

# EAST / WEST WATER TRANSMISSION MAIN PROJECT

## PHASE 2A-2

CARSON CITY, NEVADA

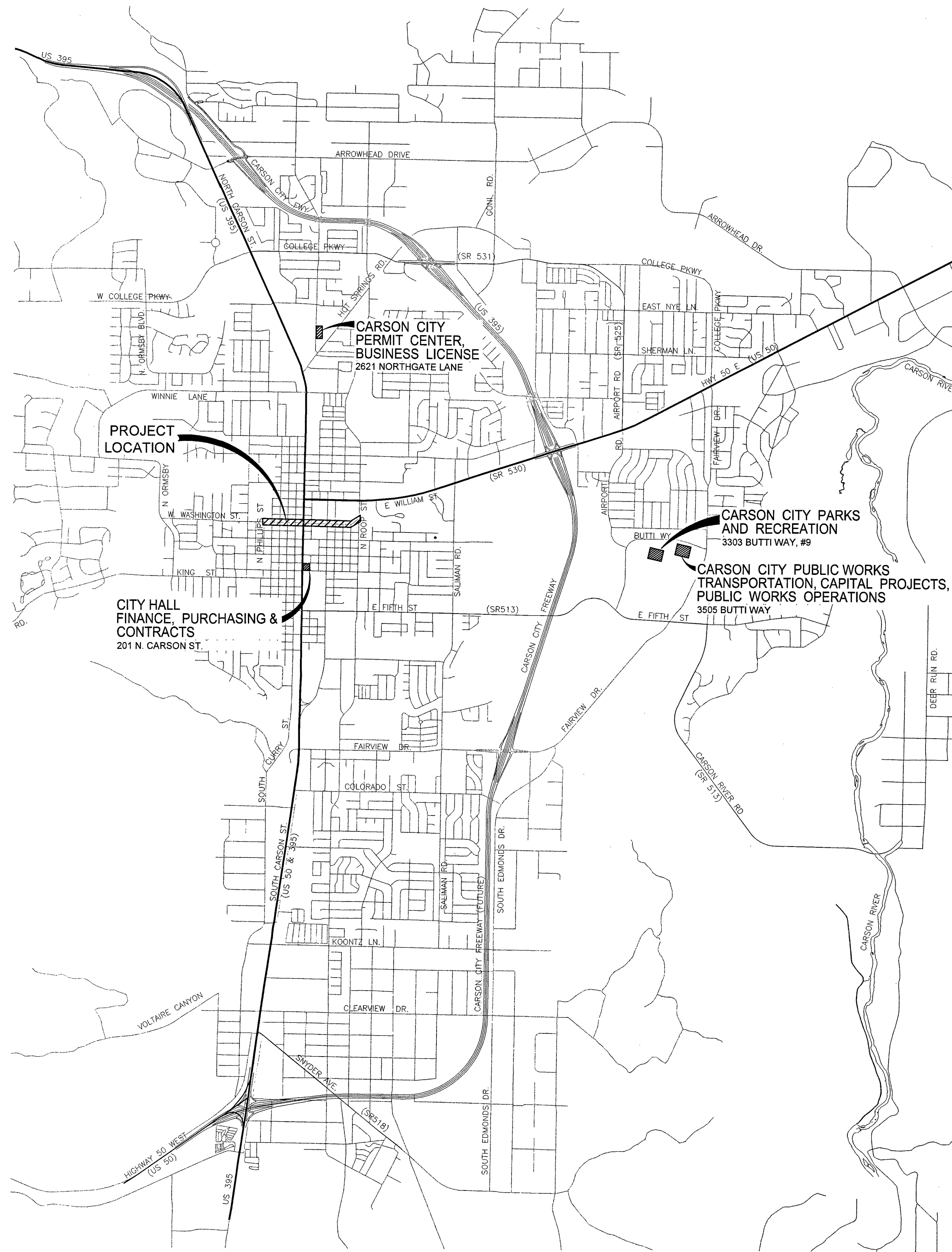
PROJECT 1415-130

### BOARD OF SUPERVISORS

Bob Crowell Mayor  
 Karen Abowd Supervisor  
 Brad Bonkowski Supervisor  
 Lori Bagwell Supervisor  
 Jim Shirk Supervisor  
 Susan Merriwether City Clerk

### GENERAL NOTES:

- ALL WORK SHALL CONFORM TO AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS PER NAC 445A.67145 (1)(g), THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (SSPWC), AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" (SDPWC) AS ADOPTED BY CARSON CITY, AND NEVADA ADMINISTRATIVE CODE (NAC) CHAPTER 445A. THE CONTRACTOR SHALL OBTAIN A PERMIT FOR PUBLIC WORKS CONSTRUCTION FROM THE CARSON CITY PERMIT CENTER PRIOR TO THE START OF CONSTRUCTION.
- ALL TRAFFIC CONTROL AND BARRICADING WITHIN THE CARSON CITY RIGHT-OF-WAY SHALL CONFORM TO SECTION 100.33, 332.04 AND 332.05 OF THE STANDARD SPECIFICATIONS, PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND THE UNR 12 CENTER, TEMPORARY TRAFFIC CONTROL GUIDELINES LATEST EDITION. A TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CARSON CITY ENGINEERING DIVISION PRIOR TO ANY STREET CLOSURES.
- CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT "CALL BEFORE YOU DIG" (811) OR (1-800-227-2600) AT LEAST TWO (2) WORKING DAYS PRIOR TO START OF CONSTRUCTION AND COMPLY WITH THE REQUIREMENTS OF NRS AND NAC 455 THROUGHOUT THE COURSE OF THE WORK. SEWER SERVICE LATERALS ARE NOT OWNED OR MARKED BY CARSON CITY.
- CONTRACTOR SHALL CALL THE CARSON CITY ENGINEERING DIVISION (887-2300) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL ONE (1) WORKING DAY PRIOR TO REQUIRED INSPECTIONS AND TESTING. THE REQUIRED INSPECTIONS AND TESTING ARE LISTED ON THE INSPECTION RECORD ISSUED WITH EACH PERMIT. THE CONTRACTOR MUST HAVE THE PERMIT NUMBER AND THE DESCRIPTION LISTED ON THE INSPECTION RECORD TO SCHEDULE REQUIRED INSPECTIONS AND TESTING. FOR CITY CONTRACTED PROJECTS, THE CONTRACTOR SHALL SCHEDULE INSPECTIONS PER THE CONTRACT DOCUMENTS.
- FINAL INSPECTIONS WILL BE PERFORMED BY CARSON CITY ENGINEERING DIVISION ACCORDING TO THE CARSON CITY INSPECTIONS AND TESTING PROCEDURES. NOTE: THESE PROCEDURES REQUIRE SUBMITTAL OF RECORD DRAWING PRINTS BY THE CONTRACTOR AND 10 WORKING DAYS TO PREPARE A FINAL PUNCH LIST. ALL CONDITIONS OF THE FINAL INSPECTION MUST BE COMPLETED PRIOR TO FINAL ACCEPTANCE OR ANY APPROVAL OF A CERTIFICATE OF OCCUPANCY BY THE CARSON CITY ENGINEERING DIVISION.
- MODIFICATIONS TO APPROVED PLANS REQUIRES REVIEW AND APPROVAL BY CARSON CITY ENGINEERING DIVISION. WORK PERFORMED WITHOUT WRITTEN APPROVAL BY CARSON CITY ENGINEERING WILL REQUIRE REMOVAL AT CONTRACTOR'S EXPENSE.
- THE APPROVED PLAN, PERMIT AND INSPECTION RECORD MUST BE ON THE JOB SITE AT ALL TIMES.
- PLAN APPROVAL FOR SEWER AND WATER CONSTRUCTION SHALL EXPIRE ONE YEAR FROM DATE OF APPROVAL UNLESS CONSTRUCTION HAS BEEN INITIATED. (CCMC 12.06.180F, 12.01.140D)
- CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR ACQUIRING A STORMWATER DISCHARGE PERMIT FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP) INCLUDING DEVELOPING, SUBMITTING AND IMPLEMENTING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL DEVELOP, PLACE AND MAINTAIN STORM WATER PROTECTION DEVICES IN COMPLIANCE WITH THE NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (JUNE 2008).
- EXISTING UTILITY LOCATIONS, AS SHOWN ON THESE DRAWINGS, IS BASED UPON AVAILABLE INFORMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE LOCATIONS AT PROPOSED CONNECTION POINTS, AND IN AREAS OF POSSIBLE CONFLICT WITH NEW UTILITY INSTALLATION, PRIOR TO BEGINNING CONSTRUCTION. POTHOLES IS RECOMMENDED. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN EXISTING FIELD CONDITIONS AND THESE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER BEFORE PROCEEDING WITH CONSTRUCTION.
- CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF PROPER SHORING OF TRENCHES IN ACCORDANCE WITH OCCUPATIONAL SAFETY LAWS. THE DUTIES OF THE ENGINEER DO NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY IN, ON, OR NEAR THE CONSTRUCTION SITE.
- SHOULD IT APPEAR THAT THE WORK TO BE DONE, OR ANY MATTER RELATIVE THERETO, IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS, THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION MANAGER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.
- DISINFECTION [NAC 445A.67145.6] - A WATER MAIN MUST NOT BE PLACED INTO SERVICE AFTER ITS INITIAL CONSTRUCTION UNTIL:
  - THE WATER MAIN HAS BEEN DISINFECTED IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION STANDARD C851, AS ADOPTED BY REFERENCE IN NAC 445A.666.3, THE DISPOSAL OF ANY SPENT CHLORINE SOLUTIONS MUST BE COORDINATED WITH THE DIVISION.
  - AN ANALYSIS OF THE WATER MAIN WHICH INDICATES THAT IT MEETS PRIMARY STANDARDS FOR COLIFORM BACTERIA HAS BEEN OBTAINED AND REPORTED TO THE DIVISION OR THE APPROPRIATE DISTRICT BOARD OF HEALTH.
- PRESSURE TEST [NAC 445A.67145.7] - THE PIPING INSTALLED IN A DISTRIBUTION SYSTEM MUST (BEFORE THE PIPING IS FLUSHED, DISINFECTED OR SAMPLED FOR AN ANALYSIS OF WATER QUALITY), IF PIPING CONSISTS OF:
  - DUCTILE IRON, BE PRESSURE TESTED IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION STANDARD C600, AS ADOPTED BY REFERENCE IN NAC 445A.666.3;
  - PVC, BE PRESSURE TESTED IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION STANDARD C605, AS ADOPTED BY REFERENCE IN NAC 445A.666.3; OR
  - ANOTHER MATERIAL, BE PRESSURE TESTED IN ACCORDANCE WITH:
    - FOR PUBLIC WATER SYSTEMS IN CARSON CITY, FALLON, RENO, SPARKS, YERINGTON, DOUGLAS COUNTY, LANDER COUNTY, LYON COUNTY, NYE COUNTY OR WASHOE COUNTY, STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AS ADOPTED BY REFERENCE IN NAC 445A.666.3.
- CONSTRUCTION [NAC 445A.67145.8] - DURING THE CONSTRUCTION OF A DISTRIBUTION SYSTEM, ANY OPENINGS IN UNFINISHED PIPING OR APPURTENANCES MUST BE SEALED AT THE END OF EACH WORKING DAY IN SUCH A MANNER AS TO PREVENT THE ENTRY OF BIRDS AND OTHER ANIMALS, DIRT, TRENCH WATER AND OTHER SOURCES OF POLLUTION OR CONTAMINATION.
- ALL WATERLINE MATERIALS SHALL BE CERTIFIED TO ANSI / NSF 61 AND 372 STANDARDS (OR APPROVED EQUIVALENT).
- CONTRACTOR SHALL COMPLY WITH THE MANUFACTURERS RECOMMENDATIONS REGARDING MECHANICALLY RESTRAINED JOINTS, AND SHALL ENSURE THAT SUFFICIENT PIPE LENGTH IS RESTRAINED TO RESTRICT MOVEMENT.
  - \* THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" BY DUCTILE IRON PIPE RESEARCH ASSOCIATION (BIRMINGHAM, AL) IS AVAILABLE TO DETERMINE RESTRAINED DISTANCE.
  - \* CONTRACTOR SHALL VERIFY THRUST RESTRAINT REQUIREMENTS FOR ALL PROPOSED JOINTS. CONCRETE THRUST BLOCKING MAY BE USED WHEN CONNECTING TO EXISTING PIPING THAT HAS INSUFFICIENT THRUST RESTRAINT.
  - \* RESTRAINED JOINT PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH AWWA, ASTM AND MANUFACTURER REQUIREMENTS.
  - \* RESTRAINED PUSH-ON JOINTS FOR PIPE AND FITTINGS SHALL BE DESIGNED FOR 150 PSI WATER OPERATING PRESSURE.
  - \* RESTRAINED PUSH-ON JOINT PIPE AND FITTINGS SHALL BE CAPABLE OF BEING DEFLECTED AFTER ASSEMBLY.
- CONTRACTOR SHALL COORDINATE ALL WATERLINE SHUTDOWNS WITH CARSON CITY PUBLIC WORKS, AND SHALL NOTIFY ALL POTENTIALLY AFFECTED CUSTOMERS AT LEAST FIVE (5) DAYS BEFORE SHUTDOWN.
- ALL SIDEWALK ON THE NORTH SIDE OF WASHINGTON STREET, AND ALL ADA RAMPS ALONG WASHINGTON STREET, SHALL BE COMPLIANT WITH PROPOSED GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY (MOST RECENT EDITION), WHICH MAY REQUIRE REMOVAL AND REPLACEMENT NOT SHOWN ON THESE PLANS.
- CONTRACTOR SHALL READ, UNDERSTAND, AND FOLLOW THE MARCH 2015 GEOTECHNICAL REPORT PREPARED BY RESOURCE CONCEPTS INCORPORATED; AND SHALL MAINTAIN A COPY ONSITE THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL REMOVE AND REPLACE SIDEWALK TO THE NEAREST JOINT TO CONSTRUCT PROPOSED IMPROVEMENTS.
- CONTRACTOR SHALL MATCH EXISTING INFRASTRUCTURE WHERE CONNECTING PROPOSED IMPROVEMENTS.
- ADD 4600 TO ALL FINISH GRADE ELEVATIONS.
- CONTRACTOR SHALL FURNISH & INSTALL A H20 STEEL, CAD-WELDED, AND BONDED TO GROUND LID FOR ALL TRAFFIC BOXES REQUIRING ADJUSTMENT.



VICINITY MAP  
N.T.S.

### DESIGNED FOR:

CARSON CITY PUBLIC WORKS DEPARTMENT  
 OPERATIONS DIVISION  
 3505 BUTTI WAY  
 CARSON CITY, NEVADA 89701  
 887-2355

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### SPECIFICATIONS

ALL CONSTRUCTION SHALL CONFORM TO THE PROJECT TECHNICAL SPECIFICATIONS AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2012 EDITION AND ANY APPURTENANT SUPPLEMENTS).

### ENGINEER'S STATEMENT

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PROCEDURES AND GUIDELINES, AND ARE IN SUBSTANTIAL COMPLIANCE WITH APPLICABLE STATUTES, COUNTY ORDINANCES, AND CODES. IN THE EVENT OF A CONFLICT BETWEEN ANY PORTION OF THESE PLANS AND THE COUNTY CODES, THE COUNTY CODES SHALL PREVAIL.

### REVIEWED FOR CITY REQUIREMENTS:

DARREN SCHULZ, P.E. - PUBLIC WORKS DIRECTOR DATE



ENGINEER

**Manhard**  
 CONSULTING LTD  
 3476 Executive Pointe Way, Suite 12  
 Carson City, NV 89706  
 (775) 882-5630

APPLICATION NO. \_\_\_\_\_

NDEP BSDW NO. NV-0005312-15

EAST/WEST WATER TRANSMISSION MAIN  
 PHASE 2A-2  
 PROJECT No: 1415-130

TITLE SHEET

SHEET  
 01  
 OF  
 24

PROJ. MGR.: CAP  
 PROJ. ASSOC.: JPB  
 CHECKED BY: CAP  
 DWG. NO.: CCN 00032-01  
 SCALE (HORIZ):  
 SCALE (VERT):  
 PLOT DATE: JUNE 2015

CARSON CITY  
 PUBLIC WORKS DEPARTMENT  
 3505 BUTTI WAY  
 CARSON CITY, NEVADA 89701  
 PH: 887-2355

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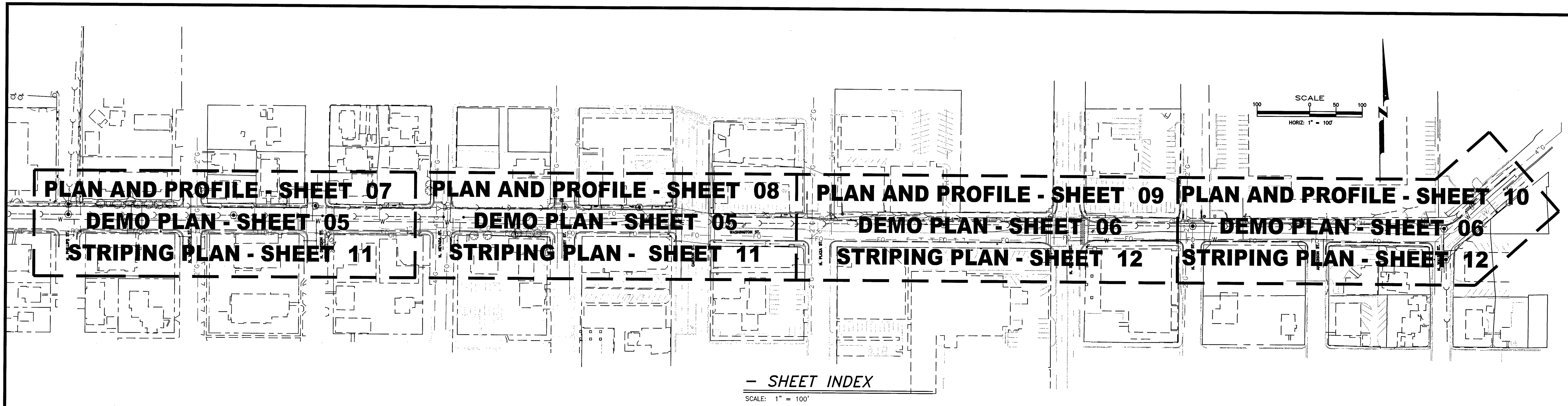
PROFESSIONAL ENGINEER STATE OF NEVADA  
 CHRISTOPHER ALAN PETERSON  
 Exp. 12/31/15  
 CIVIL  
 No. 16143

06/24/2015

PROJECT No. 1415-130

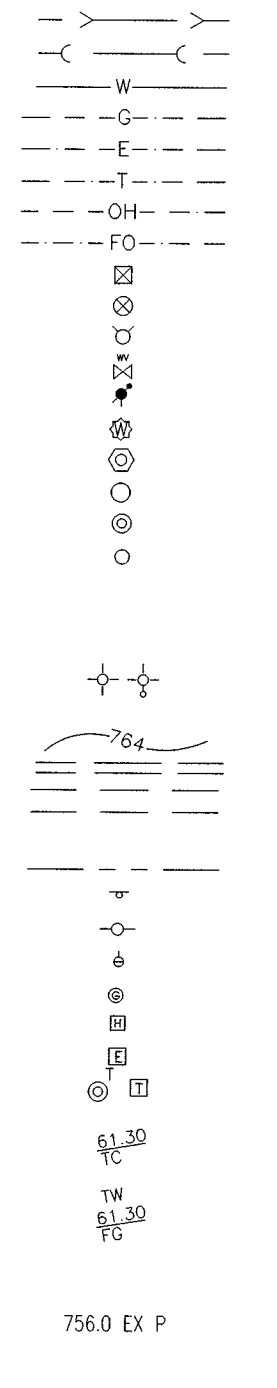
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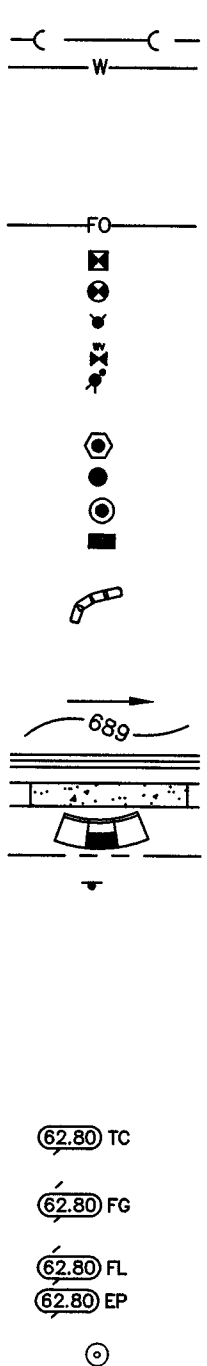


**LEGEND**

**EXISTING**



**PROPOSED**



**ABBREVIATIONS**

AC	ASPHALTIC CONCRETE	MJ	MECHANICAL JOINT
ACP	ASBESTOS CEMENT PIPE	NAC	NEVADA ADMINISTRATIVE CODE
ADJ	ADJUST	NDEP	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
AGG.	AGGREGATE	No / #	NUMBER
APN	ASSESSOR'S PARCEL NUMBER	NTS	NOT TO SCALE
APPROX	APPROXIMATE	P / PVMT	PAVEMENT
ARCH	ARCHITECT	PCC	POINT OF COMPOUND CURVE
ARV	AIR RELEASE VALVE	PE	POLYETHYLENE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	PED	PEDESTRIAN
BCR	BEGIN CURB RETURN	PGL	PROFILE GRADE LINE
BIT	BITUMINOUS	PI	POINT OF INTERSECTION
BM	BENCHMARK	PL	PROPERTY LINE
BO	BY OTHERS	POC	POINT OF CURVATURE
BP	BOTTOM OF PIPE	PP	PROPOSED
BVC	BACK OF WALK	PROP	PROPOSED
BW	BEGIN VERTICAL CURVE	PRV	PRESSURE REDUCING VALVE
C&G	CURB AND GUTTER	PT	POINT OF TANGENCY
CATV	CABLE TELEVISION	PVC	POLYVINYLCHLORIDE PIPE
CB	CATCH BASIN	PVI	POINT OF VERTICAL INTERSECTION
CL	CENTERLINE / CLASS	PVT	POINT OF VERTICAL TANGENCY
CMP	CORRUGATED METAL PIPE	R&R	REMOVE AND REPLACE
CNTRL	CONTROL	R	RADIUS
CO	CLEANOUT	RCP	REINFORCED CONCRETE PIPE
CONC	CONCRETE	REM	REMOVAL
COND	CONDUIT	ROW	RIGHT-OF-WAY
CY	CUBIC YARD	RR	RAILROAD
D	DITCH	RT	RIGHT
DI	DROP INLET	S	SLOPE / SOUTH
DIA, Ø	DIAMETER	SAN	SANITARY
DIP	DUCTILE IRON PIPE	SD	STORM DRAIN
DT	DRAIN TILE	SDMH	STORM DRAIN MANHOLE
DWY	DRIVEWAY	SF	SQUARE FOOT
E	ELECTRIC	SH	SHOULDER
EACH	EACH	SHT	- SHEET
ELEV	ELEVATION	SL	STREET LIGHT
EP	EDGE OF PAVEMENT	SS	SANITARY SEWER
EQ	EQUAL	SSCO	SANITARY SEWER CLEANOUT
EVC	END VERTICAL CURVE	SSMH	SANITARY MANHOLE
EX	EXISTING	ST	STREET
FE	FIELD ENTRANCE	STA	STATION
FES	FLARED END SECTION	STD	STANDARD
FF	FINISHED FLOOR	STL	STEEL
FG	FINISHED GRADE	SW	SIDEWALK
FL	FLOW LINE	SY	SQUARE YARDS
FLG	FLANGE	T	TELEPHONE
FM	FORCE MAIN	TBC	TOP BACK OF CURB
FO	FIBER OPTIC	TBR	TO BE REMOVED
FT	FEET	TEMP	TEMPORARY
G	GAS	TP	TOP OF PIPE
GB	GRADE BREAK	TRANS	TRANSFORMER
GR	GROCERY	TW	TOP OF WALL
GV	GAS VALVE / GATE VALVE	TYP	TYPICAL
GW	GUY WIRE	U	UNDERGROUND
HDWL	HEADWALL	VB	VALVE BOX
HORIZ	HORIZONTAL	VC	VERTICAL CURVE
HP	HIGH POINT	VCP	VITRIFIED CLAY PIPE
HWL	HIGH WATER LEVEL	W	WEST / WATER
HYD	HYDRANT	WL	WATER LEVEL
IE	INVERT ELEVATION	WM	WATER METER / MAIN
INL	INLET	WS	WATER SERVICE
INV	INVERT	W/	WITH
IRR	IRRIGATION	W/O	WITHOUT
L	LENGTH	WV	WATER VALVE
LAT	LATERAL	X'ING	CROSSING
LF	LINEAL FEET		
LT	LEFT		
MAX	MAXIMUM		
MB	MAILBOX		
ME	MATCH EXISTING		
MH	MANHOLE		
MIN	MINIMUM		

**BASIS OF BEARINGS**

NORTH AMERICAN DATUM OF 1983/1994 (NAD 83/94) AS SHOWN ON "2010 CARSON CITY CONTROL NETWORK" RECORD OF SURVEY MAP NO. 2749 RECORDED ON AUGUST 11, 2010 IN THE CARSON CITY RECORDER'S OFFICE AS FILE NO 403435.

ALL DISTANCES SHOWN HEREON ARE AT GROUND. TO GET TO GRID (STATE PLANE), MULTIPLY THE GROUND VALUES BY 0.99980004.

**BASIS OF ELEVATIONS**

BASIS OF ELEVATION FOR THIS PROJECT IS CARSON CITY SURVEY CONTROL MONUMENT C0083, WHICH IS A 2" BRASS DISK STAMPED "C0083 2010" LOCATED IN THE TOP OF CURB ALONG THE NORTH SIDE OF EAST SPEAR STREET, APPROXIMATELY 12' WEST OF THE SOUTH RETURN OF THE NORTHWEST CORNER OF THE INTERSECTION OF EAST SPEAR ST. AND NORTH ROOP STREET.

NOTE: THE CONTRACTOR SHALL BE HELD RESPONSIBLE TO REPLACE IN KIND ALL EXISTING SURVEY CONTROL MARKERS WHICH ARE DAMAGED OR DISTURBED DUE TO HIS CONSTRUCTION EFFORTS. RE-ESTABLISHMENT OF SURVEY CONTROL MARKERS SHALL BE COMPLETED BY A NEVADA LICENSED PROFESSIONAL LAND SURVEYOR.

**HORIZONTAL & VERTICAL CONTROL DATA**

COORDINATE VALUES AT MODIFIED STATE PLANE (GROUND)

PT#	NORTHING	EASTING	ELEV.	DESCRIPTION
110	14737068.13	2288339.716	4704.66	MAG IN TC
111	14737106.15	2288878.927	4695.62	MAG IN TC
112	14737099.15	2289502.034	4688.81	SET MAG IN CONCRETE
113	14737019.81	2289842.813	4685.06	SET MAG IN CONCRETE
114	14737022.88	2290317.698	4679.12	SET MAG IN CONCRETE
115	14737018.03	2290712.466	4673.50	SET MAG IN CONCRETE
116	14737104.62	2291111.660	4672.35	FND CONC NAIL IN AC

**RIGHT-OF-WAY**

CONTRACTOR SHALL VERIFY EXISTING RIGHT-OF-WAY FOR PROPOSED IMPROVEMENTS, AND SHALL OBTAIN CONSTRUCTION EASEMENTS WHERE PROPOSED CONSTRUCTION MAY AFFECT PRIVATE PROPERTY. CONTRACTOR SHALL CONTACT ALL PROPERTY OWNERS ADJACENT TO THE PROPOSED WASHINGTON STREET CONSTRUCTION CORRIDOR, INFORM THEM OF PROPOSED CONSTRUCTION, CONSTRUCTION SCHEDULE AND POTENTIAL IMPACT TO PROPERTY. CONTRACTOR SHALL WORK WITH WASHINGTON STREET PROPERTY OWNERS TO MINIMIZE IMPACT TO PROPERTY, ACCESS, ETC.

Call before you Dig  
Avoid cutting underground utility lines. It's costly.

**811**  
OR  
1-800-227-2600

PROJ. MGR.: CAP  
PROJ. ASSOC.: JPB  
CHECKED BY: CAP  
DWG NO.: CCN/CON/201  
SCALE (HORIZ): 1" = 100'  
SCALE (VERT): ---  
PLOT DATE: JUNE 2015

CARSON CITY  
PUBLIC WORKS DEPARTMENT  
3505 BUTTE WAY  
CARSON CITY, NEVADA 89701  
PH: 887-2385

**Manhard**  
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PH: (775) 882-5830

PROFESSIONAL ENGINEER - STATE OF NEVADA  
CHRISTOPHER ALAN PETERSON  
Exp. 12/2/15  
CIVIL  
No. 16143

REV. DATE DESCRIPTION BY APP.

EAST/WEST WATER TRANSMISSION MAIN  
PHASE 2A-2  
PROJECT No: 1415-130  
INDEX SHEET

SHEET 02 OF 24

PROJECT No. 1415-130  
100% SUBMITTAL



1. WATER MAIN SHUTDOWNS/INTERRUPTION OF WATER/FIRE SERVICE; OBTAIN TENTATIVE APPROVAL FROM CARSON CITY WATER UTILITY PRIOR TO PLANNING A SHUTDOWN. APPROVAL IS REQUIRED ONE WORKING DAY PRIOR TO NOTIFICATION OF CUSTOMERS. COMMERCIAL CUSTOMERS SHALL RECEIVE 2 WORKING DAYS WRITTEN AND VERBAL NOTICE OF A SHUTDOWN. SPECIAL ARRANGEMENTS INCLUDING NIGHT TIME SHUTDOWNS MAY BE REQUIRED OF THE CONTRACTOR TO ACCOMMODATE CUSTOMER OPERATIONS. RESIDENTIAL CUSTOMERS SHALL RECEIVE 24 HOURS WRITTEN NOTICE. WHEN WORK IS PERFORMED BY CITY STAFF, THE CITY IS RESPONSIBLE FOR THE NOTIFICATION. THE CONTRACTOR IS RESPONSIBLE IN ALL OTHER CASES. A LIST SHALL BE KEPT BY THE RESPONSIBLE PARTY LISTING THE DATE, TIME AND ADDRESS OF ALL PERSONS NOTIFIED. THE PERSON NOTIFIED SHALL BE INCLUDED ON THE LIST FOR ALL COMMERCIAL CUSTOMERS. CONTACT CARSON CITY WATER UTILITY FOR PHONE NUMBERS WHEN COMMERCIAL CUSTOMERS CANNOT BE LOCATED. THE CONTRACTOR WILL BE SUBJECT TO DAMAGE CLAIMS SHOULD THEY FAIL TO NOTIFY CUSTOMERS OR MAINTAIN DOCUMENTATION OF NOTIFICATION OF CUSTOMERS. THE TOTAL TIME OF ANY WATER SERVICE INTERRUPTION IS LIMITED TO 4 HOURS MAXIMUM. THE CONTRACTOR SHALL NOT OPERATE ANY EXISTING WATER VALVES. WATER MAIN SHUTDOWNS WILL ONLY BE SCHEDULED FOR TUESDAYS, WEDNESDAYS, OR THURSDAYS, EXCLUDING THE WORKING DAYS BEFORE AND AFTER A HOLIDAY. CONTRACTOR SHALL MAKE A WRITTEN REQUEST TO THE WATER OPERATIONS CHIEF, A MINIMUM OF 10 CALENDAR DAYS IN ADVANCE OF ANY PLANNED SHUTDOWN.

2. WATER MAINS (6 INCH THRU 12 INCH) SHALL BE PVC C900, DR 18 (MINIMUM WALL THICKNESS) UNLESS HIGHER PRESSURE IS SPECIFIED ON THE PLANS. WATER SERVICES 2 INCHES OR LESS SHALL BE CTS, PE TUBING MINIMUM 200 PSI; WATER SERVICES 3 INCHES OR GREATER SHALL BE 4 INCH MINIMUM DIAMETER PVC C900, DR 18 OR AS SPECIFIED ON THE PLANS.

3. MAINTAIN 18 INCHES VERTICAL AND 5 FEET HORIZONTAL SEPARATION BETWEEN ALL UNDERGROUND UTILITY LINES AND WATER LINES. IF WATER LINE IS BELOW POWER LINE OR IS WITHIN 18 INCH VERTICAL SEPARATION OF POWER LINE, POWER/TELEPHONE LINE SHALL BE ENCASED WITH 4 INCHES MINIMUM OF CONCRETE EXTENDING 5 FEET EACH SIDE OF CROSSING. (SEE NV ENERGY SPECS.) CONCRETE ENGAGEMENT OF WATER LINES IS NOT ALLOWED.

4. ALL HOT TAPS, GREATER THAN 2 INCHES AND LESS THAN 12 INCHES, ARE TO BE PERFORMED BY CARSON CITY WATER UTILITY. THE CONTRACTOR SHALL CONTACT THE WATER OPERATIONS CHIEF AT LEAST 2 WORKING DAYS PRIOR TO SCHEDULING HOT TAP DATE AND TIME (HOT TAPS ARE PERFORMED TUESDAY THRU THURSDAY EXCLUDING THE WORKING DAYS BEFORE AND AFTER A HOLIDAY). PRIOR TO HOT TAPPING, THE SADDLE SHALL BE HYDROSTATICALLY PRESSURE TESTED TO 150 PSI MINIMUM OR THE DESIGN OF PIPE SYSTEM FOR A MINIMUM OF 5 MINUTES. THE TEST SHALL BE PERFORMED IN THE PRESENCE OF THE WATER UTILITY PERSONNEL PRIOR TO PERFORMING THE TAP. ALL TAPPING EQUIPMENT SHALL BE DISINFECTED AND INSPECTED BY CITY FORCES PRIOR TO TAPPING A CITY MAIN.

5. WATER VALVE MARKERS SHALL BE BLUE CARSONITE UTILITY MARKER (CUM-375), 5 FEET-2 INCHES (5'-2") WITH CARSON CITY WATER VALVE DECAL (CWV-116) OR APPROVED EQUAL. PLACE MARKER NO MORE THAN 5 FEET FROM THE VALVE OR AS DIRECTED BY THE CARSON CITY INSPECTOR.

6. REDUCED PRESSURE PRINCIPLE AND DOUBLE CHECK VALVE BACKFLOW ASSEMBLIES SHALL BE APPROVED BY THE CARSON CITY INSPECTOR, AND TESTED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER, AND TEST RESULTS SHALL BE APPROVED BY CARSON CITY WATER UTILITY. FOR NEW WATER METER SETS, THE REQUIRED BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED, INSPECTED, APPROVED AND CERTIFIED TEST RESULTS PROVIDED TO THE CARSON CITY INSPECTOR WITHIN 5 DAYS OF METER SET, UNLESS THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR APPROVES OTHERWISE. THE SERVICE WILL BE LOCKED OFF IF INSPECTIONS AND CERTIFICATIONS ARE NOT COMPLETED AS SPECIFIED ABOVE. A 25 DOLLAR FEE WILL BE ASSESSED AT TIME OF TURN-ON WHEN LOCK IS REMOVED DURING NORMAL WORKING HOURS. THE FEE WILL BE ASSESSED ON THE BUILDING PERMIT FOR THE INSTALLATION OF THE BACKFLOW DEVICE.

7. ALL WATER MAIN, WATER/FIRE SERVICE, AND BACKFLOW PREVENTION INSPECTIONS AND TESTING MUST BE APPROVED PRIOR TO APPROVAL OF ANY CERTIFICATE OF OCCUPANCY.

8. DISINFECTANT TABLETS SHALL BE PLACED USING TITEBOND MULTI-PURPOSE CLEAR 100% SILICONE OR APPROVED EQUAL FOOD GRADE SILICONE

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
1	NOTE 4	05/14		DRAWING NO. C-3.1.1 (307)
APPROVED BY: [Signature] 05/14				
<b>WATER GENERAL NOTES</b>				

1. MANHOLE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 204 "MANHOLES AND CATCH BASINS" OF THE SSPWC.

2. MARKING TAPE SHALL BE INSTALLED 12 INCHES ABOVE ALL STORM DRAIN PIPE. TAPE WIDTH SHALL BE 3 INCHES; THICKNESS SHALL BE FOUR (4) MIL OR GREATER AND SHALL BE GREEN AND BEAR LARGE PRINTING DENOTING "CAUTION BURIED STORM DRAIN LINE BELOW" OR EQUIVALENT WORDING.

3. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MIN. COMPRESSIVE STRENGTH @ 28 DAYS, (CURB AND GUTTER TRANSITION ONLY, ALL UNEXPOSED CONCRETE MAY BE 3000 PSI) MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 202.

4. REINFORCING STEEL SHALL BE GRADE 40 AND HAVE 1.5 INCHES MINIMUM CLEAR COVER.

5. EACH CATCH BASIN SHALL HAVE A 4 INCH ALUMINUM BLUE DISK WITH FISH IMAGE AND THE WORDS "NO DUMPING! DRAINS TO RIVER" (ALMETER SD-4 OR APPROVED EQUAL) INSTALLED ON THE TOP OF THE CURB BOX.

6. FRAMES AND GRATES SHALL BE MATCHED TO ACHIEVE A CLOSE TOLERANCE FIT, WITH MINIMAL GAPS, AS APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.

7. STORM DRAINAGE IMPROVEMENTS SHALL INCORPORATE WATER QUALITY AND EROSION CONTROLS IN ACCORDANCE WITH THE NEVADA "HANDBOOK OF BEST MANAGEMENT PRACTICES".

8. PRECAST MANHOLES SECTIONS, OTHER THAN GRADE RINGS, SHALL BE JOINED WITH FLEXIBLE PLASTIC GASKET MATERIAL SUCH AS RAM-NEK OR APPROVED EQUAL PER MANUFACTURERS RECOMMENDATIONS.

9. TRACER WIRE SHALL BE ATTACHED TO ANY STORM DRAIN LATERAL WHICH IS NOT PERPENDICULAR TO THE STORM DRAIN MAIN.

10. MANHOLES LOCATED OUTSIDE PAVED AREAS SHALL REQUIRE ALL WEATHER ACCESS ROADWAY CONSISTING OF 6 INCHES TYPE 2, CLASS B AGGREGATE BASE (CONFORMING TO THE SSPWC SECTION 200.01.02) AND STORM DRAIN MANHOLE MARKERS BE INSTALLED. STORM DRAIN MANHOLE MARKERS SHALL BE GREEN CARSONITE UTILITY MARKER (CUM 375), 5 FEET-2 INCHES (5'-2") WITH DECAL READING "STORM DRAIN MANHOLE". PLACE MARKERS ON EASEMENT LINE NEAREST TO MANHOLE OR AS DIRECTED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.

11. MANHOLE CONCRETE COLLARS SHALL BE LEFT 1/2 INCHES TO 3 INCHES BELOW FINISHED ASPHALT SURFACE. APPLY AN APPROVED TACK COAT (CONFORMING TO THE SSPWC SECTION 316) AND FILL VOID BETWEEN ADJACENT PAVEMENT AND FRAME WITH TYPE 3 AC 20 PAVING (CONFORMING TO THE SSPWC SECTION 320). APPLY FOG SEAL (CONFORMING TO SSPWC SECTION 317) TO THE ASPHALT SURFACE. ALL CUTS IN PAVING SHALL BE STRAIGHT AND EVEN. EXCEPTION: WHEN STRUCTURE NOT LOCATED IN ASPHALT PAVEMENT OR LOCATED IN AN UNPAVED AREA, EXTEND CONCRETE TO FINISH GRADE.

12. GRATES SHALL BE PLACED OUTSIDE OF THE PEDESTRIAN TRAVELED WAY. GRATE OPENINGS SHALL NOT EXCEED 0.5 INCHES IN WIDTH OR 4 INCHES IN LENGTH. GRATES SHALL BE TRAFFIC RATED AND ADA COMPLIANT.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
				DRAWING NO. C-4.1.1
APPROVED BY: [Signature] 7/09				
<b>STORM DRAIN GENERAL NOTES</b>				

1. NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED AND APPROVED BY CARSON CITY PUBLIC WORKS.

2. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), WITH COARSE AGGREGATE GRADATION CONFORMING TO SIZE NO. 67 PER SECTION 200.05.03 OF THE STANDARD SPECIFICATIONS, AND SHALL HAVE A 1 TO 4 INCH SLUMP; AND 4 TO 7 PERCENT ENTRAINED AIR. 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF TYPE II CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 202. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

3. ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DETAIL C-5.1.1 AND CONFORM TO SEC. 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).

4. IF OBSTRUCTIONS SUCH AS INLETS, UTILITY POLES, FIRE HYDRANTS, ETC. ARE ENCOUNTERED, THE LOCATION AND DIMENSIONS MAY BE ADJUSTED UPON APPROVAL BY CARSON CITY PUBLIC WORKS. A MINIMUM SURFACE OF 5 FEET X 5 FEET CLEAR IS REQUIRED WHEN DIRECTION OF TRAVEL MAY CHANGE AND A MINIMUM SURFACE OF 4 FEET CLEAR IS REQUIRED WHERE DIRECTION OF TRAVEL IS NOT EXPECTED TO CHANGE, UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.

5. EXISTING CONCRETE SHALL BE REMOVED TO A NEAT SAWCUT LINE OR NEAREST EXPANSION JOINT.

6. ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND SHALL CONFORM TO SEC.200.01. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).

7. NEW CONCRETE SHALL HAVE A HEAVY BROOM FINISH PERPENDICULAR TO SIDEWALK.

8. AC PAVEMENT EDGE SHALL BE 1/4 INCH TO 1/2 INCH ABOVE THE LIP OF GUTTER. EXCEPTION: AC PAVEMENT EDGE SHALL BE FLUSH TO 1/4 INCH ABOVE THE LIP OF GUTTER WHEN LOCATED ADJACENT TO A PEDESTRIAN RAMP; WITHIN AN ACCESSIBLE ROUTE OR BIKE LANE.

Diagram 1: Crossing (Vertical) Separation. Shows a 18" MIN. SEWER MAIN and a 12" MIN. SEWER LATERAL crossing. The main is below the lateral.

Diagram 2: Parallel Separation (Main or Lateral). Shows a 4" FT SEWER LATERAL and a 4" FT SEWER LATERAL separated by a minimum of 6" FT.

Diagram 3: Crossing Separation (Main or Lateral). Shows two 6" MIN. pipes crossing. One is above the other, with a 6" MIN. clearance.

Diagram 4: Parallel Separation (Main or Lateral). Shows two 6" MIN. pipes separated by a 6" FT MIN. distance.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
1	NOTE 8	05/14		DRAWING NO. C-5.2.1
APPROVED BY: [Signature] 05/14				
<b>SIDEWALK AND DRIVEWAY GENERAL NOTES</b>				

### WATER/SEWER SEPARATION GUIDELINES

**PREFERRED DESIGN/NO MITIGATION REQUIRED**

**Crossing (Vertical) Separation**

**Parallel Separation (Main or Lateral)**

**MITIGATED DESIGN/CONSTRUCTION CONFIGURATION**

**Crossing Separation (Main or Lateral)**

**Parallel Separation (Main or Lateral)**

Water [W]	Mechanically restrain waterline joints on both sides of the crossing & any other joints within 10 feet; or Jointless pipe or BSDW approved alternative.	Mechanically restrain all waterline joints; or Jointless pipe or BSDW approved alternative.
Sewer [G] (Gravity)	SDR35 PVC pipe (ASTM D3212 joints); or Non SDR35 pipe (RCP, etc.) – external joint sealant (watertight)* or jointless pipe or BSDW approved alternative.	SDR35 PVC pipe (ASTM D3212 joints); or Non SDR35 pipe (RCP, etc.) – external joint sealant (watertight)* or jointless pipe or BSDW approved alternative.
Sewer [G] (Pressurized)	Mechanically restrain sewer joints on both sides of the crossing & any other joints within 10 feet; or Jointless pipe or BSDW approved alternative.	Mechanically restrain all sewer joints; or Jointless pipe or BSDW approved alternative.

Sewer - (e.g. sanitary sewer mains and laterals, storm drains, and reclaimed wastewater mains and laterals.)  
Mechanical Restraint - a mechanical coupling to restrict joint movement and separation.  
Jointless Pipe - Welded HDPE (AWWA C901/C906), Fusible PVC (Fusible AWWA C900/C905), etc.  
\*NPC External Joint Seals, Aquawrap, Infi-Shield Gator Wrap, ASTM C877-08, or approved equal.

1. ALL WORK SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (SSPWC) AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" (SDPWC) AS ADOPTED BY CARSON CITY. THE CONTRACTOR SHALL OBTAIN A PERMIT FOR PUBLIC WORKS CONSTRUCTION FROM THE CARSON CITY PERMIT CENTER PRIOR TO THE START OF CONSTRUCTION.

2. ALL TRAFFIC CONTROL AND BARRICADING WITHIN THE CARSON CITY RIGHT-OF-WAY SHALL CONFORM TO SECTION 100.33, 332.04 AND 332.05 OF THE STANDARD SPECIFICATIONS, PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND THE LWR 12 CENTER, TEMPORARY TRAFFIC CONTROL GUIDELINES LATEST EDITION. A TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CARSON CITY ENGINEERING DIVISION PRIOR TO ANY STREET CLOSURES.

2. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT "CALL BEFORE YOU DIG" (811) OR (1-800-227-2600) AT LEAST TWO (2) WORKING DAYS PRIOR TO START OF CONSTRUCTION AND COMPLY WITH THE REQUIREMENTS OF NRS AND NAC 455 THROUGHOUT THE COURSE OF THE WORK. SEWER SERVICE LATERALS ARE NOT OWNED OR MARKED BY CARSON CITY.

3. THE CONTRACTOR SHALL CALL THE CARSON CITY ENGINEERING DIVISION (887-2300) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL ONE (1) WORKING DAY PRIOR TO REQUIRED INSPECTIONS AND TESTING. THE REQUIRED INSPECTIONS AND TESTING ARE LISTED ON THE INSPECTION RECORD ISSUED WITH EACH PERMIT. THE CONTRACTOR MUST HAVE THE PERMIT NUMBER AND THE DESCRIPTION LISTED ON THE INSPECTION RECORD TO SCHEDULE REQUIRED INSPECTIONS AND TESTING. FOR CITY CONTRACTED PROJECTS, THE CONTRACTOR SHALL SCHEDULE INSPECTIONS PER THE CONTRACT DOCUMENTS.

4. FINAL INSPECTIONS WILL BE PERFORMED BY CARSON CITY ENGINEERING DIVISION ACCORDING TO THE CARSON CITY INSPECTIONS AND TESTING PROCEDURES. NOTE: THESE PROCEDURES REQUIRE SUBMITTAL OF RECORD DRAWING PRINTS BY THE CONTRACTOR AND 10 WORKING DAYS TO PREPARE A FINAL PUNCH LIST. ALL CONDITIONS OF THE FINAL INSPECTION MUST BE COMPLETED PRIOR TO FINAL ACCEPTANCE OR ANY APPROVAL OF A CERTIFICATE OF OCCUPANCY BY THE CARSON CITY ENGINEERING DIVISION.

5. MODIFICATIONS TO THE APPROVED PLANS REQUIRES REVIEW AND APPROVAL BY THE CARSON CITY ENGINEERING DIVISION. WORK PERFORMED WITHOUT WRITTEN APPROVAL BY CARSON CITY ENGINEERING WILL REQUIRE REMOVAL AT THE CONTRACTORS EXPENSE.

6. THE APPROVED PLAN, PERMIT AND INSPECTION RECORD MUST BE ON THE JOB SITE AT ALL TIMES.

7. PLAN APPROVAL FOR SEWER AND WATER CONSTRUCTION SHALL EXPIRE ONE YEAR FROM DATE OF APPROVAL UNLESS CONSTRUCTION HAS BEEN INITIATED. (COMC 12.06.180F, 12.01.140D)

8. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR ACQUIRING A STORMWATER DISCHARGE PERMIT FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP) INCLUDING DEVELOPING, SUBMITTING AND IMPLEMENTING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL DEVELOP, PLACE AND MAINTAIN STORM WATER PROTECTION DEVICES IN COMPLIANCE WITH THE NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (JUNE 2009).

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
1	NOTE 2	05/14		DRAWING NO. C-1.1.1
APPROVED BY: [Signature] 05/14				
<b>GENERAL NOTES</b>				

1. NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED BY CARSON CITY ENGINEERING DIVISION.

2. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARDS WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 202. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

3. ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DETAIL C-5.1.1 AND CONFORM TO SEC. 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).

4. IF OBSTRUCTIONS SUCH AS INLETS, UTILITY POLES, FIRE HYDRANTS, ETC. ARE ENCOUNTERED, THE LOCATION AND DIMENSIONS MAY BE ADJUSTED UPON APPROVAL BY CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR. A MINIMUM LANDING OF 5 FEET X 5 FEET CLEAR IS REQUIRED WHEN DIRECTION OF TRAVEL MAY CHANGE. A MINIMUM OF 4 FEET CLEAR IS MAY BE USED UPON APPROVAL OF THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR WHERE DIRECTION OF TRAVEL IS NOT EXPECTED TO CHANGE.

5. WHEN A CROSSWALK IS SERVICED BY RAMP, LANDINGS SHALL BE CONTAINED WITHIN THE CROSSWALK AREA.

6. EXISTING CONCRETE SHALL BE REMOVED TO A NEAT SAWCUT LINE OR NEAREST EXPANSION JOINT.

7. PLANTMIX BITUMINOUS SURFACE SHALL BE FLUSH WITH THE EDGE OF THE GUTTER PAN IN THE AREA OF THE CURB RAMP. GUTTER SHALL MAINTAIN POSITIVE DRAINAGE TO PREVENT PONDING.

8. ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND SHALL CONFORM TO SEC.200.01. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).

9. NEW CONCRETE SHALL HAVE A HEAVY BROOM FINISH PERPENDICULAR TO SIDEWALK.

10. DETECTABLE WARNINGS SHALL BE EAST JORDAN IRON WORKS 7005 SERIES CAST IRON DETECTABLE WARNING PLATES OR APPROVED EQUAL. INSTALLED PER MANUFACTURERS INSTALLATION GUIDELINES AND CONFORM TO ADAAG (4.29) "DETECTABLE WARNINGS". COLOR: ASPHALT DIPPED UNLESS OTHERWISE APPROVED BY CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR. RADIAL DETECTABLE WARNINGS SHALL BE USED WHEN REQUIRED TO MAINTAIN MINIMUM CLEARANCE OF 3 INCHES AND MAXIMUM CLEARANCE OF 8 INCHES FROM DETECTABLE WARNINGS TO BACK FACE OF CURB. RADIAL DETECTABLE WARNINGS SHALL HAVE A RADIUS WITHIN 5 FEET OF BACK FACE OF CURB RADIUS.

11. AC PAVEMENT EDGE SHALL BE 1/4 INCH TO 1/2 INCH ABOVE THE LIP OF GUTTER. EXCEPTION: AC PAVEMENT EDGE SHALL BE FLUSH TO 1/4 INCH ABOVE THE LIP OF GUTTER WHEN LOCATED ADJACENT TO A PEDESTRIAN RAMP OR WITHIN AN ACCESSIBLE ROUTE.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
1	NOTE 11	6/12		DRAWING NO. C-5.3.1
APPROVED BY: [Signature] 6/12				
<b>CURB RAMP GENERAL NOTES</b>				

### STORMWATER PROTECTION NOTES:

- PRIOR TO ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL STORM WATER PROTECTION DEVICES IN ACCORDANCE WITH THE NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES AND DETAILS AS SHOWN.
- ALL INSTALLED PROTECTION DEVICES SHALL BE INSPECTED AND APPROVED BY THE CARSON CITY CONSTRUCTION INSPECTOR PRIOR TO ANY CONSTRUCTION ACTIVITY.
- BMP'S IN ADDITION TO THOSE INDICATED ON PLAN SHEETS G6 THROUGH G12, AND THE CONTRACTOR'S SWPPP MAY BE REQUIRED IF THEY DON'T MEET LOCAL PERFORMANCE STANDARDS.
- ALL BMP'S MUST BE INSPECTED WEEKLY, PRIOR TO FORECASTED RAIN EVENTS, AND WITHIN 24 HOURS AFTER ANY EVENT THAT CREATES RUNOFF AT THE SITE.
- ACCUMULATED SEDIMENT MUST BE REMOVED FROM BMP'S WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE. SEDIMENT MUST ALSO BE REMOVED WITHIN SEVEN DAYS AFTER A RUNOFF EVENT OR PRIOR TO THE NEXT FORECASTED RAIN EVENT WHICHEVER IS EARLIER.
- IF THE ENTRANCE STABILIZATION IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH.
- ANY ROCK THAT IS LOOSENED FROM THE ENTRANCE STABILIZATION PAD, WHICH END UP ON THE PAVED ROADWAY SHALL BE REMOVED IMMEDIATELY.
- CONTRACTOR SHALL INSPECT LOCAL ROADS ADJACENT TO THE SITE DAILY, SWEEP OR VACUUM TO REMOVE ANY VISIBLE ACCUMULATED SEDIMENT.
- ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED BY SHOVELING, STREET SWEEPING OR VACUUMING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ON SITE. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREETS, THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP WHERE IT CAN BE CONTROLLED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DUST CONTROL WITHIN THE CONSTRUCTION LIMITS AT ALL TIMES.
- STORM DRAIN INLET PROTECTION SHALL BE PLACED ACCORDINGLY ON THE NEAREST INLETS DOWNSTREAM OF ALL CONSTRUCTION ACTIVITIES.
- HIGH VISIBILITY ORANGE SILT FENCE SHALL BE INSTALLED PER THE DETAILS SHOWN HEREON, AND MAINTAINED THROUGHOUT THE PROJECT.
- THE CONTRACTOR OR HIS QUALIFIED AGENT IS REQUIRED TO ROUTINELY INSPECT ALL AREAS OF DISTURBED AND BARE SOIL. AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, ONSITE VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL ONSITE EROSION AND SEDIMENT CONTROL BMP'S.

REV.	DATE	DESCRIPTION
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13		

**EAST/WEST WATER TRANSMISSION MAIN PHASE 2A-2**

PROJECT No: 1415-130

NOTE SHEET

SHEET 03 OF 24

PROJ. MGR.: CAP  
PROJ. ASSOC.: JPB  
CHECKED BY: CAP  
DWG. NO.: CCN/CON/302.01  
SCALE (HORIZ.):  
SCALE (VERT):  
PLOT DATE: JUNE 2015

**CARSON CITY PUBLIC WORKS DEPARTMENT**  
3505 BUTTE WAY CARSON CITY, NEVADA 89701  
TEL: 897-2858 FAX: 897-2818

**Manhard CONSULTING LTD**  
3476 Executive Pointe Way, Suite 12 Carson City, NV 89706  
TEL: (775) 688-4660 FAX: (775) 688-7892

PROFESSIONAL ENGINEER STATE OF NEVADA  
CHRISTOPHER ALAN PETERSON  
Exp. 12/31/15  
CIVIL  
No. 16143

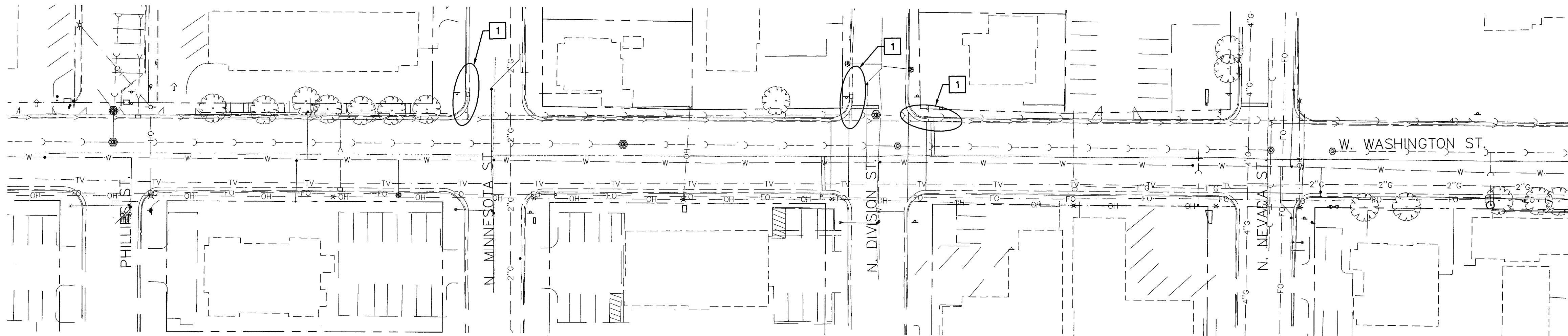
06/24/2015

BY: APP: [Signature]

PROJECT No. 1415-130

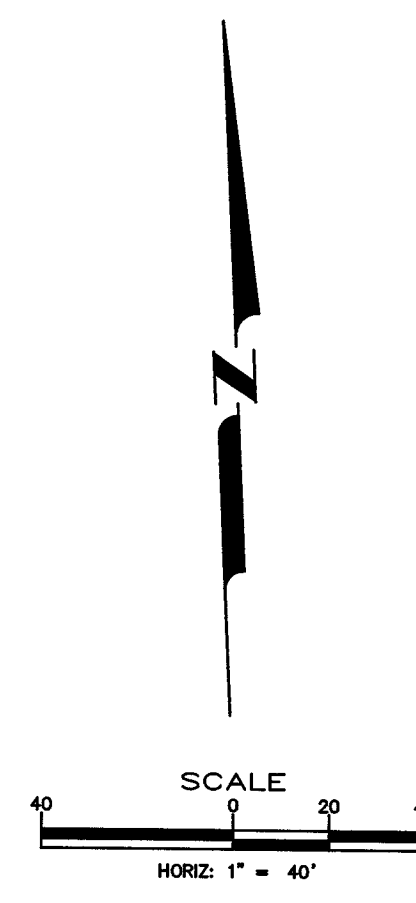
100% SUBMITTAL





SWPP - WASHINGTON ST. WATERLINE "WL2"

STA 19+00 MATCHLINE SEE BELOW



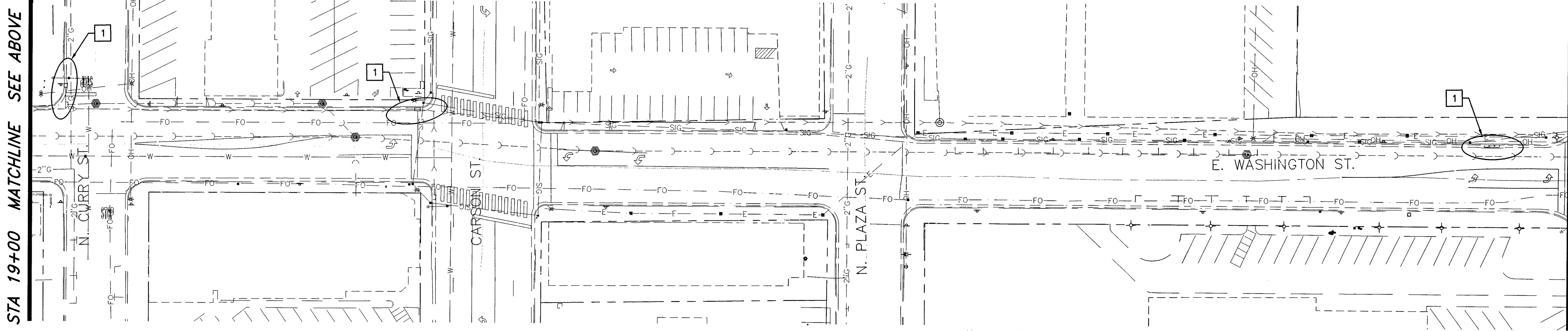
PROJ. MGR.: CAP  
 PROJ. ASSOC.: JPB  
 CHECKED BY: CAP  
 DWG. NO.: CCN.CCNV32.01  
 SCALE (HORIZ): 1" = 40'  
 SCALE (VERT):  
 PLOT DATE: JUNE 2015

**CARSON CITY**  
**PUBLIC WORKS DEPARTMENT**  
 5005 BUTTE WAY CARSON CITY, NEVADA 89701  
 PH: 867-2385

**Manhard**  
**CONSULTING LTD**  
 3476 Executive Pointe Way, Suite 12 Carson City, NV 89706  
 PH: (775) 885-7282 FAX: (775) 885-7282

Dwg Name: p:\ccn\ccn32\wg\Eng\Final Drawings\Plan SWA\04-05 - SWPPP.dwg Updated By: opterson

PROFESSIONAL ENGINEER STATE OF NEVADA  
 CHRISTOPHER ALAN PETERSON  
 Exp. 12/31/15  
 CIVIL  
 No. 16143  
 06/29/2015



SWPP - WASHINGTON ST. WATERLINE "WL2"

STA 28+70 MATCHLINE SEE BELOW

Call before you Dig  
 Avoid cutting underground utility lines. It's costly.  
**Call 811**  
 OR  
 1-800-227-2600

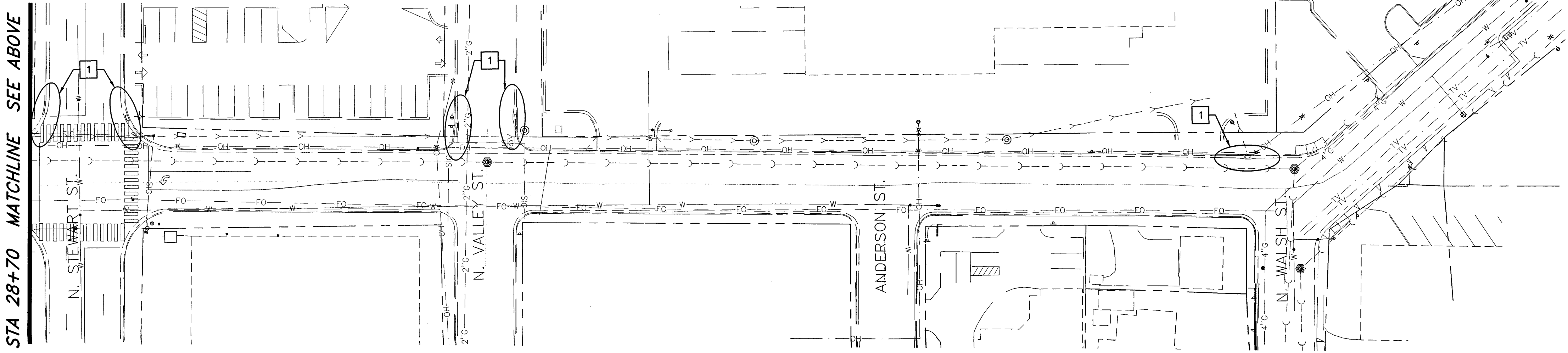
**STORM WATER POLLUTION PREVENTION NOTES:**

- 1 FURNISH & INSTALL STORM DRAIN INLET PROTECTION PER STD. DWG C-4.1.7

THIS PLAN IS FOR REPRESENTATIVE PURPOSES ONLY. CONTRACTOR SHALL PREPARE A STORM WATER POLLUTION PREVENTION PLAN AND SHALL INSTALL AND MAINTAIN STORM WATER PROTECTION DEVICES IN ACCORDANCE WITH THE "NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES" TO PROTECT THE NEAREST WATERWAY DOWNSTREAM OF ALL CONSTRUCTION ACTIVITIES.

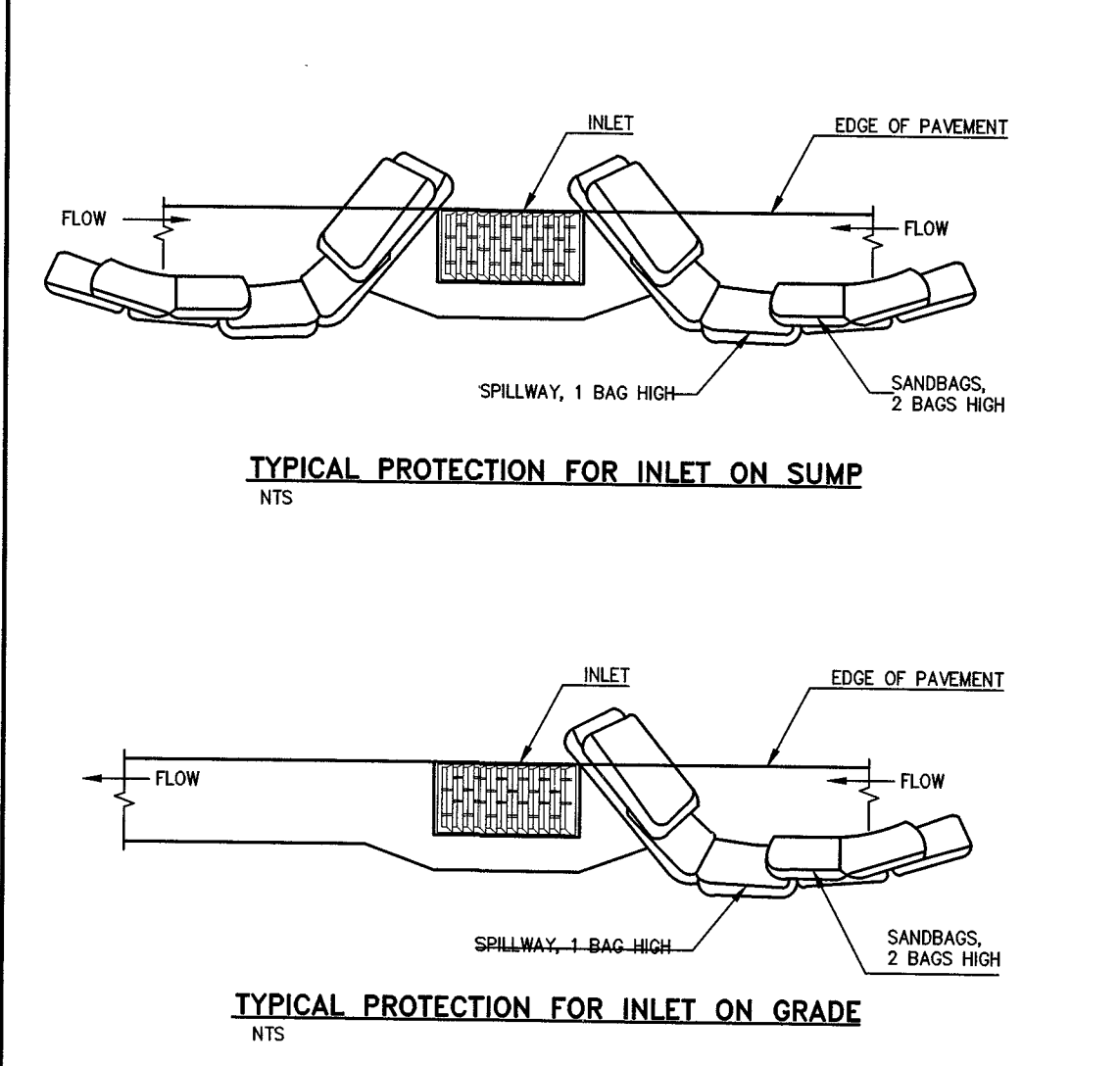
24 HOUR EMERGENCY CONTACT:

NAME: \_\_\_\_\_ NUMBER: \_\_\_\_\_



SWPP - WASHINGTON ST. WATERLINE "WL2"

STA 28+70 MATCHLINE SEE ABOVE



- NOTES:**
1. INTENDED FOR TEMPORARY SHORT-TERM USE.
  2. USE TO MANAGE CURB WATER FLOW.
  3. SEDIMENT CAPTURED BEHIND SANDBAGS SHALL BE REMOVED WEEKLY DURING CONSTRUCTION.
  4. INLET PROTECTION MUST BE PROPERLY MAINTAINED WHILE IN PLACE AND REMOVED WHEN REQUIREMENTS OF NDEP PERMIT HAVE BEEN MET.
  5. SANDBAGS SHALL BE FILLED WITH 3/4 INCH WASHED ROCK.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	ADD NOTE #	2/13		CARSON CITY
				DRAWING NO. C-4.1.7
				DATE 7/2009

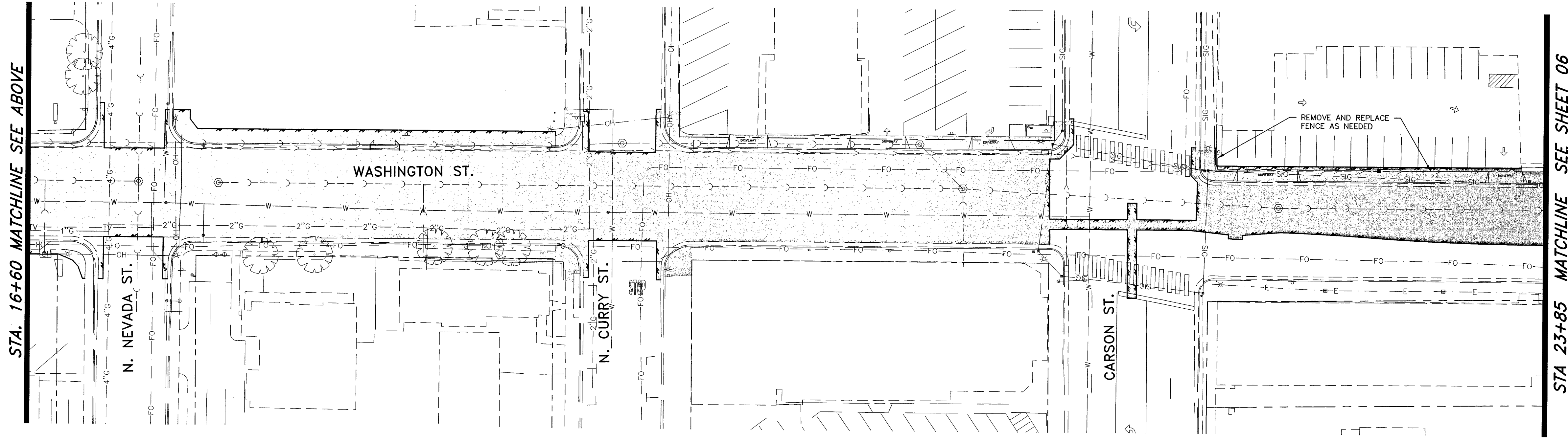
**STORM DRAIN INLET PROTECTION**

EAST/WEST WATER TRANSMISSION MAIN  
 PHASE 2A-2  
 PROJECT No: 1415-130  
 SWPP PLAN

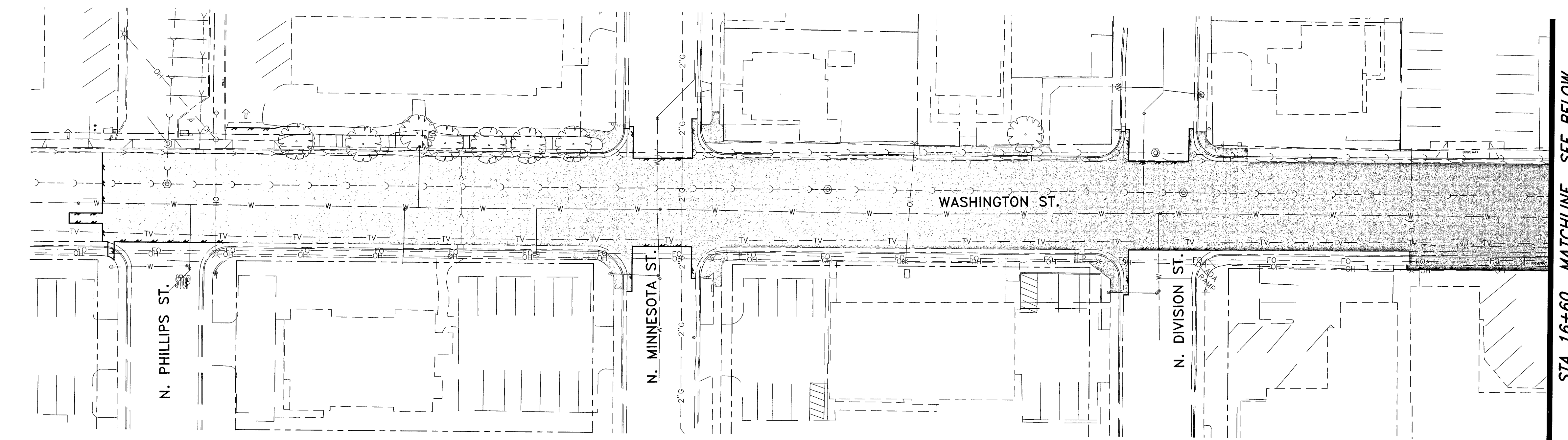
SHEET  
**04**  
 OF  
**24**

PROJECT No. 1415-130 100% SUBMITTAL


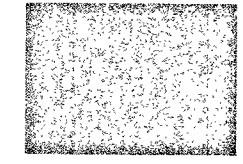


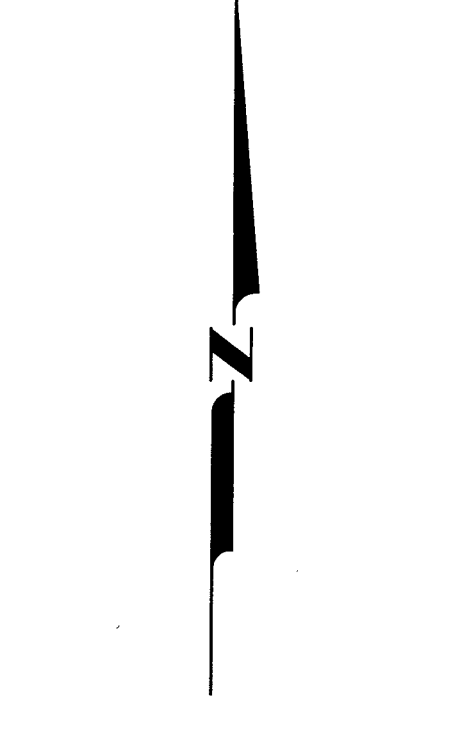


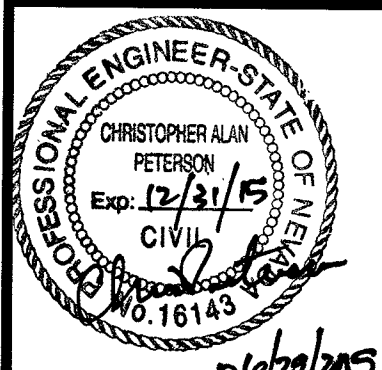
**W. WASHINGTON ST. DEMOLITION PLAN**  
 SCALE: 1" = 30'  
 REFERENCE SHEETS 07 TO 10 FOR WATERLINE IMPROVEMENTS



**W. WASHINGTON ST. DEMOLITION PLAN**  
 SCALE: 1" = 30'  
 REFERENCE SHEETS 07 TO 10 FOR WATERLINE IMPROVEMENTS

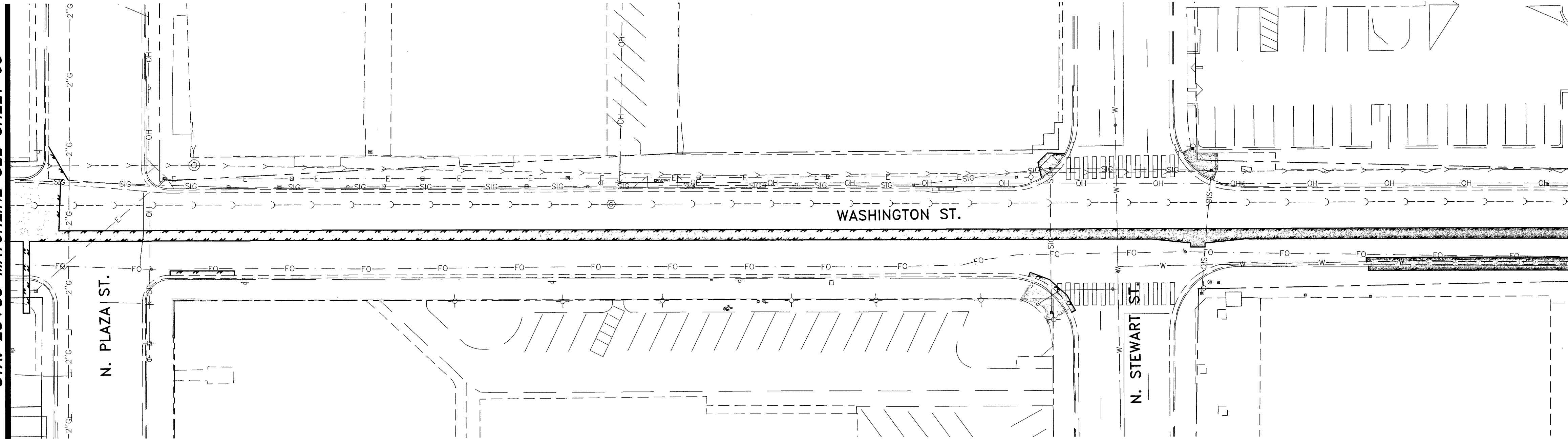
- DEMOLITION NOTES:**
1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL CALL UNDERGROUND UTILITY LOCATING SERVICES AND VERIFY EXISTING UTILITY LOCATIONS OF PRIOR TO PERFORMING ANY EXCAVATION
  2. PROTECT EXISTING UTILITIES IN PLACE. ADJUST AS NECESSARY TO PROPOSED FINISH GRADE.
  3. EXISTING TREES TO REMAIN (PROTECT DURING CONSTRUCTION)
-  SAWCUT LINE  
 DEMOLISH EXISTING  
 REMOVE AND DISPOSE OF EXISTING AC PAVING, CURB AND GUTTER, SIDEWALK AND OTHER AS REQUIRED TO COMPLETE IMPROVEMENTS PER PLANS.



EAST/WEST WATER TRANSMISSION MAIN PHASE 2A-2 PROJECT No: 1415-130 DEMOLITION PLAN		SHEET <b>05</b> OF <b>24</b>	
STA. 16+60 MATCHLINE SEE ABOVE	STA 23+85 MATCHLINE SEE SHEET 06	PROJECT No. 1415-130	100% SUBMITTAL
REV. DATE ▲ ▲ ▲ ▲ ▲	DESCRIPTION         	BY APP.         	CAP PROJ. MGR.: JPB PROJ. ASSOC.: JPB CHECKED BY: CAP DWG. NO.: CCN.CCNV32.01 SCALE (HORIZ): 1" = 30' SCALE (VERT): --- PLOT DATE: JUNE 2015
CARSON CITY DEPARTMENT PUBLIC WORKS DEPARTMENT 3505 BUTTE WAY CARSON CITY, NEVADA 89701 TEL: 867-2212 FAX: 867-2212		 <b>Manhard CONSULTING LTD</b> 3476 Executive Pointe Way, Suite 12 Carson City, NV 89706 PH: (775) 883-5830 FAX: (775) 883-5830 Dwg Name: p:\ccn\ccn32\Wyg\Eng\final drawings\Plan Set\17-18 Demo.dwg Updated By: cpeterson June 23, 2015 - 07:18	



STA. 23+85 MATCHLINE SEE SHEET 05



STA 31+10 MATCHLINE SEE BELOW

### W. WASHINGTON ST. DEMOLITION PLAN

SCALE: 1" = 30'  
REFERENCE SHEETS 07 TO 10 FOR WATERLINE IMPROVEMENTS

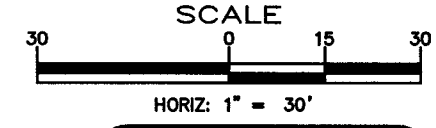
#### DEMOLITION NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL CALL UNDERGROUND UTILITY LOCATING SERVICES AND VERIFY EXISTING UTILITY LOCATIONS OF PRIOR TO PERFORMING ANY EXCAVATION
2. PROTECT EXISTING UTILITIES IN PLACE. ADJUST AS NECESSARY TO PROPOSED FINISH GRADE.
3. EXISTING TREES TO REMAIN (PROTECT DURING CONSTRUCTION)

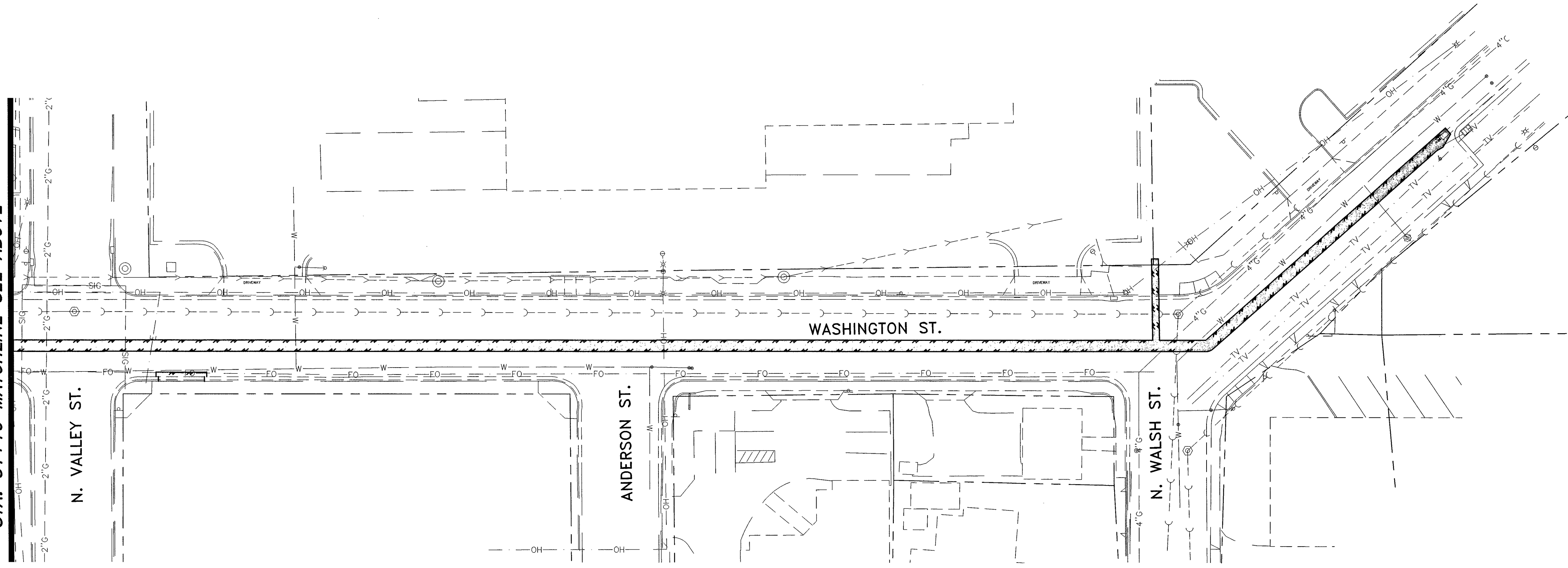
SAWCUT LINE

DEMOLISH EXISTING

REMOVE AND DISPOSE OF EXISTING AC PAVING, CURB AND GUTTER, SIDEWALK AND OTHER AS REQUIRED TO COMPLETE IMPROVEMENTS PER PLANS.



STA. 31+10 MATCHLINE SEE ABOVE



### W. WASHINGTON ST. DEMOLITION PLAN

SCALE: 1" = 30'  
REFERENCE SHEETS 07 TO 10 FOR WATERLINE IMPROVEMENTS

EAST/WEST WATER TRANSMISSION MAIN  
PHASE 2A-2  
PROJECT No: 1415-130  
DEMOLITION PLAN

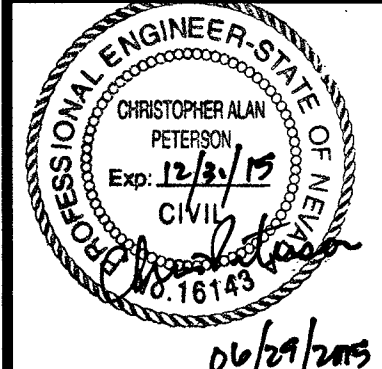
SHEET  
06  
OF  
24

REV.	DATE	DESCRIPTION	BY	APP.
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PROJ. MGR.: CAP  
 PROJ. ASSOC.: JPB  
 CHECKED BY: CAP  
 DWG NO.: CCN.CCNV92.01  
 SCALE (HORIZ): 1" = 30'  
 SCALE (VERT): ---  
 PLOT DATE: JUNE 2015

CARSON CITY  
 PUBLIC WORKS DEPARTMENT  
 300 SOUTH MAIN ST., CARSON CITY, NV 89401  
 TEL: 775-233-5355 FAX: 775-233-5312

**Manhard**  
 CONSULTING LTD  
 3476 Executive Pointe Way, Suite 12  
 Carson City, NV 89706  
 TEL: (775) 885-7282 FAX: (775) 885-7282



PROJECT No. 1415-130

100% SUBMITTAL

June 23, 2015 - 07:18 Dwg Name: p:\ccn\ccn25\dwg\eng\find drawings\plan set\17-18 Demol.dwg Updated By: opterson

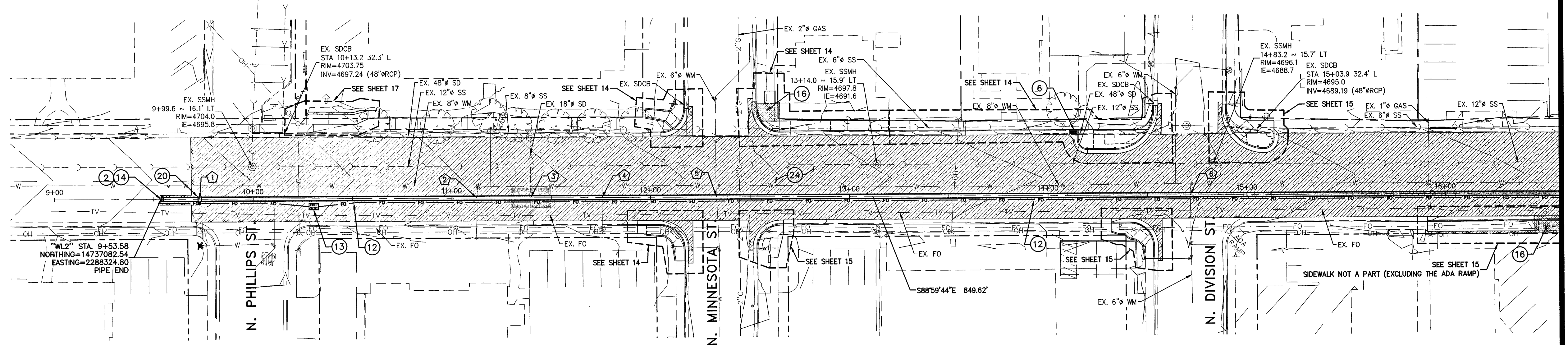


**CONSTRUCTION NOTES:**

1. FURNISH & INSTALL 24" AWWA PVC C905, DR-25, 165 PSI BELL & SPIGOT PVC WATER MAIN PER MODIFIED STD DRAWING C-1.2.1. JOINT RESTRAINTS FOR PVC PIPE SHALL BE USED ON ALL FITTINGS, AND AT SPECIFIC LOCATIONS WHERE IDENTIFIED ON THE PLANS. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
2. INSTALL 24" BUTTERFLY VALVE PER DETAIL 1, SHEET 22, WITH NUT EXTENDER TO EXTEND TOP OF NUT TO BETWEEN 18" TO 24" FROM TOP OF VALVE BOX. [CARSON CITY PUBLIC WORKS TO PROVIDE]
3. FURNISH & INSTALL LINE LOCATION BOX & LID PER STD DRAWINGS C-1.2.2. & C-1.2.3, AT ALL HORIZONTAL BEND LOCATIONS, UNLESS A WATER VALVE BOX IS AT SAME LOCATION.
4. FURNISH & INSTALL 24" AWWA C110 22.5' ELBOW (MECHANICALLY RESTRAINED JOINTS).
5. FURNISH & INSTALL 24" X 24" X 6" TEE (FL X FL X FL), W/ 24" MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS, AND FIRE HYDRANT (BLOWOFF) ASSEMBLY PER DETAIL 6, SHEET 22.
6. FURNISH & INSTALL CATCH BASIN PER DETAIL, SHEET 24
7. POTHOLE TO VERIFY EXACT DEPTH AND/OR MAKE & MATERIAL.
8. WATER MAIN CROSSING EXISTING UTILITY PER STD DRAWINGS C-3.1.8 & C-3.1.9
9. PROVIDE "SPECIAL CONSTRUCTION" MITIGATION TO AFFECTED LINES AS REQUIRED PER "WATER/SEWER SEPARATION GUIDELINES." INSTALL MECHANICAL JOINT RESTRAINTS PER MANUFACTURER RECOMMENDATIONS.
10. FURNISH & INSTALL 24" AWWA C110 45' ELBOW (FL X FL) W/ 24" MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS & LINE LOCATION RISER PER STD DRAWING C-1.2.3.
11. CONSTRUCT PERMANENT PAVEMENT PATCH PER STD DRAWING C-5.1.6. LIMITS OF FULL DEPTH SAWCUT AND REMOVAL OF EXISTING AC PAVEMENT.
12. FURNISH & INSTALL THREE 4" SCH40, PVC CONDUITS WITH PULL ROPE PER MODIFIED STD DWG C-1.2.1, LARGE RADIUS (36" MIN.) SWEEPS ONLY, ENCASE WITH 6" OF CONCRETE AS REQUIRED. [ALIGNMENT SHOWN UTILIZING 11.25' SWEEPS.]
13. FURNISH & INSTALL 3048 FIBER VAULT WITH H20 TRAFFIC RATED, BOLT DOWN, STEEL COVER MARKED "FIBER OPTIC" PER DETAIL 7, SHEET 23 (OR APPROVED EQUAL).
14. FURNISH & INSTALL 24" MECHANICALLY RESTRAINED BLIND FLANGE, AND CAP AND SEAL FIBER CONDUIT AT PROJECT EXTENT FOR FUTURE CONNECTION.
15. CONSTRUCT PCC CURB AND GUTTER TYPE 1 (MODIFIED), PER STD. DRAWING C-5.1.3 (MOD).
16. CONSTRUCT PCC DRIVEWAY APRON TYPE 1 (MODIFIED), PER DETAIL ON SHEET 24
17. CONSTRUCT TYPE 'A' SIDEWALK PER STD. DRAWING C-5.2.2. (WIDTH PER PLAN)
18. CONSTRUCT PARALLEL CURB RAMP APEX (MODIFIED), PER STD. DRAWING C-5.3.5 (MOD).
19. PROTECT-IN-PLACE
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21. FURNISH & INSTALL 24" X 24" X 16" X 16" CROSS (FL X FL X FL), W/ MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS, 16" AWWA C905 DR25 PVC PIPE, 16" BUTTERFLY VALVES (FL & MR), W/ MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS, AND 16" MECHANICALLY RESTRAINED BLIND FLANGES.
22. FURNISH & INSTALL 24" X 24" X 12" TEE (FL X FL X FL), W/ MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS, 12" ELBOWS, 12" AWWA C900 DR18 PVC PIPE, 12" HOT TAP.
23. 1" MILL AND OVERLAY TYPE 3 AC 20P.
24. PLANTMIX BITUMINOUS PAVEMENT TYPE 2 AGGREGATE, PG 64-28 NV W/ 8" TYPE 2 AGG. BASE.
25. FURNISH & INSTALL SANITARY SEWER CLEANOUT PER STD DWG C-2.2.3.
26. ---

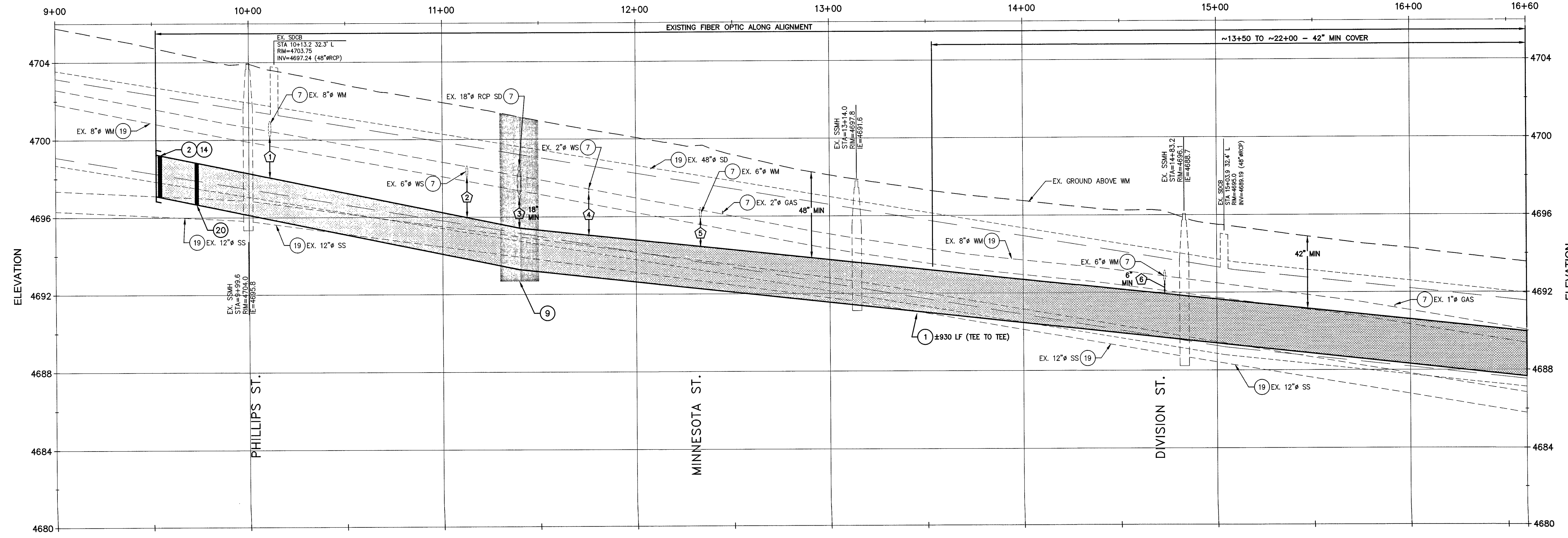
UTILITY CROSSING TABLE			
CROSSING #	STATION	BOTTOM OF PIPE	TOP OF PIPE
1	"WM2" 10+10.88	4" WM = 4701.2	24" PVC WM = 4698.0
2	"WM2" 11+12.68	6" WM = 4698.1	24" PVC WM = 4696.0
3	"WM2" 11+39.77	18" RCP SD = 4698.9	24" PVC WM = 4695.4
4	"WM2" 11+75.66	2" WM = 4697.2	24" PVC WM = 4695.0
5	"WM2" 12+33.18	6" WM = 4695.9	24" PVC WM = 4694.5
6	"WM2" 14+72.99	6" WM = 4692.6	24" PVC WM = 4691.9

ELEVATIONS SHOWN ARE APPROXIMATE AND BASED ON AVAILABLE RECORDS AND SURVEY INFORMATION. ALL EXISTING UTILITIES SHALL BE VERIFIED.



## WASHINGTON ST. WATERLINE "WL2"

"WL2" 9+00.00 TO "WL2" 16+60.00



SCALE  
HORIZ. 1" = 30'

**Call before you Dig**  
Avoid cutting underground utility lines. It's costly.

**811**  
OR  
1-800-227-2600

"WL2" STA 16+60 MATCHLINE SEE SHEET 08

PROJ. MGR.: CAP  
PROJ. ASSOC.: JPB  
CHECKED BY: CAP  
DWG. NO.: CCN.CCNV32.01  
SCALE (HORIZ): 1" = 30'  
SCALE (VERT): 1" = 3'  
PLOT DATE: JUNE 2015

**CARSON CITY PUBLIC WORKS DEPARTMENT**  
3505 BUTTE WAY, CARSON CITY, NV 89201  
TEL: 867-2335

**Manhard CONSULTING LTD**  
3476 Executive Pointe Way, Suite 12  
Carson City, NV 89708  
TEL: (775) 885-7282  
FAX: (775) 885-6630

PROFESSIONAL ENGINEER-STATE OF NEVADA  
CHRISTOPHER ALAN PETERSON  
Exp. 12/1/15  
CIVIL  
NO. 16143

06/29/2015

REV.	DATE	DESCRIPTION	BY	APP.

**EAST/WEST WATER TRANSMISSION MAIN**  
PHASE 2A-2  
PROJECT No: 1415-130  
WASHINGTON STREET  
PLAN AND PROFILE  
STA 9+50 TO STA 16+60

SHEET  
**07**  
OF  
**24**

PROJECT No. 1415-130  
100% SUBMITTAL

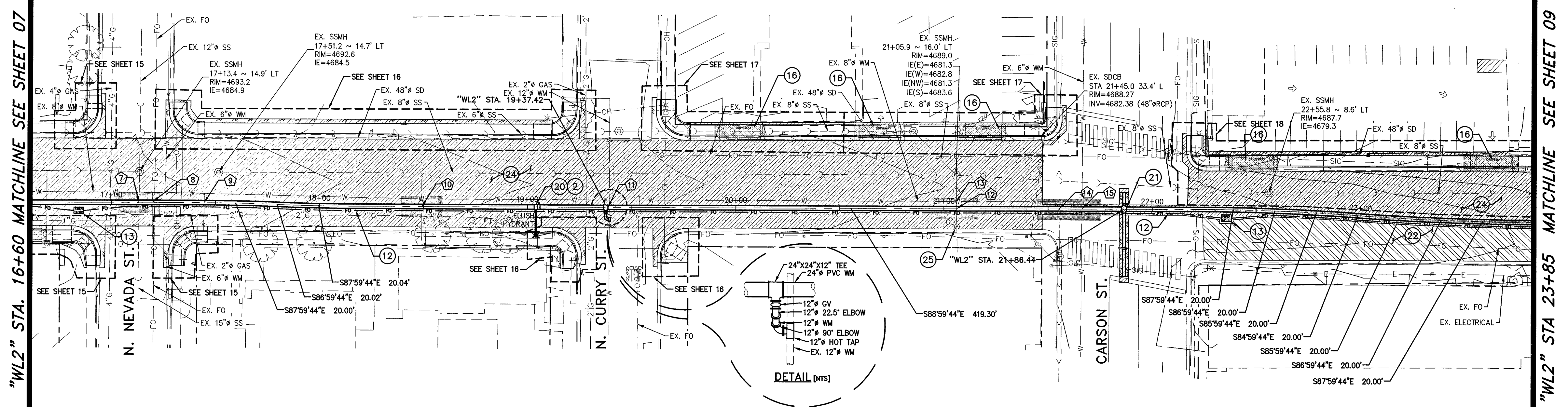


**CONSTRUCTION NOTES:**

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2. INSTALL 24" BUTTERFLY VALVE PER DETAIL 1, SHEET 22, WITH NUT EXTENDER TO EXTEND TOP OF NUT TO BETWEEN 18" TO 24" FROM TOP OF VALVE BOX. [CARSON CITY PUBLIC WORKS TO PROVIDE]
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24. 4" PLANTMIX BITUMINOUS PAVEMENT TYPE 2 AGGREGATE, PG 64-28 NV W/ 8" TYPE 2 AGG BASE.
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26. ---

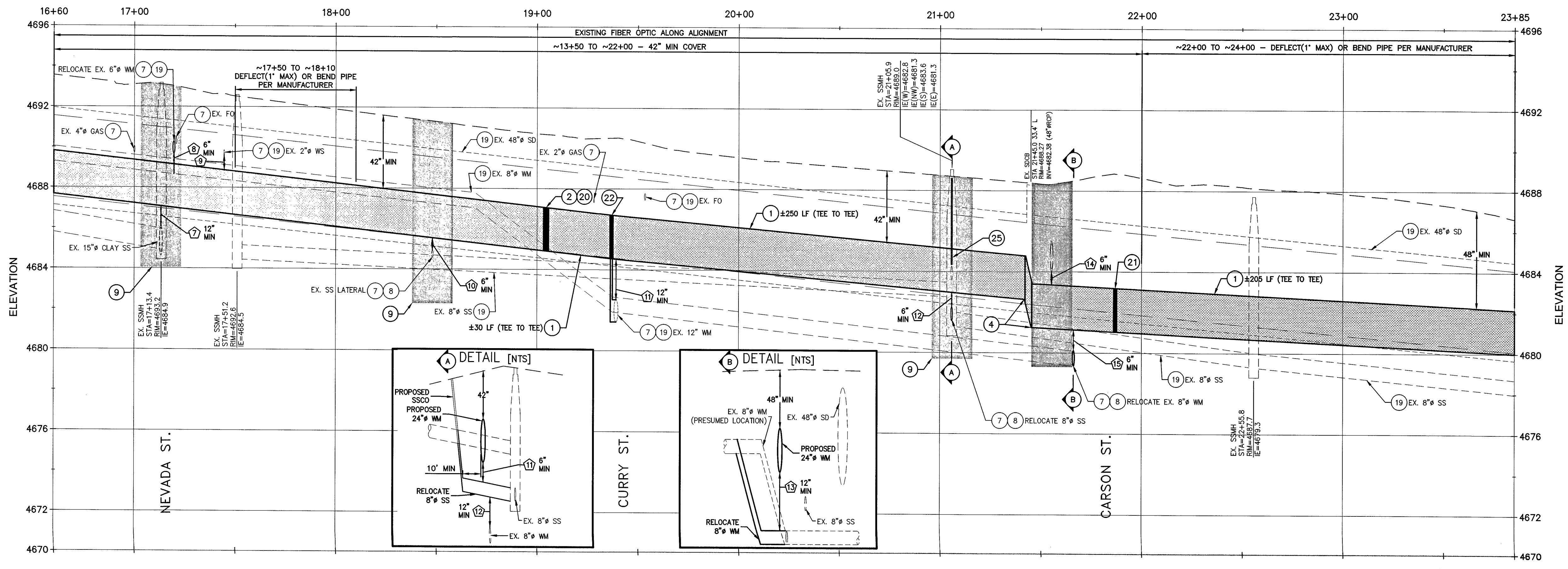
UTILITY CROSSING TABLE			
CROSSING #	STATION	BOTTOM OF PIPE	TOP OF PIPE
7	*WM2 17+13+29	24" PVC WM = 4687.0	15" CLAY SS = 4686.1
8	*WM2 17+19.05	6" WM = 4689.7	24" PVC WM = 4689.1
9	*WM2 17+44.59	2" WM = 4689.5	24" PVC WM = 4688.7
10	*WM2 18+49.12	24" PVC WM = 4685.6	4" PVC SS LAT = 4684.9
11	*WM2 19+39.16	24" PVC WM = 4684.5	12" WM = 4682.5
12	*WM2 21+49.11	24" PVC WM = 4683.0	8" STEEL SS = 4682.2
13	*WM2 21+06.11	8" STEEL SS = 4681.8	8" PVC WM = 4680.8
14	*WM2 21+55.29	15" RCP SD = 4683.81	24" PVC WM = 4683.31
15	*WM2 21+86.18	24" PVC WM = 4682.4	6" WM = 4680.1

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## WASHINGTON ST. WATERLINE "WL2"

"WL2" 16+60.00 TO "WL2" 23+85.00



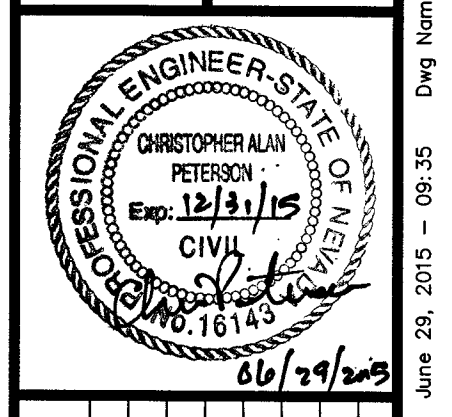
SCALE  
HORIZ: 1" = 30'

Call before you Dig  
Avoid cutting underground utility lines. It's costly.  
**Call 811**  
OR  
1-800-227-2600

PROJ. MGR.: CAP  
PROJ. ASSOC.: JPB  
CHECKED BY: CAP  
DWG NO.: CCM/CON/SE/01  
SCALE (HORIZ): 1" = 30'  
SCALE (VERT): 1" = 3'  
PLOT DATE: JUNE 2015

**CARSON CITY PUBLIC WORKS DEPARTMENT**  
3605 BUTTE WAY CARSON CITY, NEVADA 89701  
PH: 897-2536 FAX: 897-2512

**Manhard CONSULTING LTD.**  
3478 Executive Pointe Way, Suite 12 Carson City, NV 89706  
PH: (775) 682-6580 FAX: (775) 685-7982



REV.	DATE	DESCRIPTION	BY	APP.
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5				

**EAST/WEST WATER TRANSMISSION MAIN**  
PHASE 2A-2  
PROJECT No: 1415-130  
WASHINGTON STREET  
PLAN AND PROFILE  
STA 16+60 TO STA 23+85

SHEET  
**08**  
OF  
**24**

PROJECT No. 1415-130  
100% SUBMITTAL

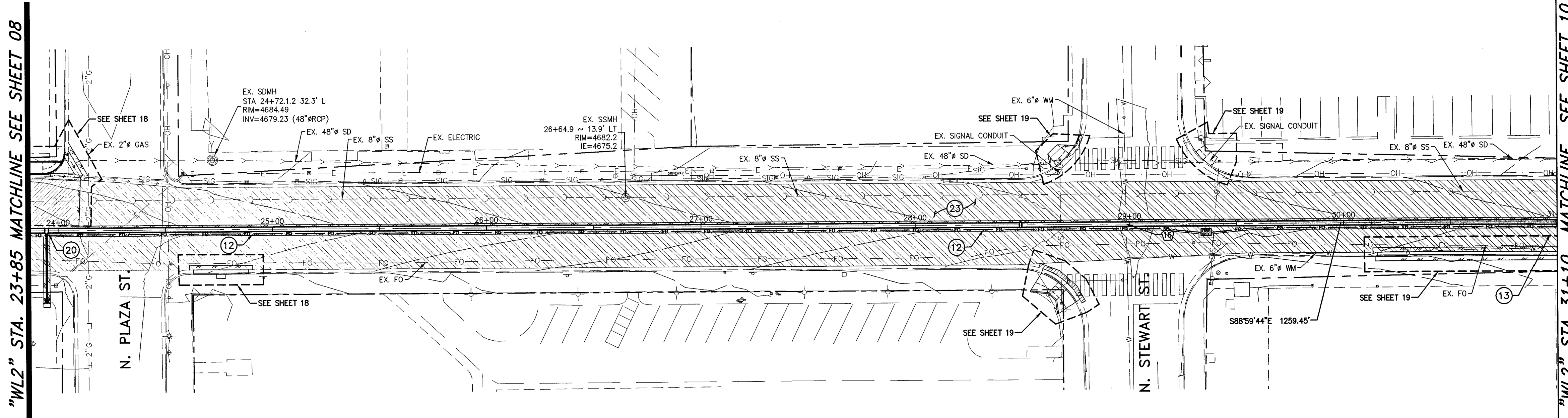


**CONSTRUCTION NOTES:**

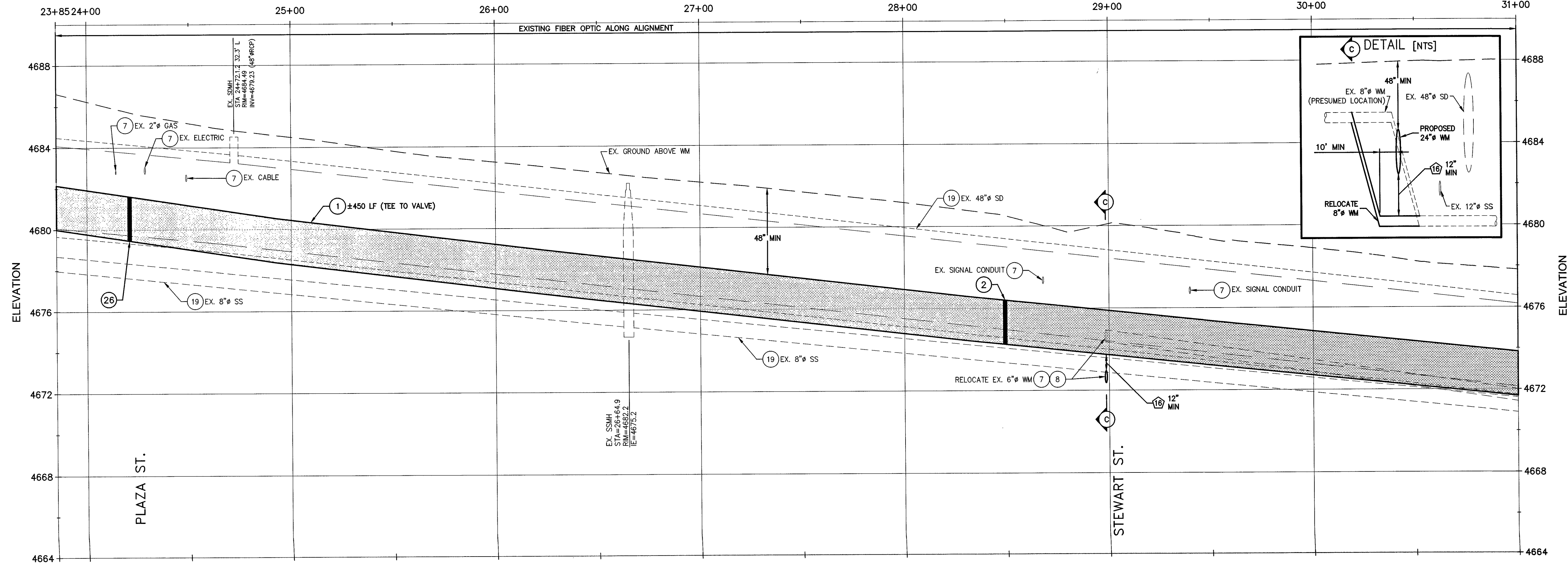
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26. -----

UTILITY CROSSING TABLE			
CROSSING #	STATION	BOTTOM OF PIPE	TOP OF PIPE
(16)	"WM2" 28+98.48	24" PVC WM = 4673.7	6" WM = 4672.9

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**WASHINGTON ST. WATERLINE "WL2"**  
 "WL2" 23+85.00 TO "WL2" 31+00.00



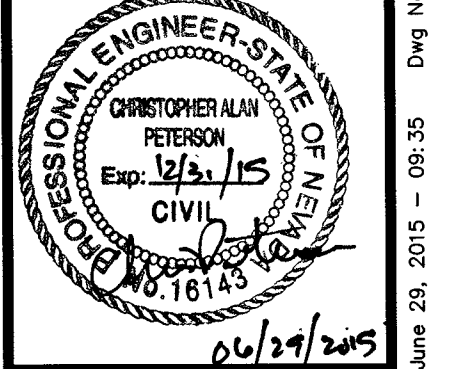
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**Call 811**  
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PROJ. MGR.: JPB  
 PROJ. ASSOC.: JPB  
 CHECKED BY: CAP  
 DWG. NO.: CCN20150101  
 SCALE (HORIZ): 1" = 30'  
 SCALE (VERT): 1" = 3'  
 PLOT DATE: JUNE 2015

**CARSON CITY PUBLIC WORKS DEPARTMENT**  
 105 SOUTH MAIN STREET, SUITE 100  
 CARSON CITY, NV 89201  
 TEL: 775-233-3333 FAX: 775-233-3333

**Manhard CONSULTING LTD**  
 3476 Executive Pointe Way, Suite 12  
 Carson City, NV 89706  
 PH: (775) 882-9830 FAX: (775) 882-7222



REV.	DATE	DESCRIPTION	BY	APP.
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**EAST/WEST WATER TRANSMISSION MAIN**  
 PHASE 2A-2  
 PROJECT No: 1415-130  
 WASHINGTON STREET  
 PLAN AND PROFILE  
 STA 23+85 TO STA 31+00

SHEET  
**09**  
 OF  
**24**

PROJECT No. 1415-130  
 100% SUBMITTAL

June 29, 2015 - 09:35 Dwg Name: p:\convo2\dwg\Eng\plan.dwg (Plan Set) 09-09 - PLAN AND PROFILE.dwg Updated By: cpeterson



**CONSTRUCTION NOTES:**

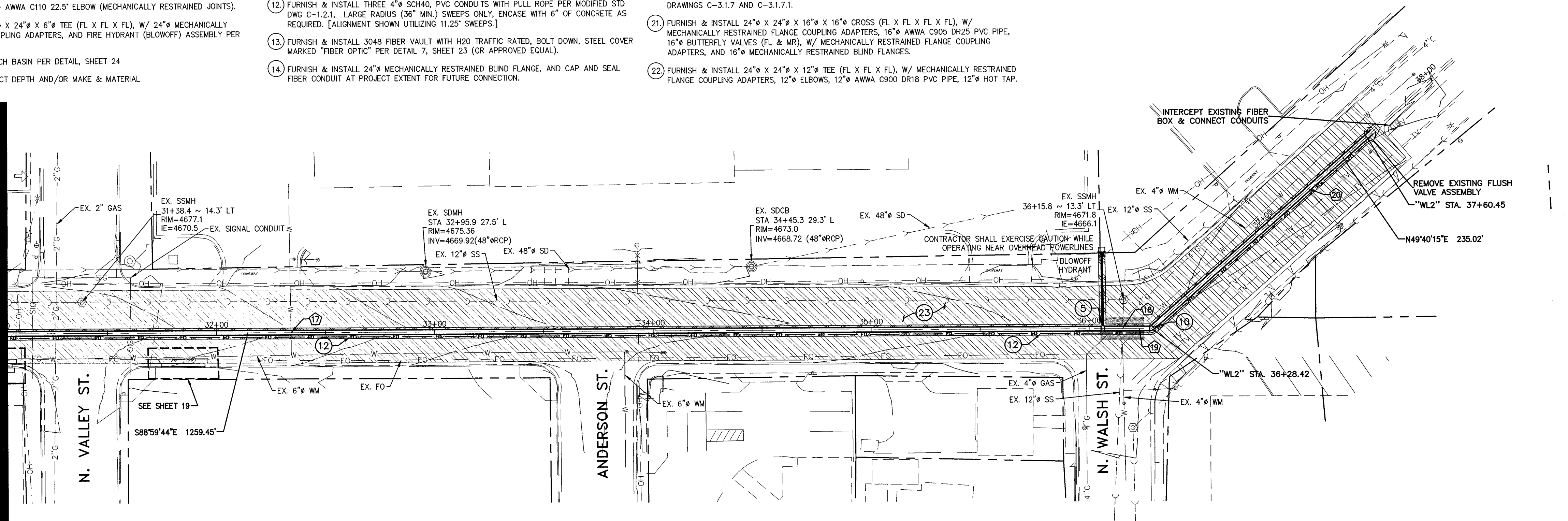
1. FURNISH & INSTALL 24" AWWA PVC C905, DR-25, 165 PSI BELL & SPIGOT PVC WATER MAIN PER MODIFIED STD DRAWING C-1.2.1. JOINT RESTRAINTS FOR PVC PIPE SHALL BE USED ON ALL FITTINGS, AND AT SPECIFIC LOCATIONS WHERE IDENTIFIED ON THE PLANS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. INSTALL 24" BUTTERFLY VALVE PER DETAIL 1, SHEET 22, WITH NUT EXTENDER TO EXTEND TOP OF NUT TO BETWEEN 18" TO 24" FROM TOP OF VALVE BOX. [CARSON CITY PUBLIC WORKS TO PROVIDE]
3. FURNISH & INSTALL LINE LOCATION BOX & LID PER STD DRAWINGS C-1.2.2. & C-1.2.3, AT ALL HORIZONTAL BEND LOCATIONS, UNLESS A WATER VALVE BOX IS AT SAME LOCATION.
4. FURNISH & INSTALL 24" AWWA C110 22.5' ELBOW (MECHANICALLY RESTRAINED JOINTS).
5. FURNISH & INSTALL 24" X 24" X 6" TEE (FL X FL X FL), W/ 24" MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS, AND FIRE HYDRANT (BLOWOFF) ASSEMBLY PER DETAIL 6, SHEET 22.
6. FURNISH & INSTALL CATCH BASIN PER DETAIL, SHEET 24
7. POTHOLE TO VERIFY EXACT DEPTH AND/OR MAKE & MATERIAL
8. WATER MAIN CROSSING EXISTING UTILITY PER STD DRAWINGS C-3.1.8 & C-3.1.9
9. PROVIDE "SPECIAL CONSTRUCTION" MITIGATION TO AFFECTED LINES AS REQUIRED PER "WATER/SEWER SEPARATION GUIDELINES." INSTALL MECHANICAL JOINT RESTRAINTS PER MANUFACTURER RECOMMENDATIONS.
10. FURNISH & INSTALL 24" AWWA C110 45' ELBOW (FL X FL) W/ 24" MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS & LINE LOCATION RISER PER STD DRAWING C-1.2.3.
11. CONSTRUCT PERMANENT PAVEMENT PATCH PER STD DRAWING C-5.1.6. LIMITS OF FULL DEPTH SAWCUT AND REMOVAL OF EXISTING ASPHALT.
12. FURNISH & INSTALL THREE 4" SCH40, PVC CONDUITS WITH PULL ROPE PER MODIFIED STD DWG C-1.2.1, LARGE RADIUS (36" MIN.) SWEEPS ONLY, ENCASE WITH 6" OF CONCRETE AS REQUIRED. [ALIGNMENT SHOWN UTILIZING 11.25' SWEEPS.]
13. FURNISH & INSTALL 3048 FIBER VAULT WITH H20 TRAFFIC RATED, BOLT DOWN, STEEL COVER MARKED "FIBER OPTIC" PER DETAIL 7, SHEET 23 (OR APPROVED EQUAL).
14. FURNISH & INSTALL 24" MECHANICALLY RESTRAINED BLIND FLANGE, AND CAP AND SEAL FIBER CONDUIT AT PROJECT EXTENT FOR FUTURE CONNECTION.
15. CONSTRUCT PCC CURB AND GUTTER TYPE 1 (MODIFIED), PER STD. DRAWING C-5.1.3 (MOD).
16. CONSTRUCT PCC DRIVEWAY APRON TYPE 1 (MODIFIED), PER DETAIL ON SHEET 24
17. CONSTRUCT TYPE 'A' SIDEWALK PER STD. DRAWING C-5.2.2. (WIDTH PER PLAN)
18. CONSTRUCT PARALLEL CURB RAMP APEX (MODIFIED), PER STD. DRAWING C-5.3.5 (MOD).
19. PROTECT-IN-PLACE
20. FURNISH & INSTALL 24" X 24" X 6" TEE (FL X FL X FL), W/ 24" MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS, AND 6" GATE VALVE AND 6" LATERAL, PER STD. DRAWINGS C-3.1.7 AND C-3.1.7.1.
21. FURNISH & INSTALL 24" X 24" X 16" X 16" CROSS (FL X FL X FL X FL), W/ MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS, 16" AWWA C905 DR25 PVC PIPE, 16" BUTTERFLY VALVES (FL & MR), W/ MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS, AND 16" MECHANICALLY RESTRAINED BLIND FLANGES.
22. FURNISH & INSTALL 24" X 24" X 12" TEE (FL X FL X FL), W/ MECHANICALLY RESTRAINED FLANGE COUPLING ADAPTERS, 12" ELBOWS, 12" AWWA C900 DR18 PVC PIPE, 12" HOT TAP.

23. 1" MILL AND OVERLAY TYPE 3 AC 20P.
24. 4" PLANTMIX BITUMINOUS PAVEMENT TYPE 2 AGGREGATE, PG 64-28 NV W/ 8" TYPE 2 AGG. BASE.
25. FURNISH & INSTALL SANITARY SEWER CLEANOUT PER STD DWG C-2.2.3.
26. -----

UTILITY CROSSING TABLE			
CROSSING #	STATION	BOTTOM OF PIPE	TOP OF PIPE
17	"WM2" 32+34.12	24" PVC WM = 4669.5	6" WM = 4668.7
18	"WM2" 36+15.13	12" CLAY SS = 4665.9	24" PVC WM = 4664.4
19	"WM2" 36+22.87	4" WM = 4667.0	24" PVC WM = 4664.4
20	"WM2" 37+24.69	2" WM = 4669.3	24" PVC WM = 4667.5

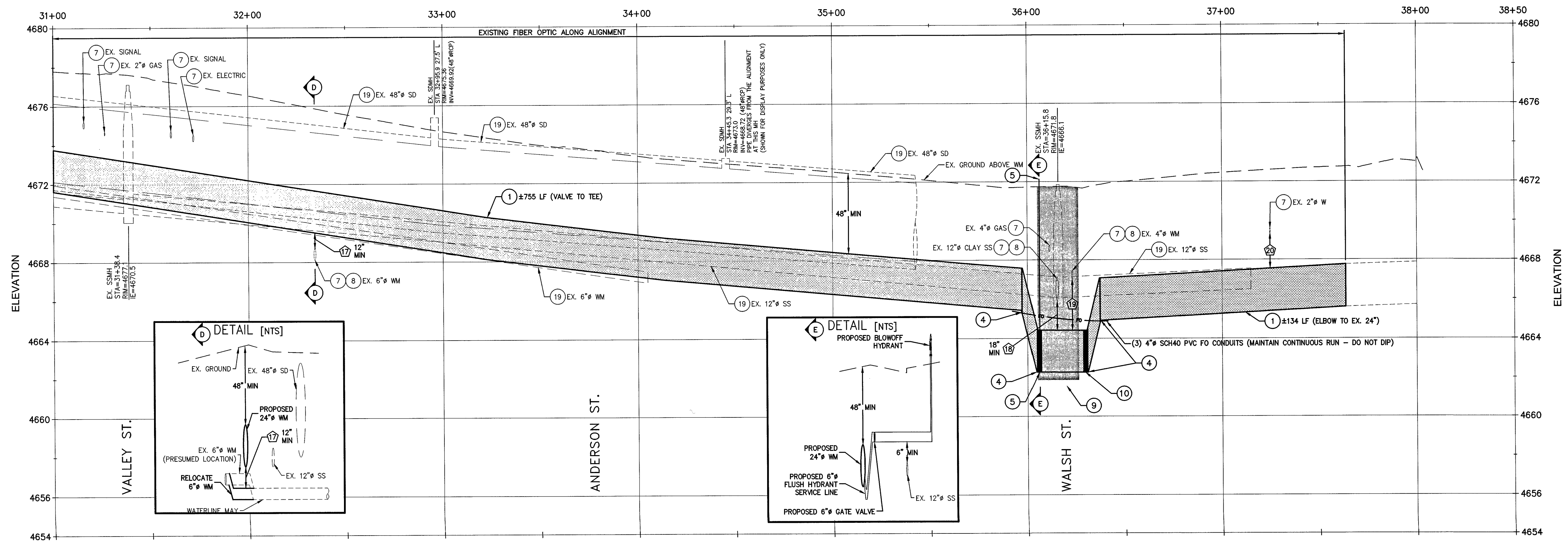
ELEVATIONS SHOWN ARE APPROXIMATE AND BASED ON AVAILABLE RECORDS AND SURVEY INFORMATION. ALL EXISTING UTILITIES SHALL BE VERIFIED.

"WL2" STA. 31+00 MATCHLINE SEE SHEET 09



## WASHINGTON ST. WATERLINE "WL2"

"WL2" 31+00.00 TO "WL2" 38+50.00

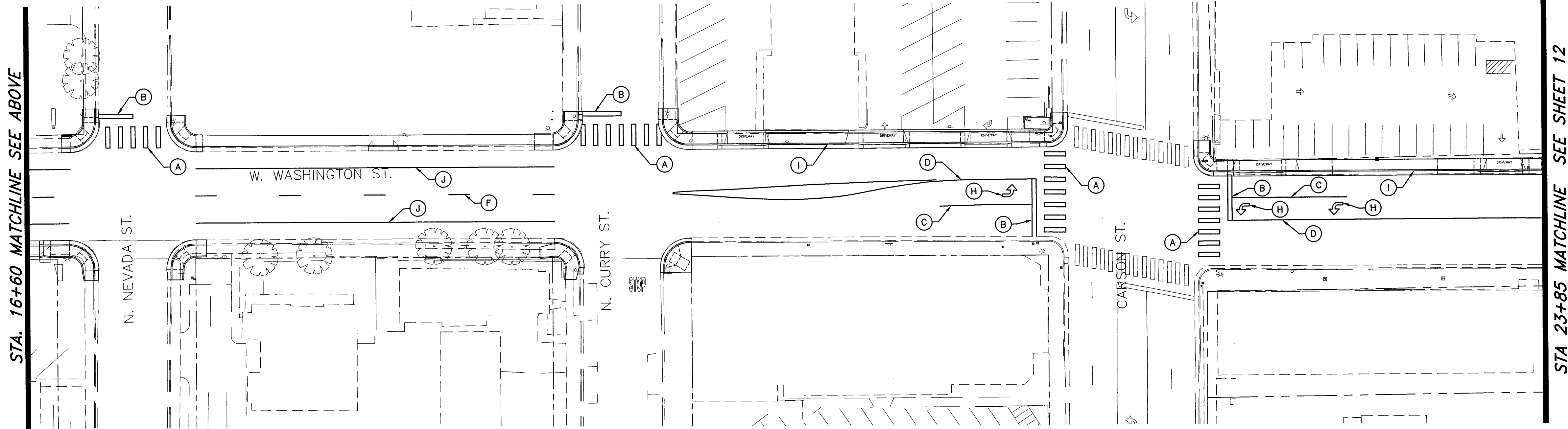


Call before you Dig  
Avoid cutting underground utility lines. It's costly.

**Call**  
**811**  
OR  
1-800-227-2600

<p>PROJ. MGR.: JPB PROJ. ASSOC.: CHECKED BY: CJP DWG NO.: CCN/CONTR01 SCALE (HORIZ): 1" = 30' SCALE (VERT): 1" = 3' PLOT DATE: JUNE 2015</p>	<p><b>CARSON CITY PUBLIC WORKS DEPARTMENT</b> 3605 BUTTE WAY, CARSON CITY, NEVADA 89701 TEL: 897-2655 FAX: 897-2618</p>	<p><b>Manhard CONSULTING LTD</b> 3478 Executive Pointe Way, Suite 12 Carson City, NV 89706 TEL: (775) 882-4650 FAX: (775) 885-7283</p>	<p>PROFESSIONAL ENGINEER-STATE OF NEVADA CHRISTOPHER ALAN PETERSON Exp. 12/31/15 CIVIL No. 16143</p> <p style="text-align: right;">06/29/2015</p>
<p>REV. DATE DESCRIPTION</p>	<p>BY APP.</p>	<p>APP. DATE DESCRIPTION</p>	
<p>EAST/WEST WATER TRANSMISSION MAIN PHASE 2A-2 PROJECT No: 1415-130 WASHINGTON STREET PLAN AND PROFILE STA 31+00 TO STA 38+50</p>			
<p>SHEET <b>10</b> OF <b>24</b></p>			
<p>PROJECT No. 1415-130 100% SUBMITTAL</p>			



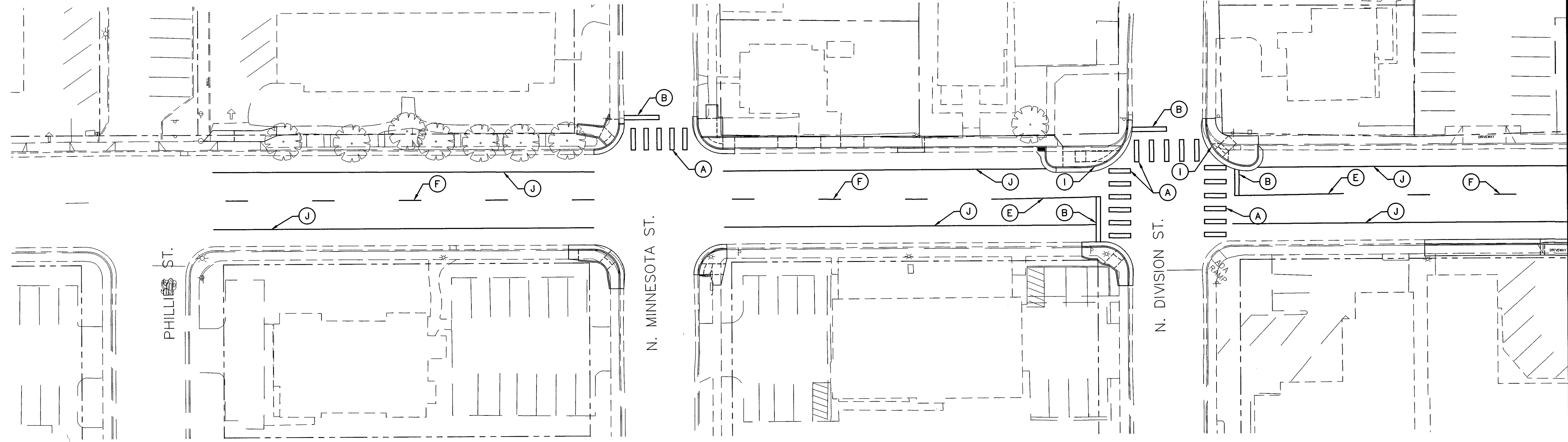


**W. WASHINGTON ST. STRIPING PLAN**

SCALE: 1" = 30'  
REFERENCE SHEETS 07 TO 10 FOR WATERLINE IMPROVEMENTS

STA. 16+60 MATCHLINE SEE ABOVE

STA. 23+85 MATCHLINE SEE SHEET 12



**W. WASHINGTON ST. STRIPING PLAN**

SCALE: 1" = 30'  
REFERENCE SHEETS 07 TO 10 FOR WATERLINE IMPROVEMENTS

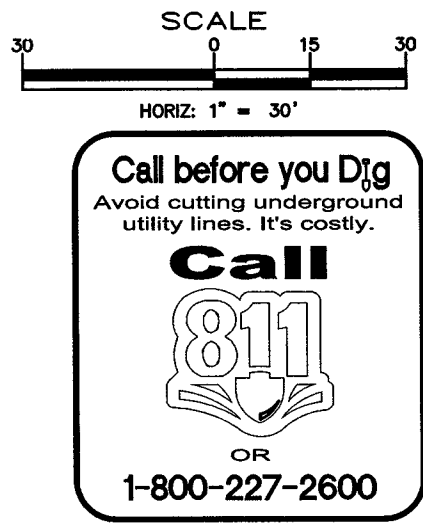
STA. 16+60 MATCHLINE SEE BELOW

**STRIPING AND SIGNAGE KEY:**

- (A) PAINT 24" WIDE SOLID WHITE CROSSWALK STRIPING PER STD DWG C-5.4.3, SHEET 13
- (B) PAINT 24" WIDE SOLID WHITE STOP BAR C-5.4.3, SHEET 13
- (C) PAINT 8" WIDE SOLID WHITE LANE LINE
- (D) PAINT DOUBLE 4" WIDE SOLID YELLOW CENTERLINE
- (E) PAINT 4" WIDE SOLID YELLOW CENTERLINE
- (F) PAINT 4" WIDE SOLID BROKEN YELLOW CENTERLINE
- (G) PAINT 4" SOLID WHITE PARALLEL PARKING "T" PER DETAIL 1, SHEET 13
- (H) PAINT SOLID WHITE DIRECTIONAL ARROW
- (I) PAINT CURB RED (NO PARKING ZONE)
- (J) PAINT 4" WIDE SOLID WHITE LINE

**STRIPING AND SIGNAGE GENERAL NOTES:**

1. FOR SIGNING & STRIPING DETAILS NOT SHOWN, REFERENCE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION.



SCALE  
HORIZ: 1" = 30'

EAST/WEST WATER TRANSMISSION MAIN  
PHASE 2A-2  
PROJECT No: 1415-130  
SIGNAGE AND STRIPING

SHEET  
**11**  
OF  
**24**

REV.	DATE	DESCRIPTION	BY	APP.
▲				
▲				
▲				
▲				
▲				

**PROFESSIONAL ENGINEER STATE OF NEW YORK**  
CHRISTOPHER ALAN PETERSON  
Exp. 12/31/15  
CIVIL  
06/29/2015

**Manhard CONSULTING LTD**  
3476 Executive Pointe Way, Suite 12  
Carson City, NV 89706  
PH: (775) 885-5630 FAX: (775) 885-7282

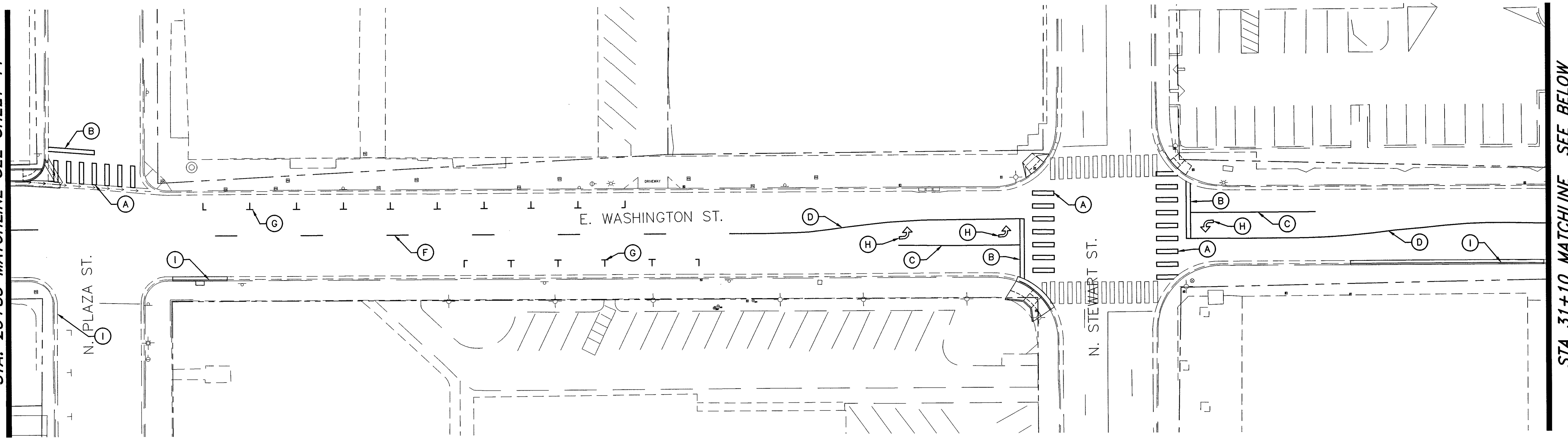
**CARSON CITY PUBLIC WORKS DEPARTMENT**  
3505 BUTTE WAY CARSON CITY, NEVADA 89706  
PH: 867-2335

PROJ. MGR.: CAP  
PROJ. ASSOC.: JPB  
CHECKED BY: CAP  
DWG. NO.: CON.CONV32.01  
SCALE (HORIZ): 1" = 30'  
SCALE (VERT):  
PLOT DATE: JUNE 2015

PROJECT No. 1415-130  
100% SUBMITTAL

June 26, 2015 - 07:43 Dwg Name: P:\conconv32\dwg\Eng\final drawings\Plan Set\14-16\_SIGNAGE\_AND\_STRIPING.dwg Updated By: cpeterson

STA. 23+85 MATCHLINE SEE SHEET 11



STA 31+10 MATCHLINE SEE BELOW

**W. WASHINGTON ST. STRIPING PLAN**

SCALE: 1" = 30'  
REFERENCE SHEETS 07 TO 10 FOR WATERLINE IMPROVEMENTS

**STRIPING AND SIGNAGE KEY:**

- (A) PAINT 24" WIDE SOLID WHITE CROSSWALK STRIPING PER STD DWG C-5.4.3, SHEET 13
- (B) PAINT 24" WIDE SOLID WHITE STOP BAR C-5.4.3, SHEET 13
- (C) PAINT 8" WIDE SOLID WHITE LANE LINE
- (D) PAINT DOUBLE 4" WIDE SOLID YELLOW CENTERLINE
- (E) PAINT 4" WIDE SOLID YELLOW CENTERLINE
- (F) PAINT 4" WIDE SOLID BROKEN YELLOW CENTERLINE
- (G) PAINT 4" SOLID WHITE PARALLEL PARKING "T" PER DETAIL 1, SHEET 13
- (H) PAINT SOLID WHITE DIRECTIONAL ARROW
- (I) PAINT CURB RED (NO PARKING ZONE)
- (J) PAINT 4" WIDE SOLID WHITE LINE

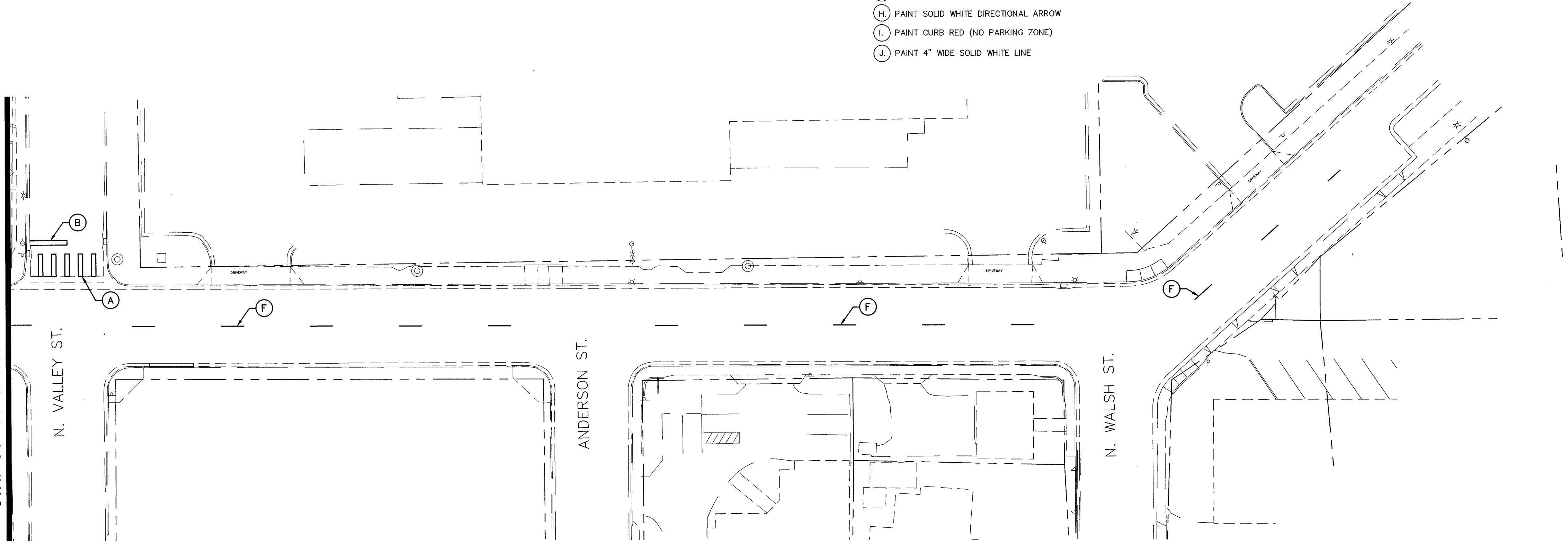
**STRIPING AND SIGNAGE GENERAL NOTES:**

1. FOR SIGNING & STRIPING DETAILS NOT SHOWN, REFERENCE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION.

Call before you Dig  
Avoid cutting underground utility lines. It's costly.

OR  
1-800-227-2600

STA. 31+10 MATCHLINE SEE ABOVE



**W. WASHINGTON ST. STRIPING PLAN**

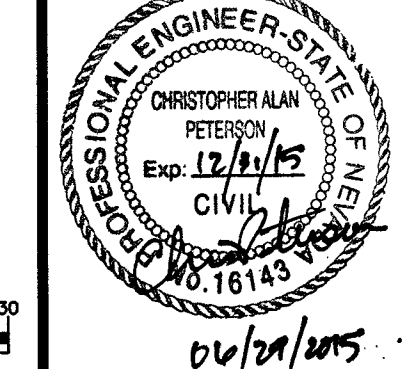
SCALE: 1" = 30'  
REFERENCE SHEETS 07 TO 10 FOR WATERLINE IMPROVEMENTS

EAST/WEST WATER TRANSMISSION MAIN  
PHASE 2A-2  
PROJECT No: 1415-130  
SIGNAGE AND STRIPING

SHEET  
12  
OF  
24

100% SUBMITTAL

PROJECT No. 1415-130



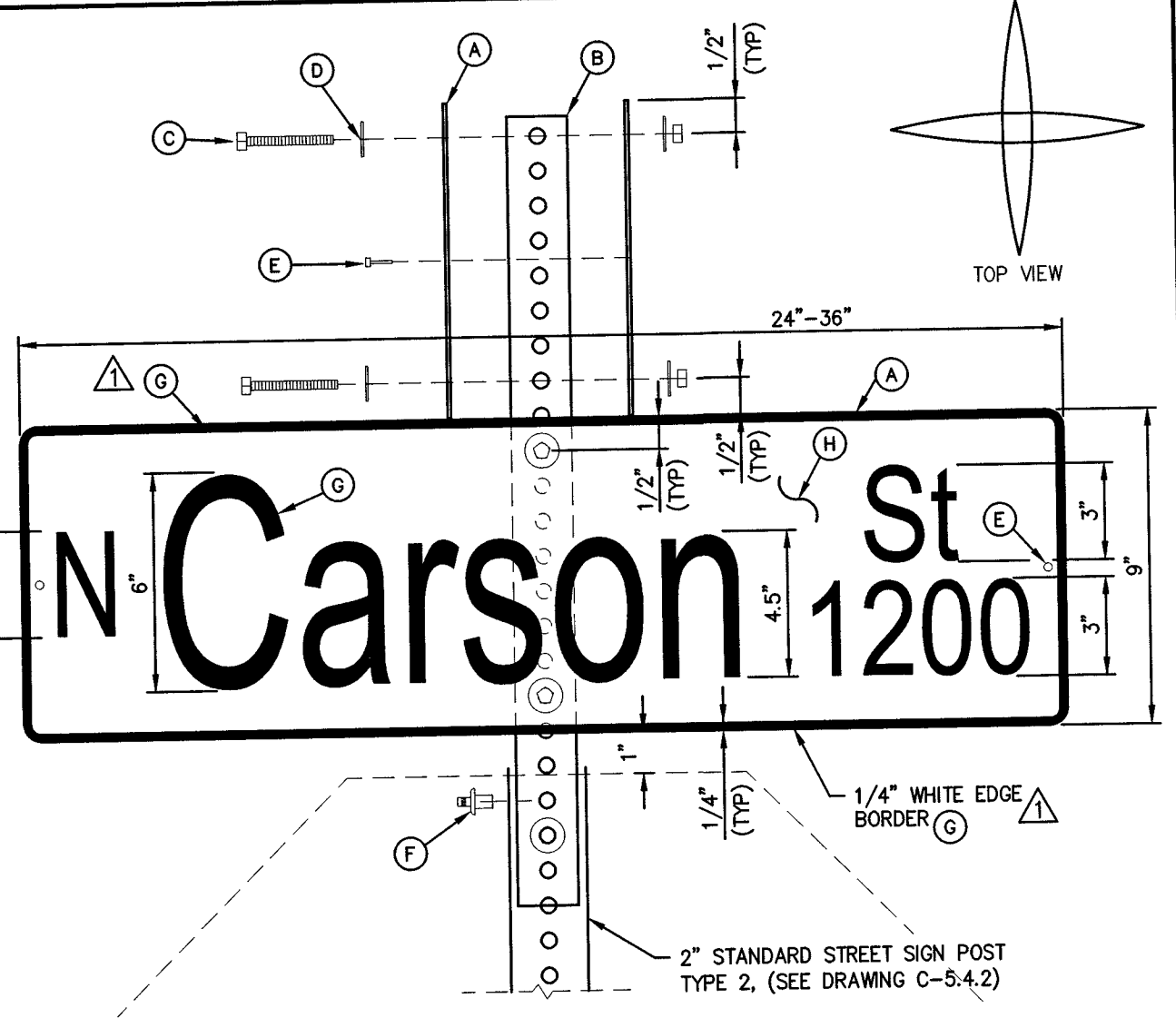
CARSON CITY  
PUBLIC WORKS DEPARTMENT  
300 N. W. WASHINGTON ST., CARSON CITY, NV 89701  
TEL: 867-5255 FAX: 867-2412

**Manhard CONSULTING LTD**  
3476 Executive Pointe Way, Suite 12  
Carson City, NV 89706  
PH: (775) 885-5530 FAX: (775) 885-7282

PROJ. MGR.: CAP  
PROJ. ASSOC.: JPB  
CHECKED BY: CAP  
DWG NO.: CON.CONV32.01  
SCALE (HORIZ): 1" = 30'  
SCALE (VERT): ---  
PLOT DATE: JUNE 2015

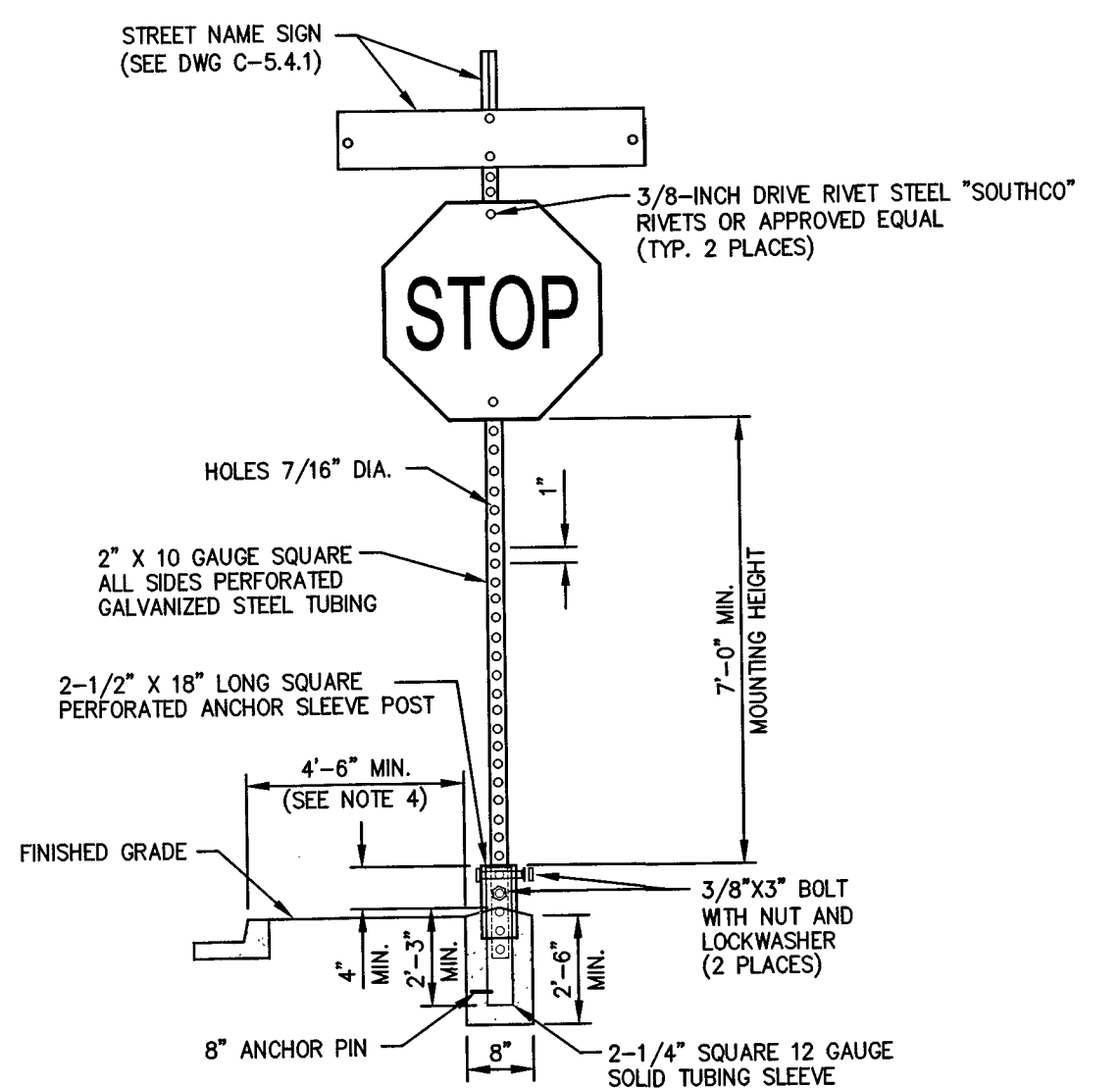
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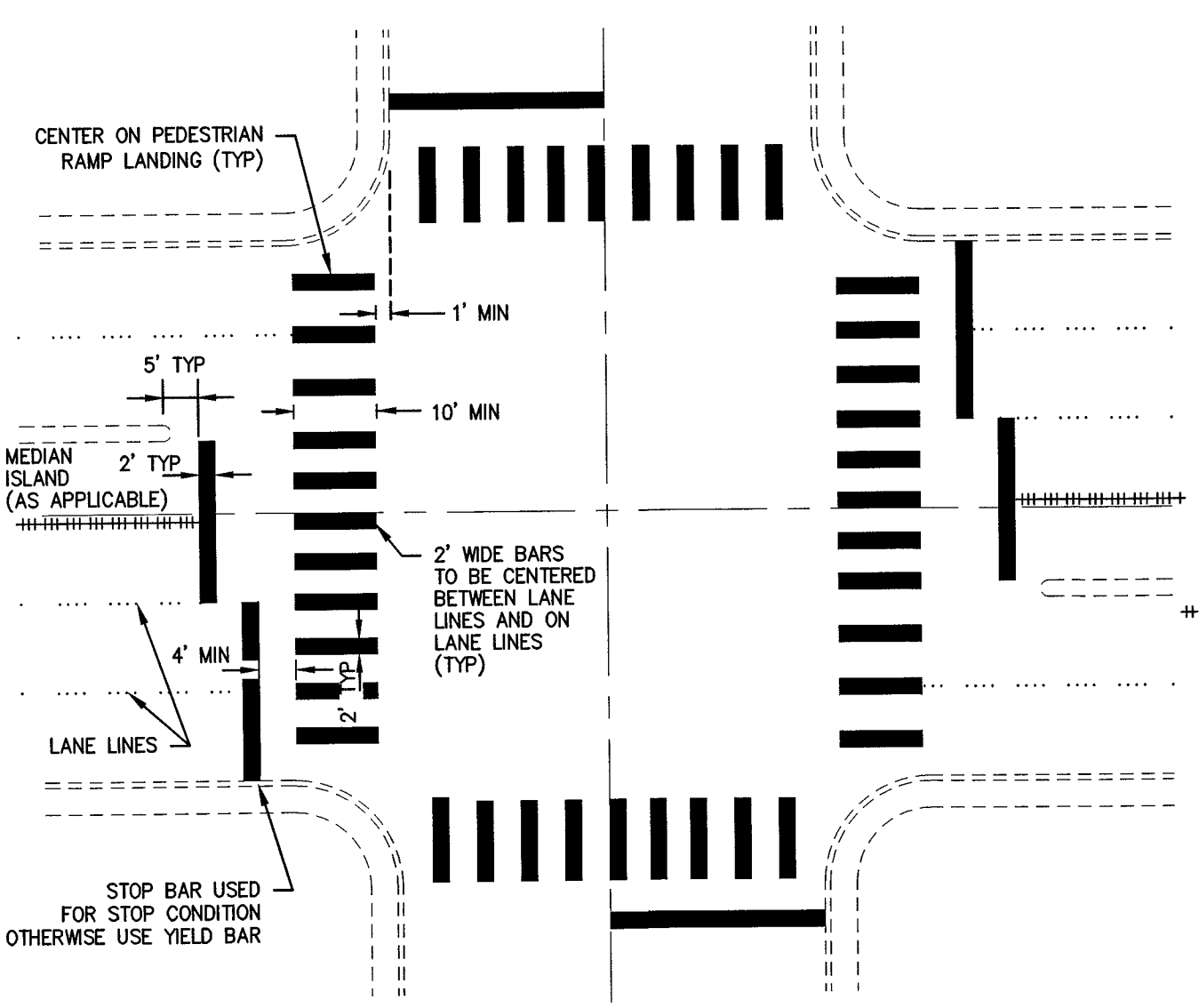
- NOTES:**
- STREET NAME SIGN SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE M.U.T.C.D.
  - LETTERING FONT SHALL BE "HIGHWAY EM".
  - SUBMITTAL REQUIRED TO CITY FOR LONGER NAMES OR DROP LETTERS.
  - MATERIALS SHALL CONSIST OF:
    - (4) FLAT PLATE ALUMINUM NO. 6061-T6, .080 GAUGE.
    - (1) 2-FOOT LONG 1 3/4-INCH "TELESPAR" OR EQUIVALENT
    - (4) 2 1/2-INCH LONG, 5/16-INCH SAE GRADE 5 BOLT & NUT
    - (8) FLAT WASHERS
    - (4) 1/8-INCH DIAMETER, STEEL POP RIVET (MEDIUM LENGTH) WITH 1/8-INCH WASHER (ALUMINUM OR STEEL)
    - (1) 3/8-INCH DRIVE RIVET STEEL "SOUTHO"
    - WHITE SHEETING - RETROREFLECTIVE ASTM IX DIAMOND GRADE WP "3M" OR EQUIVALENT
    - GREEN SHEETING - TRANSPARENCY ELETRO CUT FILM 1177C "3M" OR EQUIVALENT

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
1	BORDER	6/12	<b>STREET NAME SIGN AND MOUNTING</b>	DRAWING NO. C-5.4.1 DATE 6/2012
APPROVED BY:		6/12		



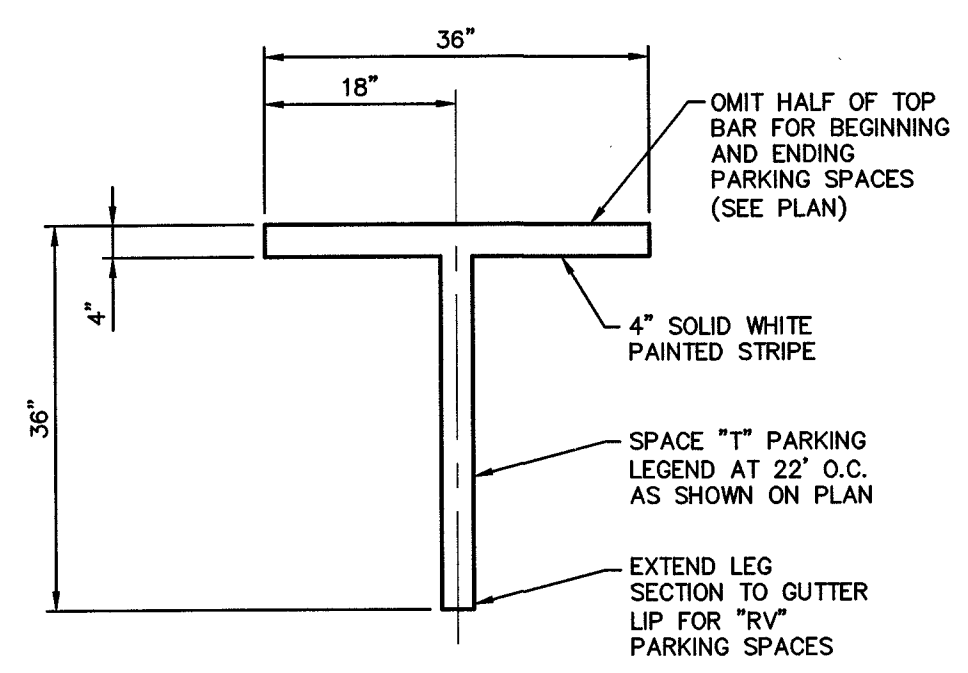
- NOTES:**
- SIGN MATERIALS, CONSTRUCTION AND PLACEMENT SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  - STREET NAME SIGN SHALL BE AS SPECIFIED IN STANDARD DETAIL DRAWING NO. C-5.4.1
  - ON STREETS WHERE CURBING DOES NOT EXIST, SET SIGN 6 FEET MINIMUM FROM PAVEMENT EDGE.
  - CONCRETE BASE SHALL BE LOCATED AT BACK OF SIDEWALK, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.
  - ALL REGULATORY SIGNS SHALL USE ASTM TYPE 3 OR 4 INTENSITY SHEETING.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
APPROVED BY:		7/09	<b>TRAFFIC SIGN INSTALLATION</b>	DRAWING NO. C-5.4.2 DATE 7/2009

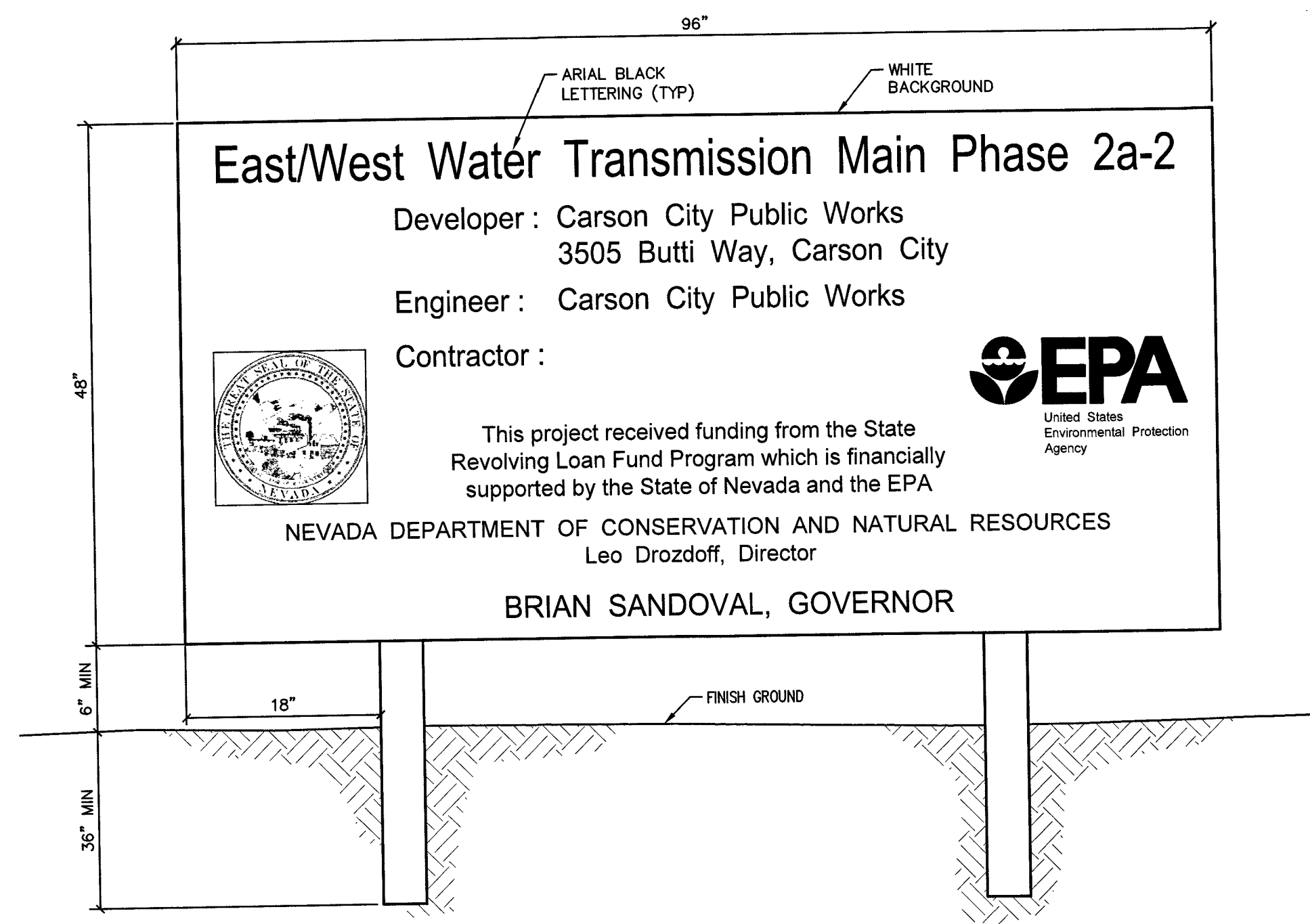


- NOTES:**
- ALL STRIPING SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS, CURRENT EDITION.
  - INLAY TAPE STRIPING AND/OR PAVEMENT LEGENDS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
  - CROSSWALK MARKINGS SHALL BE INSTALLED AT ALL TRAFFIC SIGNAL LOCATIONS AND AT OTHER LOCATIONS AS DIRECTED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
APPROVED BY:		7/09	<b>CROSSWALK LEGEND</b>	DRAWING NO. C-5.4.3 DATE 7/2009



**PARALLEL PARKING "T" STRIPE**  
NOT TO SCALE



**PROJECT SIGN**  
NOT TO SCALE

**PROJECT SIGN NOTES:**

**PART ONE - GENERAL**

- DESCRIPTION:
  - Work included: Furnish, install and maintain project identification sign.
- QUALITY ASSURANCE:
  - Allow no other signs to be displayed.
  - Layout of sign to be approved by Construction Manager prior to fabrication.

**PART TWO - PRODUCTS**

- PROJECT IDENTIFICATION SIGN:
  - Contents:
    - Title of Project
    - Name of Sponser/Developer  
Sponser/Developer Address
    - Name of Architect or Engineer
    - Prime Contractor
  - The graphic design shall be as indicated in the drawing following this section.
  - Structure and Framing: May be new or used, 4"x4" posts in sound condition, structurally adequate to work and suitable for specified finish.
  - Sign Surfaces: 3/4" exterior type, Grade A-B Douglas Fir Plywood; 8 feet wide and 4 feet high.
  - Finishes: Adequate to resist weathering and fading for the scheduled construction period.

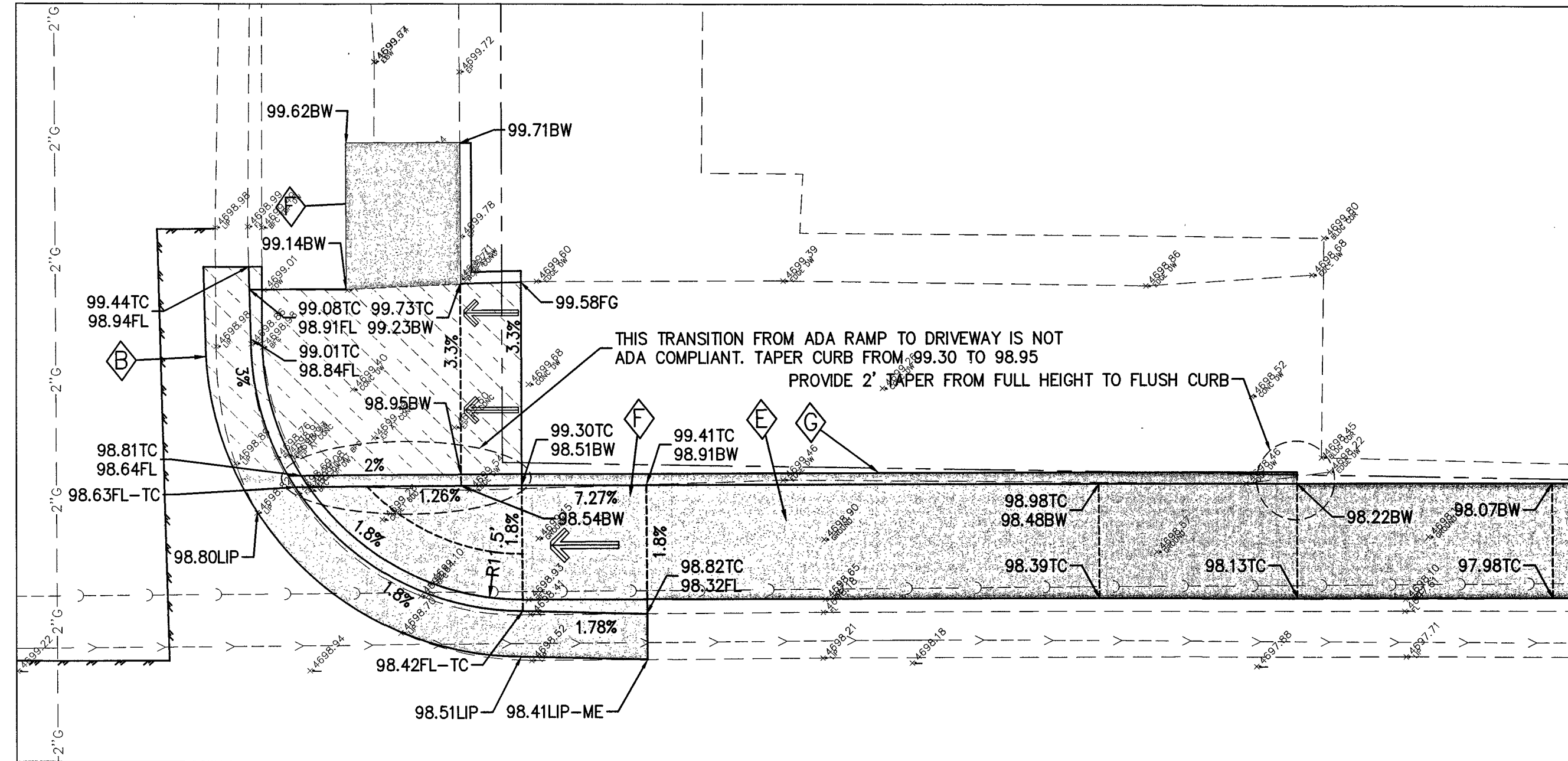
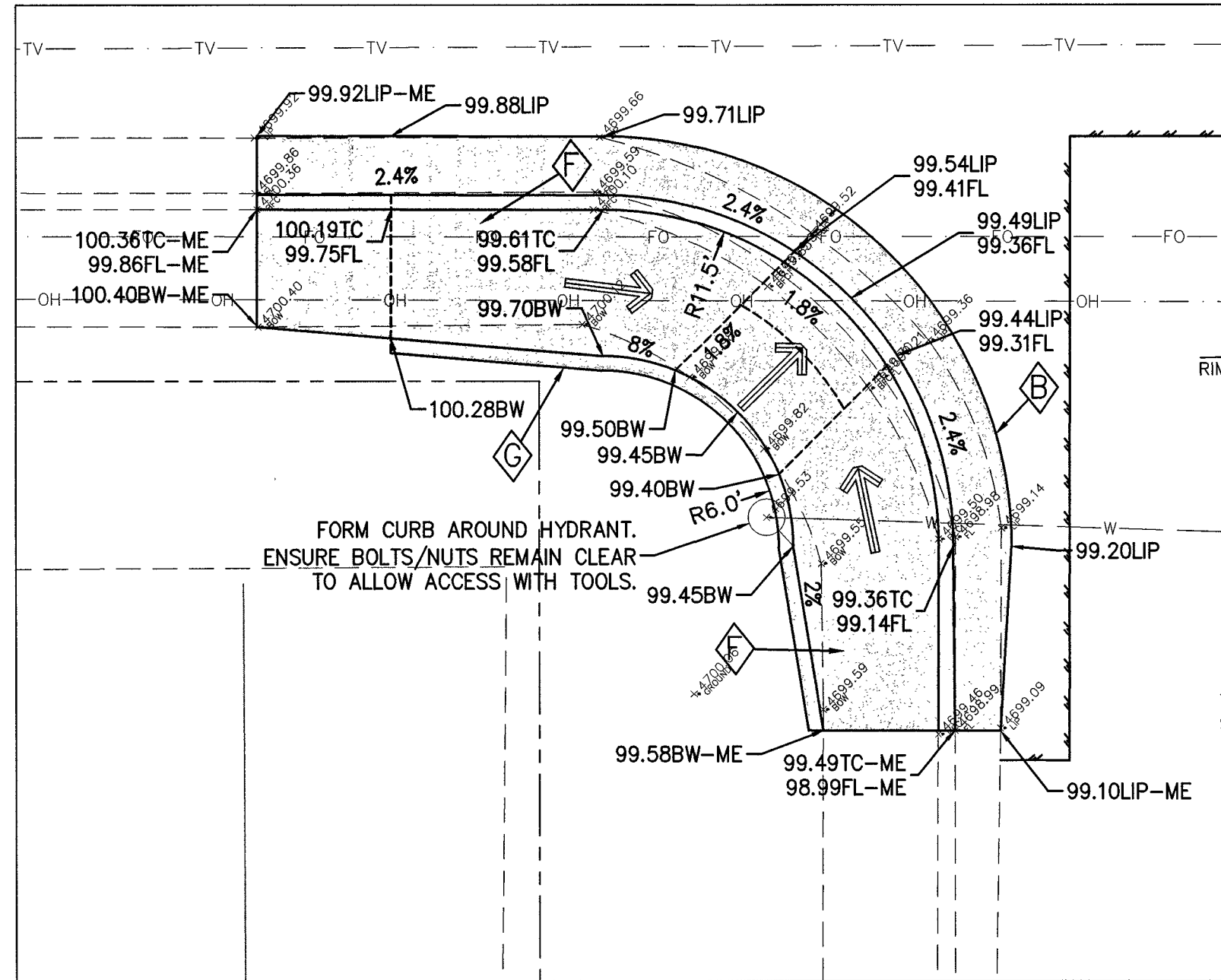
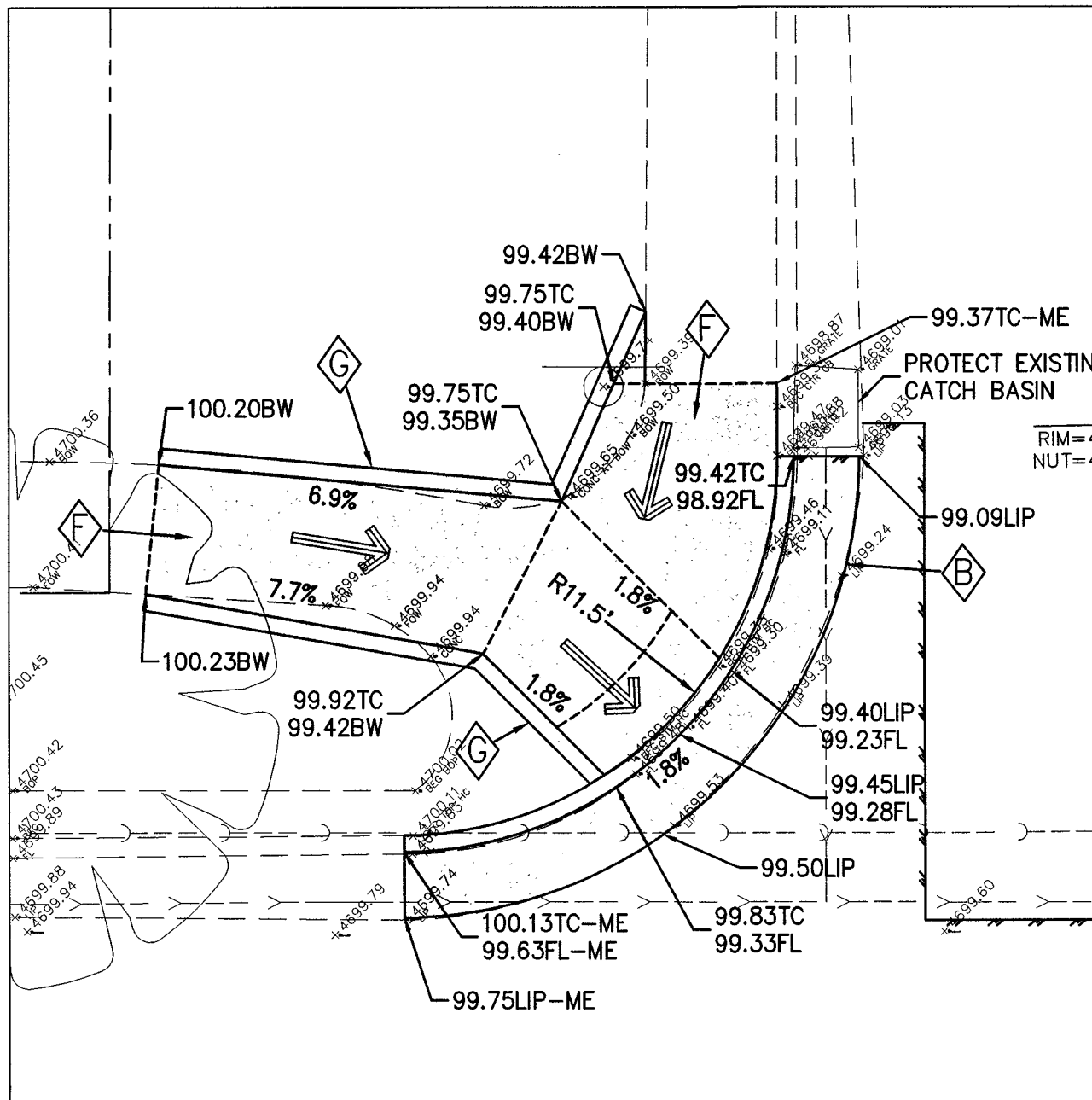
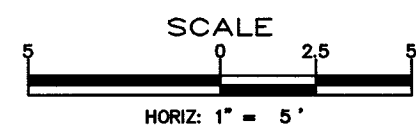
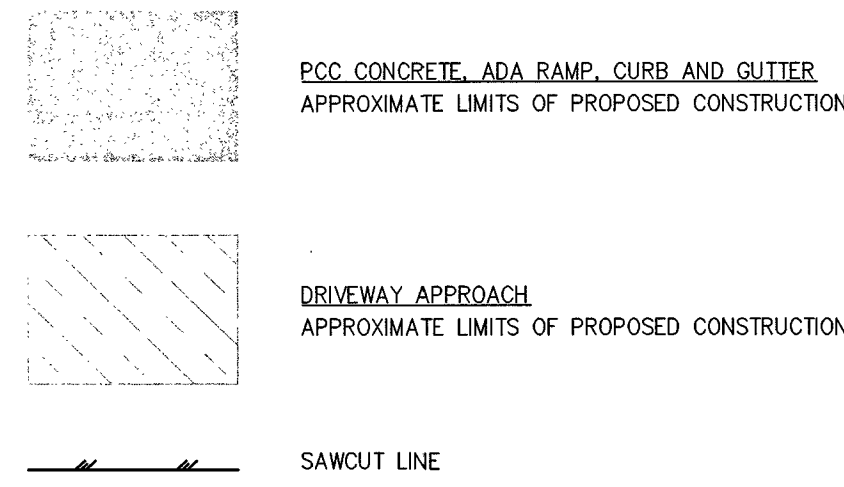
**PART THREE - EXECUTION**

- INSTALLATION:
  - Install the sign posts utilizing direct burial to a depth adequate to support the sign in a stable condition throughout the construction period (3 feet minimum).
- PROTECTION AND CLEANING:
  - Maintain the sign and supports in a neat, clean condition. Repair damages to structure, framing or sign as required.
  - Remove the signs, framing and supports at the completion of the project. Patch and repair the surrounding conditions as required when the sign is removed.

PROJ. MGR.: JPB	APP.:
PROJ. ASSOC.: CAP	BY:
CHECKED BY: CAP	DESCRIPTION:
DWG NO.: CCN.CONV92.01	DATE:
SCALE (HORIZ):	REV. DATE:
SCALE (VERT):	DESCRIPTION:
PLLOT DATE: JUNE 2015	REV. DATE:
<b>CARSON CITY PUBLIC WORKS DEPARTMENT</b>	DESCRIPTION:
3505 BUTTI WAY CARSON CITY, NEVADA 89701	DESCRIPTION:
PH: 897-2355 FAX: 897-2112	DESCRIPTION:
<b>Manhard CONSULTING LTD</b>	DESCRIPTION:
3476 Executive Pointe Way, Suite 112 Carson City, NV 89706	DESCRIPTION:
PH: (775) 885-4630 FAX: (775) 885-7682	DESCRIPTION:
Professional Engineer - State of Nevada Christopher Alan Peterson Exp: 12/31/12 Civil 18143	DESCRIPTION:
06/21/2015	DESCRIPTION:
June 26, 2015 - 07:43 Dwg Name: p:\conconv92\dwg\Eng\Wind\Drawings\Plan Set\14-16 SIGNAGE AND STRIPING.dwg Updated By: gpeterson	DESCRIPTION:
PROJECT No. 1415-130	
EAST/WEST WATER TRANSMISSION MAIN PHASE 2A-2 PROJECT No: 1415-130 SIGNAGE AND STRIPING DETAILS	
SHEET 13 OF 24	
100% SUBMITTAL	

**KEYNOTES:**

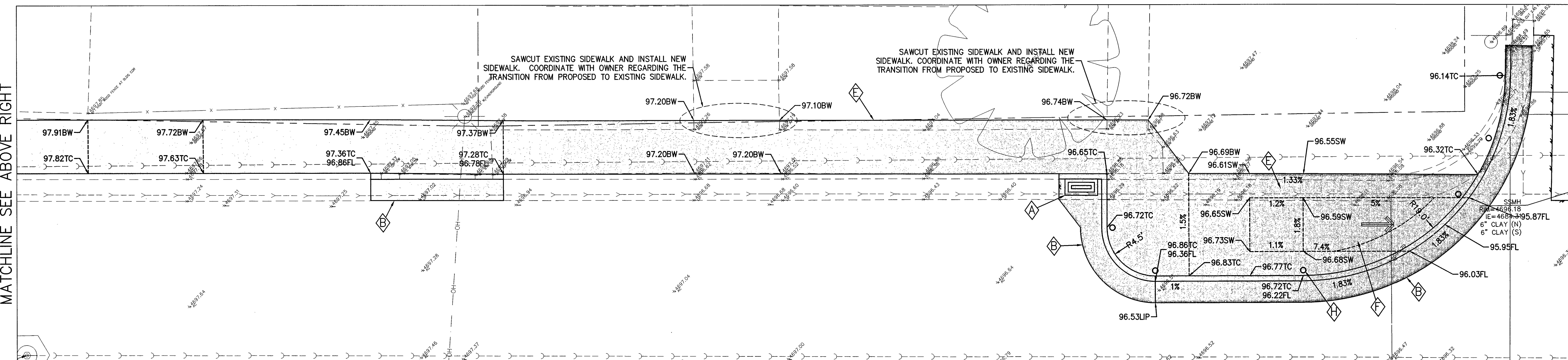
- Ⓐ FURNISH & INSTALL CATCH BASIN PER DETAIL, SHEET 24
- Ⓑ CONSTRUCT PCC CURB AND GUTTER TYPE 1 (MODIFIED), PER STD. DRAWING C-5.1.3 (MOD).
- Ⓒ CONSTRUCT PCC CURB AND GUTTER TYPE 2 (MODIFIED), PER STD. DRAWING C-5.1.4 (MOD).
- Ⓓ CONSTRUCT PCC DRIVEWAY APRON TYPE 1 (MODIFIED), PER DETAIL ON SHEET 24
- Ⓔ CONSTRUCT TYPE 'A' SIDEWALK PER STD. DRAWING C-5.2.2. (WIDTH PER PLAN)
- Ⓕ CONSTRUCT MODIFIED CURB RAMP, PER DETAIL ON 24.
- Ⓖ CONSTRUCT RETAINING CURB PER STD DWG C-5.3.10.
- Ⓗ FLEXIBLE GUIDE POSTS (GLUE-DOWN)



MINNESOTA & WASHINGTON - NW CORNER  
SCALE: 1" = 5'

MINNESOTA & WASHINGTON - SW CORNER  
SCALE: 1" = 5'

MINNESOTA & WASHINGTON - NE CORNER  
SCALE: 1" = 5'

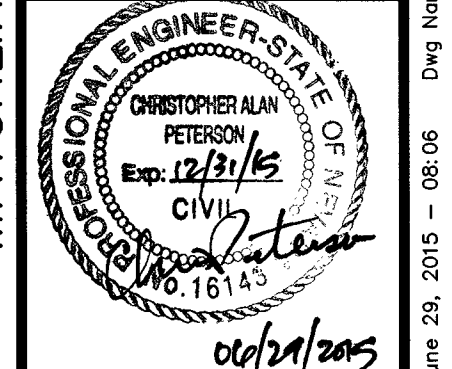


DIVISION & WASHINGTON - NW CORNER  
SCALE: 1" = 5'



PROJ. MGR.: CAP  
PROJ. ASSOC.: JPB  
CHECKED BY: CAP  
DWG. NO.: CCN/CCV/32.01  
SCALE (HORIZ): AS SHOWN  
SCALE (VERT): AS SHOWN  
PLOT DATE: JUNE 2015

CARSON CITY  
PUBLIC WORKS DEPARTMENT  
3505 BUTTE WAY  
CARSON CITY, NEVADA 89701  
PH: 897-2315  
FAX: 897-2312



MATCHLINE SEE BELOW

REV.	DATE	DESCRIPTION	BY	APP.

EAST/WEST WATER TRANSMISSION MAIN  
PHASE 2A-2  
PROJECT No: 1415-130  
DETAILED GRADING

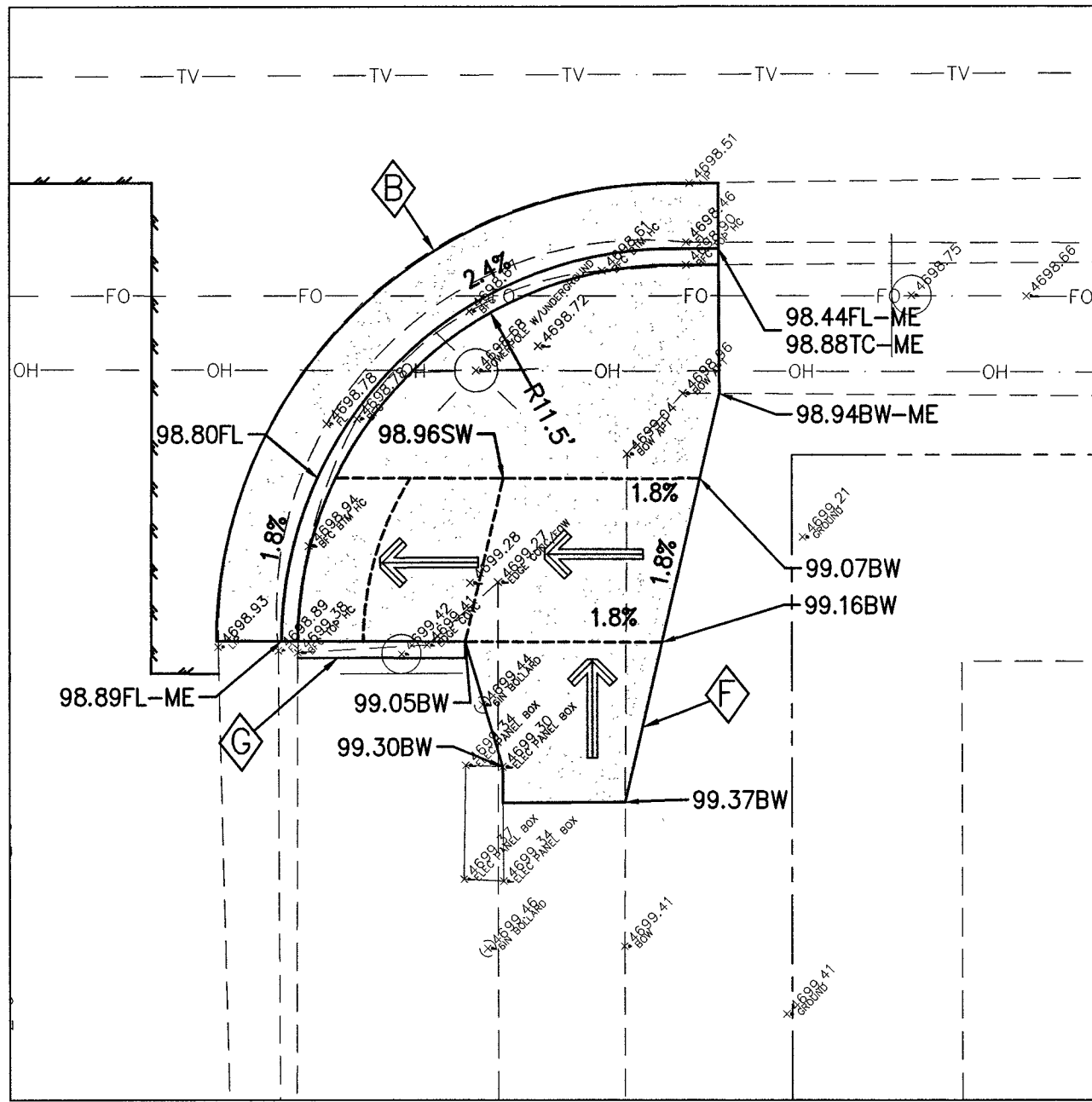
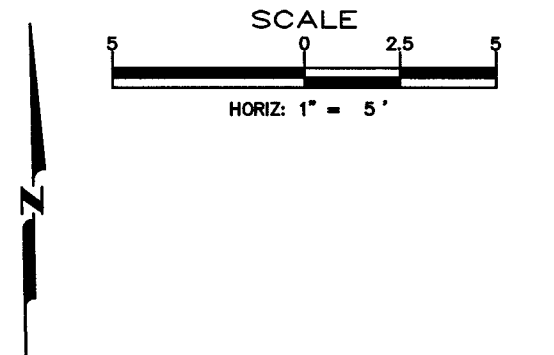
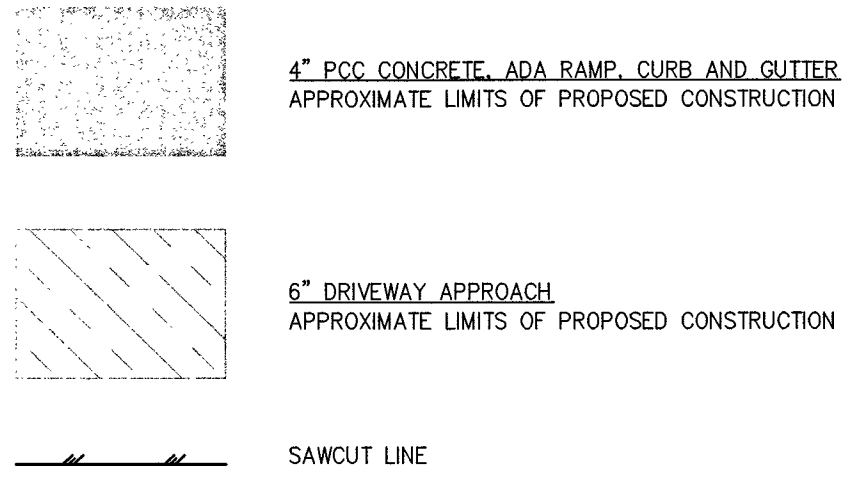
SHEET  
14  
OF  
24

PROJECT No. 1415-130  
100% SUBMITTAL

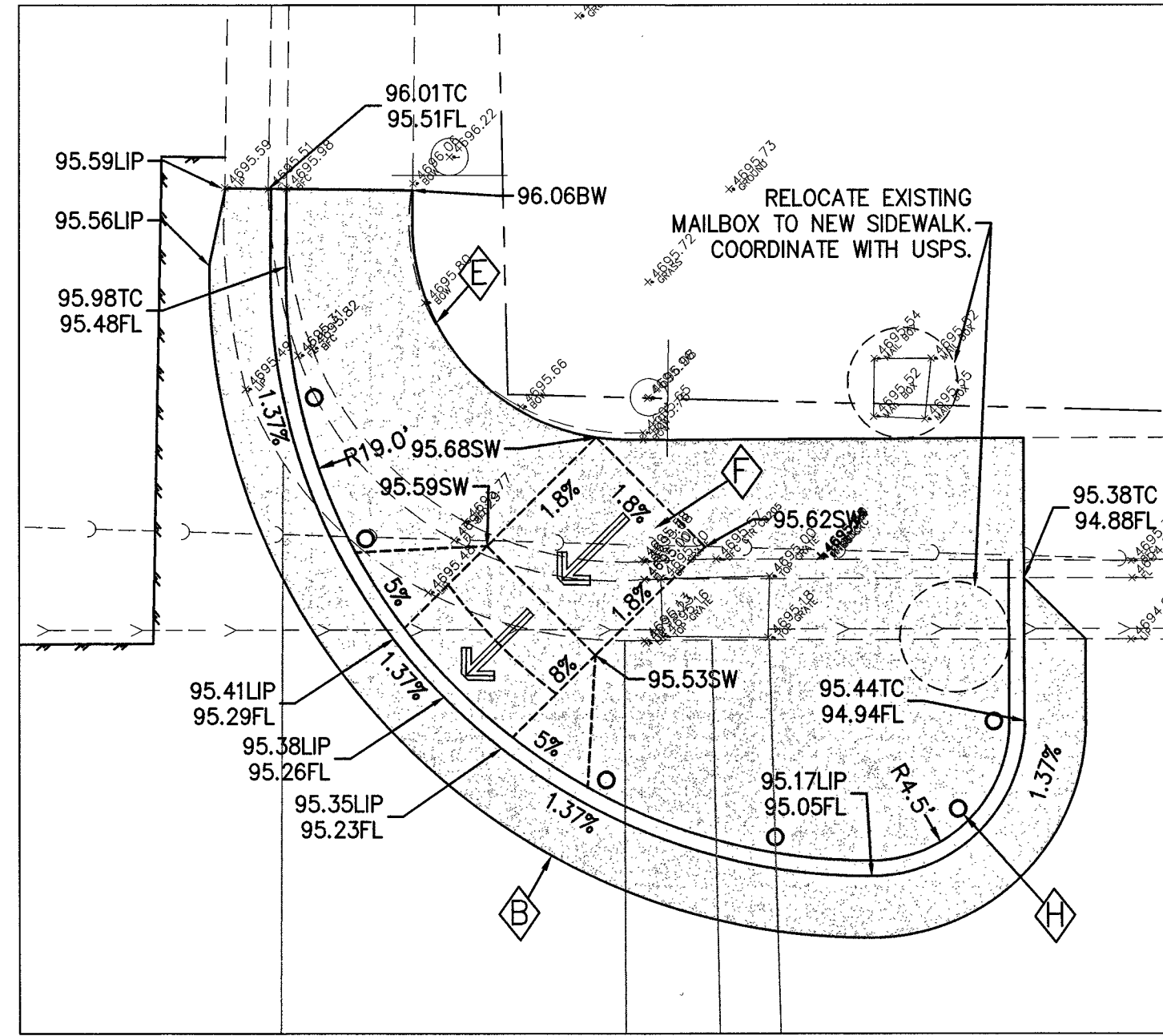


**KEYNOTES:**

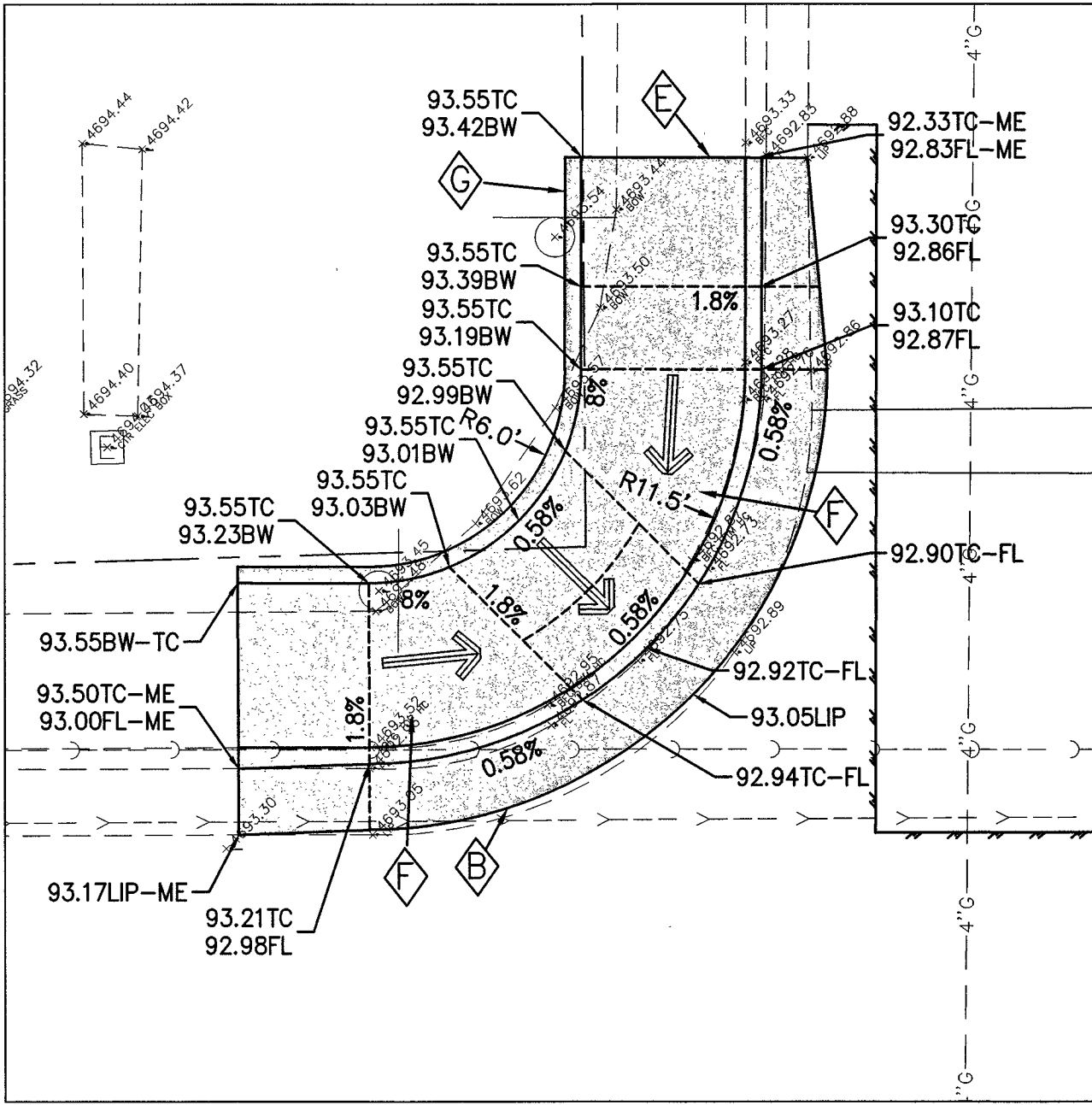
- Ⓐ FURNISH & INSTALL CATCH BASIN PER DETAIL, SHEET 24
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- Ⓒ CONSTRUCT PCC CURB AND GUTTER TYPE 2 (MODIFIED), PER STD. DRAWING C-5.1.4 (MOD).
- Ⓓ CONSTRUCT PCC DRIVEWAY APRON TYPE 1 (MODIFIED), PER DETAIL ON SHEET 24
- Ⓔ CONSTRUCT TYPE 'A' SIDEWALK PER STD. DRAWING C-5.2.2. (WIDTH PER PLAN)
- Ⓕ CONSTRUCT MODIFIED CURB RAMP, PER DETAIL ON 24.
- Ⓖ CONSTRUCT RETAINING CURB PER STD DWG C-5.3.10.
- Ⓗ FLEXIBLE GUIDE POSTS (GLUE-DOWN)



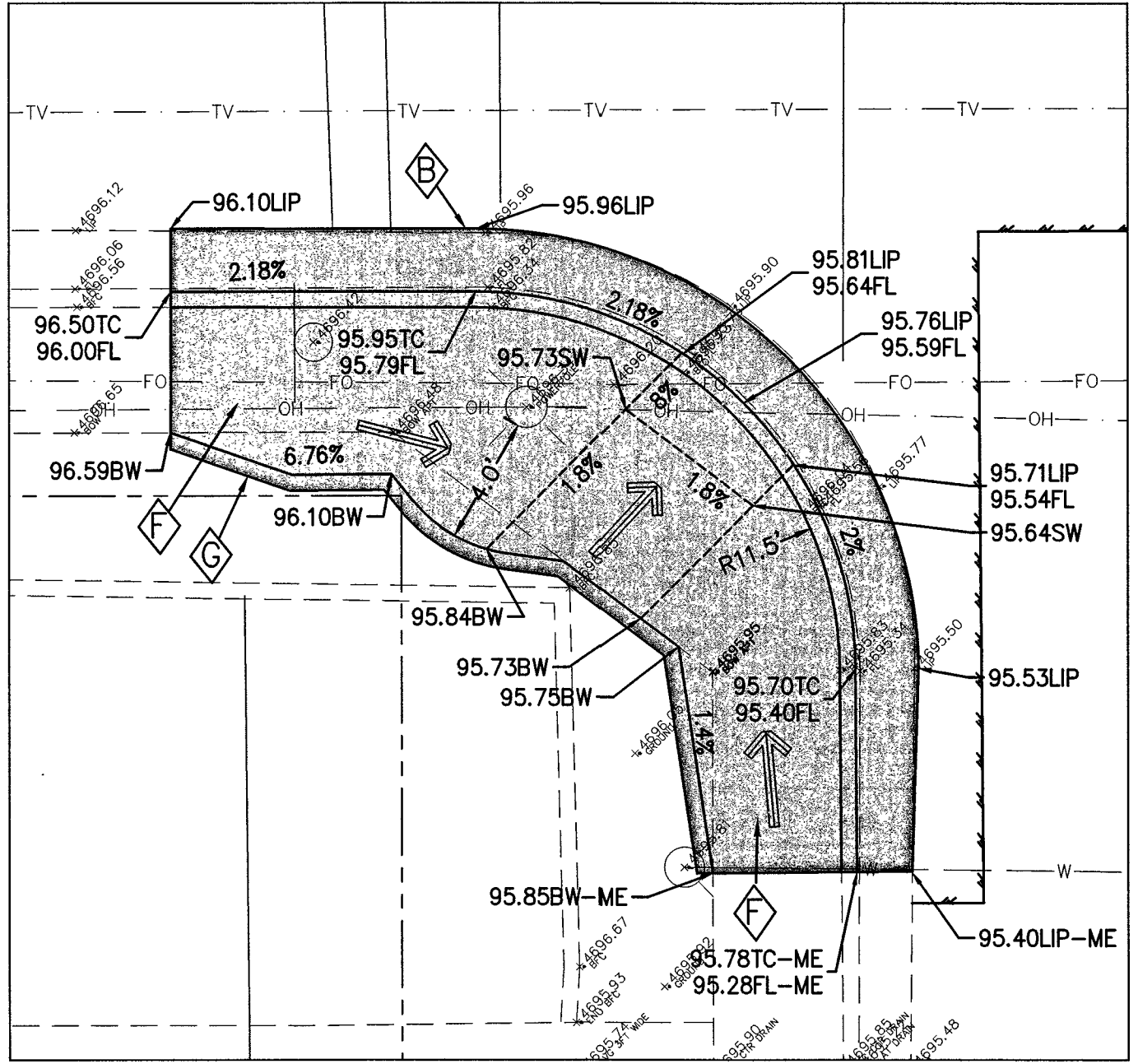
**MINNESOTA & WASHINGTON - SE CORNER**  
SCALE: 1" = 5'



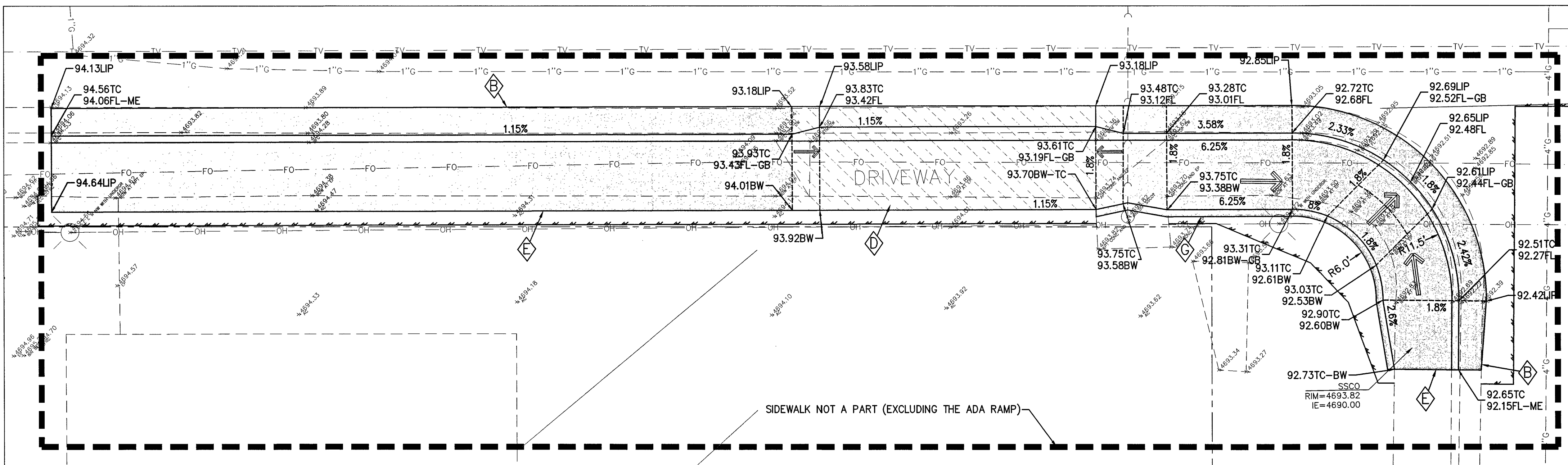
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SCALE: 1" = 5'



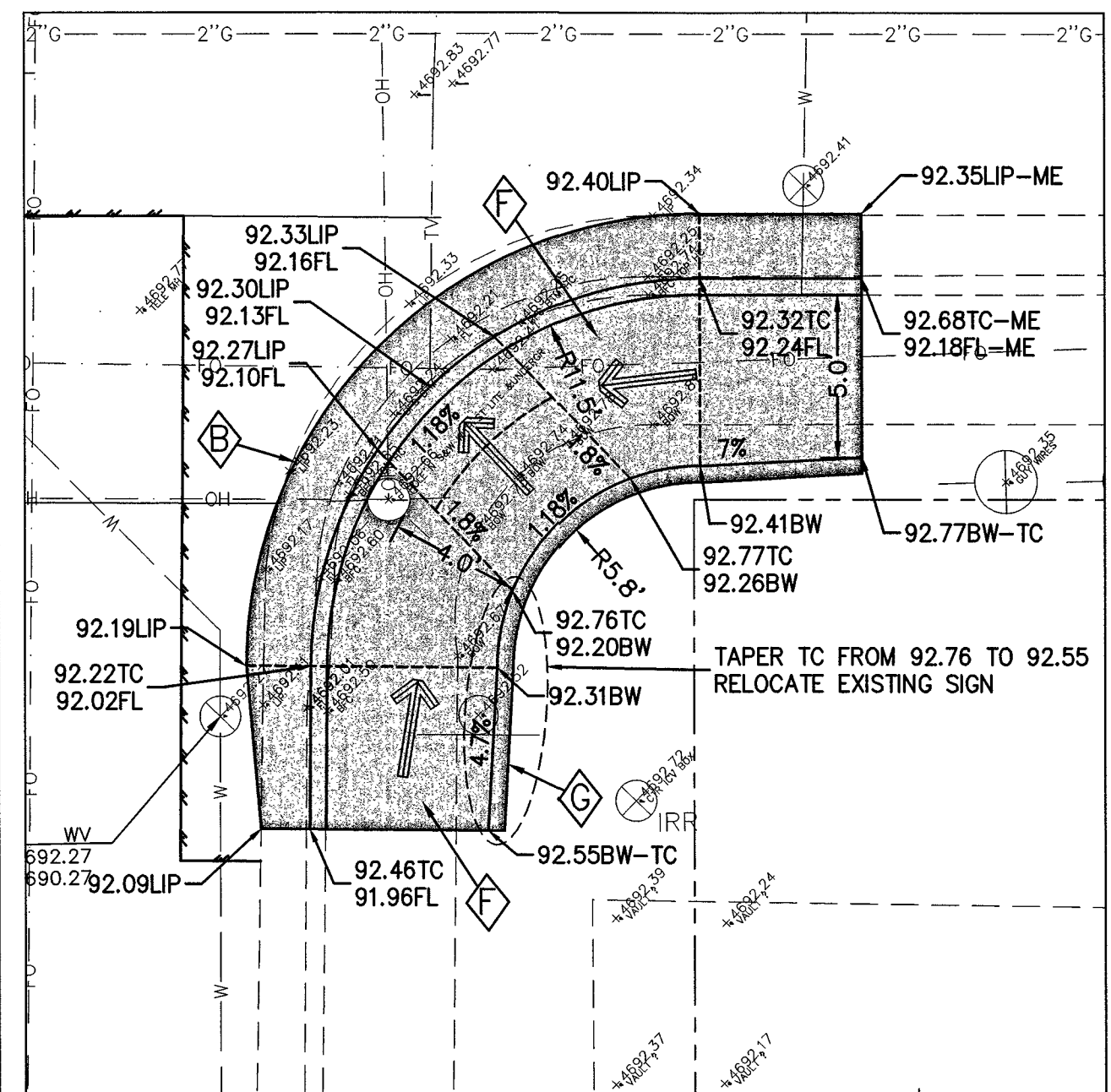
**NEVADA & WASHINGTON - NW CORNER**  
SCALE: 1" = 5'



**DIVISION & WASHINGTON - SW CORNER**  
SCALE: 1" = 5'



**NEVADA & WASHINGTON - SW CORNER**  
SCALE: 1" = 5'



**NEVADA & WASHINGTON - SE CORNER**  
SCALE: 1" = 5'

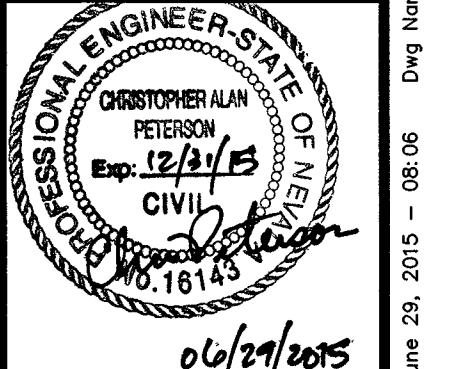
Call before you Dig  
Avoid cutting underground utility lines. It's costly.

**Call**  
**811**  
OR  
1-800-227-2600

PROJ. MGR.: CAP  
PROJ. ASSOC.: JPB  
CHECKED BY: CAP  
DWG. NO.: CCN00022.01  
SCALE (HORIZ): AS SHOWN  
SCALE (VERT): AS SHOWN  
PLOT DATE: JUNE 2015

**CARSON CITY DEPARTMENT OF PUBLIC WORKS**  
4505 BUTTE WAY, CARSON CITY, NEVADA 89701  
TEL: 867-5355 FAX: 867-2112

**Manhard CONSULTING LTD.**  
3476 Executive Pointe Way, Suite 12  
Carson City, NV 89706  
TEL: (775) 882-8833 FAX: (775) 882-7222



REV.	DATE	DESCRIPTION	BY	APP.

**EAST/WEST WATER TRANSMISSION MAIN PHASE 2A-2**  
PROJECT No: 1415-130  
**DETAILED GRADING**

SHEET  
**15**  
OF  
**24**

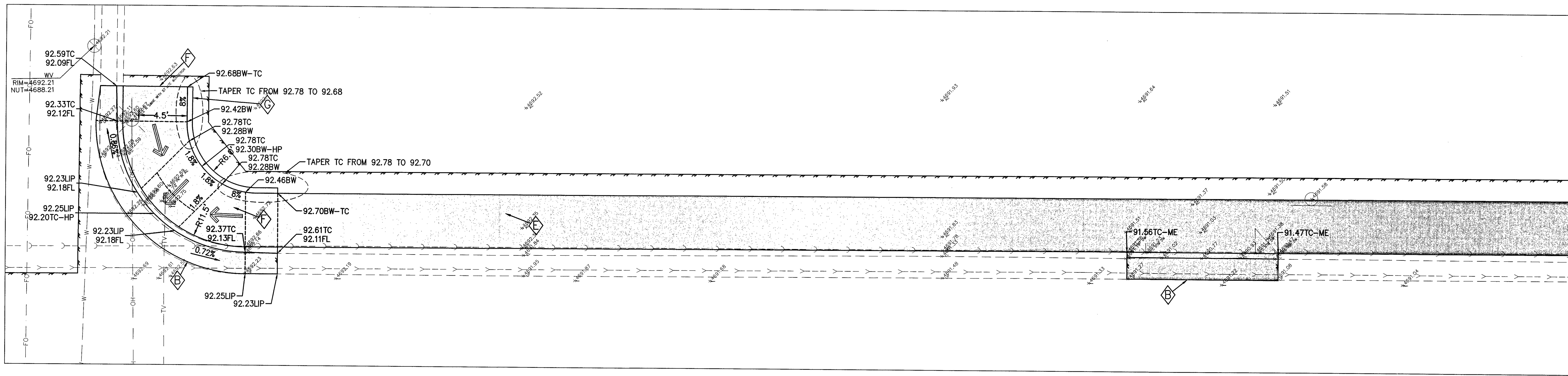
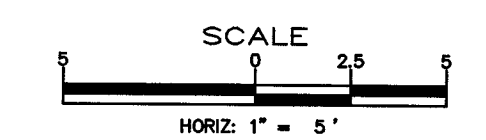
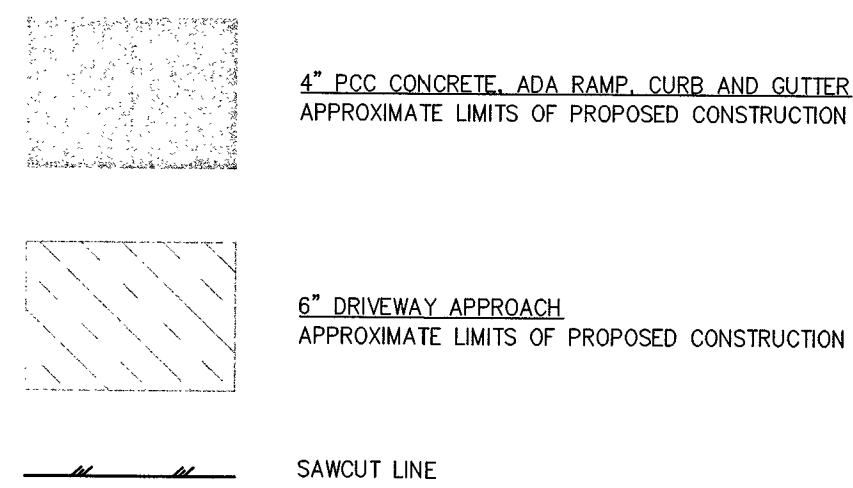
PROJECT No. 1415-130  
100% SUBMITTAL

June 23, 2015 - 08:06 Dwg Name: p:\ccn00022\wg\Eng\Plan\_S&V\1415-27 GRADING.dwg Updated By: gpeterson



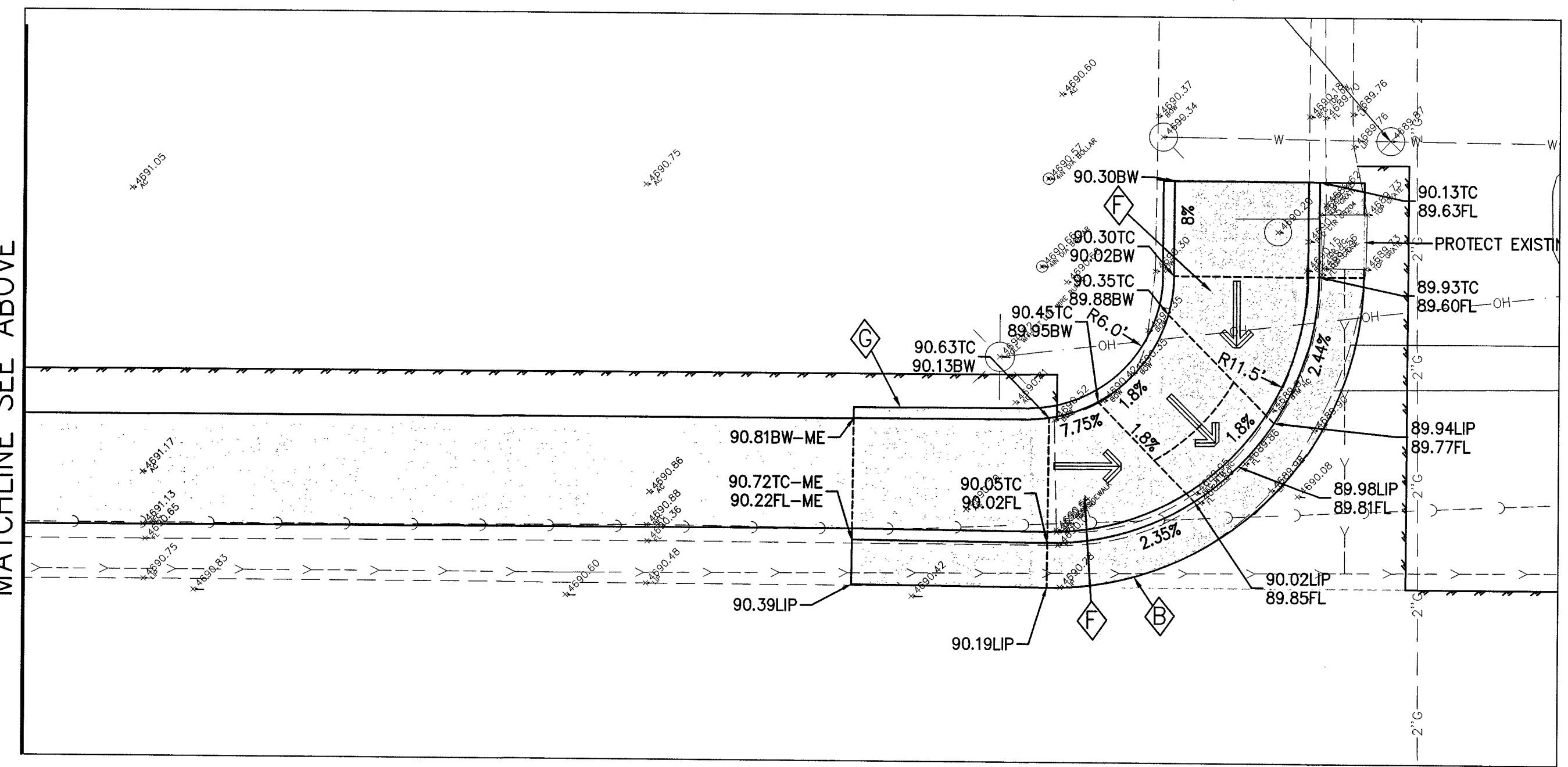
**KEYNOTES:**

- ◆ FURNISH & INSTALL CATCH BASIN PER DETAIL, SHEET 24
- ◆ CONSTRUCT PCC CURB AND GUTTER TYPE 1 (MODIFIED), PER STD. DRAWING C-5.1.3 (MOD).
- ◆ CONSTRUCT PCC CURB AND GUTTER TYPE 2 (MODIFIED), PER STD. DRAWING C-5.1.4 (MOD).
- ◆ CONSTRUCT PCC DRIVEWAY APRON TYPE 1 (MODIFIED), PER DETAIL ON SHEET 24
- ◆ CONSTRUCT TYPE 'A' SIDEWALK PER STD. DRAWING C-5.2.2. (WIDTH PER PLAN)
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- ◆ CONSTRUCT RETAINING CURB PER STD DWG C-5.3.10.
- ◆ FLEXIBLE GUIDE POSTS (GLUE-DOWN)



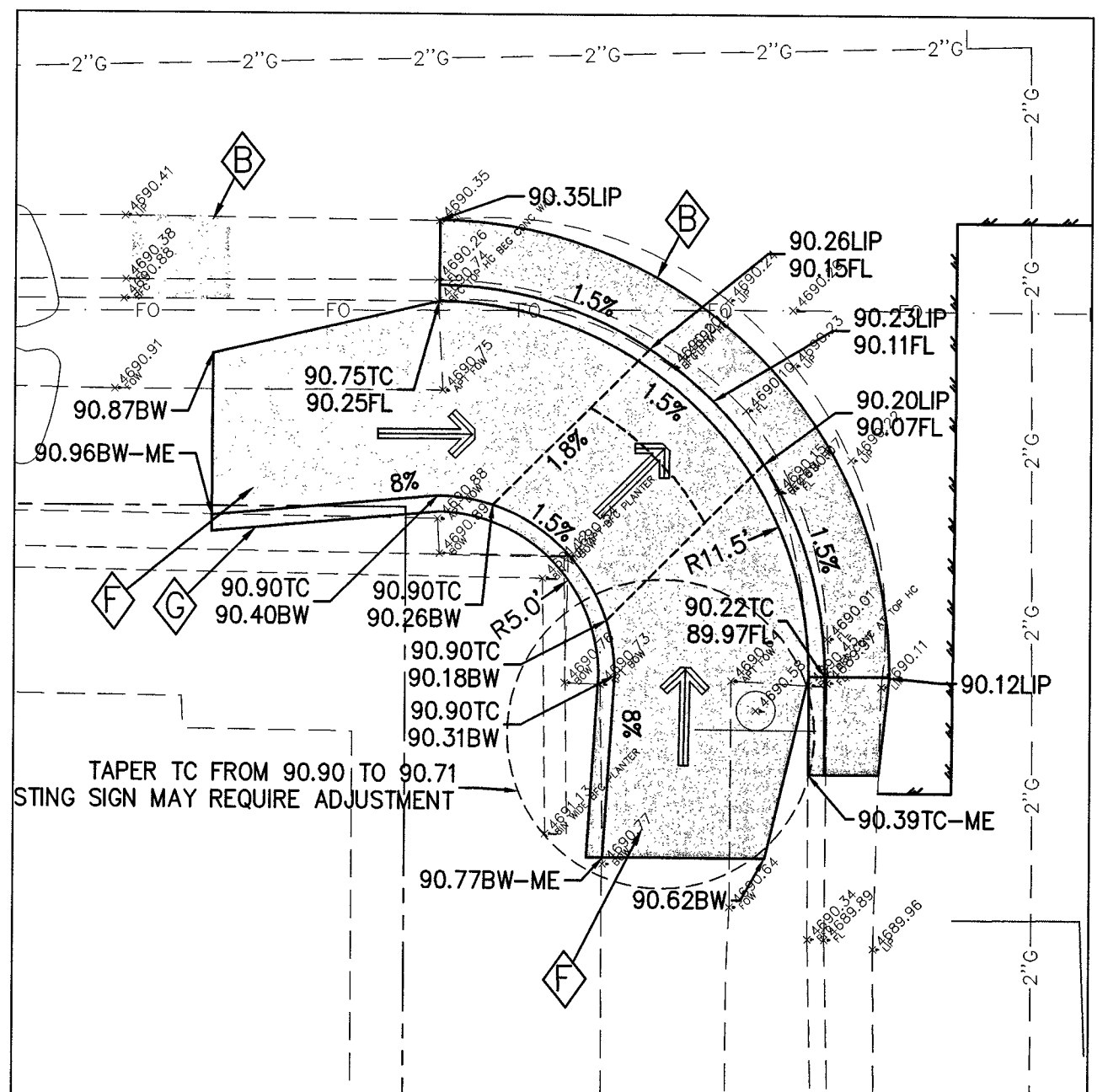
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SCALE: 1" = 5'



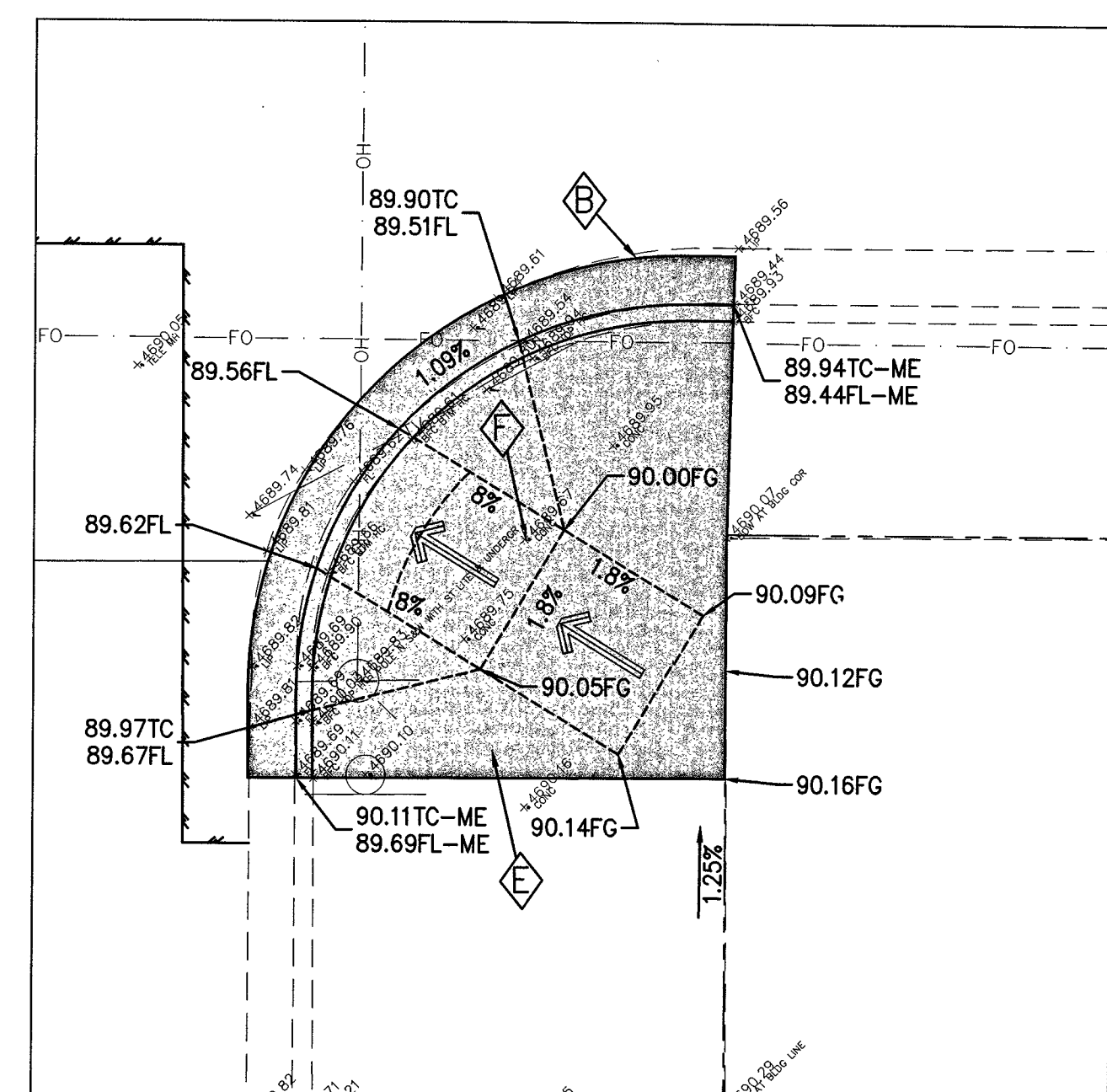
**CURRY & WASHINGTON - NW CORNER**

SCALE: 1" = 5'



**CURRY & WASHINGTON - SW CORNER**

SCALE: 1" = 5'



**CURRY & WASHINGTON - SE CORNER**

SCALE: 1" = 5'

MATCHLINE SEE BELOW LEFT

MATCHLINE SEE ABOVE

PROJ. MGR.: CAP  
 PROJ. ASSOC.: JPB  
 CHECKED BY: CAP  
 DWG NO.: CCN00032.01  
 SCALE (HORIZ): AS SHOWN  
 SCALE (VERT): AS SHOWN  
 PLOT DATE: JUNE 2015

**CARSON CITY DEPARTMENT**  
 PUBLIC WORKS  
 3505 BUTTE WAY  
 CARSON CITY, NEVADA 89701  
 TEL: 867-2255

**Manhard CONSULTING LTD**  
 3476 Executive Pointe Way, Suite 12  
 Carson City, NV 89706  
 PH: (775) 885-5930  
 FAX: (775) 885-5930

PROFESSIONAL ENGINEER - STATE OF NEVADA  
 CHRISTOPHER ALAN PETERSON  
 Exp. 12/31/15  
 CIVIL  
 16143  
 01/20/2015

REV.	DATE	DESCRIPTION	BY	APP.

**EAST/WEST WATER TRANSMISSION MAIN**  
**PHASE 2A-2**  
**PROJECT No: 1415-130**  
**DETAILED GRADING**



SHEET  
**16**  
 OF  
**24**

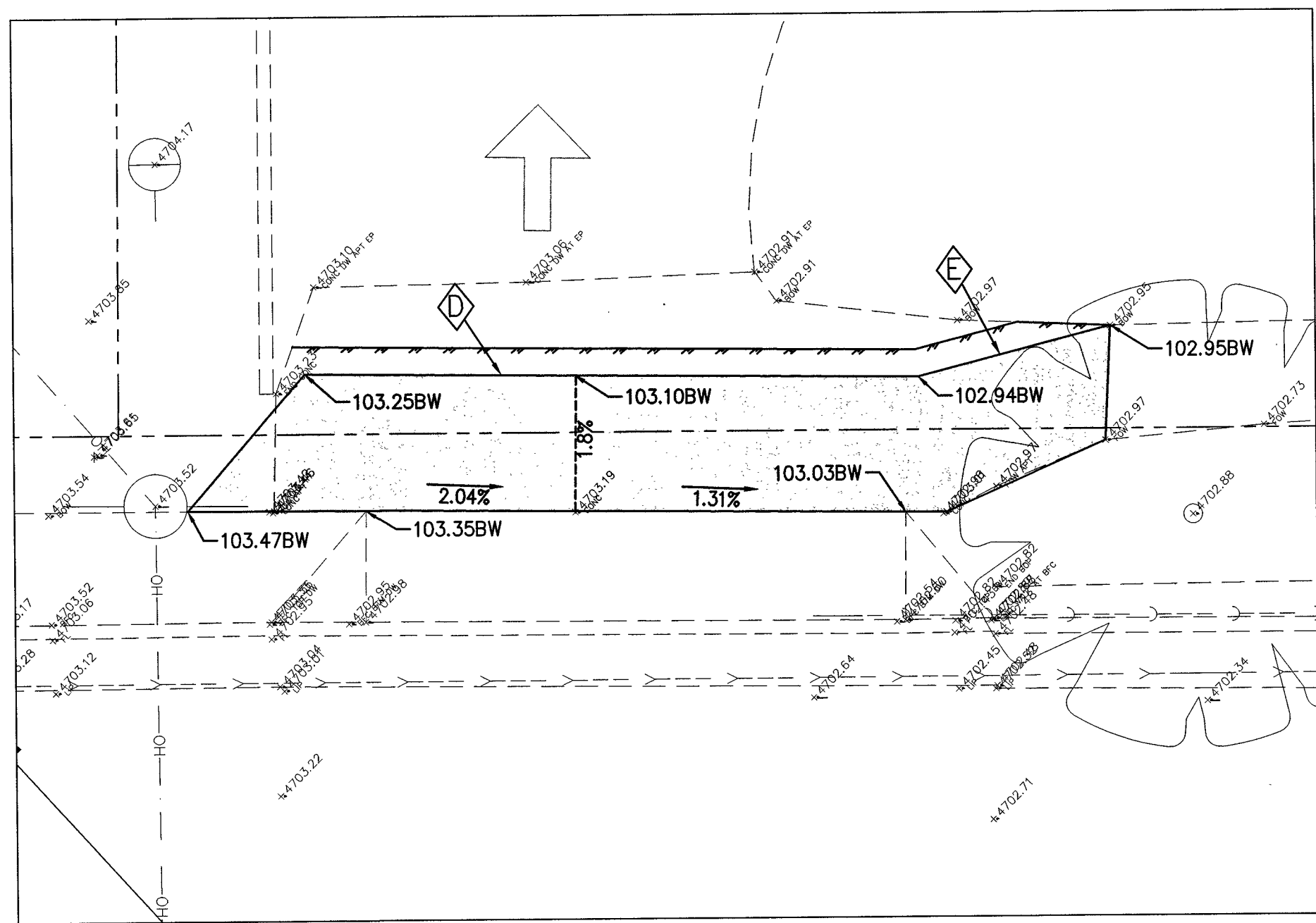
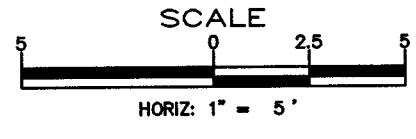
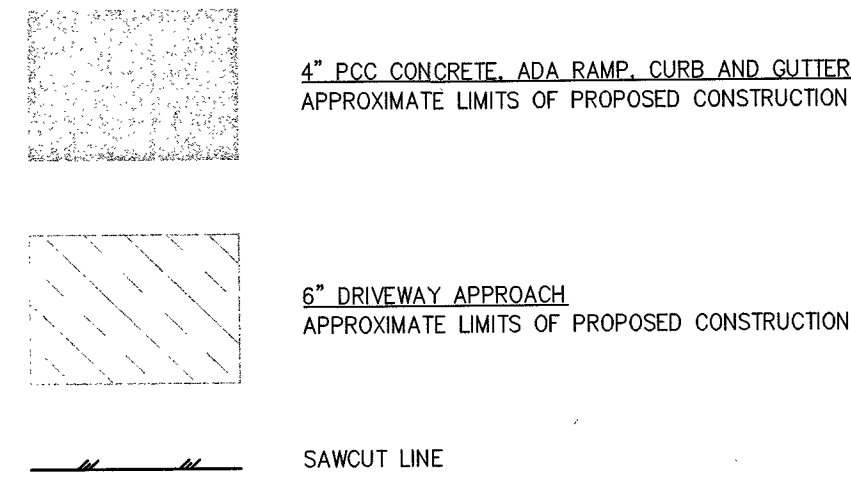
PROJECT No. 1415-130

100% SUBMITTAL

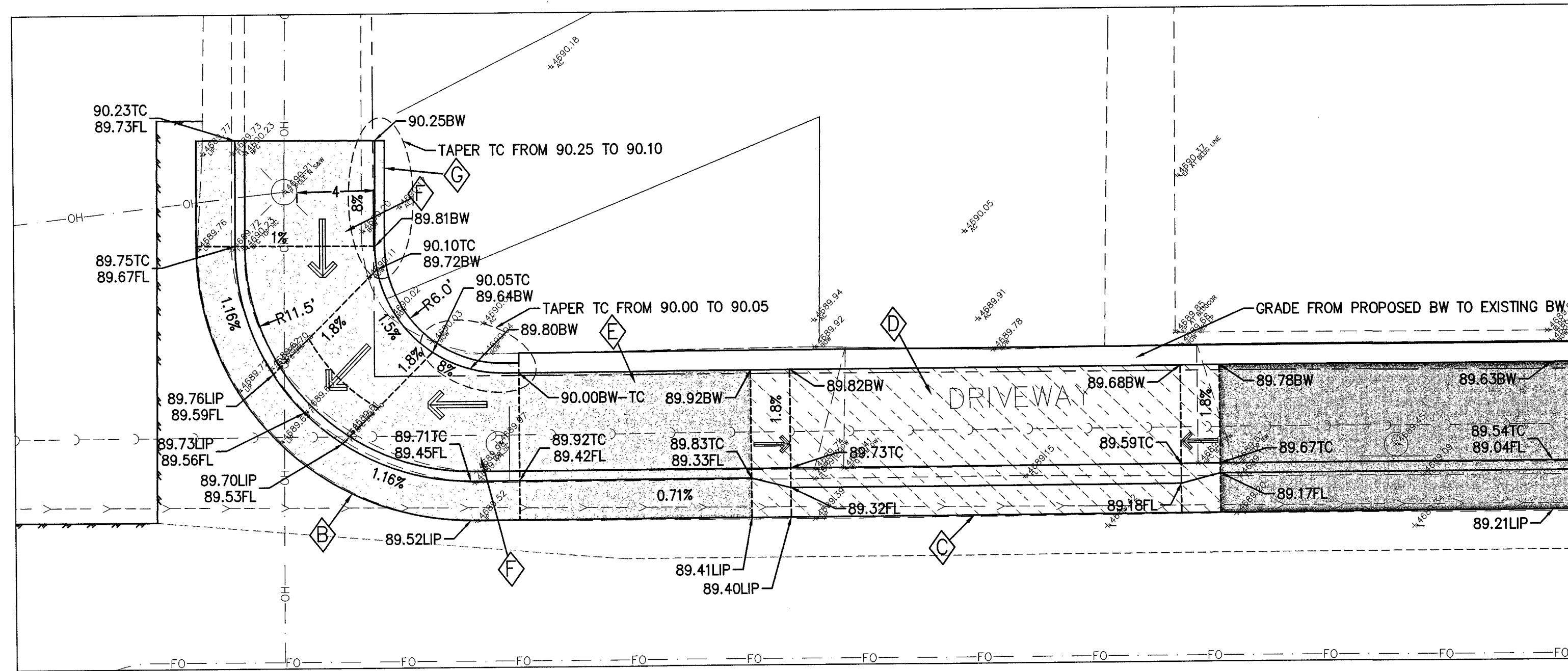


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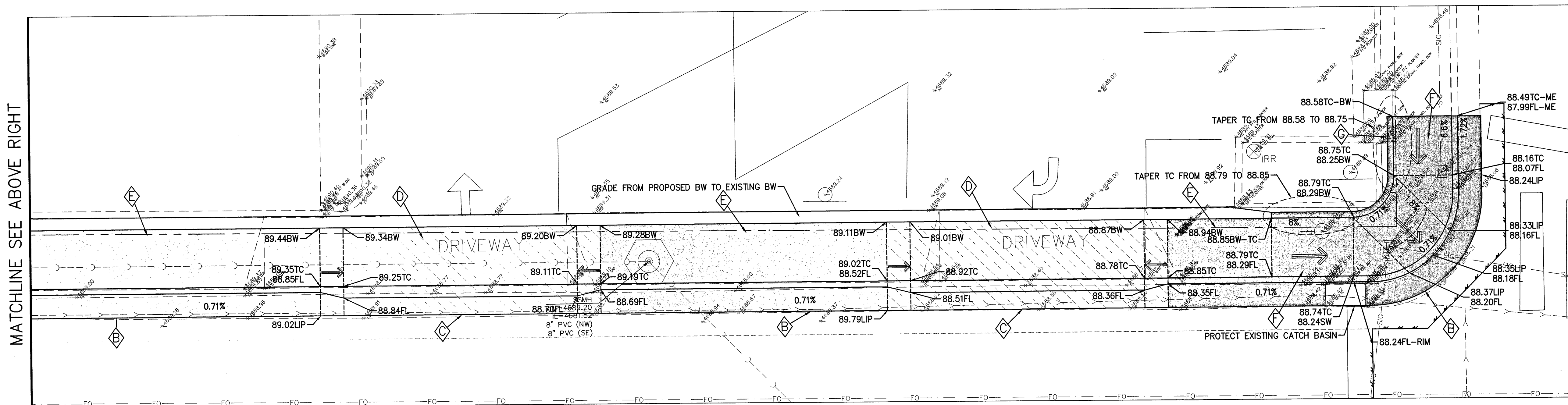
- Ⓢ FURNISH & INSTALL CATCH BASIN PER DETAIL, SHEET 24
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- Ⓢ FLEXIBLE GUIDE POSTS (GLUE-DOWN)



**N WASHINGTON - WEST OF MINNESOTA LABCORP DRIVE**  
SCALE: 1" = 5'



**CURRY & WASHINGTON - NE CORNER**  
SCALE: 1" = 5'



**CARSON & WASHINGTON - NW CORNER**  
SCALE: 1" = 5'

MATCHLINE SEE BELOW LEFT

MATCHLINE SEE ABOVE RIGHT

PROJ. MGR.: JPB  
PROJ. ASSOC.: CAP  
CHECKED BY: CAP  
DWG NO.: CCN.CONV32.01  
SCALE (HORIZ): AS SHOWN  
SCALE (VERT): AS SHOWN  
PILOT DATE: JUNE 2015

**CARSON CITY PUBLIC WORKS DEPARTMENT**  
3505 BUTTE WAY CARSON CITY, NEVADA 89701  
TEL: 867-2585 FAX: 867-2112

**Manhard CONSULTING LTD**  
3476 Executive Pointe Way, Suite 12 Carson City, NV 89706  
TEL: (775) 882-5650 FAX: (775) 882-5650

PROFESSIONAL ENGINEER-STATE OF NEVADA  
CHRISTOPHER ALAN PETERSON  
Exp. 12/31/15  
CIVIL  
No. 16143  
06/24/2015

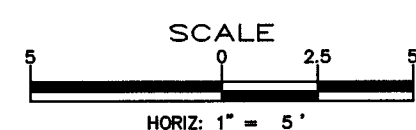
REV.	DATE	DESCRIPTION	BY	APP.
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EAST/WEST WATER TRANSMISSION MAIN  
PHASE 2A-2  
PROJECT No: 1415-130  
DETAILED GRADING

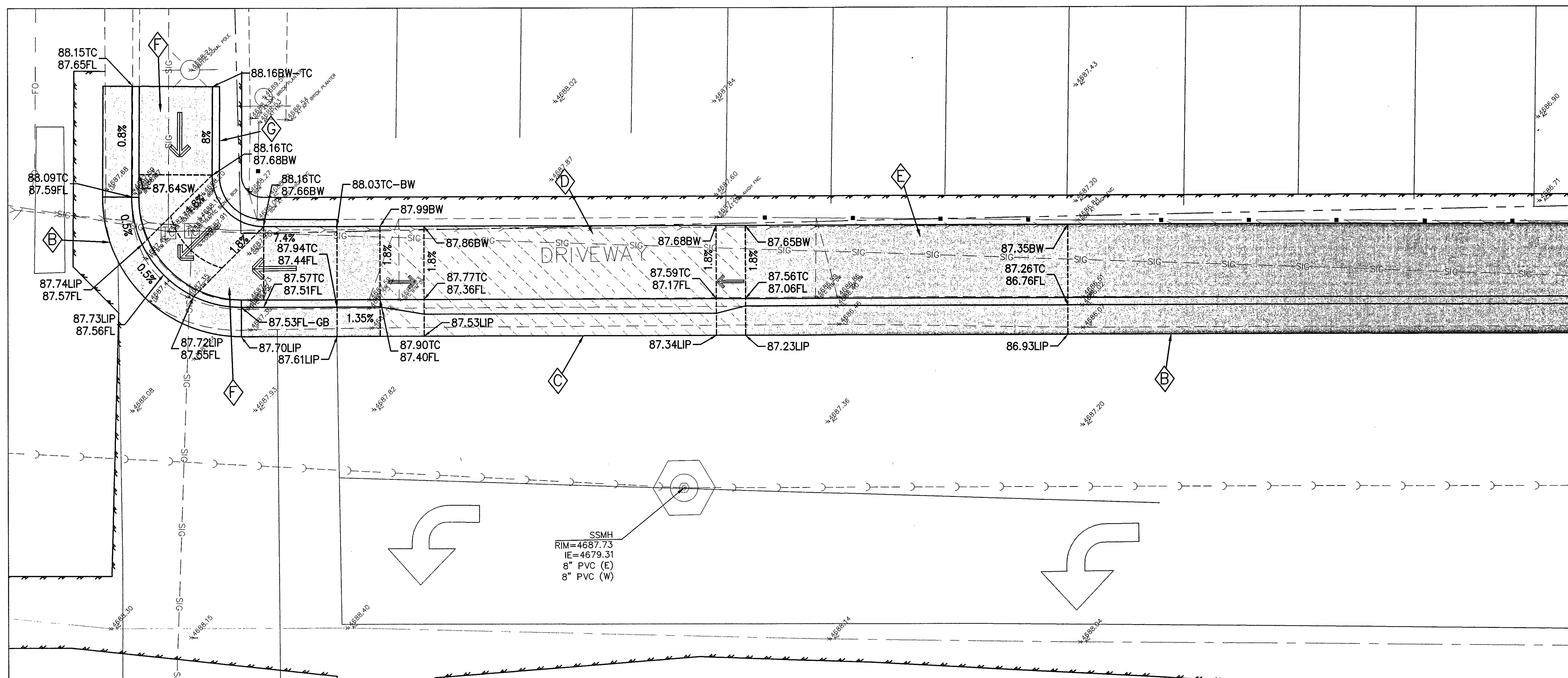


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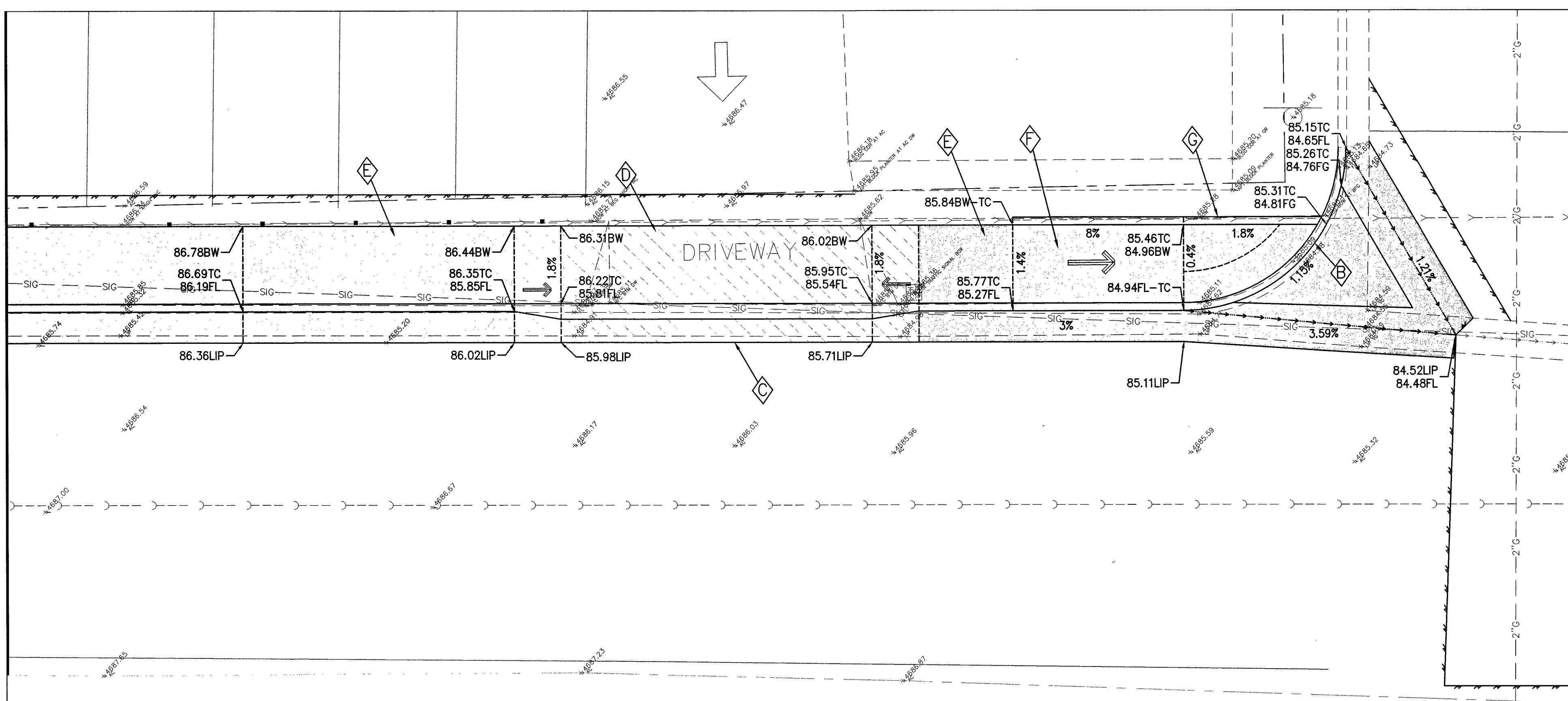


- ◆ 4" PCC CONCRETE, ADA RAMP, CURB AND GUTTER  
APPROXIMATE LIMITS OF PROPOSED CONSTRUCTION
- ◆ 6" DRIVEWAY APPROACH  
APPROXIMATE LIMITS OF PROPOSED CONSTRUCTION
- ◆ SAWCUT LINE

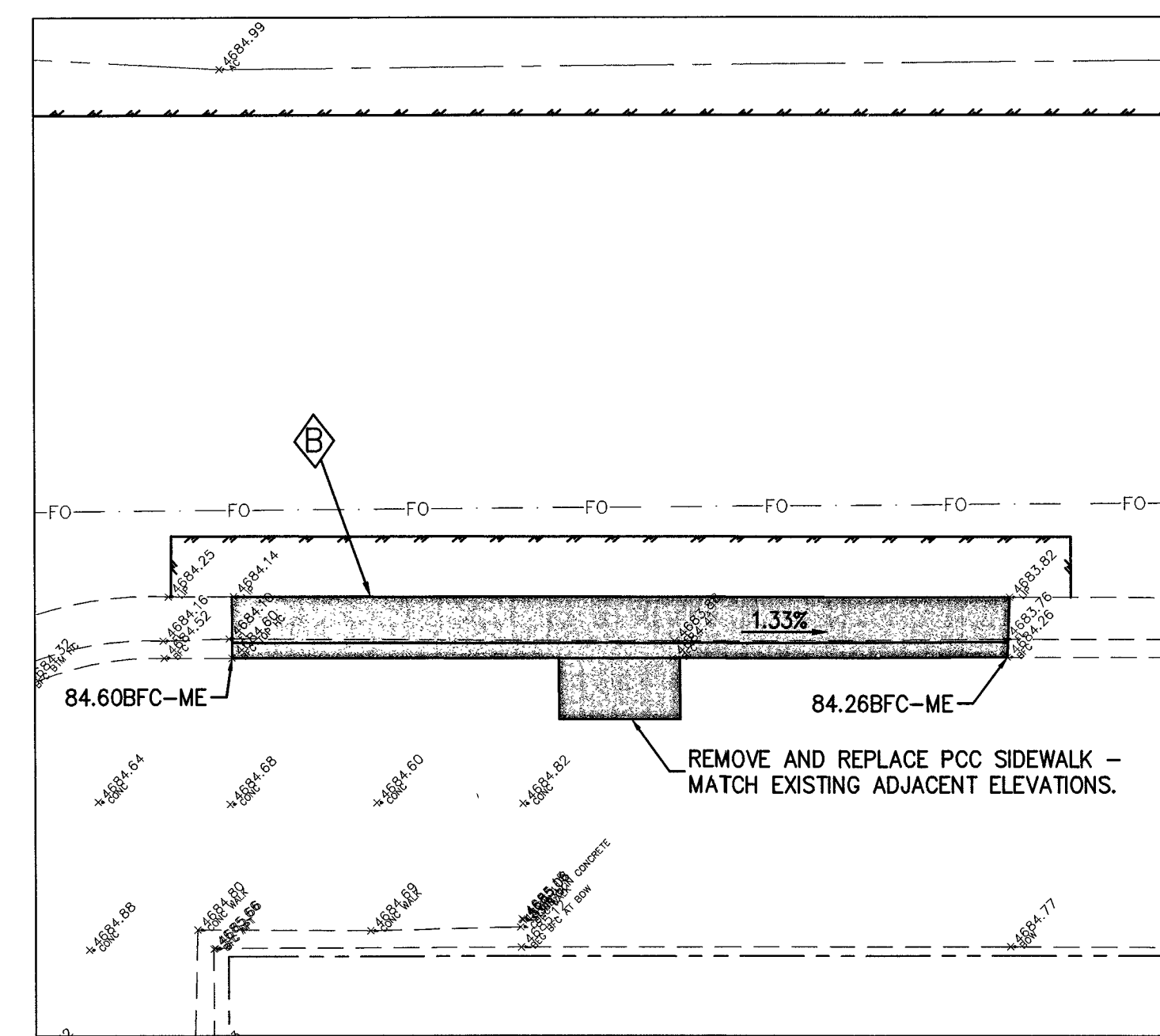


MATCHLINE SEE BELOW LEFT

MATCHLINE SEE ABOVE RIGHT



**PLAZA & WASHINGTON - NW CORNER**  
SCALE: 1" = 5'



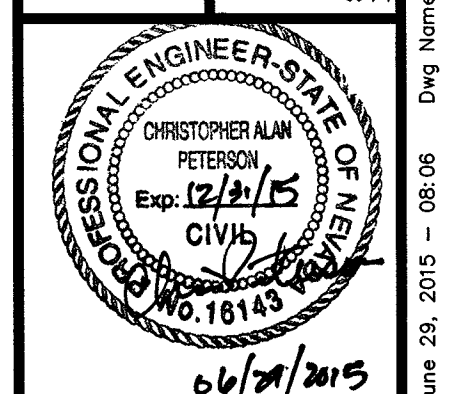
**PLAZA & WASHINGTON - SE CORNER**  
SCALE: 1" = 5'



PROJ. MGR.:	CAP
PROJ. ASSOC.:	JPB
CHECKED BY:	CAP
DWG. NO.:	CCN.CCNV32.01
SCALE (HORIZ):	AS SHOWN
SCALE (VERT):	AS SHOWN
PLOT DATE:	JUNE 2015

**CARSON CITY  
PUBLIC WORKS DEPARTMENT**  
3505 BUTTE WAY CARSON CITY, NV 89701  
PH: 897-2385

**Manhard  
CONSULTING LTD**  
3478 Executive Pointe Way, Suite 12 Carson City, NV 89706  
PH: (775) 882-5830 FAX: (775) 885-7282



REV.	DATE	DESCRIPTION	BY	APP.
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**EAST/WEST WATER TRANSMISSION MAIN  
PHASE 2A-2  
PROJECT No: 1415-130  
DETAILED GRADING**

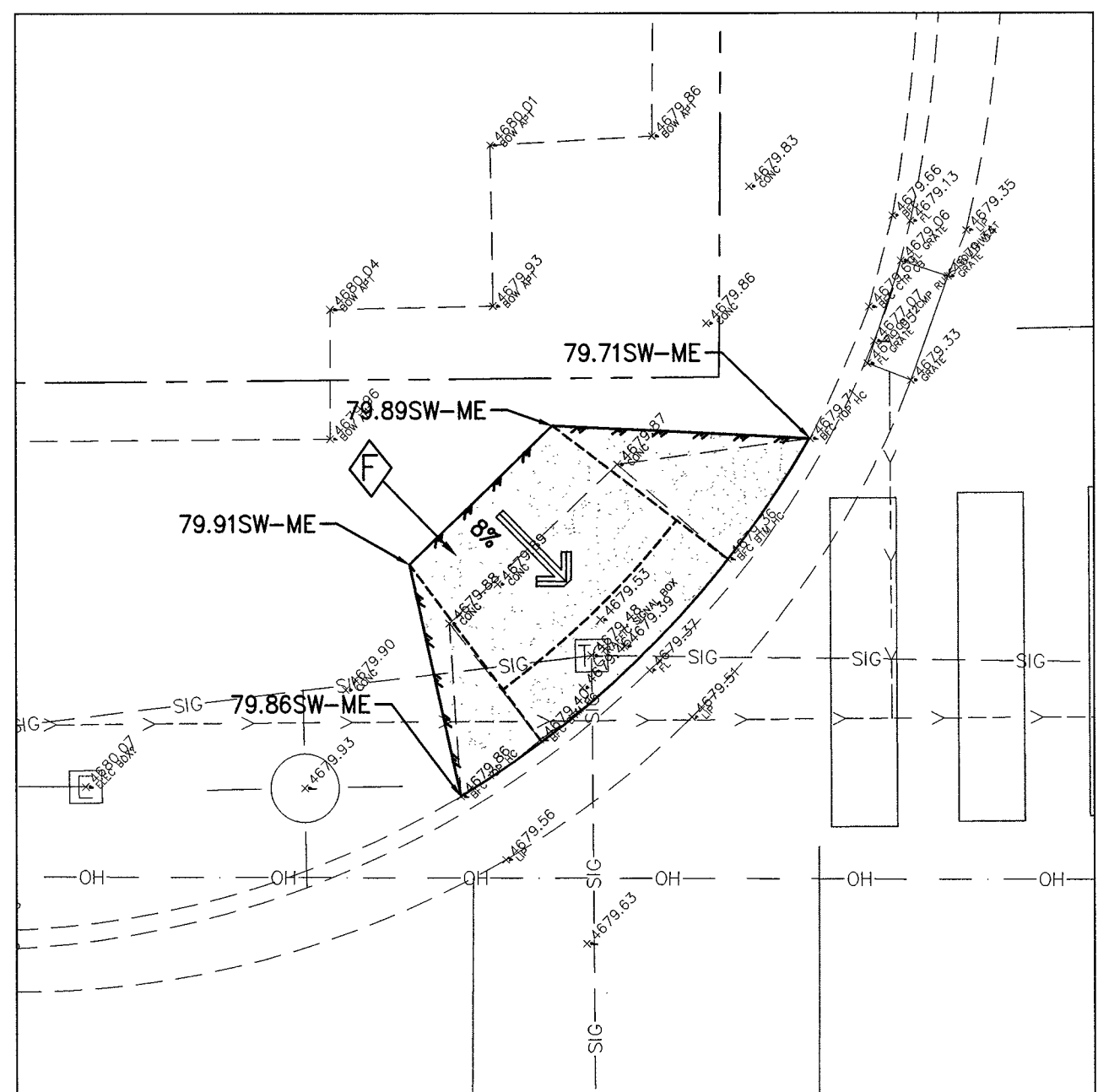
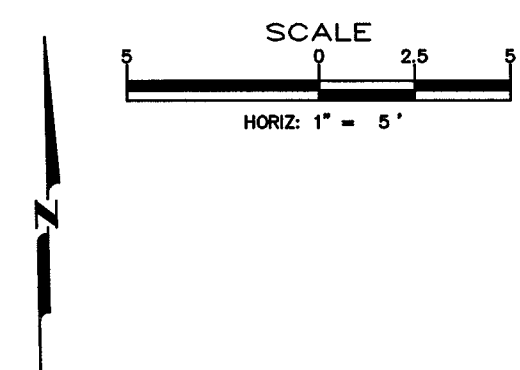
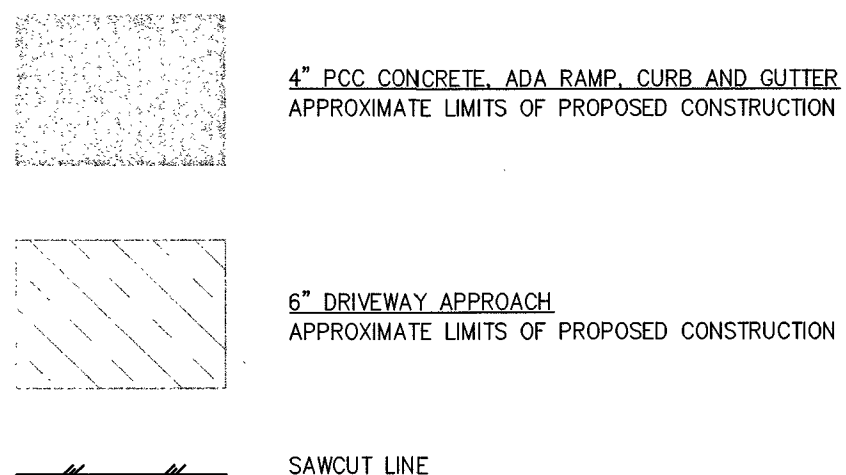
SHEET  
**18**  
OF  
**24**

PROJECT No. 1415-130  
100% SUBMITTAL

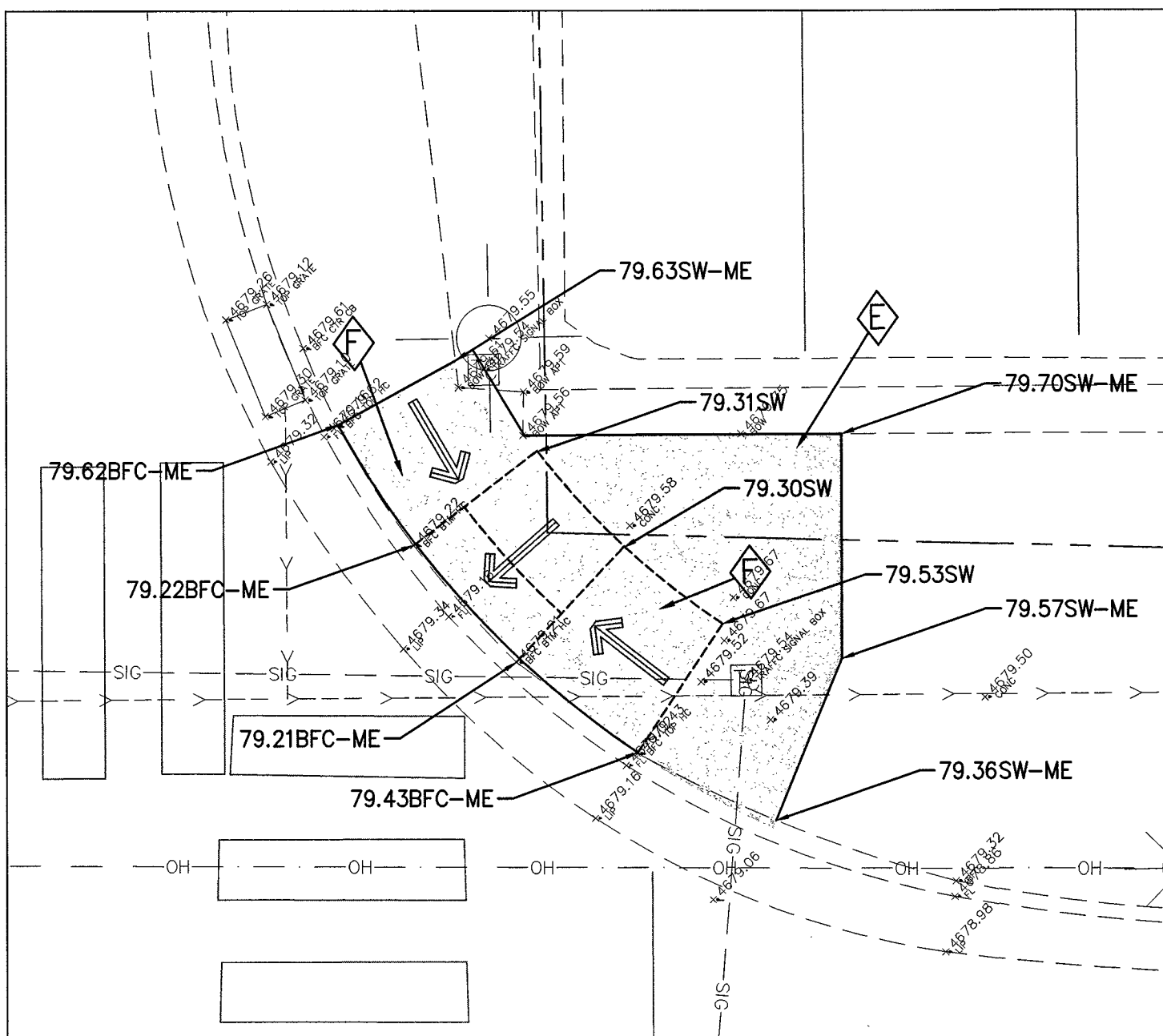


**KEYNOTES:**

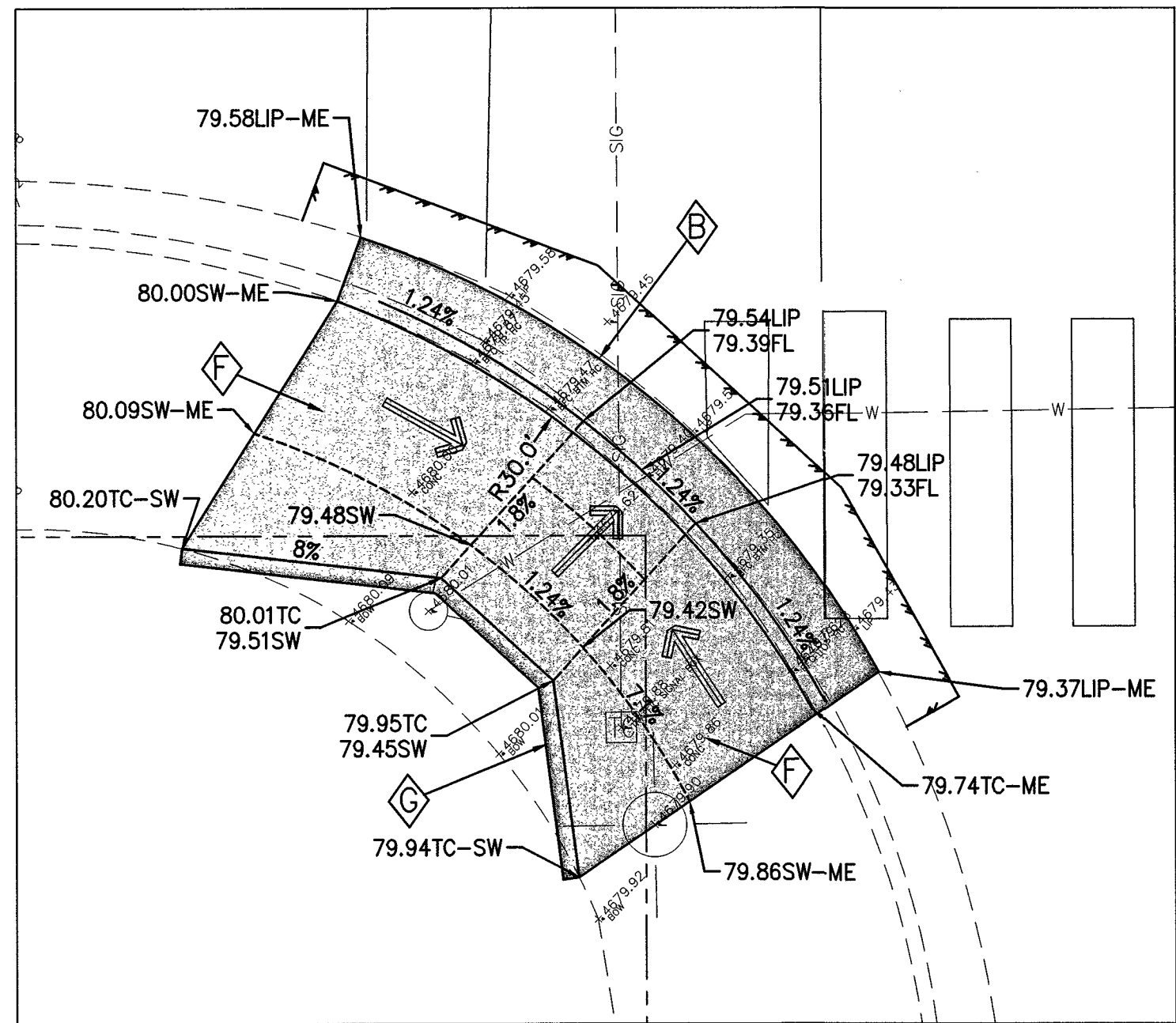
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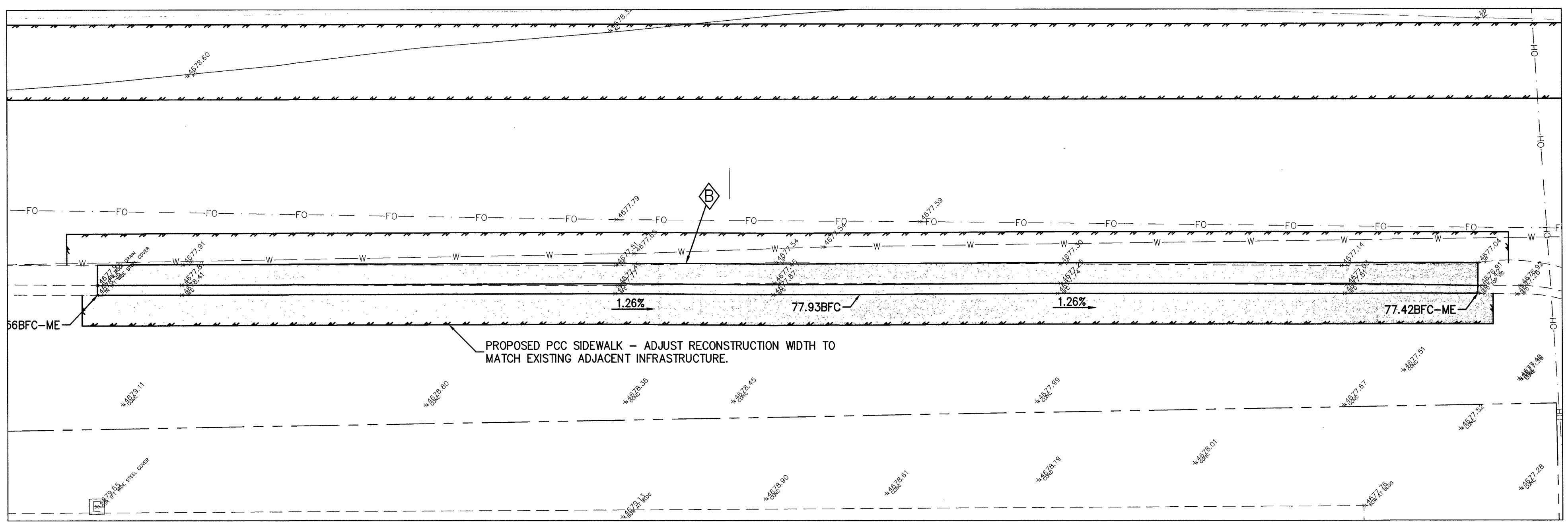
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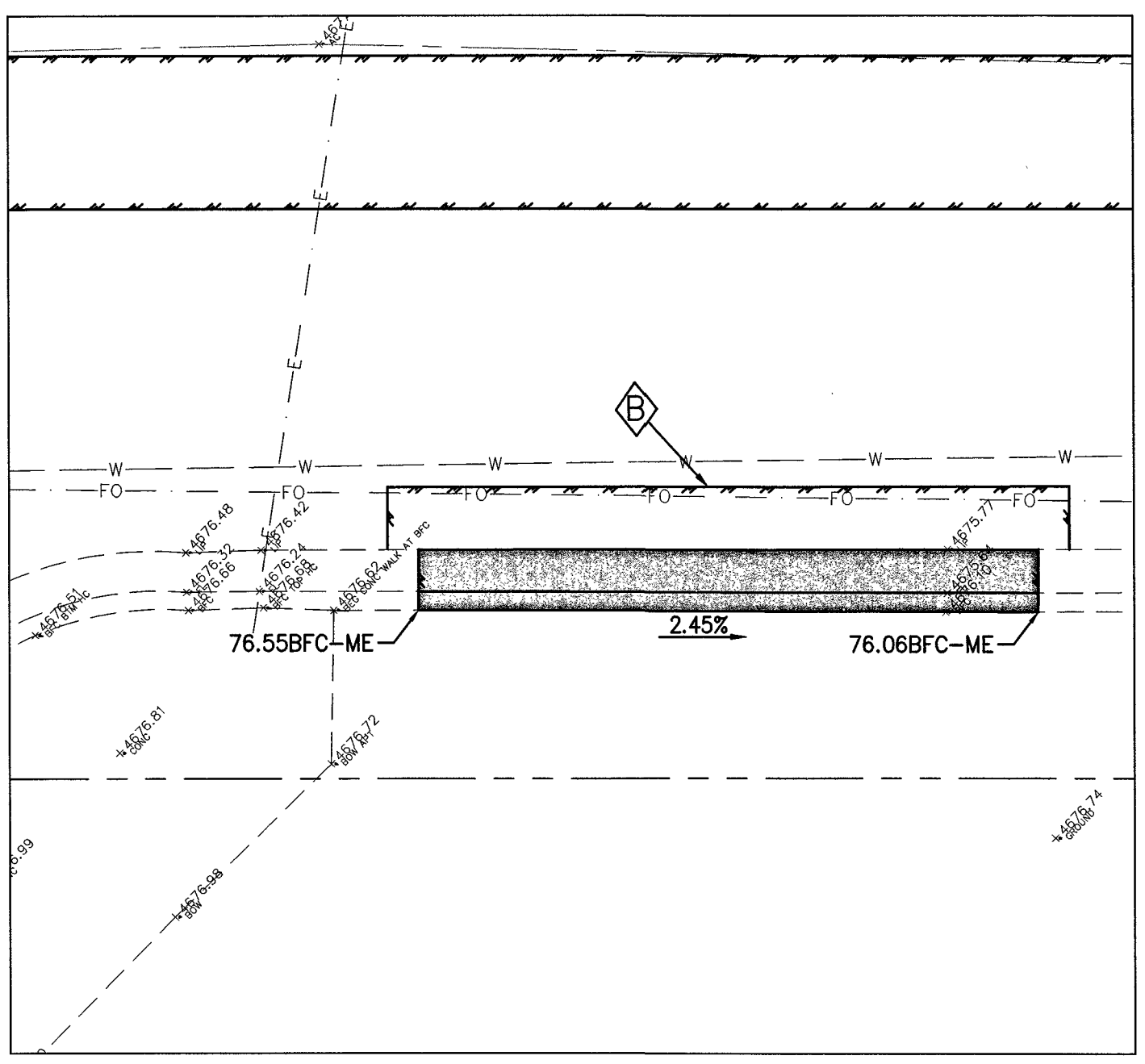
**STEWART & WASHINGTON - NE CORNER**  
SCALE: 1" = 5'



**STEWART & WASHINGTON - SW CORNER**  
SCALE: 1" = 5'



**S WASHINGTON - BETWEEN STEWART AND VALLEY**  
SCALE: 1" = 5'



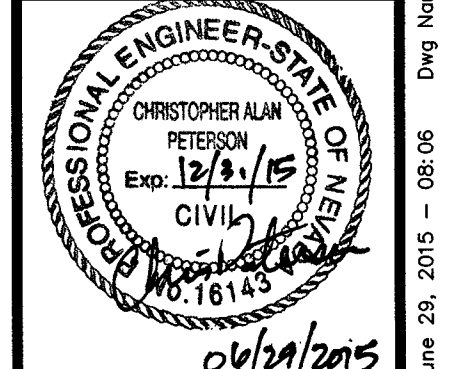
**VALLEY & WASHINGTON - SE CORNER**  
SCALE: 1" = 5'



PROJ. MGR.: CAP  
 PROJ. ASSOC.: JFB  
 CHECKED BY: CAP  
 DWG NO.: CON.CCNV32.01  
 SCALE (HORIZ): AS SHOWN  
 SCALE (VERT): AS SHOWN  
 PLOT DATE: JUNE 2015

**CARSON CITY  
 PUBLIC WORKS DEPARTMENT**  
 3605 BUTTE WAY CARSON CITY, NEVADA 89701  
 PH: 887-2385 FAX: 887-2112

**Manhard  
 CONSULTING LTD**  
 3476 Executive Pointe Way, Suite 12  
 Carson City, NV 89706  
 PH: (775) 882-5630 FAX: (775) 882-5630



REV.	DATE	DESCRIPTION	BY	APP.
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**EAST/WEST WATER TRANSMISSION MAIN  
 PHASE 2A-2  
 PROJECT No: 1415-130  
 DETAILED GRADING**

SHEET  
**19**  
 OF  
**24**

PROJECT No. 1415-130  
100% SUBMITTAL

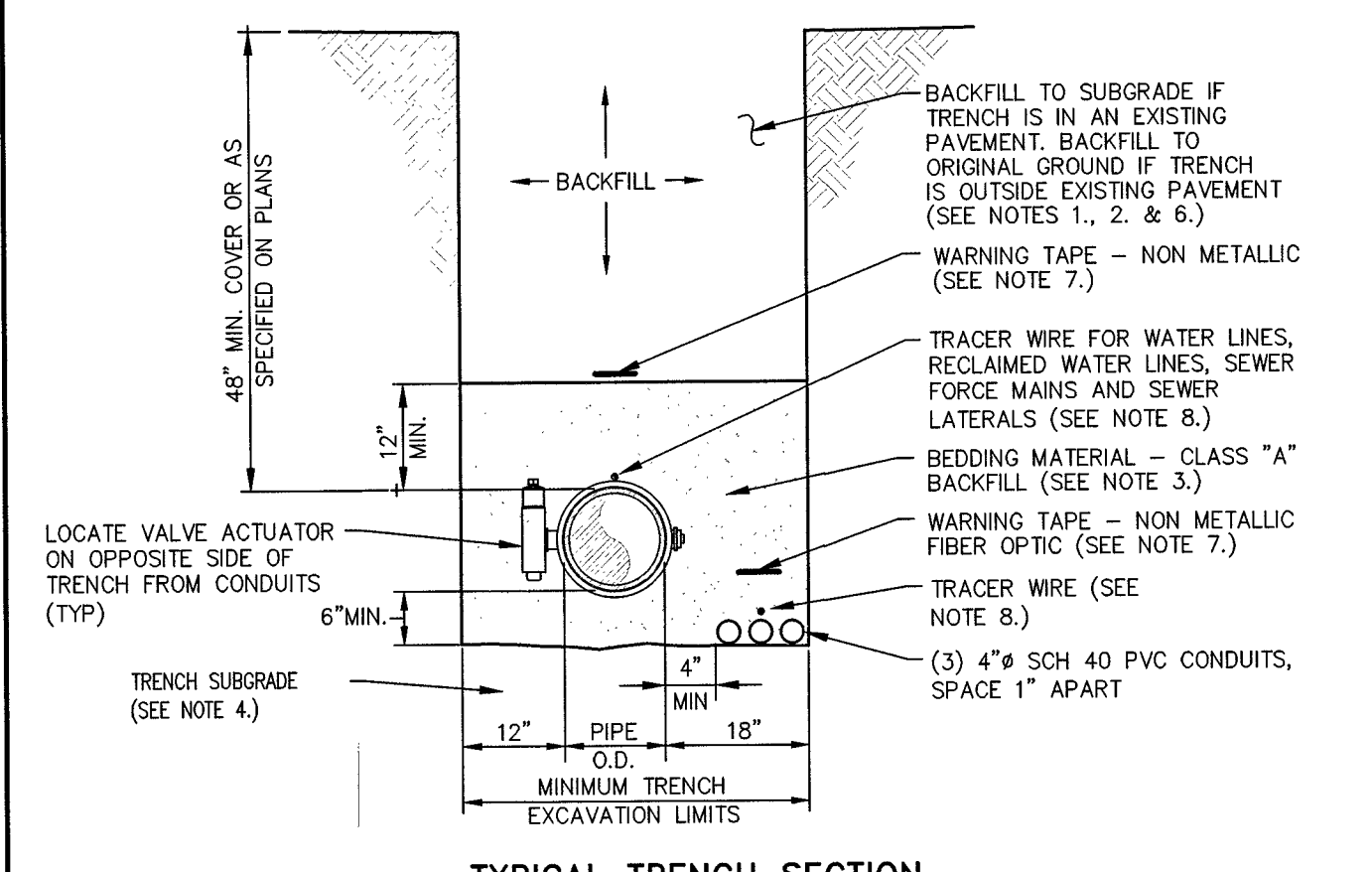


- ALL WORK SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (SSPWC) AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" (SDPWC) AS ADOPTED BY CARSON CITY. THE CONTRACTOR SHALL OBTAIN A PERMIT FOR PUBLIC WORKS CONSTRUCTION FROM THE CARSON CITY PERMIT CENTER PRIOR TO THE START OF CONSTRUCTION.
- ALL TRAFFIC CONTROL AND BARRICADING WITHIN THE CARSON CITY RIGHT-OF-WAY SHALL CONFORM TO SECTION 100.33, 332.04 AND 332.05 OF THE STANDARD SPECIFICATIONS, PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND THE UNR T2 CENTER, TEMPORARY TRAFFIC CONTROL GUIDELINES LATEST EDITION. A TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CARSON CITY ENGINEERING DIVISION PRIOR TO ANY STREET CLOSURES.
- THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT "CALL BEFORE YOU DIG" (811) OR (1-800-227-2600) AT LEAST TWO (2) WORKING DAYS PRIOR TO START OF CONSTRUCTION AND COMPLY WITH THE REQUIREMENTS OF NRS AND NAC 455 THROUGHOUT THE COURSE OF THE WORK. SEWER SERVICE LATERALS ARE NOT OWNED OR MARKED BY CARSON CITY.
- THE CONTRACTOR SHALL CALL THE CARSON CITY ENGINEERING DIVISION (897-2300) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL ONE (1) WORKING DAY PRIOR TO REQUIRED INSPECTIONS AND TESTING. THE REQUIRED INSPECTIONS AND TESTING ARE LISTED ON THE INSPECTION RECORD ISSUED WITH EACH PERMIT. THE CONTRACTOR MUST HAVE THE PERMIT NUMBER AND THE DESCRIPTION LISTED ON THE INSPECTION RECORD TO SCHEDULE SCHEDULED INSPECTIONS AND TESTING. FOR CITY CONTRACTED PROJECTS, THE CONTRACTOR SHALL SCHEDULE INSPECTIONS PER THE CONTRACT DOCUMENTS.
- FINAL INSPECTIONS WILL BE PERFORMED BY CARSON CITY ENGINEERING DIVISION ACCORDING TO THE CARSON CITY INSPECTIONS AND TESTING PROCEDURES. NOTE: THESE PROCEDURES REQUIRE SUBMITTAL OF RECORD DRAWING PRINTS BY THE CONTRACTOR AND 10 WORKING DAYS TO PREPARE A FINAL PUNCH LIST. ALL CONDITIONS OF THE FINAL INSPECTION MUST BE COMPLETED PRIOR TO FINAL ACCEPTANCE OR ANY APPROVAL OF A CERTIFICATE OF OCCUPANCY BY THE CARSON CITY ENGINEERING DIVISION.
- MODIFICATIONS TO THE APPROVED PLANS REQUIRES REVIEW AND APPROVAL BY THE CARSON CITY ENGINEERING DIVISION. WORK PERFORMED WITHOUT WRITTEN APPROVAL BY CARSON CITY ENGINEERING WILL REQUIRE REMOVAL AT THE CONTRACTORS EXPENSE.
- THE APPROVED PLAN, PERMIT AND INSPECTION RECORD MUST BE ON THE JOB SITE AT ALL TIMES.
- PLAN APPROVAL FOR SEWER AND WATER CONSTRUCTION SHALL EXPIRE ONE YEAR FROM DATE OF APPROVAL UNLESS CONSTRUCTION HAS BEEN INITIATED. (COMC 12.06.180F, 12.01.140D)
- THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR ACQUIRING A STORMWATER DISCHARGE PERMIT FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP) INCLUDING DEVELOPING, SUBMITTING AND IMPLEMENTING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL DEVELOP, PLACE AND MAINTAIN STORM WATER PROTECTION DEVICES IN COMPLIANCE WITH THE NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (JUNE 2008).

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 2	05/14		CARSON CITY

APPROVED BY: [Signature] 05/14

### GENERAL NOTES

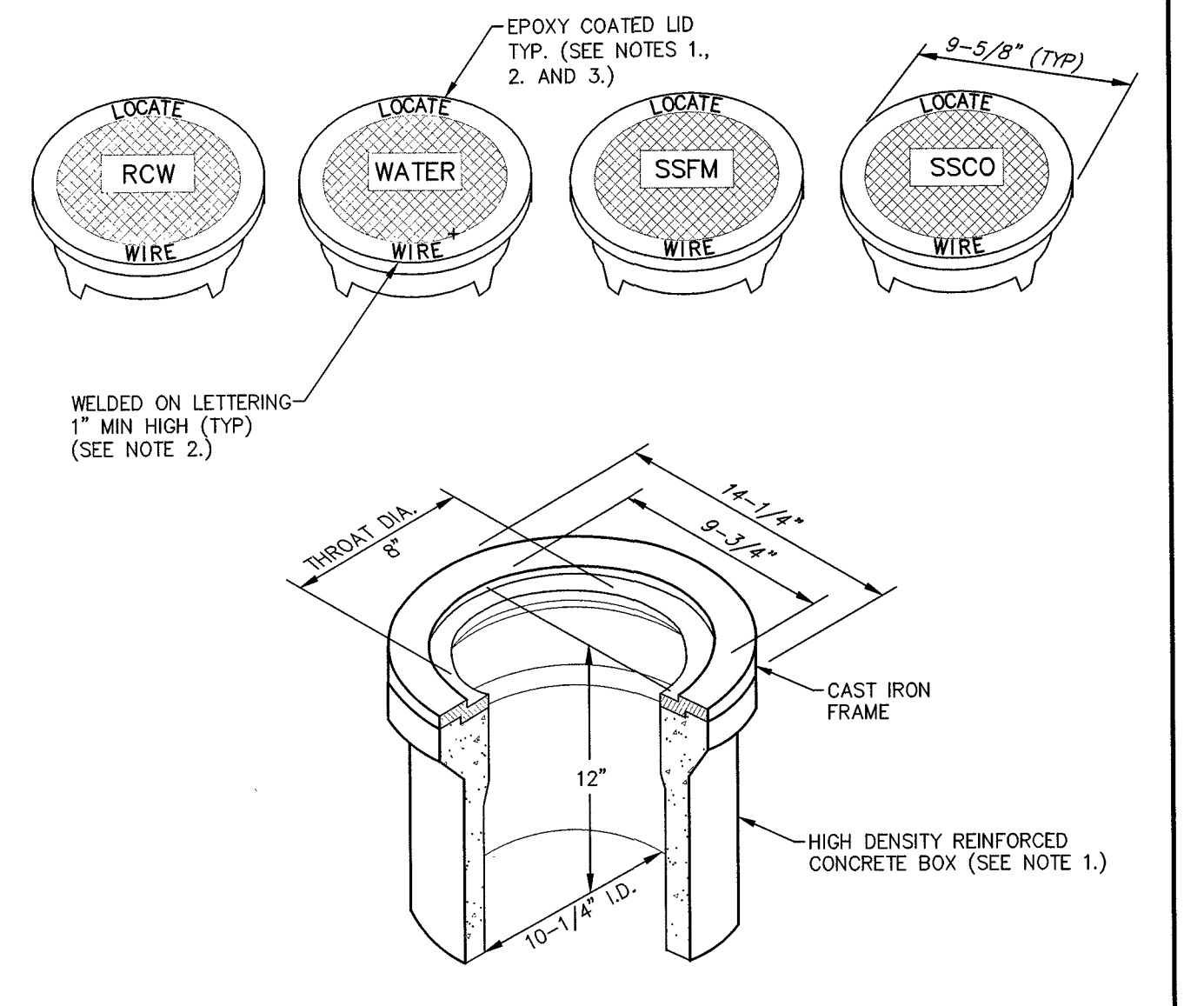


- NOTES:**
- WATER DENSIFIED BACKFILL AND TUNNELING SHALL BE BY SPECIAL PROVISION ONLY.
  - BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF CLASS B BACKFILL AS SPECIFIED IN SUBSECTION 200.03.06 OF THE SSPWC. MATERIAL SHALL BE PLACED IN LIFT THICKNESS SPECIFIED IN SUBSECTION 305.10 OF THE SSPWC AND DENSIFIED TO 90% RELATIVE COMPACTION.
  - BEDDING SHALL CONFORM TO THE REQUIREMENTS OF CLASS A BACKFILL AS SPECIFIED IN SUBSECTION 200.03.02 OF THE SSPWC. MATERIAL SHALL BE DENSIFIED TO 90% RELATIVE COMPACTION.
  - PLANS SHALL INCLUDE A DETAIL FOR SUBGRADE STABILIZATION INCLUDING BACKFILL MATERIAL, STRUCTURAL GEOTEXTILE FILTER FABRIC AND MODIFIED CUTOFF COLLARS WHEN POTENTIAL FOR UNSTABLE SUBGRADES EXIST, SUBJECT TO THE APPROVAL OF THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
  - FOR TRENCHES IN ROADWAY SECTION, SEE PAVEMENT PATCH DETAIL (DWS. No. C-5.1.6).
  - FOR THE PURPOSE OF PAYMENT, EXCAVATION AND BACKFILL QUANTITIES ARE BASED ON THESE STANDARD DRAWINGS, AND NO ADDITIONAL COMPENSATION WILL BE MADE. SHORING OR SLOPED CUT SLOPES MAY BE NECESSARY, BUT THERE WILL BE NO ADDITIONAL PAYMENT. ALL EXCAVATIONS SHALL CONFORM TO THE LATEST O.S.H.A. REQUIREMENTS.
  - PLACE NON METALLIC WARNING TAPE 1 FOOT ABOVE ALL BURIED PIPES AND CONDUITS.
  - TRACER WIRE SHALL BE 12 GAUGE (MINIMUM THICKNESS) INSULATED SOLID COPPER OR COPPER-CLAD STEEL CORE WIRE. INSULATION SHALL BE 30 MIL HDPE. PLANS SHALL SPECIFY WIRE STRENGTH AND INSULATION THICKNESS FOR BORING APPLICATIONS. SPLICES SHALL BE CONNECTED BY WIRE NUTS, SEALED WITH AQUA SEAL OR SILICON FILLED, AND DOUBLE WRAPPED WITH U/L LISTED ELECTRICAL TAPE. TRACER WIRE COLOR SHALL BE, BLUE FOR WATER, PURPLE FOR RECLAIMED WATER, GREEN FOR SEWER, AND YELLOW FOR ELECTRICAL/FIBER OPTIC.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1		7/09		CARSON CITY

APPROVED BY: [Signature] 7/09

### TRENCH EXCAVATION AND BACKFILL - MODIFIED

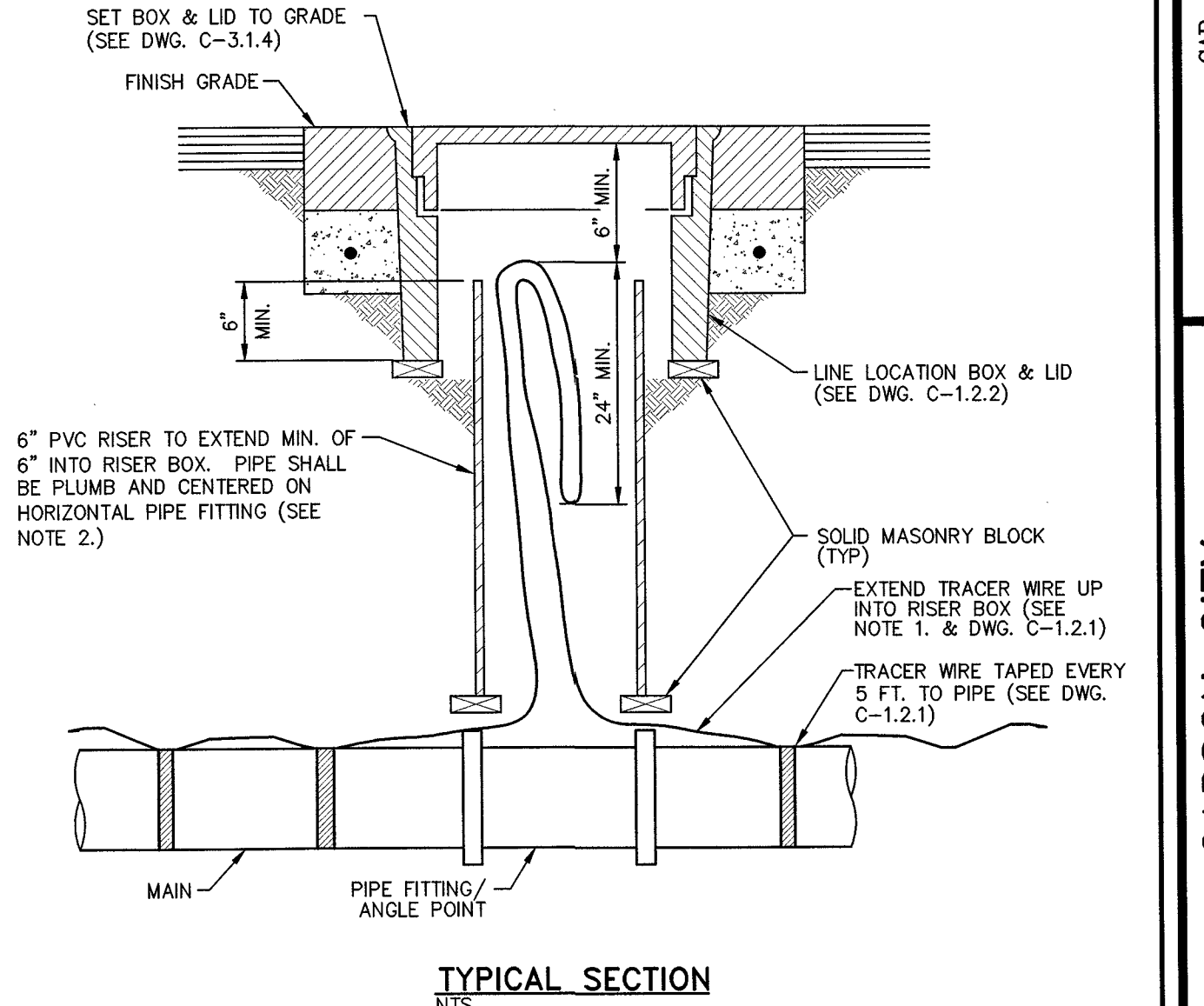


- NOTES:**
- BOX AND LID SHALL BE TRAFFIC RATED WITH A MINIMUM INSIDE DIAMETER OF 10 INCHES (CHRISTY G3 TRAFFIC VALVE BOX & LID).
  - CAST IRON LID SHALL BE MARKED AT THE FACTORY "LOCATE WIRE", AND "WATER" FOR WATER APPLICATIONS, "RCW" FOR RECLAIMED WATER APPLICATIONS, "SSFM" FOR SANITARY SEWER FORCE MAIN APPLICATIONS, AND "SSCO" FOR SANITARY SEWER CLEANOUT APPLICATIONS.
  - CAST IRON LID SHALL BE EPOXY COATED AT THE FACTORY, OR POWDER COATED, COLOR SHALL BE BLUE FOR WATER APPLICATIONS, PURPLE FOR RECLAIMED WATER APPLICATIONS AND GREEN FOR SANITARY SEWER APPLICATIONS.
  - BOX SHALL BE SET OR ADJUSTED TO GRADE PER DRAWING NO. C-3.1.4, RISER FOR ADJUSTED BOX SHALL BE PER DRAWING NO. C-3.1.4 FOR OVERLAY ADJUSTMENTS, RISER WILL NOT REQUIRE REPLACEMENT OR EXTENSION IF IT EXTENDS A MINIMUM OF 2 INCHES INTO ADJUSTED BOX.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1		7/2009		CARSON CITY

APPROVED BY: [Signature] 7/2009

### LINE LOCATION BOX & LID



- NOTES:**
- WIRE SHALL BE CONTINUOUS IN RISER AND SHALL NOT BE SPLICED WITHIN 10 FEET OF RISER.
  - RISER COLOR SHALL BE BLUE, OR SAME COLOR AS MAIN FOR WATER APPLICATIONS, PURPLE FOR RECLAIMED WATER APPLICATIONS, AND GREEN FOR SANITARY SEWER APPLICATIONS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1		07/09		CARSON CITY

APPROVED BY: [Signature] 07/09

### LINE LOCATION RISER

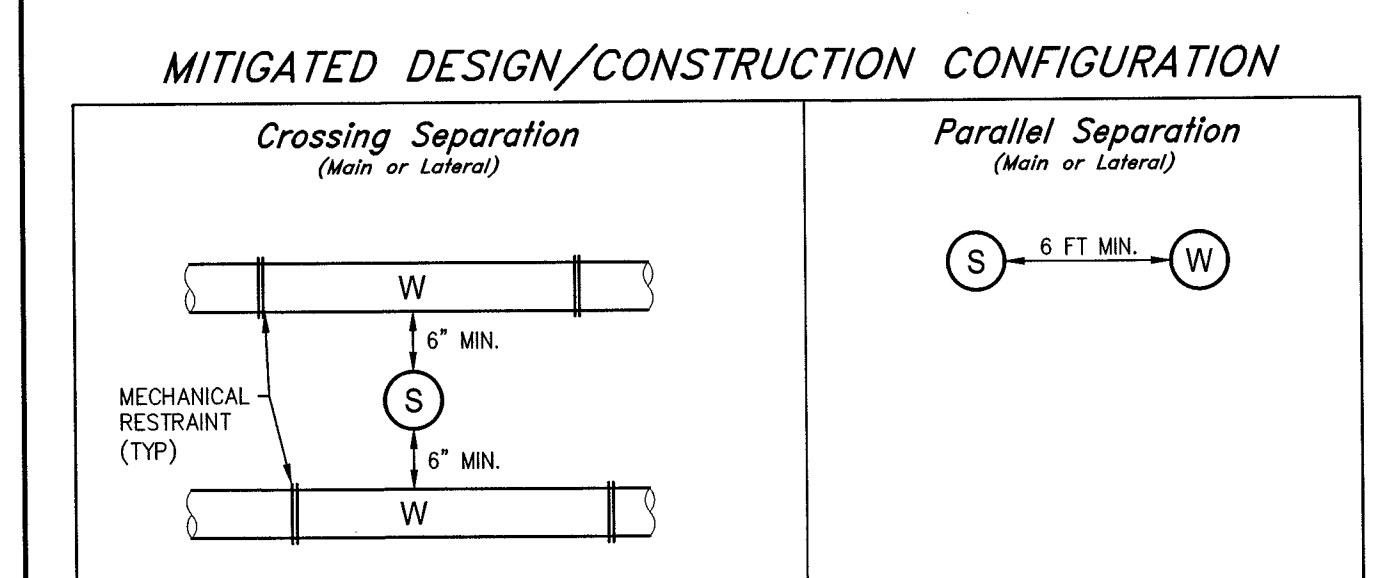
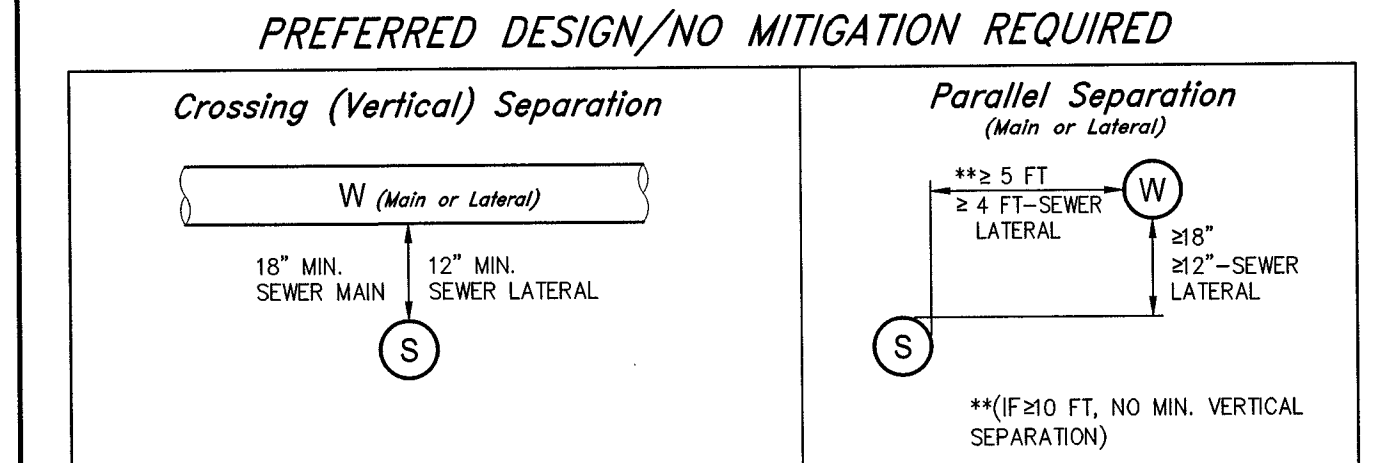
- WATER MAIN SHUTDOWNS/INTERRUPTION OF WATER/FIRE SERVICE, OBTAIN TENTATIVE APPROVAL FROM CARSON CITY WATER UTILITY PRIOR TO PLANNING A SHUTDOWN. APPROVAL IS REQUIRED ONE WORKING DAY PRIOR TO NOTIFICATION OF CUSTOMERS. COMMERCIAL CUSTOMERS SHALL RECEIVE 2 WORKING DAYS WRITTEN AND VERBAL NOTICE OF A SHUTDOWN. SPECIAL ARRANGEMENTS INCLUDING NIGHT TIME SHUTDOWNS MAY BE REQUIRED OF THE CONTRACTOR TO ACCOMMODATE CUSTOMER OPERATIONS. RESIDENTIAL CUSTOMERS SHALL RECEIVE 24 HOURS WRITTEN NOTICE. WHEN WORK IS PERFORMED BY CITY STAFF, THE CITY IS RESPONSIBLE FOR THE NOTIFICATION. THE CONTRACTOR IS RESPONSIBLE IN ALL OTHER CASES. A LIST SHALL BE KEPT BY THE RESPONSIBLE PARTY LISTING THE DATE, TIME AND ADDRESS OF ALL PERSONS NOTIFIED. THE PERSON NOTIFIED SHALL BE INCLUDED ON THE LIST FOR ALL COMMERCIAL CUSTOMERS. CONTACT CARSON CITY WATER UTILITY FOR PHONE NUMBERS WHEN COMMERCIAL CUSTOMERS CANNOT BE LOCATED. THE CONTRACTOR WILL BE SUBJECT TO DAMAGE CLAIMS SHOULD THEY FAIL TO NOTIFY CUSTOMERS OR MAINTAIN DOCUMENTATION OF NOTIFICATION OF CUSTOMERS. THE TOTAL TIME OF ANY WATER SERVICE INTERRUPTION IS LIMITED TO 4 HOURS MAXIMUM. THE CONTRACTOR SHALL NOT OPERATE ANY EXISTING WATER VALVES. WATER MAIN SHUTDOWNS WILL ONLY BE SCHEDULED FOR TUESDAYS, WEDNESDAYS, OR THURSDAYS, EXCLUDING THE WORKING DAYS BEFORE AND AFTER A HOLIDAY. CONTRACTOR SHALL MAKE A WRITTEN REQUEST, TO THE WATER OPERATIONS CHIEF, A MINIMUM OF 10 CALENDAR DAYS IN ADVANCE OF ANY PLANNED SHUTDOWN.
- WATER MAINS (6 INCH THRU 12 INCH) SHALL BE PVC C900, DR 18 (MINIMUM WALL THICKNESS) UNLESS HIGHER PRESSURE IS SPECIFIED ON THE PLANS. WATER SERVICES 2 INCHES OR LESS SHALL BE CTS, PE TUBING MINIMUM 200 PSI. WATER SERVICES 3 INCHES OR GREATER SHALL BE 4 INCH MINIMUM DIAMETER PVC C900, DR 18 OR AS SPECIFIED ON THE PLANS.
- MAINTAIN 18 INCHES VERTICAL AND 5 FEET HORIZONTAL SEPARATION BETWEEN ALL UNDERGROUND UTILITY LINES AND WATER LINES. IF WATER LINE IS BELOW POWER LINE OR IS WITHIN 18 INCH VERTICAL SEPARATION OF POWER LINE, POWER/TELEPHONE LINE SHALL BE ENCASED WITH 4 INCHES MINIMUM OF CONCRETE EXTENDING 5 FEET EACH SIDE OF CROSSING. (SEE NV ENERGY SPECS.) CONCRETE ENCASEMENT OF WATER LINES IS NOT ALLOWED.
- ALL HOT TAPS, GREATER THAN 2 INCHES AND LESS THAN 12 INCHES, ARE TO BE PERFORMED BY CARSON CITY WATER UTILITY. THE CONTRACTOR SHALL CONTACT THE WATER OPERATIONS CHIEF AT LEAST 2 WORKING DAYS PRIOR TO SCHEDULING HOT TAP DATE AND TIME (HOT TAPS ARE PERFORMED TUESDAY THRU THURSDAY EXCLUDING THE WORKING DAYS BEFORE AND AFTER A HOLIDAY). PRIOR TO HOT TAPPING, THE SADDLE SHALL BE HYDROSTATICALLY PRESSURE TESTED TO 150 PSI MINIMUM OR THE DESIGN OF PIPE SYSTEM FOR A MINIMUM OF 5 MINUTES. THE TEST SHALL BE PERFORMED IN THE PRESENCE OF THE WATER UTILITY PERSONNEL PRIOR TO PERFORMING THE TAP. ALL TAPPING EQUIPMENT SHALL BE DISINFECTED AND INSPECTED BY CITY FORCES PRIOR TO TAPPING A CITY MAIN.
- WATER VALVE MARKERS SHALL BE BLUE CARSONITE UTILITY MARKER (CUM-375), 5 FEET-2 INCHES (5'-2") WITH CARSON CITY WATER VALVE DECAL (CWV-116) OR APPROVED EQUAL. PLACE MARKER NO MORE THAN 5 FEET FROM THE VALVE OR AS DIRECTED BY THE CARSON CITY INSPECTOR.
- REDUCED PRESSURE PRINCIPLE AND DOUBLE CHECK VALVE BACKFLOW ASSEMBLIES SHALL BE APPROVED BY THE CARSON CITY INSPECTOR, AND TESTED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER, AND TEST RESULTS SHALL BE APPROVED BY CARSON CITY WATER UTILITY. FOR NEW WATER METER SETS, THE REQUIRED BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED, INSPECTED, APPROVED AND CERTIFIED TEST RESULTS PROVIDED TO THE CARSON CITY INSPECTOR WITHIN 5 DAYS OF METER SET, UNLESS THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR APPROVES OTHERWISE. THE SERVICE WILL BE LOCKED OFF IF INSPECTIONS AND CERTIFICATIONS ARE NOT COMPLETED AS SPECIFIED ABOVE. A 25 DOLLAR FEE WILL BE ASSESSED AT TIME OF TURN-ON WHEN LOCK IS REMOVED DURING NORMAL WORKING HOURS. THE FEE WILL BE ASSESSED ON THE BUILDING PERMIT FOR THE INSTALLATION OF THE BACKFLOW DEVICE.
- ALL WATER MAIN, WATER/FIRE SERVICE, AND BACKFLOW PREVENTION INSPECTIONS AND TESTING MUST BE APPROVED PRIOR TO APPROVAL OF ANY CERTIFICATE OF OCCUPANCY.
- DISINFECTION TABLETS SHALL BE PLACED USING TITEBOND MULTI-PURPOSE CLEAR 100X SILICONE OR APPROVED EQUAL FOOD GRADE SILICONE

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 4	05/14		CARSON CITY

APPROVED BY: [Signature] 05/14

### WATER GENERAL NOTES

### WATER/SEWER SEPARATION GUIDELINES



	Crossing Separation (Main or Lateral)	Parallel Separation (Main or Lateral)
Water [W]	Mechanically restrain waterline joints on both sides of the crossing & any other joints within 10 feet; or Jointless pipe or BSDW approved alternative.	Mechanically restrain all waterline joints; or Jointless pipe or BSDW approved alternative.
Sewer [S] (Gravity)	SDR35 PVC pipe (ASTM D3212 joints); or Non SDR35 pipe (RCP, etc.) - external joint sealant (watertight)* or jointless pipe or BSDW approved alternative.	SDR35 PVC pipe (ASTM D3212 joints); or Non SDR35 pipe (RCP, etc.) - external joint sealant (watertight)* or jointless pipe or BSDW approved alternative.
Sewer [S] (Pressurized)	Mechanically restrain sewer joints on both sides of the crossing & any other joints within 10 feet; or Jointless pipe or BSDW approved alternative.	Mechanically restrain all sewer joints; or Jointless pipe or BSDW approved alternative.

Sewer - (e.g. sanitary sewer mains and laterals, storm drains, and reclaimed wastewater mains and laterals.)

Mechanical Restraint - a mechanical coupling to restrict joint movement and separation.

Jointless Pipe - Welded HDPE (AWWA C901/C906), Fusible PVC (Fusible AWWA C900/C905), etc.

\*NPC External Joint Seals, Aquagrip, Inti-Shield Gator Wrap, ASTM C877-08, or approved equal.

### SPECIAL CONSTRUCTION / VERTICAL CROSSING CONFLICTS NOTES:

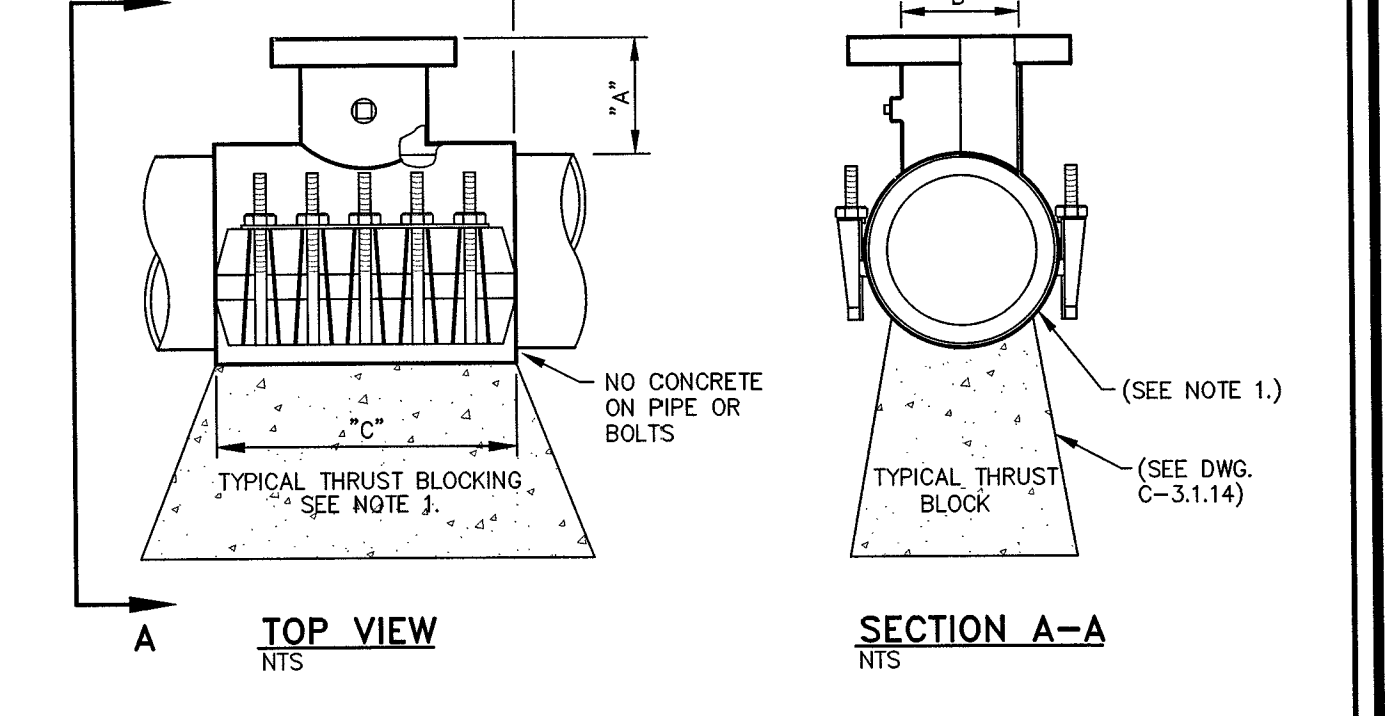
- "SPECIAL CONSTRUCTION" IS REQUIRED WHENEVER SEWER/STORM DRAIN/IRRIGATION/RECLAIMED/NON-POTABLE CROSSES ABOVE WATER, REGARDLESS OF VERTICAL SEPARATION.
- "SPECIAL CONSTRUCTION" IS REQUIRED IF WATER MAIN DOES NOT CROSS AT LEAST 18 INCHES ABOVE SEWER/STORM DRAIN/IRRIGATION/RECLAIMED/NON-POTABLE MAIN.
- AT CROSSINGS REQUIRING "SPECIAL CONSTRUCTION", MITIGATION MUST BE PROVIDED TO BOTH AFFECTED LINES. IN ADDITION TO CENTERING AND RESTRAINING THE WATER MAIN, THE EXISTING SEWER/STORM DRAIN/IRRIGATION/RECLAIMED/NON-POTABLE MAIN/LATERALS MUST ALSO BE PROTECTED PER THE "WATER/SEWER SEPARATION GUIDELINES" LISTED ABOVE.

### MATERIAL SPECIFICATIONS

NOM. FLANGE	A	B	C	NO. BOLTS
4	4"	5-1/32"	16"	10
6*	4-1/2"	7-1/32"	16"	10
8*	4"	9-1/32"	20"	14
10	5-1/2"	11-1/32"	24"	16
12**	6-1/2"	13-1/32"	30"	30

SHELL: 304 STAINLESS STEEL  
LUGS: 304 STAINLESS STEEL  
BOLTS, WASHERS AND NUTS: NO ROLLED THREAD 304 STAINLESS STEEL, 5/8" DIAMETER.  
GASKETS: VIRGIN SBR COMPOUNDED FOR WATER SERVICE. ASTM D2000-80MA 44607 FULL GASKET, 360° PIPE COVERAGE 150 PSI MIN. WORKING PRESSURE.  
FLANGE: 304 STAINLESS STEEL OR HIGH TENSILE DUCTILE (MODULAR) IRON, ASTM A536-80, GRADE 65-45-12.

\*TAPPING SLEEVES IN THE 24" NOMINAL PIPE SIZE RANGE WITH 6" OR 8" FLANGES ARE 24" LONG (C-DIMENSION) AND HAVE 24 BOLTS.  
\*\*TAPPING SLEEVES IN THE 12" & 14" NOMINAL PIPE SIZE RANGE W/ 12" FLANGE ARE 24" LONG AND HAVE 24 BOLTS.



- NOTES:**
- MATERIAL USED FOR THRUST BLOCKING SHALL NOT PREVENT ACCESS TO THE BOLT ASSEMBLY.
  - POTABLE WATER HOT TAPS GREATER THAN 2 INCHES AND LESS THAN 14 INCHES SHALL BE PERFORMED BY CARSON CITY WATER UTILITY.
  - MINIMUM DISTANCE BETWEEN TAP SADDLE, COLLARS, JOINTS, SERVICE TAPS, ETC. SHALL BE 18 INCHES CLEAR.
  - SADDLE TO BE HYDROSTATICALLY PRESSURE TESTED BY THE CONTRACTOR TO 150 PSI (MIN.) FOR A MINIMUM OF 5 MINUTES, WITNESSED BY CARSON CITY WATER UTILITY, PRIOR TO PERFORMING TAP.
  - REFERENCE "WATER GENERAL NOTES" DWG. C-3.1.1, FOR HOT-TAP SCHEDULING INFORMATION.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1		07/09		CARSON CITY

APPROVED BY: [Signature] 07/09

### TAPPING SLEEVE

PROJ. MGR.: CAP  
PROJ. ASSOC.: JPB  
CHECKED BY: CAP  
DWG. NO.: CCN CONVS2.01  
SCALE (HORIZ):  
SCALE (VERT):  
PLOT DATE: JUNE 2015

CARSON CITY  
PUBLIC WORKS DEPARTMENT  
3805 BUTTE WAY, CARSON CITY, NEVADA 89201  
TEL: 897-2300 FAX: 897-2315

**Manhard CONSULTING LTD**  
3476 Executive Pointe Way, Suite 12  
Carson City, NV 89706  
TEL: (775) 885-6680

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June 26, 2015 - 13:36

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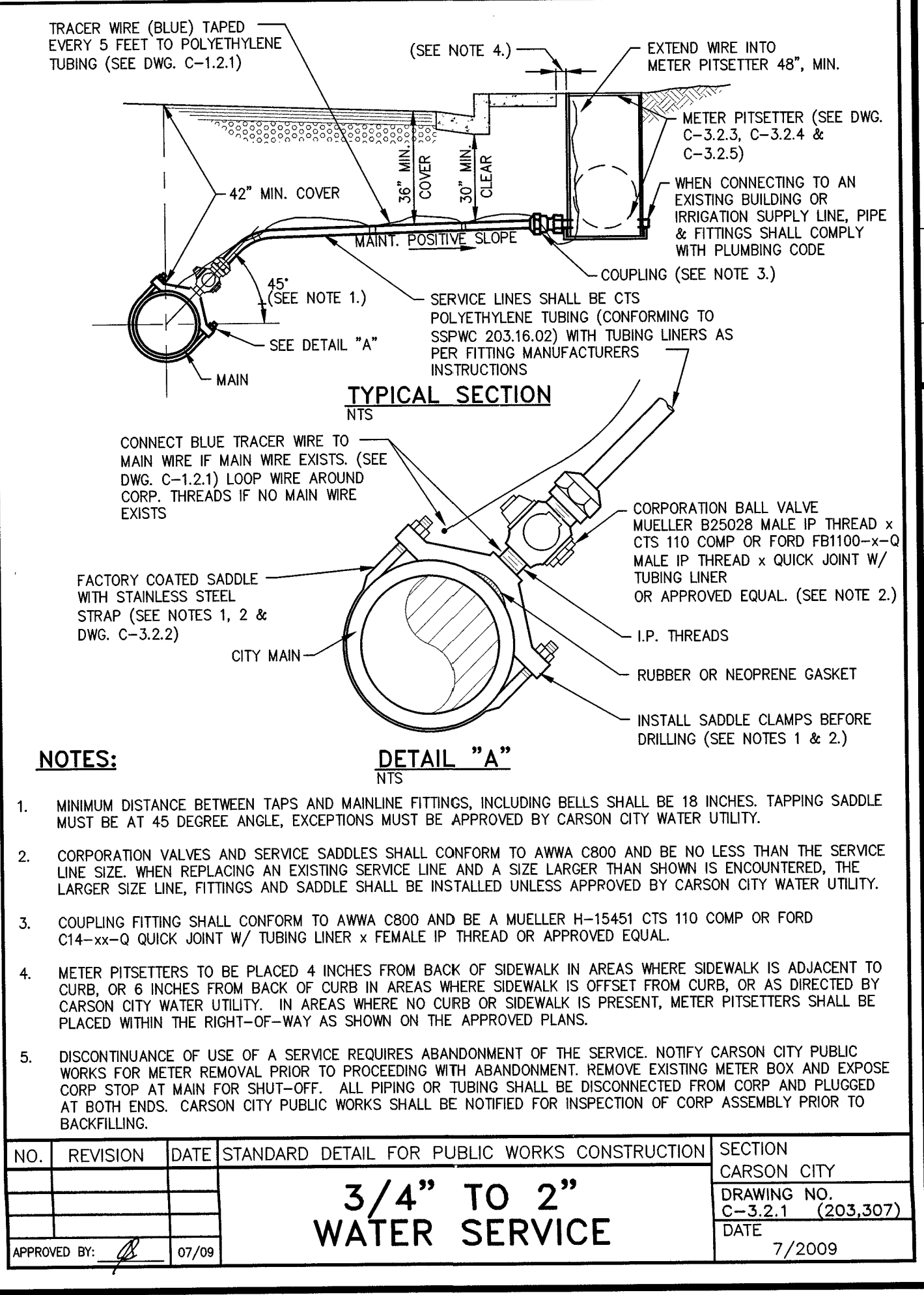
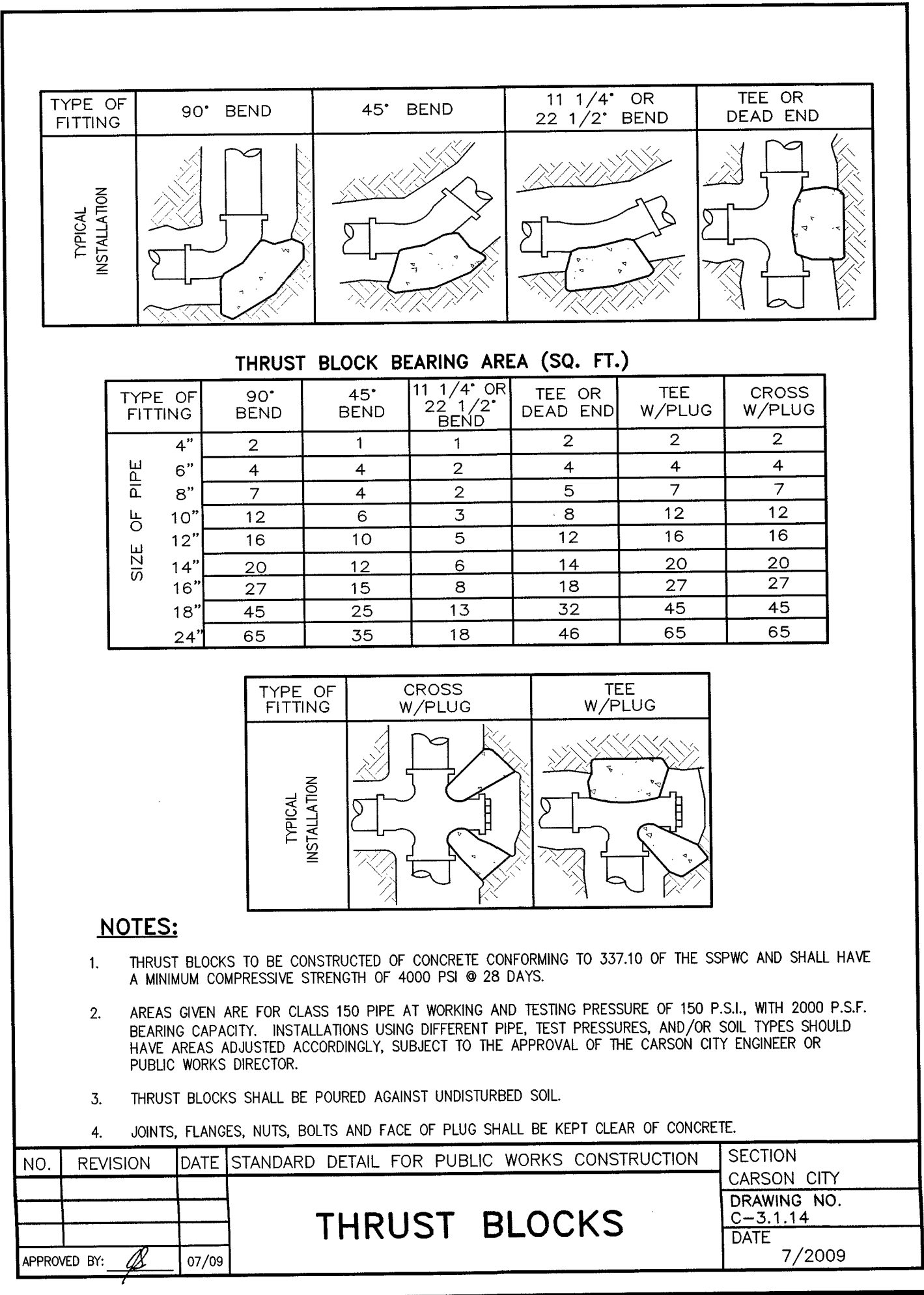
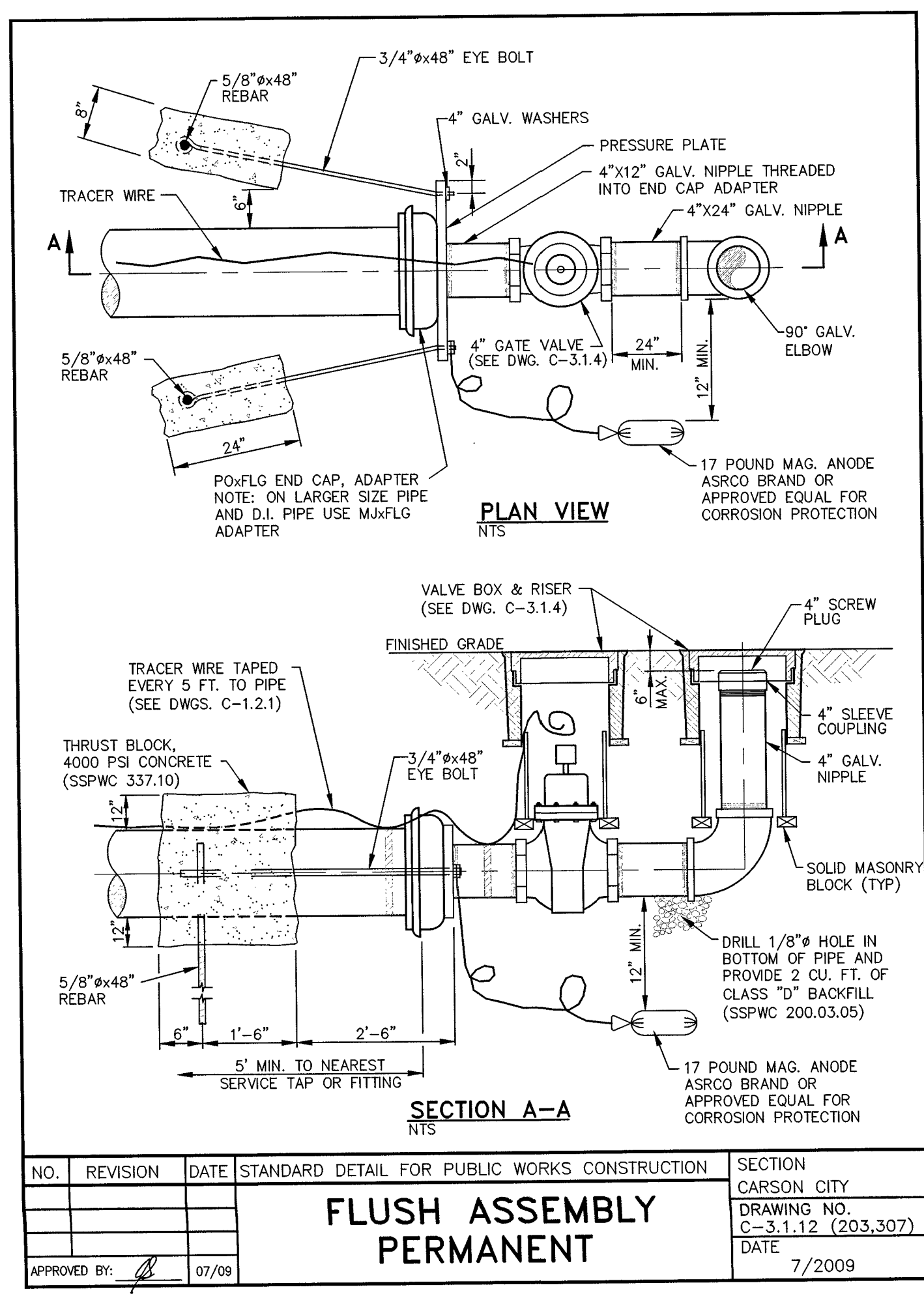
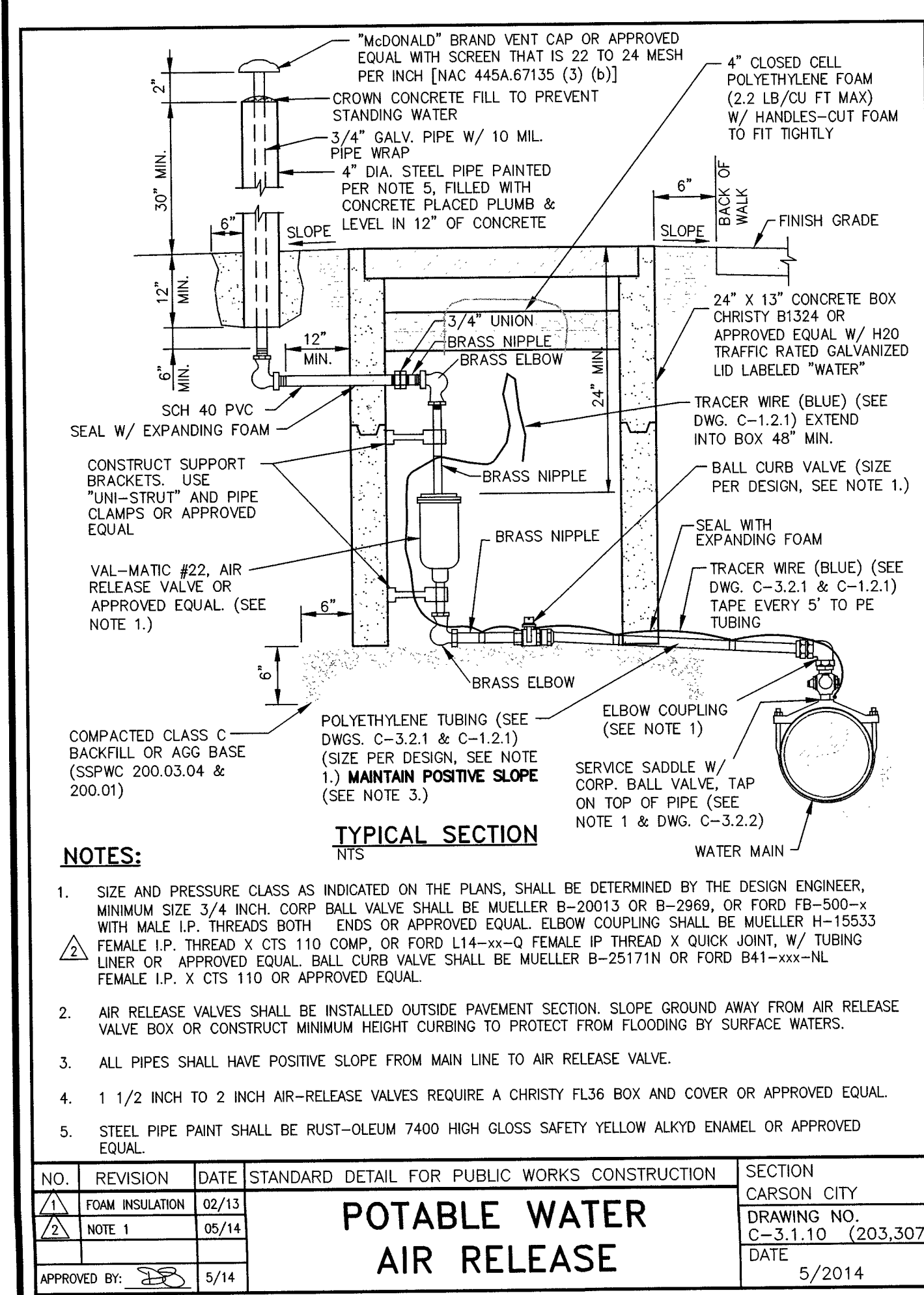
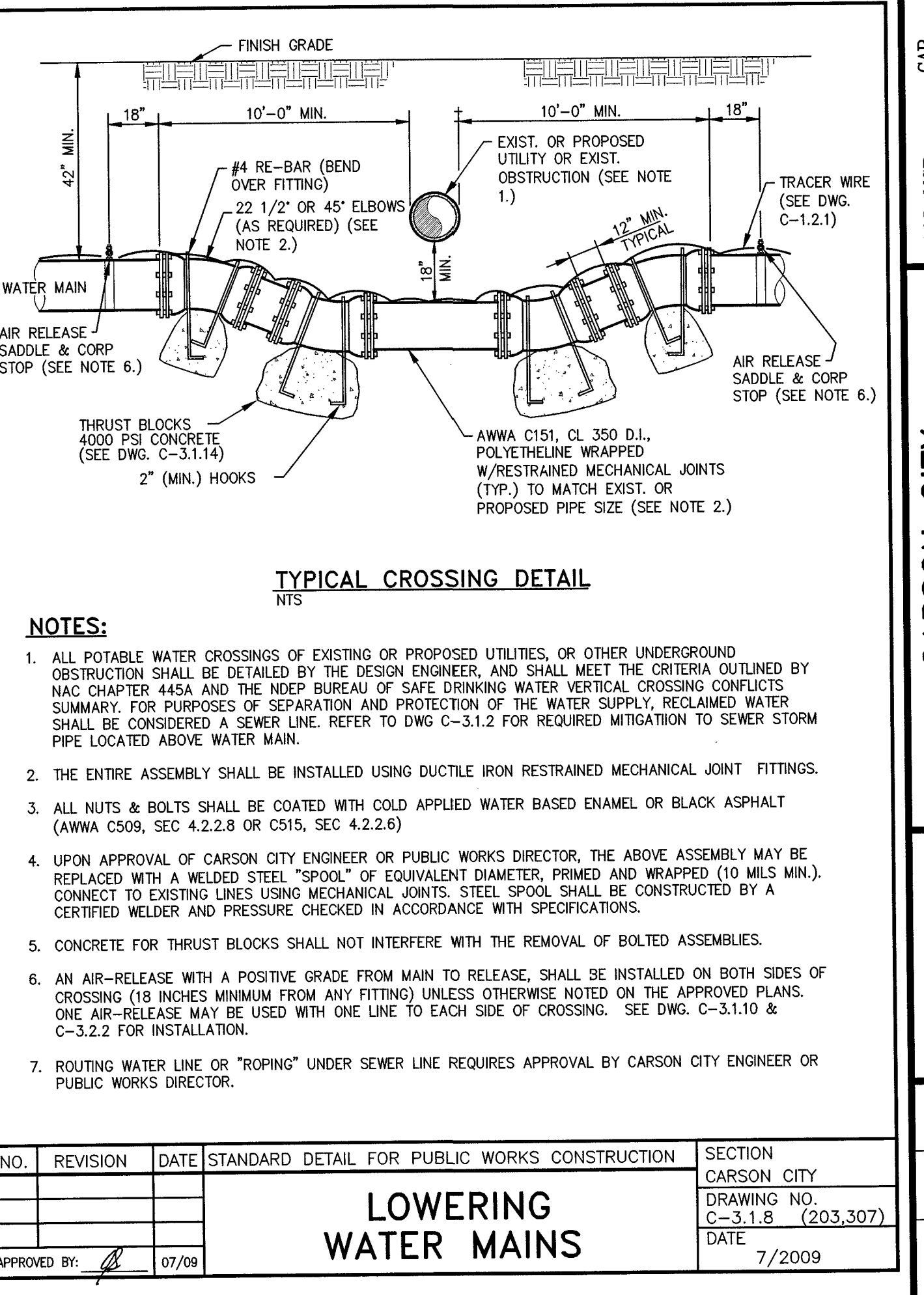
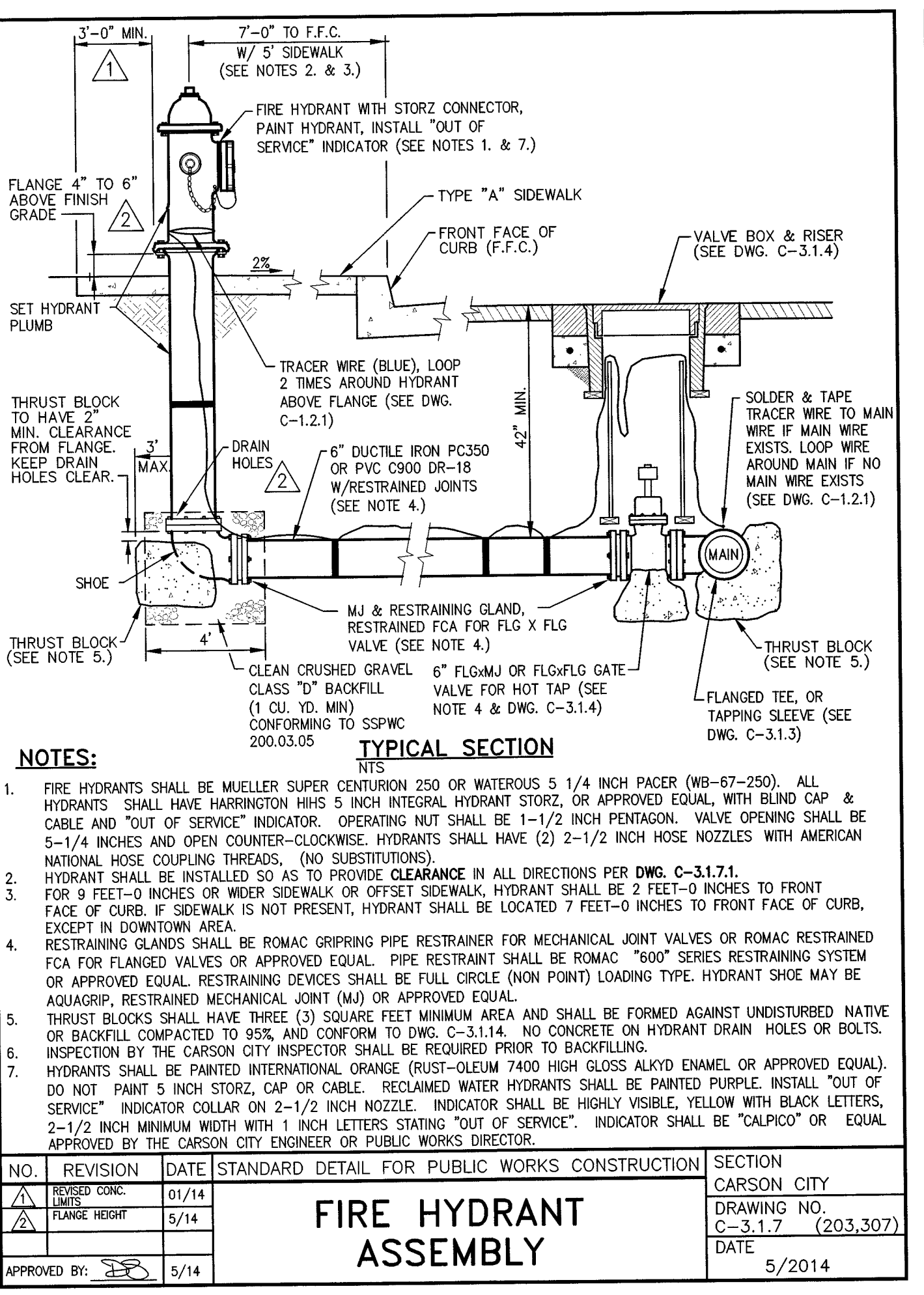
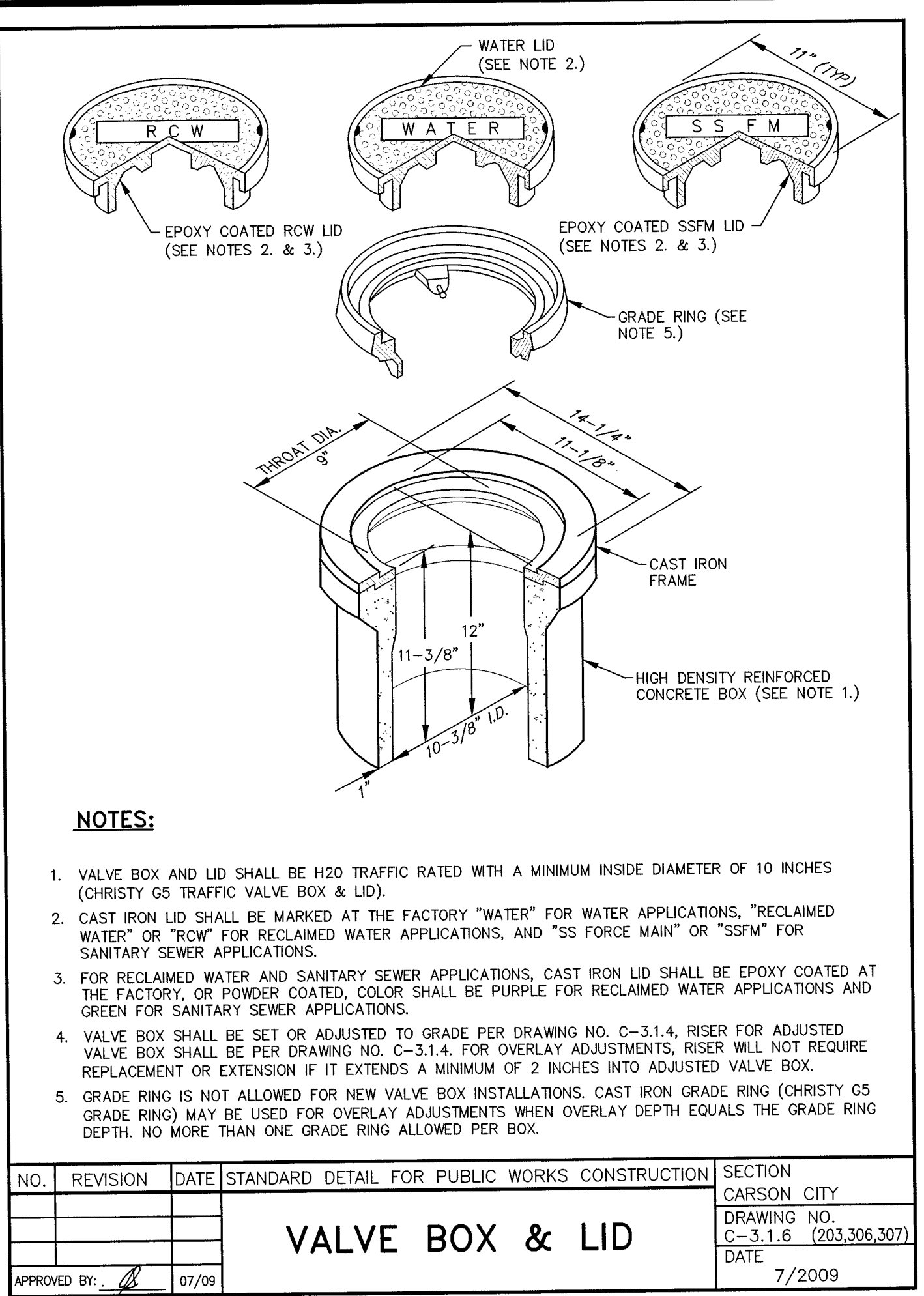
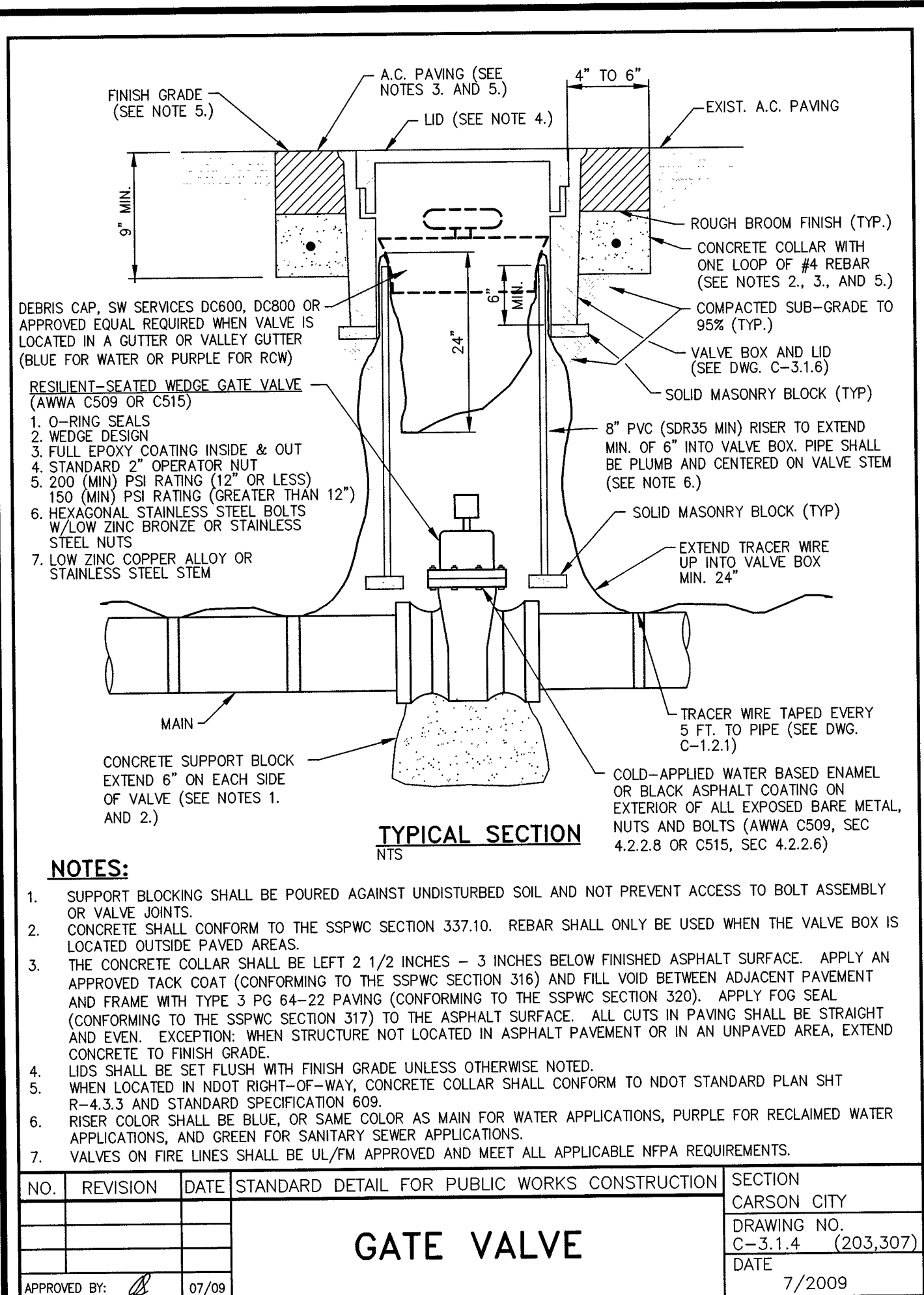
EAST/WEST WATER TRANSMISSION MAIN  
PHASE 2A-2  
PROJECT No: 1415-130  
CONSTRUCTION DETAILS

SHEET  
20  
OF  
24

100% SUBMITTAL

PROJECT No. 1415-130





PROJECT NO. 1415-130
 EAST/WEST WATER TRANSMISSION MAIN PHASE 2A-2  
 PROJECT No: 1415-130  
 CONSTRUCTION DETAILS  
 SHEET 21 OF 24  
 100% SUBMITTAL

PROJ. MGR.: JPB  
 PROJ. ASSOC.: JPB  
 CHECKED BY: JPB  
 DWG NO.: CCN0292.01  
 SCALE (HORIZ.):  
 SCALE (VERT):  
 PLOT DATE: JUNE 2015

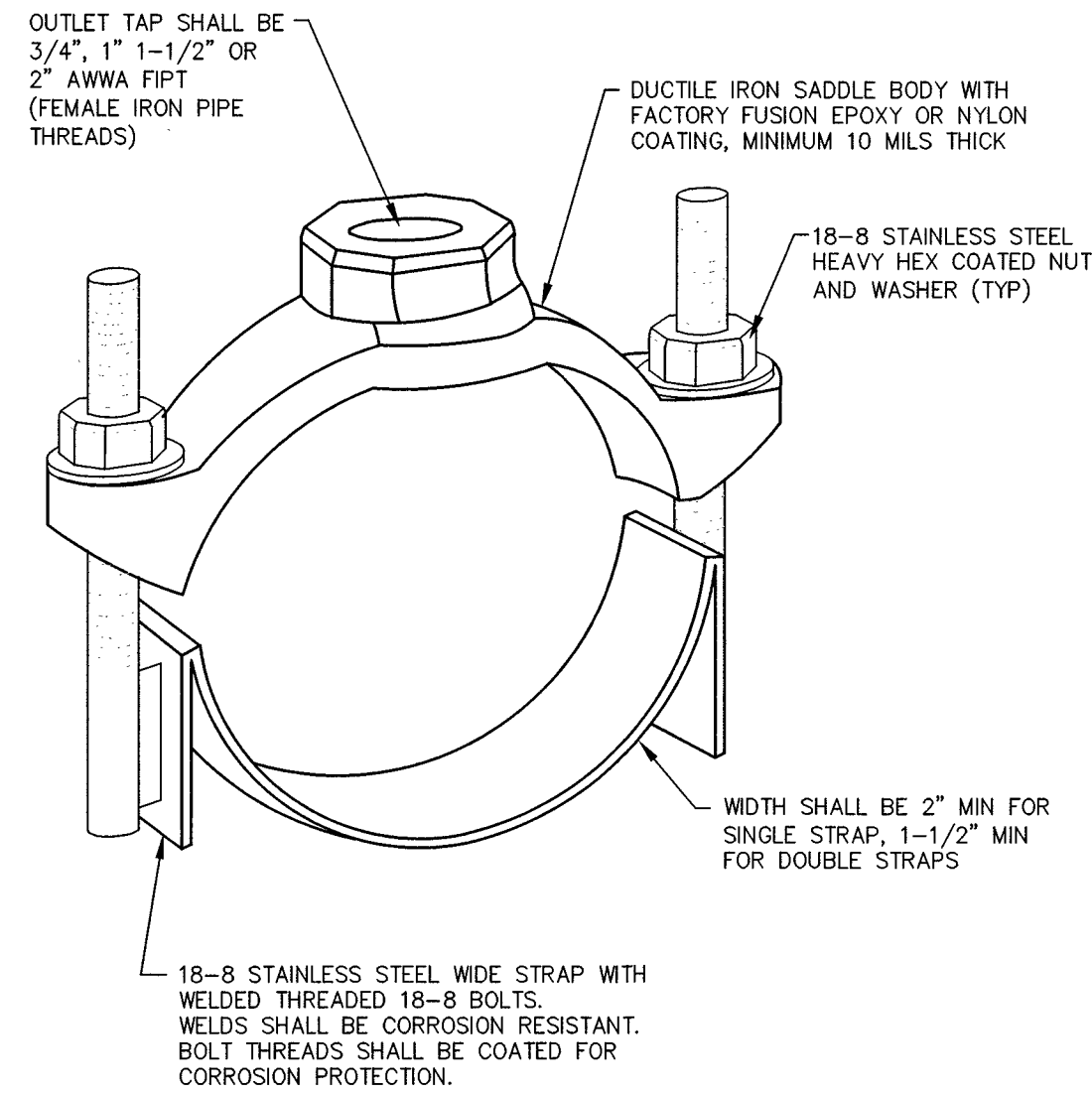
CARSON CITY PUBLIC WORKS DEPARTMENT  
 3505 BURTT WAY  
 CARSON CITY, NEVADA 89703  
 TEL: 897-2655  
 FAX: 897-2615

**Manhard CONSULTING LTD**  
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 FAX: (775) 882-6500

REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA  
 CHRISTOPHER ALAN PETERSON  
 Exp. 12/31/15  
 CIVIL  
 No. 16143

June 26, 2015 - 13:36  
 Dwg Name: P:\Vencov242\dwg\final drawing\Plan Set\10-13 - CONSTRUCTION DETAILS.dwg Updated By: cpeterson





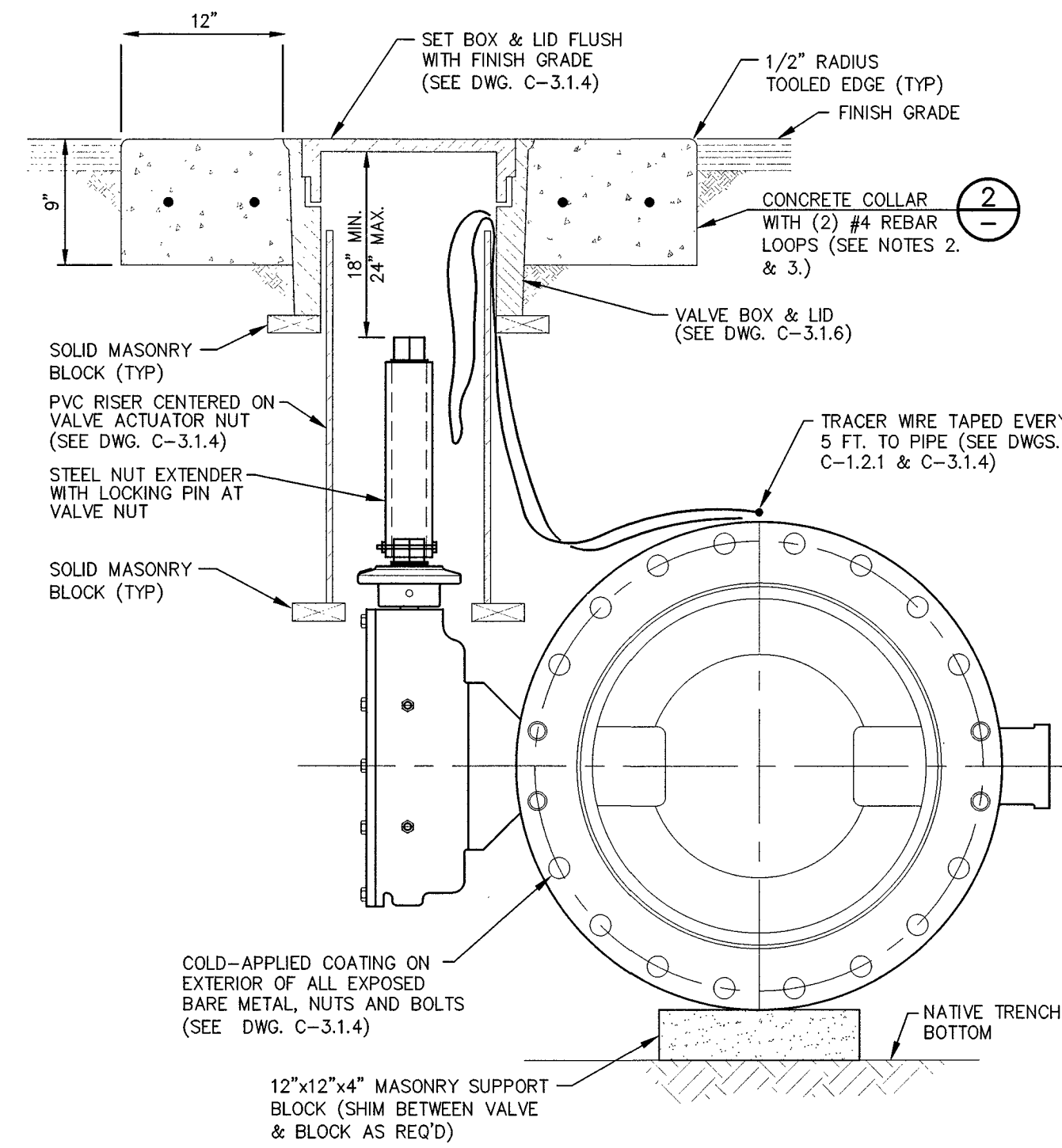
**SERVICE SADDLE DETAIL**

NTS

**NOTES:**

- SERVICE SADDLES FOR 3/4 INCH, 1 INCH, 1-1/2 INCH & 2 INCH TAPS SHALL CONFORM TO AWMA C800 WITH A MINIMUM WORKING PRESSURE OF 150 PSI, UNLESS A HIGHER PRESSURE IS SPECIFIED, AND BE MANUFACTURED BY FORD, MUELLER, ROMAC, SMITH-BLAIR OR APPROVED EQUAL. (SEE DWG. C-3.2.1 FOR ADDITIONAL NOTES AND DETAILS.) POTABLE SERVICE SADDLES SHALL BE IN COMPLIANCE WITH NSF61.
- SERVICE SADDLES SHALL BE FACTORY COATED DUCTILE IRON (ASTM A395 OR A536) WITH TYPE 18-8 STAINLESS STEEL (304 OR 304L) STRAP(S), BOLTS, NUTS, & WASHERS. ALL STAINLESS STEEL SHALL BE FULLY PASSIVATED.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>3/4" TO 2" SERVICE SADDLE</b>	CARSON CITY
				DRAWING NO. C-3.2.2 (203, 307)
				DATE 7/2009

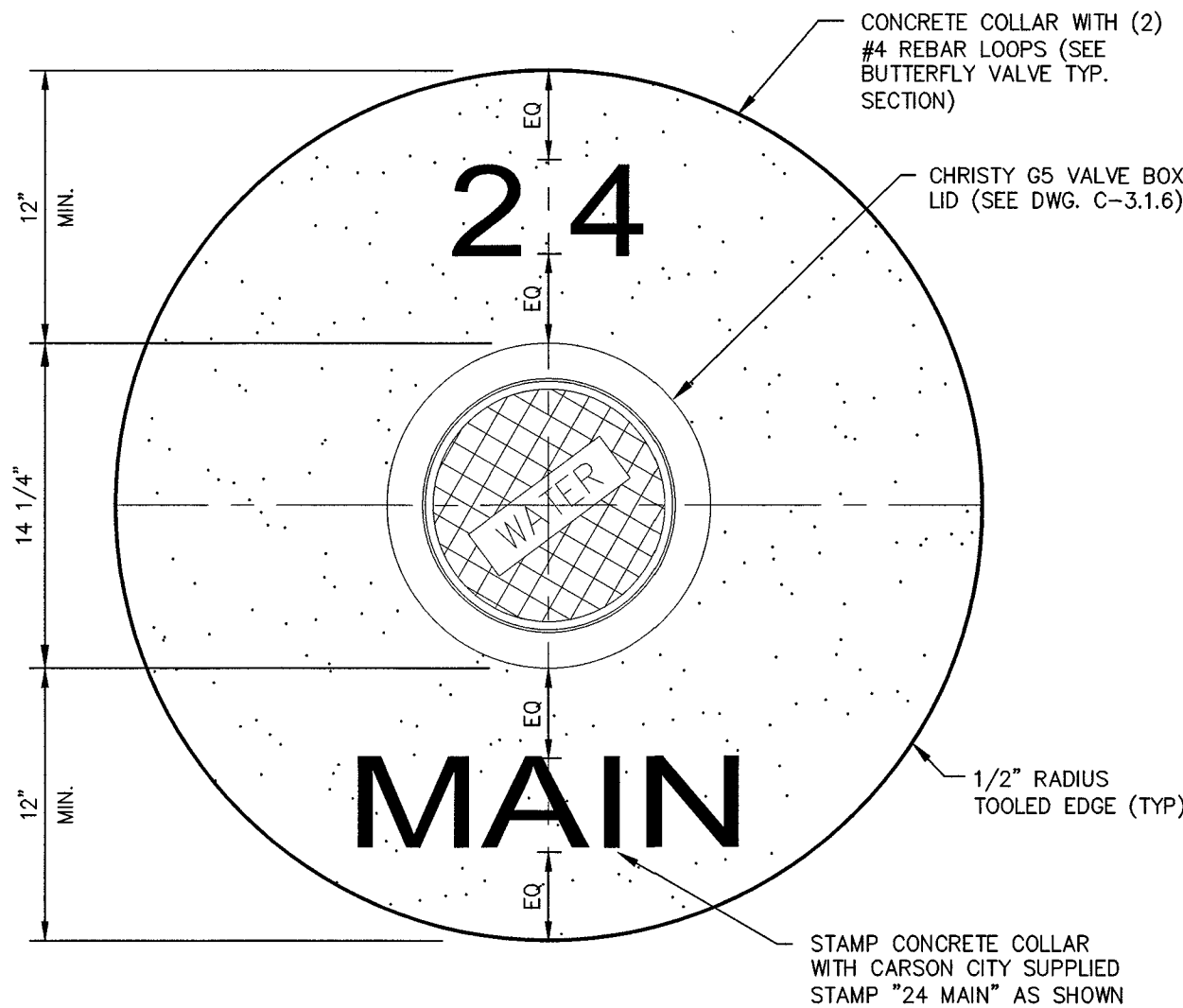


**BUTTERFLY VALVE TYPICAL SECTION**

(FLG X MJ OR FLG X FLG)

NTS REFERENCE STD DWG C-3.1.4 FOR ADDITIONAL NOTES & DETAIL.

- NOTES:**
- CONCRETE COLLAR AROUND VALVE BOX SHALL EXTEND TO FINISH GRADE.
  - STAMP CONCRETE COLLAR WITH CARSON CITY SUPPLIED STAMP "24" MAIN" AS SHOWN ON VALVE BOX COLLAR PLAN.
  - CONCRETE SHALL CONFORM TO THE SSPWC SECTION 337.10.

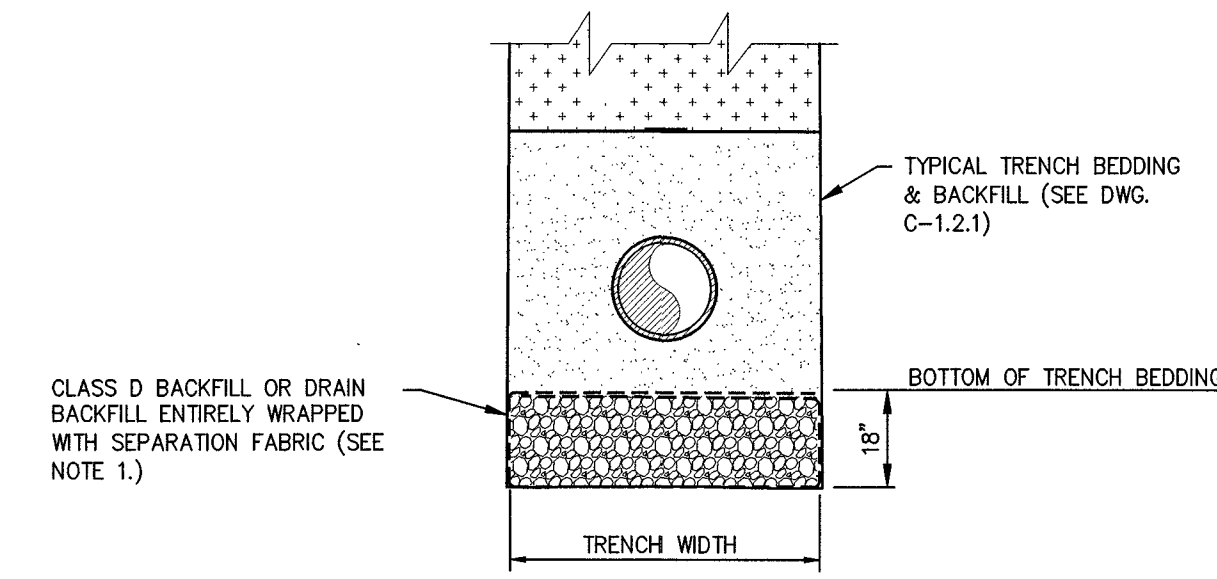


**BUTTERFLY VALVE COLLAR PLAN**

NTS REFERENCE STD DWG C-3.1.4 FOR ADDITIONAL NOTES & DETAIL.

**NOTES:**

- CONCRETE SHALL CONFORM TO THE SSPWC SECTION 337.10.



**SUBGRADE STABILIZATION**

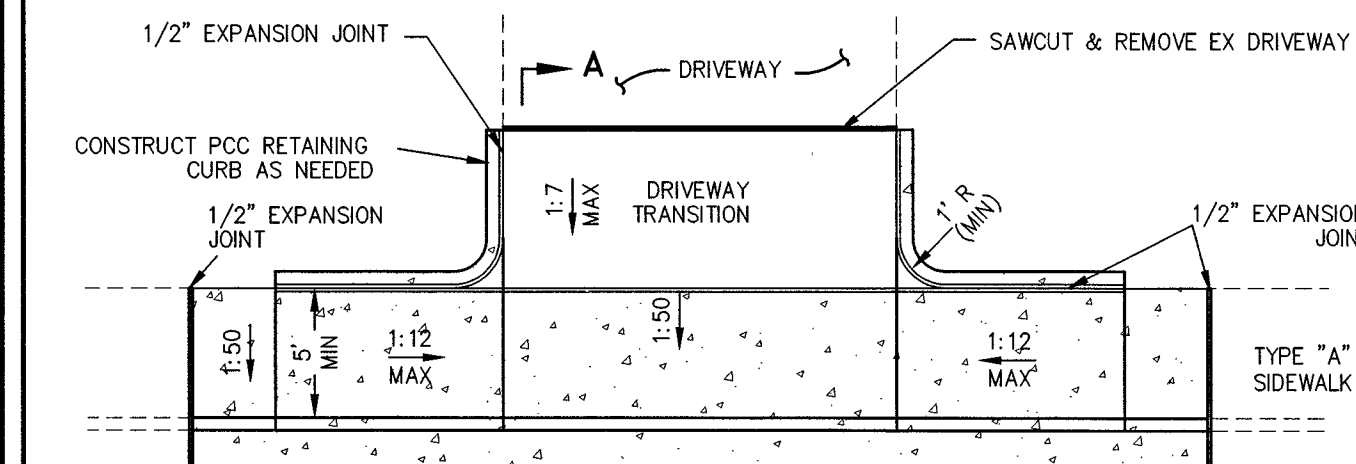
NTS REFERENCE STD DWG C-1.2.1 FOR ADDITIONAL NOTES & DETAIL.

**NOTES:**

- FOR SUPPORT UNDER THE BEDDING AND PIPE IN UNSTABLE SOIL CONDITIONS, TYPE "D" BACKFILL OR DRAIN BACKFILL WITH A SEPARATION FABRIC PLACED ENTIRELY AROUND THE DRAIN BACKFILL AS SHOWN IN THE STABILIZATION DETAIL, MAY BE USED WITH THE APPROVAL OF THE CONSTRUCTION MANAGER.
- CLASS "D" BACKFILL OR DRAIN BACKFILL DOES NOT NEED TO BE WASHED, BUT SHALL BE FREE OF ANY ORGANIC IMPURITIES, CLAY LUMPS OR UNSTABLE SUBSTANCES. CLASS "D" BACKFILL OR DRAIN BACKFILL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

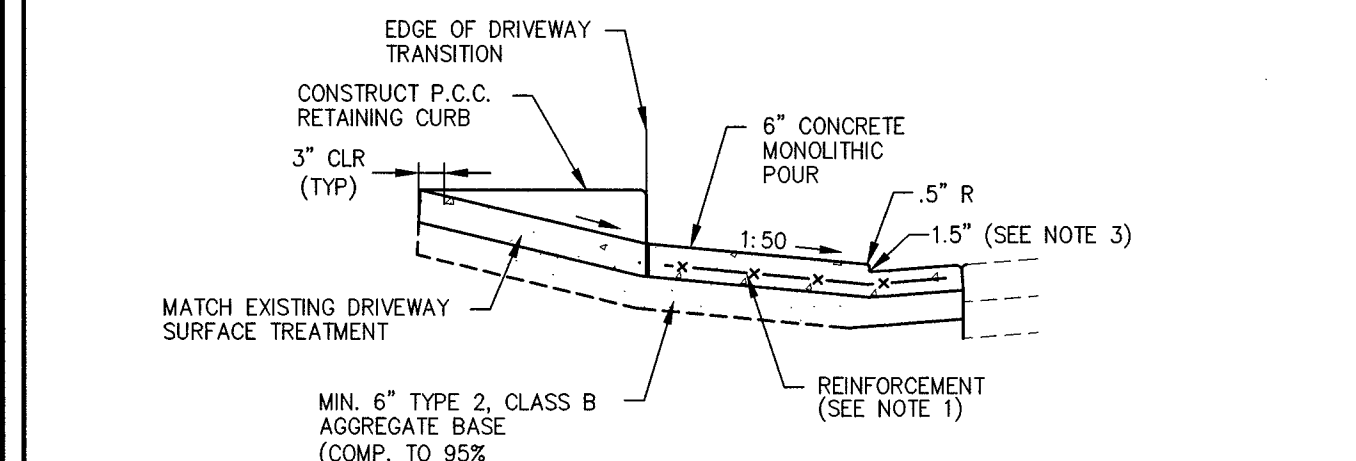
SIEVE SIZE	PERCENT PASSING BY MASS
2 INCH	100
1 1/2 INCH	90-100
3/4 INCH	0-5

PROPERTY	REQUIREMENT	TEST METHOD
GRAB TENSILE STRENGTH, N	625	ASTM D 4632
GRAB ELONGATION AT BREAK, %	45 MIN., 115 MAX.	ASTM D 4632
PUNCTURE STRENGTH, N	220	ASTM D 4833
BURST STRENGTH, MPa	1.45	ASTM D 3786
TRAPEZOIDAL TEAR, N	180	ASTM D 4533
PERMITTIVITY, PER SECOND	0.10 - 0.15	ASTM D 4491
APPARENT OPENING SIZE, SIEVE SIZE, µm	106 - 300	ASTM D 4751
ULTRAVIOLET STABILITY, %	70	ASTM D 4355



**PLAN**

NTS



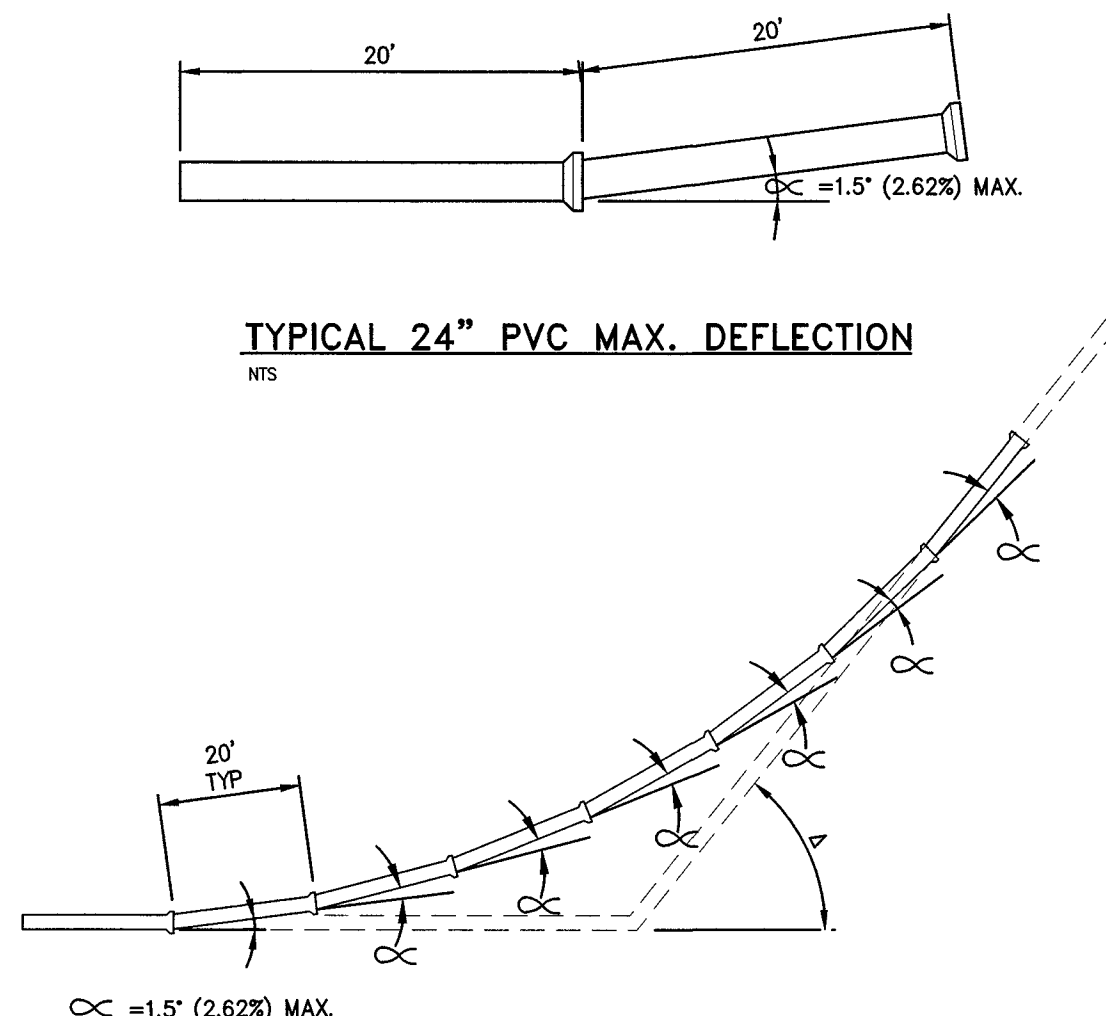
**SECTION A-A**

NTS

**NOTES:**

- COMMERCIAL DRIVEWAYS TO HAVE 6 INCH X 6 INCH 10/10 WIRE MESH EXTENDED INTO GUTTER PAN.
- DRIVEWAY LANDING, SIDEWALK, CURB & GUTTER TO BE MONOLITHIC POUR TO A.C. LINE.
- CURB HEIGHT AT LANDING SHALL BE 1 INCH MINIMUM AND 2 INCH MAXIMUM (3 INCH MAX UPON CARSON CITY PUBLIC WORKS APPROVAL) 2 INCH RADIUS TO BE USED WHEN CURB HEIGHT AT LANDING IS GREATER THAN 2 INCHES.
- DRIVEWAY APRONS SHALL BE CONSTRUCTED IN COMPLIANCE WITH STANDARD DETAILS C-5.1.1 AND C-5.2.1.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>P.C.C. DRIVEWAY APRON TYPE 1</b>	CARSON CITY
				DRAWING NO. C-5.2.3
				DATE 7/2009



**TYPICAL 24" PVC MAX. DEFLECTION**

NTS

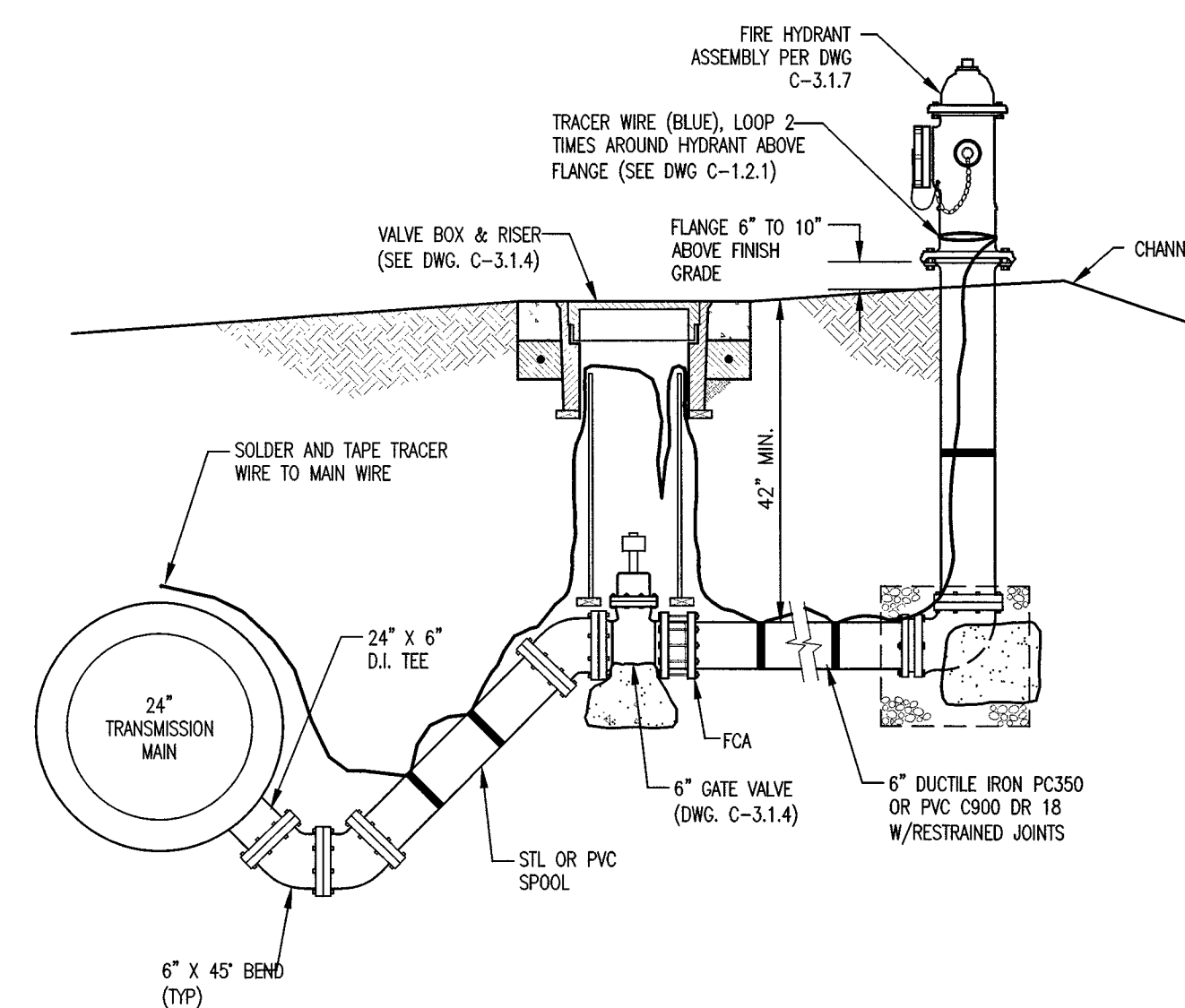
**DEFLECTION EQUIVALENT CHART**

Δ	*EQUIVALENT PIPE/APPURTENANCE REQUIRED (MIN.)
0' (0%) - 1.5' (2.62%)	1 EA#20 FT PIPE SEGMENT @ 1.5" MAX.
1.6' (2.79%) - 3' (5.24%)	2 EA#20 FT PIPE SEGMENT @ 1.5" MAX.
3.1' (5.4%) - 4.5' (7.87%)	3 EA#20 FT PIPE SEGMENT @ 1.5" MAX.
9.75' (17.18%) - 12.75' (22.62%)	1 EA#11 1/4' ELBOW
21' (38.38%) - 24' (44.52%)	1 EA#22 1/2' ELBOW
43.5' (94.89%) - 46.5' (105.37%)	1 EA#45' ELBOW

\*CONTRACTOR TO USE GOOD CONSTRUCTION PRACTICES IN DETERMINING THE NUMBER OF PIPE SEGMENTS NEEDED TO ACHIEVE GRADE BREAK. THE DEFLECTION EQUIVALENT CHART INDICATES THE MAXIMUM ALLOWABLE DEFLECTION ANGLE.

**GRADEBREAK TRANSITION DETAIL**

NTS

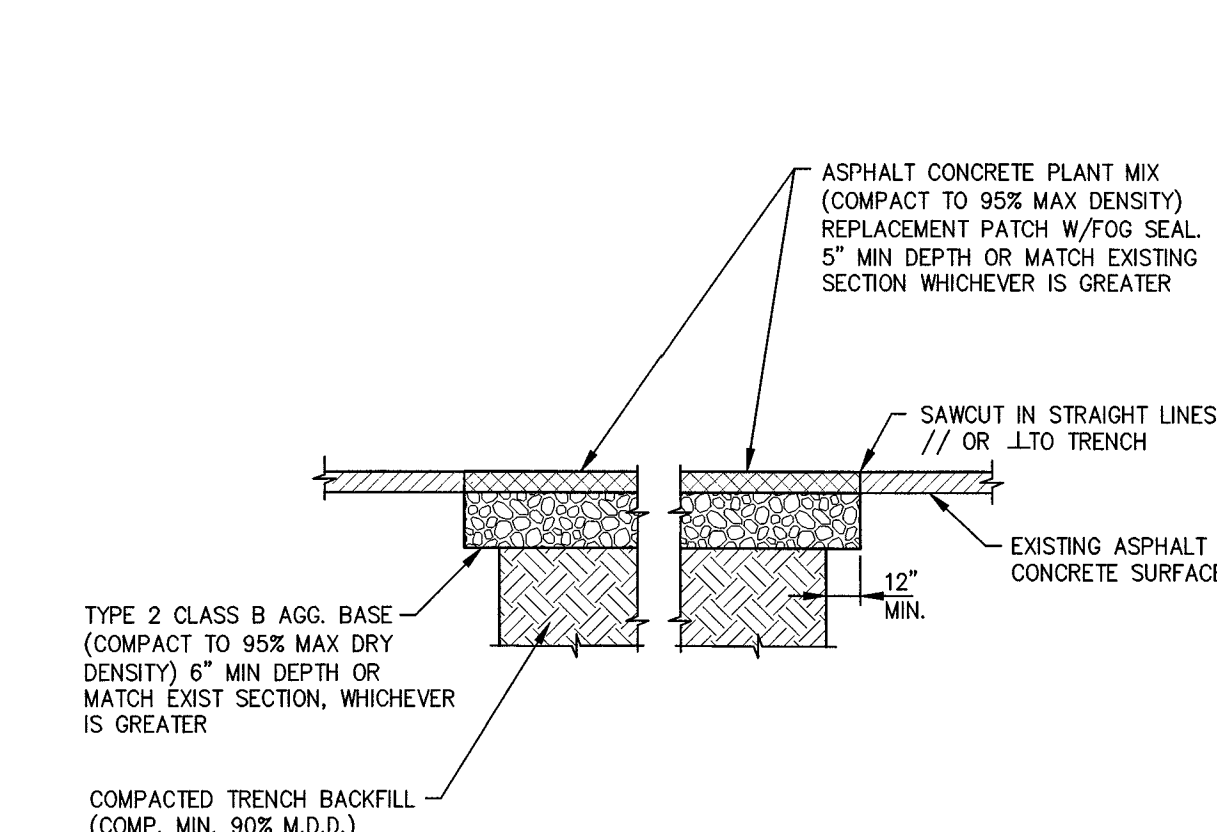


**NOTE:**

- ALL CONNECTIONS SHALL USE 304 STAINLESS STEEL BOLTS, NUTS & WASHERS.

**FIRE HYDRANT (BLOWOFF) ASSEMBLY DETAIL**

NOT TO SCALE



**NOTES:**

- IF SAWCUT IS WITHIN 24 INCHES OF EDGE OF A.C. PAVEMENT REMOVE EXISTING PAVEMENT TO THAT EDGE AND REPLACE ENTIRE SECTION.
- BITUMINOUS MATERIAL SHALL MEET THE REQUIREMENTS OF SECTIONS 201 AND 320 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- MIXING, SPREADING, AND COMPACTING OF BITUMINOUS PAVEMENT SHALL BE DONE ONLY WHEN THE SURFACE ON WHICH THE MATERIALS ARE TO BE PLACED IS DRY AND WHEN THE ATMOSPHERIC TEMPERATURE IS ABOVE 50 DEGREES FAHRENHEIT AND HAS NOT BEEN BELOW 40 DEGREES FAHRENHEIT DURING THE PRECEDING 24 HOURS.
- FINISHED SURFACE VARIATIONS SHALL BE 0 TO 0.25 INCHES ABOVE EXISTING SURFACE. ALL HUMPS EXCEEDING THIS TOLERANCE SHALL BE CORRECTED BY REMOVAL OF MATERIAL AND REPLACING IT WITH NEW MATERIAL. FINISHED SURFACE OF PATCH SHALL NOT BE BELOW EXISTING ADJACENT SURFACE.
- PLANTMIX BITUMINOUS PAVEMENT SURFACE COURSE SHALL BE PG-64-22 TYPE 3 AND SUB SURFACE COURSES SHALL BE PG-64-22 TYPE 3 UNLESS OTHERWISE NOTED.
- PLANTMIX BITUMINOUS PAVEMENT PATCHES SHALL MATCH EXISTING SECTION OR HAVE A MINIMUM THICKNESS OF 5 INCHES, WHICHEVER IS GREATER.
- PLANS SHALL SPECIFY PAVEMENT PATCH AND AGGREGATE BASE DEPTHS AS SPECIFIED BY THE DESIGN ENGINEER.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>PAVEMENT PATCH</b>	CARSON CITY
				DRAWING NO. C-5.1.6
				DATE 7/2009

PROJ. MGR.: CAP  
 PROJ. ASSOC.: JPB  
 CHECKED BY: CAP  
 DWG. NO.: CCN/CCV92.01  
 SCALE (HORIZ):  
 SCALE (VERT):  
 PILOT DATE: JUNE 2015

CARSON CITY PUBLIC WORKS DEPARTMENT  
 5605 BUTTE WAY CARSON CITY, NEVADA 89701  
 PH: 897-6935 FAX: 897-2112

**Manhard Consulting Ltd.**  
 9476 Executive Pkwy, Suite 12 Carson City, NV 89706  
 PH: (775) 882-5630 FAX: (775) 882-5630

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA  
 CHRISTOPHER ALAN PETERSON  
 Exp. 12/31/15  
 CIVIL  
 06/29/2015

REV.	DATE	DESCRIPTION	BY	APP.

EAST/WEST WATER TRANSMISSION MAIN  
 PHASE 2A-2  
 PROJECT No: 1415-130  
 CONSTRUCTION DETAILS

SHEET 22 OF 24

PROJECT No. 1415-130  
 100% SUBMITTAL



**NOTES:**

- PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- ALL CONCRETE CURB & GUTTER SHALL HAVE 1/2 INCH EXPANSION JOINTS EVERY 30 FEET (UNLESS APPROVED OTHERWISE BY THE ENGINEER) AND AT ALL CURB RETURNS AND SHALL HAVE WEAKENED PLANE JOINTS EVERY 10 FEET. CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL C-5.1.1 AND CONFORM TO SECTION 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
- ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND CONFORM TO SECTION 200.01 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND SHALL BE MECHANICALLY COMPACTED TO 95% COMPACTION, IN CONFORMANCE WITH SECTION 308.05 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- CURBS SHALL BE MARKED WITH A 2 INCH "S" ON THE TOP OF CURB AT SEWER LATERAL LOCATIONS.
- EXCEPTION: AC PAVEMENT EDGE SHALL BE FLUSH TO 1/4 INCH ABOVE THE LIP OF GUTTER WHEN LOCATED ADJACENT TO A PEDESTRIAN RAMP, WITHIN AN ACCESSIBLE ROUTE OR BIKE LANE.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	AC/LIP	06/12	PCC CURB & GUTTER TYPE 1	CARSON CITY
2	NOTE 5	05/14		DRAWING NO. C-5.1.3
APPROVED BY:			05/14	5/2014

**NOTES:**

- NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED AND APPROVED BY CARSON CITY PUBLIC WORKS.
- PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), WITH COARSE AGGREGATE GRADATION CONFORMING TO SIZE No. 67 PER SECTION 200.05.03 OF THE STANDARD SPECIFICATIONS, AND SHALL HAVE A 1 TO 4 INCH SLUMP, AND 4 TO 7 PERCENT ENTRAINMENT AIR. 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF TYPE II CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DETAIL C-5.1.1 AND CONFORM TO SEC. 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
- IF OBSTRUCTIONS SUCH AS INLETS, UTILITY POLES, FIRE HYDRANTS, ETC. ARE ENCOUNTERED, THE LOCATION AND DIMENSIONS MAY BE ADJUSTED UPON APPROVAL BY CARSON CITY PUBLIC WORKS. A MINIMUM SURFACE OF 5 FEET X 5 FEET CLEAR IS REQUIRED WHEN DIRECTION OF TRAVEL MAY CHANGE AND A MINIMUM SURFACE OF 4 FEET CLEAR IS REQUIRED WHERE DIRECTION OF TRAVEL IS NOT EXPECTED TO CHANGE, UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
- EXISTING CONCRETE SHALL BE REMOVED TO A NEAT SAWCUT LINE OR NEAREST EXPANSION JOINT.
- ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND SHALL CONFORM TO SEC.200.01 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
- NEW CONCRETE SHALL HAVE A HEAVY BROOM FINISH PERPENDICULAR TO SIDEWALK.
- AC PAVEMENT EDGE SHALL BE 1/4 INCH TO 1/2 INCH ABOVE THE LIP OF GUTTER. EXCEPTION: AC PAVEMENT EDGE SHALL BE FLUSH TO 1/4 INCH ABOVE THE LIP OF GUTTER WHEN LOCATED ADJACENT TO A PEDESTRIAN RAMP, WITHIN AN ACCESSIBLE ROUTE OR BIKE LANE.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 8	05/14	SIDEWALK AND DRIVEWAY GENERAL NOTES	CARSON CITY
APPROVED BY:				05/14

**NOTES:**

- MINIMUM CURB RETURN RADIUS SHALL BE 15 FEET UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
- SOME STREETS MAY REQUIRE WIDER SIDEWALKS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
APPROVED BY:			7/09	CARSON CITY DRAWING NO. C-5.2.2 DATE 7/2009

**NOTES:**

- SEE DWG. C-3.1.7 FOR FIRE HYDRANT INSTALLATION.
- INSTALL OR RELOCATE EXISTING FENCE/WALL/LANDSCAPING/MISC IMPROVEMENTS ETC. TO PROVIDE THE MINIMUM CLEARANCE AROUND THE HYDRANT AS SHOWN.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REVISION CONC. LINES	5/14	FIRE HYDRANT SETBACK /FENCE CLEARANCE	CARSON CITY
2	CLEAR DISTANCE	7/14		DRAWING NO. C-3.1.7.1 (307) DATE 7/2014
APPROVED BY:			7/14	

**NOTES:**

- NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED BY CARSON CITY ENGINEERING DIVISION.
- PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DETAIL C-5.1.1 AND CONFORM TO SEC. 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
- IF OBSTRUCTIONS SUCH AS INLETS, UTILITY POLES, FIRE HYDRANTS, ETC. ARE ENCOUNTERED, THE LOCATION AND DIMENSIONS MAY BE ADJUSTED UPON APPROVAL BY CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR. A MINIMUM OF 4 FEET CLEAR IS REQUIRED WHEN DIRECTION OF TRAVEL MAY CHANGE. A MINIMUM OF 4 FEET CLEAR IS REQUIRED WHERE DIRECTION OF TRAVEL IS NOT EXPECTED TO CHANGE.
- WHEN A CROSSWALK IS SERVICED BY RAMP, LANDINGS SHALL BE CONTAINED WITHIN THE CROSSWALK AREA.
- EXISTING CONCRETE SHALL BE REMOVED TO A NEAT SAWCUT LINE OR NEAREST EXPANSION JOINT.
- PLANTMIX BITUMINOUS SURFACE SHALL BE FLUSH WITH THE EDGE OF THE GUTTER PAN IN THE AREA OF THE CURB RAMP. GUTTER SHALL MAINTAIN POSITIVE DRAINAGE TO PREVENT PONDING.
- ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND SHALL CONFORM TO SEC.200.01 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
- NEW CONCRETE SHALL HAVE A HEAVY BROOM FINISH PERPENDICULAR TO SIDEWALK.
- DETECTABLE WARNINGS SHALL BE EAST JORDAN IRON WORKS 7005 SERIES CAST IRON DETECTABLE WARNING PLATES OR APPROVED EQUAL. INSTALLED PER MANUFACTURERS INSTALLATION GUIDELINES AND CONFORM TO ADAAG (4.29) "DETECTABLE WARNINGS", COLOR: ASPHALT DIPPED UNLESS OTHERWISE APPROVED BY CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR. RADIAL DETECTABLE WARNINGS SHALL BE USED WHEN REQUIRED TO MAINTAIN MINIMUM CLEARANCE OF 3 INCHES AND MAXIMUM CLEARANCE OF 8 INCHES FROM DETECTABLE WARNINGS TO BACK FACE OF CURB. RADIAL DETECTABLE WARNINGS SHALL HAVE A RADIUS WITHIN 5 FEET OF BACK FACE OF CURB RADIUS.
- AC PAVEMENT EDGE SHALL BE 1/4 INCH TO 1/2 INCH ABOVE THE LIP OF GUTTER. EXCEPTION: AC PAVEMENT EDGE SHALL BE FLUSH TO 1/4 INCH ABOVE THE LIP OF GUTTER WHEN LOCATED ADJACENT TO A PEDESTRIAN RAMP OR WITHIN AN ACCESSIBLE ROUTE.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 11	6/12	CURB RAMP GENERAL NOTES	CARSON CITY
APPROVED BY:				6/12

**NOTES:**

- WATER DENSIFIED BACKFILL AND TUNNELING SHALL BE BY SPECIAL PROVISION ONLY.
- BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF CLASS E BACKFILL AS SPECIFIED IN SUBSECTION 200.03.06 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC). MATERIAL SHALL BE PLACED IN LIFT THICKNESS SPECIFIED IN SUBSECTION 305.10 OF THE SSPWC AND DENSIFIED TO 90% RELATIVE COMPACTION.
- BEDDING SHALL CONFORM TO THE REQUIREMENTS OF CLASS A BACKFILL AS SPECIFIED IN SUBSECTION 200.03.02 OF THE SSPWC. MATERIAL SHALL BE DENSIFIED TO 90% RELATIVE COMPACTION.
- PLANS SHALL INCLUDE A DETAIL FOR SUBGRADE STABILIZATION INCLUDING BACKFILL MATERIALS, STRUCTURAL GEOTEXTILE FILTER FABRIC AND MODIFIED CUTOFF COLLARS WHEN POTENTIAL FOR UNSTABLE SUBGRADES EXIST, SUBJECT TO THE APPROVAL OF THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
- FOR TRENCHES IN ROADWAY SECTION, SEE PAVEMENT PATCH (PERMANENT) DETAIL 1, SHT C19.
- FOR THE PURPOSE OF PAYMENT, EXCAVATION AND BACKFILL QUANTITIES ARE BASED ON THESE STANDARD DRAWINGS, AND NO ADDITIONAL COMPENSATION WILL BE MADE. SHORING OR SLOPED CUT SLOPES MAY BE NECESSARY, BUT THERE WILL BE NO ADDITIONAL PAYMENT. ALL EXCAVATIONS SHALL CONFORM TO THE LATEST O.S.H.A. REQUIREMENTS.
- PLACE NON METALLIC WARNING TAPE 1 FOOT ABOVE ALL BURIED PIPES AND CONDUITS.
- TRACER WIRE SHALL BE 12 GAUGE (MINIMUM THICKNESS) INSULATED SOLID COPPER WIRE. INSULATION SHALL BE 30 MIL HDPE. PLANS SHALL SPECIFY WIRE STRENGTH AND INSULATION THICKNESS FOR BORING APPLICATIONS. SPLICES SHALL BE CONNECTED BY WIRE NUTS, SEALED WITH AQUA SEAL OR SILICON FILLED, AND DOUBLE WRAPPED WITH U/L LISTED ELECTRICAL TAPE. TRACER WIRE COLOR SHALL BE: BLUE FOR WATER, PURPLE FOR RECLAIMED WATER, GREEN FOR SEWER, AND YELLOW FOR ELECTRICAL/FIBER OPTIC. LOCATE ABOVE THE CENTER CONDUIT.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
APPROVED BY:			05/14	CARSON CITY DRAWING NO. C-5.2.1 DATE 5/2014

**NOTES:**

- FIBER OPTIC PULL BOXES AND COVERS SHALL BE TRAFFIC RATED, WITH BOLT DOWN STEEL COVER LID MARKED "FIBER OPTIC".
- CONDUIT SHALL BE SCHEDULE 40 PVC ELECTRICAL CONDUIT. ALL CONDUITS ENTERING A PULLBOX SHALL BE CAPPED WITH AN END BELL.
- CONDUIT RUNS SHALL NOT USE SWEEPS INTO THE PULL BOX UNLESS NOTED OTHERWISE. CONDUIT PENETRATIONS SHALL ENTER BOX AT NO MORE THAN 20 DEGREES FROM HORIZONTAL. CONDUIT SHALL BE RAISED FROM TRENCH DEPTH TO BOX WITHOUT SWEEPS. CONDUIT SHALL REACH TRENCH DEPTH WITHIN 10' OUTSIDE OF BOX MAX. CONTACT CARSON CITY ENGINEER IF DEVIATION IS REQUIRED.
- CONDUITS SHALL HAVE 1/4" POLYESTER PULL LINE WITH SEQUENTIAL FOOTAGE MARKINGS AND A MINIMUM BREAKING STRENGTH OF 400 POUNDS. PULL LINE SHALL EXTEND A MINIMUM OF 3 FEET FROM EACH HANDHOLE.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
APPROVED BY:			07/09	CARSON CITY DRAWING NO. C-2.2.3 (203,308) DATE 7/2009

**NOTES:**

- SEE DWG. C-2.2.1

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
APPROVED BY:			07/09	CARSON CITY DRAWING NO. C-2.2.3 (203,308) DATE 7/2009

PROJ. MGR.: JPB  
PROJ. ASSOC.: JPB  
CHECKED BY: CAP  
DWG NO.: CCN0205.01  
SCALE (HORIZ):  
SCALE (VERT):  
PLOT DATE: JUNE 2015

CARSON CITY  
PUBLIC WORKS DEPARTMENT  
3505 BUTTE WAY  
CARSON CITY, NV 89706  
TEL: 867-2655

**Manhard**  
CONSULTING LTD  
3476 Executive Pointe Way, Suite 12  
Carson City, NV 89706  
TEL: (775) 885-4650

PROFESSIONAL ENGINEER-STATE OF NEVADA  
PETERSON ALAN  
Exp. 12/31/17  
CIVIL  
10.16143

06/29/2015

Dwg Name: p:\concn02.dwg; Eng\Wind drawings\Plan Set\10-13 - CONSTRUCTION DETAILS.dwg Updated By: cpeterson

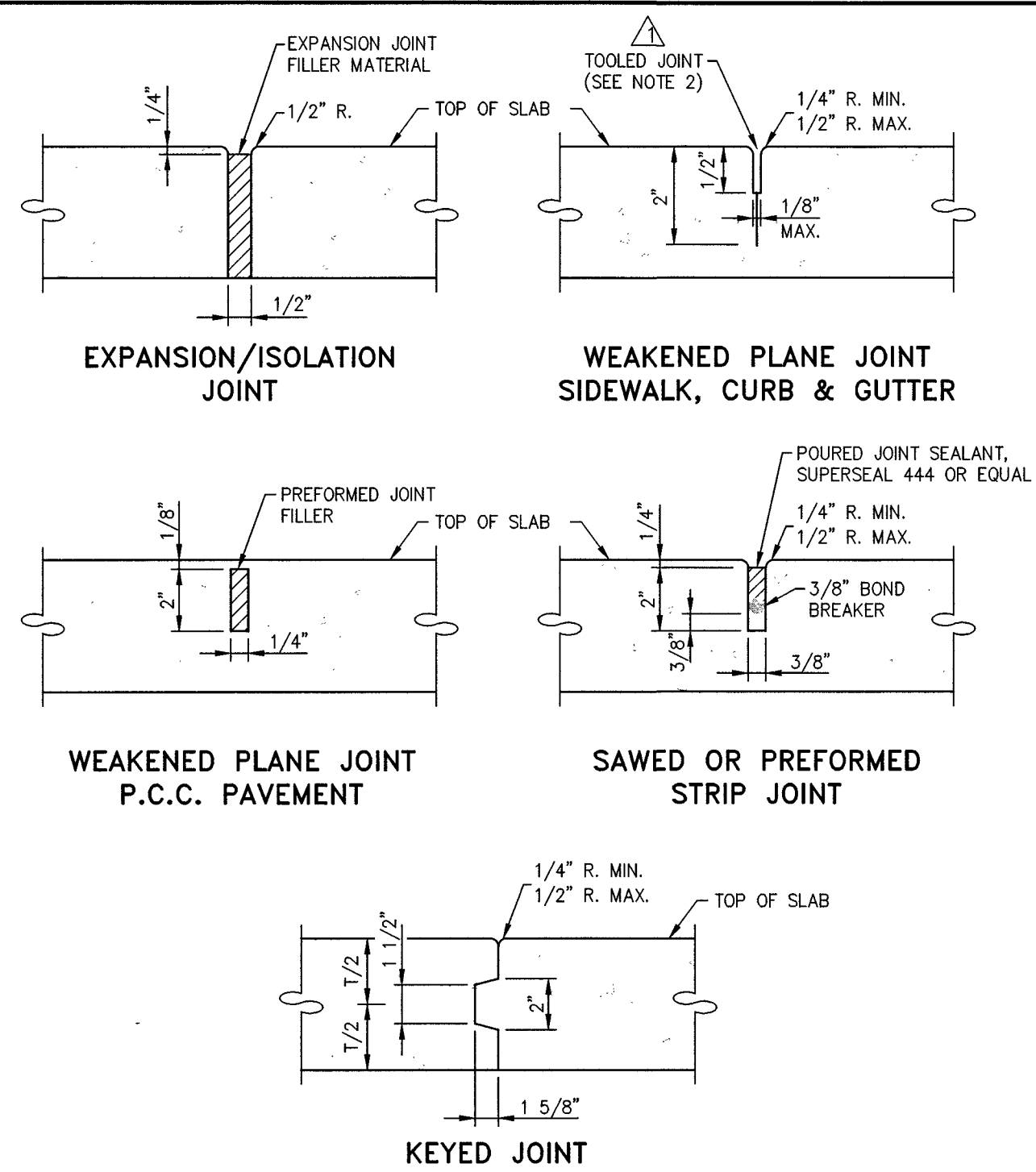
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REVISION CONC. LINES	5/14	FIRE HYDRANT SETBACK /FENCE CLEARANCE	CARSON CITY
2	CLEAR DISTANCE	7/14		DRAWING NO. C-3.1.7.1 (307) DATE 7/2014
APPROVED BY:			7/14	

EAST/WEST WATER TRANSMISSION MAIN  
PHASE 2A-2  
PROJECT No: 1415-150  
CONSTRUCTION DETAILS

SHEET  
23  
OF  
24

100% SUBMITTAL

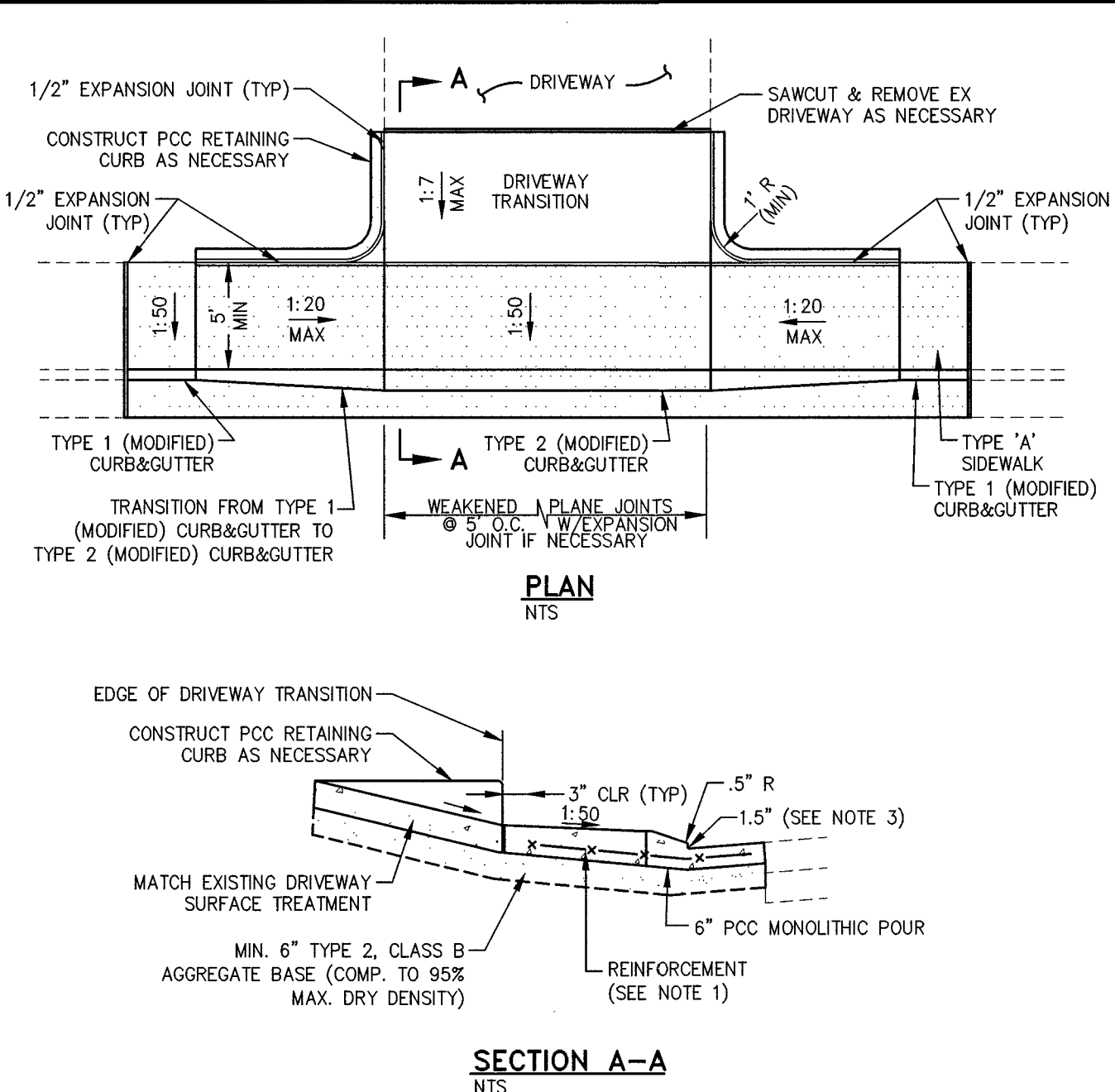




**NOTES:**

- ALL CONCRETE EDGING AND JOINTING SHALL CONFORM TO SECTION 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
- AFTER PRELIMINARY TROWELING, THE CONCRETE SHALL BE PARTED TO A DEPTH OF 2 INCHES WITH A STRAIGHTEDGE. THE CONCRETE SHALL THEN BE RELOADED TO FILL THE PARTED JOINT WITH MORTAR. FINAL JOINT FINISHING SHALL BE ACCOMPLISHED WITH A JOINTER TOOL AS SHOWN. (SSPWC 312.09.02)

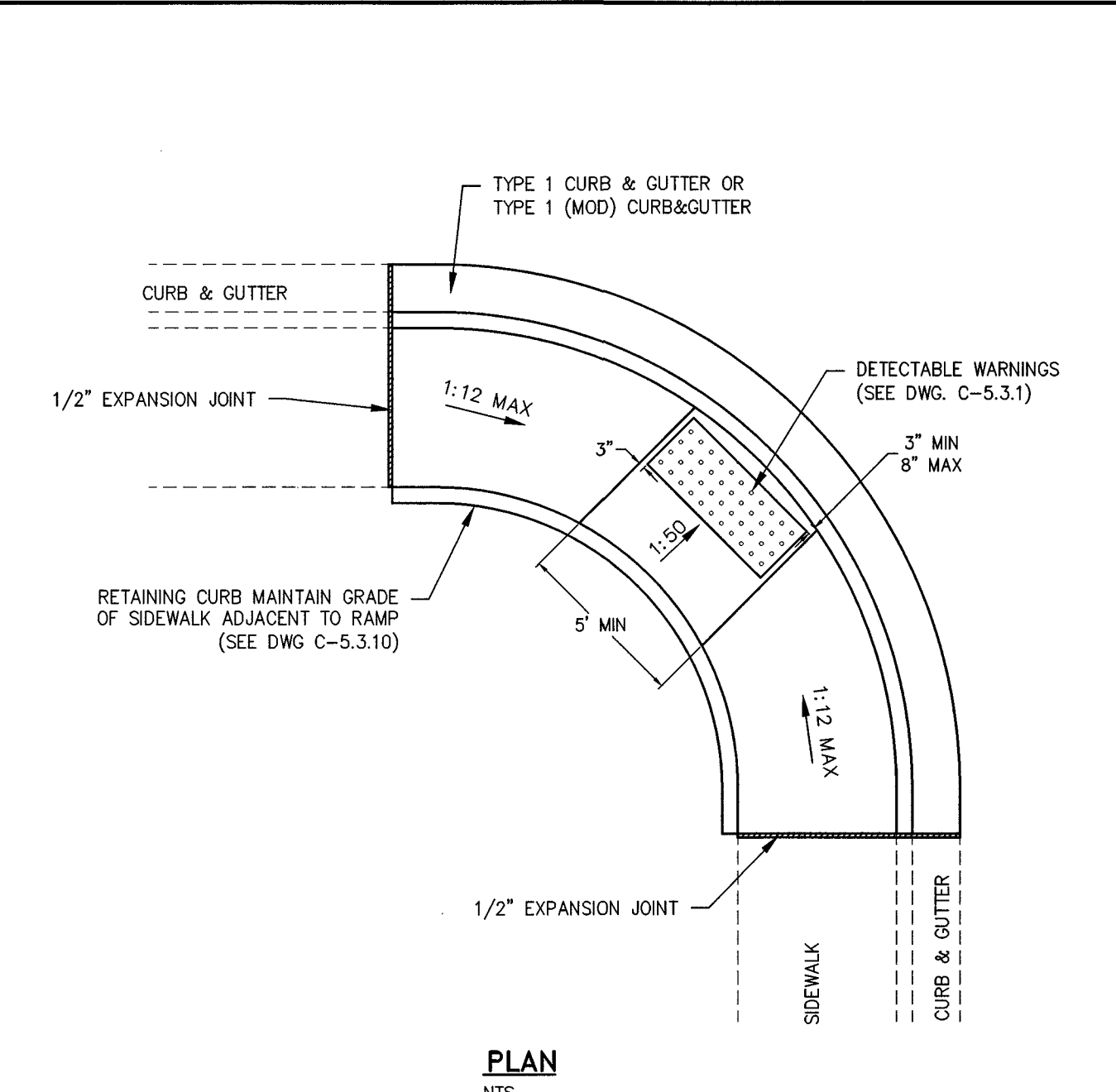
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
Δ	REVISED JOINT ADDED NOTE 2	5/14		CARSON CITY
P.C.C. JOINTING DETAILS				CARSON CITY
				DRAWING NO. C-5.1.1 (312)
APPROVED BY: _____				DATE 5/2014



**NOTES:**

- COMMERCIAL DRIVEWAYS TO HAVE 6 INCH X 6 INCH 10/10 WIRE MESH EXTENDED INTO GUTTER PAN UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
- DRIVEWAY LANDING, SIDEWALK, CURB & GUTTER TO BE MONOLITHIC POUR TO A.C. LINE.
- CURB HEIGHT AT LANDING SHALL BE 1 INCH MINIMUM AND 2 INCH MAXIMUM (3 INCH MAX UPON CARSON CITY PUBLIC WORKS APPROVAL) 2 INCH RADIUS TO BE USED WHEN CURB HEIGHT AT LANDING IS GREATER THAN 2 INCHES.
- DRIVEWAY APRONS SHALL BE CONSTRUCTED IN COMPLIANCE WITH STANDARD DETAILS C-5.1.1 AND C-5.2.1.

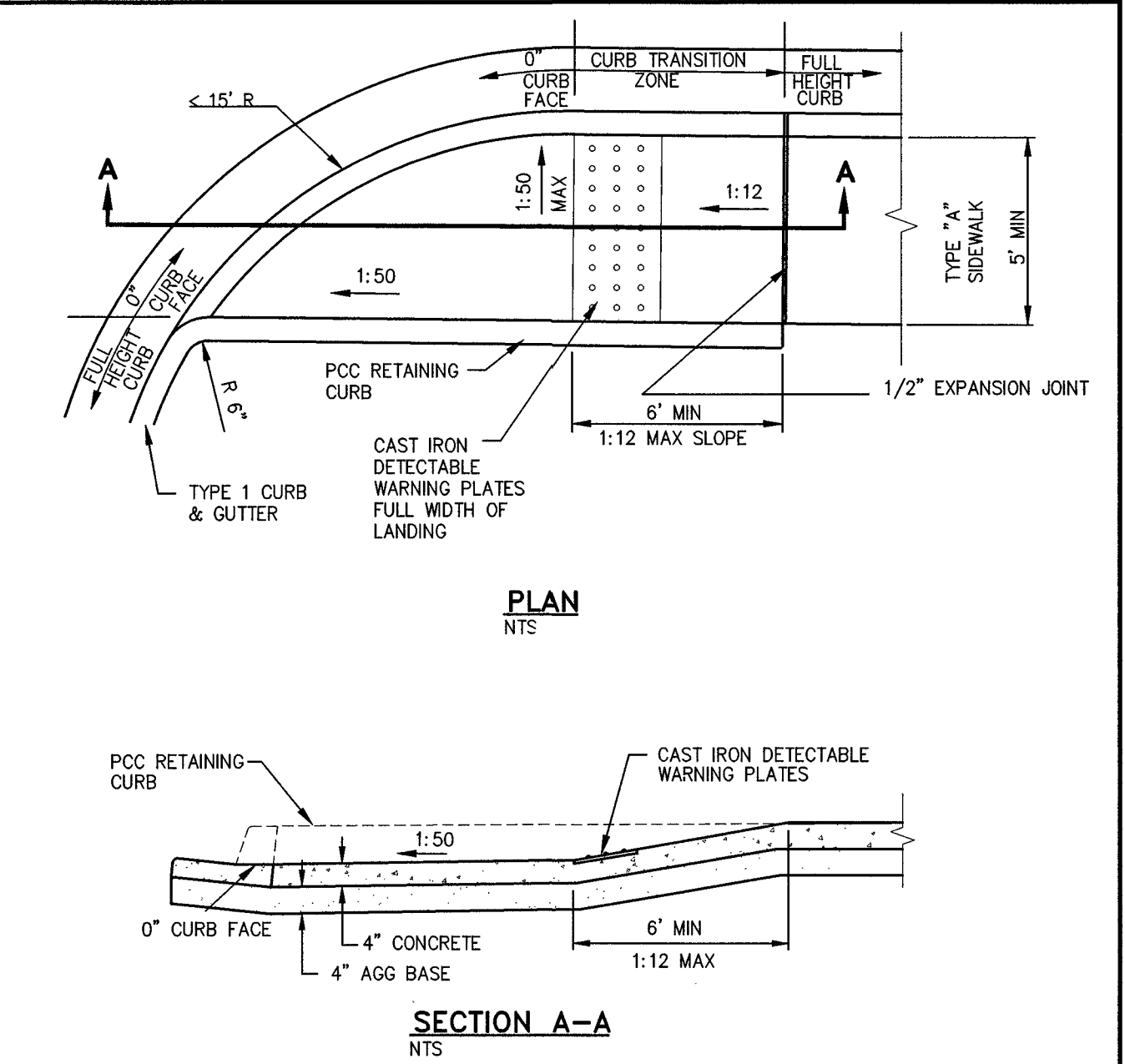
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
Δ	NOTE 1	05/14		CARSON CITY
P.C.C. DRIVEWAY APRON TYPE 1 (MODIFIED)				CARSON CITY
				DRAWING NO. C-5.2.3
APPROVED BY: _____				DATE 5/2014



**NOTES:**

- NOT FOR USE WITH OFFSET SIDEWALKS.
- RETAINING CURBS ARE TO BE USED IN ALL CASES AND FINISH GRADE AT BACK OF SIDEWALK IS TO BE RAISED TO TOP OF RETAINING CURB ELEVATION.
- SEE "CURB RAMP GENERAL NOTES" DWG C-5.3.1 FOR FURTHER REQUIREMENTS.

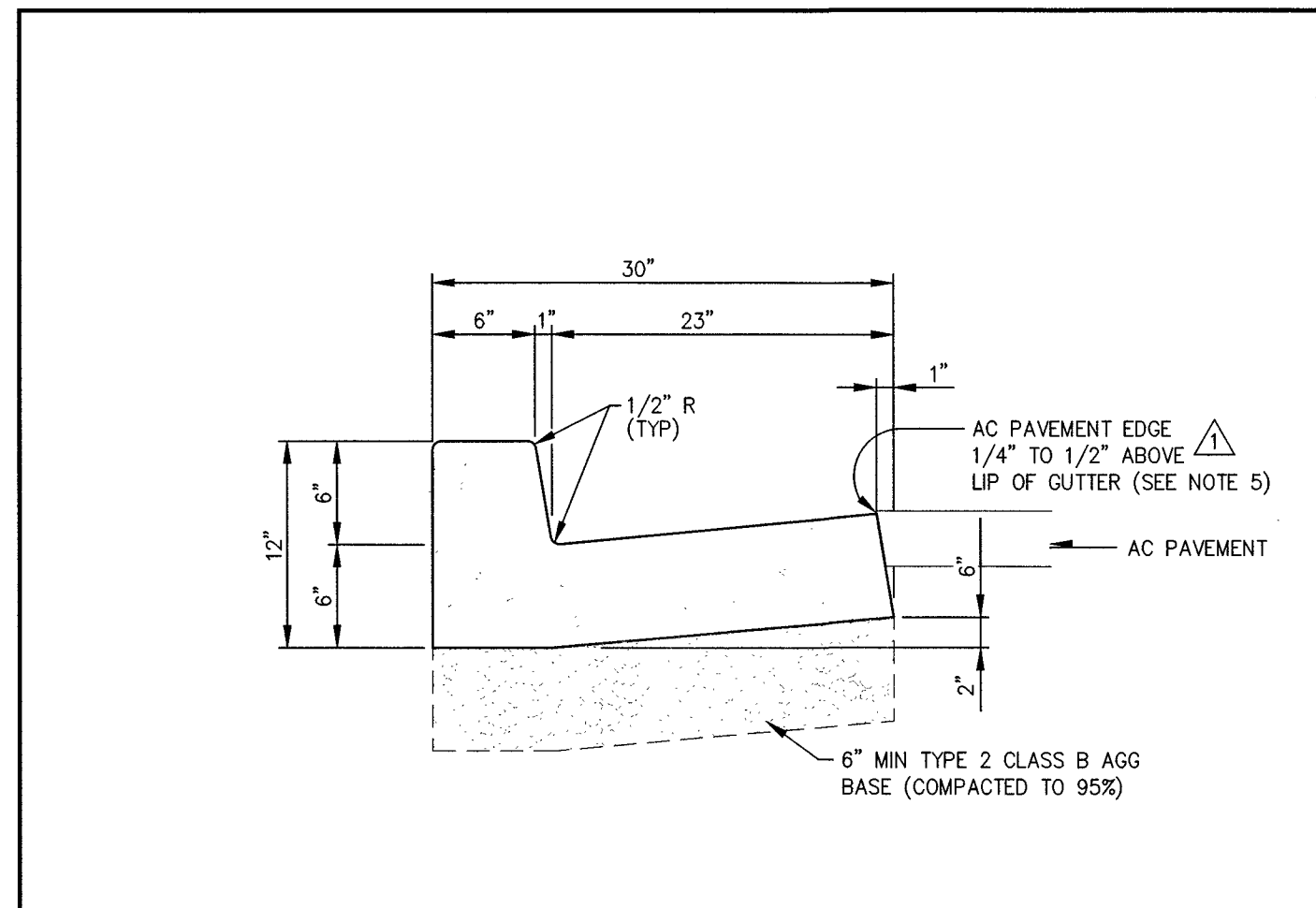
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
PARALLEL CURB RAMP APEX (MODIFIED)				CARSON CITY
				DRAWING NO. C-5.3.5 (MOD)
APPROVED BY: _____				DATE 7/2009



**NOTES:**

- LINEAR SINGLE TRANSITION CURB RAMP TO BE USED ONLY AT RETURNS HAVING LESS THAN A 15 FOOT RADIUS.
- NOT FOR USE WITH OFFSET SIDEWALKS.
- RETAINING CURBS ARE TO BE USED IN ALL CASES AND EXISTING GRADE AT BACK OF SIDEWALK IS TO BE RAISED TO TOP OF RETAINING CURB ELEVATION.
- SEE "CURB RAMP GENERAL NOTES" DWG C-5.3.1 FOR FURTHER REQUIREMENTS.

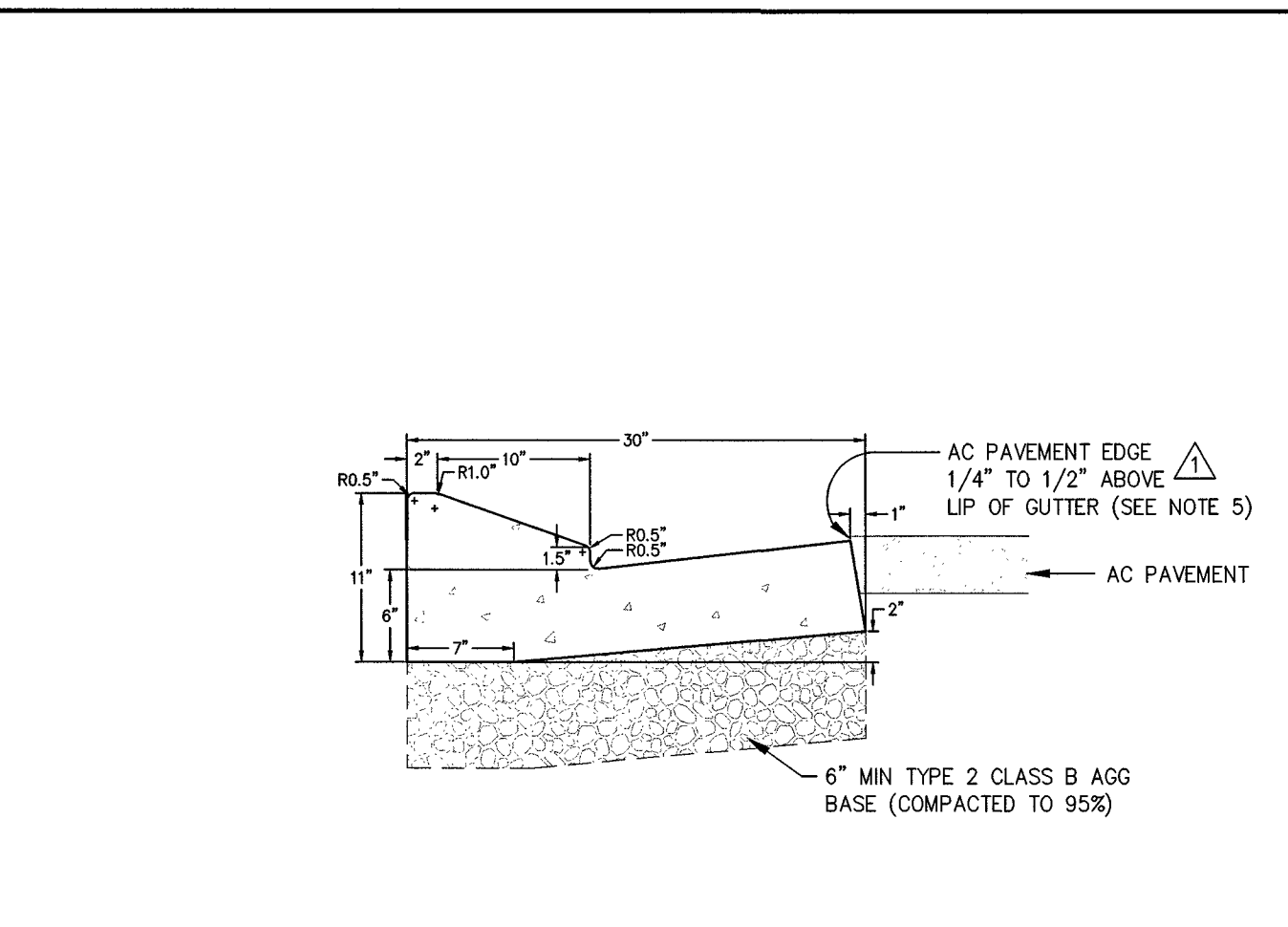
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
LINEAR CURB RAMP SINGLE ADJACENT				CARSON CITY
				DRAWING NO. C-5.3.8
APPROVED BY: _____				DATE 7/2009



**NOTES:**

- PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- ALL CONCRETE CURB & GUTTER SHALL HAVE 1/2 INCH EXPANSION JOINTS EVERY 30 FEET (UNLESS APPROVED OTHERWISE BY THE ENGINEER) AND AT ALL CURB RETURNS AND SHALL HAVE WEAKENED PLANE JOINTS EVERY 10 FEET. CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL C-5.1.1 AND CONFORM TO SECTION 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
- ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND CONFORM TO SECTION 200.01 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND SHALL BE MECHANICALLY COMPACTED TO 95% COMPACTION, IN CONFORMANCE WITH SECTION 308.05 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- CURBS SHALL BE MARKED WITH A 2 INCH "S" ON THE TOP OF CURB AT SEWER LATERAL LOCATIONS.
- EXCEPTION: AC PAVEMENT EDGE SHALL BE FLUSH TO 1/4 INCH ABOVE THE LIP OF GUTTER WHEN LOCATED ADJACENT TO A PEDESTRIAN RAMP, WITHIN AN ACCESSIBLE ROUTE OR BIKE LANE.

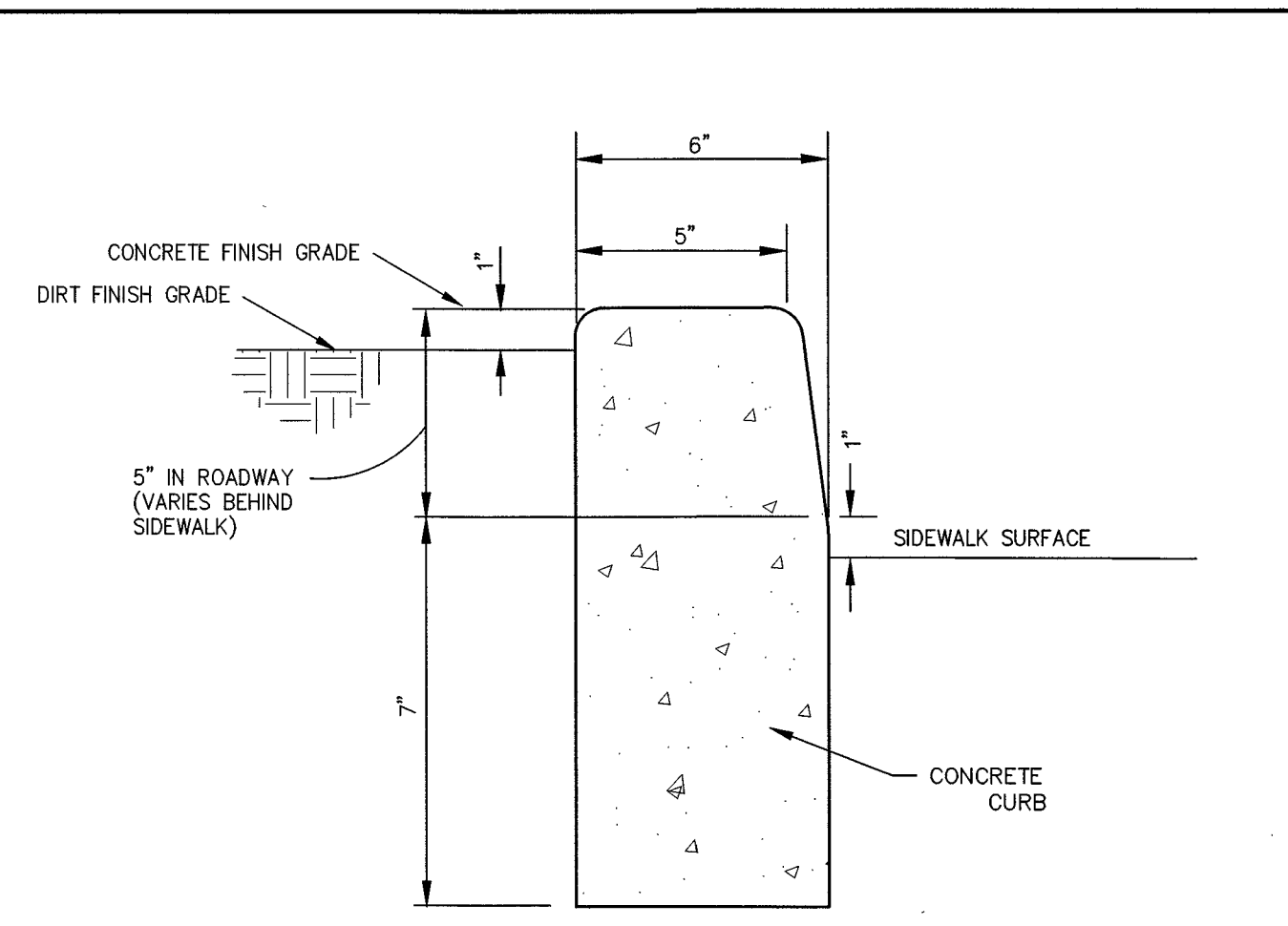
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
Δ	AC/LIP	06/12		CARSON CITY
Δ	NOTE 5	05/14		CARSON CITY
PCC CURB & GUTTER TYPE 1 (MODIFIED)				CARSON CITY
				DRAWING NO. C-5.1.4 MOD
APPROVED BY: _____				DATE 5/2014



**NOTES:**

- PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- ALL CONCRETE CURB & GUTTER SHALL HAVE 1/2 INCH EXPANSION JOINTS EVERY 30 FEET (UNLESS APPROVED OTHERWISE BY THE ENGINEER) AND AT ALL CURB RETURNS AND SHALL HAVE WEAKENED PLANE JOINTS EVERY 10 FEET. CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL C-5.1.1 AND CONFORM TO SECTION 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
- ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND CONFORM TO SECTION 200.01 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND SHALL BE MECHANICALLY COMPACTED TO 95% COMPACTION, IN CONFORMANCE WITH SECTION 308.05 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- CURBS SHALL BE MARKED WITH A 2 INCH "S" ON THE TOP OF CURB AT SEWER LATERAL LOCATIONS.
- EXCEPTION: AC PAVEMENT EDGE SHALL BE FLUSH TO 1/4 INCH ABOVE THE LIP OF GUTTER WHEN LOCATED ADJACENT TO A PEDESTRIAN RAMP, WITHIN AN ACCESSIBLE ROUTE OR BIKE LANE.

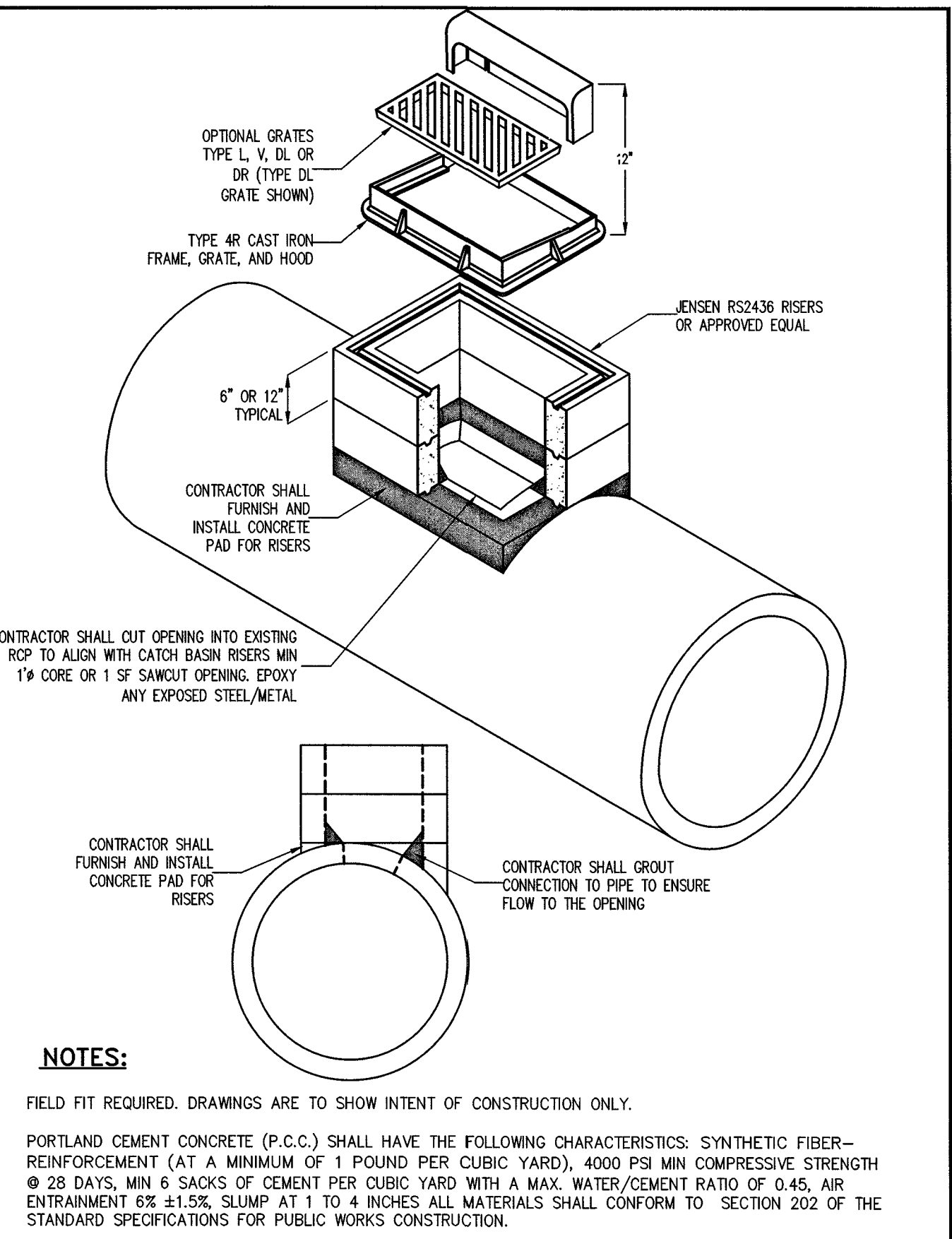
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
Δ	AC/LIP	06/12		CARSON CITY
Δ	NOTE 5	05/14		CARSON CITY
PCC CURB & GUTTER TYPE 2 (MODIFIED)				CARSON CITY
				DRAWING NO. C-5.1.4 MOD
APPROVED BY: _____				DATE 5/2014



**NOTES:**

- NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED BY CARSON CITY PUBLIC WORKS.
- ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DETAIL 5.1.1 AND CONFORM TO SEC. 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
P.C.C. RETAINING CURB				CARSON CITY
				DRAWING NO. C-5.3.10
APPROVED BY: _____				DATE 7/2009



**NOTES:**

- FIELD FIT REQUIRED. DRAWINGS ARE TO SHOW INTENT OF CONSTRUCTION ONLY.
- PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
TYPE 4R CATCH BASIN ON 48" RCP				CARSON CITY
				DRAWING NO. C-5.3.10
APPROVED BY: _____				DATE 7/2009

PROJ. MGR.: CAP  
 PROJ. ASSOC.: JPB  
 CHECKED BY: CAP  
 DWG. NO.: CCN03V2.01  
 SCALE (HORIZ): AS SHOWN  
 SCALE (VERT): AS SHOWN  
 PLOT DATE: JUNE 2015  
 PROJECT NO. 1415-130

**Manhard CONSULTING LTD**  
 3476 Executive Pointe Way, Suite 12  
 Carson City, NV 89706  
 PH: (775) 882-5630

CARSON CITY  
 PUBLIC WORKS DEPARTMENT  
 3505 BUTTE WAY  
 CARSON CITY, NEVADA 89701  
 PH: 887-2585

PROFESSIONAL ENGINEER STATE OF NEVADA  
 CHRISTOPHER ALAN PETERSON  
 Exp. 12/31/15  
 CIVIL  
 04/24/2015

REV.	DATE	DESCRIPTION

EAST/WEST WATER TRANSMISSION MAIN  
 PHASE 2A-2  
 PROJECT NO: 1415-130  
 CONSTRUCTION DETAILS

SHEET	24
OF	24