTEM. IN ADDITION PROVIDE BERMUDA SOD FOR AREAS THAT ARE IDENTIFIED ON THE SITE LANDSCAPE PLAN FOR NEW SOD. FINE GRADE PRIOR TO SODDING FOR A SMOOTH EVEN SURFACE. LAY SOD WITH TIGHT JOINTS AND ROLL WITH A COMMERCIAL LAWN ROLLER. INCLUDE MOWING AND HAND WATERING UNTIL GRASS IS ESTABLISHED, WELL ROOTED AND IN HEALTHY GROWING CONDITION. PROVIDE ALL NECESSARY EQUIPMENT AND HOSES FOR HAND WATERING.

APPLY FERTILIZER ACCORDING TO TIME OF INSTALLATION:

- MAY 1 - AUGUST 31: APPLY 16-8-8 FERTILIZER AT A RATE OF 6 POUNDS PER 1,000 SQUARE FEET.
- SEPTEMBER 1 - APRIL 30: APPLY 10-20-10 FERTILIZER AT A RATE OF 5 POUNDS PER 1,000 SQUARE FEET.

MULCH

MULCH ALL PLANTING BEDS AND TREES WITH SHREDDED HARDWOOD MULCH TO A DEPTH OF TWO INCHES. DO NOT PLACE MULCH AGAINST TREE TRUNK.

IRRIGATION

AN AUTOMATIC IRRIGATION SYSTEM WILL BE PROVIDED FOR ALL TREES AND LANDSCAPE PLANTING AREAS. REFER TO SITE IRRIGATION PLANS.

RIVER ROCK DRAINAGE SWALE

PROVIDE RIVER ROCK DRAINAGE SWALE (PER DETAIL C) AS SHOWN ON PLAN (OPPOSITE DOWN SPOUTS ON EACH SIDE OF PAVILION). FOR ROCK DRAINAGE SWALE, PROVIDE 3"-8" DIAMETER GLACIER STONE (SMOOTH, ROUNDED ROCKS, BROWN-GRAY COLOR RANGE). AS SHOWN, WET SET ALL ROCKS INTO CONCRETE BOTTOM.

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

STATE OF OKLAHOMA Michael Peterson Mike Peterson 108 REGISTERED LANDSCAPE ARCHITECT
1/31/25

CHEROKEE NATIONAL PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS

CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

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SHEET TITLE
PLANT SCHEDULE, NOTES AND DETAILS

SHEET #
L4.00

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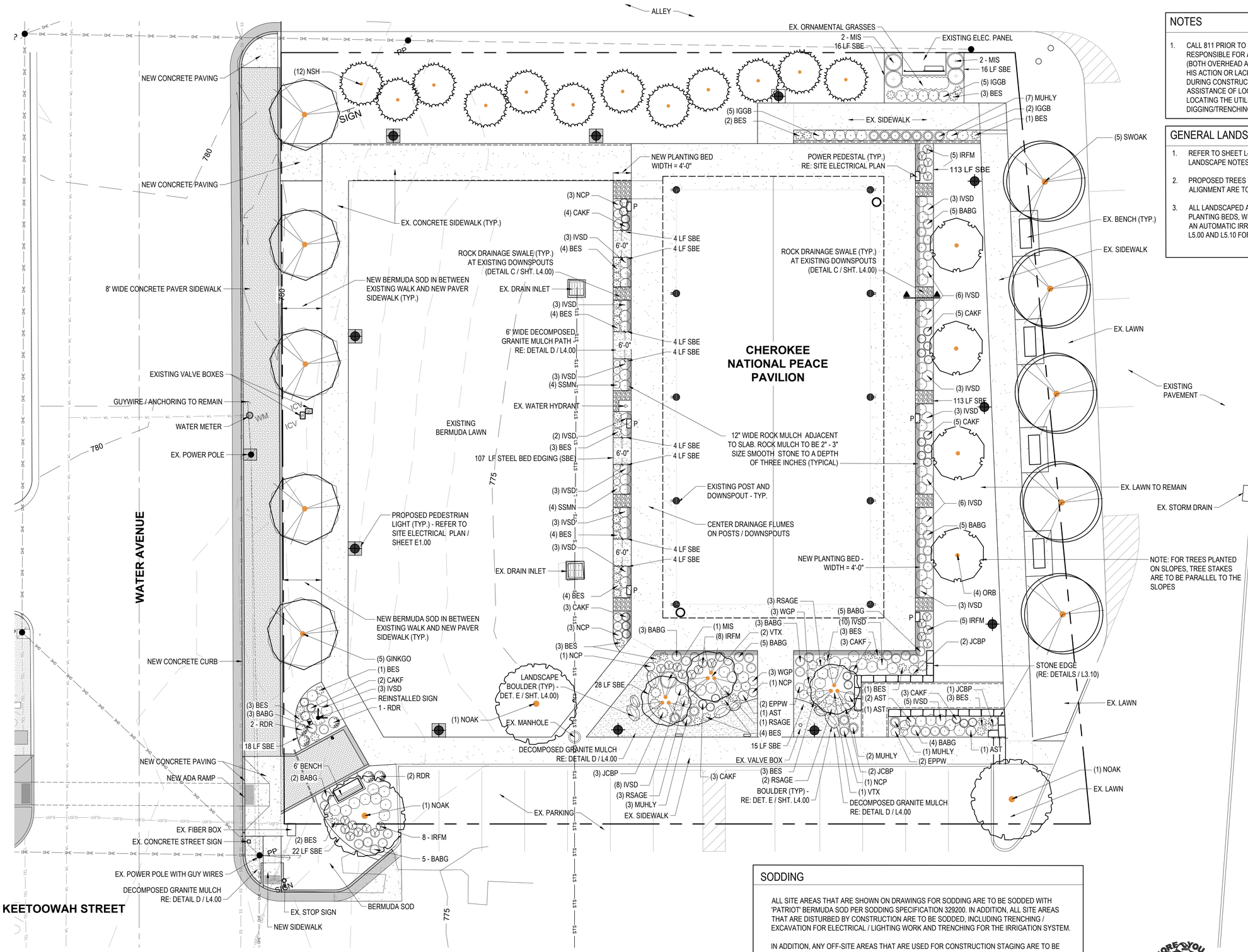

NOTES

1. CALL 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK THEREOF ON THE PROJECT SITE DURING CONSTRUCTION. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE OWNER IN LOCATING THE UTILITIES PRIOR TO PERFORMING DIGGING/TRENCHING OPERATIONS IN ANY AREA.

GENERAL LANDSCAPE NOTES

1. REFER TO SHEET L4.00 FOR PLANT MATERIAL SCHEDULE, LANDSCAPE NOTES AND LANDSCAPE PLANTING DETAILS.
2. PROPOSED TREES THAT ARE SHOWN IN A LINEAR ALIGNMENT ARE TO BE PLANTED IN STRAIGHT LINES.
3. ALL LANDSCAPED AREAS, INCLUDING LAWN AND PLANTING BEDS, WILL HAVE IRRIGATION COVERAGE FROM AN AUTOMATIC IRRIGATION PLAN. REFER TO SHEETS L5.00 AND L5.10 FOR SITE IRRIGATION PLANS.

SODDING

ALL SITE AREAS THAT ARE SHOWN ON DRAWINGS FOR SODDING ARE TO BE SODDED WITH 'PATRIOT' BERMUDA SOD PER SODDING SPECIFICATION 329200. IN ADDITION, ALL SITE AREAS THAT ARE DISTURBED BY CONSTRUCTION ARE TO BE SODDED, INCLUDING TRENCHING / EXCAVATION FOR ELECTRICAL / LIGHTING WORK AND TRENCHING FOR THE IRRIGATION SYSTEM.

IN ADDITION, ANY OFF-SITE AREAS THAT ARE USED FOR CONSTRUCTION STAGING ARE TO BE SODDED WITH BERMUDA SOD TO RESTORE THE SITE TO ORIGINAL CONDITION.

PROVIDE SOIL PREPARATION / FINISH GRADING PER SODDING SPECIFICATION 329200. ALL DEBRIS, ROCKS, AND GRAVEL MUST BE REMOVED AND HAULED OFF. FINISH GRADING FOR SODDING SHALL BE SMOOTH AND FREE OF DEPRESSIONS OR OTHER IRREGULARITIES. SETTLING OF SOIL SHALL BE REPAIRED BY LANDSCAPE CONTRACTOR.

BEFORE YOU DIG CALL OKIE

N

0' 5' 10'

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

STATE OF OKLAHOMA Michael Peterson 1088 REGISTERED LANDSCAPE ARCHITECT
Mike Peterson
1/31/25

CHEROKEE NATIONAL PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS

CHEROKEE NATION BUSINESSES
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LANDSCAPE PLAN

SHEET #
L4.10

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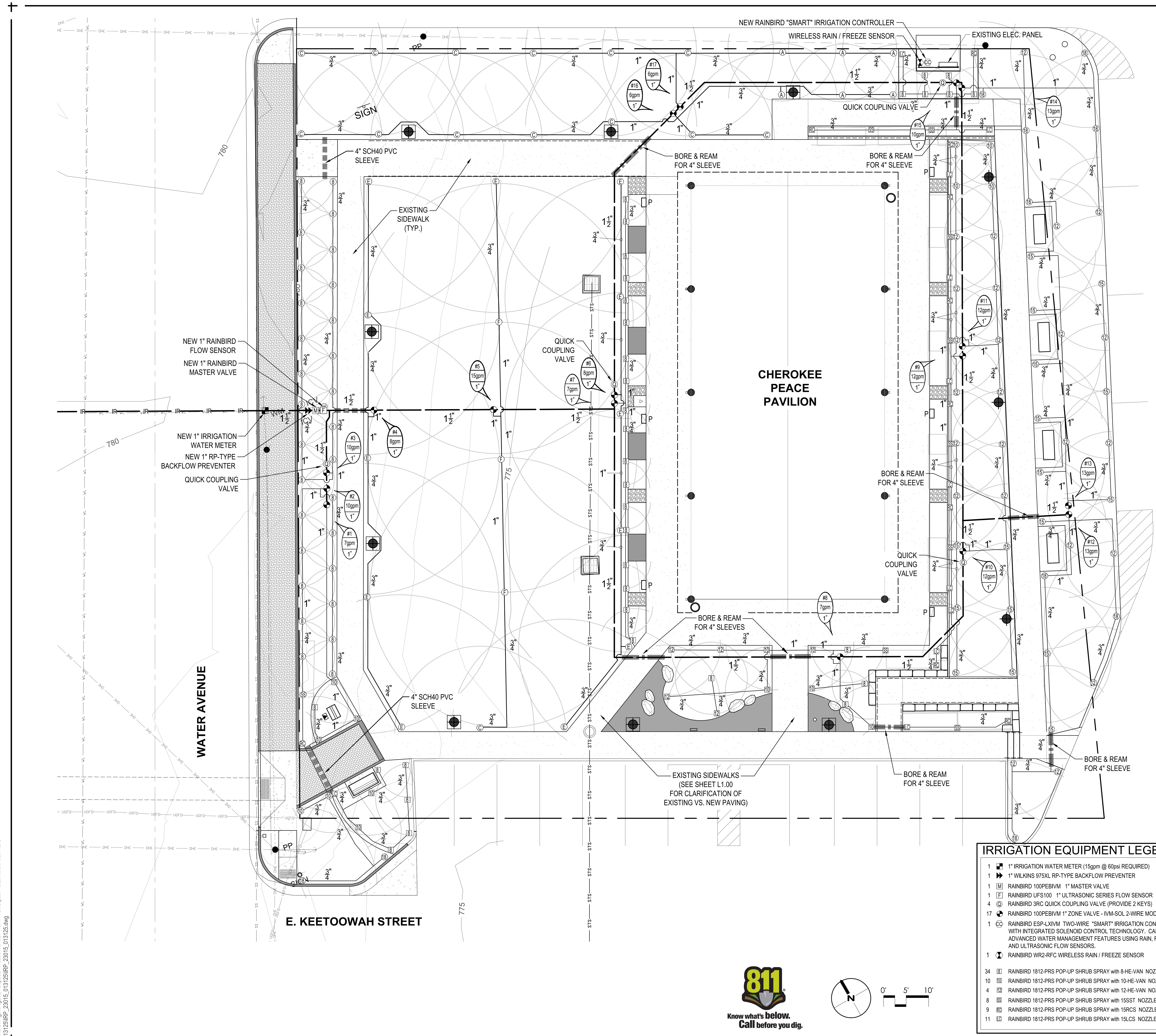


THE FOLLOWING NOTES ARE A PARTIAL SUMMARY ONLY OF THE IRRIGATION SPECIFICATIONS. REFER TO WRITTEN SPECIFICATIONS SECTIONS 328400-IRRIGATION SYSTEM

GENERAL IRRIGATION NOTES

CALL 811 FOR INFORMATION ON THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK OF ACTION ON THE PROJECT SITE DURING LANDSCAPE OR IRRIGATION INSTALLATION. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE OWNER IN LOCATING THE UTILITIES PRIOR TO PERFORMING TRENCHING OPERATIONS IN ANY AREA.

INSTALL ALL EQUIPMENT PER MANUFACTURER'S CURRENT SPECIFICATIONS AND RECOMMENDATIONS. SPRINKLER SYSTEM SHALL BE INSTALLED IN ACCORDING WITH ALL APPLICABLE CITY AND STATE ORDINANCES AND PLUMBING CODES. ALL IRRIGATED AREAS SHALL HAVE 100% COVERAGE.

PAY PARTICULAR ATTENTION TO WIRE CONNECTIONS, GROUNDING AND SURGE PROTECTION FOR THE ESP-LXIVM 2-WIRE SYSTEM. INSTALL GROUNDED IVM-SD LINE SURGE PROTECTORS.... EVERY 500FT ALONG THE 2-WIRE PATH -OR- EVERY 15 DEVICES AND NOTE THOSE LOCATIONS ON THE AS-BUILT DRAWINGS. GROUNDING PROTECTION FOR THE CONTROLLER AND THE 2-WIRE PATH SHALL HAVE A RESISTANCE TO GROUND OF 10 OHMS OR LESS PER RAINBIRD SPECIFICATIONS.

INSTALL 14AWG 2-WIRE COMMUNICATION CABLE MEETING RAINBIRD MAXICABLE SPECIFICATIONS AND MAKE WATERPROOF WIRE CONNECTIONS USING RAINBIRD WC-20 WIRE CONNECTORS. WIRE CONNECTIONS SHALL ONLY BE MADE INSIDE VALVE BOXES.

REPLACE EXISTING 3/4" METER WITH A NEW 1" IRRIGATION WATER METER WHERE SHOWN. CONTRACTOR SHALL CAREFULLY VERIFY A MINIMUM DYNAMIC WATER PRESSURE OF 60psi @15gpm AT THE WATER METER LOCATION. CONTRACTOR SHALL NOTIFY THE ARCHITECT IF WATER PRESSURE IS LESS THAN OR SIGNIFICANTLY HIGHER THAN NOTED.

GENERAL CONTRACTOR TO PROVIDE GFIC OUTLET WITH 115 VAC (+/- 10%) 1-PHASE POWER, SIZED FOR A 60WATT HEAT CABLE, AT THE BACKFLOW PREVENTER ENCLOSURE LOCATION. IRRIGATION CONTRACTOR SHALL HARDWIRE NEW CONTROLLER IN A J-BOX USING THE EXISTING 115VAC POWER SUPPLY FROM THE OLD CONTROLLER.

IRRIGATION CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF 4" SCH40 PVC SLEEVES BELOW NEW PAVING -OR- BORE AND REAM FOR 4" SCH40 SLEEVES BELOW EXISTING SIDEWALKS, AS INDICATED ON THE DRAWING. COORDINATE WITH GENERAL CONTRACTOR PRIOR TO WORK. INSTALL FLOWLINE OF SLEEVES 18" BELOW TOP OF PAVEMENT. EXTEND SLEEVES 18" BEYOND BACK OF CURB AND CAP UNTIL CONTRACTOR IS READY TO BEGIN THE INSTALLATION OF SPRINKLER SYSTEM. STAKE LOCATION OF SLEEVE WITH T-POSTS AND FLAGS.

CONTRACTOR SHALL INSURE THAT THE IRRIGATION MAINLINE, VALVES AND VALVE WIRES ARE INSTALLED WITHIN THE PROPERTY AND WATER EASEMENT LINES. ANY LINES SHOWN OUTSIDE OF NORMAL INSTALLATION CORRIDORS ARE FOR PRESENTATION PURPOSES ONLY.

BACKFILL AROUND THE PIPE SHALL BE FREE OF ROCKS AND OTHER DEBRIS, AND TO LEAVE NO DEPRESSIONS.

ALL MAINLINE SHALL BE SCH40 PVC. ALL LATERAL PIPING SHALL BE CLASS 200 PVC PIPING. ALL PVC FITTINGS SHALL BE SCH40 PVC TYPE 1 AND MUST BE OF DOMESTIC MANUFACTURE. PVC SOLVENT CEMENT AND PRIMER SHALL BE AS RECOMMENDED / APPROVED BY THE MANUFACTURER OF THE PIPE.

SET ALL LAWN HEADS FLUSH WITH FINISHED GRADE. ALLOW FOR INSTALLATION OF SOD. ALL POP-UP SPRINKLER HEADS SHALL DIRECT FLOW AWAY FROM ANY ADJACENT SURFACE AND SHALL NOT BE INSTALLED CLOSER THAN FOUR INCHES FROM A HARDSCAPE, SUCH AS, BUT NOT LIMITED TO, A BUILDING FOUNDATION, FENCE, CONCRETE, ASPHALT, PAVERS, OR STONES SET WITH MORTAR.

THE IRRIGATION DESIGN IS DIAGRAMMATIC. THE INTENT OF THE DRAWINGS IS TO SHOW THE GENERAL LAYOUT AND LOGIC OF THE SYSTEM. SCALED MEASUREMENTS MAY NOT BE ACCURATE. ACTUAL LOCATIONS AND QUANTITIES OF PIPE AND FITTINGS MAY VARY DUE TO FIELD ADJUSTMENTS FOR EXISTING AND NEW TREES AND OTHER OBSTRUCTIONS TO PROVIDE THE PROPER AND INTENDED COVERAGE. ADJUST HEADS AS REQUIRED FOR PROPER COVERAGE IF LOCATIONS OF SIGNS AND OTHER SITE ELEMENTS ARE NOT AS SHOWN.

CONTRACTOR SHALL CLOSELY FOLLOWING THESE CONTRACT DRAWINGS, THE IRRIGATION SPECIFICATIONS, AND THE SPECIFIED RECOMMENDATIONS OF THE EQUIPMENT MANUFACTURES TO INSURE PROPER INSTALLATION OF THE IRRIGATION SYSTEM. CONTRACTOR SHALL IMMEDIATELY CONSULT WITH THE OWNER WHENEVER THERE APPEARS TO BE A CONFLICT BETWEEN ANY OF THE ABOVE STATED DOCUMENTS.

WINTERIZATION SHALL BE DONE USING A COMBINATION OF MANUAL GATE VALVE(S) IN THE LOW POINTS OF THE MAINLINE & AUTOMATIC DRAIN VALVES ON LATERAL PIPING. PROVIDE ENCLOSURE WITH HEATING CABLE TO PROTECT BACKFLOW PREVENTER FROM FREEZING.

ALL SPRINKLER HEADS SHALL HAVE A PRESSURE REGULATING FEATURE TO PREVENT HIGH PRESSURE FOGGING TO THE SPRAY PATTERN. INSTALL SPRINKLERS WITH CHECK VALVE FEATURE, AS REQUIRED, TO AVOID LOW-HEAD DRAINAGE.

TESTING: UPON COMPLETION OF THE INSTALLATION, THE ENTIRE SYSTEM SHALL BE TESTED AND ADJUSTED FOR PROPER OPERATION.

AFTER THE SYSTEM IS COMPLETE AND FULLY ADJUSTED, DEMONSTRATE OPERATION OF ALL IRRIGATION ZONES FOR THE OWNER'S REPRESENTATIVE. ALL IRRIGATED AREAS ARE TO HAVE 100% COVERAGE. CONTRACTOR SHALL ADD ADDITIONAL HEADS, AS NECESSARY, AT NO COST TO THE OWNER. AS DIRECTED BY THE OWNER'S REPRESENTATIVE, ADJUST ALL HEADS AS REQUIRED FOR PROPER OPERATION, ALIGNMENT, ELEVATION, RADIUS AND ARC. PROVIDE A FIELD TRAINING SESSION FOR THE OWNER'S MAINTENANCE PERSONNEL. PROVIDE AN 'AS-BUILT' DRAWING OF THE COMPLETED IRRIGATION SYSTEM. PROVIDE A COLOR-CODED ZONE CHART, TO BE PLACED IN A CLEAR PLASTIC SLEEVE INSIDE THE CONTROLLER.

IRRIGATION PLANS PREPARED BY MITCHELL LANGLEY - LICENSED TEXAS IRRIGATOR, CERTIFIED IRRIGATION DESIGNER WITH THE IRRIGATION ASSOCIATION, AN EPA WATERSENSE PARTNER IN GOOD STANDING AND A PROFESSIONAL MEMBER OF AMERICAN SOCIETY OF IRRIGATION CONSULTANTS.

MITCHELL D. LANGLEY CERTIFIED IRRIGATION DESIGNER 003375 COMMERCIAL 01/31/2025

IRRIGATION EQUIPMENT LEGEND

Qty	Symbol	Description
1		1" IRRIGATION WATER METER (15gpm @ 60psi REQUIRED)
1		1" WILKINS 975XL RP-TYPE BACKFLOW PREVENTER
1	M	RAINBIRD 100PEBIVM 1" MASTER VALVE
1	F	RAINBIRD UFS100 1" ULTRASONIC SERIES FLOW SENSOR
4	Q	RAINBIRD 3RC QUICK COUPLING VALVE (PROVIDE 2 KEYS)
17		RAINBIRD 100PEBIVM 1" ZONE VALVE - IVM-SOL 2-WIRE MODULE
1	CC	RAINBIRD ESP-LXIVM TWO-WIRE "SMART" IRRIGATION CONTROLLER WITH INTEGRATED SOLENOID CONTROL TECHNOLOGY. CAPABLE OF ADVANCED WATER MANAGEMENT FEATURES USING RAIN, FREEZE AND ULTRASONIC FLOW SENSORS.
1		RAINBIRD WR2-RFC WIRELESS RAIN / FREEZE SENSOR
34	8	RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 8-HE-VAN NOZZLE
10	10	RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 10-HE-VAN NOZZLE
4	12	RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 12-HE-VAN NOZZLE
8	SS	RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 15SST NOZZLE
9	RC	RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 15RCS NOZZLE
11	LC	RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 15LCS NOZZLE
29	8	RAINBIRD 1804-PRS POP-UP TURF SPRAY with 8-HE-VAN NOZZLE
6	10	RAINBIRD 1804-PRS POP-UP TURF SPRAY with 10-HE-VAN NOZZLE
24	12	RAINBIRD 1804-PRS POP-UP TURF SPRAY with 12-HE-VAN NOZZLE
17	15	RAINBIRD 1804-PRS POP-UP TURF SPRAY with 15-HE-VAN NOZZLE
10	18	RAINBIRD 1804-PRS POP-UP TURF SPRAY with 18VAN NOZZLE
1	SS	RAINBIRD 1804-PRS POP-UP TURF SPRAY with 15SST NOZZLE
1	RC	RAINBIRD 1804-PRS POP-UP TURF SPRAY with 15RCS NOZZLE
6	A	RAINBIRD 1804-SAM-P45 4" POP-UP - MP1000-90-210 NOZZLE
14	C	RAINBIRD 1804-SAM-P45 4" POP-UP - MP2000-90-210 NOZZLE
12	E	RAINBIRD 1804-SAM-P45 4" POP-UP - MP3000-90-210 NOZZLE
3	F	RAINBIRD 1804-SAM-P45 4" POP-UP - MP3000-360 NOZZLE
		CLASS 200 PVC LATERAL PIPING
		SCH40 PVC MAINLINE PIPING & 2-WIRE PATH
		BORE & REAM FOR 4" SCH40 PVC SLEEVE
		4" SCHEDULE 40 PVC SLEEVE

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

CHEROKEE PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS

CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

REVISIONS:

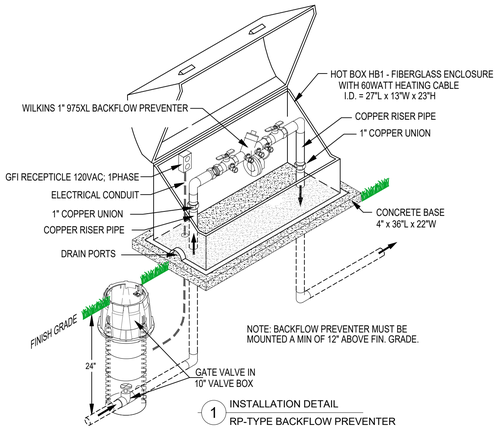
#	DATE	DESCRIPTION

ISSUE
FINAL PLANS

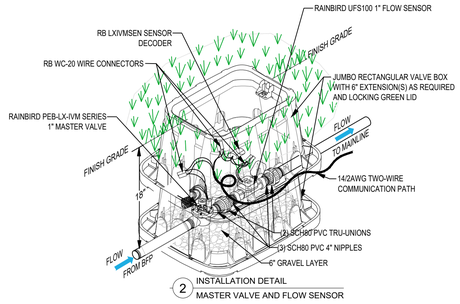
DATE:	01.31.25
PROJECT #	23015
DESIGN:	MDL
DRAWN:	MDL
CHECKED:	MP

SHEET TITLE
IRRIGATION PLAN

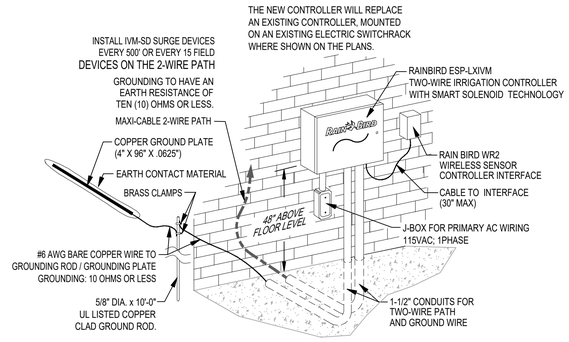
SHEET #
L5.00



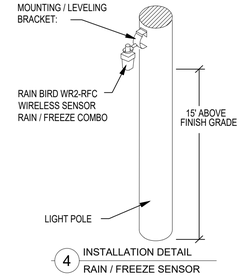
1 INSTALLATION DETAIL
RP-TYPE BACKFLOW PREVENTER



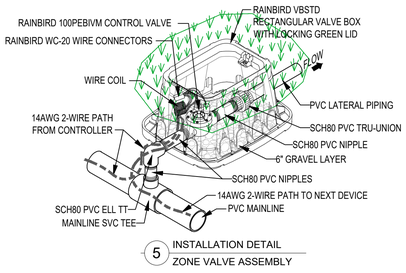
2 INSTALLATION DETAIL
MASTER VALVE AND FLOW SENSOR



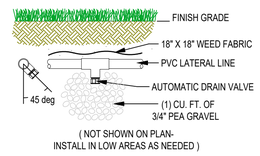
3 INSTALLATION DETAIL
WALL MOUNT TWO-WIRE CONTROLLER



4 INSTALLATION DETAIL
RAIN / FREEZE SENSOR

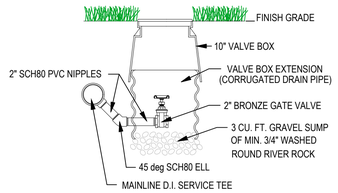


5 INSTALLATION DETAIL
ZONE VALVE ASSEMBLY



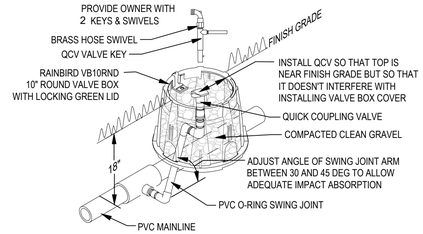
(NOT SHOWN ON PLAN-
INSTALL IN LOW AREAS AS NEEDED)

6 INSTALLATION DETAIL
AUTOMATIC DRAIN VALVE



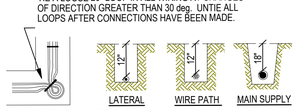
(NOT SHOWN ON PLAN-
INSTALL IN LOW AREAS AS NEEDED)

7 INSTALLATION DETAIL
MAINLINE DRAIN VALVE



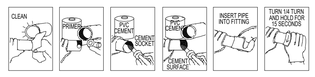
8 INSTALLATION DETAIL
QUICK COUPLING VALVE

2-WIRE PATH - PER RAINBIRD SPECIFICATIONS
TIE A LOOSE 20" LOOP IN ALL WIRING AT CHANGES
OF DIRECTION GREATER THAN 30 deg. UNTIE ALL
LOOPS AFTER CONNECTIONS HAVE BEEN MADE.



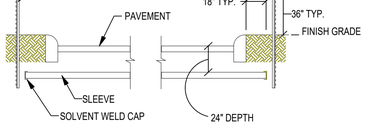
NOTES: BACKFILL MATERIAL SHALL BE FREE FROM ROCKS OR HEAVY UNSUITABLE SUBSTANCES WHICH COULD DAMAGE THE PIPE OR CREATE UNUSUAL SETTLING PROBLEMS. BACKFILL SHALL BE DONE IN SIX INCH LAYERS AND TAMPED DOWN AFTER EACH LAYER IS PUT BACK TO PREVENT EXCESSIVE SETTLING.

9 INSTALLATION DETAIL
MAINLINE, LATERAL & WIRING

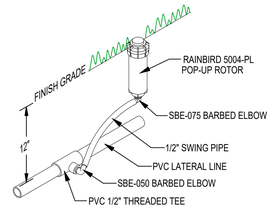


NOTES:
NEVER LAY PVC PIPE WHEN THERE IS WATER IN THE TRENCH
NEVER LAY PVC PIPE WHEN THE TEMPERATURE IS 32°F OR BELOW

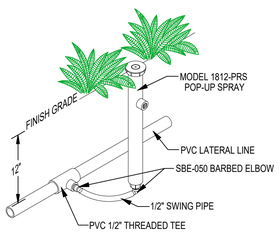
10 INSTALLATION DETAIL
PVC ASSEMBLING



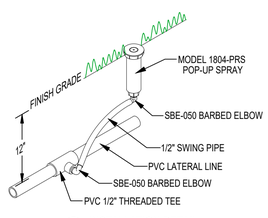
11 INSTALLATION DETAIL
TYPICAL SLEEVING



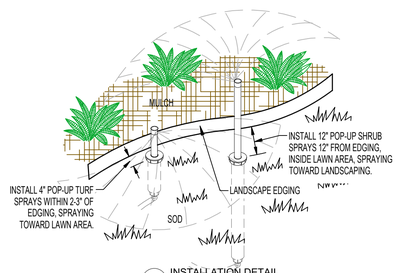
12 INSTALLATION DETAIL
POP-UP TURF ROTOR



14 INSTALLATION DETAIL
12" POP-UP SHRUB SPRAY



13 INSTALLATION DETAIL
4" POP-UP TURF SPRAY



14 INSTALLATION DETAIL
TYPICAL SPRINKLER SPACING
ADJACENT TO LANDSCAPE EDGING

Know what's below. Call before you dig.

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

CHEROKEE PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS

CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

REVISIONS:

#	DATE	DESCRIPTION

ISSUE
FINAL PLANS

DATE:	01.31.25
PROJECT #	23015
DESIGN:	MDL
DRAWN:	MDL
CHECKED:	MP

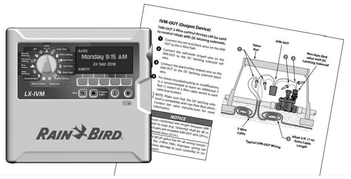
SHEET TITLE
IRRIGATION DETAILS

SHEET #
L5.10

RAIN BIRD

ESP-LXIVM Series Controllers

Field Device Installation Guide



IVM-SOL Installation

1. Use pressure sprayer to clean equipment.
2. Check that O-rings are free from damage or debris.
3. Attach IVM-SOL hand-tight (with no water pressure).

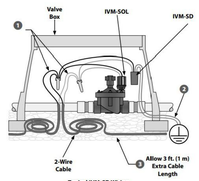
NOTE: It's normal to hear a brief ratcheting sound during installation of the IVM-SOL on a valve.

IVM-SD (Surge Device)

The IVM-SD provides surge protection for the ESP-LXIVM controller and the 2-Wire path.

The ESP-LXIVM controller and the 2-Wire path must be properly surge protected and grounded. Doing so can help prevent damage to the controller and irrigation system and also significantly reduce troubleshooting, repair time and expense. Failure to do so could result in failure of your controller and voiding the warranty.

1. Connect the red and black wires on the IVM-SD to the 2-Wire Path.
2. Connect the green wires from the IVM-SD to the grounding rod or plate
3. For future troubleshooting or modifications, its is recommended to leave an additional 3 feet of 2-Wire cable stores in each valve box location.



Typical IVM-SD Wiring

NOTICE

Use only WC20 splice kits for all wiring connections to the 2-Wire Path. Improper wiring can cause serious damage to your controller or irrigation system.

One IVM-SD is required every 500 feet or every 15 field devices.

2-Wire Device Field Connections

Gather Installation Tools

Before beginning installation, gather together the following tools and materials:

- ❑ Lineman's pliers
- ❑ #14 AWG MAXI Cable bare ground wire
- ❑ WC20 waterproof wire connectors and wire nuts (provided)
- ❑ Rain Bird® 2-Wire stripper

Wiring Connections

Outdoor Installation with Direct Wiring

⚠ WARNING

Electric shock can cause severe injury or death. Make sure power supply is turned OFF before connecting power wires.

Ground wire must be connected to provide electrical surge protection. Permanently mounted conduit shall be used for connecting main voltage to the controller.

Do not route valve wires through the same opening as power wires.

Wiring Connections	
120 VAC (US)	**230 VAC (International)**
Black supply wire (hot) to the black transformer wire	Brown supply wire (hot) to the brown transformer wire
White supply wire (neutral) to the white transformer wire	Blue supply wire (neutral) to the blue transformer wire
Green supply wire (ground) to the green transformer wire	Green-with-yellow-stripe supply wire (ground) to the green-with-yellow-stripe transformer wire

1. Route the three external power source wires through the conduit opening at the bottom of the unit and into the wiring compartment.
2. Using the provided wire nuts, connect the external power source wires (two power and one ground) to the transformer connection wires inside the wiring compartment.

Field Wiring Connections

Connect devices to the 2-Wire path.

It is recommended to use the Rain Bird 2-Wire Stripper tool to remove the outer MAXI Cable jacket without damaging the inner insulation.

NOTE: To avoid damaging the wiring, tools such as utility, pocket, carpet, box cutter knives or Romex strippers should not be used to strip wires.

NOTICE

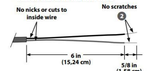
Rain Bird requires the use of 14 gauge AWG MAXI Cable (double-jacketed, 2-Wire conductor).

Always place 2-Wire Devices and connections inside a valve box. Assure that the wiring copper conductors are not exposed after installation.

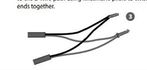
1. Carefully score approximately 6 in (15.24 cm) of the AWG MAXI Cable's outer jacket . Gently flex the cable to expose the portion to be removed and to reveal the 2 inner wires. Then trim away the excess of the outer jacket.

NOTE: It may be necessary to remove the outer jacket in two or more sections.

2. Strip away approximately 5/8 in (1.58 cm) of insulation from the ends of the two inner wires.



3. Remove the pre-cut insulation from the ends of the wires on the 2-Wire device. Connect the device wires to the 2-Wire path using lineman's pliers to twist the ends together.



NOTICE

Wire colors must be paired red to red and black to black in order to maintain polarity when completing wire splices.

4. Insert the connected wires into the provided wire-nuts and twist to secure.
5. Insert the wire-nut all the way into the WC20 connector. Position wires on side of the connector as shown and then snap the cap shut.

Completed Wire Splice

Scan the QR code to see a video on how to make 2-Wire cable connections

Installation

2-Wire Address Labels

Before installing the 2-Wire Device, apply your 2-Wire Device barcode labels to the appropriate fields on the Programming Guide.

NOTE: See the ESP-LXIVM Programming Guide that came with your controller.

1. Carefully peel off the station, master valve, flow or weather sensor device barcode label.
2. Apply the 2-Wire Device address labels in the appropriate fields on the Programming Guide.

NOTE: Do not remove the label from the carrier attached to the wire.

Connect IVM-SOL to a Valve

1. Connect the red and black wires on the IVM-SOL to the 2-Wire Path.
2. For future troubleshooting or modifications, it is recommended to leave an additional 3 feet (1 meter) of 2-Wire cable stored in each valve box location.

NOTE: If the valve is NOT at the end of the 2-Wire Path then make a three-way splice; the red wire from the valve module to the two red wires of the 2-Wire Path; then splice the valve module black wire to the two black wires of the 2-Wire Path.

NOTICE

Use only WC20 splice kits for all wiring connections to the 2-Wire Path. Improper wiring can cause serious damage to your controller or irrigation system.

Connect IVM-SOL to a Master Valve

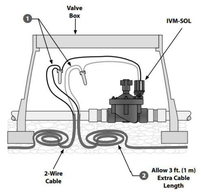
Up to 5 master valves can be connected to the 2-Wire path of the ESP-LXIVM controller and up to 10 master valves for the LX-IVM Pro controller. IVM-SOL can be used for both station and master valves. Master valves are connected using the same processes as described previously.

NOTE: Be sure to attach the barcode labels to the Programming Guide as a Master Valve instead of a Station.

NOTICE

If retro-fitting, do not use TBOS (Battery Operated System) solenoids or decoders in the ESP-LXIVM system.

Ensure that all decoders are disconnected from the 2-Wire path.



Typical IVM-SOL Valve Wiring

IVM-OUT (Output Device)

IVM-OUT 2-Wire control devices can be used to control valves with DC latching solenoids.

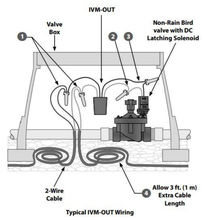
1. Connect the red and black wires on the IVM-OUT to the 2-Wire Path.
2. Connect the red/white striped wire on the IVM-OUT to the DC latching solenoid red wire.
3. Connect the black/white striped wire on the IVM-OUT to the DC latching solenoid black wire.
4. For future troubleshooting or modifications, it is recommended to leave an additional 3 feet (1 meter) of 2-Wire cable stored in each valve box location.

NOTE: Make sure that the DC latching solenoid is compatible with non Rain Bird valves. Contact the valve manufacturer for more information.

NOTICE

Maximum combined wire length between IVM-OUT and its load (e.g. Solenoid) shall be 48 in. This includes pre-installed IVM-OUT wire (24 in.) and solenoid wires (22 in.).

Use only WC20 splice kits for all wiring connections to the 2-Wire Path. Improper wiring can cause serious damage to your controller or irrigation system.



Typical IVM-OUT Wiring

IVM-SEN (Sensor Device)

Flow sensors are connected to the 2-Wire Path via IVM-SEN 2-Wire devices.

The ESP-LXIVM controller can support up to 5 flow sensors and the LX-IVM Pro controller can support up to 10 flow sensors.

Connect Flow Sensors

1. Install flow sensors into your irrigation piping system at each point of connection to the water supply (water meter or pump).

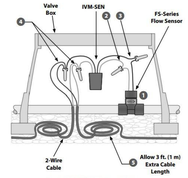
NOTICE

For optimum performance and flow sensing, flow sensors should be installed a minimum of 10 pipe diameters in length on the upstream (supply) side and a least 5 pipe diameters in length on the downstream (delivery) side before making any transitions in pipe size/direction or away from the master valve.

2. Connect the red/white striped wire on the IVM-SEN to the DC latching solenoid red wire.
3. Connect the black/white striped wire on the IVM-SEN to the DC latching solenoid black wire.
4. Connect the wires from the IVM-SEN to the flow sensor. Be sure to follow all instructions included with the flow sensor.
5. For future troubleshooting or modifications, it is recommended to leave an additional 3 feet (1 meter) of 2-Wire cable stored in each valve box location.

NOTICE

Use only WC20 splice kits for all wiring connections to the 2-Wire Path. Improper wiring can cause serious damage to your controller or irrigation system.



Typical IVM-SEN Flow Sensor Wiring

Connect Weather Sensors

In addition to flow sensors, the LX-IVM can also support three weather sensor connected to the 2-Wire Path via an LX-IVM Sensor input device. The LX-IVM Pro controller supports seven 2-Wire Path weather sensors. Weather sensors are connected to the LX-IVM Sensor input in the same way as the flow sensor.

Pump Start Relay

IVM-OUT 2-Wire Control Devices can control pump start relays that have a DC latching input coil.

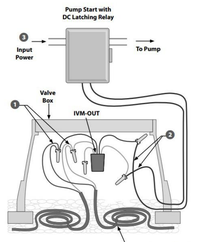
1. Connect the red IVM-OUT wire to the red wire on the 2-Wire path. Then connect the black IVM-OUT wire to the black wire on the 2-Wire path.
2. Connect the red and white IVM-OUT wire to the DC Latching Relay. Connect the black and white IVM-OUT wire to the DC Latching Relay.
3. Follow your Pump Start Relay wiring instructions to connect input power and pump.
4. For future troubleshooting or modifications, it is recommended to leave an additional 3 feet (1 meter) of 2-Wire cable stored in each valve box location.

NOTICE

Use only WC20 splice kits for all wiring connections to the 2-Wire Path. Improper wiring can cause serious damage to your controller or irrigation system and work must be performed by licensed electrician.

⚠ WARNING

All electrical connections and wiring runs must comply with local building codes. Some local codes require that only a licensed or certified electrician can install power. Only professional personnel should install the controller. Check your local building codes for guidance.



Typical IVM-OUT Pump Start Relay Wiring

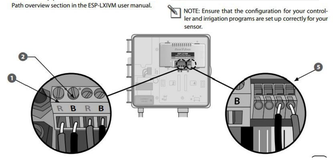
Connect 2-Wire (MAXI Cable) From Field Devices

You can connect up to 4 pairs of 2 -Wires (MAXI Cable) from the field devices back to the ESP-LXIVM controller.

NOTE: Make sure the screws are all unscrewed all the way out (while remaining in the module)

1. Connect the Red Wire from the MAXI Cable to the Terminal with "R" marking
2. Connect the Black Wire from the MAXI Cable to the Terminal with "B" marking
3. Tighten the screw

NOTE: The four pair of wires can be either in a Star pattern or a Loop pattern. For details refer to the 2-Wire Path overview section in the ESP-LXIVM user manual.



Connect Local Weather Sensors

ESP-LXIVM can also accept input from a single weather sensor wired directly in to the controller.

NOTE: Follow the sensor manufacturer's instructions to correctly install and make wire connections to the sensor.

4. Run continuous sensor wires from the weather sensor to the ESP-LXIVM controller.
5. Remove the yellow jumper wire (if present). Connect the sensor wires to the sensor (Sen) and common (C) inputs.

NOTICE

Do not remove the yellow jumper wire unless collecting a rain sensor.

NOTE: Ensure that the configuration for your controller and irrigation programs are set up correctly for your sensor.

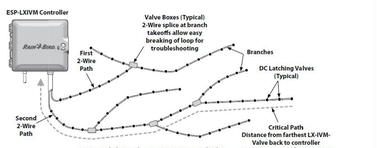
FROM THE LXIVM INSTALLATION, PROGRAMMING & OPERATION GUIDE

2-Wire path Overview

2-Wire path Design

The ESP-LXIVM controller with 2-Wire path has key advantages over traditional controllers that use separate wires for each valve.

- The 2-Wire path design allows DC Latching Valves to be attached at any location, allowing greater design flexibility and greater distances to be supported.
- The LX-IVM controller has connections for up to four separate 2-Wire Paths.
- DC Latching Valves can be managed using up to 6.61 miles (10.63 Km) of wire path, if looped.



2-Wire path design showing IVM Devices and Valves

Star Pattern

A Star Pattern allows branching as often as necessary without ever looping the wire back to the controller.

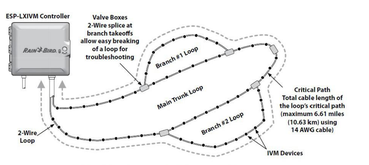
This generally allows more design flexibility but at the expense of some distance. The distance from the controller to the farthest IVM Device is known as the critical path; the greatest distance supported with 14 AWG cable in a Star Pattern is 1.65 miles (2.66 Km).

Loop Pattern

A Loop Pattern supports the greatest distance from controller to IVM Devices.

The Loop Pattern requires that the 2-Wire path loop back and return to the controller. The critical path for a Loop design is determined by calculating the distance around the loop to the farthest IVM Device and back to the controller. For both the Star and Loop designs, different distances can be supported with larger gauge cable.

Maximum Critical Path Lengths for 2-Wire Paths						
Nominal Wire Size	Ohms per 1000' or Ohms per Km (per conductor)	Km	Star		Loop	
			Km	Miles	Km	Miles
2.5 mm	7.5 Ohms/Km	3.00	1.86	12.00	7.46	
14 AWG	2.58 Ohms/1000'	2.66	1.65	10.63	6.61	
12 AWG	1.62 Ohms/1000'	4.23	2.63	16.93	10.52	
10 AWG	1.02 Ohms/1000'	6.72	4.18	26.89	16.71	



2-Wire Loop Pattern design showing IVM Devices and Valves

Install IVM 2-Wire Interface Module

An IVM 2-Wire Interface Module is required for operation and is included with every LX-IVM controller. The IVM Module powers and provides an interface from the controller to the 2-Wire path.

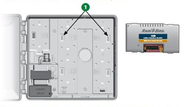
IVM 2-Wire Interface Module

The IVM 2-Wire Interface Module must be installed horizontally in the controller cabinet, as shown. The module can be connected to either the top set of connectors (module slots 1 and 3) or the bottom set of connectors (module slots 2 and 4) on the controller backplane.

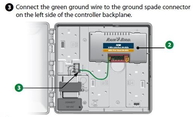
NOTICE

Be careful not to bend the pins in the sockets when installing the module.

1. Orient the connectors on the bottom of the module with the connection sockets on the controller backplane.



2. Carefully fasten the module onto the controller backplane, pressing firmly until it snaps into place.
3. Connect the green ground wire to the ground spade connector on the left side of the controller backplane.



NOTE: To remove the module again, press in on the (four) release keys on either side of the module.

Connect Field Wiring

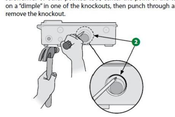
The ESP-LXIVM controller can support up to four 2-Wire path connections. The controller will manage multiple 2-Wire connections as a single 2-Wire path. Rain Bird® requires use of MAXI Cable, #14 AWG, as your 2-Wire communications cable.

Connecting the 2-Wire Cable

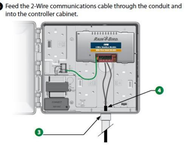
NOTICE

Do not install the communications cables in the same conduit as the 2-Wire path wiring.

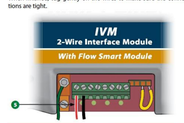
1. Strip away approximately 6 in (15.24 cm) of the cable's outer sheathing, then strip approximately 5/8 in (1.58 cm) of the insulation away from the ends of the two inner wires. See Wire Splices and 2-Wire Device Connections for more details on the correct way to splice wire connections.
2. If additional wiring access is needed, knock out one or more of the knockouts on the bottom of the controller cabinet. Using a screwdriver or other pointed tool, center the point of the tool on a "dimple" in one of the knockouts, then punch through and remove the knockout.



3. Screw a conduit fitting into the bottom of the cabinet, then attach conduit to the fitting.
4. Feed the 2-Wire communications cable through the conduit and into the controller cabinet.



5. Using a thin blade screwdriver, connect the two wire ends to a set of large 2-Wire path terminals on the ESP IVM 2-Wire Interface Module. When finished, tug gently on the wires to make sure the connections are tight.



NOTICE

Wiring polarity must be correct in order for 2-Wire device to function properly. Connect the red wire to the terminal marked "RED1" and connect the black wire to the terminal marked "BLK1".

If you have multiple 2-Wire Paths then repeat this process to connect those wire ends to the other IVM 2-Wire Interface Module terminals as desired.

Surge Protection and Grounding

The ESP-LXIVM controller, IVM 2-Wire Interface Module and the 2-Wire path must be properly surge protected and grounded. Doing so can help prevent damage to the controller and irrigation system and also significantly reduce troubleshooting, repair time and expense. Failure to do so could result in failure of the controller and voiding the warranty.

⚠ CAUTION

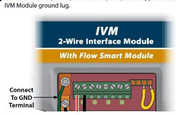
The LX-IVM controller and the IVM 2-Wire Interface Module must be properly grounded. Doing so can help prevent damage to the controller and irrigation system and also significantly reduce troubleshooting, repair time and expense. Failure to do so could result in failure of the controller and voiding the warranty. Ensure that all grounding devices are compliant with local electrical codes.

ESP-LXIVM Controller

The ESP-LXIVM Decoder Controller is protected against electrical surges through the ground provided by the primary ground of the incoming power to the controller.

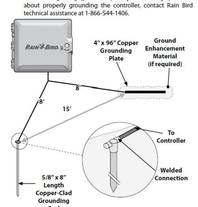
IVM 2-Wire Interface Module

1. Connect #8AWG (10mm) or #10AWG (6MM) bare copper wire to the IVM Module ground lug.

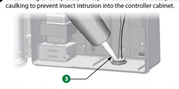


2. Connect the other end of the ground wire to a grounding rod(s) and/or plate with a resistance to ground of 10 ohms or less.

NOTE: More information and guidelines on grounding electronic equipment in irrigation systems can be found on the American Society of Irrigation Consultants (ASIC) website at www.asic.org/Design_Guides.aspx. If you have any questions about properly grounding the controller, contact Rain Bird technical assistance at 1-866-544-1406.



3. Once wiring is completed, fill top of conduit with waterproof caulking to prevent insect intrusion into the controller cabinet.



4. IVM-SD provides surge protection for the ESP-LXIVM Controller and the IVM 2-Wire interface module against electrical surges originating from each 2-Wire Path utilized. IVM-SD shall be spliced into each 2-Wire Path immediately where the IVM-SD can be taken to ground to the ESP-LXIVM Controller.

2-Wire Path

1. The 2-Wire path shall be surge protected and grounded with one IVM-SD every 500 feet or every 15 field devices, whichever is smaller.
2. Termination of 2-Wire Path – An IVM-SD shall be installed at the end of the 2-Wire path in a STAR configuration.

CONTRACTOR SHALL BE SKILLED IN WORK REQUIRED AND COMPLETELY FAMILIAR WITH MANUFACTURER'S RECOMMENDED METHOD OF INSTALLATION REQUIREMENTS. CONTRACTOR MUST HAVE EXPERIENCE IN THIS AREA OF WORK AND HAVING COMPLETELY INSTALLED OTHER JOBS OF SIMILAR SIZE AND SCOPE. EVIDENCE OF HAVING INSTALLED AT LEAST 3 PROJECTS USING 2-WIRE TYPE DECODER SYSTEMS SHALL BE A PREREQUISITE PRIOR TO THE AWARD OF BID TO THE CONTRACTOR.

DURING THE INSTALLATION, THE CONTRACTOR SHALL DESIGNATE ONE PERSON ON THE CONTRACTOR'S CREW WHO WILL BE RESPONSIBLE FOR ALL WIRE CONNECTIONS. THE DESIGNATED PERSON SHALL MAKE ALL WIRE CONNECTIONS ACCORDING TO THE WIRE CONNECTOR SPECIFICATIONS. ALL WIRE CONNECTIONS NOT AT SPRINKLERS OR VALVES SHALL BE LOCATED IN A VALVE BOX.

ALL WIRING, WIRE CONNECTIONS, SURGE PROTECTION AND GROUNDING SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. INSTALL A GROUNDING GRID IMEDIALTY OUTSIE OF THE BUILDING WHERE THE CONTROLLER WILL BE INSTALLED, WITH A GROUND RESISTANCE OF 10OHMS OR LESS TO PROVIDE SURGE AND LIGHTNING PROTECTION FOR NEW CONTROLLER. AS PER THE MANUFACTURE'S SPECIFICATIONS AND RECOMMENDATIONS.

PAY PARTICULAR ATTENTION TO WIRE CONNECTIONS, GROUNDING AND SURGE PROTECTION FOR THE ESP-LXIVM 2-WIRE SYSTEM. INSTALL A GROUNDED IVM-SD LINE SURGE PROTECTORS.... EVERY 500FT ALONG THE 2-WIRE PATH -OR- EVERY 15 DEVICES AND NOTE THOSE LOCATIONS ON THE AS-BUILT DRAWINGS. GROUNDING PROTECTION FOR THE CONTROLLER AND THE 2-WIRE PATH SHALL HAVE A RESISTANCE TO GROUND OF 10OHMS OR LESS PER RAINBIRD SPECIFICATIONS.

THE IRRIGATION SYSTEM IS DESIGNED TO OPERATE MULTIPLE ZONES SIMULTANEOUSLY (UP TO 70GPM) TO MAXIMIZE HYDRAULIC EFFICIENCY AND MINIMIZE OVERALL WATERING TIME. EQUIP CONTROLLER WITH FLOW SMART MODULE AND PROGRAM TO "LEARN" FINAL FLOW RATES OF EACH ZONE VIA THE FLOW SENSOR & IVM-SEN SENSOR INTERFACE DOWNSTREAM OF THE BACKFLOW PREVENTER. DO NOT EXCEED FLOW RATE OF 100GPM. INSTRUCT THE OWNER IN UTILIZING FEATURES SUCH AS FLOWATCH, FLOMANAGER, SILMULSTATIONS AND CYCLE+SOAK TO DEMONSTRATE THE ADVANCED CAPABILITIES OF THIS SMART CONTROLLER.

INSTALL 14AWG 2-WIRE COMMUNICATION CABLE MEETING RAINBIRD MAXICABLE SPECIFICATIONS AND MAKE WATERPROOF WIRE CONNECTIONS USING RAINBIRD WC-20 WIRE CONNECTORS. WIRE CONNECTIONS SHALL ONLY BE MADE INSIDE VALVE BOXES.

AS BUILT PLANS AND UPDATED AUTOCAD DRAWING FILES, REFLECTING ALL INFORMATION SHOWN ON THE RECORD DRAWINGS SHALL BE COMPLETED PRIOR TO FINAL ACCEPTANCE OF THE IRRIGATION SYSTEM. ALL GROUNDING, SURGE PROTECTION AND WIRE SPLICES AS WELL AS ALL DRAIN VALVE LOCATIONS SHALL BE ADDED TO THE AS-BUILT DRAWINGS AND ALL VALVE LOCATIONS INSTALLED AS PART OF THE PHASE 4 WORK TO BE UPDATED AND VALVE TYPE LABELED ON THE AS-BUILD DRAWINGS.

UPON ACCEPTANCE OF THE SYSTEM, PREPARE TWO COPIES OF AS-BUILT DRAWINGS, PRODUCT MANUALS, SPECIFICATIONS, OPERATING, MAINTENANCE AND WINTERIZATION INSTRUCTIONS WHICH FULLY AND ACCURATELY DESCRIBE THE IRRIGATION SYSTEM AND ITS COMPONENTS. BIND ALL INFORMATION IN A HARD-COVER, LABELED BINDER AND FURNISH TO THE OWNER AND USER.

UPON ACCEPTANCE OF THE SYSTEM, THE CONTRACTOR SHALL ORIENT THE OWNER TO THE OPERATION AND ADJUSTMENTS OF THE CONTROLLER ACCORDING TO LOCAL SEASONAL REQUIREMENTS. THE CONTRACTOR SHALL ALSO FAMILIARIZE THE OWNER WITH SPRINKLER AND VALVE ADJUSTMENTS. THE OWNER IS, IN GENERAL, TO BE TOTALLY FAMILIARIZED WITH THE OVERALL OPERATION, ADJUSTMENT, MAINTENANCE AND INTENT OF THE IRRIGATION SYSTEM, INCLUDING THE MEASURES THAT SHOULD BE TAKEN TO PROVIDE WINTERIZATION FOR THE SYSTEM. SUCH INSTRUCTIONS SHOULD BE IN WRITTEN FORM AND PRESENTED TO THE PARTY RESPONSIBLE FOR THE CARE AND MAINTENANCE OF THE IRRIGATION SYSTEM AND ITS COMPONENTS.

UPON ACCEPTANCE OF THE SYSTEM, THE CONTRACTOR SHALL FURNISH A CERTIFICATE OF WARRANTY REGISTRATION AND A WRITTEN GUARANTEE OF WORK AND MATERIALS, EXCLUDING VANDALISM, OCCUPANCY OF THE PROJECT, OWNER NEGLECT AND ACTS OF GOD, FOR A ONE-YEAR PERIOD FROM THE DATE OF FINAL ACCEPTANCE OF THE PROJECT BY THE OWNER.

INFORMATION ON THIS DRAWING IS ONLY A PORTION OF THE RESOURCES FOR INSTALLATION, PROGRAMMING AND TROUBLESHOOTING THE RAINBIRD LXIVM 2-WIRE CONTROLLER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DOWNLOAD ALL PERTINENT DATA, FOLLOW RAINBIRD'S WRITTEN SPECIFICATIONS AND RECOMMENDATIONS AND FOR PROVIDING THE OWNER'S REPRESENTATIVE WITH PRINTED VERSIONS OF THESE DOCUMENTS IN THE PROJECT MAINTENANCE MANUAL.

ALABACK DESIGN
LANDSCAPE ARCHITECTS
3202 E 21ST ST, SUITE 100
TULSA, OKLAHOMA 74114
918.742.1463

CHEROKEE PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS

CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

REVISIONS:

#	DATE	DESCRIPTION

ISSUE
FINAL PLANS

DATE:	01.31.25
PROJECT #	23015
DESIGN:	MDL
DRAWN:	MDL
CHECKED:	MP

SHEET TITLE
IRRIGATION CONTROLLER

SHEET #
L5.20

MITCHELL D. LANDRY CERTIFIED IRRIGATION DESIGNER 003375 COMMERCIAL

811 Know what's below. Call before you dig.

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL MAINTAIN AND REPAIR ANY DAMAGE TO STORM WATER POLLUTION CONTROL DEVICES AS SOON AS PRACTICAL AFTER THE DISCOVERY OF THE DAMAGE.
2. THE CONTRACTOR SHALL USE WHATEVER MEASURES NECESSARY TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. THIS CAN BE ACCOMPLISHED BY SILT FENCES, WIRE AND BURLAP FENCES, OR BARRIERS OF CEDAR TREES AND/OR BALES OF STRAW.
3. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL EROSION, CONSERVATION, AND SILTRATION REQUIREMENTS.
4. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED. ADDITIONAL BMP'S SHALL BE IMPLEMENTED AS DICTATED BY FIELD CONDITIONS, AT NO ADDITIONAL COST TO OWNER, THROUGHOUT ALL PHASES OF CONSTRUCTION.
5. THE CONTRACTOR SHALL KEEP PAVEMENT AREAS FREE OF ANY MUD OR EXCAVATION WASTE FROM TRUCKS OR OTHER EQUIPMENT.
6. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL STRUCTURES UPON COMPLETION OF CONSTRUCTION AND THE ESTABLISHMENT OF SUFFICIENT PERMANENT STABILIZATION TO PREVENT EROSION.
7. THE CONTRACTOR SHALL INSTALL SOLID SLAB SOD, UNLESS OTHERWISE NOTED, TO OBTAIN STABILIZATION OF DISTURBED AREAS AS REQUIRED BY THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH THE CONSTRUCTION AND EROSION CONTROL SCHEDULES.
8. THE CONSTRUCTION AND PLACEMENT OF EROSION AND SEDIMENT CONTROL DEVICES SHALL BE TIMED IN CONJUNCTION WITH THE PROGRESS OF GENERAL CONSTRUCTION. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSPECTED AND MAINTAINED, AS PREVIOUSLY SET FORTH HEREIN, UNTIL ALL AREAS OF CONSTRUCTION HAVE BEEN STABILIZED.
9. THE CONTRACTOR SHALL BEGIN PERMANENT STABILIZATION OF COMPLETED AREAS OF CONSTRUCTION AS SOON AS IS PRACTICAL.
10. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD STABILIZED CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL THEN A MOUNTABLE BERM WITH FIVE TO ONE (5:1) SLOPES WILL BE PERMITTED.
11. THE WHEELS OF VEHICLES LEAVING THE CONSTRUCTION AREAS SHALL BE CLEANED OF MUD PRIOR TO LEAVING THE CONSTRUCTION OR STAGING AREAS. WHEN WHEEL WASHING IS REQUIRED IT SHALL BE PERFORMED IN AN AREA STABILIZED WITH STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
12. ANY MUD, SEDIMENT, EXCAVATION WASTE, ETC., DROPPED, WASHED, SPILLED, OR TRACKED FROM THE CONSTRUCTION OR STAGING AREAS ONTO STREETS OUTSIDE OF THE CONSTRUCTION AREAS SHALL BE REMOVED IMMEDIATELY.
13. PERIODIC INSPECTION AND INSPECTION AFTER SIGNIFICANT RAINFALL SHALL BE MADE OF THE CONSTRUCTION ENTRANCES AS PREVIOUSLY SET FORTH HEREIN.
14. SILT FENCE SHALL BE USED TO CONTROL SEDIMENTATION FROM SURFACE RUNOFF AROUND THE PERIMETER OF THE WORK AREA AS NECESSARY.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING THE SILT FENCE BARRIER AROUND THE LIMITS OF CONSTRUCTION AND DURING CONSTRUCTION, UNTIL ALL WORK IS COMPLETE AND VEGETATION IS REESTABLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND SUBJECT TO FREQUENT INSPECTION OF ALL METHODS AND MATERIALS FOR EROSION PROTECTION, AND SHALL REPLACE ANY ITEM CONSIDERED DEFECTIVE BY THE ENGINEER IN A TIMELY MANNER.
16. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SODDED, UNLESS OTHERWISE NOTED. THESE AREAS SHALL BE SODDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING.
17. ONSITE AND OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BMP'S.
18. CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF TEMPORARY OR FINAL DRIVING SURFACES.

SITE DEMOLITION NOTES:

1. SCOPE OF WORK SHALL INCLUDE REMOVAL OF ALL EXISTING OBJECTS REQUIRED FOR PROJECT CONSTRUCTION. REFER TO SHEET L0.40 SITE DEMOLITION PLAN AND SHEET E100 ELECTRICAL SITE DEMOLITION PLAN. REMOVED ITEMS THAT ARE NOT DENOTED FOR SALVAGE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF IN AN APPROVED MANNER. UNLESS OTHERWISE SPECIFIED, ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED.
2. EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATED BASED ON RECORD DRAWINGS OR HORIZONTAL LOCATIONS FLAGGED IN THE FIELD. ALL VERTICAL LOCATIONS ARE APPROXIMATE DEPTH ONLY. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF UTILITIES INFORMATION. FIELD VERIFY THE PRESENCE, TYPE, SIZE, LOCATION AND DEPTH OF ALL EXISTING UTILITIES IN THE PROJECT AREA PRIOR TO CONSTRUCTION. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING.
3. THE REMOVAL OF ANY UTILITY LINE, SERVICE, APPURTENANCE, AND STRUCTURE SHALL BE COORDINATED WITH THE OWNER OF THE RESPECTIVE UTILITY.
4. ALL PAVEMENT REMOVAL SHALL BE FULL DEPTH. PAVEMENT REMOVAL ADJACENT TO EXISTING PAVEMENT, TO REMAIN, SHALL BE SAW-CUT IN STRAIGHT LINES, FULL DEPTH.
5. SIDEWALK REMOVALS SHOULD OCCUR TOWARDS THE END OF DEMOLITION. NEW SIDEWALK SHALL BE INSTALLED AS SOON AS POSSIBLE AFTER THE REMOVAL OF OLD SIDEWALK IN ORDER TO MAINTAIN OPERATIONS WITH MINIMAL INTERRUPTION IN SERVICE.
6. ALL DEBRIS FROM REMOVAL OPERATIONS SHALL BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS SHALL NOT BE PERMITTED.
7. CONTRACTOR SHALL BACKFILL ANY VOIDS RESULTING FROM STRUCTURES, VEGETATION, AND OBJECTS REMOVED.
8. ALL EXISTING STRUCTURES, PAVEMENTS AND UTILITIES DESIGNATED TO REMAIN SHALL BE ADEQUATELY PROTECTED FROM DAMAGE THAT MIGHT OTHERWISE OCCUR DUE TO CONSTRUCTION OPERATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY STRUCTURES, UTILITIES OR PAVEMENTS RESULTING FROM THE CONTRACTOR'S OPERATIONS. CONTRACTOR SHALL TAKE PHOTOS OF EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
9. DURING CONSTRUCTION, ALL FIRE HYDRANTS, VALVE BOXES, FIRE OR POLICE CALL BOXES AND OTHER EXISTING UTILITY CONTROLS SHALL BE LEFT INTACT, UNOBSTRUCTED AND ACCESSIBLE UNLESS NOTED ON THE PLAN.
10. EXISTING DRAINAGE STRUCTURES & PIPES, TO REMAIN, SHALL BE CLEANED OF SILT & DEBRIS AND INSPECTED FOR ANY STRUCTURAL DEFICIENCIES.
11. ABIDE BY ALL FEDERAL, STATE AND LOCAL CODES FOR THE DEMOLITION AND DISPOSAL OF ALL MATERIALS. CEC SHALL NOT BE LIABLE FOR ANY DEMOLITION PROCEDURES, SCHEDULING, OR DISPOSAL OF ANY MATERIALS.
12. THE SAFETY OF THE PROJECT SITE IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL CONSTRUCTION SIGNING, SAFETY FENCE, OR OTHER ITEMS NEEDED FOR PROTECTION OF THE GENERAL PUBLIC SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE.

SITE CONSTRUCTION NOTES:

1. ALL WORK PERFORMED AND MATERIALS SUPPLIED SHALL CONFORM TO THE AUTHORITY HAVING JURISDICTION'S STANDARD AND SPECIFICATIONS. IF AHJ STANDARDS AND SPECIFICATIONS DO NOT APPLY, ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION 2019 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND SPECIAL PROVISIONS. PROJECT SPECIFICATIONS GOVERN OVER STANDARD SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES AND GOVERNMENTAL AGENCIES WHO MIGHT HAVE UTILITY LINES ON OR ABOUT THE PREMISES, OR WHO MIGHT BE AFFECTED BY THE CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE HIS ACTIVITIES WITH THE UTILITY COMPANIES TO ENSURE COMPLIANCE WITH THE PROJECT SCHEDULE. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO LOCATE AND PROTECT EXISTING UTILITY LINES, AND SHALL REPAIR ANY DAMAGES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN CONSTRUCTION STAKING. CONTRACTOR TO OBTAIN CAD DRAWING FILE FROM ENGINEER FOR SITE CONSTRUCTION STAKING.
4. ALL CURB DIMENSIONS, RADIUS CALLOUTS AND ELEVATIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
5. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
6. ASSURE A SMOOTH FIT AND CONTINUOUS GRADE WITH EXISTING PAVEMENT. WHERE NEW CONCRETE PAVING IS TO ABUT EXISTING PAVEMENT, THE CONTRACTOR SHALL CONSTRUCT A THICKENED EDGE.
7. UNLESS OTHERWISE STATED IN THE GENERAL CONDITIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FAILED TESTS. THE RESULTS OF THE TESTS SHALL BE FORWARDED TO THE PROJECT ENGINEER FOR HIS REVIEW AND APPROVAL.
8. CONTRACTOR TO NOTIFY DESIGN ENGINEER IF ANY PLAN DISCREPANCIES ARISE IN THE FIELD DURING CONSTRUCTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY WORK ORDERS AND PERMITS FROM THE LOCAL AHJ AND/OR THE STATE OF OKLAHOMA, INCLUDING PROVISIONS OF BONDS AND INSURANCE AS REQUIRED.
10. THE PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING PUBLIC OR PRIVATE ROADWAYS, DRIVEWAYS, OR SIDEWALKS TO LOCAL OR THROUGH TRAFFIC. IF ROAD CLOSURE IS REQUIRED IT SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION AND THE OWNER.
11. PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED PAVED SURFACES (INCLUDING CURBS) SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, AND OTHER DISFIGUREMENT.
12. SIDEWALK RAMPS AND ACCESSIBLE PARKING AREAS SHALL BE CONSTRUCTED TO MEET THE ADA ACCESSIBILITY GUIDELINES. GRADES IN ACCESSIBLE PARKING AREAS SHALL NOT EXCEED 2% IN ANY DIRECTION. CROSS SLOPE ON SIDEWALK SHALL NOT EXCEED 2%. LONGITUDINAL SLOPE ON SIDEWALK SHALL NOT EXCEED 5% EXCEPT AS SPECIFICALLY SHOWN IN PLANS.
13. CONDUCT AS-BUILT MEASUREMENTS AND SUBMIT DOCUMENTATION TO THE OWNER PRIOR TO FINAL ACCEPTANCE.

SITE GRADING NOTES:

1. PROPOSED CONTOURS DEPICT FINAL PAVING ELEVATION. ADJUST SUBGRADE AS NECESSARY FOR PAVEMENT THICKNESS. REFER TO SHEETS L2.00 AND L3.10 FOR GRADING PLAN AND GRADING AND DRAINAGE NOTES.
2. A GEOTECHNICAL ENGINEERING REPORT WAS NOT PERFORMED ON THE SITE. THE FOLLOWING NOTES ARE BASED ON GENERAL BEST PRACTICES. OWNER IS RESPONSIBLE FOR ACCOMMODATING SOIL CONDITIONS ENCOUNTERED.
3. FOR DESCRIPTION OF IMPORTED TOPSOIL AND FOR GRADING AND FILL PROCEDURE, REFER TO GRADING NOTES ON SHEET L2.00.
4. CONTRACTOR SHALL TAKE ALL PREVENTIVE MEASURES NECESSARY TO ELIMINATE, REDUCE, OR ALLEVIATE ANY DUST NUISANCE IN THE WORK AREA.
5. EXISTING CONTOURS AND SPOT ELEVATIONS ARE CORRECT PER SURVEY DATED JANUARY 2024. CONTRACTOR SHALL VERIFY ELEVATIONS PRIOR TO COMMENCING CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
6. CONTRACTOR SHALL ADJUST THE GRADES OF ALL EXISTING VALVE BOXES AND COVERS, FIRE HYDRANTS, MANHOLES, METER BOXES, TRAFFIC BOXES, AND OTHER UTILITIES TO MEET THE SPECIFICATIONS OF EACH UTILITY COMPANY.

SITE UTILITY NOTES:

1. THOSE UTILITIES WHICH ARE PUBLIC SHALL BE INSTALLED BY A PROPERLY LICENSED CONTRACTOR APPROVED BY THE AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROVED PLANS, WORK ORDERS, AND PERMITS REQUIRED.
2. CONTRACTOR SHALL CONTACT OKIE (1-800-522-6543) FOR LOCATING EXISTING UTILITIES PRIOR TO ANY REMOVALS OR EXCAVATION . CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENTAL AGENCIES WHO MAY HAVE UTILITY LINES ON OR ABOUT THE PREMISES OR WHO MAY BE AFFECTED BY THE CONSTRUCTION.
3. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE FOR BACKFILLING AND COMPACTING ALL TRENCHES AND EXCAVATION AREAS ASSOCIATED WITH UTILITY CONSTRUCTION.
4. ALL VALVES, MANHOLE LIDS, AND SEWER CLEAN-OUTS LOCATED IN PAVED AREAS, SHALL BE RATED FOR H-20 TRAFFIC LOADING.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ELEVATIONS AND ADJUSTING ALL COVERS AND LIDS IN PAVED AREAS TO FINISHED GRADE. ALL FIELD ADJUSTMENTS SHALL BE NOTED AND BROUGHT TO ENGINEER'S ATTENTION FOR APPROVAL.
6. CONTRACTOR SHALL RAISE OR LOWER ALL EXISTING VALVE BOXES AND COVERS, FIRE HYDRANTS, MANHOLES, METER BOXES, TRAFFIC BOXES, AND OTHER UTILITIES TO MEET THE SPECIFICATIONS OF EACH UTILITY COMPANY RESPECTIVELY.
7. CONTRACTOR SHALL PROVIDE ELECTRICAL CONDUIT AS NEEDED. REFER TO ELECTRICAL PLANS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTING AND MAINTAINING BARRICADES AND OTHER TRAFFIC WARNING DEVICES AS NECESSARY AROUND THE PERIMETER OF CONSTRUCTION AND ADJACENT TO ANY OPEN TRENCHES.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH STATE LAWS AND FEDERAL REGULATIONS RELATING TO TRENCH SAFETY, INCLUDING THOSE WHICH MAY BE ENACTED DURING THE PERFORMANCE UNDER THIS CONTRACT. CONTRACTOR IS ADVISED THAT FEDERAL REGULATIONS 29 C.F.R. 1926.650-1926.652 HAVE BEEN, IN THEIR MOST RECENT VERSION AS AMENDED, IN EFFECT SINCE JANUARY 2, 1990. CONTRACTOR SHALL FULLY COMPLY WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS PERTAINING TO EXCAVATIONS, TRENCHING, AND SHORING AND SHALL PROVIDE AND FAMILIARIZE ITS EMPLOYEES INVOLVED IN EXCAVATION AND TRENCHING WITH THE PROVISIONS IN OSHA PAMPHLET NUMBER 2226, EXCAVATING AND TRENCHING OPERATIONS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TEMPORARY UTILITIES REQUIRED FOR CONSTRUCTION.
11. CONTRACTOR SHALL KEEP OPEN TRENCH DRAINED AT ALL TIMES.
12. CONTRACTOR TO PROVIDE AS-BUILT FIELD DRAWINGS FOR ALL EXISTING AND PROPOSED UTILITIES ON SITE, PRIOR TO FINAL ACCEPTANCE.

SITE DETAIL NOTES:

1. DETAILS SHOWN SHALL SUPERCEDE SPECIFICATIONS UNLESS OTHERWISE NOTED BY ENGINEER.
2. NO REVISIONS SHALL BE MADE TO DETAILS UNLESS AUTHORIZED BY ENGINEER. CONTRACTOR SHALL SUBMIT ANY CHANGES TO PROJECT ENGINEER FOR APPROVAL.

CEC
CEC CORPORATION
WWW.CONNECTCEC.COM
OK CA#: 32 EXP.: 2026-06-30
CEC PROJECT #240037

PROFESSIONAL
Kimberly J Jackson
1/31/2025
29812
OKLAHOMA

CHEROKEE PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS
CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

REVISIONS:

#	DATE	DESCRIPTION

ISSUE

FINAL PLANS

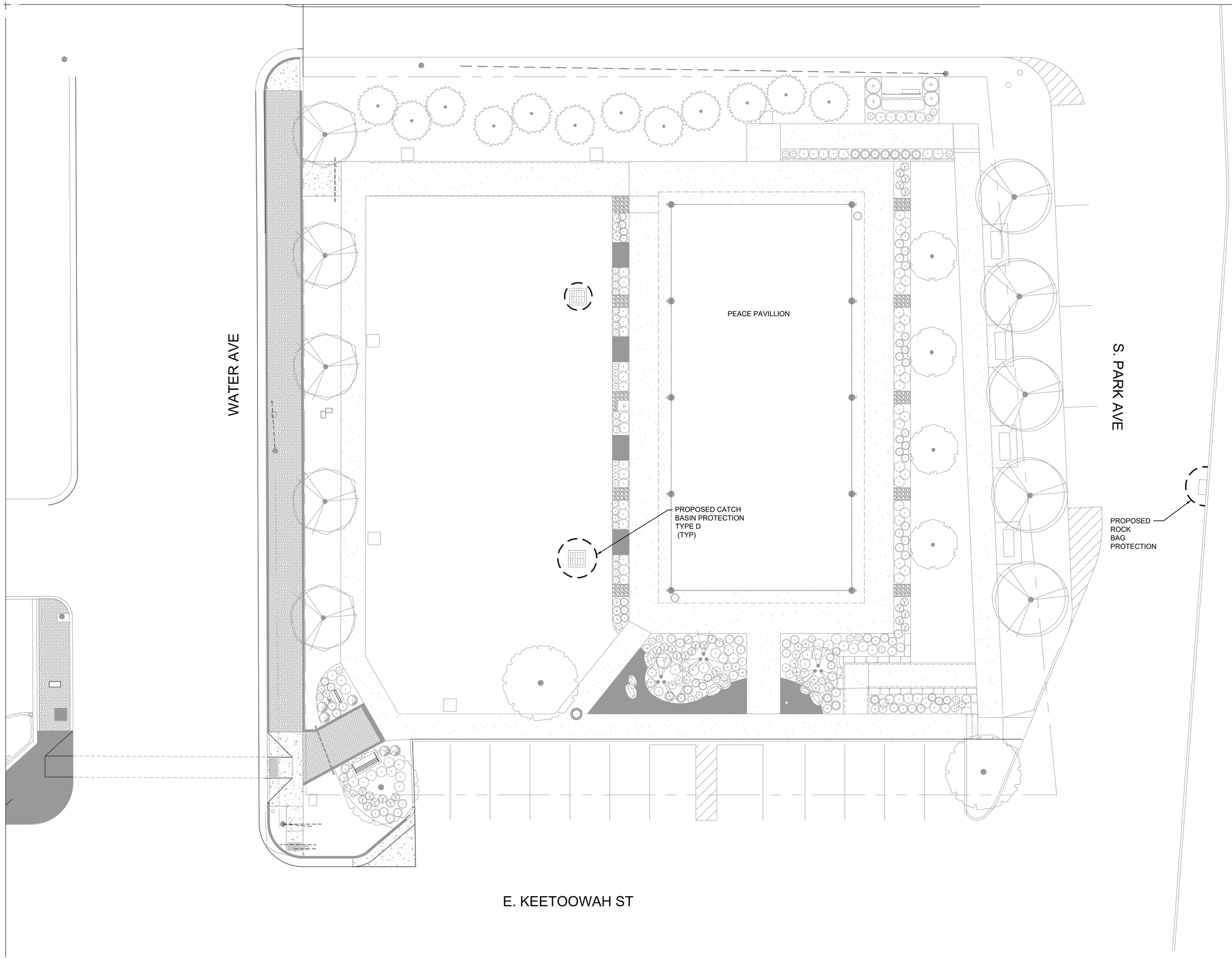
DATE:	1.31.24
PROJECT #	240037
DESIGN:	KSJ
DRAWN:	AMK
CHECKED:	KSJ

SHEET TITLE

NOTES AND LEGENDS

SHEET #

C.001



NORTH ARROW
SCALE 1"=10'
0 10' 20'

CEC

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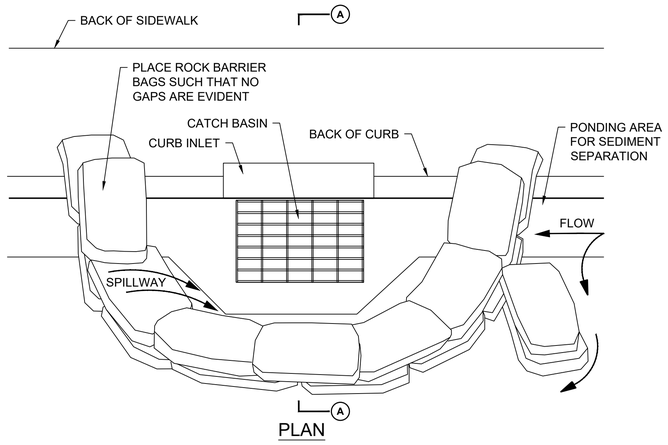
#	DATE	DESCRIPTION

ISSUE
FINAL PLANS

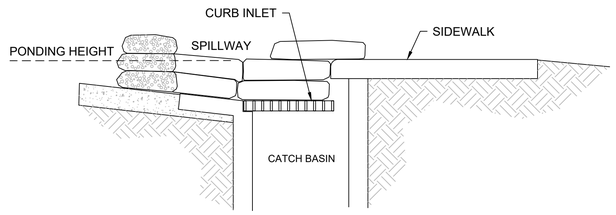
DATE:	1.31.24
PROJECT #	240037
DESIGN:	KSJ
DRAWN:	AMK
CHECKED:	KSJ

SHEET TITLE
EROSION CONTROL PLAN

SHEET #
C.100



PLAN



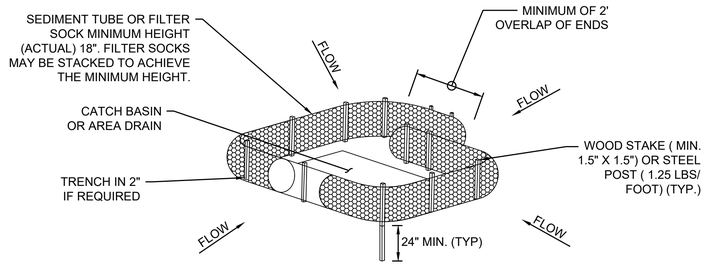
SECTION A-A

NOTES:

1. PLACE CURB TYPE ROCK BAG BARRIER ON GENTLY SLOPING STREET, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNNOFF.
2. BAGS OF WOVEN GEOTEXTILE FABRIC, FILLED WITH GRAVEL MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
3. LEAVE ONE SANDBAG GAP IN THE TOP ROW ON THE SIDE AWAY FROM FLOW, TO PROVIDE A SPILLWAY; OR IN THE CENTER IF PONDING IS NEEDED ON BOTH SIDES.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT, SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

1 ROCK BAG DETAIL

NTS



2 CATCH BASIN PROTECTION (TYPE D)

NTS

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REVISIONS:		
#	DATE	DESCRIPTION

ISSUE

FINAL PLANS

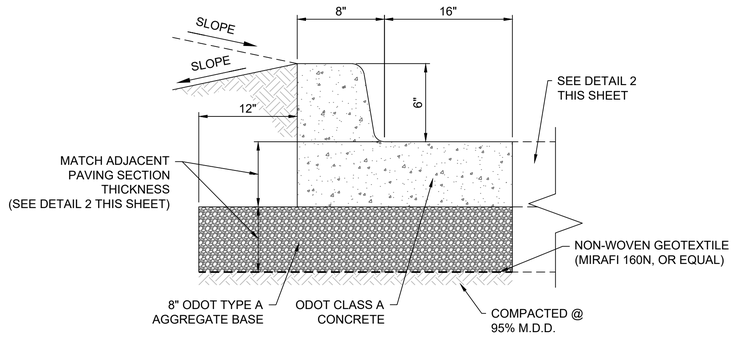
DATE:	1.31.24
PROJECT #	240037
DESIGN:	KSJ
DRAWN:	AMK
CHECKED:	KSJ

SHEET TITLE

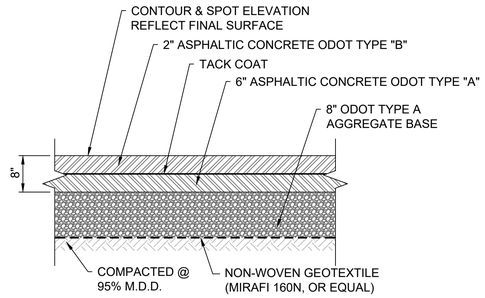
EROSION CONTROL DETAILS

SHEET #

C.200



1 CONCRETE CURB DETAIL
NTS



2 LIGHT-DUTY ASPHALT PAVEMENT
NTS

NOTE:
1. THESE ARE MINIMUM DESIGN STANDARDS PER CITY OF TAHLEQUAH ENGINEERING DESIGN STANDARDS TABLE 7.1 - STREET MINIMUM DESIGN STANDARDS.

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SITE AND LANDSCAPE ENHANCEMENTS
CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

REVISIONS:		
#	DATE	DESCRIPTION

ISSUE
FINAL PLANS

DATE:	1.31.24
PROJECT #	240037
DESIGN:	KSJ
DRAWN:	AMK
CHECKED:	KSJ

SHEET TITLE
SITE DETAILS

SHEET #
C.201

EXISTING PANELBOARD: P1

Location: existing RACK
Supply From:
Mounting:
Enclosure:

Volts: 120/240
Phases: 1
Wires: 3
Notes:

A.I.C. Rating: Note (12)
Mains Type: 200A
Mains Rating: 200.0 A

CKT	Circuit Description	Load Class	Trip	Poles	Wire	A	B	Wire	Poles	Trip	Load Class	Circuit Description	CKT
1	(e) MAIN (11) (1)	--	200	2	--	0.00 0.60		--	1	20	--	existing COLUMN RECEPT	2
3							0.00 0.75	--	1	20	--	existing FAN 1 MOTOR	4
5	existing COLUMN RECEPT	--	20	1	--	0.60 0.74		--	1	20	--	existing SUSPENDED LIGHTING	6
7	existing OVERHEAD RECEPT	--	20	1	--		0.72 0.11	--	1	20	--	existing WALL LIGHTING	8
9	existing FAN 2 MOTOR	--	20	1	--	0.75 0.00		--	1	20	--	SPARE	10
11	existing COLUMN LIGHTING	--	20	1	--		0.34 1.92		1	20	R	RECEPT PEDESTAL NW	12
13	existing WALL LIGHTING	--	20	1	--	0.11 1.92			1	20	R	RECEPT PEDESTAL SW	14
15	existing OVERHEAD RECEPT	--	20	1	--		0.72 1.84	--	1	20	--	existing FAN POWER	16
17	RV PEDESTAL	P	90	2	#2	7.25 0.50		--	1	20	--	existing IRRIGATION	18
19							7.25 1.92		1	20	R	RECEPT PEDESTAL SE	20
21	RV PEDESTAL	P	90	2	#2	7.25 1.74			1	20	L	SITE LIGHTING	22
23							7.25 1.92		1	20	R	RECEPT PEDESTAL NE	24
25	SPACE	--	--	1	--	-- --		--	1	--	--	SPACE	26
27	SPACE	--	--	1	--		-- --	--	1	--	--	SPACE	28
			Total Load:			21.46	24.74	kVA					
			Total Amps:			178.8	206.2 A	Amps					

Load Classification	Connected Load	Demand Factor	Demanded Load	Panel Totals	
Spare	7776 VA	100%	7776 VA		
(R) RECEPTACLE	7680 VA	100%	7680 VA	**Total Conn. Load:**	46193 VA
(LI) LIGHTING	1737 VA	125%	2171 VA	**Total Feeder Load:**	46627 VA
(P) NON-CONTINUOUS POWER	29000 VA	100%	29000 VA	**Total Connected Current:**	192.5 A
				Total Feeder Current:	194.3 A

ELECTRICAL FEEDERS

GENERAL NOTES:
1. CONDUIT SIZE IS BASED ON CONDUIT AND CONDUCTOR PROPERTIES LISTED IN THE NEC, CHAPTER 9. OTHER CONDITIONS MAY REQUIRE A LARGER CONDUIT.
   - TABLE 4, EMT WITH 40% FILL.
   - TABLE 5, THHN/THWN WIRE FOR COPPER CONDUCTORS.
   - TABLE 5A, XHHW-2 WIRE FOR ALUMINUM CONDUCTORS.
2. EQUIPMENT GROUNDING CONDUCTOR SIZE IS BASED ON NEC TABLE 250.122.
3. FOR SEPARATELY DERIVED SYSTEMS, INDICATED WITH -T, THE SUPPLY SIDE BONDING JUMPER SIZE IS BASED ON NEC TABLE 250.102(C)(1).
4. CONDUCTOR SIZES ARE BASED ON NEC TABLE 310.16, 60°C FOR FEEDERS 100A AND LESS, AND 75°C FOR FEEDERS OVER 100A.

NAME	FEEDER
200-4-S	2"C,4#3/0

KEYNOTES

1 DEMOLISH EXISTING MAIN CIRCUIT BREAKER AND REPLACE WITH NEW 2-POLE 200A CIRCUIT BREAKER
2 EXISTING SERVICE ENTRANCE WIRE TO BE DEMOLISHED. REPLACE WITH NEW SERVICE ENTRANCE FEEDER.

PANELBOARD NOTES (#)

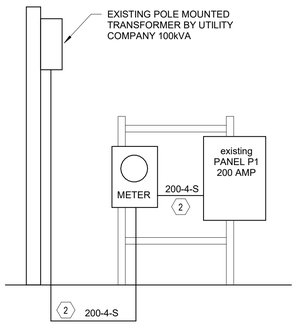
1. TERMINATE GROUND ON ISOLATED GROUND BUS.
2. INSTALL LOCKING DEVICE FURNISHED WITH PANELBOARD (LOCK-OFF FOR MAINTENANCE).
3. INSTALL LOCKING DEVICE FURNISHED WITH PANELBOARD (LOCK-ON FOR CRITICAL LOAD).
4. GFI BREAKER FOR PERSONNEL PROTECTION (5mA).
5. GFI BREAKER FOR EQUIPMENT PROTECTION (30mA).
6. CONDUCTOR SIZE SHOWN IN PANEL SCHEDULE HAS BEEN INCREASED FOR VOLTAGE DROP. SIZE EQUIPMENT GROUND PROPORTIONALLY PER NEC. REFERENCE GROUND WIRE SIZING CHART.
7. REFER TO FAULT CURRENT SCHEDULE FOR AVAILABLE FAULT CURRENT FOR INTERRUPT RATINGS.
8. REFER TO ONE-LINE DIAGRAM FOR WIRE SIZES.
9. FACTORY WIRED TO LOAD.
10. THRU CONTROLLER. REFER TO LIGHTING CONTROLLER DETAIL.
11. ADD NEW CIRCUIT BREAKER TO EXISTING PANEL. NEW CIRCUIT BREAKER SHALL MATCH AIC RATING, MANUFACTURER, AND TYPE OF EXISTING CIRCUIT BREAKERS.
12. MATCH AIC RATING OF SERVICING DEVICE.

EQUIPMENT GROUNDING CONDUCTOR SIZING CHART

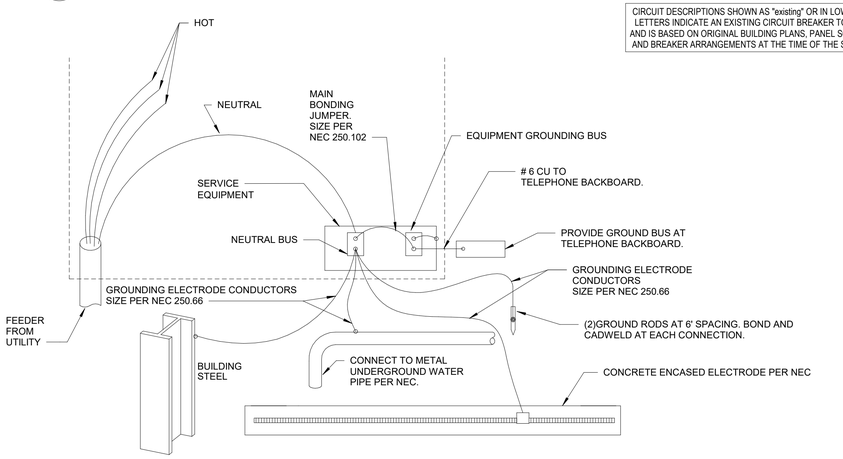
BRKR AMPS		WIRE SIZE				
15-20	PHASE GROUND	12 12	10 10	8 8	6 6	4 4
25-30	PHASE GROUND	10 10	8 8	6 6	4 4	3 3
35-50	PHASE GROUND	8 10	6 8	4 4	3 4	2 4
60	PHASE GROUND	6 10	4 6	3 6	2 4	1 4
70	PHASE GROUND	6 8	4 4	3 4	2 3	1 2
80-90	PHASE GROUND	4 8	3 6	2 4	1 4	1/0 3
100	PHASE GROUND	3 8	2 6	1 4	1/0 4	2/0 3

PER NEC 250.122(B)

CIRCUIT DESCRIPTIONS SHOWN AS "existing" OR IN LOWER CASE LETTERS INDICATE AN EXISTING CIRCUIT BREAKER TO REMAIN AND IS BASED ON ORIGINAL BUILDING PLANS, PANEL SCHEDULES AND BREAKER ARRANGEMENTS AT THE TIME OF THE SITE VISIT.



2 E0.01 RISER DIAGRAM
NTS



3 E0.01 SERVICE GROUNDING DETAIL
NTS

ABBREVIATIONS

A	AMPERES	MLO	MAIN LUG ONLY
AC	ABOVE COUNTER	NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AL	ALUMINUM	NEC	NATIONAL ELECTRICAL CODE
CB	CIRCUIT BREAKER	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
CU	COPPER	NIC	NOT IN CONTRACT
E	EXISTING	NL	NIGHT LIGHT
EC	ELECTRICAL CONTRACTOR	TR	TAMPER-RESISTANT
EP	EXPLOSION PROOF	UG	UNDERGROUND
GFI	GROUND FAULT CIRCUIT INTERRUPTER	UON	UNLESS OTHERWISE NOTED
GR	GROUND	V	VOLTS
HP	HORSE POWER	VA	VOLT-AMPERES
IG	ISOLATED GROUND	W	WATTS
KVA	KILO VOLT-AMPERES	WP	WEATHERPROOF WHILE IN USE
KW	KILOWATTS	WR	WEATHER RESISTANT
LSIA	LONG-SHORT-INSTANTANEOUS-ALARM		
LSIG	LONG-SHORT-INSTANTANEOUS-GROUND		
MCB	MAIN CIRCUIT BREAKER		

SWITCHES LEGEND

S* SWITCH MOUNTED AT +48", SINGLE POLE UON.
LOWER CASE LETTER, WHEN PRESENT, INDICATES FIXTURES CONTROLLED.

* ABBREVIATIONS FOR SWITCH
2 DOUBLE POLE SWITCH
3 3-WAY SWITCH
4 4-WAY SWITCH
D DIMMER SWITCH (SHALL BE COMPATIBLE WITH FIXTURE BEING DIMMED)
F FAN SWITCH: DUAL OPERATION WITH DIMMER
K KEYED SWITCH
M MOTOR RATED SWITCH
OS DUAL TECHNOLOGY OCCUPANCY SENSOR
V VOLUME CONTROL SWITCH
OSD OCCUPANCY SENSOR/DIMMER COMBO

RECEPTACLES LEGEND

DUPLEX RECEPTACLE (NEMA 5-20R)
GFI DUPLEX RECEPTACLE (NEMA 5-20R), SELF-TEST TYPE
QUADRUPLEX RECEPTACLE (TWO NEMA 5-20R)
GFI QUADRUPLEX RECEPTACLE (TWO NEMA 5-20R), SELF-TEST TYPE
DIRECT EQUIPMENT CONNECTION: VERIFY CONNECTION DETAILS WITH MANUFACTURER

PANELS AND MISCELLANEOUS LEGEND

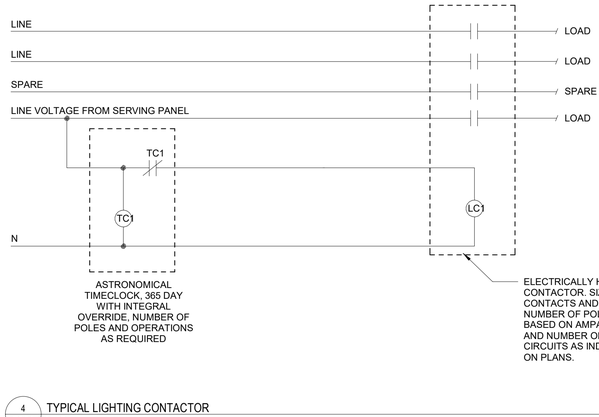
LIGHT OR POWER PANEL
(J) 4x4 JUNCTION BOX.
EQUIPMENT DISCONNECT: INTERIOR DISCONNECTS SHALL BE NEMA 1 TYPE. EXTERIOR DISCONNECTS SHALL BE NEMA 3R TYPE. SIZE AS INDICATED IN THE PLANS AND PER NAMEPLATE RATING

EXISTING ELECTRICAL AND DEMOLITION NOTES

1 PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE FACILITY AND RELATED SITE. REVIEW THE GENERAL NOTES AND ALL OTHER TRADE DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OR OWNER, AS SPECIFIED, OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMITTING BID.
2 ANY EXISTING CONDITIONS REFLECTED WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS AND CAREFULLY COORDINATE NEW WORK AND DEMOLITION WITH ALL OTHER DISCIPLINES AND EXISTING CONDITIONS.
3 PROVIDE ALL DEMOLITION OF EXISTING ELECTRICAL SYSTEMS AND NEW ELECTRICAL SYSTEM MODIFICATIONS REQUIRED BECAUSE OF BUILDING REMODELING, AS NOTED ON THE DRAWINGS, OR NECESSARY FOR PROPER OPERATION AND NEW CONSTRUCTION. REMOVE ALL ABANDONED CABLES AND WIRING ABOVE ACCESSIBLE CEILINGS AND VENTILATION SHAFTS.
4 COORDINATE INTERUPTION OF ALL BUILDING SERVICES INCLUDING BUT NOT LIMITED TO BRANCH CIRCUITS, DATA, TELEPHONE, ETC WITH BUILDING OWNER PRIOR TO INTERUPTION. PROVIDE LABOR AND MATERIALS AS REQUIRED TO REDUCE INTERUPTIONS IN ORDER TO MAINTAIN EXISTING OPERATION.
5 PAY SPECIAL ATTENTION NOT TO DAMAGE THE FINISH OF EXISTING WALLS AND CEILINGS THAT ARE TO REMAIN WHEN REMOVING OR REPLACING LIGHT FIXTURES AND OTHER ELECTRICAL DEVICES. REPAIR ANY DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
6 RELOCATE ALL EXISTING ELECTRICAL, FIRE ALARM, AND OTHER LOW-VOLTAGE SYSTEMS REQUIRED TO BE IN OPERATION AT SUBSTANTIAL COMPLETION OF THE CONTRACT, IF REQUIRED, AS A RESULT OF WORK INCLUDED UNDER THIS CONTRACT, EVEN IF NOT SPECIFICALLY INDICATED IN THE DRAWINGS OR SPECIFICATIONS.
7 SEAL ALL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS, AND ROOF WHERE ELECTRICAL COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR DAMAGED SURFACES TO MATCH ADJACENT AREAS OR AS DIRECTED BY THE OWNER.
8 UNLESS NOTED OTHERWISE, ABANDONED CONDUIT ASSEMBLIES SERVING DEMOLISHED DEVICES SHALL BE REMOVED BACK TO NEAREST JUNCTION BOX OUTSIDE OF AREA OF DEMOLITION AND LABELED AS REQUIRED FOR FUTURE USE. ASSOCIATED WIRING SHALL BE REMOVED BACK TO SERVING PANELBOARD. UPDATE PANELBOARD CIRCUIT DIRECTORY AS REQUIRED TO INDICATE RELATED CIRCUIT(S) AS "SPARE".
9 ANY PANELBOARD CIRCUIT DISCRIPTIONS SHOWN AS "existing" OR IN OTHER LOWER CASE LETTERING IS INTENDED TO REFLECT AN EXISTING CIRCUIT TO REMAIN UNLESS OTHERWISE IDENTIFIED DIFFERENTLY THRU THE COURSE OF CONSTRUCTION.
10 ALL CIRCUIT BREAKERS SERVING BRANCH CIRCUITS TO BE REMOVED SHALL REMAIN IN RESPECTIVE PANELBOARD FOR FUTURE USE UNLESS NOTED OTHERWISE.
11 EXISTING DEVICES ARE SHOWN LIGHT. NEW DEVICES ARE SHOWN BOLD.

ELECTRICAL SERVICE NOTES

1 THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL SERVICE AND METERING REQUIREMENTS WITH THE UTILTY COMPANY PRIOR TO BID AND SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AS REQUIRED BY THE SERVING UTILITY AS WELL AS COST INCURRED BY SERVING UTILITY.
2 THE ELECTRICAL CONTRACTOR SHALL VERIFY THE FAULT CURRENT AT THE SECONDARY OF THE TRANSFORMER WITH THE UTILITY COMPANY AND ADJUST THE ELECTRICAL PANEL AIC RATINGS TO THE NEXT HIGHER STANDARD RATING.
3 ALUMINUM SERVICE CONDUCTORS ARE NOT RECOMMENDED AND SHOULD ONLY BE USED WHERE ABSOLUTELY NECESSARY OR REQUIRED BY THE OWNER. CONTRACTOR TO CONTACT ENGINEER FOR SIZING. WHERE ALUMINUM CONDUCTORS ARE USED, THE OWNER SHALL PROVIDE ANNUAL MAINTENANCE OF ALL TERMINATIONS TO ENSURE SECURE CONNECTIONS. ALUMINUM WIRE WILL EXPAND AND CONTRACT AND OVER TIME MAY BECOME BRITTLE. THE OWNER SHALL ASSUME RESPONSIBILITY FOR USING ALUMINUM CONDUCTORS WITHOUT PROPER INSTALLATION, CARE, AND MAINTENANCE.
4 COORDINATE ALL SERVICE AND METERING DETAILS INCLUDING ANY RELOCATION OF EXISTING UTILITY LINES WITH POWER COMPANY.
5 CONTRACTOR TO CONFIRM EXACT LOCATION OF METERS WITH ELECTRIC UTILITY.
6 PAY ANY POWER COMPANY FEES CHARGED TO OWNER FOR SERVICE AND UTILITY LINE WORK ASSOCIATED WITH THIS PROJECT. THESE COSTS SHALL BE INCLUDED IN BIDS.
7 FURNISH AND INSTALL MATERIALS FOR A TEMPORARY CONSTRUCTION SERVICE AS REQUIRED.
8 FURNISH AND/OR INSTALL ALL REQUIRED MATERIAL AND LABOR IN COMPLIANCE WITH POWER COMPANY REQUIREMENTS TO PROVIDE A COMPLETE ELECTRICAL SERVICE, INCLUDING TRENCHING AND BACK FILLING, PRIMARY CONDUIT, CONCRETE TRANSFORMER PAD, SECONDARY CONDUITS AND CABLES, C.T. CABINET, METERING AND GROUNDING SYSTEM.



4 E0.01 TYPICAL LIGHTING CONTACTOR
NTS

LIGHTING FIXTURE SCHEDULE

GENERAL NOTES:
1. EC SHALL PROVIDE A SUBMITTAL PACKAGE INCLUDING CUTSHEETS FOR EACH FIXTURE.
2. EC SHALL PROVIDE ALL ACCESSORIES FOR A COMPLETE ASSEMBLY INCLUDING MOUNTING HARDWARE.
3. THE MOUNTING TYPE OF EACH FIXTURE SHALL BE COMPATIBLE WITH INSTALLATION SURFACE OF EACH FIXTURE.
4. ALL FINISHES SHALL BE COORDINATED WITH ARCHITECT AND DOCUMENTED ON SUBMITTALS.

TYPE	DESCRIPTION	MOUNTING	LAMP	DIMMING	VOLTAGE	WATTS	MFR	CATALOG NUMBER	NOTE
P1	AREA LIGHT, POST-TOP	POLE		--	120V	139 W	HOLOPHANE	ARE2 P50 50K AS GL3 BK S GVA73 BLACK	POLE: COA 14 F5J 12 P07 ABG BK. COORDINATE INSTALLATION WITH LANDSCAPE/OWNER.
UL1	SIGN UP LIGHT	AT GRADE	LED	--	120V	34 W	LITHONIA	ESXF1 ALO SWW2 KY DDB	WET RATED

GENERAL ELECTRICAL NOTES

1 DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. REVIEW ALL GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS.
2 SPECIAL ATTENTION SHALL BE GIVEN TO ALL RACEWAYS WITHIN FINISHED AREAS WITHOUT CEILINGS AND EXPOSED TO STRUCTURE. IN GENERAL, ALL RACEWAYS SHALL BE CONCEALED WITHIN WALLS, ABOVE STRUCTURE FINISH, OR BELOW FLOOR SLABS WHEN SPECIFIED. WHERE EXPOSED CONDITIONS ARE NECESSARY OR UNAVOIDABLE DUE TO OTHER CONDITIONS, THE BID SHALL INCLUDE ANY REASONABLE MEANS TO MINIMIZE THE AMOUNT OF SURFACE MOUNTED EQUIPMENT. PRIOR TO ROUGH-IN, COORDINATE ALL EXPOSED RACEWAY AND BOX CONDITIONS WITH ARCHITECT PRIOR TO CONSTRUCTION OF WALLS, ROOF DECK, OR FLOOR SLABS. ATTACHMENT TO ROOF DECK OR JOIST WEBBINGS IS NOT ALLOWED, MAINTAIN A MINIMUM SPACING OF 1-1/2" FROM CONDUIT TO ROOF DECK. IN AREAS WHERE EXPOSED RACEWAYS ARE REQUIRED, INSTALL SYSTEMS SQUARE AND TIGHT TO STRUCTURE AND PAINT TO MATCH THE STRUCTURE PER ARCHITECT AND/OR OWNER SPECIFICATIONS. FAILURE TO PROPERLY COORDINATE THE ROUTING OF EXPOSED RACEWAYS MAY RESULT IN RELOCATION OF SUCH RACEWAYS AT NO ADDITIONAL COST TO THE OWNER.
3 OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE-RESISTANT-RATED WALLS, PARTITIONS, FLOORS OR CEILINGS SHALL BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE RESISTANCE RATING. PROVIDE PENETRATION FIRE STOPPING WITH RATINGS DETERMINED PER ASTM E 814 OR UL 1479. FIRE STOPPING SHALL NOT BE LESS THAN FIRE RESISTANCE RATING OF CONSTRUCTED PENETRATIONS.
4 FIELD MOUNTED DEVICES SUCH AS SWITCHES, MOTOR STARTERS, RECEPTACLES, ETC., ARE SHOWN IN THEIR APPROXIMATE LOCATION. SWITCH MOUNTING HEIGHT SHALL BE 48" ABOVE FINISHED FLOOR AND RECEPTACLE MOUNTING HEIGHT SHALL BE 18" ABOVE FINISHED FLOOR UON. REFER TO THE TYPICAL MOUNTING HEIGHT DETAIL.
5 INSTALL EQUIPMENT IN A MANNER TO REMAIN ACCESSIBLE WITH REASONABLE MEANS BY THE OWNER FOLLOWING COMPLETION OF WORK. SPECIAL ATTENTION AND ADDITIONAL COORDINATION IS EXPECTED IN AREAS OF THE BUILDING WHERE THE CEILING AND STRUCTURE HEIGHTS HAVE SIGNIFICANT DIFFERENT ELEVATIONS. EQUIPMENT REQUIRING POSSIBLE FUTURE ACCESS SHALL BE INSTALLED SUCH THAT IT MAY BE SAFELY ACCESSED FROM A STANDARD STEP LADDER OR PERSONNEL LIFT SUITABLE FOR THE LOCATION AND CEILING HEIGHT, WITHOUT REMOVING OR DAMAGING THE CEILING GRID STRUCTURE.
6 COORDINATE ALL CEILING MOUNTED ELECTRICAL ITEMS WITH OTHER DISCIPLINES, WITH CEILING, AND STRUCTURE. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN.
7 FIELD VERIFY LOCATIONS OF EXISTING ELECTRICAL EQUIPMENT, INCLUDING POWER POLES, TELEPHONE PEDESTALS, OVERHEAD AND UNDERGROUND FEEDERS, METERS, PANELS, DEVICES, ETC. PROVIDE FOR COORDINATION WITH EXISTING EQUIPMENT.
8 ROOM NAMES/NUMBERS SHOWN IN PANELBOARD SCHEDULES ARE PER ARCHITECTURAL FLOOR PLANS. CONTRACTOR SHALL PROVIDE FINALIZED PANELBOARD SCHEDULES AT COMPLETION OF PROJECT WITH OWNER PROVIDED ROOM NAMES/NUMBERS.
9 CONDUCTORS FOR BRANCH CIRCUITS AS DEFINED IN ARTICLE 100, SHALL BE SIZED TO PREVENT A VOLTAGE DROP EXCEEDING 3% AT THE FARTHEST LOAD, AND WHERE THE MAXIMUM TOTAL VOLTAGE DROP ON BOTH FEEDERS AND BRANCH CIRCUITS TO THE FARTHEST LOAD DOES NOT EXCEED 5%.
10 ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE, STATE LAWS, ALL AUTHORITIES HAVING JUISDICTION, AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE.
11 THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIAL, AND LABOR TO SATISFY A COMPLETE AND WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
12 CONTRACTOR TO CONFIRM EXACT LOCATION OF EXISTING AND NEW EQUIPMENT.
13 THE CONTRACTOR SHALL FURNISH AND INSTALL ALL GROUNDING SYSTEMS (AS REQUIRED) IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
14 ALL ELECTRIC MATERIALS AND EQUIPMENT FOR THE PROJECT SHALL BE NEW AND U.L. OR EQUALLY LISTED.
15 SUBMIT TO THE OWNER CERTIFICATES OF INSPECTIONS IN DUPLICATE FROM AN APPROVED INSPECTION AGENCY UPON COMPLETION.
16 THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES AS REQUIRED.
17 THE CONTRACTOR SHALL FURNISH ALL INSTRUMENTS AND QUALIFIED PERSONNEL OR FIRM TO PERFORM ALL REQUIRED TESTS.
18 NO EQUIPMENT SHALL BE ENERGIZED UNTIL ALL TEST AND ADJUSTMENTS HAVE BEEN MADE. THREE COPIES OF ALL TEST RESULTS SHALL BE DELIVERED TO THE OWNER
19 ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE MECHANICAL WORK AS CALLED FOR IN MECHANICAL SPECIFICATIONS AND PLANS.
21 ALL WIRING DEVICE COVERPLATES SHALL INDICATE PANELBOARD AND CIRCUIT SERVING THE DEVICE. UTILIZE CLEAR VINYL (BLACK LETTERING) IDENTIFICATION LABLES MANUFACTURED BY 3M COMPANY (OR APPROVED EQUIVALENT).
22 THE TYPE OF CONDUIT SHALL BE AS FOLLOWS FOR ALL FEEDERS AND DISTRIBUTION CIRCUITS, UNLESS OTHERWISE SPECIFIED.

APPLICATION - TYPE OF CONDUIT

BURIED IN CONCRETE OR OUTDOORS - PVC WITH RIGID GALVANIZED STEEL ELBOWS

SERVICE ENTRANCE - GALVANIZED RIGID STEEL OR SERVICE UTILITY SPECIFICATIONS.

24 PROVIDE A MINIMUM OF (3) SPARE 1" CONDUITS FROM RECESSED PANELBOARD, UP TO ACCESSIBLE CEILING SPACE.
25 UNLESS NOTED OTHERWISE PROVIDE MINIMUM #8 AWG CONDUCTORS IN 1" CONDUIT(S) FOR ALL UNDERGROUND SITE POWER AND LIGHTING CIRCUITS. INCREASE CONDUCTOR AND RELATED CONDUIT SIZE AS NOTED OR OTHERWISE REQUIRED TO LIMIT VOLTAGE DROP TO LESS THAN 5% FOR THE ENTIRE LENGTH OF SYSTEM.
26 UNDERGROUND UTILITIES/FEEDERS/BRANCH CIRCUITS/ETC. SHALL NOT BE ROUTED THROUGH OR WITHIN 25 FEET OF ANY AREAS DEDICATED FOR FUTURE BUILDING ADDITION.
27 DESIGNATED SPARE CIRCUIT BREAKERS SHALL BE PLACED IN THE OFF POSITION
28 PROVIDE SPD AS REQUIRED FOR OWNER PROVIDED EQUIPMENT, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: ACCESS CONTROL SYSTEM, COMMUNICATION SYSTEM, DATA SYSTEM, SECURITY SYSTEM.

GENERAL POWER NOTES

1 ALL RECEPTACLES SHALL BE GROUNDING TYPE.
2 ALL RECEPTACLES INSTALLED IN BATHROOMS, OUTDOORS AND KITCHENS SHALL HAVE GROUND-FAULT CIRCUIT INTERRUPTER PROTECTION AS REQUIRED BY THE NATIONAL ELECTRIC CODE.
3 COORDINATE MECHANICAL EQUIPMENT CONNECTION REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. LOCATE FEEDERS, DISCONNECTS AND MAINTENANCE RECEPTACLES SO THAT THEY WILL NOT INTERFERE WITH OPERATION OR MAINTENANCE OF MECHANICAL EQUIPMENT.
6 ALL OUTLETS LOCATED IN AREAS REQUIRING GROUND-FAULT CIRCUIT INTERRUPTER PROTECTION PER NEC-210 SHALL CONSIST OF A GFCI PROTECTED DEVICE, EVEN IF NOT SPECIFICALLY INDICATED IN THE DRAWINGS. THE GROUND-FAULT CIRCUIT INTERRUPTER SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION AS DEFINED IN THE NEC. ALL RECEPTACLES SUPPLIED THROUGH A GROUND-FAULT CIRCUIT INTERRUPTER SHALL BE MARKED "GFCI PROTECTED."

ELECTRICAL SHEET INDEX

HP ENGINEERING
CERTIFICATE OF AUTHORIZATION 5338
RENEWAL DATE: 6/30/2025
HP ENGINEERING INC.
5400 N. GRAND BLVD, SUITE 515
OKLAHOMA CITY, OKLAHOMA 73112
(405)286-9945

CHEROKEE PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS
CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

REVISIONS:		
#	DATE	DESCRIPTION

FINAL PLANS	ISSUE
DATE:	1/31/25
PROJECT #	23015
DESIGN:	EB
DRAWN:	EB
CHECKED:	GA

ELECTRICAL LEGEND

E0.01

SECTION 26A GENERAL ELECTRICAL REQUIREMENTS
Rev - 20150422

26A 1 GENERAL INSTRUCTIONS

26A 1-1 GENERAL REQUIREMENTS
Requirements under Division 1 and the general and supplementary conditions of these specifications apply to this section and division. Where the requirements of this section and division exceed those of Division 1, this section and division take precedence. Become thoroughly familiar with all their contents as to requirements that affect this division, section or both. The work required under this section includes material, equipment, appliances, transportation, services, and labor required to complete the entire system as required by the drawings and specifications, or reasonably inferred to be necessary to facilitate each system's functioning as implied by the design and the equipment specified.

The specifications and drawings for the project are complementary, and portions of the work described in one, shall be provided as if described in both. In the event of discrepancies, notify the engineer and request clarification prior to proceeding with the work involved.

Drawings are graphic representations of the work upon which the contract is based. They show the materials and their relationship to one another, including sizes, shapes, locations, and connections. They also convey the scope of work, indicating the intended general arrangement of the equipment and other materials without showing all of the exact details as to elevations, offsets, control lines, and other installation requirements. Use the drawings as a guide when laying out the work and to verify that materials and equipment will fit into the designated spaces, and which, when installed per manufacturers' requirements, will ensure a complete, coordinated, satisfactory and properly operating system. Determine exact locations by job measurements, by checking the requirements of other trades, and by reviewing all contract documents. Correct errors that could have been avoided by proper checking and inspection, at no additional cost to the owner.

Specifications define the qualitative requirements for products, materials, and workmanship upon which the contract is based.

26A 1-2 DEFINITIONS

Whenever used in these specifications or drawings, the following terms shall have the indicated meanings:

Furnish: "to supply and deliver to the project site, ready for unloading, unpacking, assembling, installing, and similar operations."

Install: "to perform all operations at the project site, including, but not limited to, and as required: unloading, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, testing, commissioning, starting up and similar operations, complete, and ready for the intended use."

Provide: "to furnish and install complete, and ready for the intended use."

Furnished by owner (or owner-furnished) or furnished by others: "an item furnished by the owner or under other divisions or contracts, and installed under the requirements of this division, complete, and ready for the intended use, including all items and services incidental to the work necessary for proper installation and operation. Include the installation under the warranty required by this division.

Engineer: where referenced in this division, "engineer" is the engineer of record and the design professional for the work under this division, and is a consultant to, and an authorized representative of, the architect, as defined in the general and/or supplementary conditions. When used in this division, it means increased involvement by, and obligations to, the engineer, in addition to involvement by, and obligations to, the "architect".
AHJ: the local code and/or inspection agency (authority) having jurisdiction over the work.

NRTL: nationally recognized testing laboratory, as defined and listed by OSHA in 29 CFR 1910.7 (e.g., UL, ETL, CSA), and acceptable to the AHJ over this project.

The terms "approved equal", "equivalent", or "equal" are used synonymously and shall mean "accepted by or acceptable to the engineer as equivalent to the item or manufacturer specified". The term "approved" shall mean labeled, listed, certified, or all three, by an NRTL, and acceptable to the AHJ over this project.

26A 1-3 PRE-BID SITE VISIT

Prior to submitting bid, visit the site of the proposed work and become fully informed as to the conditions under which the work is to be done. Failure to do so will not be considered sufficient justification to request or obtain extra compensation over and above the contract price.

26A 1-4 MATERIAL AND WORKMANSHIP

Provide all material and equipment new and in first class condition. Provide markings or a nameplate for all material and equipment identifying the manufacturer and providing sufficient reference to establish quality, size and capacity. In general, provide the following quality grade(s) for all materials and equipment:
Commercial Specification Grade
Work performed under this contract shall provide a neat and "workmanlike" appearance when completed, to the satisfaction of the architect and engineer. Workmanship shall be the finest possible by experienced mechanics of the proper trade
The complete installation shall function as designed and intended with respect to efficiency, capacity, noise level, etc. Abnormal or excessive noise from equipment, devices or other system components will not be acceptable.

Remove from the premises waste material present as a result of work. Clean equipment installed under this contract to present a neat and clean installation at the termination of the work.

Repair or replace public and private property damaged as a result of work performed under this contract to the satisfaction of authorities and regulations having jurisdiction.

26A 1-5 MANUFACTURERS

In other articles where lists of manufacturers are introduced, subject to compliance with requirements, provide products by one of the manufacturers specified.

Where a list is provided, manufacturers listed are not in accordance with any ranking or preference.

Where manufacturers are not listed, provide products subject to compliance with requirements from manufacturers that have been actively involved in manufacturing the specified product for no less than 5 years.

26A 1-6 COORDINATION

Coordinate all work with other divisions and trades so that the various components of the systems will be installed at the proper time, fit the available space, and will allow proper service access to those items requiring maintenance. Refer to all other division's drawings, and to relevant equipment submittals and shop drawings to determine the extent of clear spaces. Components which are installed without regard to the above shall be relocated at no additional cost to the owner.

Unless otherwise indicated, the general contractor will provide chases and openings in building construction required for installation of the systems specified herein. Contractor shall furnish the general contractor with information where chases and openings are required. Make all offsets required to clear equipment, beams and other structural members, and to facilitate concealing system components in the manner anticipated in the design. Keep informed as to the work of other trades engaged in the construction of the project, and execute work in a manner as to not interfere with or delay the work of other trades.

Figured dimensions shall be taken in preference to scale dimensions. Contractor shall take his own measurements at the building, as variations may occur. Contractor will be held responsible for errors that could have been avoided by proper checking and inspection

Provide materials with trim that will properly fit the types of ceiling, wall, or floor finishes actually installed. Model numbers listed in the construction documents are not necessarily intended to designate the required trim.

26A 1-7 ORDINANCES, CODES, AND STANDARDS

Work performed under this contract shall, at a minimum, be in conformance with applicable national, state and local codes having jurisdiction. Equipment furnished and associated installation work performed under this contract shall be in strict compliance with current applicable codes adopted by the local AHJ including any amendments and standards as set forth by the National Fire Protection Association (NFPA), Underwriters Laboratories (UL), Occupational Safety and Health Administration (OSHA), American Society of Mechanical Engineers (ASME), American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), American National Standards Institute (ANSI), American Society of Testing Materials (ASTM) and other national standards and codes where applicable. Additionally, comply with rules and regulations of public utilities and municipal departments affected by connection of services.
Where the contract documents exceed the requirements of the referenced codes, standards, etc., the contract documents shall take precedence.

Promptly bring all conflicts observed between codes, ordinances, rules, regulations, referenced standards, and these documents to the engineer's attention for final resolution. Contractor will be held responsible for any violation of the law.

Procure and pay for permits and licenses required for the accomplishment of the work herein described. Where required, obtain, pay for and furnish certificates of inspection to owner. Contractor will be held responsible for violations of the law.

26A 1-8 PROTECTION OF EQUIPMENT AND MATERIALS

Store and protect from damage equipment and materials delivered to job site, in accordance with manufacturers' recommendations. For materials and equipment susceptible to changing weather conditions, dampness, or temperature variations, store inside in conditioned spaces. For materials and equipment not susceptible to these conditions, cover with waterproof, tear-resistant, heavy tarp or polyethylene plastic as required to protect from plaster, dirt, paint, water, or physical damage. Equipment and material that has been damaged by construction activities will be rejected, and contractor shall furnish new equipment and material as required at no additional cost to the owner.

Keep premises broom clean from foreign material created during work performed under this contract. Piping, equipment, etc. shall have a neat and clean appearance at the termination of the work.

Plug or cap open ends of conduits while stored and installed during construction when not in use to prevent the entrance of debris into the systems.

26A 1-9 SUBSTITUTIONS

Include in the base bid the products specifically named in these specifications or on the drawings. Submit, in the form of alternates, with bid, products of any other manufacturers for similar use, provided the differences in cost, if any, are included for each proposed alternate.

No substitutions will be considered with receipt of Bids, unless the Architect and Engineer have received from the Bidder a written request for approval to bid a substitution at least ten calendar days prior to the date for receipt of Bids, and have approved the substitution request. Include, with each such request, the name of the material or equipment for which substitution is being requested, and a complete description of the proposed substitution, including drawings, cut sheets, performance and test data, and all other information necessary for an evaluation. Include also a statement setting forth changes in other materials, equipment or other work that would be required to incorporate the substitution. The burden of proof of the merit of the proposed substitute is upon the proposer. The proposer of any substitutions shall compensate the Engineer at a rate of $150.00 per hour for time spent evaluating proposed substitutions and or the subsequent revisions to the design required to utilize the substitution.

The Architect's or Engineer's decision to approve or disapprove a substitution in a Bid is final.

If the proposed substitution is approved prior to receipt of Bids, such approval will be stated in an Addendum. Bidders shall not rely upon approvals made in any other manner, including verbal.

No substitutions will be considered after receipt of Bids and before award of the Contract.

No substitutions will be considered after the Contract is awarded unless specifically provided in the Contract Documents.

26A 1-10 SUBMITTALS

Assemble and submit to the architect, for engineer's review, manufacturers' product literature for material and equipment to be furnished, installed, or both, under this division, including shop drawings, manufacturers' product data and performance sheets, samples, and other submittals required by this division. Highlight, mark, list or indicate the materials, performance criteria and accessories that are being proposed. Provide the number of submittals required by division 1; however, at a minimum, submit two (2) sets. Before submitting, verify that all materials and equipment submitted are mutually compatible and suitable for the intended use, fit the available spaces, and allow ample and code-required room for access and maintenance. Submittals shall contain the following information. Submittals not so identified will be returned to the contractor without action:

The project name.
The applicable specification section and paragraph.
The submittal date.
The contractor's stamp, which shall certify that the stamped drawings have been checked by the contractor, comply with the drawings and specifications, and have been coordinated with other trades.

Submittals and shop drawings shall not contain HP Engineering's firm name or logo, nor shall it contain the HP Engineering's engineers' seal and signature. They shall not be copies of HP Engineering's work product.

Transmit submittals as early as required to support the project schedule. Allow for two weeks engineer review time, plus mailing time, plus a duplication of this time for re-submittals, if required. The engineer's submittal reviews will not relieve the contractor from responsibility for errors in dimensions, details, size of members, or quantities; or for omitting components or fittings; or for not coordinating items with actual building conditions.

Refer to division 1 for acceptance of electronic submittals for this project. For electronic submittals, contractor shall submit the documents in accordance with the procedures specified in division 1. Contractor shall notify the architect and engineer that the shop drawings have been posted. If electronic submittal procedures are not defined in division 1, contractor shall include the website, user name and password information needed to access the submittals. For submittals sent by e-mail, contractor shall copy the architect and engineer's designated representatives. Contractor shall allow the engineer review time as specified above in the construction schedule. Contractor shall submit only the documents required to purchase the materials and/or equipment in the electronic submittal and shall clearly indicate the materials, performance criteria and accessories being proposed. General product catalog data not specifically noted to be part of the specified product will be rejected and returned without review.

26A 1-12 OPERATION AND MAINTENANCE MANUALS

Submit to the architect, for engineer's review, copies each of operations and maintenance instruction manuals, appropriately bound into manual form including approved copies of the following, revised if necessary to show system and equipment as actually installed. Paper clips, staples, rubber bands, and mailing envelopes are not considered approved binders. Provide the number of submittals required by Division 1; however, at a minimum, submit two (2) sets, and include, at a minimum, the following information:

Cover sheet that lists the project name, date, owner, architect, consulting engineer, general contractor, sub-contractor, and an index of contents.
Manufacturers' catalogs and product data sheets
Wiring diagrams
Operation and Maintenance instructions
Parts lists
Approved shop drawings
Test reports as defined in NETA ATS for the systems and equipment provided or furnished or installed under this contract.
Names, addresses, telephone numbers, and e-mail addresses of local contacts for warranty services and spare parts.

Submit manuals prior to requesting the final punch list and before any requests for substantial completion. Final approval of this division's systems installed under this contract will be withheld until this equipment brochure is received and deemed complete by the architect and engineer.

Provide "as-built" drawings (see Division 1 and general conditions).

26A 1-13 TRAINING

At a time mutually agreed upon between the owner and contractor, provide the services of a factory trained and authorized representative to train owner's designated personnel on the operation and maintenance of the equipment provided for this project.

Provide training to include but not be limited to an overview of the system and/or equipment as it relates to the facility as a whole; operation and maintenance procedures and schedules related to startup and shutdown, troubleshooting, servicing, preventive maintenance and appropriate operator intervention; and review of data included in the operation and maintenance manuals.

Submit a certification letter to the architect stating that the owner's designated representative has been trained as specified herein. Letter shall include date, time, attendees and subject of training. The contractor and the owner's representative shall sign the certification letter indicating agreement that the training has been provided.

Schedule training with owner with at least 7 days advance notice.

26A 1-14 WARRANTIES
Warrant each system and each element thereof against all defects due to faulty workmanship, design or material for a period of 12 months from date of substantial completion, unless specific items are noted to carry a longer warranty in the construction documents or manufacturer's standard warranty exceeds this duration. Warranties shall include labor and material. Remedy all defects, occurring within the warranty period(s), as stated in the general conditions and Division 1 without any additional costs to the owner.

Perform any required remedial work promptly, upon written notice from the engineer or owner.

At the time of substantial completion, deliver to the owner all warranties, in writing and properly executed, including term limits for warranties extending beyond the required period, each warranty instrument being addressed to the owner and stating the commencement date and term.

26A 2 ELECTRICAL WORK

26A 2-1 BUILDING OPERATION

Comply with the schedule of operations as outlined in the architectural portions of this specification. Building shall be in continuous operation. Accomplish work that requires interruption of building operation at a time when the building is not in operation, and only with written approval of building owner and/or tenant. Coordinate interruption of building operation with the owner and/or tenant a minimum of 7 days in advance of work.

26A 2-2 EXCAVATION AND BACKFILLING
Perform excavation and backfill required for installation of underground work under this contract. Trenches shall be of sufficient width. Crib or brace trenches to prevent cave-in or settlement. Do not excavate trenches close to columns and walls of building without prior consultation with the architect. Use pumping equipment if required to keep trenches free of water. Backfill trenches in maximum 6" layers of well-tamped dry earth in a manner to prevent future settlement.

Excavation as herein specified shall be classified as common excavation. Common excavation shall comprise the satisfactory removal and disposition of material of whatever substances and of every description encountered, including rock, if any, within the limits of the work as specified and shown on the drawings. Excavation shall be performed to the lines and grades indicated on the drawings. Excavated materials which are considered unsuitable for backfill, and surplus of excavated material which is not required for backfill, shall be disposed of by the contractor at his own expense and responsibility, and to the satisfaction of the architect.

26A 2-3 COINCIDENTAL DAMAGE

Repair all streets, sidewalks, drives, paving, walls, finishes, and other facilities damaged in the course of this work. Repair materials shall match existing construction and or conform to all requirement identified in other divisions. All backfilling and repairing shall meet all requirements of the owner, city and others having jurisdiction. Repair work shall be thoroughly first class.

26A 2-4 CUTTING AND PATCHING

Following the requirements in Division 1, cut walls, floors, ceilings, and other portions of the facility as required to perform work under this division. Obtain permission of the architect, owner, or both, before doing any cutting. Cut all holes as small as possible. Patch walls, floors, and other portions of the facility as required by work under this division. All patching shall be thoroughly first class and shall match the original material and construction, including fire ratings if applicable in a manner satisfactory to the architect.

26A 2-5 ROUGH-IN

Coordinate without delay all roughing-in with other divisions. Conceal all piping and rough-in except in unfinished areas and where otherwise indicated in the construction documents.

26A 2-6 SUPPORT SYSTEMS

1.Steel slotted support systems (slotted channel): comply with MFMA-3, factory-fabricated components for field assembly; 12-gauge, 1-5/8-inch by 1-5/8-inch; Cooper B-Line, Erico International Corporation, Hilti, Inc., Power-Strut, Thomas & Betts Corporation, Unistrut.

Finishes:
A.Metallic coatings: hot-dip galvanized after fabrication and applied according to MFMA-3
B.Nonmetallic coatings: manufacturer's standard PVC, polyurethane or polyester coating applied according to MFMA-3.
C.Painted coatings: manufacturer's standard painted coating applied according to MFMA-3.
D. Stainless steel: type 304, per ASTM A240.
2.Aluminum slotted support systems (slotted channel): comply with MFMA-3, type 6063-T6, per ASTM B221; factory-fabricated components for field assembly; 12-gauge, 1-5/8-inch by 1-5/8-inch; Cooper B-Line, Erico International Corporation, Hilti, Inc., Power-Strut, Thomas & Betts Corporation, Unistrut.

Field Fabrication:

Where field cutting of standard lengths of channel are required, make cuts straight and perpendicular to manufactured surfaces.

For field-cut or damaged surfaces of coated channels, dress cut ends, damaged surfaces, or both, with an abrasive material (e.g., file, grinding stone, or similar) and cleanser to remove oils, rust, sharp edges and shards.

For channel with a factory-applied coating, re-finish cut edges with a coating compatible with the factory finish and as recommended by the manufacturer (e.g., manufacturer's touch-up paint or zinc-rich cold-galvanizing compound, as applicable).

26A 2-7 PENETRATIONS

Coordinate sleeve selection and application with selection and application of fire-stopping specified in Division 7 section "through-penetration firestop systems."

Roofs:

Coordinate all roof penetrations with engineer, owner, and as applicable, the roofing contractor providing a roof warranty.

Keep all raceway penetrations within mechanical equipment curbs wherever possible. Coordinate with all other applicable Division's work.

Flash and counterflash all openings through roof, and/or provide pre-fabricated molded seals compatible with the roof construction installed, or as required by the engineer, owner, or roofing contractor. All roof penetrations shall be leak-tight at the termination of the work and shall not void any new or existing roof warranties.

Walls and Floors:

Sleeves for raceways and cables

Steel pipe sleeves: ASTM A 53/A 53M, type E, grade B, schedule 40, galvanized steel, plain ends and drip rings.
Cast-iron pipe sleeves: cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

Sleeves for rectangular openings: galvanized sheet steel with minimum 0.138 inch thickness and of width and length to suit application.

26A 2-11 EQUIPMENT FURNISHED BY OTHERS

Provide necessary equipment and accessories that are not provided by the equipment supplier or owner to complete installation of equipment furnished by others, in locations as indicated on the drawings, specified herein, or both. Equipment and accessories not provided by the equipment supplier may include such items as flexible cords and plugs, as required for proper operation of the complete system, in accordance with the manufacturers' instructions.

Be responsible for correct rough-in dimensions, and verify them with engineer, owner's representative, equipment supplier, or all three, prior to rough-in and service installations.

26A 2-12 CLEANING

In addition to the requirements of Division 1, remove from the premises dirt and refuse resulting from the performance of the electrical work, as required, to prevent accumulation. Cooperate in maintaining reasonably clean premises at all times. Immediately prior to final inspection, make a final cleanup of dirt and refuse resulting from the work. Clean all material and equipment installed under this division. Remove dirt, dust, plaster, stains and foreign matter from all surfaces. Touch up and restore all damaged finishes to their original condition.

26A 2-13 ADJUSTING, ALIGNING AND TESTING

Adjust, align, and test all electrical equipment on this project provided under this division and all electrical equipment furnished by others for installation or wiring under this division, for proper operation.

Test all systems and equipment according to the requirements in NETA ATS (latest edition) and all additional requirements specified in following sections.

Maintain the following on the project premises at all times: a true RMS reading voltmeter, a true RMS reading ammeter, and a megohmmeter insulation resistance tester. Provide test data readings as requested or as required by the engineer.

26A 2-14 EQUIPMENT IDENTIFICATION

Provide equipment identification nameplates:

-On all panelboards, switches, starters, dimmers, switches in distribution panelboards and switchboards as well as where indicated elsewhere in the construction documents.

Nameplates:

Engraved, contrasting color, three-layer, laminated plastic indicating the name of the equipment, load, or circuit as designated on the drawings and in the specifications:
-Field-applied permanent epoxy adhesive, compatible with the equipment finish.
-Attachment method shall be acceptable to the manufacturers of the equipment to which the nameplates are being applied.
Color: black background with white letters for normal power; red background with white letters for emergency power. Letter height: ½ -inch minimum.

26A 2-15 SYSTEM START UP

Prior to starting up the electrical systems:

Check all components and devices.

Lubricate items accordingly.

Tighten screws and bolts for connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486a and UL 486b.

Adjust taps on each transformer for rated secondary voltage when the transformer is at minimum load.

Check and record building's service entrance voltage, grounding conditions, grounding resistance, and proper phasing.

Replace all burned-out lamps and lamps used for temporary construction lighting in permanent light fixtures.

Balance all single-phase loads at each panelboard, redistributing branch circuit connections until balance is achieved. Do not type up final panelboard directories until all re-balancing and redistribution of circuits are complete. Turn on all loads in an attempt to maximize the load on the panel and take ampere readings on each of the phases before redistributing circuits and balancing the panel.

After all systems have been inspected and adjusted, confirm all operating features required by the drawings and specifications and make final adjustments as necessary

26A 3 EXISTING EQUIPMENT REUSE AND REMOVAL

Remove all existing wiring, light fixtures, exposed conduits and other electrical installations not reused prior to substantial completion of the work.

Existing raceways may be reused if their points of terminations are suitable; if they are clean inside with no evidence of rust or burrs; if free from cracks, flattened sections or sharp bends; and, if suitably located to avoid conflicts with other trades or installations. Carefully "fish" all existing conduits reused under this contract to remove all debris and obstructions, and swab until all moisture is removed.

Cut, patch, and repair where required for new electrical installations, and patch and repair all surface damage resulting from this work. Cut flush with the floor and plug at both ends, raceways stubbed above the floor and not used at substantial completion of the work.

Relocate all existing electrical systems required to be in operation at substantial completion of the contract, if required, as a result of work included under this contract, even if not specifically indicated in the drawings or specifications.

26A 4 ALTERNATES

Provide all work contemplated under the different alternates to include labor, materials, equipment and services necessary for and incidental to the completion of work under each particular alternate. Furnish separate bids for each alternate applicable to contractor's proposal, stating the amount to be added or deducted from the base bid in case the alternate is accepted. Comply with applicable sections of the base specifications for work required by the alternate unless otherwise specified. Refer to the architectural portion of the specification.

END OF SECTION 26A

26B BASIC ELECTRICAL MATERIALS AND METHODS
rev - 20150520

26B 1 METHODS

26B 1-1 RACEWAYS

Metallic Conduit And Tubing:

Electrical Metallic Tubing and fittings (EMT): ANSI C80.3, UL 797.
Reduced wall EMT is not allowed.
Flexible Metal Conduit (FMC): zinc-coated steel or aluminum, UL 1.
Reduced-wall FMC is not allowed.
Intermediate Metal Conduit (IMC): hot-dip galvanized rigid steel conduit: ANSI C80.6, UL 1242.

Liquidtight Flexible Metal Conduit (LFMC): flexible steel conduit with PVC jacket: UL 360

Rigid Metal Conduit (RMC): hot-dip Galvanized Rigid Steel conduit (GRS): ANSI C80.1, UL 6.
Plastic-coated IMC, RMC, and fittings: NEMA RN 1, UL listed.

IMC and RMC fittings: NEMA FB 1; compatible with conduit type and material, UL listed

Non-Metallic Conduit And Tubing:

Rigid Nonmetallic Conduit (RNC): schedule 40 PVC, 90 deg C rated, NEMA TC-2, UL 651; fittings: NEMA TC 3, TC 6; UL 514, compatible with conduit/tubing type and material, UL listed.
Electrical Nonmetallic Tubing (ENT): NEMA TC 13, UL listed.
Liquidtight Flexible Nonmetallic Conduit (LFNC): UL 1660.
ENT and LFNC fittings: Compatible with conduit/tubing type and material, UL listed.

26B 1-2 RACEWAY INSTALLATION

Above Ground Use:
Install all circular raceways concealed above suspended ceilings or concealed in walls or floors wherever possible except where otherwise indicated.

Provide GRS for all conduits run exposed to weather, or exposed to other hazardous conditions.

All other raceway may be EMT where approved by local code. Use compression type fittings for EMT, with all fittings UL listed for the environment in which they are used.

Underground use:
Provide GRS installed below grade with a corrosion resistant bonded-plastic or approved mastic coating. This shall include the 90-degree elbow below grade and the entire vertical transition to above grade.
RNC conduit may be used underground where permitted by local code and where not specifically restricted by these documents. When used, provide coated GRS, as specified above, for all bends greater than 30 degrees, including the 90-degree elbows below grade and the entire vertical risers for transitions from below to above grade or above-slab.
Equipment Connections:
Use FMC for final connection to each motor and transformer, and to any device that would otherwise transmit motion, vibration, or noise. Use LFMC where exposed to liquids, vapors or sunlight, and to connect to kitchen and food service equipment. Provide all FMC and LFMC with an insulated bonding conductor.

Use only metal raceways for all power wiring from the output of variable frequency drives to their respective motors. All feeders to variable frequency drives (VFDs) shall be in EMT or other metallic conduit. PVC or fiberglass is not allowed for feeders to VFDs.

General Raceway Installation Requirements:
Install raceways parallel and perpendicular to building lines.

Install raceways to requirements of structure and to requirements of all other work on the project; to clear all openings, depressions, pipes, ducts, reinforcing steel, and other immovable obstacles.

Install raceways set in forms for concrete structure in such a manner that installation will not affect the strength of the structure.

Except where approved in writing by the engineer, install no raceway in a slab-on-grade. Locate raceway in granular fill below slabs-on-grade.

Install raceways continuous between connections to outlets, boxes and cabinets with a minimum possible number of bends and not more than the equivalent of four 90-degree bends between connections. Use manufactured elbows for all 45- and 90-degree bends, unless approved by the engineer in advance. Make other bends smooth and even and without flattening raceway or flaking galvanizing or enamel. Radii of bends shall be as long as possible and never shorter than the corresponding trade elbow.

Use long radius elbows for all underground installations, where necessary or indicated.

Securely fasten raceways in place with approved straps, hangers and steel supports as required. Attach raceway supports to the building structure. Hang single raceways for feeders with malleable split ring hangers with rod and turnbuckle suspension from inserts spaced not over 10 feet apart in construction above. Clamp groups of horizontal feeder raceways to steel channels that are suspended from inserts spaced not over 10 feet apart in construction above. Securely clamp vertical feeder raceways to structural steel members attached to structure. Install cable clamps for support of vertical feeders where required. Add raceway supports within 12 inches of all bends, on both sides of the bends. Do not support raceways from suspended ceiling components.

Ream raceway ends, thoroughly clean raceways before installation, and keep clean after installation. Plug or cover openings and boxes as required to keep raceways clean during construction and fish all raceways clear of obstructions before pulling conductors. Provide raceways of ample size for pulling of wire and not smaller than code requirements and not less than 1/2-inch in size, unless indicated otherwise on drawings.

Protect all raceway installations against damage during construction. Repair all raceways damaged or moved out of line after roughing-in to meet engineer's approval without additional cost to the owner.

Align and install true and plumb all raceway terminations at panelboards, switchboards, motor control equipment and junction boxes.

Install approved expansion/deflection fittings where raceways pass through (if embedded) or across (if exposed) expansion joints. Also when using RNC or RAC in exposed environments in accordance with the NEC and expansion/contraction properties of RNC or RAC.

Install a pull wire in each empty raceway that is left for installation of conductors or cables under other divisions or contracts. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 24 inches of slack at each end of pull wire.

Make all joints and connections in a manner that will ensure mechanical strength and electrical continuity.

26B 1-3 BUSHINGS AND LOCKNUTS

Rigidly terminate conduits entering sheet metal enclosures to the enclosure with a bushing and locknut on the inside and a locknut or an approved hub on the outside. Conduit shall enter the enclosure squarely.

Provide bushings and locknuts made of galvanized malleable iron with sharp, clean-cut threads.

Where EMT enters a box, provide approved EMT compression connectors.

Use insulated, grounding, or combination, bushings wherever connection is subject to vibration or moisture, when required by NFPA 70, or both.

26B 1-4 CONDUCTORS AND CABLES

Conductor Material:
Annealed (soft) copper complying with ICEA S-95-658/NEMA WC70;
Conductor insulation types: 90-degree C-rated, type THHN/THWN-2 or XHHW-2 complying with ICEA S-95-658/NEMA WC70.

Sizes of conductors and cables indicated or specified are in American Wire Gage (AWG - brown and sharpe).

All feeder and branch circuit conductors no. 8 AWG and larger: stranded.

All conductors, no. 10 AWG and smaller: solid copper

All branch circuit wiring: not smaller than no. 12 AWG. If no conductor size is indicated on the drawings for a branch circuit, provide conductors and conduit sized per NFPA 70 and based on the indicated branch circuit overcurrent protective device (OCPD) rating and number of poles. Where no circuit size (i.e., conductors and OCPD) is indicated on the drawings for a branch circuit, provide three no. 12 AWG conductors, in 1/2-inch raceway, and a 20a circuit breaker.

Control wiring: stranded copper conductors, 600v insulation, of the proper type, size and number as required to accomplish specified function. Minimum size: no. 14 AWG, unless noted otherwise.

Stranded for all flexible cords and cables, or as otherwise indicated.

Unless indicated otherwise, special purpose conductors and cables, such as low voltage control and shielded instrument wiring, shall be as recommended by the system equipment manufacturer.

Direct-buried service lateral cable: type use, 600v, THHN- or XHHW-insulated conductors (2 or 3 as indicated on drawings or as required); cable assembly, plus a concentrically applied full-size un-insulated (neutral) conductor and reinforcement tape, jacketed with sunlight resistant gray polyvinyl chloride (PVC); UL standards 44 or 83 (as applicable), and 854, NFPA 70 article 338.

Type MC cable: 600v, unjacketed; ANSI E119 and E814, UL standards 44 or 83 (as applicable), and 1569, NFPA 70 article 330; aluminum or galvanized steel interlocked armor; THHN- or XHHW-insulated conductors; color code: ICEA method 1, with green insulated grounding conductor

26B 1-5 INSTALLATION OF CONDUCTORS AND CABLES

Install all wiring in approved raceway and enclosures
, except where specified or indicated, for low-voltage wiring or direct-buried cables; or, where type MC cable is indicated, specified as acceptable, or both.

HP ENGINEERING
CERTIFICATE OF AUTHORIZATION 5338
RENEWAL DATE: 6/30/2025
HP ENGINEERING INC.
5400 N. GRAND BLVD, SUITE 515
OKLAHOMA CITY, OKLAHOMA 73112
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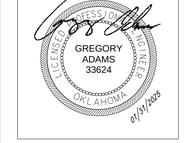

CHEROKEE PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS
CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

REVISIONS:

#	DATE	DESCRIPTION

FINAL PLANS ISSUE

DATE:	1/31/25
PROJECT #	23015
DESIGN:	EB
DRAWN:	EB
CHECKED:	GA

ELECTRICAL SPECIFICATIONS

E0.02

Support all conductors and cables in vertical installations, as required by NFPA 70, by installing cable supports or plug-type conduit riser supports, or wire-mesh safety grips.

Install all conductors and cable in raceways continuous without taps or splices. Splice or tap only in approved boxes and enclosures with approved solderless connectors, or crimp connectors and terminal blocks for control wiring, and keep to the minimum required. Insulate all splices, taps, and joints as required by codes.

All materials used to terminate, splice or tap conductors: designed for, properly sized for, and UL listed for the specific application and conductors involved, and installed in strict accordance with the manufacturer's recommendations, using the manufacturer's recommended tools.

Where wiring is indicated as installed, but the connection is indicated "future" or "by other division, trades, or contracts", leave a minimum 3-foot "pigtail" at the box, tape the ends of the conductors, and cover the box.

The number of conductors in a specific raceway "home run" is typically indicated with cross lines (tick marks) on each "circuit run" on the drawings. In general, the direction of branch circuit "home run" routing is indicated on the drawings, complete with circuit numbers and panelboard designation. Continue all such "home run" wiring to the designated panelboard, as though "circuit runs" were indicated in their entirety.

Multi-wire branch circuits (i.e., shared neutral) shall be provided with a means that will simultaneously disconnect all ungrounded conductors at the point the branch circuit originates. Multi-pole breakers or 3 single pole breakers with a handle tie are two examples.

When multiple home runs are combined into a single raceway such that the number of conductors exceeds four (conductor count is made up of any combination of phase and neutral conductors), the following restrictions apply, which are in addition to those in NFPA 70:

NORMAL or NON-ESSENTIAL CIRCUITS:

Maximum of 16 conductors in a single raceway. For up to eight conductors in a raceway, minimum raceway size: 3/4-inch. For greater than eight conductors, minimum raceway size: 1-inch. Do not install any other type of circuit in this raceway.

The minimum wire size for all conductors in this raceway: no. 10 AWG.

Only 15a and 20a branch circuit homeruns may be combined into one raceway.

ISOLATED GROUND (IG) CIRCUITS:

The Isolated Ground conductor of each IG circuit shall be continuous (no splices) the entire length of the circuit.

IG circuits shall be provided with dedicated neutrals, equipment grounds, and isolated grounds and routed in separate conduits from other circuits.

GFCI CIRCUITS:

Do not use multi-conductor circuits, with a shared neutral, for any GFCI circuit breaker or receptacle circuit.

For branch circuits fed from GFCI circuit breakers, limit the one-way conductor length to 100 feet between the panelboard and the most remote receptacle or load on the GFCI circuit

Properly identify all terminal blocks and wire terminals for control wiring with vinyl stick-on markers or equivalent. Provide engineer with a list of proposed identifying numbers for review prior to installing markers.

Provide an equipment-grounding conductor, or bonding jumper, as applicable, in all feeders and branch circuits, sized in accordance with NFPA 70 tables 250.66 or 250.122, as applicable, unless indicated as larger on the drawings.

Voltage drop in branch circuits shall not exceed 3 percent.

Wiring shall have insulation of the proper color to match color code system in the table below unless there is a color system currently in use by the facility, in which case the colors are to match the existing system. In larger sizes, where properly colored insulation is not available, use vinyl plastic electrical tape of the appropriate color around each conductor at all termination points, junction and pull boxes

System Voltage
240v and under – 208y/120, 120/240, 120/208, 240d/120
Phase A – black, phase B – red, phase C – blue, neutral – white, equipment ground green, isolated ground – green w/yellow stripe.
Do Not Use MC Cable For The Following:

Homeruns to panelboards.

Where exposed to view.

Where exposed to damage.

Hazardous locations.

Wet locations.

When restricted otherwise above, and when specifically disallowed by the local AHJ, landlord, or both.

26B 1-6 JUNCTION BOXES, PULL BOXES, CABINETS AND WIREWAYS

Provide junction boxes, pull boxes, cabinets and wireways wherever necessary for proper installation of various electrical systems according to NFPA 70 and where indicated on the drawings. Size as required for the specific function or as required by NFPA 70, whichever is larger. Construction shall be of a NEMA design suitable for the environment installed.

Junction boxes installed behind wall cases, and in or on other display fixtures, except where otherwise specified, shall be 4-inch square or larger, with galvanized covers.

26B 1-7 OUTLET BOXES

All outlets including light fixture, switch, receptacle, and similar outlets: National Electrical, Appleton, Steel City, Raco, or approved equal, galvanized steel knockout boxes, suitable in design to the purpose they serve and the space they occupy. Size as required for the specific function or as required by NFPA 70, whichever is larger. Set all outlet boxes in walls, columns, floors, or ceilings so they are flush with the finished surface, accurately set, and rigidly secured in position. Provide plaster rings, extension rings and/or masonry rings as required for flush mounting. Provide approved cast outlet boxes, with hubs and weatherproof covers, in all areas subject to damp, wet, or harsh conditions.

26B 1-8 OUTLET LOCATIONS

Coordinate locations of outlet boxes. Outlets are only approximately located on the small scale drawings. Use great care in the actual location by consulting the various large scale detailed drawings used by other division trades, and by securing definite locations from the architect and/or engineer.

26B 1-9 MOUNTING HEIGHTS

Unless noted otherwise, install wiring devices as indicated below (note: all dimensions are to the bottom of the outlet box unless noted otherwise):

Receptacles:
Vertically aligned with the ground slot mounted at the bottom: 16 inches above finished floor.
Horizontally aligned, with neutral slot mounted at the top: 16 inches above finished floor.
Weatherproof exterior receptacles: 24 inches above finished grade or as indicated on drawings, vertically aligned.
GFCI receptacles: same as general receptacles

Isolated ground receptacles: same as general receptacles

SPD receptacles: same as general receptacles
Concrete block walls: dimensions above may be adjusted slightly, as required to compensate for variable joint dimensions, such that bottom or top of boxes, as applicable, are at block joints.

Switches:
General: 46 inches above finished floor.
Telephone/Data Outlet Boxes:

General: match mounting height of adjacent wiring device listed above.

Wall-mounted telephone: 40 inches above finished floor.

For other than wiring devices, refer to paragraphs, articles, sections, divisions, or drawings to obtain mounting heights for specific equipment or systems.

26B 1-10 WIRING DEVICES

Unless noted otherwise on the drawings wiring devices are 20a rated devices. Where 15a rated devices are indicated on the drawings or required for circuit rating limitations, provide wiring devices equivalent to those specified for 20a, but rated for 15a.

Provide the following wiring devices where shown on drawings or required. Minor changes relative to the location of electrical equipment may be made to comply with structural and building requirements as determined in the course of construction. Provide all wiring devices of the same manufacturer and not mixed on the project, to the maximum extent possible. Provide color of toggles and receptacles as requested by the engineer:

Duplex convenience receptacles: Specification grade, NEMA 5-20R, 125V, 20A, grounding type, UL listed and labeled, nylon face, side and back wired, self grounding, manufactured by Leviton or approved equivalent.
Hospital Grade straight blade receptacles: NEMA 5-20R, 125V, 20A, grounding type, UL listed and labeled, nylon face, side and back wired, self-grounding, manufactured by Leviton or approved equivalent.
Hospital Grade straight blade safety type, tamper-resistant receptacles: NEMA 5-20R, 125V, 20A, grounding type, UL listed and labeled, nylon face, side and back wired, self-grounding, manufactured by Leviton or approved equivalent.
Twist-Locking type receptacles: NEMA L5-20R, 125V, 20A, grounding type, UL listed and labeled, nylon face, side and back wired, self-grounding, Leviton 2310 or approved equivalent.
Ground fault circuit interrupter type receptacles: Specification Grade, Self-Test type
UL listed and labeled complying with UL 943, Class A and NEMA WD-1-1.10, 125V, 20A, trip at 4-6mA within 0.25 second, and feed-thru type with integral heavy duty NEMA 5-20R receptacle arranged to protect receptacles downstream on the same circuit, manufactured by Leviton or approved equivalent
Isolated ground receptacles: Specification Grade NEMA 5-20R NEMA L5-20R,
125V, 20A, grounding type, UL listed and labeled, nylon face, side and back wired, furnished with a green pigtail connected to the grounding contact, and grounding contacts electrically isolated from the mounting strap, manufactured by Leviton or approved equivalent.

26B 2 ELECTRICAL SERVICE AND GROUNDING

26B 2-1 ELECTRICAL SERVICE

See drawings for type, size, voltage, phase, and other requirements.

Provide, or arrange with the serving utility for installation to provide, a recording voltmeter at the service point, on the first day the facility is open for business, for a 24-hour voltage test. If voltage and regulation are not within acceptable limits, arrange with the utility for proper voltage. Submit to the owner a report of maximum and minimum voltage and a copy of the recording voltmeter chart.

26B 2-2 CONNECTION TO SERVING UTILITIES

Provide raceways, terminations, metering provisions, and miscellaneous equipment, as required, for electrical and telephone services for connection by the serving utility, in strict compliance with the requirements of all applicable codes and of the serving utility involved. Verify all service terminations and connection points in the field and work in conjunction with the utility involved in the installation of all services. Provide all materials and equipment required for complete utility connection but not furnished by the serving utility. Notify the utility companies involved within two weeks after notice to proceed, of all required information necessary for the utility to supply the project without delay. Pay all charges of the serving utility for the electrical service(s).

26B 2-3 GROUNDING

Permanently and effectively ground and bond the electrical installation in a thorough and efficient manner, and in conformance, at a minimum, with NFPA 70, or these documents, where they exceed code requirements. Use bare or insulated conductors, as specified herein, and other materials indicated on the drawings.

26B 3 DISTRIBUTION AND CONTROL EQUIPMENT

26B 3-3 SERVICE ENTRANCE CIRCUIT BREAKER – ENCLOSED, 100A – 6000A

Enclosed circuit breaker: Square D micro-logic and thermal magnetic type or equal by Siemens, Cutler-Hammer, or General Electric; rated at 100% of the ampere size indicated, number of phases and other ratings as indicated on the drawings; permanently labeled as suitable for use as service entrance equipment; integral ground fault relay and operator where indicated or required by NFPA 70; interlocked cover and an engraved nameplate for identification. Provide with integral and separate neutral and ground assemblies, suitable for the sizes of conductors indicated. Do not double-lug any terminations not specifically listed as suitable for more than one conductor. Enclosure: NEMA design suitable for the environment in which installed or as indicated.

26B 3-7 GENERAL PURPOSE PANELBOARDS

Panelboards: Square D type NQOD or NF, as applicable, based on voltage and ampere ratings and required short-circuit interrupting ratings as required unless otherwise indicated on the drawings, or approved equal by Siemens, Cutler Hammer, or General Electric; complete with bolt-on thermal magnetic, molded case circuit breakers assembled in a dead-front finished cabinet containing a typewritten card directory indicating exactly what each circuit breaker controls; main circuit breaker shall be rated at 100% of the ampere size indicated, fully-rated and with the integrated short circuit current ratings as required. Plug-in type breakers will not be acceptable. All two and three pole breakers: common trip type. Breakers used as switches for 120v or 277v lighting circuits: approved for the purpose and marked "SWD". Breakers used for the protection of HVAC and refrigeration equipment: HACR type.

26B 3-8 CIRCUIT BREAKERS IN EXISTING PANELBOARDS

Provide new circuit breakers, for installation in existing panelboards, of the same manufacturer, type and short circuit current interrupting ratings as the existing panelboard circuit breakers. Feeder circuit breakers 800 amps and larger and any main circuit breaker(s) shall be rated at 100% of the ampere size indicated.

26B 3-11 DISCONNECT (SAFETY) SWITCHES

Disconnect (safety) switches: Square D, Siemens, Cutler Hammer, or General Electric fused or non-fused (as indicated on drawings or required) NEMA KS1, heavy duty, externally operated, visible-blade safety switches; NEMA enclosure type indicated on the drawings or suitable for the environment in which installed. Based on fusible switch and fuse sizes indicated, include class R, J, or l fuse provisions as applicable.

Where indicated, provide fusible switches permanently labeled as suitable for use as service entrance equipment, with integral and separate neutral and ground assemblies, suitable for the sizes of conductors indicated. Do not double-lug any terminations not specifically listed as suitable for more than one conductor.

Provide switches where not furnished with the starting equipment, at all other points required by NFPA 70, and where indicated on the drawings.

26B 3-12 SURGE-PROTECTIVE DEVICES (SPD)

Provide SPD labeled in accordance with the latest editions of UL 1283 and 1449, including the highest fault current of section 37.3 (UL recognized for integral).

SPD shall meet or exceed the following criteria:

UL 1449 ratings: the system performance ratings shall be based on the UL 1449 listing ratings for IEEE C62.41 category C3 impulse waveforms of 6kv 1.2 x 50 microseconds, 3ka, 8 x 20 microsecond waveshapes. The maximum UL 1449 listed surge rating for each and/or all of the specified protection modes shall not be exceeded.

Maximum surge current capability (single pulse rated) per phase shall be:

Service entrance switchboards, switchgear: 240ka.

Distribution panelboards, panelboards used for service entrance & MCC: 120ka.

Branch panelboards: 80ka (non-modular is acceptable).

UL 1449 listed and recognized component suppression voltage ratings shall not exceed the following:

VOLTAGE	L-N	L-G	N-G
208y/120	330v	330v	330v
480y/277	700v	700v	700v

SPD shall have a minimum EMI/RFI filtering of –50db at 100khz.

Indicators: the SPD shall use LED indicators that provide indication of suppression component failure in all protection modes including N-G, as well as optically isolated N/C dry contacts for remote monitoring.

Transient counter: a transient voltage surge counter shall be included to totalize transient voltage surges which deviate from the sine wave envelope by more than 125v. The readout shall be at least a six digit LCD located on the unit's hinged front cover. The counter shall be equipped with a battery back-up to retain memory when power is not present. A push-button switch on the display's face-plate shall be provided for manual counter reset.
Manufacturers: Cutler hammer, General Electric, Siemens, Square D, APT, Surge Suppression Incorporated.

Switchboard, switchgear, panelboard and MCC internally mounted SPD: factory installed, UL- labeled by, and at the facility of the electrical distribution equipment manufacturer.

Externally mounted SPD (only allowed where noted on the construction documents): install with conductors as short and straight as possible. Twist the SPD input conductors together to reduce input conductor inductance. Follow the SPD manufacturer's recommended installation practices and comply with all applicable codes.

Warranty: the manufacturer shall provide a minimum full five year parts, labor, travel warranty from date of substantial completion against any part failure, excluding breakers, when installed in compliance with manufacturer's written instructions, UL listing requirements, and all applicable national or local electrical codes. Manufacturer shall make available local, national field engineering service support. Where direct factory employed service engineers are not locally available, travel time from the factory or nearest dispatch center shall be stated.

Thoroughly factory test the specified system before shipment. Testing of each system shall include, but shall not be limited to, quality control checks, dielectric voltage withstand tests at twice rated voltage plus 1000v per UL requirements, and operational and calibration tests.

26B 4 LIGHT FIXTURES, LAMPS AND BALLASTS

26B 4-1 LIGHT FIXTURE LOCATIONS

Light fixtures shown on the electrical drawings represent general arrangements only. Refer to architectural drawings for more exact locations. Coordinate location with all other trades before installation to avoid conflicts. Coordinate light fixture locations in mechanical rooms with final installed piping and ductwork layouts.

26B 4-2 LIGHT FIXTURES

Provide light fixtures as scheduled on drawings, including all lamps, all necessary accessories, material and labor to securely hang, clean, and make light fixtures completely ready for use. Provide: all hangers, supports, and miscellaneous hardware required to install light fixtures; proper trim to fit each ceiling condition actually encountered; additional tie wires connected to structure to conform to seismic requirements where required by the applicable building code.

Packaging of light fixtures will not be allowed. Only those luminares listed in the light fixture schedule, or approved in accordance with substitutions of these specifications, will be accepted. Where the light fixture schedule indicates an allowance for a specific light fixture, the price is a contractor price. Include all additional costs for freight, lamps, and installation of light fixture and lamps.

Install all linear light fixtures located in areas without ceilings immediately below the roof-framing members, or suspended from chain hangers suitable in length to provide the indicated mounting height.

Through wiring of recessed light fixtures, in suspended ceilings, is not permitted. Connect each light fixture by a whip to a junction box. Provide cable whips of sufficient lengths to allow for relocating each light fixture within a 5-foot radius of its installed location, but not exceeding 6 feet in unsupported lengths.

26B 4-3 EMERGENCY LIGHTING UNITS AND EXIT SIGNS

Description: self-contained units complying with UL 924.

Battery: sealed, maintenance-free, lead-acid type. The batteries shall be of suitable rating and capacity to supply and maintain at not less than 87 1/ 2 percent of the nominal battery voltage for the total lamp load associated with the unit for a period of at least 1 1/ 2 hours, or the unit equipment shall supply and maintain not less than 60 percent of the initial emergency illumination for a period of at least 1 1/ 2 hours.

Charger: fully automatic, solid-state type with sealed transfer relay.

Operation: relay automatically turns lamp on when power supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
Test push button: push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
LED indicator light: indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.

Integral time-delay relay: holds unit on for fixed interval of 15 minutes when power is restored after an outage

26B 4-4 LAMPS

Provide lamps as indicated on the drawings for all light fixtures; or, if not indicated, as recommended by the light fixture manufacturer. In all cases, lamps shall be compatible with the specified light fixture. Acceptable lamp manufacturers: General Electric, Osram/Sylvania, Philips, or Venture.

All fluorescent lamps shall be minimum of 4100 degrees k, with a minimum color-rendering index of 80, unless noted or directed otherwise.

Incandescent lamps: type and wattage as shown on the drawings; rated 130v unless otherwise scheduled or specified.

26B 4-5 BALLASTS

Fluorescent ballasts: low heat type; thermally protected against overheating; ETL-CBM, class P to meet all requirements of section 410-73 (E) of the NFPA 70 as a minimum; comply with the national ballast energy law; 90-percent power factor or greater; sound levels not exceeding class A ambient noise levels. Ballasts in indoor locations shall have disconnecting means either internal or external to the luminaire.

Indoor Fluorescent Ballasts: electronic type suitable for operation of specified lamps; total harmonic distortion less than 20 percent; frequency of operation of 20 khz or greater with no visible flicker; line transient withstand ratings as defined in ANSI/IEEE C62.41, category A; manufacturers: Equal to Advance Rel/vel series.

Exterior and Low Temperature Fluorescent Ballasts: shall be electronic type suitable for operation of specified lamps; shall have a total harmonic distortion less than 20 percent; shall have a frequency of operation of 20 khz or greater and operate with no visible flicker; shall withstand line transients as defined in ANSI/IEEE C62.41, category A; shall have a minimum starting temperature of –20 degrees F; and shall be equal to Advance Rel/vel series.

Compact Fluorescent Ballasts: shall be thermally protected against overheating; shall be class P; shall have a minimum 90 percent power factor; sound levels shall not exceed class a ambient noise levels; and shall be low heat type. All ballasts shall be equal to those by Advance.

High-Intensity Discharge (HID) ballasts (includes High Pressure Sodium (HPS) and Metal Halide (MH)): shall have a power factor greater than 90 percent; comply with underwriters laboratory (UL) 1029; provide normal operation and light output with the input voltage is within 10 percent of nominal ballast rating (except HPS lamps smaller than 250w which must have the input voltage within +5 percent); shall have a minimum starting temperature of –20 degrees F. Provide encapsulated and remote types where indicated on the drawings.

Emergency Fluorescent Ballasts: shall be as noted on the fixture schedule or elsewhere on the drawings.

26B 4-6 PARKING LOT LIGHTING

Provide all components of the outdoor lighting system, including pole assemblies as detailed on the drawings and described below. All material furnished shall be of the best quality and workmanship, and the manufacturer may be required to furnish satisfactory evidence of the ability to supply the material in accordance with the drawings and specifications.

Poles and light fixtures shall be as noted on the drawings. If contractor desires to substitute other than the specified manufacturer(s), refer to article "substitutions" in this division, for requirements. No alternate manufacturers will be considered for approval without this prior submittal.

Furnish all poles with hand holes and no less than four high-strength steel anchor bolts for pole mounting. Each anchor bolt shall be threaded at the top, fitted with hexagon nuts, and shall have an "l" bend on the bottom of the bolt. All anchor bolts and nuts shall be hot-dip galvanized. All other small hardware required (bolts, nuts, washers, shims, etc.) Shall be galvanized. Provide pole finishes as noted on the drawings.

26B 5 MISCELLANEOUS ELECTRICAL

26B 5-1 WIRING OF EQUIPMENT

Provide all raceways and power wiring for all applicable Divisions equipment requiring electrical connections, including, but not limited to, pumps, water heaters, and HVAC equipment, and all line-voltage control and interlock wiring not provided under other Divisions. Connect per manufacturers' wiring diagrams. Coordinate with applicable Divisions for disconnects furnished with equipment, and provide all disconnect switches as required. After installing wiring, verify that each motor load has the correct phase rotation.

Verify the actual "maximum overcurrent protection" (MOCP) device ratings and "minimum circuit ampacity" (MCA) conductor sizing for mechanical equipment from the equipment nameplate. Base electrical installations on actual required amperages, which may vary somewhat from the conductor and equipment sizes shown on the drawings; however, in no case, reduce the size of conductors indicated on the drawings without authorization from the engineer. Provide properly sized electrical wiring and equipment without extra cost to the owner. Notify the engineer of all changes required in the electrical installation due to equipment variances so that the effects on feeders, branch circuits, panelboards, fuses and circuit breakers can be checked prior to purchasing and installation. Be responsible for coordinating with applicable Divisions to verify the actual ampacities and correct sizes of all conductors and overcurrent protective devices for all equipment, and correct overload heaters for all motors, when starters are provided under Division 26.

26B 5-6 PHOTO CONTROL

The Photo Control Shall:

Provide automatic switching for lighting loads using a thermal design with built in delay to ensure that the controlled lighting does not switch off due to ambient light or lightning striking the photocell.

Have a rating based on UL testing at 50% power factor for ballast loads, be UL listed, and meet all applicable agency requirements

Be stem-mounting type with all necessary mounting hardware and instructions; have a housing constructed of high impact poly-carbonate; photo control components consisting of a metal film resistor, dual temperature compensating bi metal blades, snap action contact blades, chemically treated/polymer encapsulated cadmium sulfide photocell and silver alloy contacts to ensure reliable 5 year manufacturer warranted operation. Photo control shall be 100% factory tested for function within manufacturer's specified light levels.

Be from the same manufacturer of and totally compatible with the time switches specified above.

22,000a at 240v maximum
as indicated on the drawings
Enclosures: NEMA rated for environment installed in or as indicated on the drawings.

26B 5-9 MISCELLANEOUS EQUIPMENT AND CONNECTIONS

Provide all wiring and connections to equipment furnished by others, including, but not limited to, bakery equipment, deli equipment, meat room equipment, kitchen equipment, checkstand and scanners, exhaust hood fire extinguishing system, etc. Install scan system electronic communication cable in underfloor duct (cable provided by others).

Provide all raceways, wiring and related connections of devices to energy management system that are not the responsibility of Division 23.

All wiring and connections of exit door alarms.

END OF SECTION 26B

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01/31/2025

CHEROKEE PEACE PAVILION
SITE AND LANDSCAPE ENHANCEMENTS

CHEROKEE NATION BUSINESSES
TAHLEQUAH, OKLAHOMA

REVISIONS:

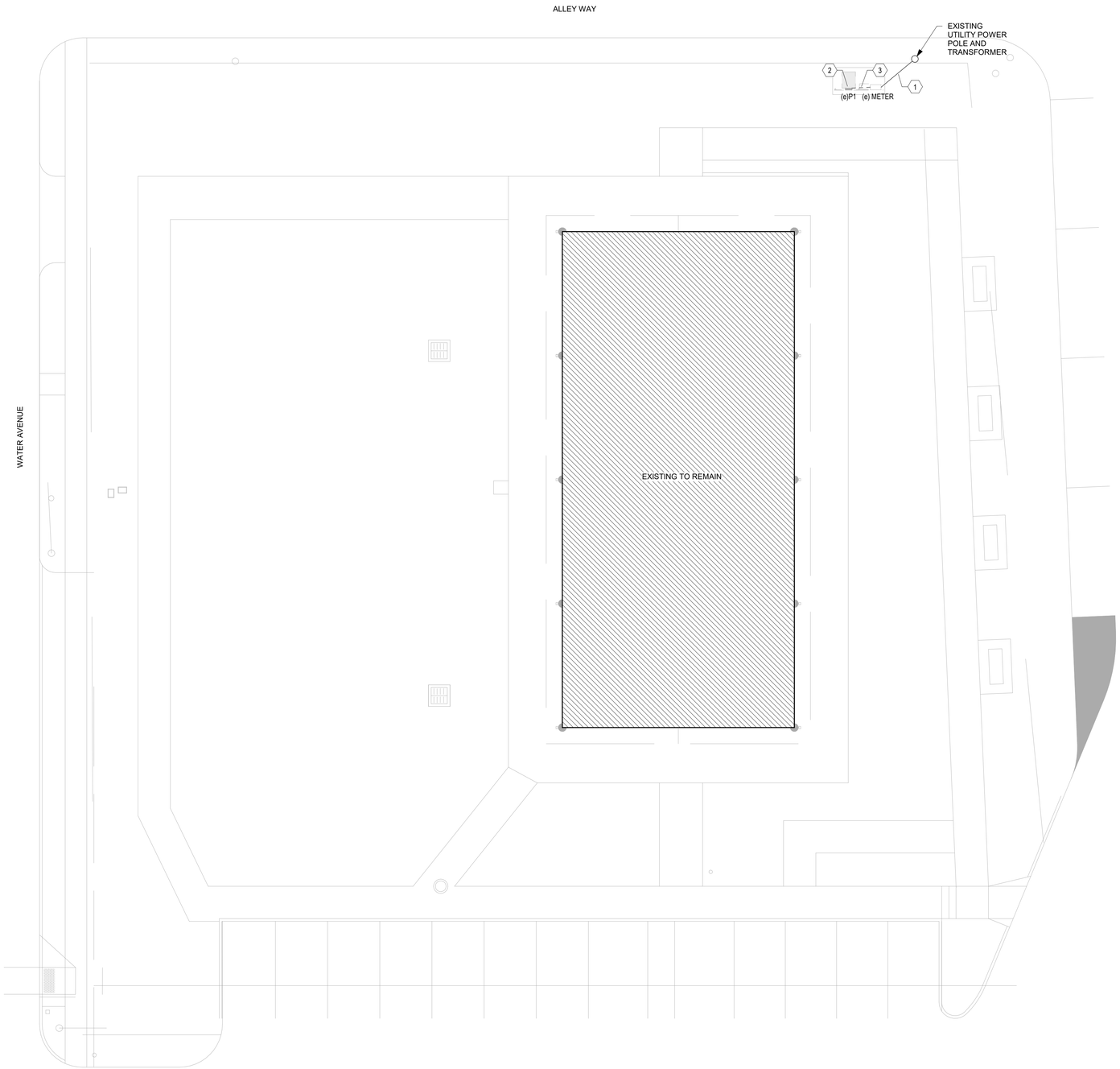
#	DATE	DESCRIPTION

ISSUE
FINAL PLANS

DATE:	1/31/25
PROJECT #	23015
DESIGN:	EB
DRAWN:	EB
CHECKED:	GA

ELECTRICAL SPECIFICATIONS

E0.03



1 E1.00 SITE ELECTRICAL DEMOLITION PLAN
3/32" = 1'-0"
0 8' 16' 24'

SITE DEMO PLAN NOTES

COORDINATE ALL ELECTRICAL AND LIGHTING DEMOLITION WITH GENERAL CONTRACTOR. REFER TO LANDSCAPE SHEET L0.40 - SITE DEMOLITION PLAN.

KEYNOTES

1 EXISTING SERVICE ENTRANCE CONDUCTOR TO BE DEMOLISHED. REPLACE WITH NEW FEEDER.
2 EXISTING PANEL TO REMAIN.
3 EXISTING PANEL FEEDER TO BE DEMOLISHED. REPLACE WITH NEW FEEDER.

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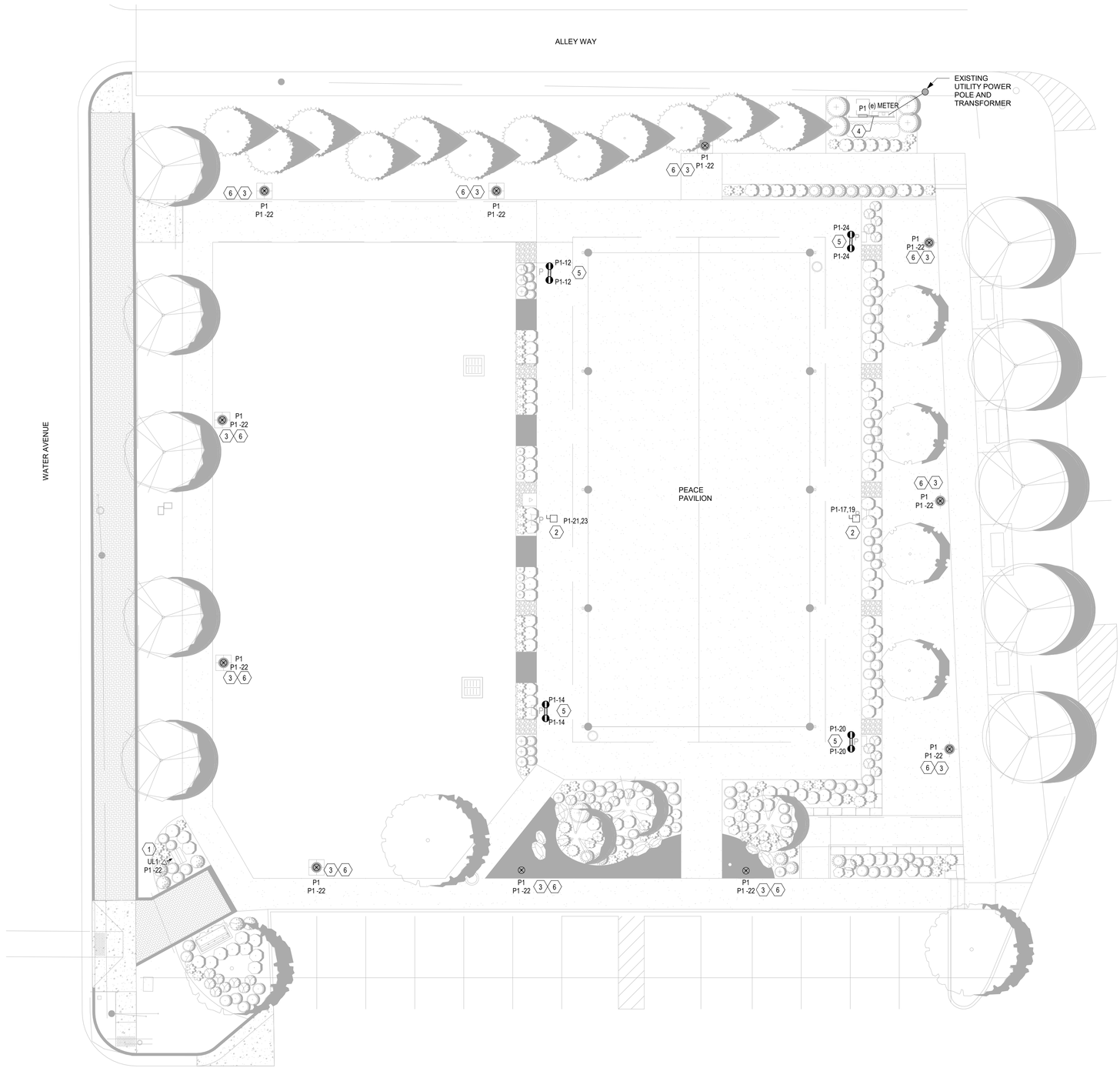
ELECTRICAL SITE DEMO PLAN

E1.00



1 E1.01 ELECTRICAL SITE PLAN
3/32" = 1'-0"
0 8' 16' 24'

SITE LIGHTING PLAN NOTES

CIRCUIT WIRING IS NOT SHOWN. PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUITING AND SWITCHING SHOWN.

SITE POWER PLAN NOTES

ALL SITE AND WIRING SHALL BE BURIED 24" BELOW FINISHED GRADE MINIMUM.

ALL UNDERGROUND CONDUIT SHALL BE A MINIMUM OF 1".

COORDINATE ALL UNDERGROUND INSTALLATIONS WITH EXISTING UTILITIES AND OTHER TRADES PRIOR TO INSTALLATION.

PROVIDE RIGID SERVICE ENTRANCE CONDUIT ELBOWS AND RISERS FOR ALL SITE CONDUIT GREATER THAN 1".

UNLESS NOTED OTHERWISE PROVIDE MINIMUM #8 AWG CONDUCTORS IN 1" CONDUIT(S) FOR ALL UNDERGROUND SITE POWER AND LIGHTING CIRCUITS.

INCREASE CONDUCTOR AND RELATED CONDUIT SIZE AS NOTED OR OTHERWISE REQUIRED TO LIMIT VOLTAGE DROP TO LESS THAN 5% FOR THE ENTIRE LENGTH OF THE SYSTEM.

CONTRACTOR TO INSTALL NEW LIGHTING CONTACTOR FOR ALL NEW EXTERIOR LIGHTING.

ALL RECEPTACLES TO BE GFCI.

REFER TO SHEET L1.00 FOR IDENTIFICATION OF SIDEWALK AND PAVING THAT IS EXISTING TO BORE, TRENCH AND BACKFILL AS NEEDED FOR ELECTRICAL CONDUITS.

KEYNOTES

1. UPLIGHT TO ILLUMINATE SIGNAGE. INSTALL BACKBOX AND FIXTURE 4 FEET INFRONT OF SIGNAGE. COORDINATE WITH LANDSCAPE FOR CONNECTION BASE LOCATION. INSTALL LIGHT PER MANUFACTURER INSTRUCTIONS AND PIVOT UPWARDS ILLUMINATING ENTIRE SIGNAGE.
2. PROVIDE 100A UNMETERED POWER PANEL FOR RECREATIONAL VEHICLE. POWER PANEL TO INCLUDE (1) 50AMP, (1) 30AMP, AND (1) 20AMP GFCI CONVENIENCE RECEPTACLE. ENCLOSURE AND RECEPTACLES TO BE NEMA 3R RATED. POWER PANEL TO INCLUDE CIRCUIT BREAKERS FOR EACH RECEPTACLE. INCLUDE RACK MOUNTING AND STAND WITH BASE BID.
3. LIGHTING CIRCUIT TO BE CONTROLLED VIA NEW LIGHTING CONTACTOR.
4. PROVIDE NEW PANEL FEEDER. REFERENCE RISER DIAGRAM FOR CONDUIT AND CONDUCTOR SIZING.
5. PROVIDE RACK MOUNTED POWER PEDESTAL FOR (2) GFCI RECEPTACLES MOUNTED ABOVE GRADE IN NEMA 3R ENCLOSURE.
6. PROVIDE 1" CONDUIT AT EACH LIGHTPOLE CAPPED FOR FUTURE SECURITY CAMERA. HOMERUN CONDUIT TO EQUIPMENT RACK FOR FUTURE SECURITY CAMERA CONTROLLER. CONDUITS MAY BE COMBINED AS NECESSARY TO REACH EACH LIGHTPOLE, INCREASE SIZE AS REQUIRED BY SECURITY CAMERA CABLE MANUFACTURER. INCLUDE TRENCH, INSTALLATION AND BACKFILL IN BASE BID.

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ELECTRICAL SITE PLAN

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