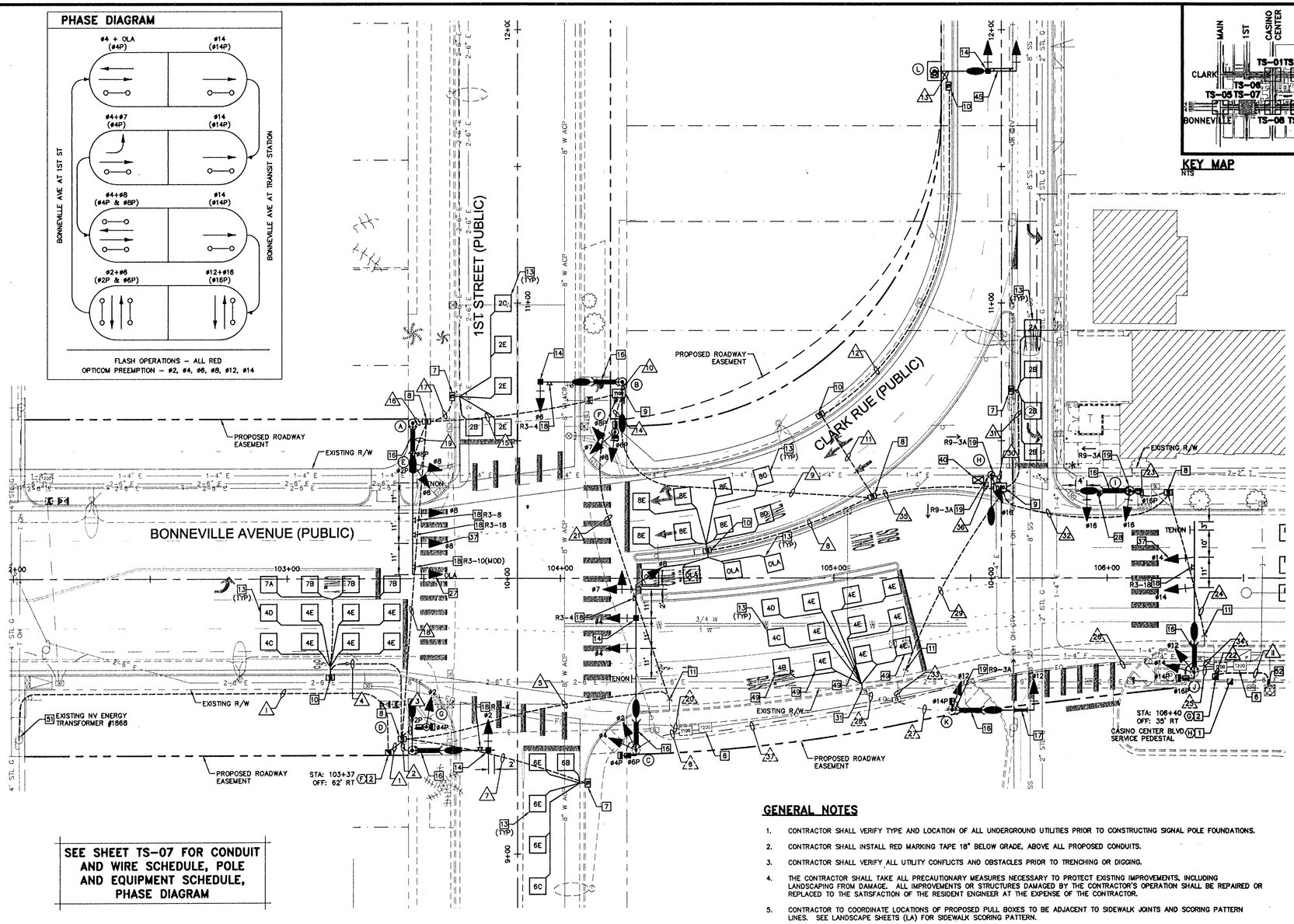
PHASE DIAGRAM

FLASH OPERATIONS – ALL RED
OPTICOM PREEMPTION – #2, #4, #6, #8, #12, #14

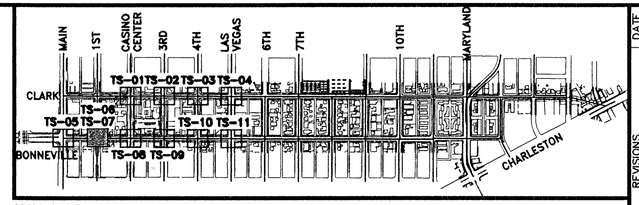


SEE SHEET TS-07 FOR CONDUIT AND WIRE SCHEDULE, POLE AND EQUIPMENT SCHEDULE, PHASE DIAGRAM

SIGN SCHEDULE

CONSTRUCTION NOTE	18	19	18	18	18	17
SIGN ILLUSTRATION	SIGNAL				ONLY	ONE WAY
SIGN DESIGNATION DIMENSIONS	R3-10 (MOD) 30"x36"	R9-3A 24"x24"	R3-4 24"x24"	R3-18 30"x30"	R3-8 30"x30"	SPECIAL (LEFT) 72"x17.5"
POLE*	(A)	(H) (I) (J) (K)	(B) (C) (D)	(A) (J)	(A)	(K)

* (X) = EXISTING SIGN, (X) = NEW SIGN



KEY MAP
NTS

CONSTRUCTION NOTES (TS SHEETS ONLY)

1. EXISTING 200 AMP 120/240 VAC SERVICE PEDESTAL. SEE SERVICE PEDESTAL EQUIPMENT TABLE (SHEET T-12) FOR DETAILS.
2. NEW 200 AMP 120/240 VAC SERVICE PEDESTAL (SEE SHEET TS-13 FOR SERVICE PEDESTAL EQUIPMENT AND INSTALLATION DETAILS).
6. TYPE 200 VAULT MARKED "FIBER OPTIC" (SEE SL SHEETS FOR INTERCONNECT AND STREET LIGHTING DETAILS).
7. FURNISH AND INSTALL No. 3 1/2 PULL BOX MARKED "TRAFFIC SIGNAL" IN ACCORDANCE WITH CCAUSD No. 404.110, 404.140, AND 404.811.
8. FURNISH AND INSTALL No. 7 PULL BOX MARKED "TRAFFIC SIGNAL" IN ACCORDANCE WITH CCAUSD No. 404.130 AND 404.140.
9. FURNISH AND INSTALL TYPE 100 VAULT MARKED "TRAFFIC SIGNAL". SEE SPECIFICATIONS FOR DETAILS AND VENDOR CONTACT.
10. FURNISH AND INSTALL No. 5 PULL BOX MARKED "TRAFFIC SIGNAL" IN ACCORDANCE WITH CCAUSD No. 404.120 AND 404.140.
11. INTERCEPT EXISTING CONDUIT OR PULL BOX AND INSTALL NEW CONDUIT.
12. ALL VEHICLE SIGNAL INDICATIONS AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE SUPPLIED AND INSTALLED WITH LIGHT EMITTING DIODE (LED) SIGNAL MODULES.
13. FURNISH AND INSTALL 6'x6' MULTIPLE LOOP SYSTEM (SEE SHEET TS-13 FOR LOOP LAYOUT AND DETAILS).
14. FURNISH AND INSTALL 3M MODEL 721 OPTICOM SENSORS ON THE TRAFFIC SIGNAL HEAD(S) IDENTIFIED ON PLAN. RUN OPTICOM DETECTOR CABLE, 3M MODEL 138 FROM THE CONTROLLER TO TRAFFIC SIGNAL HEAD(S) INDICATED ON PLANS AS SHOWN IN THE CONDUIT AND WIRE SCHEDULE. WIRE CONTROLLER AND PROVIDE (1) 3M MODEL 754 PHASE SELECTOR AND ONE (1) 760 3M OPTICOM PRE-EMPTION RACK IN CABINET.
15. FURNISH AND INSTALL 400 WATT HIGH PRESSURE SODIUM INTERSECTION LIGHTING WITH IES MC3 DISTRIBUTION COMPLETE WITH 120V MAGNETIC REGULATOR TYPE BALLAST (GARDCO CA22-1-3-400HPS-120-QC-RAL6012 MF PC OR APPROVED EQUAL) AND AREA LIGHTING RESEARCH ELECTRONIC PHOTOCELL (#2190VP3) AS INDICATED ON PLANS.
16. FURNISH AND INSTALL INTERNALLY-ILLUMINATED STREET NAME SIGN ON MAST ARM. SEE STREET NAME SIGN SCHEDULE (THIS SHEET).
17. FURNISH AND INSTALL INTERNALLY-ILLUMINATED "ONE WAY" SIGN ON MAST ARM. SEE "ONE WAY" SIGN DETAIL (SHEET TS-13) AND SIGN SCHEDULE (THIS SHEET) FOR DETAILS.
18. FURNISH AND INSTALL SIGN ON MAST ARM. SEE SIGN SCHEDULE (THIS SHEET) FOR SIGN DESIGNATION AND SIZE.
19. FURNISH AND INSTALL SIGN ON POLE. SEE SIGN SCHEDULE (THIS SHEET) FOR SIGN DESIGNATION AND SIZE.
20. PEDESTRIAN PUSH BUTTONS SHALL BE AUDIBLE/TACTILE TYPE.
21. PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN TYPE.
27. FURNISH AND INSTALL TRANSIT SIGNAL HEAD (SEE SHEET TS-12 FOR DETAIL). CONTRACTOR SHALL WIRE TRANSIT SIGNAL HEADS WITH EXCLUSIVE CONDUCTORS TO CONTROLLER. ALL INDICATIONS SHALL BE WHITE.
28. FURNISH AND INSTALL VIDEO IMAGE DETECTOR AND SYSTEM.
57. FURNISH AND INSTALL NEW SIGNAL HEAD WITH GREEN UP ARROW INDICATION (SEE SHEET TS-12 FOR DETAILS).
4C. INSTALL TYPE 2070N OR M53 CONTROLLER IN TYPE VIII "R" CABINET (SEE CCAUSD No. 404.307) WITH EXHAUST FAN AND THERMOSTAT CONTROL AND INSTALL TYPE "J" FOUNDATION PER CCAUSD No. 404.213. CABINET TO BE SUPPLIED BY CONTRACTOR, AND APPROVED BY THE CITY OF LAS VEGAS. THE CONTRACTOR MUST FURNISH CONTROLLER. THESE MATERIALS MUST BE DELIVERED TO CLV TRAFFIC OPERATIONS AT LEAST 14 DAYS PRIOR TO EXPECTED TURN-ON DAY TO BE INSPECTED AND PROGRAMMED. ALL NECESSARY AMPLIFIER UNITS, MODULES, LIGHT CONTROL UNITS, SWITCHES, OPTICOM, FLASHERS, AREA WIDE COMPUTER CONTROL, ETC. SHALL BE SUPPLIED BY THE CONTRACTOR AND INSTALLED IN CABINET TO ACTIVATE THE PHASE OPERATION AS SHOWN. CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS UPON COMPLETION OF PROJECT DETAILING ANY CHANGES TO THE CONTROLLER OPERATION OR CABINET CONFIGURATION. CABINET SHALL BE ORIENTED SO MAINTENANCE PERSONNEL SHALL BE FACING TRAFFIC WHEN SERVICING OR AS DIRECTED BY THE FIELD ENGINEER. CONTRACTOR TO STAKE FOUNDATION LOCATION FOR APPROVAL BY RESIDENT ENGINEER PRIOR TO CONSTRUCTION.
4S. FURNISH AND INSTALL WARNING FLASHER AND SIGN ASSEMBLY ON MAST ARM (SEE SIGNAL AHEAD WARNING FLASHER ON SHEET TS-13).
4P. PULL LOOP WIRE INTO PULL BOX BUT DO NOT CONNECT TO LOOP LEAD-IN CABLE.
51. FURNISH AND INSTALL NEW RISER ON JOINT-USE WOOD POLE TO EXISTING TRANSFORMER IN ACCORDANCE WITH NV ENERGY REQUIREMENTS. COIL CONDUCTORS AT TOP OF RISER FOR NV ENERGY CONNECTION. SEE NV ENERGY DESIGN PLANS.
52. INSTALL NEW CONNECTION TO EXISTING NV ENERGY PAD-MOUNTED TRANSFORMER IN ACCORDANCE WITH NV ENERGY REQUIREMENTS. COIL CONDUCTORS FOR NV ENERGY CONNECTION. SEE NV ENERGY DESIGN PLANS.

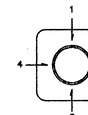
GENERAL NOTES

1. CONTRACTOR SHALL VERIFY TYPE AND LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTING SIGNAL POLE FOUNDATIONS.
2. CONTRACTOR SHALL INSTALL RED MARKING TAPE 18" BELOW GRADE, ABOVE ALL PROPOSED CONDUITS.
3. CONTRACTOR SHALL VERIFY ALL UTILITY CONFLICTS AND OBSTACLES PRIOR TO TRENCHING OR DIGGING.
4. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS, INCLUDING LANDSCAPING FROM DAMAGE. ALL IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE RESIDENT ENGINEER AT THE EXPENSE OF THE CONTRACTOR.
5. CONTRACTOR TO COORDINATE LOCATIONS OF PROPOSED PULL BOXES TO BE ADJACENT TO SIDEWALK JOINTS AND SCORING PATTERN LINES. SEE LANDSCAPE SHEETS (LA) FOR SIDEWALK SCORING PATTERN.
6. SEE SL SHEETS FOR SERVICE PEDESTAL, STREET LIGHTING AND INTERCONNECT DESIGN.
7. EXISTING TRAFFIC SIGNALS MUST REMAIN OPERATIONAL AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE UNIFORMED TRAFFIC CONTROL OFFICERS AT ALL TIMES WHEN THE TRAFFIC SIGNAL CANNOT REMAIN OPERATIONAL UNLESS ANOTHER METHOD IS APPROVED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
8. AS PART OF THE TRAFFIC SIGNAL INSTALLATION THE CONTRACTOR SHALL REMOVE AND SALVAGE ALL EXISTING TRAFFIC SIGNAL EQUIPMENT (POLES, MAST ARMS, INTERSECTION LIGHTING, CONTROLLER CABINET, ETC.) AS IDENTIFIED ON THE PLANS. SUB-SURFACE AND SURFACE CONDITIONS SHALL BE REPAIRED OR REPLACED TO MATCH THE SURROUNDING AREA. ALL STREET LIGHT AND TRAFFIC SIGNAL EQUIPMENT THAT IS SALVAGED SHALL BE RETURNED TO THE CLV EAST SERVICE YARD. PROVIDE 24 HOUR NOTICE PRIOR TO DELIVERY. CALL 702-229-3661 TO SCHEDULE DELIVERY TIME. CONTRACTOR MUST HAVE A MEANS TO UNLOAD EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EQUIPMENT AND MATERIALS INCURRED IN THIS PROCESS.
9. AS PART OF THE INTERNALLY ILLUMINATED ONE WAY SIGN INSTALLATION THE CONTRACTOR MAY BE REQUIRED TO RELOCATE OR ADJUST EXISTING MAST ARM MOUNTED SIGNING, SIGNAL HEAD TENONS OR OTHER EQUIPMENT. ALL ADJUSTMENTS SHALL BE APPROVED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
10. PULL BOX AND VAULT LOCATIONS AND CONDUIT ROUTING ARE SCHEMATIC FOR THE PURPOSE OF CLARITY AND MAY DIFFER FROM ACTUAL INSTALLATION. FINAL LOCATION SHALL BE DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER.

TAND, INC.
AS-BUILT

DATE

DANIEL MEYER



QUADRANT ARM, SIGNAL, PED BUTTON (TOP VIEW)

GRAPHIC SCALE

(IN FEET)

811 know what's below Call before you dig 1-702-227-2929

SAFETY ALERT Call Before You Overhead

Call before you UnderGround 1-702-432-5300

Jun 21, 2010 - 1:27pm - USER peter.mayerhofer
\\LAVP01\Projects\LAV_PublicTrans\092256\019 Bonneville-Clark 2008\CADD\2560191a-01_06.dwg

20132086

DATE	REVISIONS
6/21/10	SHEET REPLACEMENT

SCALE (V): N/A
SCALE (H): 1"=20'
DATE: FEBRUARY 2010
DESIGNED BY: AP/RC
DRAWN BY: AP
CHECKED BY: RC/RF

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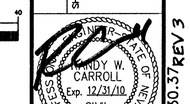
DEPARTMENT OF PUBLIC WORKS

PROJECT: BONNEVILLE/CLARK ONEWAY COUPLET PHASE 1 IMPROVEMENT PLANS

SHEET: TRAFFIC SIGNAL BONNEVILLE AVE AND 1ST ST / TRANSIT CENTER



SHEET NO. TS-06
SHEET 65 OF 91
DRAWING NO. 107V5201

BID# 09.1730.37 REV 3