

TABULATION OF APPROXIMATE LIGHTING QUANTITIES

PAY ITEM	ITEM DESCRIPTION	UNIT	QTY	NOTES
200-00700	REMOVAL OF LIGHT STANDARD (PRIVATE)	EACH	2	
210-00437	RESET TV CAMERA (PRIVATE)	EACH	1	
210-00750	RESET LIGHT STANDARD (PRIVATE)	EACH	3	
210-00750	RESET LIGHT STANDARD (BY XCEL)	EACH	1	8
210-00861	RESET WIRING (RE-ESTABLISH OWNER POWER TO PRIVATE SIGN)	L S	1	
613-00050	1/2 INCH ELECTRICAL CONDUIT	L F	40	1
613-00206	2 INCH ELECTRICAL CONDUIT (BORED)	L F	120	2
613-00306	3 INCH ELECTRICAL CONDUIT (BORED)	L F	340	2
613-01050	1/2 INCH ELECTRICAL CONDUIT (PLASTIC)	L F	530	2
613-01100	1 INCH ELECTRICAL CONDUIT (PLASTIC)	L F	2,340	2
613-01200	2 INCH ELECTRICAL CONDUIT (PLASTIC)	L F	725	2
613-01300	3 INCH ELECTRICAL CONDUIT (PLASTIC)	L F	100	2
613-10000	WIRING	L S	1	
613-13000	LUMINAIRE (LED) (TYPE A) (PEDESTRIAN UNDERPASS)	EACH	16	3
613-13001	LUMINAIRE (LED) (TYPE B) (PEDESTRIAN TUNNEL UNDER RAILROAD)	EACH	2	4
613-50010	PHOTOELECTRIC CELL	EACH	1	5
613-50100	COLD SEQUENCE METER/POWER PEDESTAL	EACH	5	6
613-50130	DUPLEX GFCI RECEPTACLE (WITH BACK BOX AND COVER)	EACH	6	7

TABULATION NOTES:

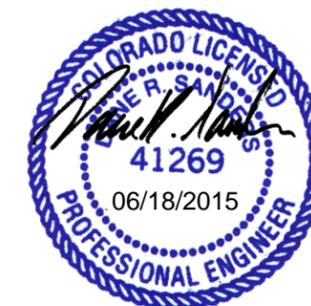
- THIS PAY ITEM SHALL BE GRC CONDUIT SURFACE MOUNTED ON STRUCTURE.
- THIS PAY ITEM SHALL BE SCHEDULE 80 PVC CONDUIT AND SPLICE BOXES ARE INCLUDED IN THE CONDUIT PAY ITEM. CONDUIT SHALL BE INSTALLED IN COMMON TRENCH WHEREVER POSSIBLE.
- THIS PAY ITEM IS FOR THE PEDESTRIAN UNDERPASS LUMINAIRE.
- THIS PAY ITEM IS FOR THE RAILROAD TUNNEL LINEAR LED SURFACE LUMINAIRE
- THIS PAY ITEM SHALL INCLUDE ALL PARTS REQUIRED FOR A PHOTOCELL ON/OFF CONTROL.
- THIS PAY ITEM SHALL INCLUDE ALL PARTS SHOWN ON THE DETAILS.
- THIS PAY ITEM SHALL INCLUDE ALL ELECTRICAL PARTS REQUIRED TO POWER THE NEW IRRIGATION CONTROLLER AND PROVIDE MEANS OF DISCONNECT.
- REMOVAL OF LIGHTING STANDARD, LIGHT STANDARD FOUNDATION AND RESET LIGHT STANDARD SHALL BE BY XCEL ENERGY FORCES. PAY ITEMS ARE SHOWN FOR REFERENCE ONLY.

LIGHTING AND ELECTRICAL LEGEND

- TYPE 'A' LED WALL MOUNTED UNDERPASS LUMINAIRE. SEE DETAIL ON SHEET LEP-15. CIRCUIT NUMBER
- TYPE 'B' LED SURFACE MOUNTED LUMINAIRE. SEE DETAIL ON SHEET LEP-15.
- REMOVE PRIVATE STANDARD AND FOUNDATION & OFFER TO UCAR, IF DECLINED THEY BECOME PROPERTY OF CONTRACTOR.
- EXISTING LIGHT STANDARD TO BE REMOVED AND REPLACED BY XCEL ENERGY FORCES, FOR INFORMATION ONLY.
- RELOCATE STANDARD AND RE-ORIENT LUMINAIRE AS INDICATED.
- RE-ORIENT LUMINAIRE ON EXISTING STANDARD AS INDICATED.
- REMOVE, STORE AND REINSTALL PRIVATE LIGHT STANDARD.
- IRRIGATION CONTROLLER (NUMBER AS INDICATED) PROVIDED BY IRRIGATION CONTRACTOR - VERIFY EXACT LOCATION IN FIELD PRIOR TO ROUGH-IN. ELECTRICAL CONTRACTOR SHALL PROVIDE ELECTRICAL CONNECTION AND GFCI DUPLEX RECEPTACLE WITH WEATHER-PROOF BACK BOX AND COVER INSTALLED IN IRRIGATION CONTROL CABINET.
- EXISTING POLE MOUNTED TRANSFORMER.
- EXISTING PAD MOUNTED TRANSFORMER.
- NEW FLUSH IN GRADE POLYMER CONCRETE 13" x 24" x 12" DEEP SPLICE/ PULL BOX WITH TRAFFIC RATED TIER 22 BOLTED COVER.
- NEW FLUSH IN GRADE POLYMER CONCRETE 12" x 12" x 12" DEEP SPLICE/ PULL BOX WITH TRAFFIC RATED TIER 15 BOLTED COVER.
- 3" SCHEDULE 80 PVC SLEEVE TERMINATING IN SPLICE/PULL BOXES AT EACH END. (UNLESS NOTED OTHERWISE).
- EXISTING METER.
- NEW METER/ POWER PEDESTAL WITH FUSED DISCONNECT AHEAD OF METER (COLD SEQUENCE), LEVEL BYPASS, LATCH HOLD OPEN ON METER COVER, AND TAB ON METER DEAD FRONT TO XCEL ENERGY'S SPECIFICATIONS. PROVIDE MAIN CIRCUIT BREAKER, BRANCH BREAKER, AND NUMBER OF POLES AS INDICATED ON THE PANEL SCHEDULE.
- TWIST-LOCK RECEPTACLE BASE TYPE, 120V PHOTOCELL WITH WEATHERPROOF BACK BOX & COVER PLATE. MOUNT ON SIDE OF METER / POWER PEDESTAL TO CONTROL LIGHTING CIRCUITS.
- HOME RUN/ CIRCUIT BREAKER, NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS (4#10 THWN & 1#10 GND.) 1" PVC UNLESS OTHER WISE NOTED.
- GRC CONDUIT CAST IN CONCRETE UNLESS NOTED OTHERWISE.
- REMOVE OWNER SUPPLIED CAMERA.
- OWNER SUPPLIED AND REINSTALLED CAMERA. SHOWN FOR INFORMATION ONLY.
- PRIVATE SIGN CONTRACTOR TO RECONNECT OWNER POWER.

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LIGHTING DESIGN AND ENGINEERING

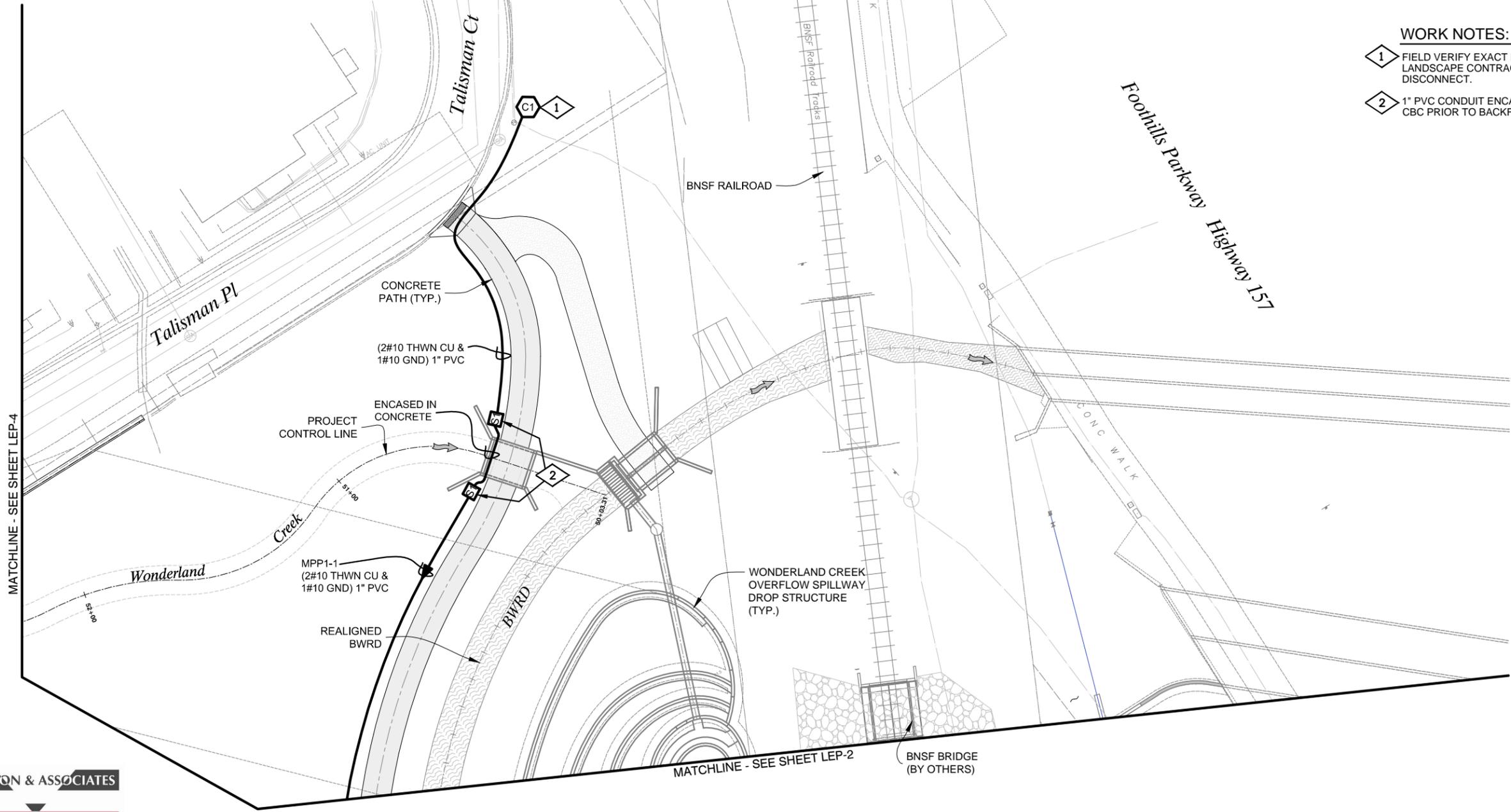
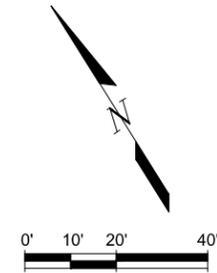
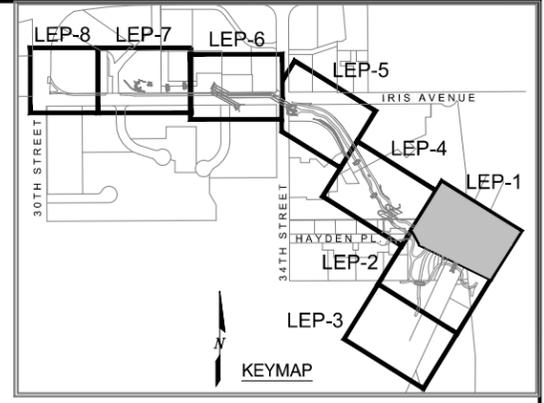


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Know what's below.
Call before you dig.



- WORK NOTES:**
- 1 FIELD VERIFY EXACT LOCATION OF IRRIGATION CONTROLLER WITH THE LANDSCAPE CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE MEANS OF DISCONNECT.
 - 2 1" PVC CONDUIT ENCASED IN CONCRETE ROUTED TIGHT TO TOP SIDE OF CBC PRIOR TO BACKFILL AND ROAD BASE INSTALLATION.

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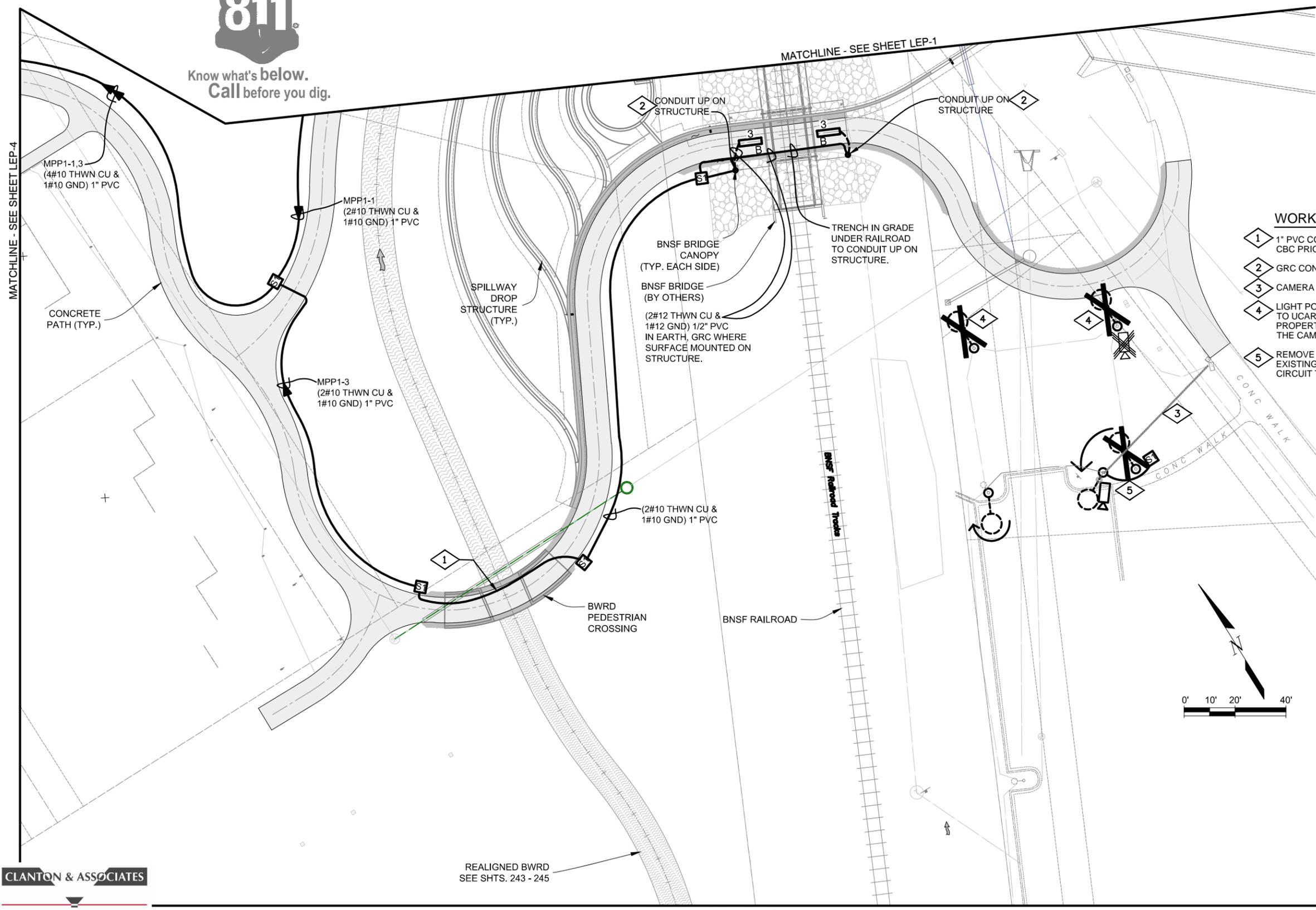
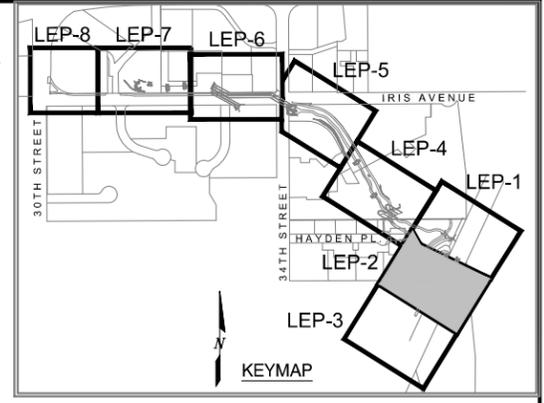


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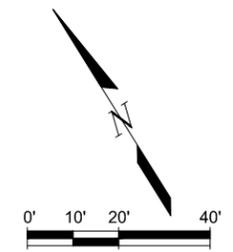


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WORK NOTES:

- 1 1" PVC CONDUIT ENCASED IN CONCRETE ROUTED TIGHT TO TOP SIDE OF CBC PRIOR TO BACKFILL AND ROAD BASE INSTALLATION.
- 2 GRC CONDUIT WHERE EXPOSED ON STRUCTURE. PAINT TO MATCH.
- 3 CAMERA CONTROL LINE, COORDINATE INSTALLATION WITH UCAR.
- 4 LIGHT POLES TO BE REMOVED AT VOLLEYBALL COURT SHALL BE OFFERED TO UCAR. IF UCAR DOES NOT WANT THE LIGHTS, THEY SHALL BECOME PROPERTY OF THE CONTRACTOR. UCAR SHALL REMOVE AND REINSTALL THE CAMERA MOUNTED TO THE NORTH-EAST LIGHT POLE.
- 5 REMOVE EXISTING LIGHT STANDARD AND FOUNDATION, INTERCEPT EXISTING CIRCUIT WITH NEW IN-GRADE SPLICE BOX AND EXTEND EXISTING CIRCUIT TO RELOCATED LIGHT STANDARD LOCATION.



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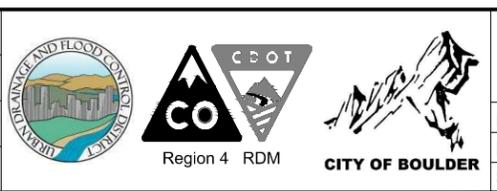
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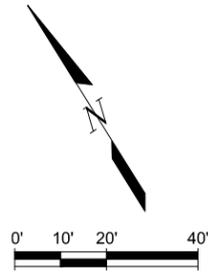


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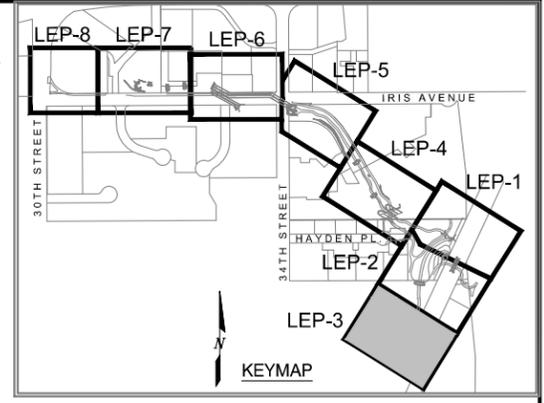
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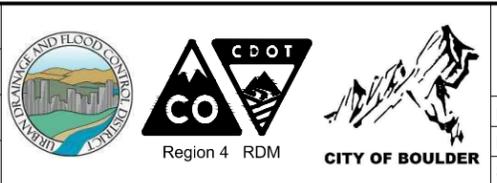
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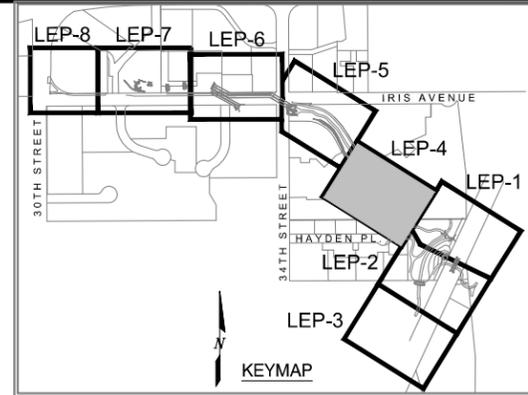


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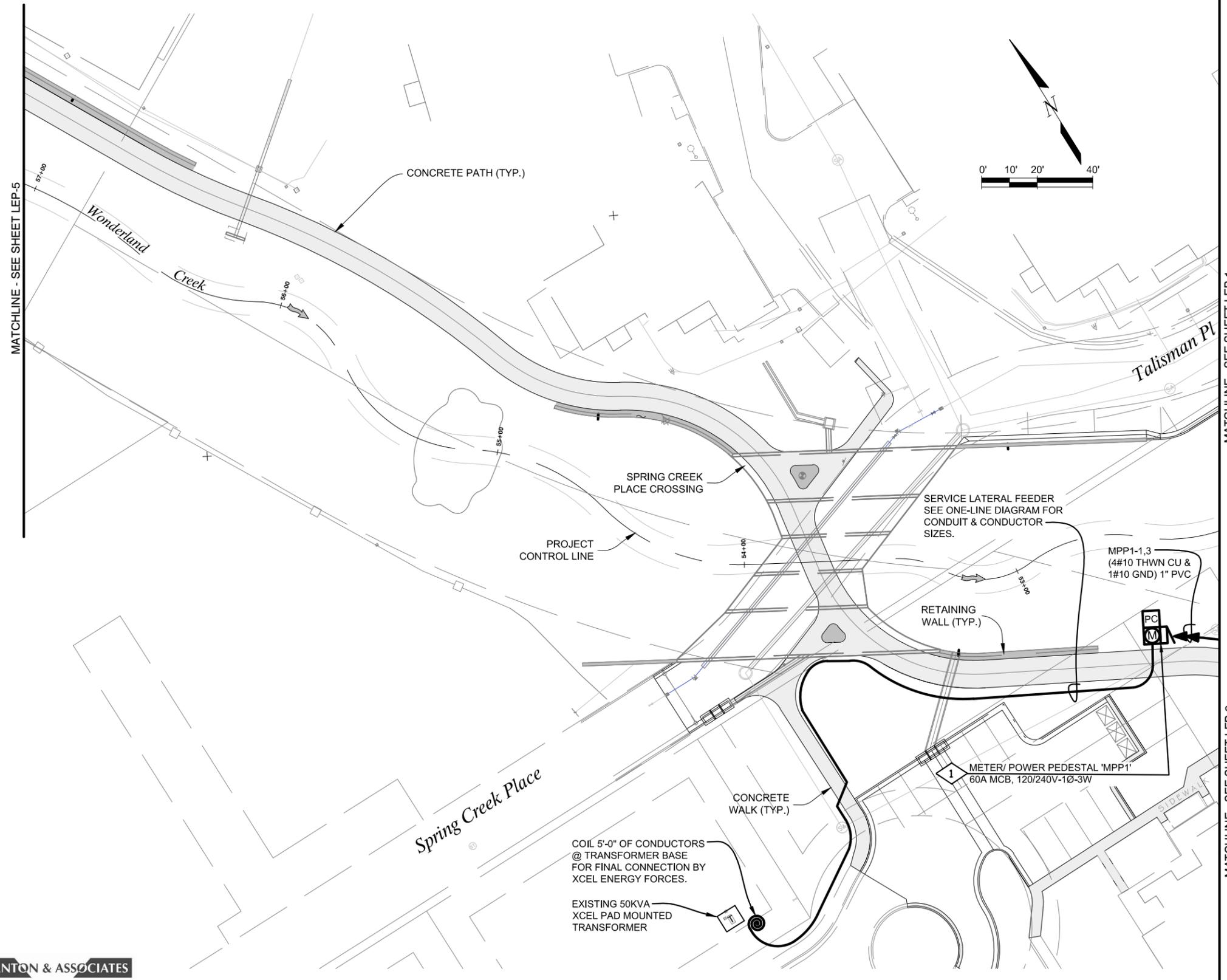


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WORK NOTES:

- 1 PROVIDE METER/POWER PEDESTAL AS SHOWN HERE AND AS DESCRIBED IN THE DETAILS.



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LIGHTING DESIGN AND ENGINEERING



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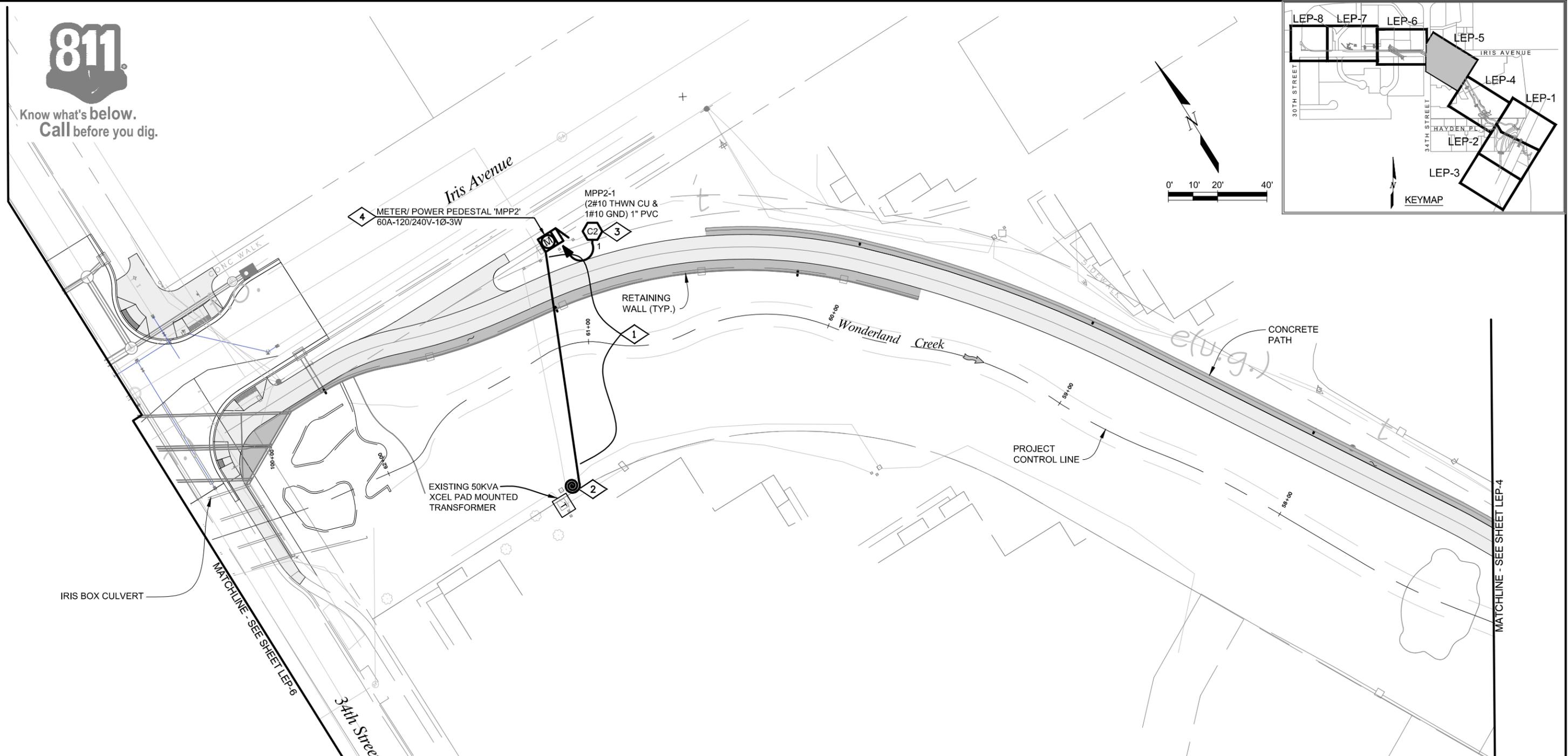
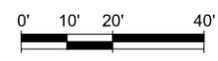
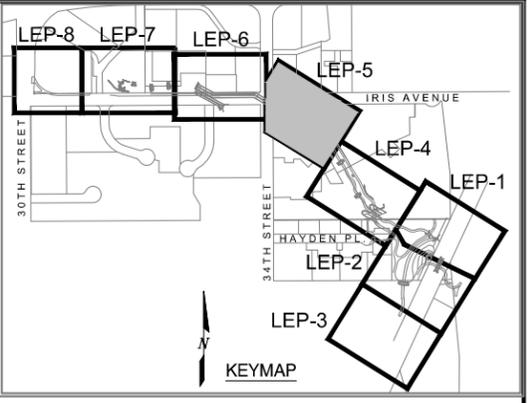
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Project No./Code	STM 110-081
	18405
Sheet Number:	425



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WORK NOTES:

- 1 BORE SERVICE LATERAL FROM NEW 'MPP2' TO PAD MOUNTED TRANSFORMER AS SHOWN. SEE ONE-LINE DIAGRAM FOR SIZE OF CONDUCTORS AND CONDUIT.
- 2 COIL 5'-0" OF SERVICE LATERAL CONDUCTORS AT THE TRANSFORMER FOR FINAL CONNECTION BY XCEL ENERGY FORCES.
- 3 FIELD VERIFY EXACT LOCATION OF IRRIGATION CONTROLLER WITH LANDSCAPE CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE MEANS OF DISCONNECT.
- 4 PROVIDE METER/ POWER PEDESTAL AS SHOWN HERE AND AS DESCRIBED IN THE DETAILS.



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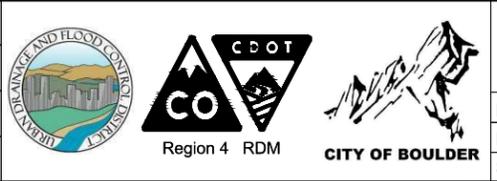
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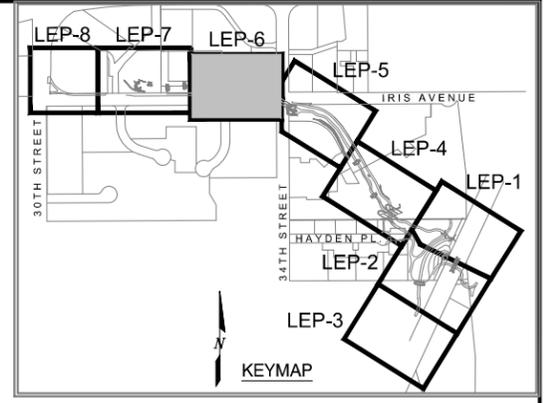
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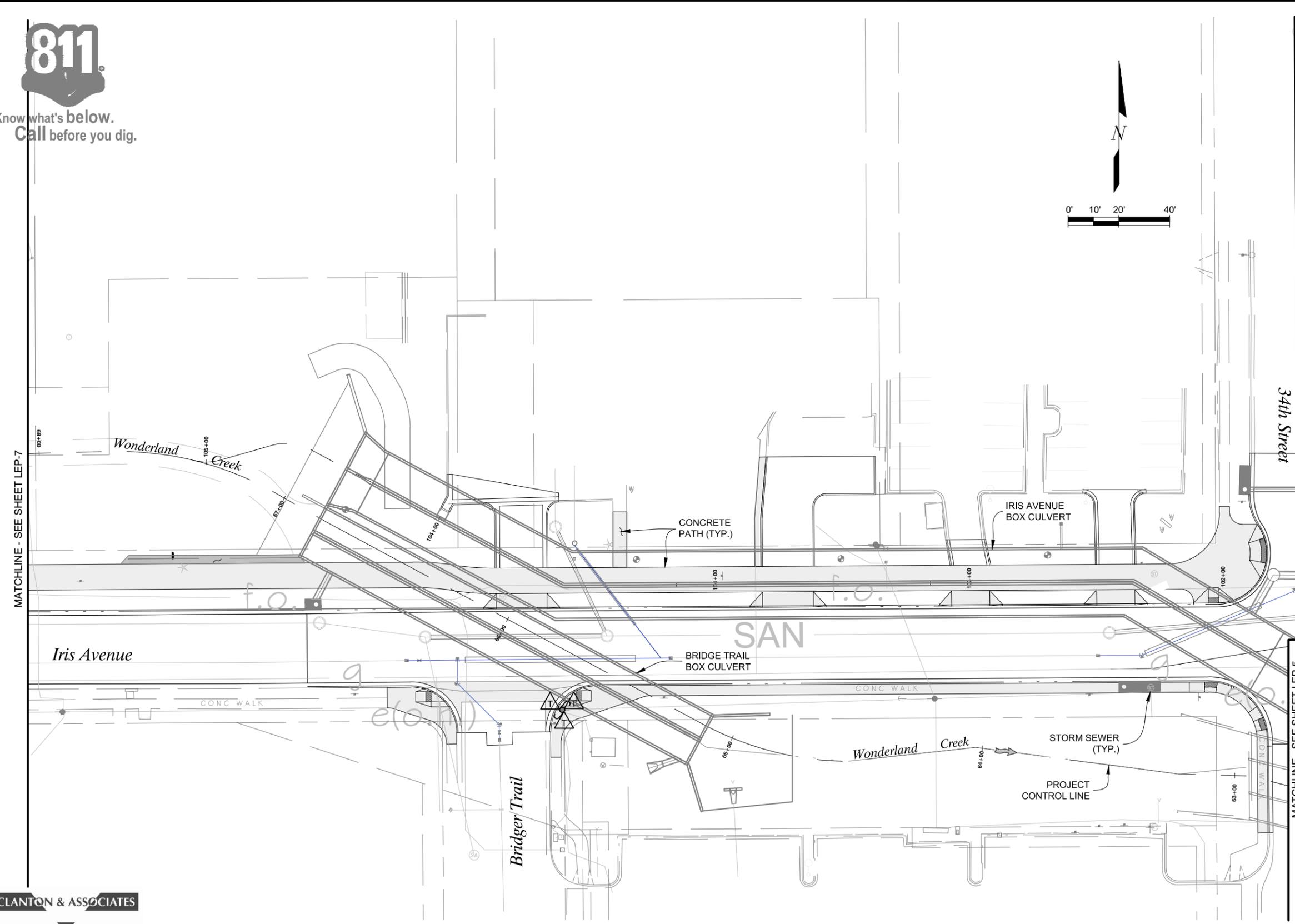
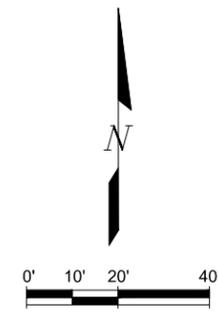
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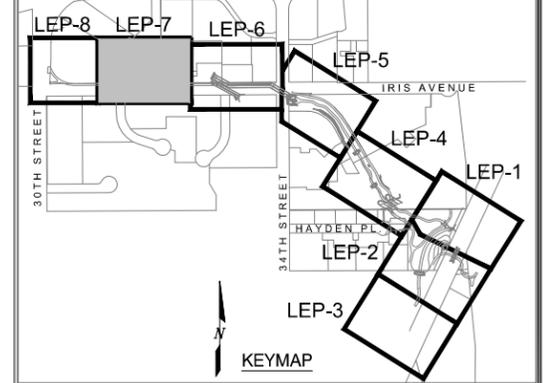
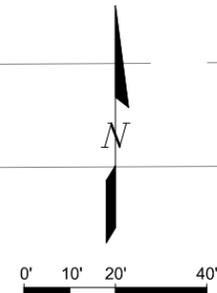
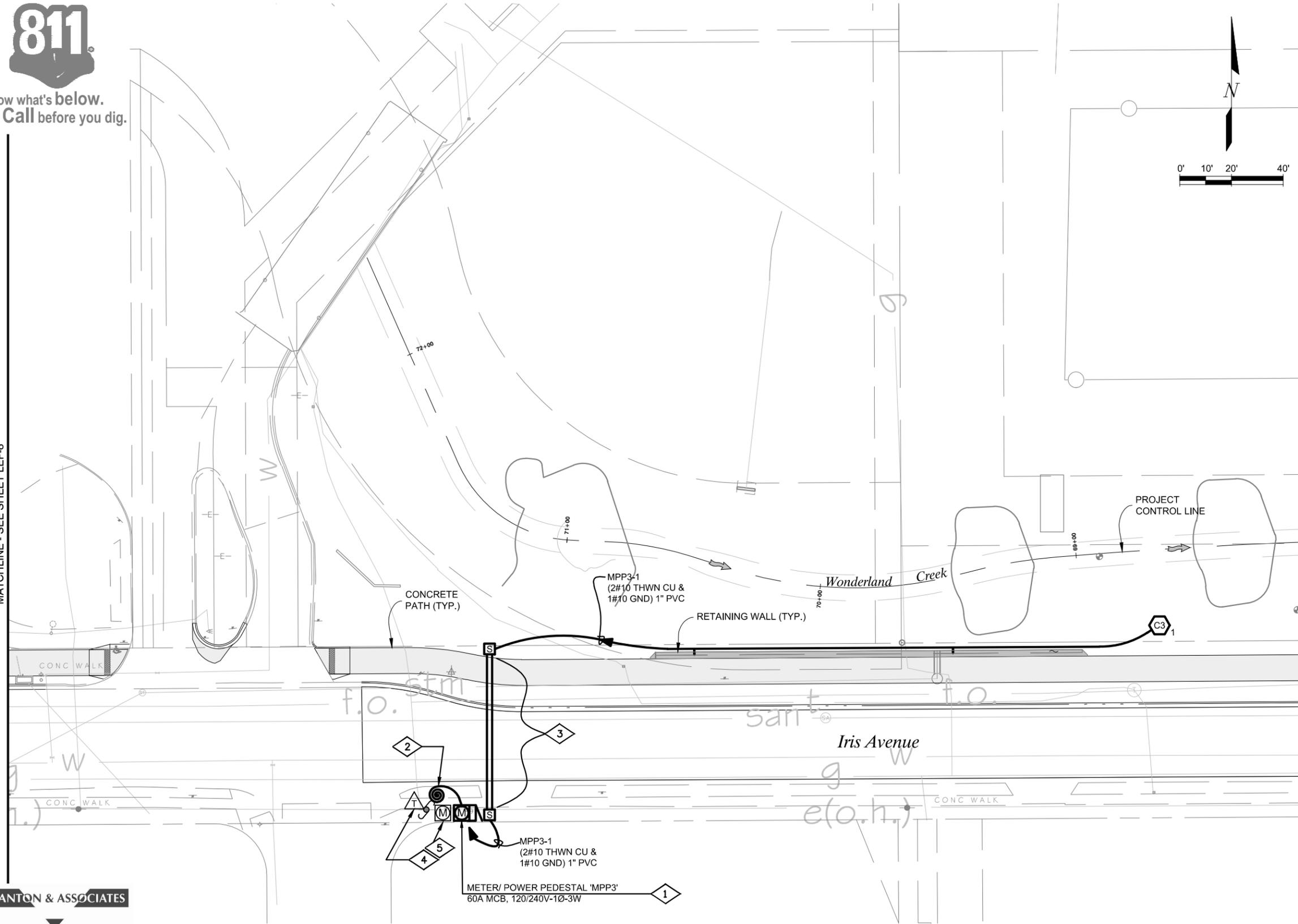


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MATCHLINE - SEE SHEET LEP-8



WORK NOTES:

- 1 PROVIDE THIS METER/POWER PEDESTAL AS SHOWN HERE AND AS DESCRIBED IN THE DETAILS.
- 2 COIL ENOUGH CONDUCTORS AT THE BASE OF THE POLE TO REACH THE TRANSFORMER TERMINALS AT THE TOP OF THE POLE. ROUTING OF CONDUCTORS UP THE POLE AND FINAL CONNECTION TO THE TRANSFORMER SHALL BE BY XCEL ENERGY FORCES. SEE ONE-LINE DIAGRAM FOR SIZE OF SERVICE LATERAL CONDUIT AND CONDUCTOR.
- 3 BORE 3" SCHEDULE 80 PVC SLEEVE ACROSS EXISTING ROADWAY WITH SPLICE BOXES ON BOTH ENDS. INSTALL (2#10 THWN CU & 1#10 GND) IN THIS 3" CONDUIT.
- 4 EXISTING 25KVA POLE MOUNTED TRANSFORMER.
- 5 EXISTING METER

MATCHLINE - SEE SHEET LEP-6

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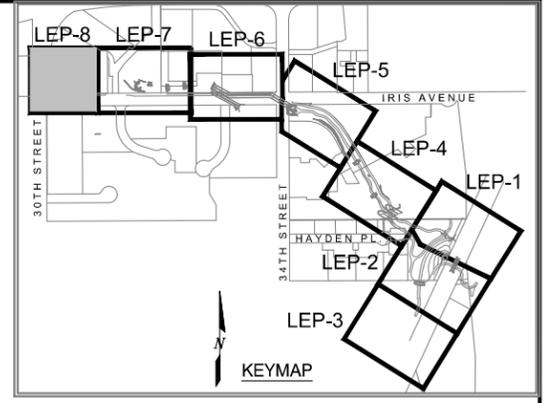
LIGHTING DESIGN AND ENGINEERING



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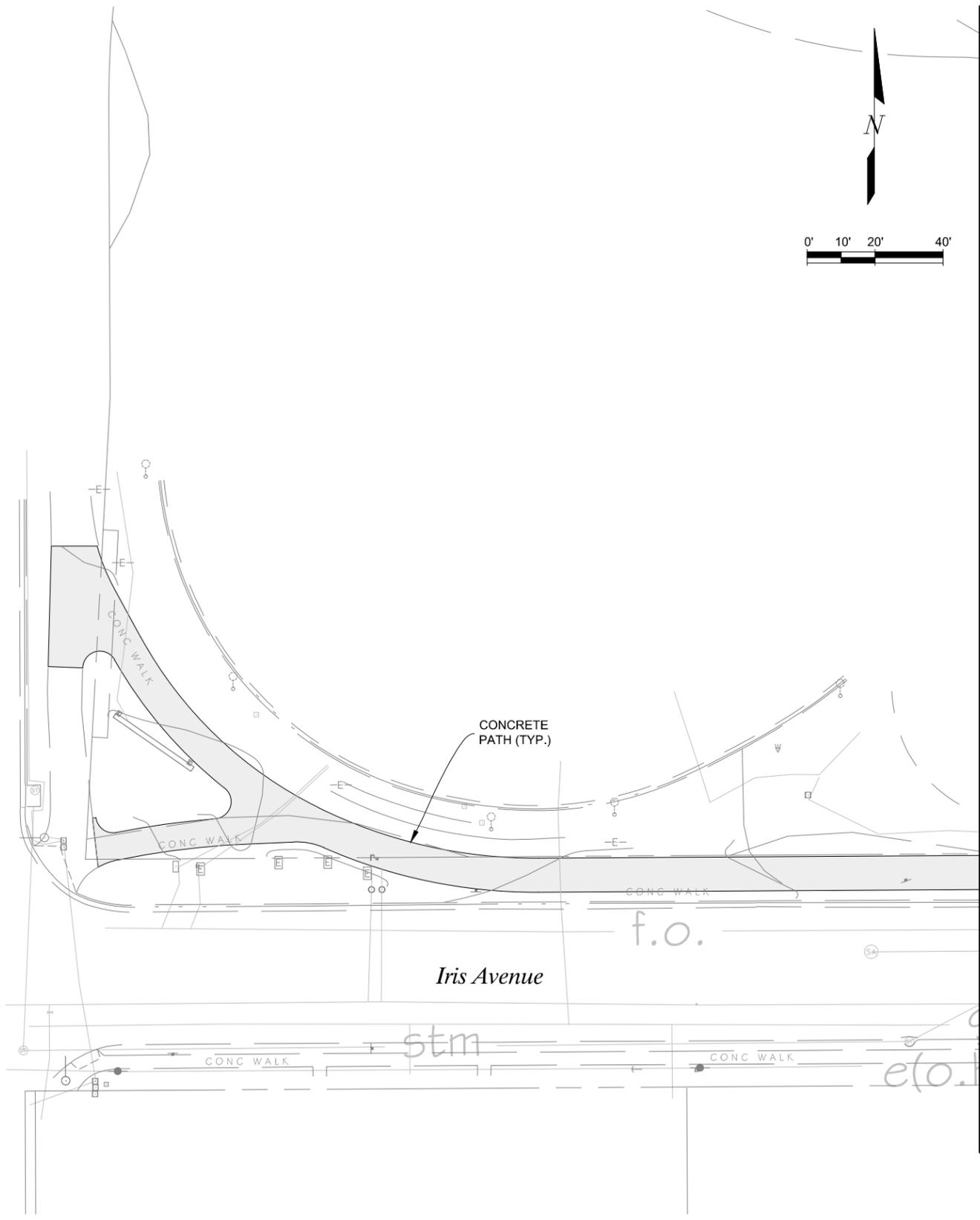


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NOTE:
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30th Street



MATCHLINE - SEE SHEET LEP-7

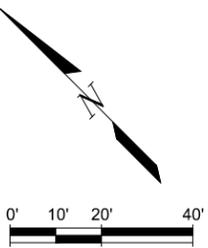
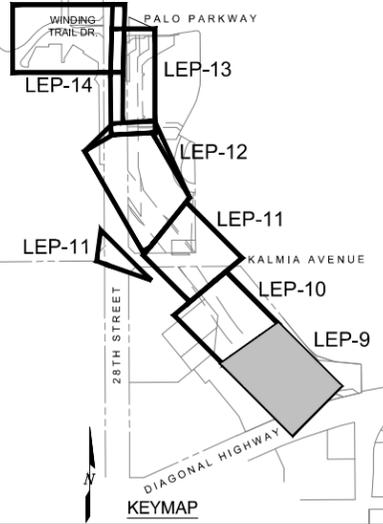
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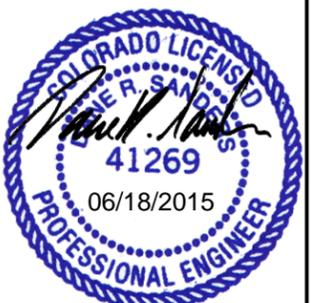
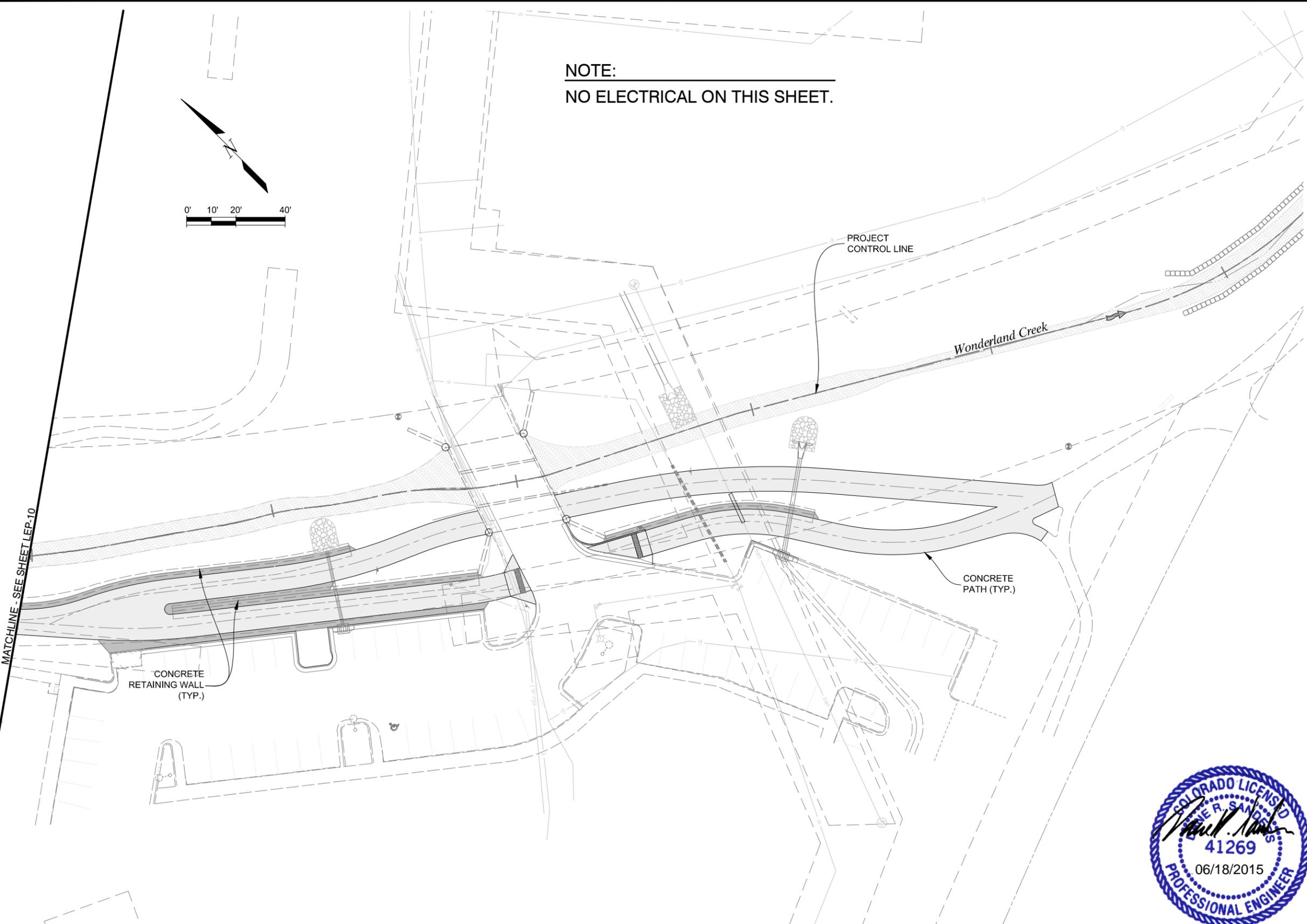


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MATCHLINE - SEE SHEET LEP-10



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AutoCAD 2010	Scale: AS SHOWN FEET

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CONSULTING ENGINEERS
777 S. WADSWORTH BLVD. 4-100 LAKEWOOD,
COLORADO 80126
(303) 988-4939

MEC PROJECT NO. 11039.03

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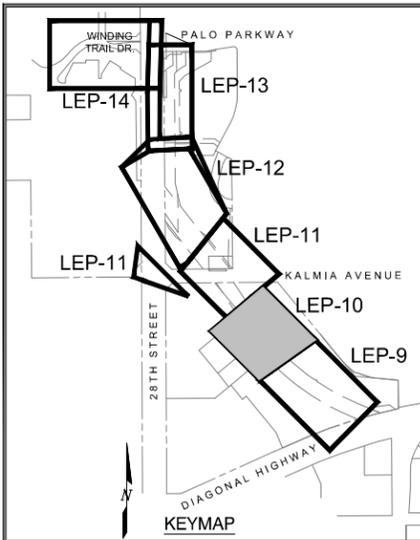
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Date:	Comments	Init.

As Constructed
No Revisions:
Revised:
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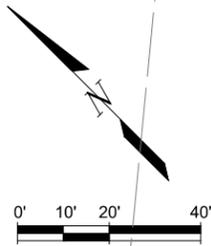
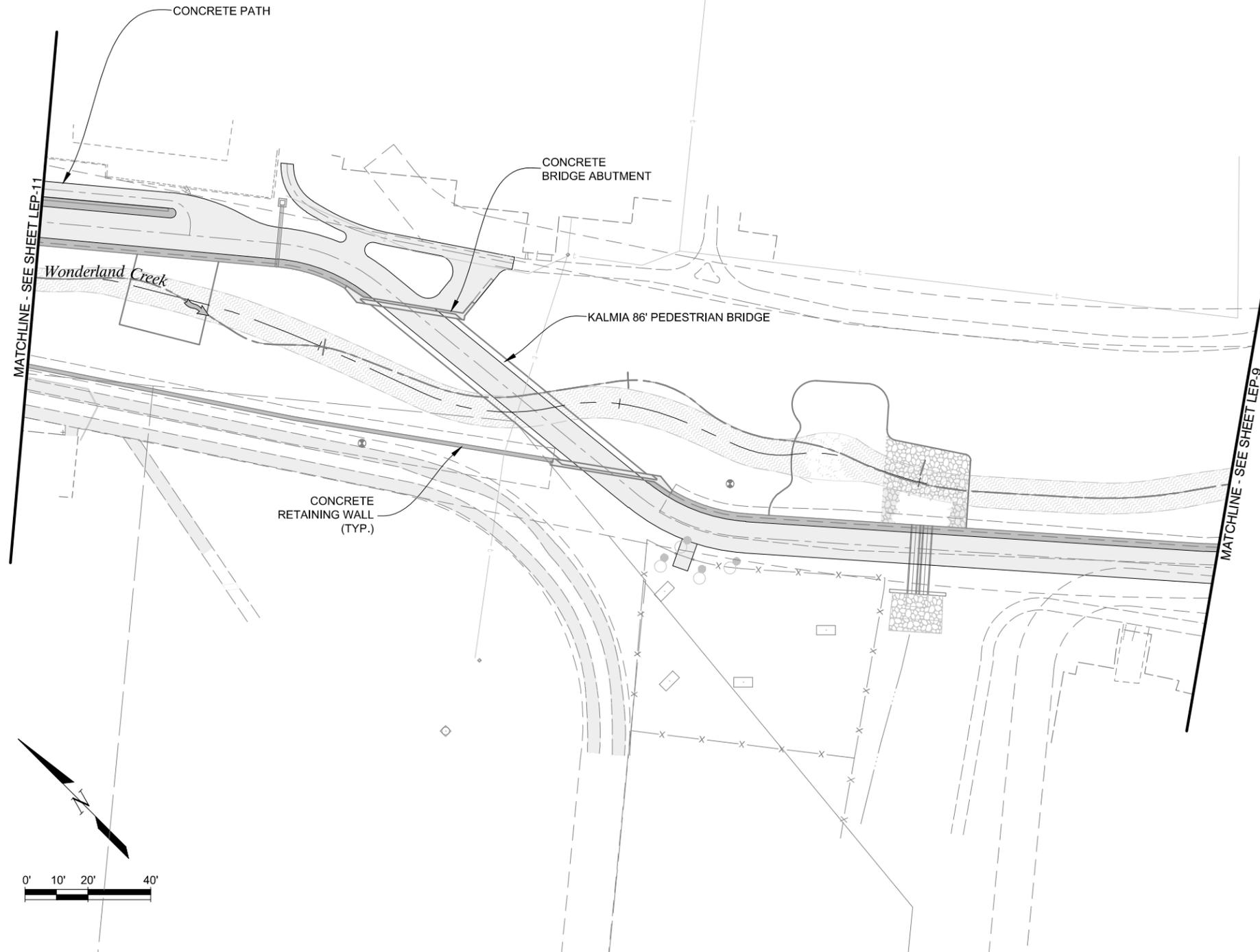
WONDERLAND CREEK - GREENWAYS IMPROVEMENT PROJECT		
LIGHTING IMPROVEMENT PLAN		
Designer: DR	Structure	
Detailer: JE	Numbers	
Sheet Subset: LIGHTING	Subset Sheets:	LEP-9

Project No./Code	
	STM 110-081
	18405
Sheet Number:	430

NOTE:
NO ELECTRICAL ON THIS SHEET.



Know what's below.
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NAME: P:\11-039-03 Wonderland Creek Lower Reach-Final Design\CA\11-039-03_WC PLANS NORTH.dwg DATE: FEB 11, 2015 TIME: 2:31 PM

Computer File Information	
Creation Date: 03/02/15	Initials: JE
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AutoCAD 2010	Scale: AS SHOWN FEET

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MULLER

MEC PROJECT NO. 11039.03

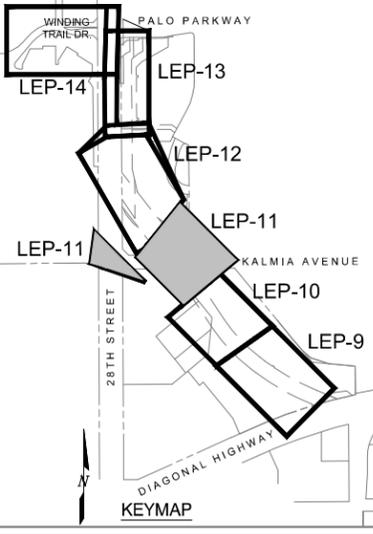
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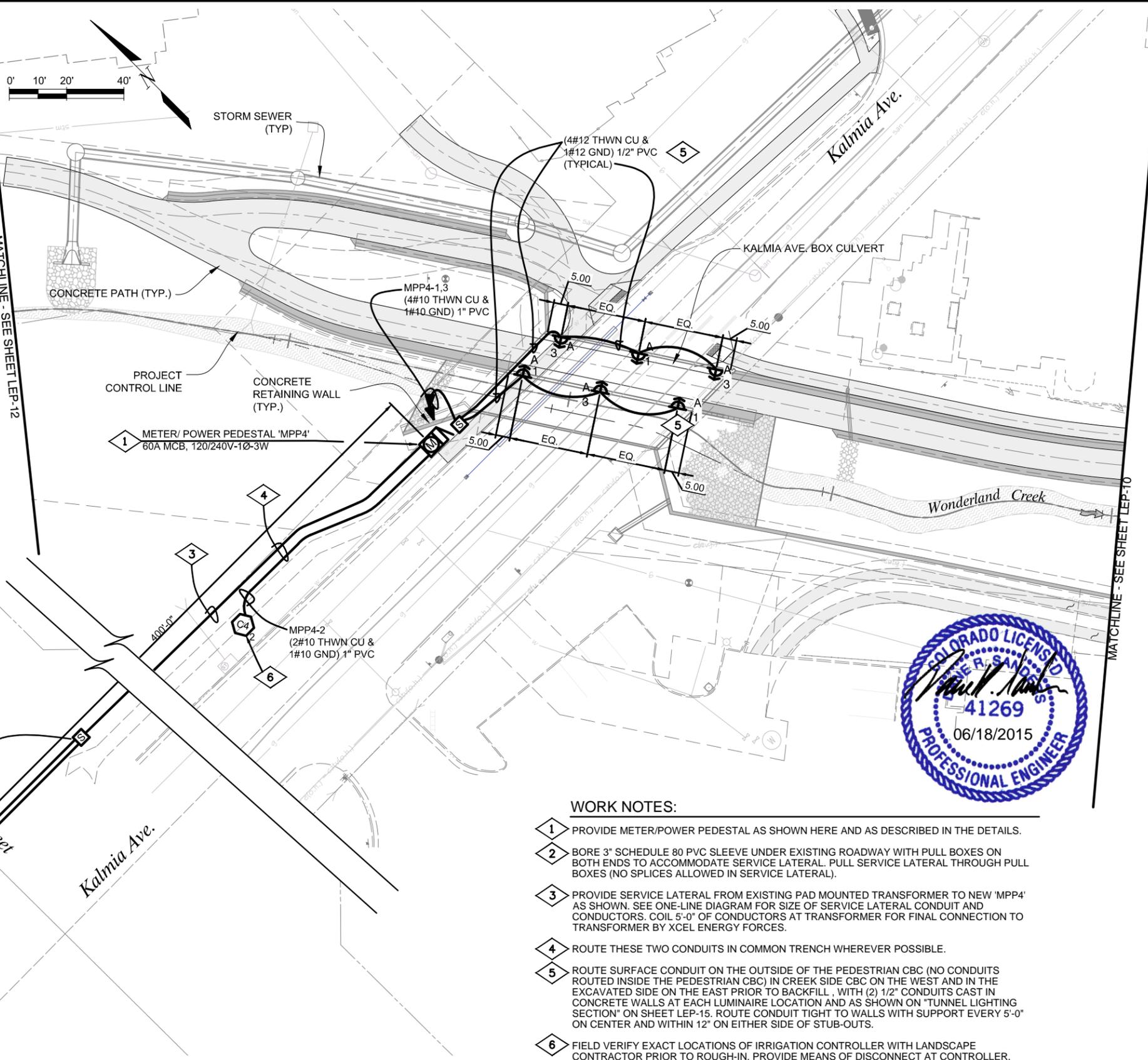
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No Revisions:
Revised:
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WONDERLAND CREEK - GREENWAYS IMPROVEMENT PROJECT		
LIGHTING IMPROVEMENT PLAN		
Designer: DR	Structure	Numbers
Detailer: JE		
Sheet Subset: LIGHTING	Subset Sheets:	LEP-10

Project No./Code	STM 110-081
18405	
Sheet Number:	431



Know what's below.
Call before you dig.



50 KVA PAD MOUNTED TRANSFORMER LOCATED ON THE N.W. CORNER OF 28TH & KALMIA AVE.



WORK NOTES:

- 1 PROVIDE METER/POWER PEDESTAL AS SHOWN HERE AND AS DESCRIBED IN THE DETAILS.
- 2 BORE 3" SCHEDULE 80 PVC SLEEVE UNDER EXISTING ROADWAY WITH PULL BOXES ON BOTH ENDS TO ACCOMMODATE SERVICE LATERAL. PULL SERVICE LATERAL THROUGH PULL BOXES (NO SPLICES ALLOWED IN SERVICE LATERAL).
- 3 PROVIDE SERVICE LATERAL FROM EXISTING PAD MOUNTED TRANSFORMER TO NEW 'MPP4' AS SHOWN. SEE ONE-LINE DIAGRAM FOR SIZE OF SERVICE LATERAL CONDUIT AND CONDUCTORS. COIL 5'-0" OF CONDUCTORS AT TRANSFORMER FOR FINAL CONNECTION TO TRANSFORMER BY XCEL ENERGY FORCES.
- 4 ROUTE THESE TWO CONDUITS IN COMMON TRENCH WHEREVER POSSIBLE.
- 5 ROUTE SURFACE CONDUIT ON THE OUTSIDE OF THE PEDESTRIAN CBC (NO CONDUITS ROUTED INSIDE THE PEDESTRIAN CBC) IN CREEK SIDE CBC ON THE WEST AND IN THE EXCAVATED SIDE ON THE EAST PRIOR TO BACKFILL, WITH (2) 1/2" CONDUITS CAST IN CONCRETE WALLS AT EACH LUMINAIRE LOCATION AND AS SHOWN ON "TUNNEL LIGHTING SECTION" ON SHEET LEP-15. ROUTE CONDUIT TIGHT TO WALLS WITH SUPPORT EVERY 5'-0" ON CENTER AND WITHIN 12" ON EITHER SIDE OF STUB-OUTS.
- 6 FIELD VERIFY EXACT LOCATIONS OF IRRIGATION CONTROLLER WITH LANDSCAPE CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE MEANS OF DISCONNECT AT CONTROLLER.

NAME: P111-0303 Wonderland Creek Lower Reach - Final Design/CA011-0303.03_WC PLANS NORTH.dwg DATE: FEB 11, 2015 TIME: 2:34 PM



Computer File Information	
Creation Date: 03/02/15	Initials: JE
Last Modification Date: 6/18/15	Initials: TB
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AutoCAD 2010	Scale: AS SHOWN FEET

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MEC PROJECT NO. 11039.03

Sheet Revisions		
Date:	Comments	Init.

As Constructed

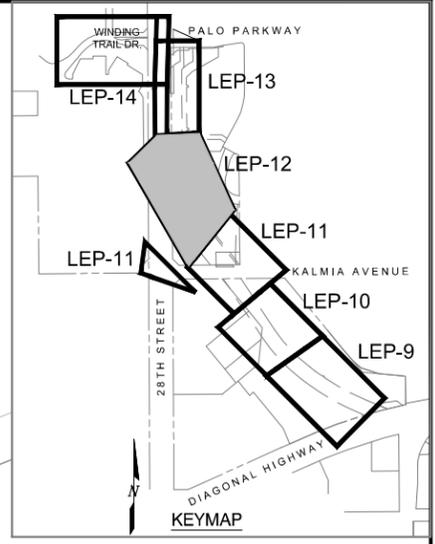
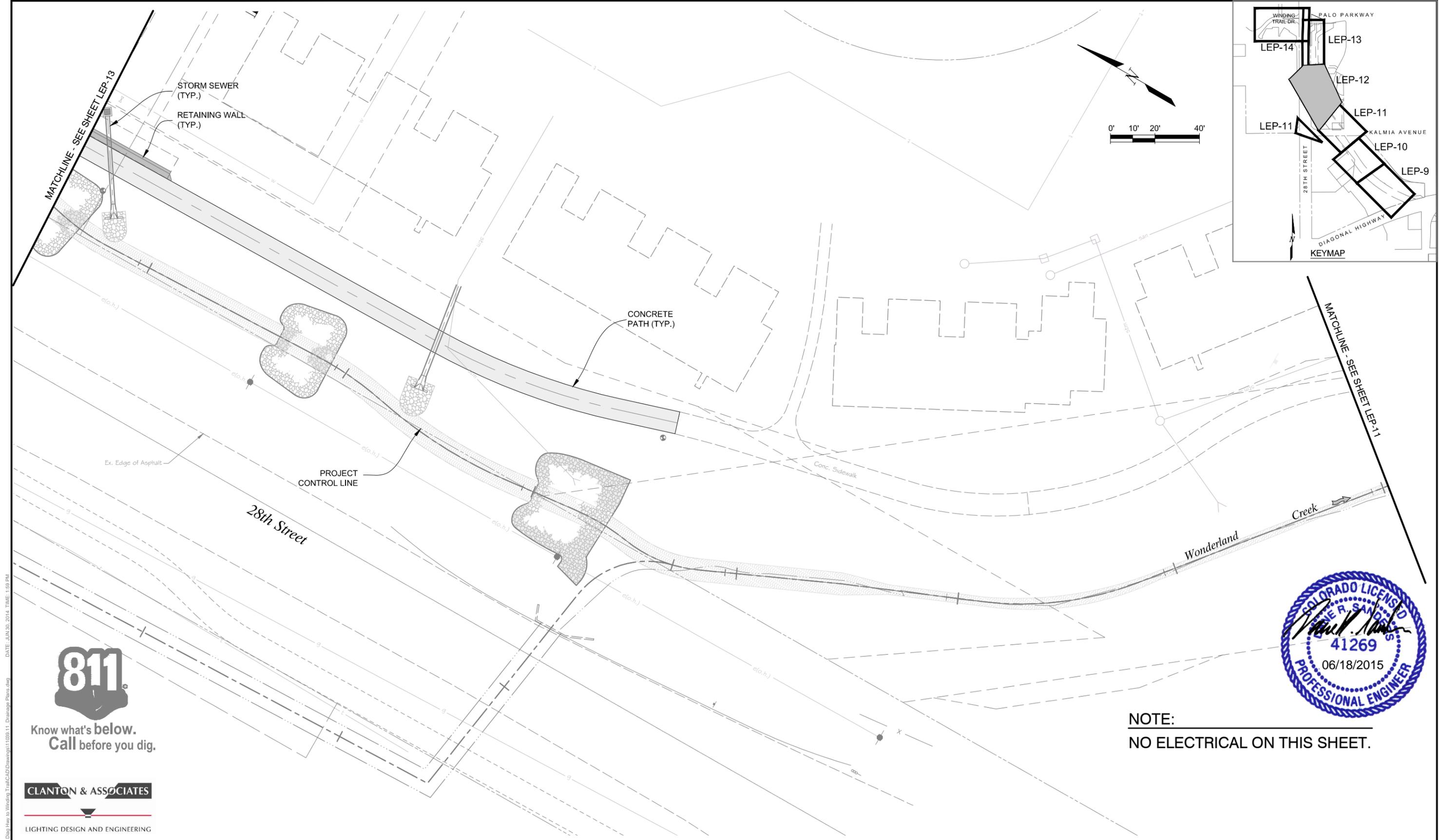
No Revisions:

Revised:

Void:



WONDERLAND CREEK - GREENWAYS IMPROVEMENT PROJECT			Project No./Code
LIGHTING IMPROVEMENT PLAN			STM 110-081
Designer:	DR	Structure	18405
Detailer:	JE	Numbers	
Sheet Subset:	LIGHTING	Subset Sheets:	LEP-11
			Sheet Number: 432



MATCHLINE - SEE SHEET LEP-13
 STORM SEWER (TYP.)
 RETAINING WALL (TYP.)

CONCRETE PATH (TYP.)

MATCHLINE - SEE SHEET LEP-11

28th Street

Wonderland Creek

PROJECT CONTROL LINE

Conc. Sidewalk



Know what's below.
 Call before you dig.

CLANTON & ASSOCIATES

LIGHTING DESIGN AND ENGINEERING



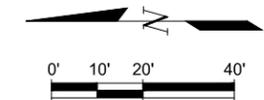
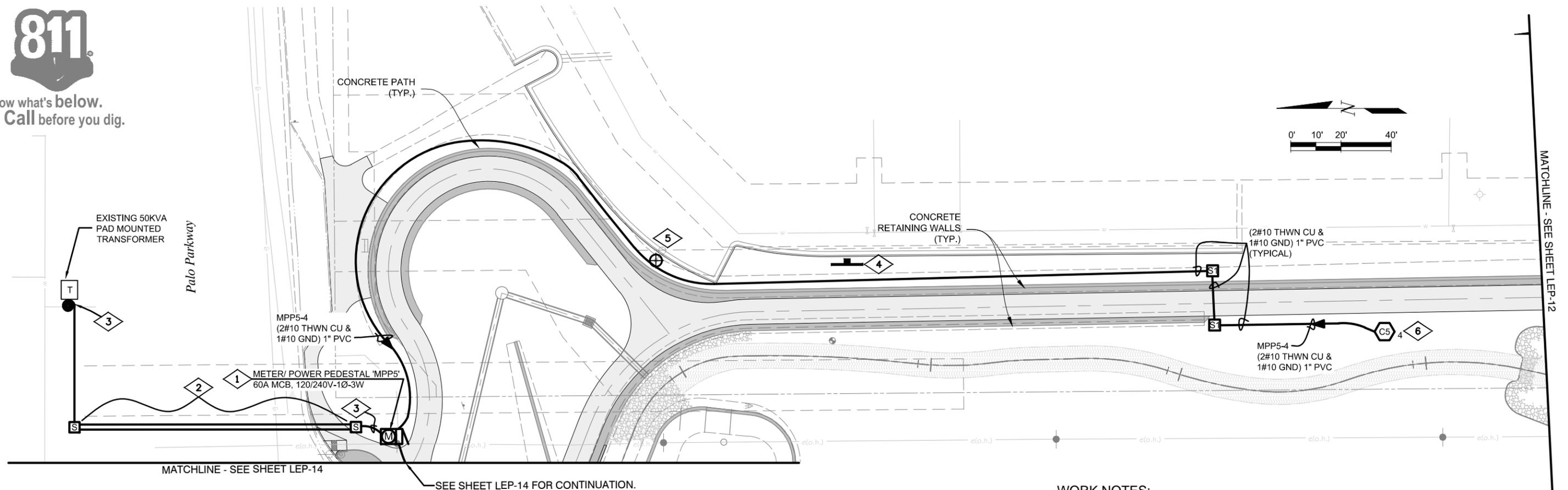
NOTE:
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Computer File Information Creation Date: 03/02/15 Initials: JE Last Modification Date: 6/18/15 Initials: TB Full Path: Drawing File Name: _LIGHTING-MODEL-NORTH.dwg AutoCAD 2010 Scale: AS SHOWN FEET		MULLER ENGINEERING CO., INC. CONSULTING ENGINEERS 777 S. WADSWORTH BLVD. 4-100 LAKEWOOD, COLORADO 80126 (303) 988-4939 MULLER MEC PROJECT NO. 11039.03		Sheet Revisions <table border="1"> <thead> <tr> <th>Date:</th> <th>Comments</th> <th>Init.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>			Date:	Comments	Init.													As Constructed No Revisions: Revised: Void:						WONDERLAND CREEK - GREENWAYS IMPROVEMENT PROJECT LIGHTING IMPROVEMENT PLAN Designer: DR Structure Detailer: JE Numbers Sheet Subset: LIGHTING Subset Sheets: LEP-12			Project No./Code STM 110-081 18405 Sheet Number: 433	
Date:	Comments	Init.																														

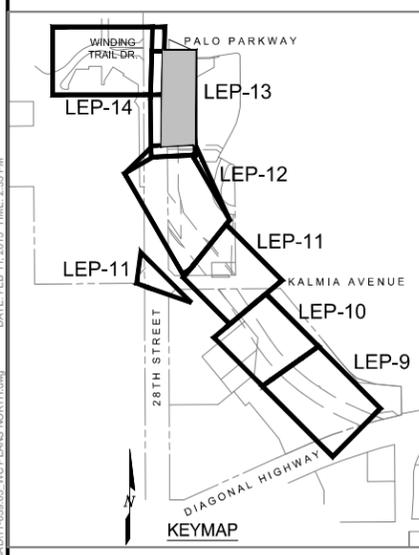


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Call before you dig.



WORK NOTES:

- 1 PROVIDE METER/POWER PEDESTAL AS SHOWN HERE AND AS DESCRIBED IN THE DETAILS.
- 2 BORE 3" SCHEDULE 80 PVC SLEEVE UNDER EXISTING ROADWAY WITH PULL BOXES ON BOTH ENDS TO ACCOMMODATE SERVICE LATERAL. PULL SERVICE LATERAL THROUGH PULL BOXES (NO SPLICES ALLOWED IN SERVICE LATERAL).
- 3 PROVIDE SERVICE LATERAL FROM EXISTING PAD MOUNTED TRANSFORMER TO NEW 'MPP5' AS SHOWN. SEE ONE-LINE DIAGRAM FOR SIZE OF SERVICE LATERAL CONDUIT AND CONDUCTORS. COIL 5'-0" OF CONDUCTORS AT TRANSFORMER FOR FINAL CONNECTION TO TRANSFORMER BY XCEL ENERGY FORCES.
- 4 RE-ESTABLISH OWNER POWER TO RELOCATED SIGN. COORDINATE EXACT LOCATION WITH OWNER (MANOR CARE).
- 5 REMOVE, STORE, RE-INSTALL AND RECONNECT PRIVATE LIGHT STANDARD TO EXISTING CIRCUIT.
- 6 FIELD VERIFY EXACT LOCATIONS OF IRRIGATION CONTROLLER WITH LANDSCAPE CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE MEANS OF DISCONNECT AT CONTROLLER.

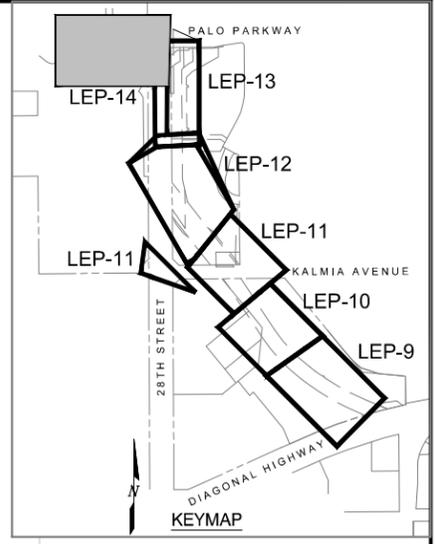


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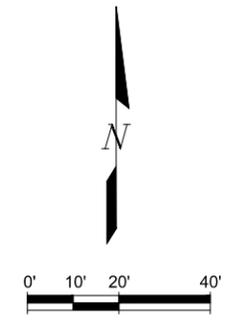
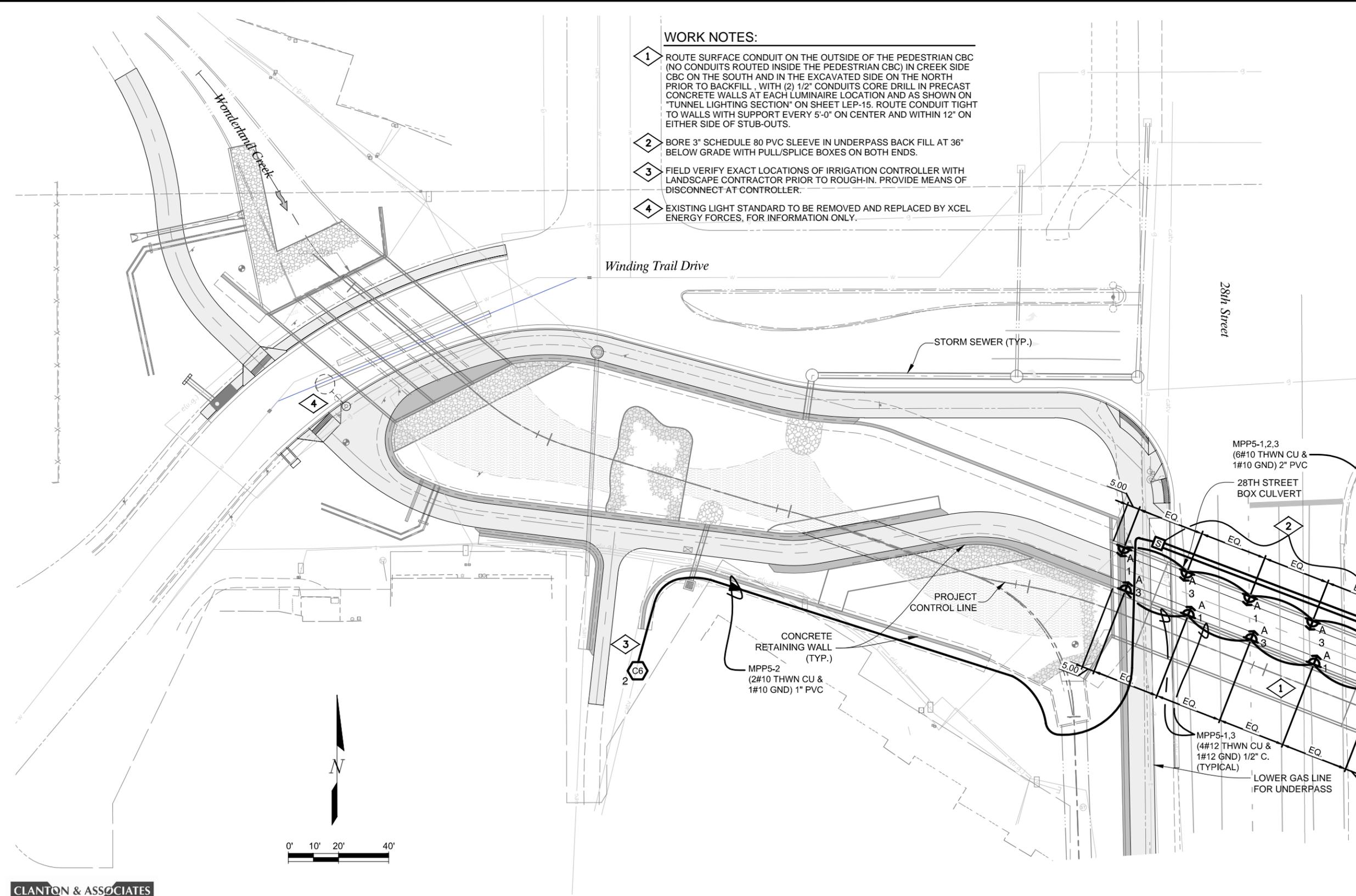
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Creation Date: 03/02/15	Initials: JE	CONSULTING ENGINEERS 777 S. WADSWORTH BLVD. 4-100 LAKEWOOD, COLORADO 80126 (303) 988-4939		Date:	Comments	Init.	No Revisions:	 Region 4 RDM		STM 110-081	
Last Modification Date: 6/18/15	Initials: TB						Revised:			Designer: DR Structure Detailer: JE Numbers	
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AutoCAD 2010	Scale: AS SHOWN	FEET	MEC PROJECT NO. 11039.03								

WORK NOTES:

- 1 ROUTE SURFACE CONDUIT ON THE OUTSIDE OF THE PEDESTRIAN CBC (NO CONDUITS ROUTED INSIDE THE PEDESTRIAN CBC) IN CREEK SIDE CBC ON THE SOUTH AND IN THE EXCAVATED SIDE ON THE NORTH PRIOR TO BACKFILL. WITH (2) 1/2" CONDUITS CORE DRILL IN PRECAST CONCRETE WALLS AT EACH LUMINAIRE LOCATION AND AS SHOWN ON "TUNNEL LIGHTING SECTION" ON SHEET LEP-15. ROUTE CONDUIT TIGHT TO WALLS WITH SUPPORT EVERY 5'-0" ON CENTER AND WITHIN 12" ON EITHER SIDE OF STUB-OUTS.
- 2 BORE 3" SCHEDULE 80 PVC SLEEVE IN UNDERPASS BACK FILL AT 36" BELOW GRADE WITH PULL/SPLICE BOXES ON BOTH ENDS.
- 3 FIELD VERIFY EXACT LOCATIONS OF IRRIGATION CONTROLLER WITH LANDSCAPE CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE MEANS OF DISCONNECT AT CONTROLLER.
- 4 EXISTING LIGHT STANDARD TO BE REMOVED AND REPLACED BY XCEL ENERGY FORCES, FOR INFORMATION ONLY.



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NAME: P111-0303 Wondermt Creek Lower Reach - Final Design\CA011-0303_03_MC PLANS NORTH.dwg DATE: FEB 11, 2015 TIME: 2:35 PM

Computer File Information	
Creation Date: 03/02/15	Initials: JE
Last Modification Date: 6/18/15	Initials: TB
Full Path:	
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AutoCAD 2010	Scale: AS SHOWN FEET

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 COLORADO 80126
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MULLER

MEC PROJECT NO. 11039.03

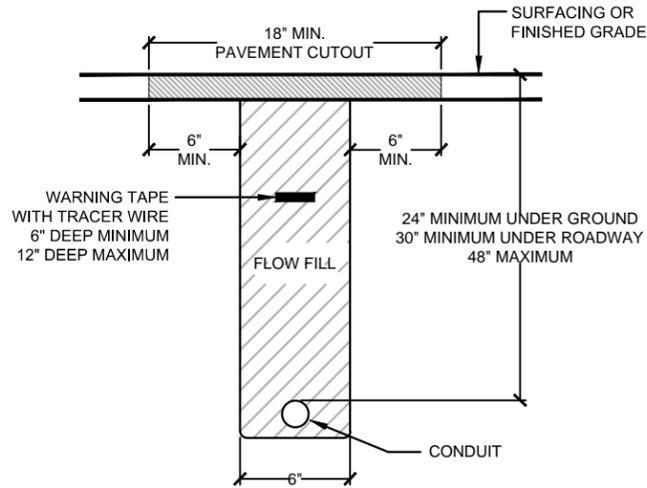
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Sheet Revisions		
Date:	Comments	Init.

As Constructed
No Revisions:
Revised:
Void:

WONDERLAND CREEK - GREENWAYS IMPROVEMENT PROJECT		
LIGHTING IMPROVEMENT PLAN		
Designer:	DR	Structure
Detailer:	JE	Numbers
Sheet Subset:	LIGHTING	Subset Sheets:

Project No./Code	STM 110-081
	18405
Sheet Number:	435

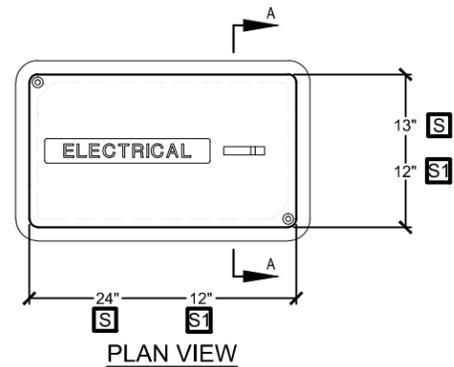


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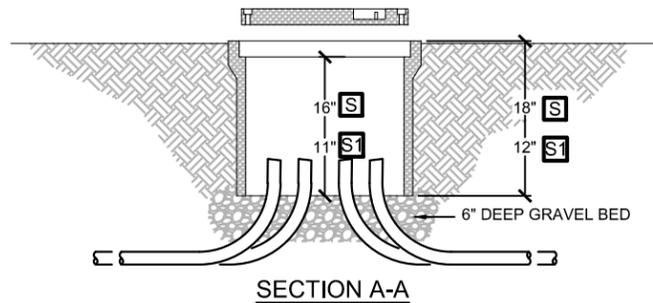
1. CONTRACTOR SHALL COORDINATE TRENCHING WITH OTHER UNDERGROUND UTILITIES.
2. 1-#14 AWG LOCATE WIRE AND A NYLON PULL STRING IN ALL EMPTY CONDUITS.

TYPICAL CONDUIT TRENCHING DETAIL

Not To Scale



PLAN VIEW



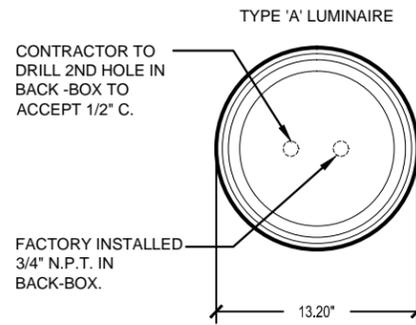
SECTION A-A

NOTES:

1. PULL BOX SHALL BE CAST POLYMER CONCRETE TYPE WITH TRAFFIC RATED BOLTED COVER (ENGRAVED TEXT AS SHOWN) BY QUAZITE OR APPROVED EQUAL. BOX SIZE PER PLAN SYMBOL AS FOLLOWS:
S = (13"x24"x18" DEEP) WITH ANSI TIER 22 COVER
S1 = (12"x12"x12" DEEP) WITH ANSI TIER 15 COVER

TYPICAL SPLICE BOX DETAIL

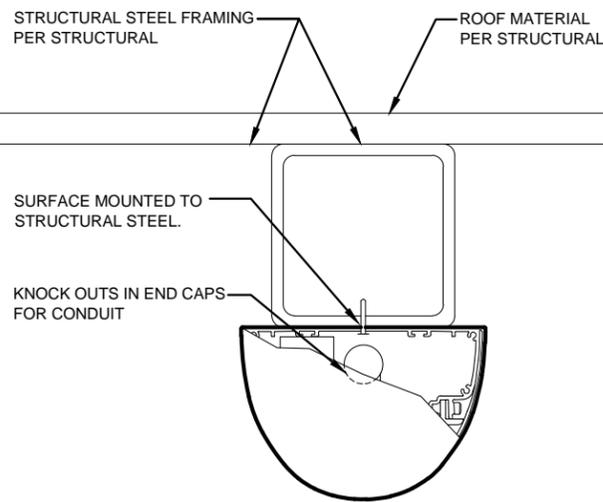
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FRONT

TYPE 'A' LUMINAIRE DETAIL

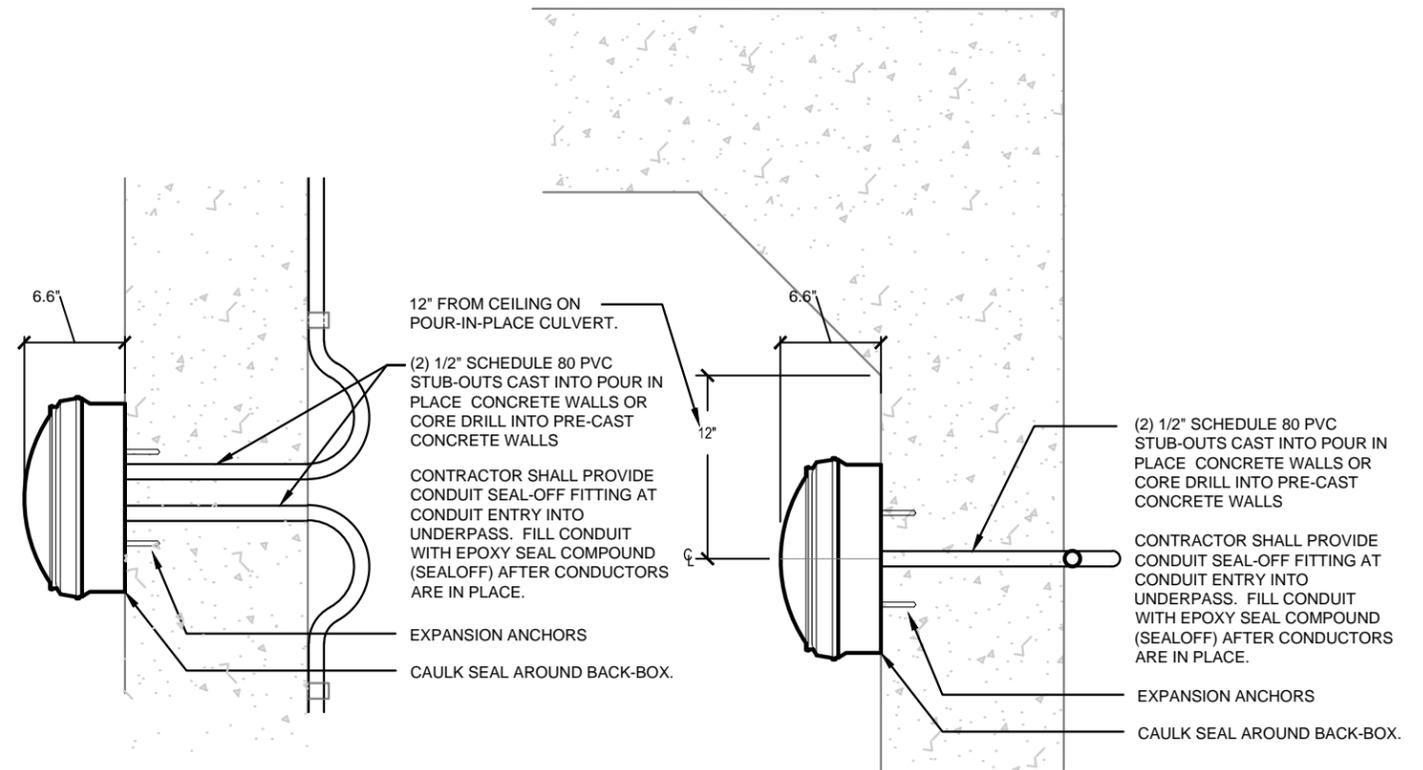
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END VIEW

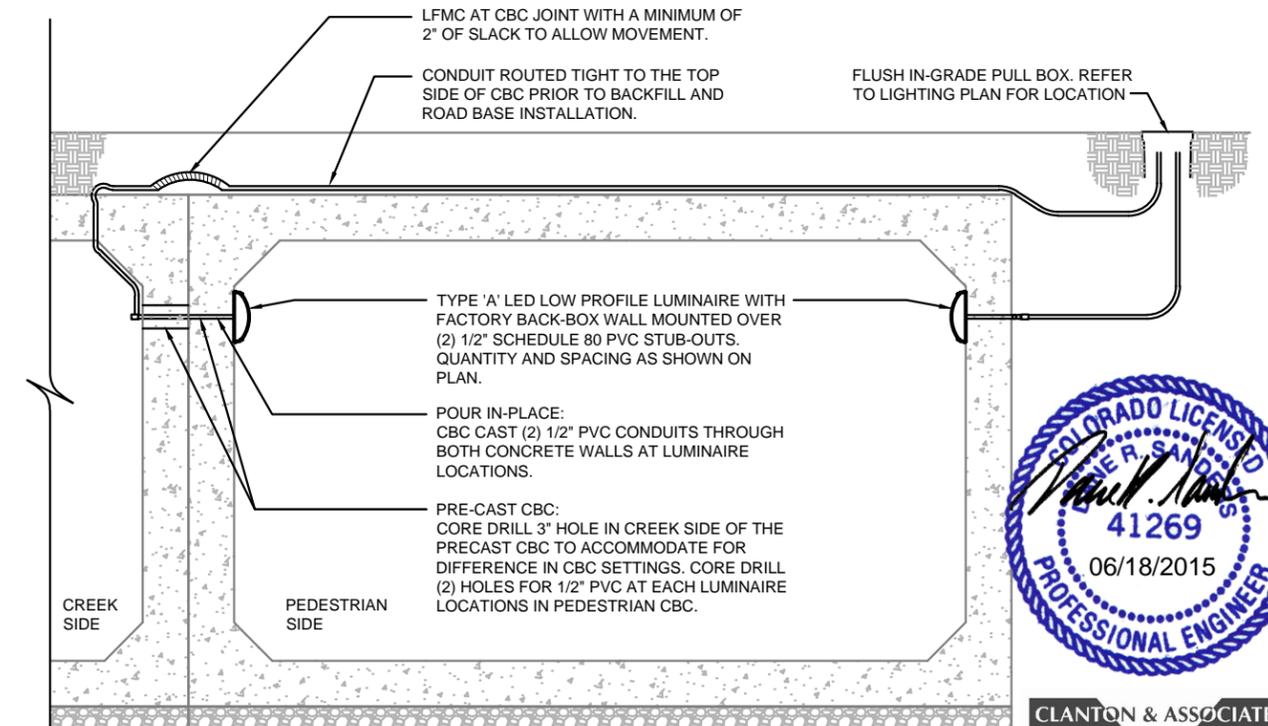
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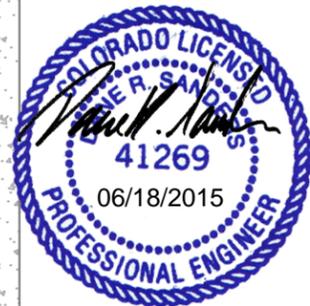
TOP VIEW

SECTION VIEW



TUNNEL LIGHTING SECTION

Not To Scale



CLANTON & ASSOCIATES

LIGHTING DESIGN AND ENGINEERING

Computer File Information		MULLER ENGINEERING CO., INC. CONSULTING ENGINEERS 777 S. WADSWORTH BLVD., 4-100 LAKEWOOD, COLORADO 80226 (303) 988-4939 MULLER MEC PROJECT NO. 11039.03	Sheet Revisions			As Constructed		WONDERLAND CREEK - GREENWAYS IMPROVEMENT PROJECT			Project No./Code		
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Last Modification Date: 6/18/15	Initials: TB		<input type="checkbox"/>	<input type="checkbox"/>			Revised:		Designer: DR Structure			18405	
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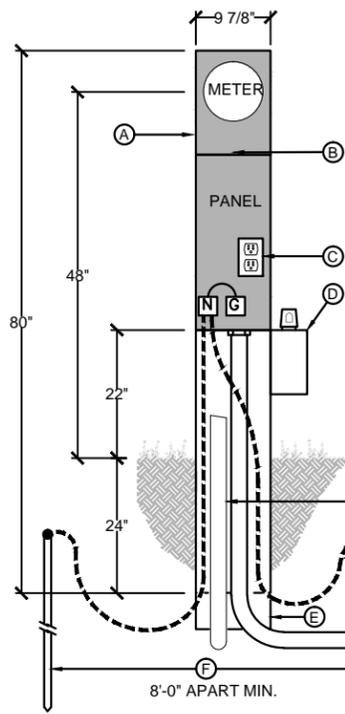
NEW
MOUNTING: SURFACE
PANEL "MPP1"
120/240V-1PH-3W
COMBINATION METER/POWER PEDESTAL IN NEMA 3R ENCLOSURE
FEEDER: TOP
Minimum A.I.C.= 10,000 AMPS
60 AMPS MAIN BREAKER
BRANCH BREAKER

DESCRIPTION	Size	P	Ckt#	LEFT PHASE LOAD		RIGHT PHASE LOAD		Ckt#	Size	P	DESCRIPTION
				L1	L2	L1	L2				
IRRIGATION CONTROLLER 'C1'	20	1	1	180				2	20	1	SPARE
BNSF UNDERPASS LTG. VIA P.C.	20	1	3		50		180	4	20	1	MPP1 MAINTENANCE RECEPT.
				180	50		0				
				180	230		180				
				Total Connected V.A.							
				410 =Total Connected VA all (3) Phases							

LOAD	CONNECTED	D.FACT.	Est. KVA	AMPS
LIGHTING	50 VA	1.25	0.06	
RECEPTACLES (1ST 10000)	180 VA	1.00	0.18	
RECEPTACLES (REMAINING)	VA	0.50	0.00	
MOTOR (LARGEST)	0 VA	1.25	0.00	
MOTORS (REMAINING)	0 VA	1.00	0.00	
ELECTRICAL HEATING	0 VA	1.25	0.00	
ELECTRICAL MISC.	180 VA	1.00	0.18	
TOTAL ESTIMATED LOAD	410 VA	0.42	1.8	

NOTE:
180 VA=Total Receptacle Load
ALL LIGHTING CONTROL CENTERS AND ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH "ARC-FLASH HAZARD WARNING" LABELS TO THE NATIONAL ELECTRIC CODE NEC 110.16 AND NFPA 70E-2015, AND ALL OTHER LABELS REQUIRED BY NFPA 70.

> ROUTE THIS CIRCUIT THROUGH THE LIGHTING PHOTOCELL RELAY FOR ON/OFF CONTROL.



DETAIL - TYPICAL METER/POWER PEDESTAL

NOT TO SCALE

COMPONENT LIST

- (A) SERVICE ENTRANCE RATED, 200A, 120/240V, NEMA 3R, COLD SEQUENCE, COMBINATION, METER/POWER PEDESTAL, W/LOAD CENTER (SEE PANEL SCHEDULES ON THIS SHEET FOR # OF POLES, MAIN AND BRANCH BREAKERS REQUIRED), MCB AND T-HANDLE FUSED DISCONNECT AHEAD OF METER, METER BYPASS LEVER, PER XCEL ENERGY SPECIFICATIONS, MILBANK #U5949 OR APPROVED EQUAL. CONTRACTOR SHALL COORDINATE WITH XCEL ENERGY TO ASSURE THAT THIS PEDESTAL IS TO XCEL ENERGY'S SPECIFICATIONS.
- (B) PROVIDE UTILITY METER COVER SEALED WITH A PENTA BOLT. MILBANK #K5039 OR APPROVED EQUAL.
- (C) PROVIDE GFCI MAINTENANCE RECEPTACLE FLUSH IN PANEL DEAD-FRONT. MILBANK #K5400-BRIDGE-2POS, #Z819294-SC OR APPROVED EQUAL.
- (D) TWIST LOCK TYPE PHOTOCELL WITH 2-POLE RELAY IN NEMA 3R ENCLOSURE. TORK #5403 OR APPROVED EQUAL. PROVIDE ON MPP1 ONLY.
- (E) STABILIZING FOOT ON END OF PEDESTAL. MILBANK #K5415 OR APPROVED EQUAL.
- (F) 5/8"x 8'-0" Lg. COPPER-CLAD DRIVEN GROUND ROD WITH EXOTHERMIC WELD OR APPROVED UNDERGROUND LUG CONNECT CONDUCTOR TO ROD. (2) GROUND RODS REQUIRED AT 8'-0" APART (MINIMUM).



NEW
MOUNTING: SURFACE
PANEL "MPP2"
120/240V-1PH-3W
COMBINATION METER/POWER PEDESTAL IN NEMA 3R ENCLOSURE
FEEDER: TOP
Minimum A.I.C.= 10,000 AMPS
60 AMPS MAIN BREAKER
BRANCH BREAKER

DESCRIPTION	Size	P	Ckt#	LEFT PHASE LOAD		RIGHT PHASE LOAD		Ckt#	Size	P	DESCRIPTION
				L1	L2	L1	L2				
IRRIGATION CONTROLLER 'C2'	20	1	1	180				2	20	1	SPACE ONLY
MPP2 MAINTENANCE RECEPT.	20	1	3		180		0	4			SPACE ONLY
				180	180		0				
				180	180		0				
				Total Connected V.A.							
				360 =Total Connected VA all (3) Phases							

LOAD	CONNECTED	D.FACT.	Est. KVA	AMPS
LIGHTING	0 VA	1.25	0.00	
RECEPTACLES (1ST 10000)	180 VA	1.00	0.18	
RECEPTACLES (REMAINING)	VA	0.50	0.00	
MOTOR (LARGEST)	0 VA	1.25	0.00	
MOTORS (REMAINING)	0 VA	1.00	0.00	
ELECTRICAL HEATING	0 VA	1.25	0.00	
ELECTRICAL MISC.	180 VA	1.00	0.18	
TOTAL ESTIMATED LOAD	360 VA	0.38	1.5	

NOTE:
180 VA=Total Receptacle Load
ALL LIGHTING CONTROL CENTERS AND ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH "ARC-FLASH HAZARD WARNING" LABELS TO THE NATIONAL ELECTRIC CODE NEC 110.16 AND NFPA 70E-2015, AND ALL OTHER LABELS REQUIRED BY NFPA 70.

NEW
MOUNTING: SURFACE
PANEL "MPP3"
120/240V-1PH-3W
COMBINATION METER/POWER PEDESTAL IN NEMA 3R ENCLOSURE
FEEDER: TOP
Minimum A.I.C.= 10,000 AMPS
60 AMPS MAIN BREAKER
BRANCH BREAKER

DESCRIPTION	Size	P	Ckt#	LEFT PHASE LOAD		RIGHT PHASE LOAD		Ckt#	Size	P	DESCRIPTION
				L1	L2	L1	L2				
IRRIGATION CONTROLLER 'C3'	20	1	1	180				2	20	1	SPACE ONLY
MPP3 MAINTENANCE RECEPT.	20	1	3		180		0	4			SPACE ONLY
				180	180		0				
				180	180		0				
				Total Connected V.A.							
				360 =Total Connected VA all (3) Phases							

LOAD	CONNECTED	D.FACT.	Est. KVA	AMPS
LIGHTING	0 VA	1.25	0.00	
RECEPTACLES (1ST 10000)	180 VA	1.00	0.18	
RECEPTACLES (REMAINING)	VA	0.50	0.00	
MOTOR (LARGEST)	0 VA	1.25	0.00	
MOTORS (REMAINING)	0 VA	1.00	0.00	
ELECTRICAL HEATING	0 VA	1.25	0.00	
ELECTRICAL MISC.	180 VA	1.00	0.18	
TOTAL ESTIMATED LOAD	360 VA	0.38	1.5	

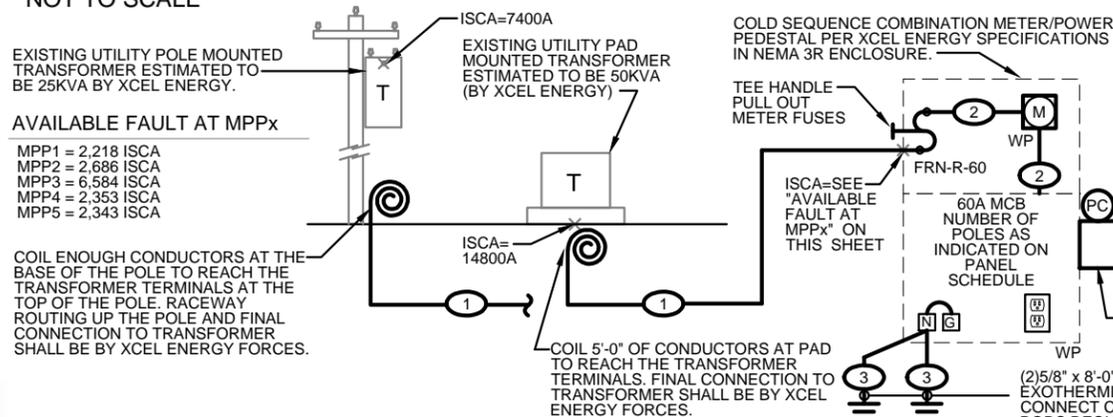
NOTE:
180 VA=Total Receptacle Load
ALL LIGHTING CONTROL CENTERS AND ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH "ARC-FLASH HAZARD WARNING" LABELS TO THE NATIONAL ELECTRIC CODE NEC 110.16 AND NFPA 70E-2015, AND ALL OTHER LABELS REQUIRED BY NFPA 70.

NEW
MOUNTING: SURFACE
PANEL "MPP4"
120/240V-1PH-3W
COMBINATION METER/POWER PEDESTAL IN NEMA 3R ENCLOSURE
FEEDER: TOP
Minimum A.I.C.= 10,000 AMPS
60 AMPS MAIN BREAKER
BRANCH BREAKER

DESCRIPTION	Size	P	Ckt#	LEFT PHASE LOAD		RIGHT PHASE LOAD		Ckt#	Size	P	DESCRIPTION
				L1	L2	L1	L2				
UNDERPASS LTG. ON 24/7	20	1	1	75			180	2	20	1	IRRIGATION CONTROLLER 'C4'
UNDERPASS LTG. ON 24/7	20	1	3		75		180	4	20	1	MPP4 MAINTENANCE RECEPT.
SPACE ONLY			5					6			SPACE ONLY
SPACE ONLY			7					8			SPACE ONLY
				75	75		180	180			
				255	255		180	180			
				Total Connected V.A.							
				510 =Total Connected VA all (3) Phases							

LOAD	CONNECTED	D.FACT.	Est. KVA	AMPS
LIGHTING	150 VA	1.25	0.19	
RECEPTACLES (1ST 10000)	180 VA	1.00	0.18	
RECEPTACLES (REMAINING)	VA	0.50	0.00	
MOTOR (LARGEST)	0 VA	1.25	0.00	
MOTORS (REMAINING)	0 VA	1.00	0.00	
ELECTRICAL HEATING	0 VA	1.25	0.00	
ELECTRICAL MISC.	180 VA	1.00	0.18	
TOTAL ESTIMATED LOAD	510 VA	0.55	2.3	

NOTE:
180 VA=Total Receptacle Load
ALL LIGHTING CONTROL CENTERS AND ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH "ARC-FLASH HAZARD WARNING" LABELS TO THE NATIONAL ELECTRIC CODE NEC 110.16 AND NFPA 70E-2015, AND ALL OTHER LABELS REQUIRED BY NFPA 70.



METER/POWER PEDESTAL TYPICAL ONE-LINE DIAGRAM

NOT TO SCALE

FEEDER SCHEDULE

- 1 MPP1 = (3#1THWN CU) IN 2"PVC
MPP2 & MPP3 = (3#4THWN CU) IN 2"PVC
MPP4 = (3#1/0 THWN CU) IN 2"PVC
MPP5 = (3#3 THWN CU) IN 2"PVC
 - 2 INTERNAL FEEDER SUPPLIED W/PEDESTAL.
 - 3 1#6 SOLID BARE COPPER THROUGH FEEDER ENCLOSURE TO GROUND RODS.
- ISCA=SEE "AVAILABLE FAULT AT MPPx" ON THIS SHEET
60A MCB NUMBER OF POLES AS INDICATED ON PANEL SCHEDULE
TWIST LOCK TYPE PHOTOCELL WITH 2-POLE RELAY IN NEMA 3R ENCLOSURE. TORK #5403 OR APPROVED EQUAL. MPP1 ONLY
FOR LIGHTING CONTROL
(2)5/8" x 8'-0" COPPER CLAD DRIVEN GROUND RODS. EXOTHERMIC WELD OR UNDERGROUND RATED LUG CONNECT CONDUCTOR TO GROUND ROD. (2) GROUND RODS REQUIRED

CLANTON & ASSOCIATES

LIGHTING DESIGN AND ENGINEERING

Computer File Information

Creation Date: 04/14/15	Initials: JE
Last Modification Date: 6/18/15	Initials: TB
Full Path:	
Drawing File Name: _LIGHTING-ELECTRICAL DETAILS.dwg	
AutoCAD 2010	Scale: AS SHOWN

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MEC PROJECT NO. 11039.03

Sheet Revisions

Date:	Comments	Init.

As Constructed

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WONDERLAND CREEK - GREENWAYS IMPROVEMENT PROJECT

Project No./Code
STM 110-081

Lighting Improvement Plan

Designer: DR Structure
Detailer: GF Numbers

Sheet Subset: LIGHTING Subset Sheets: LEP-16

18405

Sheet Number: 437