WEST WASHINGTON STREET STORMDRAIN IMPROVEMENTS

CARSON CITY, NEVADA

PROJECT 6.1501

BOARD OF SUPERVISORS

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

DESIGNED FOR:

CARSON CITY PUBLIC WORKS DEPARTMENT
OPERATIONS DIVISION
3505 BUTTI WAY
CARSON CITY, NV 89701
775-887-2355

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS PER NAC 445A.67145 (1)(a) AND 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 VI 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. THE APPROVED PLAN, PERMIT AND INSPECTION RECORD MUST BE ON THE JOB SITE AT ALL TIMES.
8. 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)
9. 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).
10. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THESE LOCATIONS AT THE PROPOSED POINTS OF CONNECTIONS AND IN AREAS OF POSSIBLE CONFLICT WITH NEW UTILITY INSTALLATION, PRIOR TO BEGINNING CONSTRUCTION. POTHOLING IS REQUIRED. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, HE SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
11. THE 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.
12. 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 ENGINEER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.
13. ALL PVC WATER PIPELINES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA STANDARD C605 PER NAC 445A.67145 (7)(b) PRIOR TO BEING FLUSHED, DISINFECTED OR SAMPLED FOR AN ANALYSIS OF WATER QUALITY. ALL PVC WATER PIPELINES ARE TO BE DISINFECTED ACCORDING TO AWWA STANDARD C651 PER NAC 445A.67145 (6)(a).

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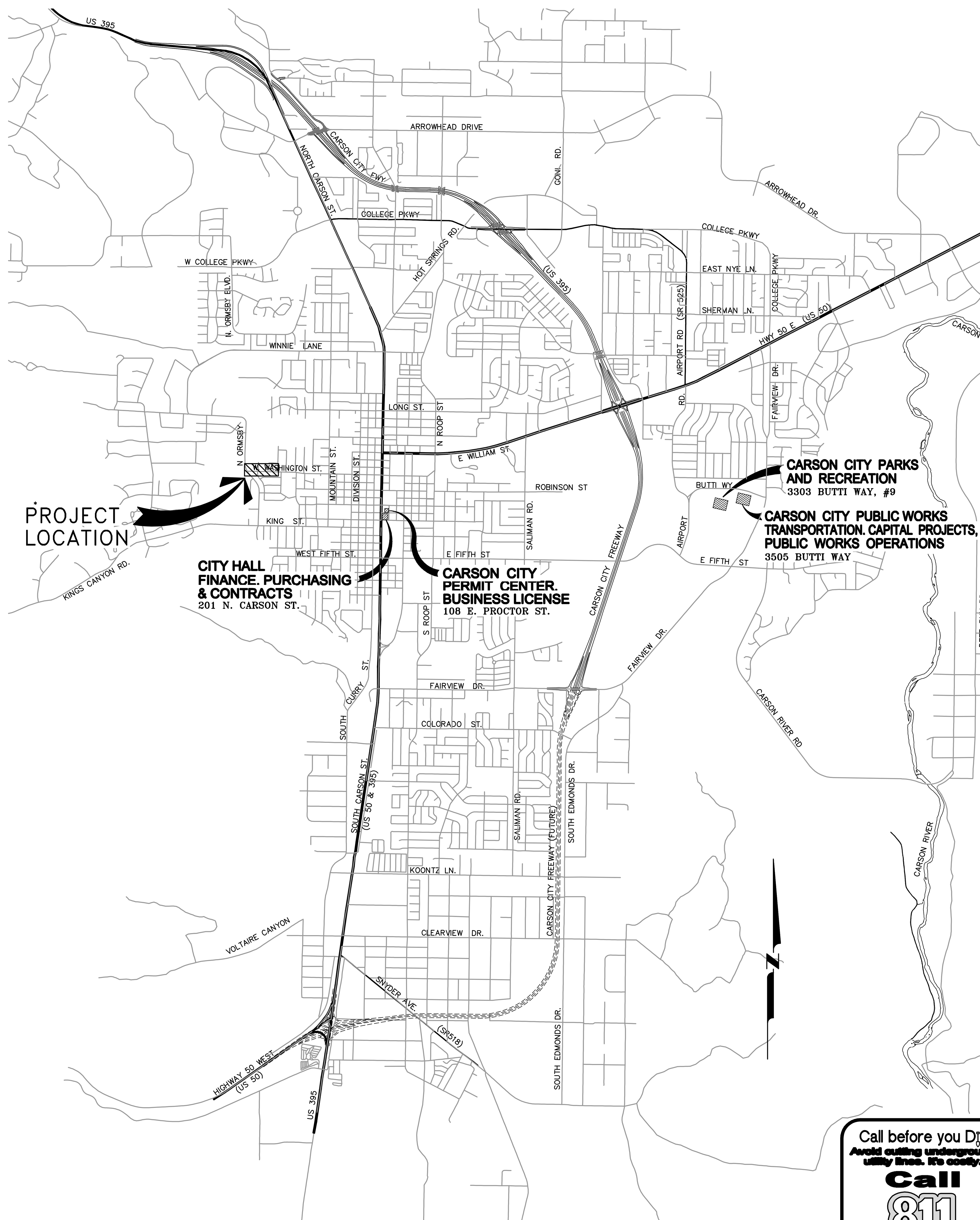


VICINITY MAP

N.T.S.

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

SHEET INDEX

APPLICATION NO. ________

DESIGNED BY: DGR/RDF
DRAWN BY: DGR
CHECKED BY: RDF
DWG NO.: 6-1501-TS.DWG
SCALE (HORIZ): N/A
SCALE (VERT): N/A
DATE: 4/22/15

CARSON CITY PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 775-887-2355 FAX: 775-887-2112

PROFESSIONAL ENGINEER STATE OF NEVADA
ROBERT D. FELLOWS
Exp: 6/30/15
CIVIL
No. 12497
4/22/2015

REV.	DATE	DESCRIPTION	BY	APP'D

WEST WASHINGTON STREET STORMDRAIN IMPROVEMENTS
PROJECT No. 6.1501

TITLE SHEET

SHEET G1 OF 6

FOR BIDDING PURPOSES ONLY

LEGEND

EXISTING / PROPOSED	DESCRIPTION	EXISTING / PROPOSED	DESCRIPTION
	BENCH MARK	— — OHP — —	OVERHEAD POWER
	PROPERTY LINE		UTILITY POLE
WV	WATER VALVE	E	ELECTRIC MANHOLE
8"W	WATER LINE	— T —	TELEPHONE LINE
WM	WATER METER	T	TELEPHONE MANHOLE
WS	WATER SERVICE		LUMINAIRE
	FIRE HYDRANT		LIGHT POLE
	AIR RELEASE VALVE	TYPE	SIGN
8" SS	SEWER LINE	(3221) / 4735	CONTOUR LINES
S	SANITARY SEWER MANHOLE		PCC CURB & GUTTER
CO	SANITARY SEWER CLEANOUT		GLUE DOWN CURB
	SEWER SERVICE		AC PAVEMENT
18"SD / 42"SD	STORM DRAIN CULVERT		PCC PAVEMENT
D / SD	STORM DRAIN MANHOLE		FENCE LINE
CB	CATCH BASIN (SQUARE)		AREAS OF SPECIAL CONSTRUCTION INSTALL RESTRAINING GLANDS ON ALL PIPE JOINTS
CB	CATCH BASIN (ROUND)		
— G — G —	GAS LINE		

ABBREVIATIONS

AB	AGGREGATE BASE	N	NORTH
AC	ASPHALTIC CONCRETE	NTS	NOT TO SCALE
ACP	ASBESTOS CEMENT PIPE	PCC	PORTLAND CEMENT CONCRETE
APN	ASSESSORS PARCEL NUMBER	PL	PROPERTY LINE
APPROX	APPROXIMATE	PVC	POLYVINYLCHLORIDE
CATV	CABLE TV	PVMT	PAVEMENT
CB	CATCH BASIN	R	RADIUS
CL	CENTER LINE, CLASS	R&R	REMOVE & REPLACE
CONC	CONCRETE	RCP	REINFORCED CONCRETE PIPE
DI	DROP INLET	ROW	RIGHT OF WAY
DTL	DETAIL	RT	RIGHT
DIA, ø	DIAMETER	S	SLOPE, SOUTH
DWY	DRIVEWAY	SD	STORM DRAIN
EXIST	EXISTING	SDMH	STORM DRAIN MANHOLE
E	EAST	SF	SQUARE FEET
EA	EACH	SHT	SHEET
EL, ELEV	ELEVATION	SRP	SPIRAL RIB STEEL PIPE
EP	EDGE OF PAVEMENT	SS	SANITARY SEWER
FES	FLARED END SECTION	SSCO	SANITARY SEWER CLEANOUT
FG	FINISH GRADE	SSMH	SANITARY SEWER MANHOLE
FL	FLOWLINE	ST	STREET
FT	FEET	STA	STATION
G	GAS	STD	STANDARD
GB	GRADE BREAK	STL	STEEL
GV	GAS VALVE/GATE VALVE	T, TELE	TELEPHONE
HDPE	HIGH DENSITY POLYETHYLENE	TOG	TOP OF GRATE
HORIZ	HORIZONTAL	TYP	TYPICAL
IE, INV	INVERT ELEVATION	U/G	UNDERGROUND
L	LENGTH	UGE	UNDERGROUND ELECTRIC
LAT	LATERAL	W	WEST, WATER
LF	LINEAL FEET	WM	WATER METER
LT	LEFT	W/	WITH
MAG	MAGNETIC NAIL	W/O	WITHOUT
MAX	MAXIMUM	WV	WATER VALVE
MH	MANHOLE	X'ING	CROSSING
MIN	MINIMUM		

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.

SEWER MANHOLE NOTES

1. MANHOLE BASE(S) SHALL BE PRECAST UNLESS OTHERWISE APPROVED BY CARSON CITY PUBLIC WORKS. NO FIELD MODIFICATIONS TO PRECAST BASES WILL BE ALLOWED. TROUGHS AND BENCHES TO BE CAST IN BASE(S) AT PRECAST FACTORY. BASE CONFIGURATION TO BE INSTALLED AS SHOWN ON THE APPROVED PLANS. NO PLUGGING OR FIELD MODIFYING ALLOWED.
2. PRECAST MANHOLE COMPONENTS SHALL CONFORM TO ASTM C-478.
3. ARRANGE MANHOLE SECTION LENGTHS TO FIT DEPTH. ALL SHIMS TO BE REMOVED AND VOIDS GROUTED.
4. PIPES SHALL NOT PROTRUDE MORE THAN 3 INCHES INSIDE MANHOLE SECTION, AS MEASURED FROM THE INSIDE WALL AT THE SPRING LINE OF THE PIPE.
5. MANHOLE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 204 "MANHOLES AND CATCH BASINS" OF THE STANDARD SPECIFICATIONS.
6. PRECAST MANHOLE SECTIONS, OTHER THAN GRADE RINGS, SHALL BE JOINED WITH FLEXIBLE PLASTIC GASKET MATERIAL SUCH AS "RAM-NEK" OR EQUAL AS PER MANUFACTURER'S RECOMMENDATIONS.
7. EXCAVATION AND BACKFILL SHALL BE AS SPECIFIED FOR "TRENCH EXCAVATION AND BACKFILL" IN SECTION 305 OF THE STANDARD SPECIFICATIONS. (SEE C-1.2.1)
8. NO SEWER LINE PIPE WITH A DIAMETER OF LESS THAN 8 INCHES SHALL BE CONNECTED TO A MANHOLE WITHOUT THE APPROVAL OF THE CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
9. MATCH PIPE INVERTS TO MANHOLE INVERTS WHERE PIPES CONNECT TO MANHOLE BASE.
10. ALL MANHOLES SHALL BE SEALED WATERTIGHT. COVERS SHALL HAVE NO "THRU" HOLES. CLOSED PICK HOLES ONLY: SOUTH BAY FOUNDRY 1900 CPH OR APPROVED EQUAL.
11. COAT OUTSIDE OF SEWER MANHOLE WITH FLEXIBLE RUBBERIZED COATING WHEN GROUNDWATER IS ENCOUNTERED.
12. PRIOR TO BACKFILLING, ALL MANHOLES SHALL BE VACUUM TESTED PER THE REQUIREMENTS OF ASTM C-1244.
13. NO STEPS, LADDERS OR OTHER CLIMBING DEVICES SHALL BE INSTALLED IN MANHOLES.
14. MANHOLES LOCATED OUTSIDE PAVED AREAS SHALL REQUIRE ALL WEATHER ACCESS ROADWAY CONSISTING OF 6 INCH TYPE 2, CLASS B AGGREGATE BASE (CONFORMING TO THE SSPWC SECTION 200.01.02) AND SEWER MANHOLE MARKERS SHALL BE INSTALLED. SEWER MANHOLE MARKERS SHALL BE GREEN CARSONITE UTILITY MARKER (CUM 375), 5 FEET-2 INCHES (5'-2") WITH MANHOLE DECAL (668-MH) OR APPROVED EQUAL. PLACE MARKERS ON EASEMENT LINE NEAREST TO MANHOLE OR AS DIRECTED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
15. SEWER MANHOLES SHALL BE VACUUM TESTED PER SECTION 3002 OF THE TECHNICAL SPECIFICATIONS AND IN ACCORDANCE WITH THE CARSON CITY SSPWC, LATEST EDITION.
16. (△1) WHEN PIPE CONNECTIONS TO EXISTING MANHOLES ARE ALLOWED, THEY SHALL BE MADE BY CORE DRILLING THE MANHOLE AND CONNECTING THE PIPE PENETRATION WITH AN NPC KOR-N-SEAL PIPE-TO-MANHOLE CONNECTOR OR A LINK-SEAL MODULAR SEAL.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
△1	NOTE 16	6/12	SEWER MANHOLE NOTES	CARSON CITY
				DRAWING NO. C-2.1.2 (204,306,323)
APPROVED BY:		07/09		DATE 7/2009

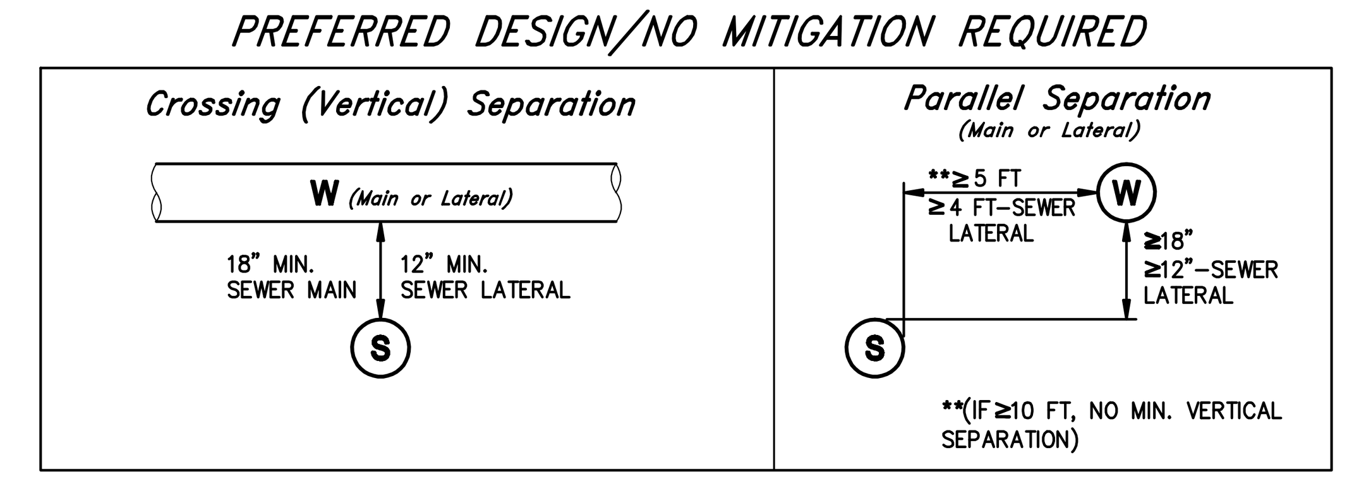
STORM DRAIN GENERAL NOTES

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" (ALMETEK 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 2 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.

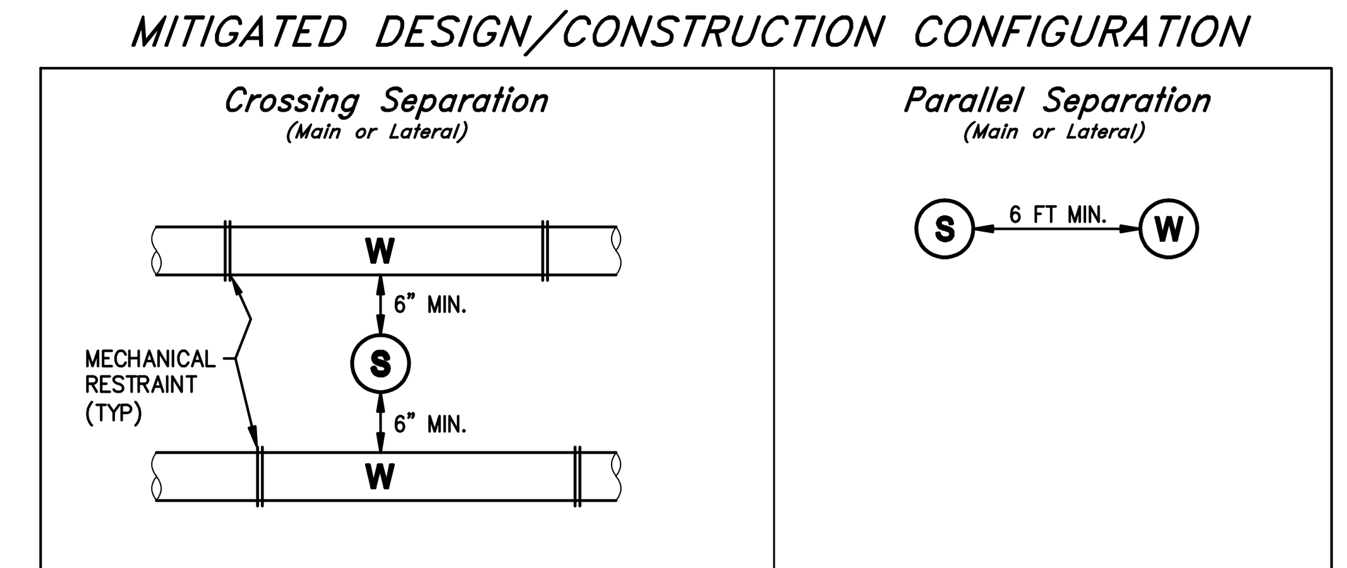
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			STORM DRAIN GENERAL NOTES	CARSON CITY
				DRAWING NO. C-4.1.1
APPROVED BY:		7/09		DATE 7/2009

WATER/SEWER SEPARATION GUIDELINES

PREFERRED DESIGN/NO MITIGATION REQUIRED



MITIGATED DESIGN/CONSTRUCTION CONFIGURATION



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

DESIGNED BY: RDF/DGR
DRAWN BY: DGR
CHECKED BY: RDF
DWG NO.: 6-1501-TS.DWG
SCALE (HORIZ): N/A
SCALE (VERT): N/A
DATE: 4/22/15

CARSON CITY PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 775-887-2355 FAX: 775-887-2112

PROFESSIONAL ENGINEER STATE OF NEVADA – ROBERT D. FELLOWS – Exp: 6/30/15 – CIVIL – No. 12497 – 4/22/2015

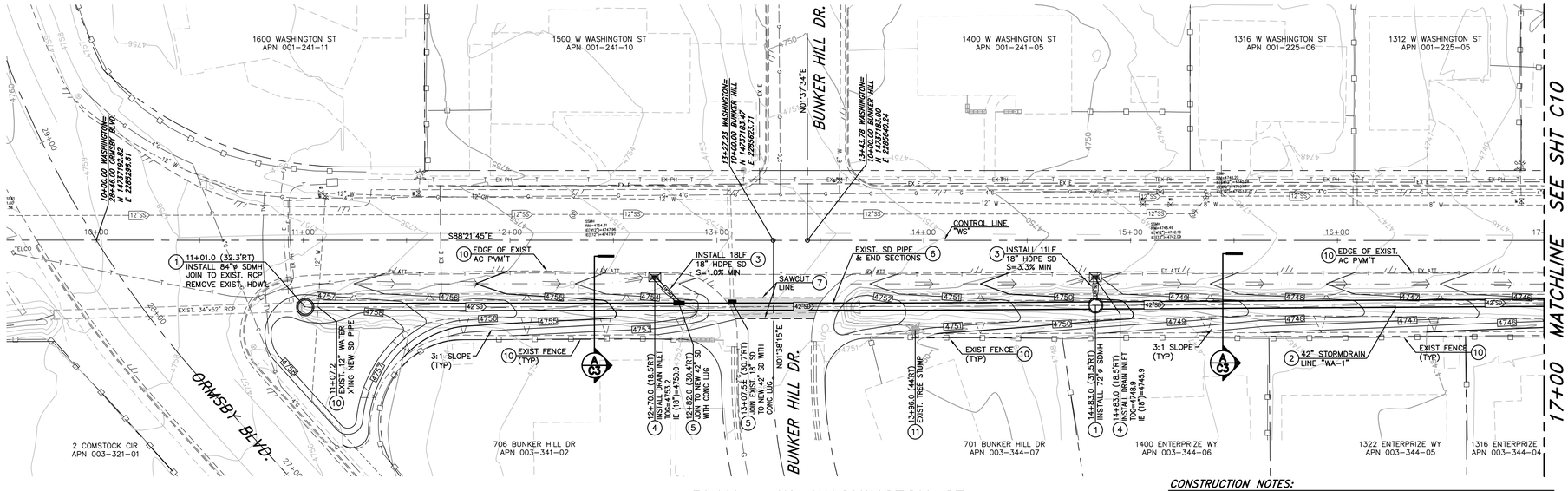
REV.	DATE	DESCRIPTION	BY	APP'D

WEST WASHINGTON STREET STORMDRAIN IMPROVEMENTS PROJECT No. 6.1501

NOTES, LEGEND, ABBREVIATIONS

SHEET G2 OF 6

FOR BIDDING PURPOSES ONLY



PLAN – W. WASHINGTON ST.

SCALE: 1" = 30'

CONSTRUCTION NOTES:

1. INSTALL STORM DRAIN MANHOLE (SIZE PER PLAN) WITH FLAT TOP COVER & 36" I.D. OPENING, PER MANUFACTURER'S RECOMMENDATIONS AND STD. DRAWING C-2.1.3.
2. INSTALL 42" DIAMETER SPIRAL RIB STEEL PIPE (SRP) PER STD DRAWING C-1.2.1.
3. INSTALL 18" DIAMETER HDPE STORMDRAIN PIPE PER STD DRAWING C-1.2.1.
4. INSTALL 24"x36" GRATED DRAIN INLET WITH CONCRETE APRON PER DETAILS 5 & 6, SHEET C3.
5. CONNECT TO NEW STORMDRAIN PIPE WITH CONCRETE LUG, PROVIDE WATER TIGHT JOINT.
6. REMOVE AND SALVAGE EXISTING STORMDRAIN PIPE AND FLARED END SECTIONS, DELIVER TO CARSON CITY CORPORATE YARD.
7. LIMITS OF FULL DEPTH SAWCUT, REMOVAL AND REPLACEMENT OF EXISTING AC PAVEMENT, PER STD DRAWING C-5.1.6
8. LIMITS OF FULL DEPTH SAWCUT, AND REMOVAL OF EXISTING AC PAVEMENT, PER STD DRAWING C-5.1.6, REPLACE WITH REINFORCED CONCRETE SLAB 6" THICK, #4 BARS @ 18" O.C. EACH WAY
9. DEMO AND REMOVE EXISTING CONCRETE DRIVEWAY TO LIMITS SHOWN, CONSTRUCT NEW CONCRETE DRIVEWAY APRON PER STD DRAWING C-5.2.5
10. PROTECT-IN-PLACE
11. REMOVE EXISTING TREE STUMP AND ROOTS
12. SAWCUT AND REMOVE EXISTING CONCRETE DRIVEWAY TO LIMITS SHOWN

SCALE
30 0 15 30
HORIZ: 1" = 30'

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
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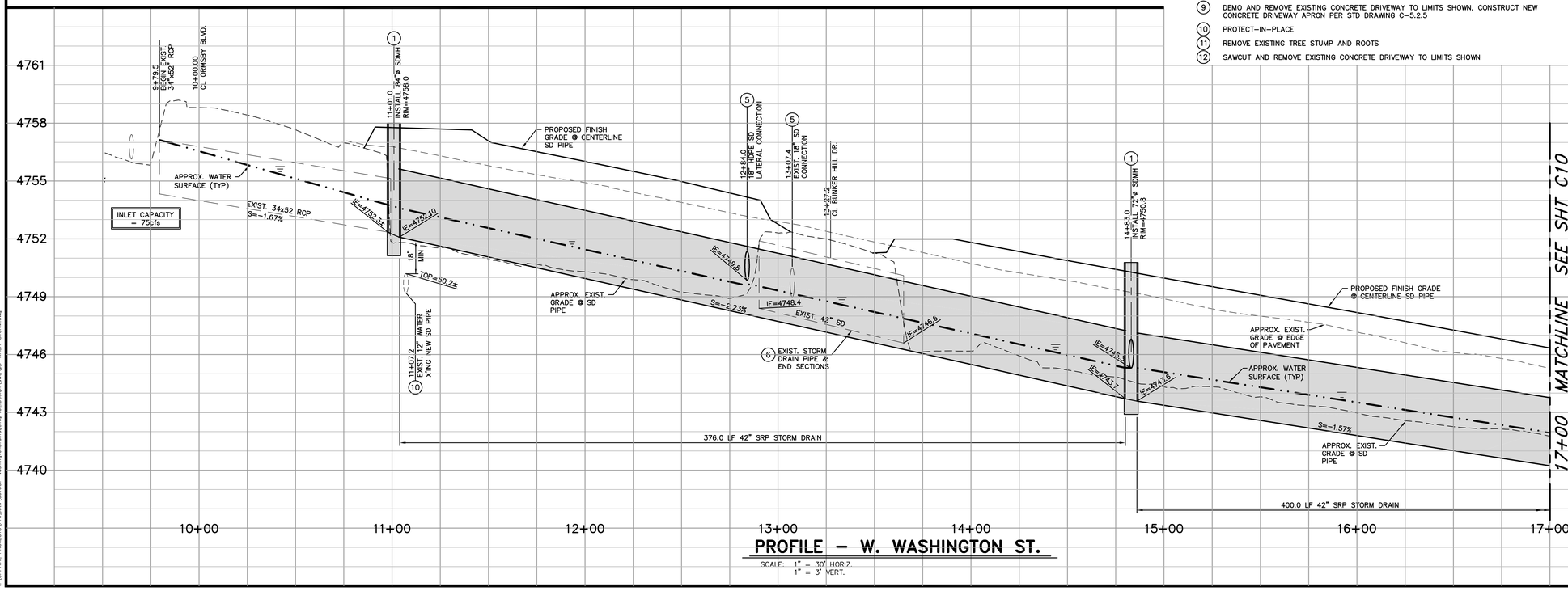

PROFILE – W. WASHINGTON ST.

SCALE: 1" = 30' HORIZ.
1" = 3' VERT.

DESIGNED BY: DGR/RDF
DRAWN BY: DGR
CHECKED BY: RDF
DWG NO.pg-wash-storm.dwg
SCALE (HORIZ): 1"=30'
SCALE (VERT): 1"=3'
PLOT DATE: 4/23/15

CARSON CITY
PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112

STATE OF NEVADA
PROFESSIONAL ENGINEER
ROBERT D. FELLOWS
Exp: 6/30/15
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4/22/2015

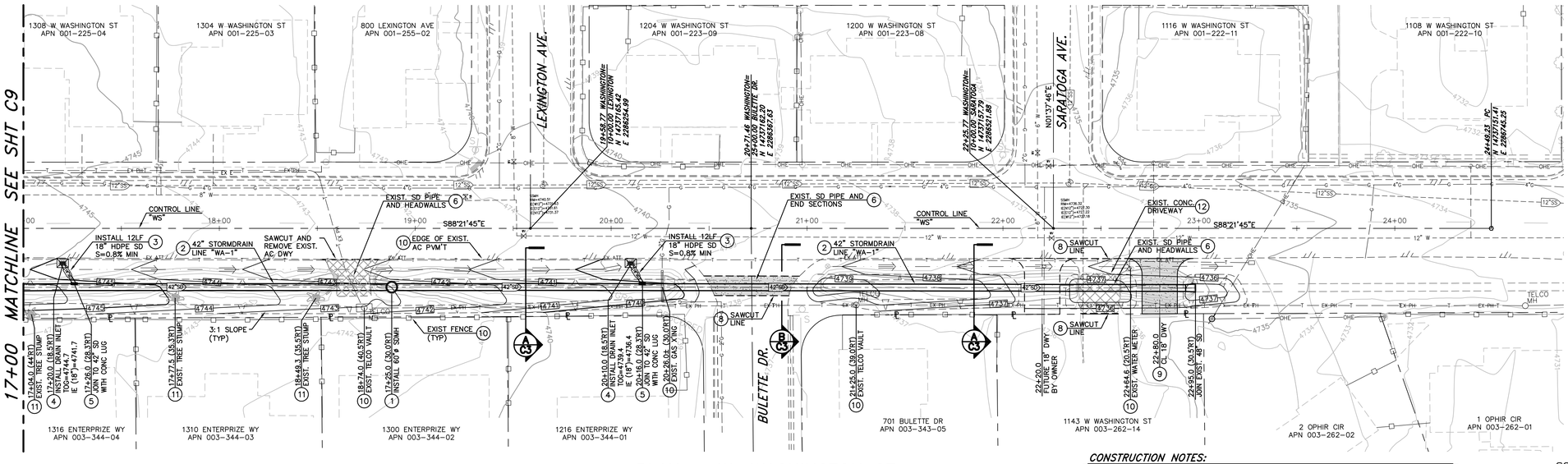
REV.	DATE	DESCRIPTION	BY	APP'D

WEST WASHINGTON STREET
STORMDRAIN IMPROVEMENTS
PROJECT No. 6.1501
STORMDRAIN PLAN & PROFILE
STA 10+00 to STA 17+00

SHEET C1 OF 6

FOR BIDDING PURPOSES ONLY

I:\CAPITAL PROJECTS\Projects\2015\01 - Washington\Drainage\pg\02.Design Dwg\pg-WASH-STORM.dwg



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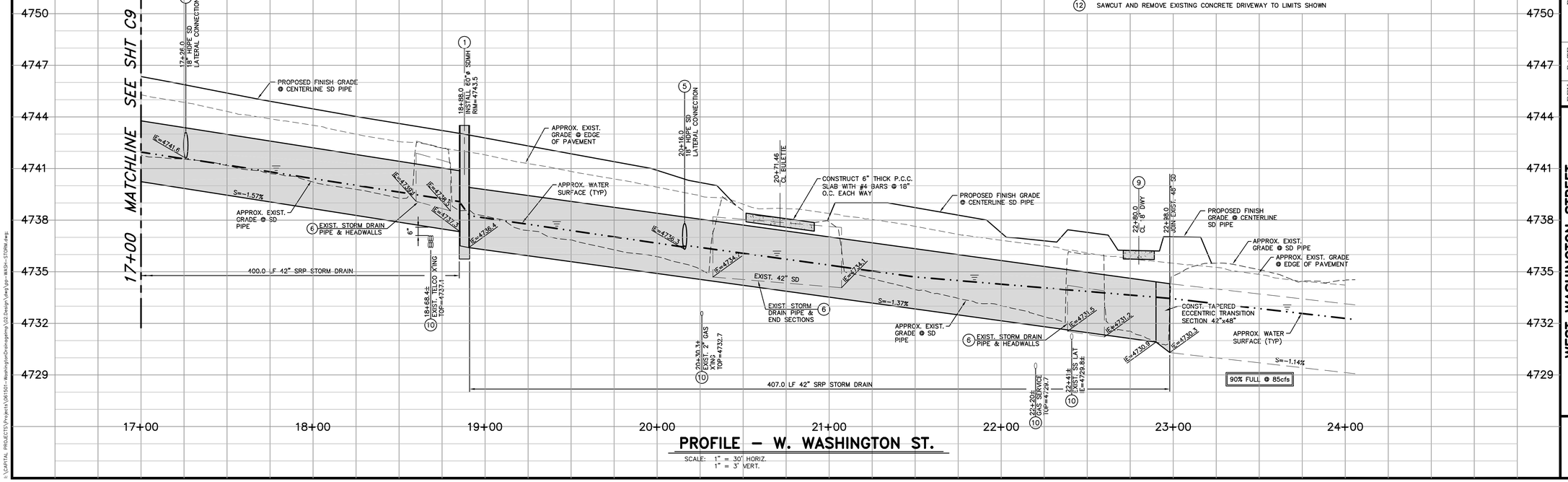
7. LIMITS OF FULL DEPTH SAWCUT, REMOVAL AND REPLACEMENT OF EXISTING AC PAVEMENT, PER STD DRAWING C-5.1.6
8. LIMITS OF FULL DEPTH SAWCUT, AND REMOVAL OF EXISTING AC PAVEMENT, PER STD DRAWING C-5.1.6, REPLACE WITH REINFORCED CONCRETE SLAB 6" THICK, #4 BARS @ 18" O.C. EACH WAY
9. CONSTRUCT NEW CONCRETE DRIVEWAY APRON PER STD DRAWING C-5.2.5, VERIFY LOCATION WITH PROPERTY OWNER PRIOR TO CONSTRUCTION.
10. PROTECT-IN-PLACE
11. REMOVE EXISTING TREE STUMP AND ROOTS
12. SAWCUT AND REMOVE EXISTING CONCRETE DRIVEWAY TO LIMITS SHOWN

SCALE
30 0 15 30
HORIZ: 1" = 30'

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



PROFILE – W. WASHINGTON ST.

SCALE: 1" = 30' HORIZ.
1" = 3' VERT.

DESIGNED BY:	BD/DR
DRAWN BY:	BD/DR
CHECKED BY:	TLG
DWG NO:	pg-wash-storm.dwg
SCALE (HORIZ):	1"=30'
SCALE (VERT):	1"=3'
PLOT DATE:	4/23/15

CARSON CITY
PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112

PROFESSIONAL ENGINEER STATE OF NEVADA
ROBERT D FELLOWS
Exp: 6/30/15
CIVIL
No. 12497
4/22/2015

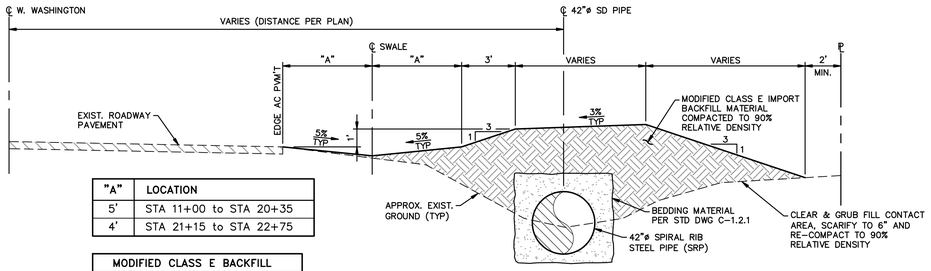
REV.	DATE	DESCRIPTION	BY	APP'D

WEST WASHINGTON STREET STORMDRAIN IMPROVEMENTS
PROJECT No. 6.1501
STORMDRAIN PLAN & PROFILE
STA 17+00 to STA 23+00

SHEET C2 OF 6

FOR BIDDING PURPOSES ONLY

J:\CAPITAL PROJECTS\Projects\06150I-WashingtonStormdrain\02.Design\Dwg\pg-WASH-STORM.dwg

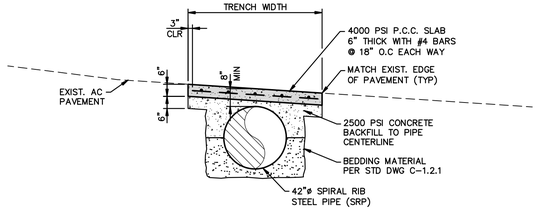


"A"	LOCATION
5'	STA 11+00 to STA 20+35
4'	STA 21+15 to STA 22+75

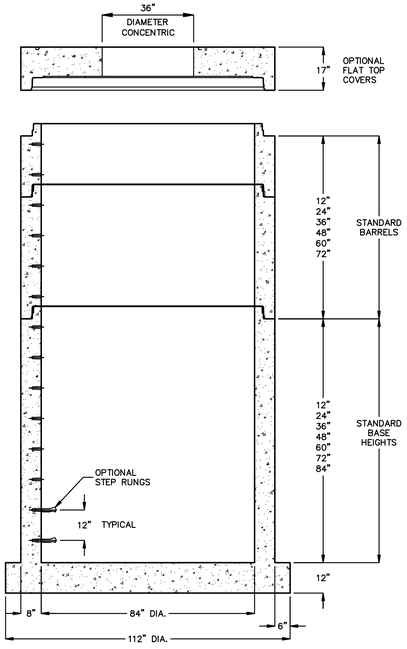
MODIFIED CLASS E BACKFILL	
SIEVE SIZE	% PASSING
4 INCH	100
3/4 INCH	70–100
No 4	20–60
No 200	10–40

TYPICAL SECTION A
SCALE: 1" = 4'

NOTE:
FOR ADDITIONAL NOTES & DETAIL REFERENCE STANDARD DRAWING C-1.2.1



TYPICAL SECTION B
SCALE: 1" = 4'



DESIGN LOAD: MANHOLE COMPONENTS CONFORM TO ASTM C-478 AND AASHTO M-199. FLAT TOPS AND BASE SLABS ARE DESIGNED FOR H-20 TRAFFIC TO 30' STACK HEIGHT. TALLER DESIGNS AVAILABLE UPON REQUEST.

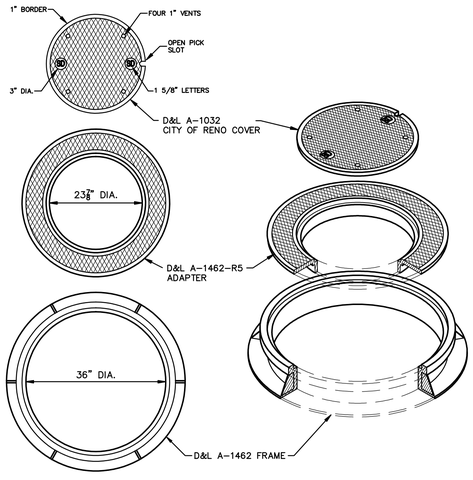
THIS PRODUCT IS AN OVER SIZED LOAD AND REQUIRES ADVANCED NOTICE FOR SHIPPING.

FLEXIBLE RESILIENT PIPE-TO-MANHOLE CONNECTORS MEETING ASTM C-923 AVAILABLE UPON REQUEST.

CUSTOM ACCESS OPENINGS OR CAST-IN HATCHES AVAILABLE.

FOR COMPLETE DESIGN AND PRODUCT INFORMATION, CONTACT JENSEN PRECAST.

84" STORMDRAIN MANHOLE 3/C3
NOT TO SCALE

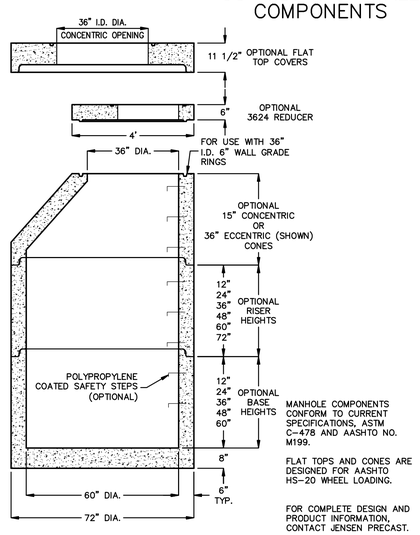


CASTINGS MEET SPECIFICATIONS ASTM A-48, CLASS 35B. AASHTO M306 AND H-20 WHEEL LOADING.

FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

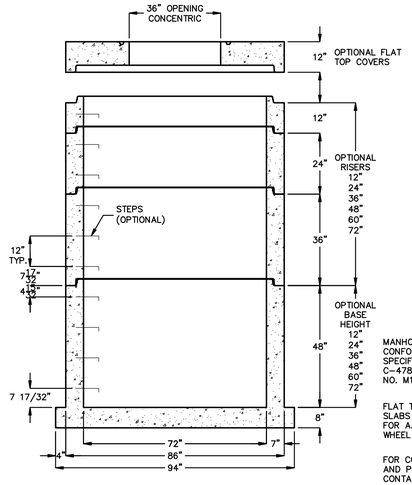
TYPICAL STORMDRAIN FRAME & COVER 4/C3
NOT TO SCALE

60" I.D. x 6" WALL COMPONENTS



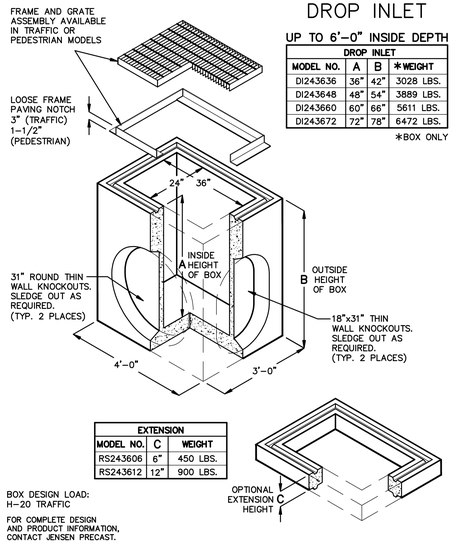
60" STORMDRAIN MANHOLE 1/C3
NOT TO SCALE

72" I.D. x 7" WALL COMPONENTS



72" STORMDRAIN MANHOLE 2/C3
NOT TO SCALE

24"x36" DROP INLET



UP TO 6'-0" INSIDE DEPTH

DROP INLET			
MODEL NO.	A	B	*WEIGHT
DI243636	36"	42"	3028 LBS.
DI243648	48"	54"	3889 LBS.
DI243660	60"	66"	5611 LBS.
DI243672	72"	78"	6472 LBS.

*BOX ONLY

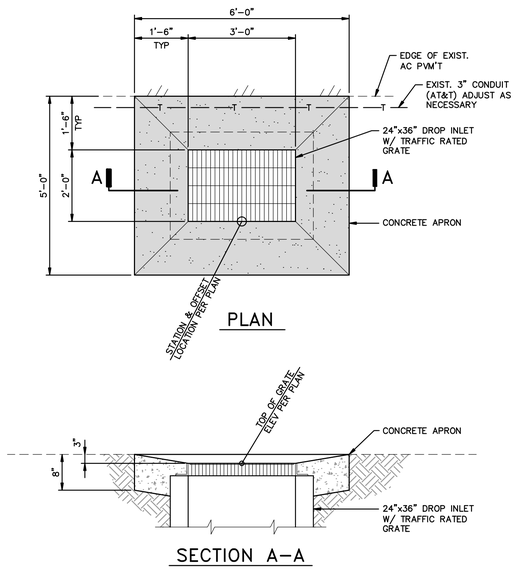
EXTENSION		
MODEL NO.	C	WEIGHT
RS243606	6"	450 LBS.
RS243612	12"	900 LBS.

BOX DESIGN LOAD: H-20 TRAFFIC

FOR COMPLETE DESIGN AND PRODUCT INFORMATION, CONTACT JENSEN PRECAST.

DROP INLET DETAIL 5/C3
NOT TO SCALE

NOTE:
FOR ADDITIONAL NOTES & DETAIL REFERENCE STANDARD DRAWING C-4.1.5



INLET APRON DETAIL 6/C3
SCALE: 1" = 2'

DESIGNED BY: BD/DR
DRAWN BY: BD/DR
CHECKED BY: TLG
DWG NO: pg-wash-storm.dwg
SCALE (HORIZ): 1"=30'
SCALE (VERT): 1"=3'
PLOT DATE: 4/23/15

CARSON CITY
PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112

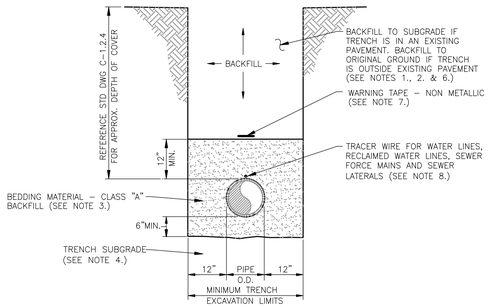
PROFESSIONAL ENGINEER STATE OF NEVADA
ROBERT D. FELLOWS
Exp: 6/30/15
CIVIL
No. 12497
4/22/2015

REV.	DATE	DESCRIPTION	BY	APP'D

WEST WASHINGTON STREET
STORMDRAIN IMPROVEMENTS
PROJECT No. 6.1501
CONSTRUCTION DETAILS

SHEET C3 OF 6

FOR BIDDING PURPOSES ONLY

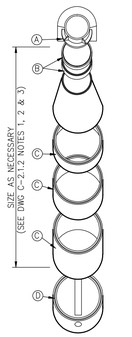


TYPICAL TRENCH SECTION
NTS

NOTES:

1. WATER DENSIFIED BACKFILL AND TUNNELING SHALL BE BY SPECIAL PROVISION ONLY.
2. BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF CLASS E 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.
3. 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.
4. 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.
5. FOR TRENCHES IN ROADWAY SECTION, SEE PAVEMENT PATCH DETAIL (DWG. No. C–5.1.6).
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.
7. PLACE NON METALLIC WARNING TAPE 1 FOOT ABOVE ALL BURIED PIPES AND CONDUITS.
8. 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, AND GREEN FOR SEWER.

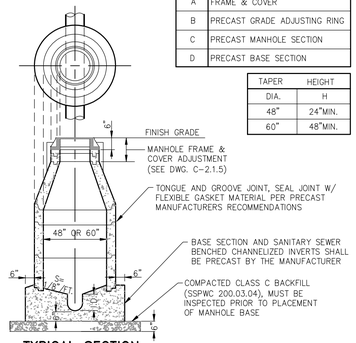
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
			TRENCH EXCAVATION AND BACKFILL	DRAWING NO. C–1.2.1 (305)
APPROVED BY:		7/09		DATE 7/2009



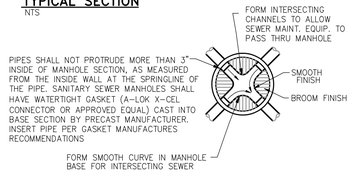
EXPLODED VIEW
NTS

SYM	ITEM
A	FRAME & COVER
B	PRECAST GRADE ADJUSTING RING
C	PRECAST MANHOLE SECTION
D	PRECAST BASE SECTION

TAPER	HEIGHT
DIA.	H
48"	24"MIN.
60"	48"MIN.

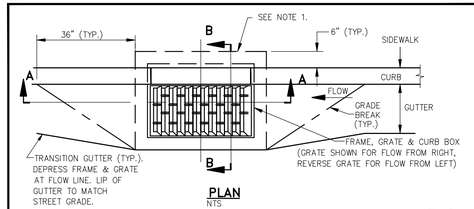


TYPICAL SECTION
NTS

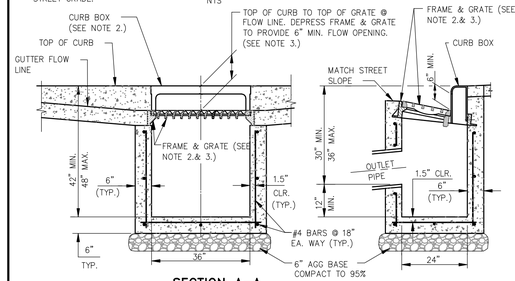


PLAN VIEW–BASE
NTS

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
			MANHOLE TYPE 1	DRAWING NO. C–2.1.3 (204, 306)
APPROVED BY:		07/09		DATE 7/2009



PLAN
NTS



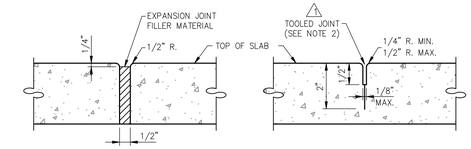
SECTION A–A
NTS

SECTION B–B
NTS

NOTES:

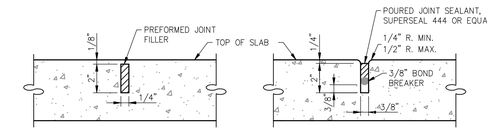
1. IF NO SIDEWALK IS PRESENT, POUR 6 INCH CONCRETE CURB STRUCTURE BEHIND GRATE AND TIE BEAM INTO BOX.
2. FRAME SHALL BE NEENAH R–3295 OR R–3067 SINGLE CURB UNIT WITH COMPLIANT TYPE L "VANE GRATE" AND CURB BOX, SOUTH BAY FOUNDRY VANE GRATE SOUTH BAY FOUNDRY 1947 OR APPROVED EQUAL, INSTALLED WITH PROPER FLOW DIRECTION.
3. TILT FRAME & GRATE AS REQUIRED TO ATTAIN 6 INCH MIN. FLOW OPENING & INSTALL DURABLE SHIMS BETWEEN THE CURB BOX & FRAME AS REQUIRED TO MATCH CURB BOX TO TOP OF CURB AND FACE OF CURB (SEE SECTION B–B).
4. CATCH BASIN TO BE INSTALLED OUTSIDE OF WALKING PATH. IF IT IS NOT POSSIBLE TO LOCATE CATCH BASIN OUTSIDE OF WALKING PATH THEN AN ADA COMPLIANT NEENAH MODEL DR/DL GRATE, SOUTH BAY FOUNDRY 1947–ADA OR APPROVED EQUAL SHALL BE USED UPON APPROVAL BY CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
			CATCH BASIN TYPE 4–R	DRAWING NO. C–4.1.5
APPROVED BY:		7/09		DATE 7/2009



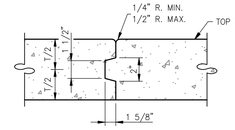
EXPANSION/ISOLATION JOINT

WEAKENED PLANE JOINT SIDEWALK, CURB & GUTTER



WEAKENED PLANE JOINT P.C.C. PAVEMENT

SAWED OR PREFORMED STRIP JOINT

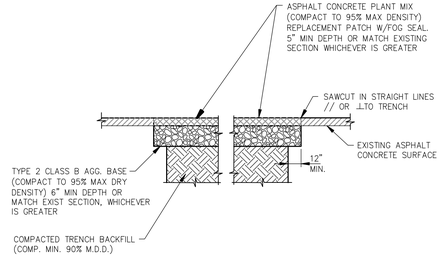


KEYED JOINT

NOTES:

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

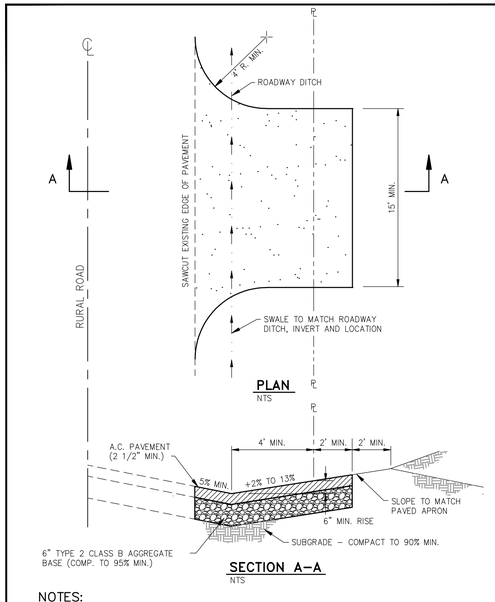
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
2	REVISED JOINT, ADDED NOTE 2	5/14	**P.C.C. JOINTING DETAILS**	DRAWING NO. C–5.1.1 (312)
APPROVED BY:		5/14		DATE 5/2014



NOTES:

1. IF SAWCUT IS WITHIN 24 INCHES OF EDGE OF A.C. PAVEMENT REMOVE EXISTING PAVEMENT TO THAT EDGE AND REPLACE ENTIRE SECTION.
2. BITUMINOUS MATERIAL SHALL MEET THE REQUIREMENTS OF SECTIONS 201 AND 320 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. 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.
4. 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.
5. 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.
6. PLANTMIX BITMUMINOUS PAVEMENT PATCHES SHALL MATCH EXISTING SECTION OR HAVE A MINIMUM THICKNESS OF 5 INCHES, WHICHEVER IS GREATER.
7. 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 CARSON CITY
1	5" AC DEPTH	09/11	**PAVEMENT PATCH**	DRAWING NO. C–5.1.6
APPROVED BY:		09/11		DATE 09/2011



PLAN
NTS

SECTION A–A
NTS

NOTES:

1. IN LIEU OF A.C. SURFACING A 6 INCH THICK P.C.C. SLAB WITH 6 INCH x 6 INCH WWF AND 6 INCHES OF SELECT GRANULAR BASE (COMP. TO 95% MIN.) MAY BE USED.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
			A.C. DRIVEWAY APRON RURAL ROADS	DRAWING NO. C–5.2.5
APPROVED BY:		7/09		DATE 7/2009

DESIGNED BY: BD/DR
DRAWN BY: BD/DR
CHECKED BY: TLG
DWG NO.pg-wash-storm.dwg
SCALE (HORIZ): 1"=30'
SCALE (VERT): 1"=3'
PLOT DATE: 4/22/15

CARSON CITY
PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887–2355 FAX: 887–2112

PROFESSIONAL ENGINEER STATE OF NEVADA
ROBERT D. FELLOWS
Exp: 6/30/15
CIVIL
No.12497
4/22/2015

REV.	DATE	DESCRIPTION	BY	APP'D

WEST WASHINGTON STREET STORMDRAIN IMPROVEMENTS
PROJECT No. 6.1501
CONSTRUCTION DETAILS

SHEET C4 OF 6

FOR BIDDING PURPOSES ONLY

I:\CAD\TAL PROJECTS\Projects\6.1501 - Washington\Drainage\02 Design\Dwg\pg-WASH-STORM.dwg