

# A CITY OF SPARKS PROJECT SPARKS, WASHOE COUNTY, NEVADA

## HOWARD DR STORM DRAIN REALIGNMENT PRELIMINARY DESIGN PLANS

**OWNER:**

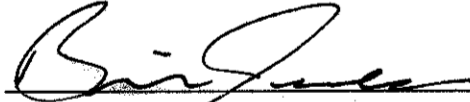


CITY OF SPARKS  
COMMUNITY SERVICES DEPARTMENT  
431 PRATER WAY, SPARKS, NV 89431  
PHONE (775) 353-2455

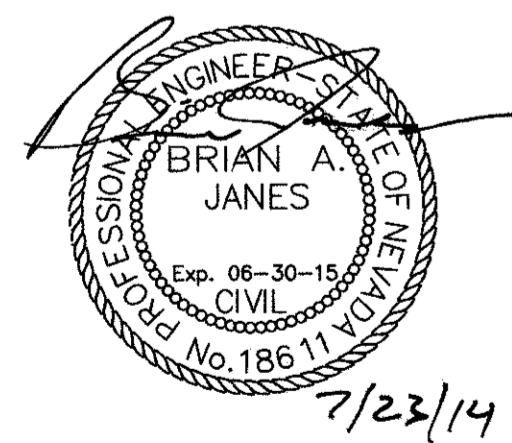
**ENGINEER:**



10509 PROFESSIONAL CIRCLE, SUITE 102  
RENO, NV 89521  
PHONE (775) 828-1622  
FAX (775) 828-1826

  
BRIAN A. JANES, P.E., CFM

7/23/14  
DATE



7/23/14



**LOCATION MAP**  
N.T.S.

**CITY OF SPARKS:**

GENO MARTINI, MAYOR  
JULIA RATTI, COUNCIL MEMBER  
ED LAWSON, COUNCIL MEMBER  
RON SMITH, COUNCIL MEMBER  
MIKE CARRIGAN, COUNCIL MEMBER  
RON SCHMITT, COUNCIL MEMBER  
STEVE DRISCOLL, CITY MANAGER  
NEIL KRUTZ, P.E., DEPUTY CITY MANAGER FOR COMMUNITY SERVICES

  
NEIL KRUTZ, P.E.

7/23/14  
DATE

**SHEET INDEX**

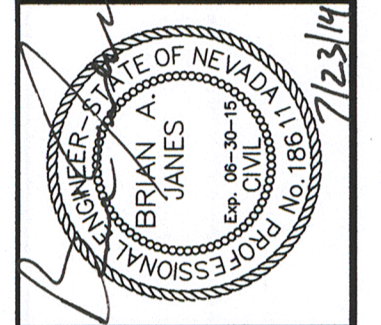
SHEET NO.	TITLE
1	COVER SHEET
2	GENERAL NOTES
3	STORM DRAIN PLAN & PROFILE
4	ASPHALT RESTORATION PLAN
5	DETAILS

**GENERAL NOTES**

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OR "ORANGE BOOK," EXCEPT AS MODIFIED BY THESE PLANS AND SPECIAL TECHNICAL SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS DUST CONTROL THROUGHOUT THE CONSTRUCTION OF ALL ITEMS SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REGULAR CLEANING OF ALL MUD, DIRT, AND DEBRIS, ETC. FROM ANY AND ALL ADJACENT STREETS AND SIDEWALKS. THE CONTRACTOR SHALL MAINTAIN CONFORMITY WITH SECTION 40.030 OF WASHOE COUNTY AIR POLLUTION STANDARDS.
- TRAFFIC CONTROL AND MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD DATED 2009 OR LATEST EDITION).
- THE LOCATIONS OF THE EXISTING UTILITIES WERE DETERMINED USING QUALITY LEVEL C AS PROVIDED IN THE ASCE STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION AND THE DEPTHS OF ANY EXISTING UTILITIES PRIOR TO PERFORMING ANY EXCAVATIONS. NEITHER THE ENGINEER NOR THE CITY OF SPARKS ASSUME ANY RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF UTILITIES SHOWN. THE LOCATIONS OF UTILITIES ARE SHOWN ONLY TO AID THE CONTRACTOR DURING CONSTRUCTION. CONTRACTOR SHALL CALL UNDER GROUND SERVICE ALERT (811) 48 HOURS PRIOR TO ANY EXCAVATION.
- CONTRACTOR SHALL LOCATE, PROTECT, AND PROVIDE REFERENCE INFORMATION OF ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION.
- ASPHALT CONCRETE PAVING SHALL BE ACCOMPLISHED WITH A MINIMUM LIFT THICKNESS OF 2-INCHES AND A MAXIMUM LIFT THICKNESS OF 3-INCHES. PG64-28NV SHALL BE USED FULL DEPTH.
- CONTRACTOR SHALL NOTIFY ENGINEER OF ANY AND ALL DISCREPANCIES.
- ALL EXCESS OR UNSUITABLE MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH THE LATEST CITY OF SPARKS REGULATIONS.
- ALL EXISTING FEATURES IN CONFLICT WITH PROPOSED SHALL BE REMOVED, RELOCATED, AND/OR REPLACED AS SHOWN ON PLANS. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER AND THE GOVERNING AGENCIES PRIOR TO SUCH REMOVAL, RELOCATION, AND/OR REPLACEMENT.
- THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION FOR THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION AND SHORING PROCEDURES AND CONFORM TO THE LATEST O.S.H.A. REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY REMOVAL OF ALL CONSTRUCTION MATERIALS SPILLED ON PAVED STREETS, ONSITE OR ADJACENT TO THE SITE. AT THE CLOSE OF EACH DAY, THE CONTRACTOR SHALL LEAVE THE SITE IN A CLEAN AND ORDERLY FASHION.
- THE CONTRACTOR SHALL PURSUE THE WORK IN A CONTINUOUS AND DILIGENT MANNER, CONFORMING TO ALL THE PERTINENT SAFETY REGULATIONS, TO ENSURE A TIMELY COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONAL, ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THE WORK, UTILITY COMPANIES, TELEPHONE COMPANIES, CABLE TELEVISION COMPANIES, AND ANY OTHER ENTITY IMPACTED BY THE WORK 48 HOURS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL GIVE 48 HOURS PRIOR NOTICE FOR ALL CONSTRUCTION STAKING AND INSPECTIONS REQUIRED DURING CONSTRUCTION.
- IN THE EVENT OF A CONFLICT BETWEEN THESE DRAWINGS AND SPARKS MUNICIPAL CODE, CODE SHALL PREVAIL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING THE BMP'S AT ALL TIMES DURING CONSTRUCTION.
- STORM DRAINS WILL BE INSTALLED WITH WATER TIGHT JOINTS USING EITHER JOINT SEALANTS OR GASKETS WHEN WITHIN 18" VERTICALLY OF WATER LINES OR WITHIN 10 FEET HORIZONTALLY. CENTER STORM DRAIN PIPE SEGMENT LENGTH ON CROSSING. MINIMUM LOCATIONS ARE SHOWN ON PROFILES. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.
- SLURRY BACKFILL WILL BE FILLED BETWEEN THE DUAL PIPES
- EXISTING ROADWAY IS 4" ASPHALT ON 8" AGGREGATE BASE. PAVEMENT PATCH (ASPHALT AND BASE) SHALL MATCH EXISTING THICKNESSES.

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

BASIS OF BEARING	
<b>HORIZONTAL DATUM</b>	
NAD 83(94) STATE PLANE NEVADA WEST 2703 WASHOE COUNTY GRID TO GROUND COMBINED SCALE FACTOR OF 1.000197939 DISTANCES ARE IN US SURVEY FEET	
<b>VERTICAL DATUM</b>	
NAVD88 BASED ON ELEVATION PROVIDED BY CITY OF SPARKS FOR STORM DRAIN MANHOLE #SDN002010 ELEVATION = 4409.13	
NOTE: X, Y, & Z COORDINATES ON EXISTING STRUCTURES WITHIN THE PROJECT LIMITS WERE SUPPLIED BY CITY OF SPARKS PROJECT CONTROL WAS CONSTRAINED TO THESE COORDINATES	



SCALE	1"=20'
DESIGNED BY	DLJ
DRAWN BY	DLJ
CHECKED BY	DLS
PROJECT NUMBER	100037452

CITY OF SPARKS  
 HOWARD DR STORM DRAIN REALIGNMENT  
 GENERAL NOTES

**ATKINS**  
 10509 PROFESSIONAL CIRCLE  
 SUITE 102  
 RENO, NEVADA 89521  
 TELEPHONE: 775/828-1622  
 FAX: 775/828-1626  
 ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES  
**2 OF 5**

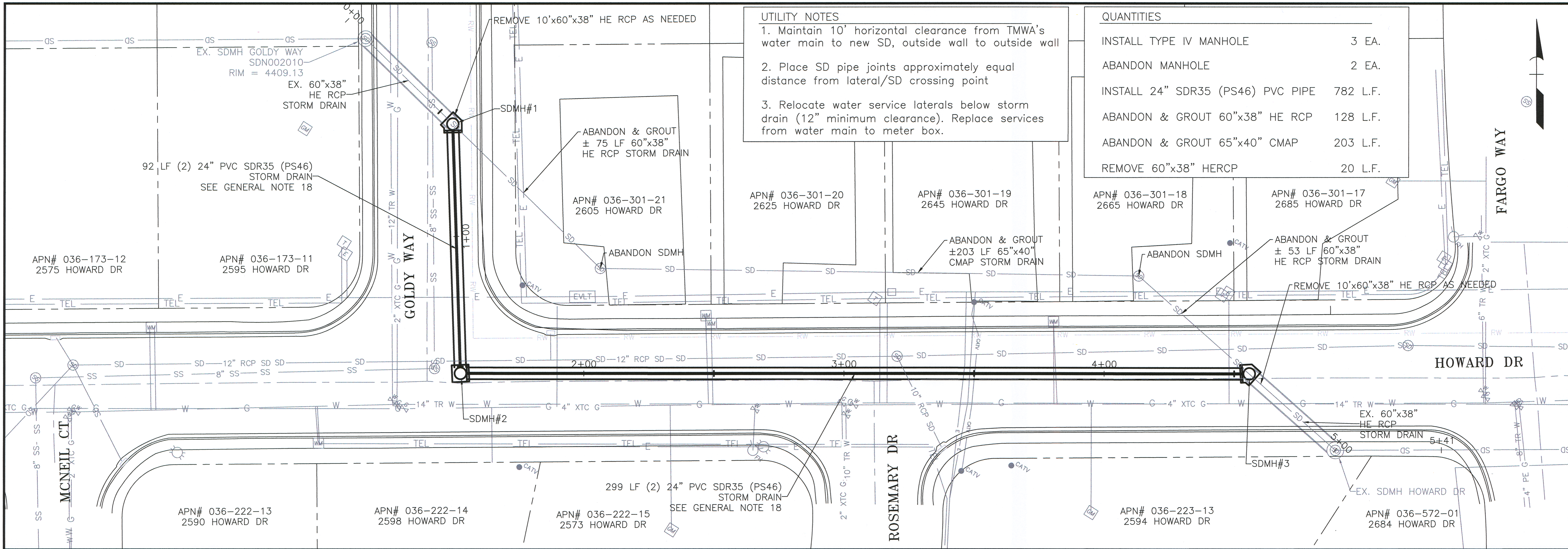
**GENERAL LEGEND**

EXISTING FEATURES:	PROPOSED FEATURES:
GAS VALVE	STORM DRAIN LINE
WATER VALVE	STORM DRAIN MANHOLE
TELEPHONE LINE	CATCH BASIN
WATER LINE	SAWCUT
RECLAIMED WATER LINE	
FUEL LINE	
GAS LINE	
UNDERGROUND ELECTRIC LINE	
SANITARY SEWER LINE	
STORM DRAIN LINE	
ASSESSORS PARCEL NUMBER	
PROPERTY LINE	
DROP INLET/CATCH BASIN	
STORM DRAIN MANHOLE	
SANITARY SEWER MANHOLE	
FIRE HYDRANT	
LIGHT	
TELEPHONE BOX	
GAS METER	
ELECTRIC BOX	
WATER METER	
MAJOR CONTOUR (5')	
MINOR CONTOUR (1')	

**ABBREVIATIONS**

APN	ASSESSOR'S PARCEL NUMBER	S	SOUTH
CATV	CABLE TELEVISION	SD	STORM DRAIN
CL	CENTERLINE	SDMH	STORM DRAIN MANHOLE
Ø	DIAMETER	SS	SANITARY SEWER
E	EAST/ELECTRIC	SSMH	SANITARY SEWER MANHOLE
EG	EXISTING GROUND	SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION
FH	FIRE HYDRANT	STD	STANDARD
G	GAS	TEL	TELEPHONE
GM	GAS METER	TYP	TYPICAL
GV	GAS VALVE	W	WEST/WATER
HE	HORIZONTAL ELLIPTICAL	WM	WATER METER
IE	INVERT ELEVATION		
LF	LINEAR FEET		
MH	MANHOLE		
N	NORTH		
NTS	NOT TO SCALE		
PL	PROPERTY LINE		
PVC	POLYVINYL CHLORIDE		
R/W	RIGHT OF WAY		
RCP	REINFORCED CONCRETE PIPE		

Y:\Trans RNO\transproj\Howard SD Realignment\Sheets\XXPP-XXPP.dwg  
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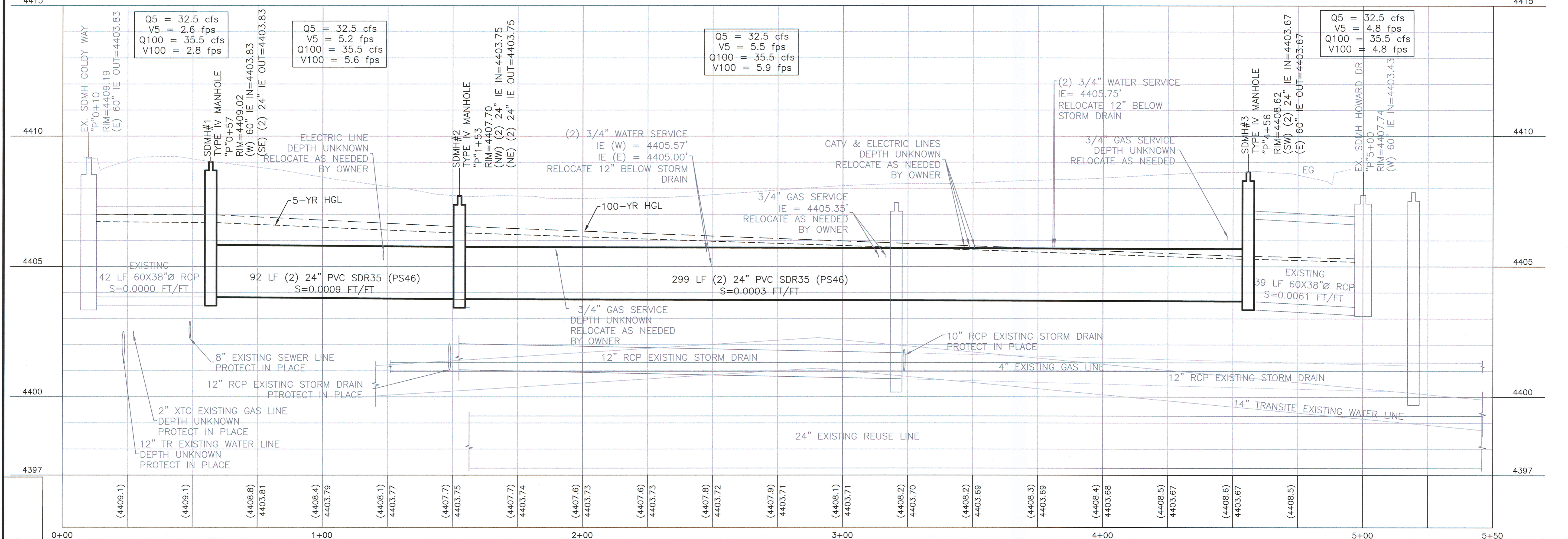


**UTILITY NOTES**

- Maintain 10' horizontal clearance from TMWA's water main to new SD, outside wall to outside wall
- Place SD pipe joints approximately equal distance from lateral/SD crossing point
- Relocate water service laterals below storm drain (12" minimum clearance). Replace services from water main to meter box.

**QUANTITIES**

INSTALL TYPE IV MANHOLE	3 EA.
ABANDON MANHOLE	2 EA.
INSTALL 24" SDR35 (PS46) PVC PIPE	782 L.F.
ABANDON & GROUT 60"x38" HE RCP	128 L.F.
ABANDON & GROUT 65"x40" CMAP	203 L.F.
REMOVE 60"x38" HERCP	20 L.F.



SCALE 1"=20'

DESIGN BY: DAU  
 CHECKED BY: DLS

PROJECT NUMBER: 100037452

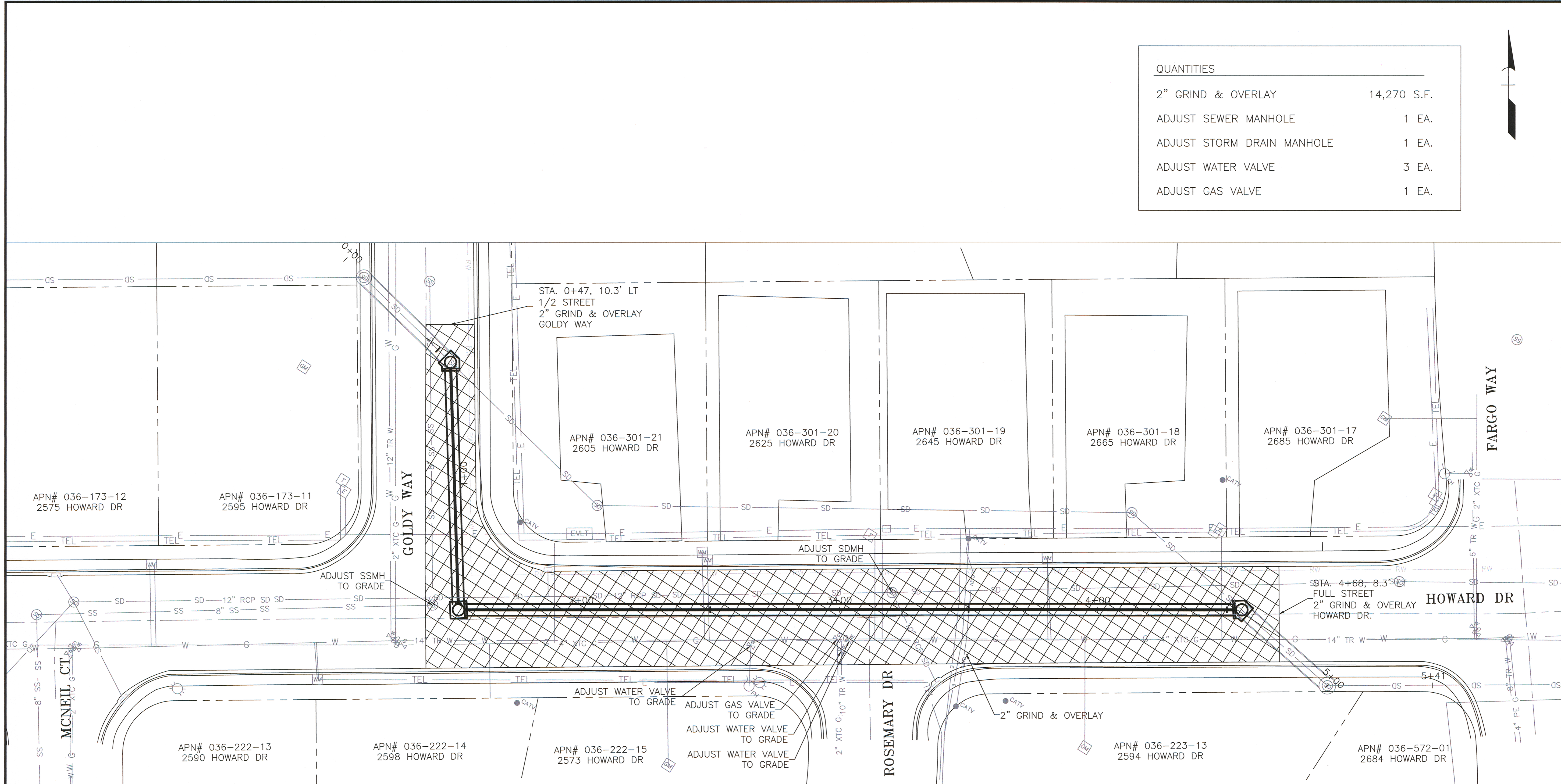
DATE: 7/29/14

CITY OF SPARKS  
 BRUCE A. JONES  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 100037452

**ATKINS**  
 ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

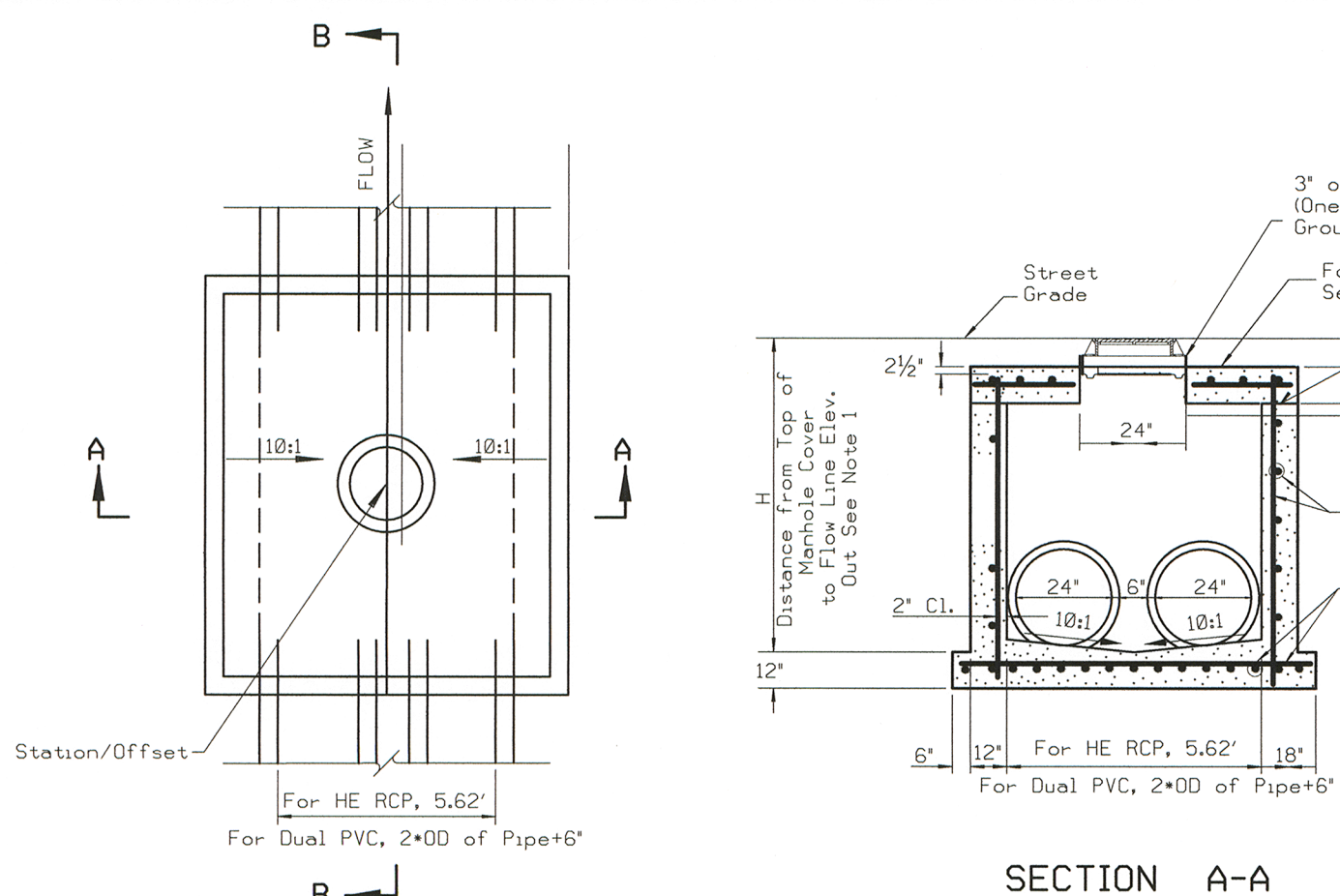
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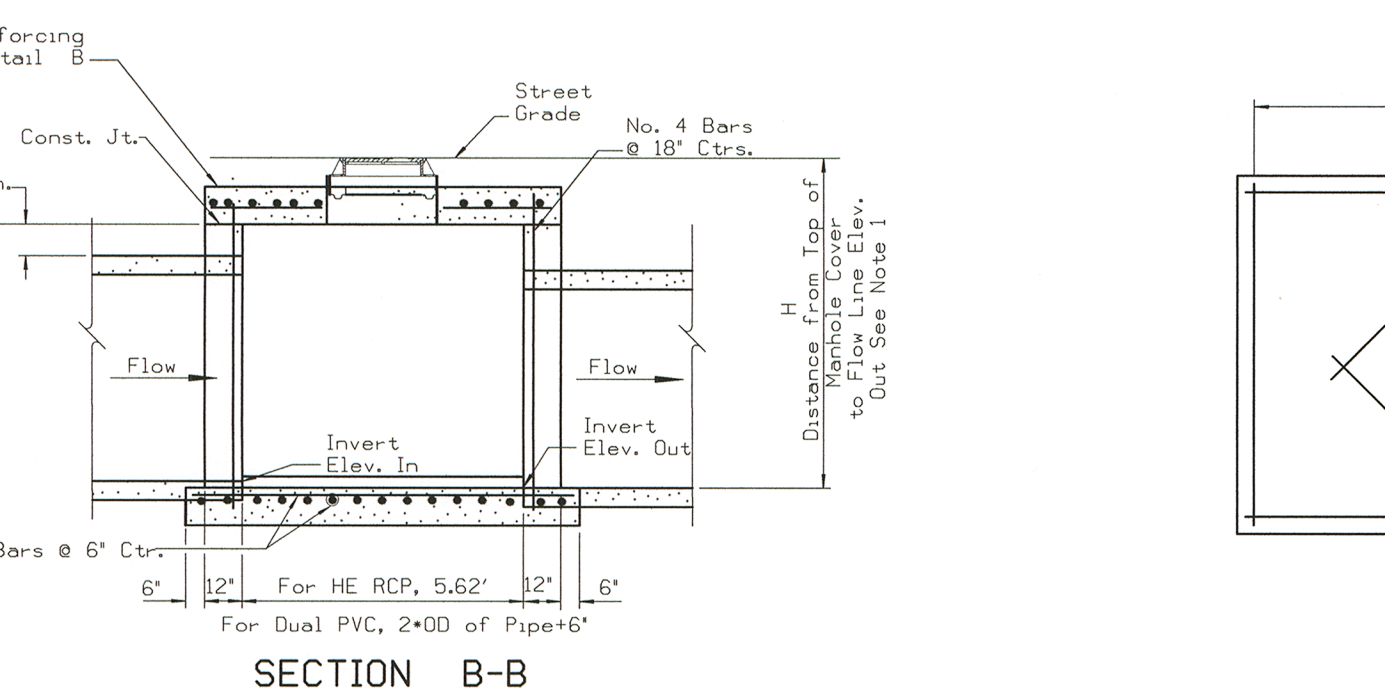


QUANTITIES	
2" GRIND & OVERLAY	14,270 S.F.
ADJUST SEWER MANHOLE	1 EA.
ADJUST STORM DRAIN MANHOLE	1 EA.
ADJUST WATER VALVE	3 EA.
ADJUST GAS VALVE	1 EA.

SCALE: 1"=20' DESIGN BY: BJA DRAWN BY: KO CHECKED BY: DLS	PROJECT NUMBER: 100037452 REVISIONS: 7/23/14
<b>CITY OF SPARKS</b> <b>HOWARD DR STORM DRAIN REALIGNMENT</b> <b>PAVEMENT RESTORATION PLAN</b>	
10509 PROFESSIONAL CIRCLE SUITE 102 RENO, NEVADA 89521-1622 TEL: 775/858-1826 FAX: 775/858-1826	
<b>ATKINS</b> ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES	
<b>4 OF 5</b>	



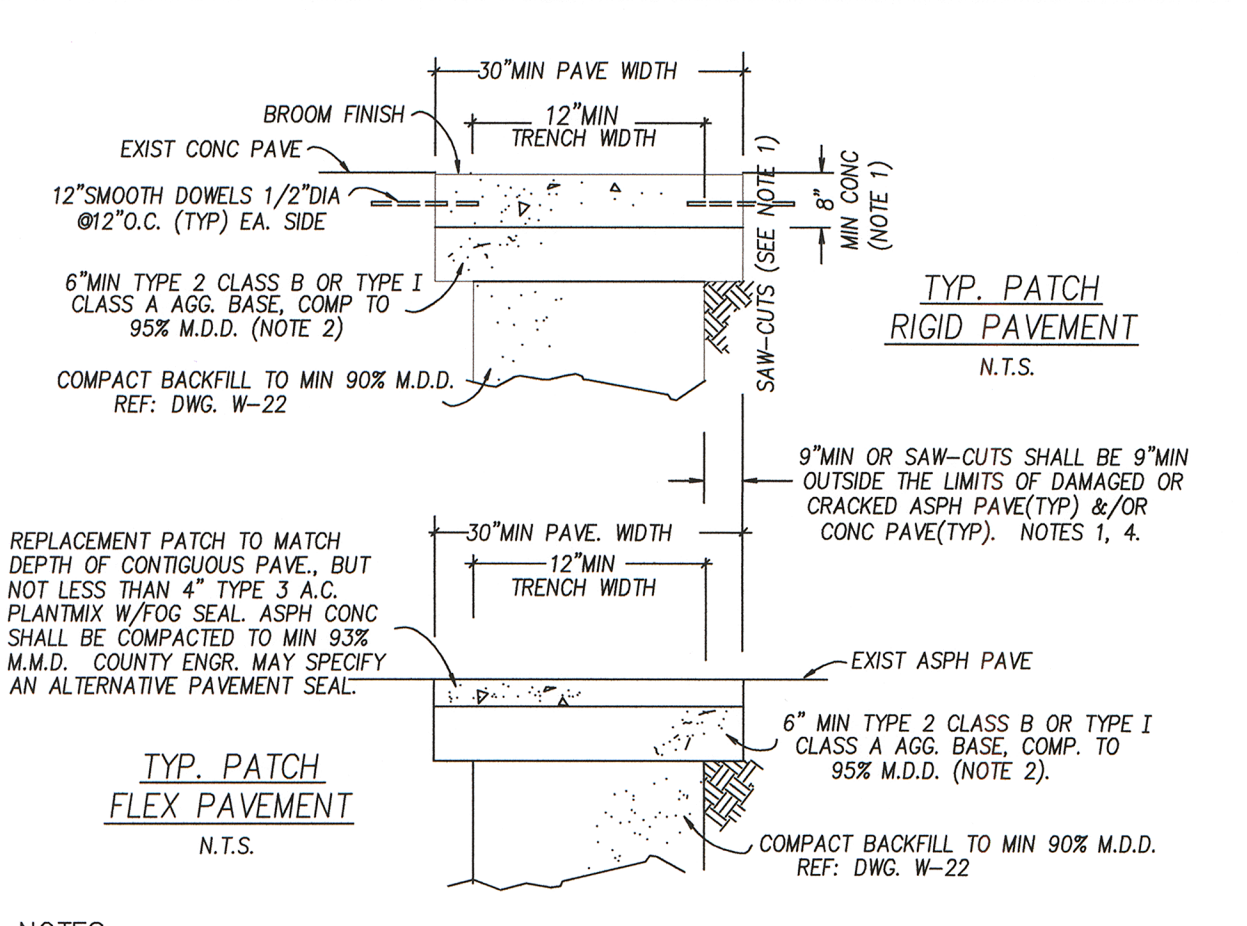
D1 MANHOLE TYPE IV  
NTS



D2 NOTES-MANHOLE TYPE IV  
NTS

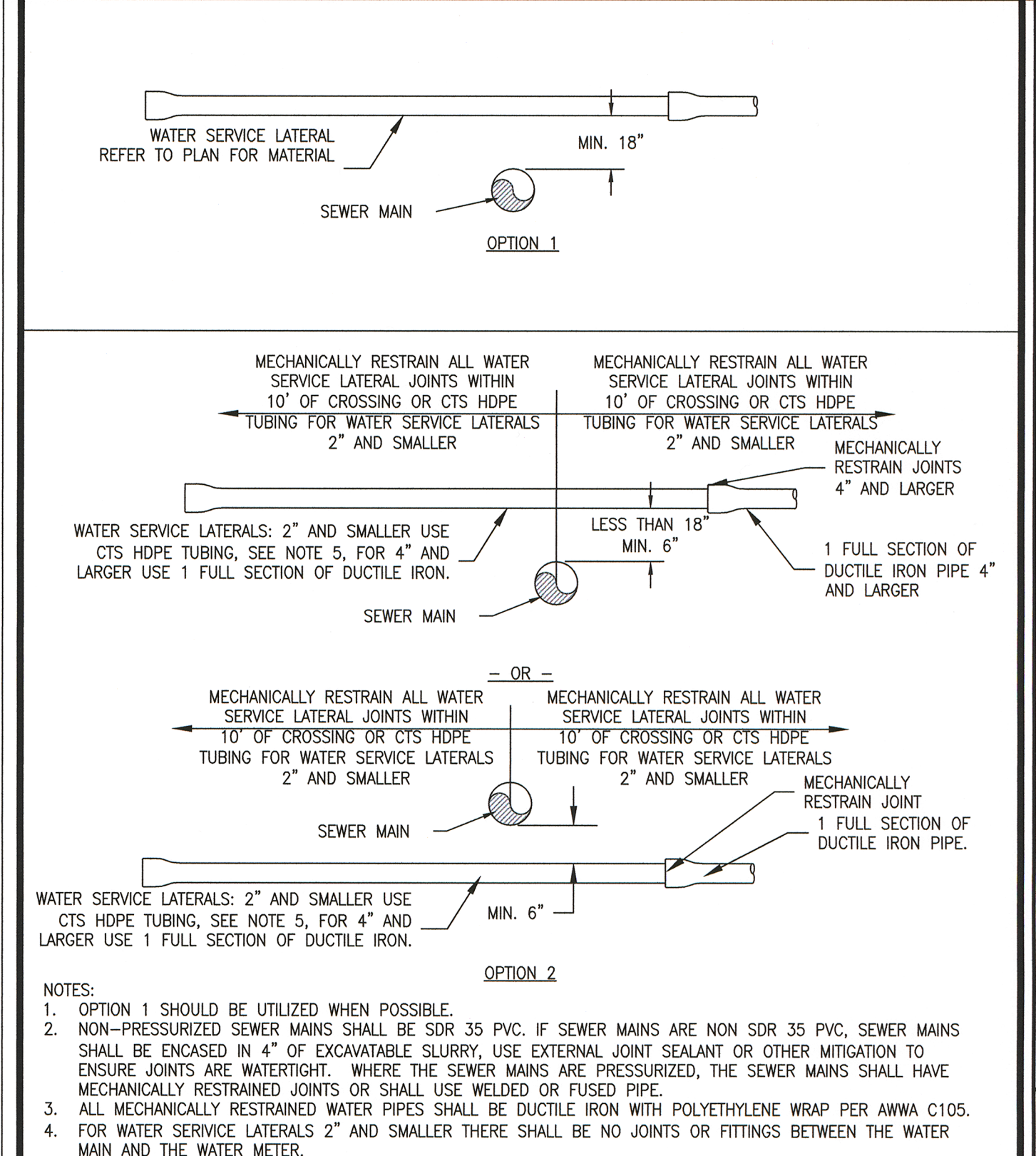
- NOTES:**
- FOR VALUES OF "H", SEE PLANS. "H" IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTFLOW PIPE INVERT ELEVATION AND THE TOP OF MANHOLE ELEVATION AT STREET GRADE.
  - PRECAST LIDS, GRADE RINGS, BASES AND STEPS SHALL CONFORM TO AASHTO M 199 (ASTM C-478).
  - SHAPE FLOWLINE IN MANHOLE TO OUTFLOW PIPE, AND PROVIDE A 10:1 SLOPE FROM ALL DIRECTIONS TOWARD FLOW LINE.
  - POSITION ONE NO. 4 BAR CENTERED BETWEEN DUAL 24" PVC PENETRATION IN WALL.

D2 NOTES-MANHOLE TYPE IV  
NTS



- NOTES:**
- ALL CONC REMOVAL & REPLACEMENT SHALL BE TO SAW-CUT LINES & SHALL BE DONE BY EXCAVATION CONTRACTOR OR SUBCONTRACTOR. ALL SAW-CUTS SHALL BE VERT & IN STRAIGHT LINES PARALLEL OR PERPENDICULAR TO TRENCH, OR TO SATISFACTION OF THE CO. ENGINEER. CONC SHALL BE MIN 6.25 SACKS OF TYPE II CEMENT (588 lbs) 4000psi WITH FIBERMESH W/4.5-7.5% AIR.
  - RIGID PAVEMENT: IF SAW-CUT IS WITHIN 36" OF EDGE OR JOINT ON PCC PAVE., REMOVE PCC TO EXIST EDGE & REPLACE ENTIRE SECTION. FLEX PAVEMENT: IF SAW-CUT IS WITHIN 36" OF EDGE ON A.C. PAVE., EDGE OF VALLEY CUTTER, LIP OF CURB & CUTTER, OR A PREVIOUS PATCH, REMOVE EXIST PAVE TO THAT EDGE AND REPLACE THE ENTIRE SECTION.
  - DEPTH OF BASE TO BE 6" MIN., OR MATCH EXIST BASE IF GREATER.
  - UNPAVED STREET SHALL RECEIVE 6" MIN BASE COURSE IN ACCORDANCE W/LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
  - ALL ASPH REMOVAL SHALL BE TO SAW-CUT LINES. ALL ASPH CONC SHALL BE TYPE 3 PLANTMIX. ALL SAW-CUTS FOR FLEXIBLE PAVE SHALL BE PERFORMED BY EXCAVATION CONTRACTOR OR SUBCONTRACTOR.
  - ALL CONST SHALL BE IN ACCORDANCE W/LATEST EDITION OF STD. SPECIFICATIONS FOR PUBLIC WORKS CONST.
  - USE OF ROCK WHEEL TRENCHING MACHINES OR SIMILAR EQUIP SHALL NOT BE PERMITTED WITHIN PAVED AREAS OR WITHIN 1 FT OF EDGE OF PAVING.
  - CONC SLURRY W/MIN OF 1 SACK OF CEMENT PER CU.YD. OF SLURRY OR OTHER APPROVED MIX DESIGN MAY BE USED FOR BASE COURSE, BEDDING OR BACKFILL IF APPROVED BY CO. ENGINEER & UTILITY COMPANIES.
  - PERMANENT RESURFACING SHALL NOT BE PLACED ON TRENCHES BACKFILLED W/CONC SLURRY FOR A MIN OF 7 DAYS AFTER PLACEMENT OF THE CONC SLURRY OR SIMILAR MATERIAL.
  - ALL TRENCHES SHALL BE PATCHED W/COLD PATCH WITHIN 24 HRS AFTER BACKFILLING IS COMPLETED, OR COVERED W/STEEL PLATES & BARRICADED TO SATISFACTION OF THE COUNTY ENGINEER.

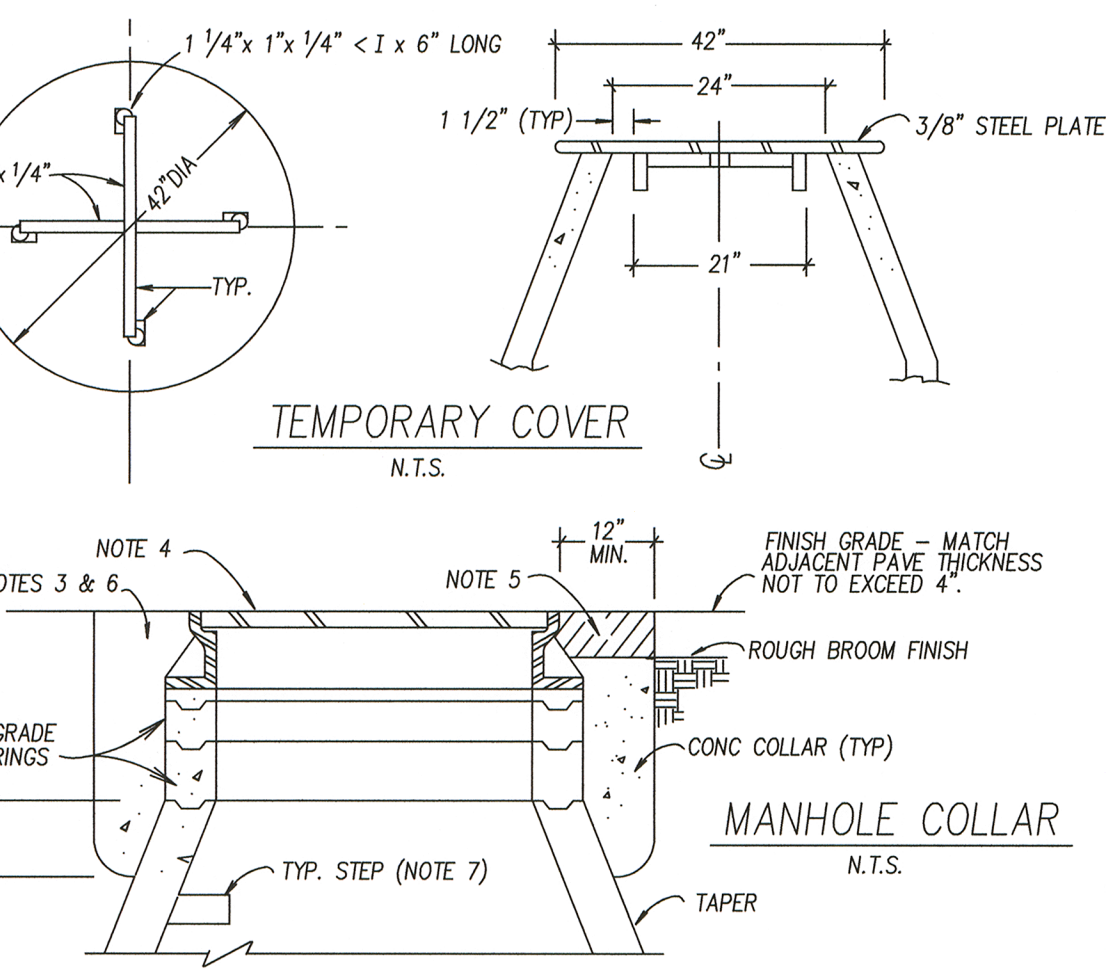
D3 PERMANENT PAVEMENT PATCH  
NTS



- NOTES:**
- OPTION 1 SHOULD BE UTILIZED WHEN POSSIBLE.
  - NON-PRESSURIZED SEWER MAINS SHALL BE SDR 35 PVC. IF SEWER MAINS ARE NON SDR 35 PVC, SEWER MAINS SHALL BE ENCASED IN 4" OF EXTERNAL JOINT SEALANT OR OTHER MITIGATION TO ENSURE JOINTS ARE WATER TIGHT. WHERE THE SEWER MAINS ARE PRESSURIZED, THE SEWER MAINS SHALL HAVE MECHANICALLY RESTRAINED JOINTS OR SHALL USE WELDED OR FUSED PIPE.
  - ALL MECHANICALLY RESTRAINED WATER PIPES SHALL BE DUCTILE IRON WITH POLYETHYLENE WRAP PER AWWA C105.
  - FOR WATER SERVICE LATERALS 2" AND SMALLER THERE SHALL BE NO JOINTS OR FITTINGS BETWEEN THE WATER MAIN AND THE WATER METER.

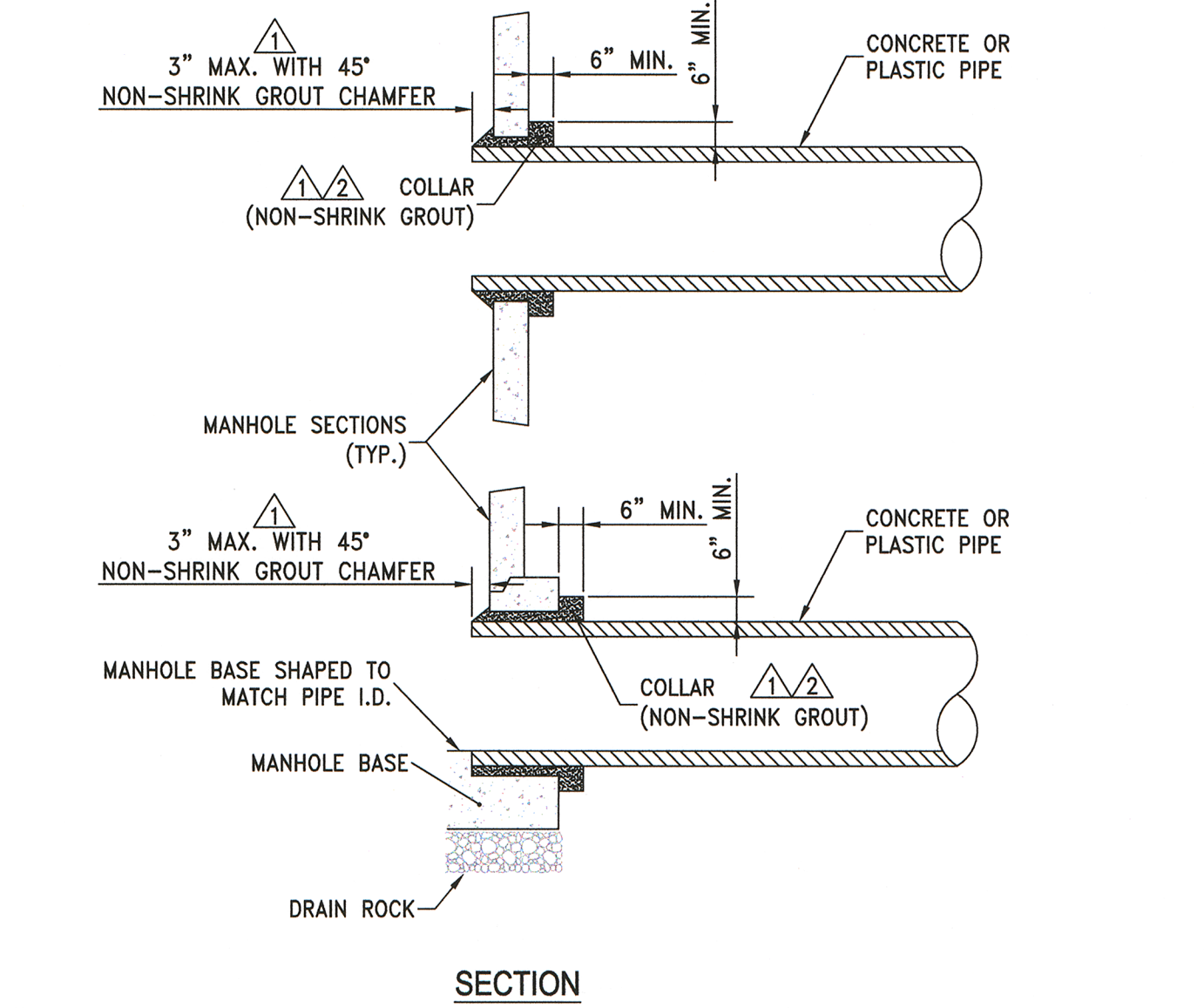
D4 UTILITIES SPACING  
NTS

DATE	02/2014	APPENDIX 10L MISCELLANEOUS WATER DETAILS WATER SERVICE LATERAL CROSSING SEWER MAIN	DRAWING NUMBER 10L-13
DESIGN BY	BAJ	CHECKED BY	DLS



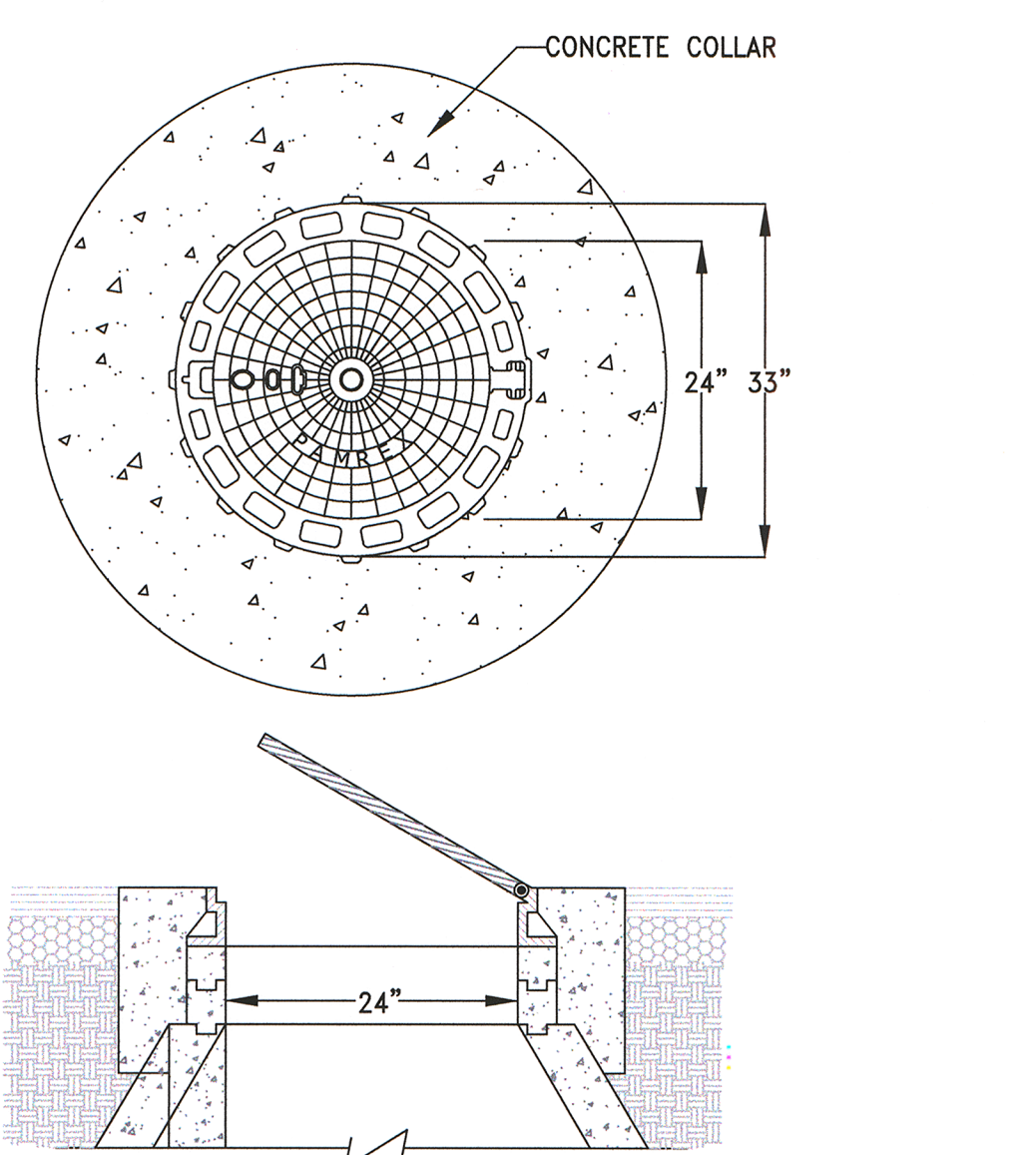
- NOTES:**
- CONC COLLAR TO BE PORTLAND CEMENT CONC (P.C.C.) W/THE FOLLOWING CHARACTERISTICS: 4000psi MIN COMP STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CU.YD. W/MAX WATER-CEMENT RATIO OF 0.45, AIR ENTRAINMENT @ ±1.5% SLUMP @ 1 TO 4 INCHES. IN WASHOE CO. MIN CEMENT CONTENT TO BE 6.25 SACKS OF TYPE II CEMENT (588 lbs) PER CU. YD. OF CONCRETE. ALL MATERIAL SHALL CONFORM TO SSPWC SEC.202.
  - HEIGHT OF COLLAR SHALL BE CONSISTANT ALL AROUND MANHOLE.
  - RENO - CONC COLLAR SHALL BE FLUSH W/ADJACENT PAVEMENT.
  - WASHOE CO.-MANHOLE RING SHALL BE SET 3/8"-5/8" BELOW FINISH ROADWAY SURFACE. MANHOLES IN ALL OTHER AREAS SHALL BE SET FLUSH W/FINISH GRADE UNLESS OTHERWISE NOTED.
  - WASHOE CO.-CONC COLLAR SHALL BE LEFT 2" BELOW FINISH ASPH SURFACE. PLACE 2" THICK TYPE 3 A.C. PAVING AROUND MANHOLES & APPLY SS-1 TACK COAT BEFORE PAVING. SEAL A.C. SURFACE W/SS-1 & SAND CHIP SEAL. SLURRY SEAL, SAND SEAL OR FOG SEAL PAVED SURFACE AS REQ'D BY PLANS OR SPECS. EXCEPTION - EXTEND CONC COLLAR TO FIN. GRADE WHEN NOT LOCATED IN ASPH PAVE OR IN AN UNPAVED AREA.
  - SPARKS-CONC COLLAR SHALL BE FLUSH W/ADJACENT PAVEMENT. PLACE ONE #3 REBAR RING IN COLLAR IN UNIMPROVED AREAS.
  - WASHOE CO.-STEPS ARE REQ'D FOR SANITARY SEWER/STORM DRAIN MANHOLES OF 5 FEET OR GREATER DEPTH.
  - CARSON CITY-REFER TO DETAIL C-6.4

D5 MANHOLE COLLAR & TEMPORARY COVER  
NTS



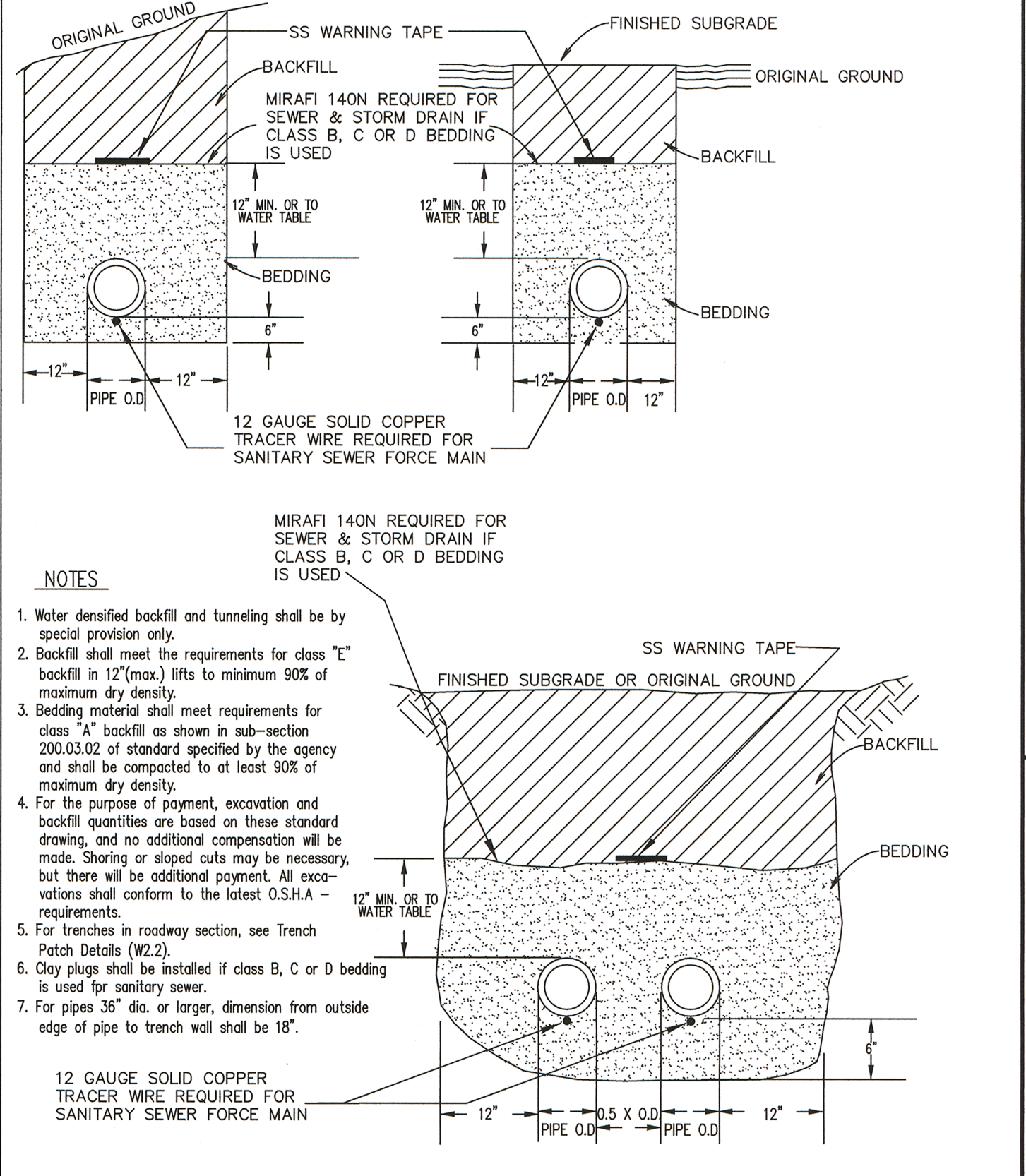
- NOTES:**
- NON-SHRINK GROUT SHALL HAVE THE FOLLOWING CHARACTERISTICS: 3000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD AND SLUMP AT 1 TO 4 INCHES. ALL MATERIAL SHALL CONFORM TO STANDARD SPECIFICATIONS OF PUBLIC WORKS CONSTRUCTION (SSPWC) SECTION 202.
  - AN AGENCY-APPROVED FORM OF SEAL OR WATER STOP IS REQUIRED ON ALL STORM DRAIN INSTALLATIONS.
  - A RESILIENT FLEXIBLE CONNECTOR INSTALLED IN ACCORDANCE WITH STD. CONNECTION DETAIL A OF STD. DETAIL R-2238 MAY BE USED TO SATISFY THE REQUIREMENTS OF NOTE 2 ABOVE.
  - ALL PIPE OPENINGS TO NEW MANHOLES MUST BE EITHER CAST-IN-PLACE OR PRE-FORMED AND PIPE OPENINGS TO EXISTING MANHOLES MUST BE CORE DRILLED.

D6 STORM PIPE TO MANHOLE CONNECTION  
NTS



- NOTES:**
- HINGED MANHOLE COVER SHALL BE PAMREX 24-INCH MODEL OR APPROVED EQUAL.
  - COVER TO BE HINGED AND INCORPORATE A 90 DEGREE BLOCKING SYSTEM TO PREVENT ACCIDENTAL CLOSURE.
  - FRAME AND COVER SHALL BE ELASTOMER GASKETED.
  - ALL COMPONENTS SHALL BE BLACK COATED.

D7 HINGED MANHOLE COVER  
NTS



- NOTES:**
- Water defined backfill and tunneling shall be by special provision only.
  - Backfill shall meet the requirements for class "E" backfill in 12"(max) lifts to minimum 90% of maximum dry density.
  - Bedding material shall meet requirements for class "A" backfill as shown in sub-section 200.03.02 of standard specified by the agency and shall be compacted to at least 90% of maximum dry density.
  - For the purpose of payment, excavation and backfill quantities are based on these standard drawing, and no additional compensation will be made. Shoring or sloped cuts may be necessary, but there will be additional payment. All excavations shall conform to the latest O.S.H.A. requirements.
  - For trenches in roadway section, see Trench Patch Details (W22).
  - Clay plugs shall be installed if class B, C or D bedding is used for sanitary sewer.
  - For pipes 36" dia. or larger, dimension from outside edge of pipe to trench wall shall be 18".

D8 TRENCH EXCAVATION & BACKFILL (STORM DRAIN & SANITARY SEWER)  
NTS

DESIGN BY	BAJ	CHECKED BY	DLS
DATE	02/2014	PROJECT NUMBER	100037452
SCALE	1" = 20'	REVISIONS	

CITY OF SPARKS  
HOWARD DR STORM DRAIN REALIGNMENT  
PRELIMINARY DETAILS

ATKINS  
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RENO, NEVADA 89521  
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FAX: 775/928-1826

ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

5 OF 5