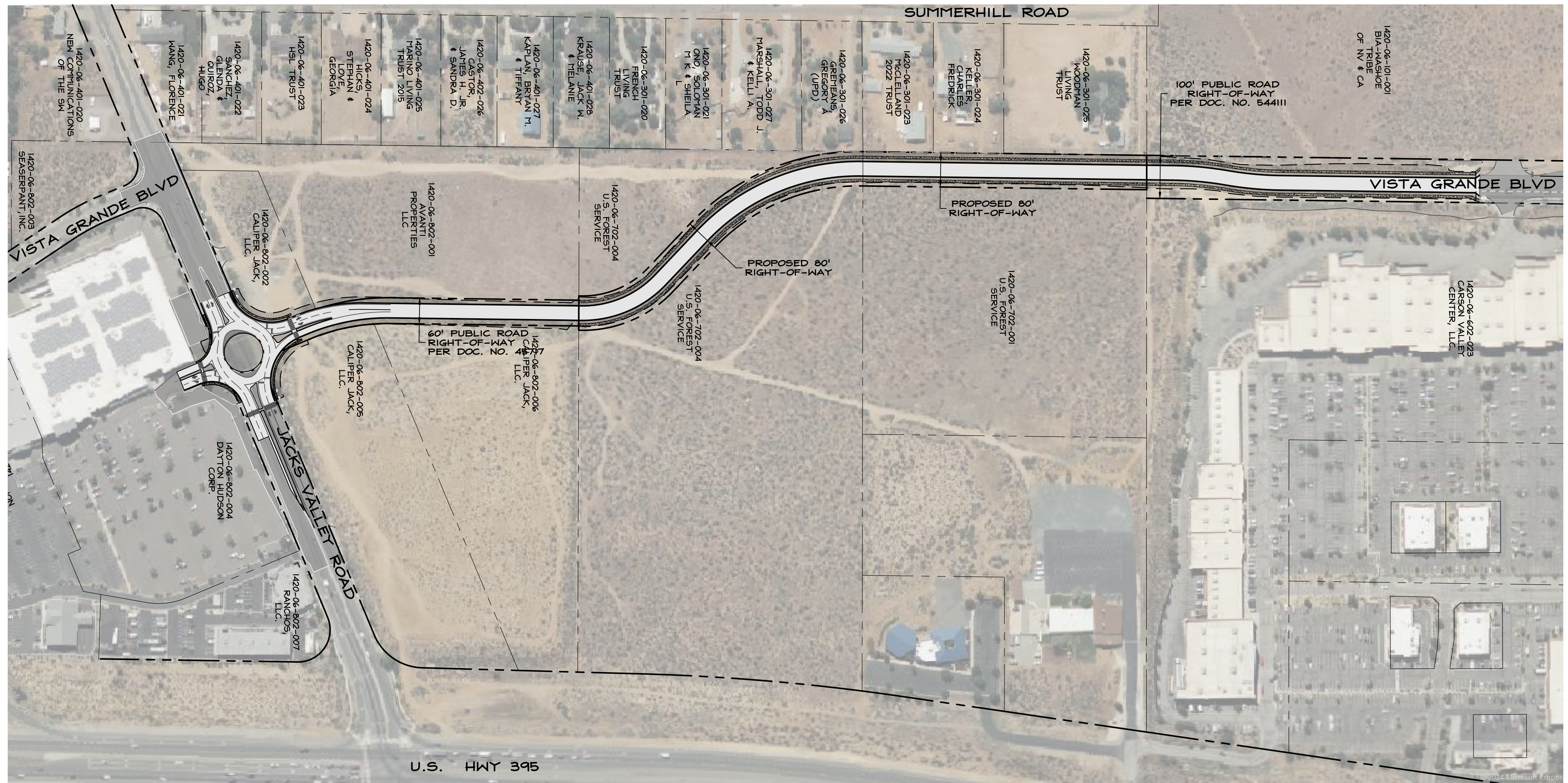
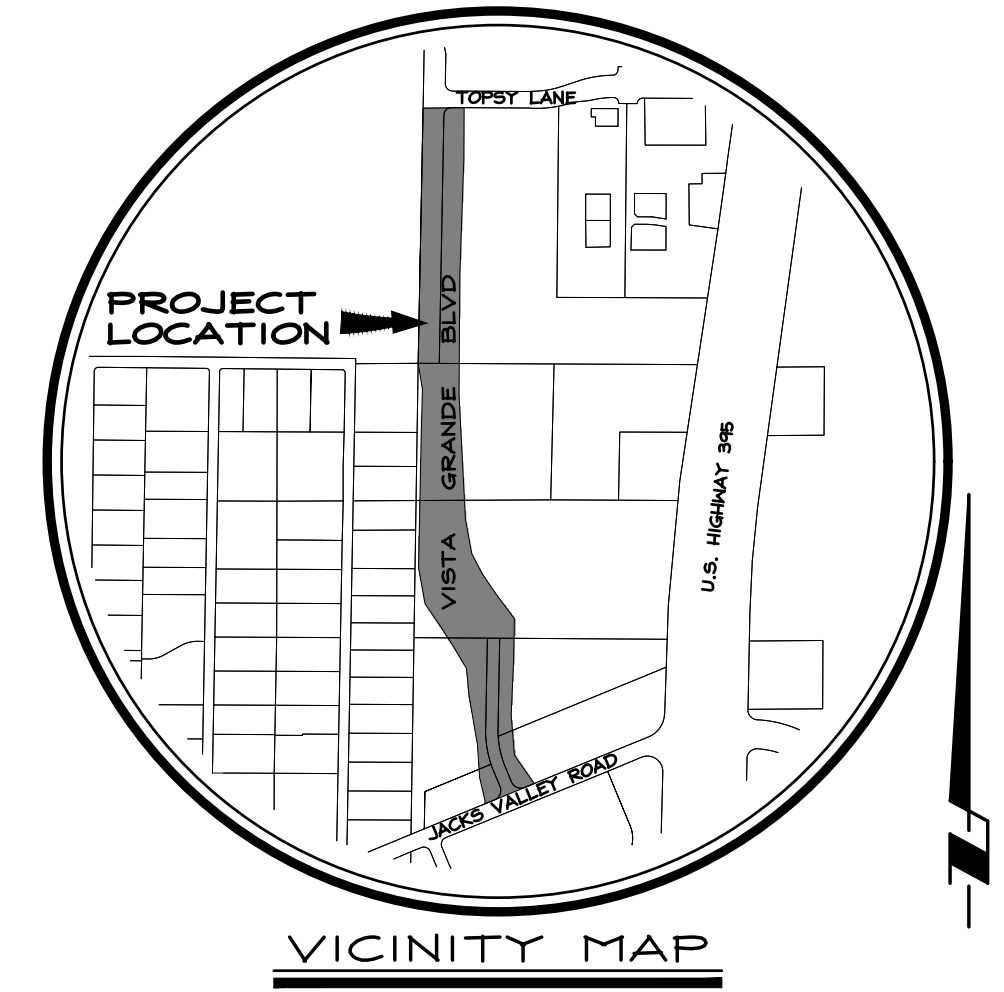


# IMPROVEMENT PLANS FOR VISTA GRANDE BOULEVARD (NORTH EXTENSION)

## MINDEN, NEVADA



### PROJECT SUMMARY

APN/OWNER: 1420-06-702-001 CONSOLIDATED PARTNER LLC  
 1420-06-702-004 CONSOLIDATED PARTNER LLC  
 ENGINEER: R.O. ANDERSON ENGINEERING, INC.  
 P.O. BOX 2229  
 MINDEN, NEVADA 89423  
 (775) 782-2322  
 ZONING: COMMERCIAL  
 MASTER PLAN: GENERAL COMMERCIAL  
 FLOOD ZONE: ZONE D (PER PANEL 32005C0060G EFF. 1/20/2010)  
 PROPOSED ROADWAYS: 80' LOCAL ROAD

### SHEET INDEX

- C1 - COVER SHEET
- C2 - NOTES, ABBREVIATIONS & LEGEND
- C3 - EXISTING CONDITIONS & TEMPORARY EROSION CONTROL
- C4 - PLAN & PROFILE JACKS VALLEY ROAD AROUND-A-BOUT
- C5 - PLAN AND PROFILE STA. 3+00 TO 14+00
- C6 - PLAN AND PROFILE STA. 14+00 TO 25+00
- C7 - PLAN AND PROFILE STA. 27+00 TO 32+00

### APPROVALS

DOUGLAS COUNTY COMMUNITY DEVELOPMENT \_\_\_\_\_ DATE \_\_\_\_\_  
 EAST FORK FIRE PROTECTION DISTRICT \_\_\_\_\_ DATE \_\_\_\_\_

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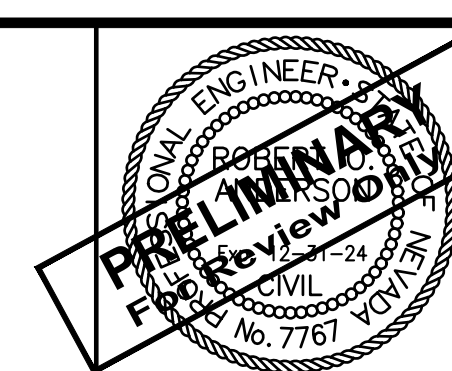
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 MINDEN 4360 Double  
 1401 E. Flamingo Ave. Reno, NV 89502  
 P. 775.782.2322 F. 775.782.7064

**VISTA GRANDE BOULEVARD (NORTH EXTENSION)**  
 DOUGLAS COUNTY PUBLIC WORKS

COVER SHEET



DRAWN: KLM  
 ENGINEER: DB/ROA  
 SCALE: AS SHOWN  
 DATE: 1.24.2024  
 JOB: 2024-005  
 DRAWING: SEE PLOT STAMP  
 SHEET: C1  
 OF: 7 SHEETS



60% REVIEW SET - 1.24.2024



SYMBOLS

EXISTING PROPOSED

Table of symbols for existing and proposed features including survey control points, fire hydrants, manholes, catch basins, water meters, valves, signs, vaults, electrical vaults, slopes, and various utility lines.

SURVEY CONTROL

BASIS OF BEARING: N01°06'30"E -- THE WEST RIGHT OF WAY OF U.S. HIGHWAY 395 PER RECORD OF SURVEY TO SUPPORT A BOUNDARY LINE ADJUSTMENT FOR DGD DEVELOPMENT LTD. PARTNERSHIP, JOHN C. SERPA AND SYNCON HOMES, FILED FOR RECORD ON FEBRUARY 19, 1999 IN BOOK NO. 299 OF OFFICIAL RECORDS, AT PAGE 4014, DOCUMENT NO. 461506.

DATUM: VERTICAL DATUM FOR THIS PROJECT IS NAVD 88 BASED UPON NGS OPUS SOLUTION R. O. ANDERSON POINT NO. 1, ELEVATION = 4922.27'

NOTES: THE BOUNDARY SHOWN HEREON IS PER THE AMENDED RECORD OF SURVEY FOR DOUGLAS COUNTY #32 MAP FILED FOR RECORD JULY 11, 2000, IN BOOK 0700 OF OFFICIAL RECORDS, AT PAGE 1520, AS DOCUMENT NO. 495661, AND A RECORD OF SURVEY IN SUPPORT OF A BOUNDARY LINE ADJUSTMENT BY AIG BAKER CARSON VALLEY, LLC FILED FOR RECORD APRIL 3, 2003 IN BOOK 0403 OF OFFICIAL RECORDS, AT PAGE 1471, AS DOCUMENT NO. 572306.

LINE TYPES

Table of line types for existing and new features including building envelope, centerline of right-of-way, major and minor contours, easement, edge of pavement, flow line, gas lines, overhead and underground power, sanitary sewer main, storm drain, water main, fence, and common utility trench.

ABBREVIATIONS

Table of abbreviations for various engineering terms such as AASHTO, AB, ADA, ADAAG, AGG, ANS, APN, APPROX, APWA, ASTM, AT, AWWA, BAPC, BC, BCR, BEG, BFE, BLDG, BSDW, BN, BWPC, BVC, C&G, CB, CF, CL, CMP, CO, D, DIA, DOC, (E), EA, EC, ECR, EG, ELEC, ELEV., EP, EPA, EVC, EN, EX, FE5, FF, FG, FH, FL, FNC, FND, FT, GA, GB, GFF, HDPE, HORIZ, HP, ID, IE, IN, INT, IRRIG, L, LAT, LBS, LF, MAX, MDD, MGSD, MH, MIN, MISCELLANEOUS, MOC, MUTCD, N, N(N), NDEP, NDOT, NE, NE(NE), NO, NTS, NOM, O/H, OD, OSHA, P, PCC, PED, PIP, PLS, PRC, PSI, PTA, PUE, PVC, R, RCP, RET, ROW, S, S(S), SAD, SD, SDTH, SDR, SE, SE(S), SF, SL, SS, ST, STA, STD, SW, SHPP, TBC, TC, TEL, TOE, TOP, TV, TYP, U, UBC, UG, UNO, VC, VG, VERT, W, W(N), W, W(V), YR.

HATCHING

Table of hatching patterns for existing and proposed pavement and concrete.

NOTE: NOT ALL SYMBOLS, LINE TYPES, HATCHING, AND ABBREVIATIONS SHOWN HEREON ARE USED IN THIS PLAN SET.

UTILITY COMPANY CONTACTS

Table of utility company contacts including POWER (N.V. ENERGY), TELEPHONE (CARSON CITY COMMUNICATIONS CORP.), WATER (DOUGLAS COUNTY), SEWER (DOUGLAS COUNTY), GAS (SOUTHWEST GAS CORPORATION), and TV (CHARTER COMMUNICATIONS).

NOTES

DOUGLAS COUNTY GENERAL NOTES:

- 1. ALL WORK AND MATERIALS SHALL CONFORM TO THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("ORANGE BOOK"). ALL WORK AND MATERIALS NOT IN CONFORMANCE WITH THESE AMENDED SPECIFICATIONS AND DETAILS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
2. ONE WEEK PRIOR TO THE COMMENCEMENT OF ANY WORK, CONSTRUCTION OR INSTALLATIONS ASSOCIATED WITH THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE DOUGLAS COUNTY INSPECTOR AT (775) 690-6468 OF INTENT TO BEGIN AND SCHEDULE PRECONSTRUCTION MEETING AT THE PROJECT SITE WITH DOUGLAS COUNTY INSPECTOR AND PROJECT INSPECTOR.
3. CONTRACTOR'S SHALL COMPLY WITH THE REQUIREMENTS TO OBTAIN THE NECESSARY SITE IMPROVEMENT PERMITS AND SHALL COMPLY WITH THE SITE IMPROVEMENT PERMIT CONDITIONS AS FOUND ON THE BACK OF THE PERMIT FORM.
4. THE APPROVED PLAN, PERMIT AND INSPECTION RECORD MUST BE ON THE JOB SITE AT ALL TIMES.
5. DOUGLAS COUNTY PARKS AND RECREATION, COMMUNICATIONS, AND SHERIFF'S OFFICE IS NOT REPRESENTED BY USA DIGS. WHEN THE CONTRACTOR EXCAVATES NEAR OR ADJACENT TO ANY OF THESE FACILITIES/PROPERTIES, THE CONTRACTOR SHALL CONTACT THE ADMINISTRATOR OF APPLICABLE DEPARTMENT AT PHONE NUMBER SHOWN ON COUNTY WEBSITE TO REQUEST ASSISTANCE IN LOCATING ALL THEIR UNDERGROUND FACILITIES. THIS REQUIREMENT MAY ALSO APPLY TO ANY OTHER COUNTY FACILITY/PROPERTY.
6. THE CONTRACTOR SHALL OBTAIN A STORMWATER GENERAL OR A SURFACE AREA DISTURBANCE PERMIT FROM THE NEVADA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS REQUIRED, AND SHALL COMPLY WITH ITS REQUIREMENTS FOR DUST CONTROL ON ALL APPLICABLE PROJECTS.
7. THE ENGINEER HEREBY CERTIFIES AS EVIDENCED BY A PROFESSIONAL SEAL & SIGNATURE, THAT ALL AFFECTED UTILITY COMPANIES BOTH PUBLIC AND PRIVATE HAVE BEEN CONTACTED, ALL EXISTING AND/OR PROPOSED UTILITIES LINES AND OTHER RELATED INFORMATION HAVE BEEN TRANSFERRED ONTO THESE PLANS TO THE BEST OF ENGINEER'S KNOWLEDGE AND BASED ON INFORMATION FROM THE UTILITY COMPANY. THE ENGINEER ALSO HEREBY CERTIFIES THAT ALL EXISTING AND/OR PROPOSED PUBLIC RIGHT-OF-WAY AND EASEMENTS HAVE BEEN CORRECTLY PLOTTED AND SHOWN.
8. THE ENGINEER, OR LAND SURVEYOR OF RECORD SHALL CERTIFY UPON COMPLETION OF CONSTRUCTION THAT ALL PUBLIC IMPROVEMENTS (WATER AND SEWER UTILITIES, STORM DRAINAGE, CONCRETE PAVING, STREET LIGHTS, ETC.) HAVE BEEN INSTALLED AT THE LOCATIONS AND ELEVATIONS SHOWN ON THE APPROVED PLANS. ANY CHANGES SHALL BE REFLECTED ON "AS-BUILT"/RECORD DRAWINGS PROVIDED BY THE ENGINEER TO THE COUNTY'S ENGINEERING DIVISION.
9. THE REGISTERED ENGINEER OR LAND SURVEYOR SHALL CERTIFY THAT THE MINIMUM HORIZONTAL AND VERTICAL SEPARATIONS BETWEEN UTILITIES WITHIN PUBLIC RIGHT-OF-WAY AND EASEMENTS HAVE BEEN MAINTAINED AS REQUIRED BY LAW OR POLICY.
10. THE DEVELOPER SHALL PROVIDE ALL CONSTRUCTION STAKING FOR THE PROJECT.
11. THE DEVELOPER OR THE ENGINEER IS RESPONSIBLE FOR ARRANGING THE RELOCATION OR REMOVAL OF UTILITIES THAT ARE IN FACILITIES THAT ARE IN CONFLICT WITH THE PROPOSED PUBLIC IMPROVEMENTS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE RELOCATION OF ALL UTILITIES, POWER POLES, IRRIGATION DRY-UPS, RESETS REMOVALS BY OTHERS, ETC.
12. THE CONTRACTORS SHALL LOCATE ALL UTILITIES PRIOR TO EXCAVATION AND AVOID DAMAGE TO SAME. CALL 811 FOR USA DIGS TWO WORKING DAYS PRIOR TO DIGGING.
13. CONTRACTORS SHALL COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AND BARRICADING PER THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
14. IF A FIRE HYDRANT IS NEEDED TO OBTAIN CONSTRUCTION WATER, THE CONTRACTOR SHALL OBTAIN A FIRE HYDRANT METER FROM DOUGLAS COUNTY PUBLIC WORKS OR APPLICABLE WATER PURVEYOR AND PAY ALL APPLICABLE FEES AND CHARGES.
15. IF DURING THE CONSTRUCTION OF A PUBLIC FACILITY, THE CONTRACTOR FAILS TO OR IS UNABLE TO COMPLY WITH A REQUEST TO THE ENGINEERING INSPECTOR, AND IT IS NECESSARY FOR COUNTY FORCES TO DO WORK THAT IS NORMALLY THE CONTRACTOR'S RESPONSIBILITY, THE COUNTY SHALL BE JUSTIFIED IN BILLING THE CONTRACTOR. EACH INCIDENT REQUIRING WORK BY COUNTY FORCES SHALL BE COVERED BY A SEPARATE BILLING AT THE CURRENT APPLICABLE RATES.
16. THE CONTRACTOR IS ADVISED THAT DAMAGE TO PUBLIC SERVICES OR SYSTEMS AS A RESULT OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AND INSPECTED BY THE ENGINEERING INSPECTOR. UNLESS OTHERWISE APPROVED BY THE COUNTY, ALL REPAIRS SHALL BE DONE WITHIN 24 HOURS. THE CONTRACTOR IS ADVISED THAT ANY COSTS RELATED TO REPAIR OR REPLACEMENT OF DAMAGED PUBLIC SERVICES AND SYSTEMS AS A RESULT OF CONTRACTOR'S ACTIVITIES SHALL BE BORNE BY THE CONTRACTOR.

DOUGLAS COUNTY PUBLIC WASTEWATER UTILITY NOTES:

- 1. CONTRACTORS SHALL VERIFY ALL INVERT ELEVATIONS BEFORE PROCEEDING WITH THE BALANCE OF THE UTILITY TRENCHING.
2. STEPS SHALL NOT BE INSTALLED WITHIN THE MANHOLE.
3. ALL SEWER MAINS AND LATERALS IN THE RIGHT-OF-WAY/EASEMENT SHALL BE PVC SDR 35 UNLESS OTHERWISE NOTED.
4. FLEXIBLE TRANSITION COUPLINGS MAY BE USED WHEN CONNECTING SEWER MAINS TO EXISTING SEWER MAINS, MODEL PER SEWER UTILITY APPROVAL.
5. SEWER MANHOLE MARKERS SHALL BE INSTALLED WHEN MANHOLES ARE LOCATED OUTSIDE OF THE PAVED SURFACE. SEWER MANHOLE MARKERS SHALL BE GREEN CARSONITE UTILITY MARKERS, 5'-2" WITH MANHOLE DECAL (668-MH) OR APPROVED EQUAL. PLACE MARKERS WITHIN EASEMENT IN CLOSE PROXIMITY TO MANHOLE OR AS DIRECTED BY THE SEWER UTILITY.
6. THE CONTRACTOR SHALL INSTALL A PLUG AT THE POINT OF EXTENSION OF A SEWER MAIN PRIOR TO THE START OF CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL ALL LINES HAVE BEEN INSPECTED, TESTED, CLEANED, FLUSHED, AND ACCEPTED BY THE SEWER UTILITY.
7. SEWER LINES SHALL BE TESTED PER SECTION 336.06 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. AN AIR PRESSURE TEST AND ALIGNMENT TEST PER THE DOUGLAS COUNTY DESIGN CRITERIA AND STANDARDS, AND A DEFLECTION TEST PER SECTION 336.06 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SHALL BE PERFORMED ON ALL SEWER LINES.
8. ALL SEWER MAINS SHALL HAVE A COLOR TELEVISION INSPECTION PRIOR TO ACCEPTANCE BY THE SEWER UTILITY AND PRIOR TO PAVING.

DOUGLAS COUNTY STORM DRAIN NOTES:

- 1. MANHOLE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 204 "MANHOLES AND CATCH BASINS" OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS, (CURB AND GUTTER TRANSITION ONLY, ALL UNEXPOSED CONCRETE MAY BE 3000 PSI), MIN. 4 BAGS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% @ 12" SLAB THICKNESSES. ALL MATERIALS SHALL CONFORM TO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SECTION 202.
3. REINFORCING STEEL SHALL BE GRADE 40 AND 1.5 INCHES MINIMUM CLEAR COVER.
4. ALL STORM DRAIN PIPE AND STRUCTURES SHALL BE CLEANED OF SEDIMENT AND DEBRIS PRIOR TO ISSUANCE OF A NOTICE OF COMPLETION OR CERTIFICATE OF OCCUPANCY.
5. FRAMES AND GRATES SHALL BE MATCHED TO ACHIEVE A CLOSE TOLERANCE FIT, WITH MINIMAL GAPS, AS APPROVED BY THE STORM DRAIN UTILITY.
6. PRECAST MANHOLES SECTIONS, OTHER THAN GRADE RINGS, SHALL BE JOINED WITH FLEXIBLE PLASTIC GASKET MATERIAL SUCH AS RAM-NEK OR APPROVED EQUAL PER MANUFACTURER'S RECOMMENDATIONS.
7. MANHOLES LOCATED OUTSIDE PAVED AREAS SHALL REQUIRE ALL WEATHER ACCESS ROADWAY CONSISTING OF 6 INCHES TYPE 2, CLASS B AGGREGATE BASE (CONFORMING TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SECTION 200.01.02) AND STORM DRAIN MANHOLE MARKERS BE INSTALLED. STORM DRAIN MANHOLE MARKERS SHALL BE GREEN CARSONITE UTILITY MARKER (CUM 375), 5'-2" WITH DECAL READING "STORM DRAIN MANHOLE". PLACE MARKERS ON EASEMENT LINE NEAREST TO MANHOLE OR AS DIRECTED BY THE STORM DRAIN UTILITY.
8. 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.

DOUGLAS COUNTY PUBLIC STREET/RIGHT-OF-WAY IMPROVEMENT NOTES:

- 1. THE DEVELOPER AND THE CONTRACTOR ARE REQUIRED TO COORDINATE THE PLACEMENT OR INSTALLATION OF DRIVEWAYS IN ORDER TO AVOID CONFLICT WITH UTILITY SERVICES.
2. ALL FRAMES, COVERS, VALVE BOXES, MANHOLES, ETC., SHALL BE INSTALLED TO FINISH GRADE OR SHALL BE ADJUSTED TO FINISH GRADE AFTER PLACING OF ASPHALTIC SURFACE COURSE BY THE CONTRACTOR PER APPLICABLE DOUGLAS COUNTY STANDARD DETAILS.
3. THE CONTRACTOR SHALL ADJUST ALL FRAMES, COVERS, VALVE BOXES, MANHOLES, ETC. THAT ARE LOCATED WITHIN THE PARKWAY AREA AFTER FINAL GRADING AND INSTALLATION OF LANDSCAPING.
4. THE STREET PAVING PERMITTEE/CONTRACTOR IS HEREBY NOTIFIED THAT IN THE EVENT THAT ACCEPTANCE OF THE STREET PAVING IS DELAYED AFTER THE PAVEMENT IS INSTALLED, THE PERMITTEE/CONTRACTOR SHALL APPLY A SEAL COAT TO THE PAVEMENT. TYPE OF MATERIAL AND RATE OF APPLICATION WILL BE DIRECTED BY THE DOUGLAS COUNTY ENGINEERING DEPARTMENT.
5. A STANDARD RESIDENTIAL DRIVEWAY APPROACH SHALL BE CONSTRUCTED TO MAXIMUM WIDTH OF 24 FEET UNLESS SPECIAL APPROVAL HAS BEEN OBTAINED.

DOUGLAS COUNTY WATER NOTES:

- 1. ALL PUBLIC WATER MAIN MATERIALS SHALL BE PER SECTION 203.06 (DIP) OR 203.15 (PVC) OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. ALL NEW WATER LINES THAT REQUIRE SERVICE DISRUPTION IN ORDER TO CONNECT TO THE COUNTY SYSTEM SHALL REQUIRE NOTIFICATION TO THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY ALL WORK NECESSARY TO RESTORE UTILITY SERVICE AND FULLY OPEN THE TIE-IN AREA TO VEHICULAR TRAFFIC WITHIN THE TIME FRAME ALLOWED BY THE COUNTY ENGINEERING INSPECTOR.
3. THE CONTRACTOR SHALL INSTALL A TEMPORARY PLUG OR VALVE ON A SECTION OF NEW WATER LINE TO TEST LINES BEFORE CONNECTING TO THE EXISTING PUBLIC WATER SYSTEM WHERE THERE IS NO WATER VALVE ON THE EXISTING LINE.
4. WATER LINE TEST SHALL BE CONDUCTED SO THAT EXISTING WATER LINES WILL NOT BE INCLUDED IN THE TEST OF THE NEW LINE.
5. THE REQUIRED BACKFLOW PREVENTION ASSEMBLY SHALL BE A MANUFACTURER AND MODEL DESIGNATED IN THE CURRENT "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES" AS PUBLISHED BY THE FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH, UNIVERSITY OF SOUTHERN CALIFORNIA.
6. THE BACKFLOW PREVENTION ASSEMBLY SHALL BE TESTED AND APPROVED BY A CERTIFIED TECHNICIAN PRIOR TO THE REQUEST FOR FINAL INSPECTION.
7. WATER MAIN SHUTDOWNS/INTERRUPTION OF SERVICE: WATER UTILITY APPROVAL IS REQUIRED FORTY-EIGHT (48) HOURS PRIOR TO NOTIFICATION OF CUSTOMERS. COMMERCIAL AND RESIDENTIAL CUSTOMERS SHALL BOTH RECEIVE FORTY-EIGHT (48) HOURS WRITTEN NOTICE OF A SHUTDOWN, AND SPECIAL ARRANGEMENTS MAY HAVE TO BE MADE TO ACCOMMODATE CUSTOMER'S OPERATIONAL NEEDS. THE WATER UTILITY IS RESPONSIBLE FOR THE NOTIFICATION WHEN WORK IS PERFORMED BY THE WATER UTILITY. THE CONTRACTOR IS RESPONSIBLE IN ALL OTHER 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. THE CONTRACTOR SHALL BE SUBJECT TO ANY CLAIMS SHOULD THEY FAIL TO NOTIFY CUSTOMERS OR MAINTAIN DOCUMENTATION OF NOTIFICATION OF CUSTOMERS. THE CONTRACTOR SHALL NOT OPERATE ANY EXISTING WATER VALVES WITHOUT AUTHORIZATION OF THE WATER UTILITY.
8. ALL WATER SERVICES 2" OR LESS SHALL BE CTS, PE PIPE (AWWA STANDARD C901); SERVICES 3" OR GREATER SHALL BE CLASS 150 C900 PVC OR AS SPECIFIED ON THE PLANS.
9. LINE SEPARATION MUST MEET THE PROVISIONS OF NAC 445A.6715 THROUGH 445A.6718 IN ITS ENTIRETY, NDEP'S VERTICAL CROSSING SUMMARY, AND BE APPROVED BY STATE AND WATER UTILITY.
10. ALL HOT TAPS ARE TO BE PERFORMED BY A LICENSED CONTRACTOR APPROVED BY THE WATER UTILITY. THE CONTRACTOR SHALL CONTACT THE WATER UTILITY AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO SCHEDULING HOT TAP DATE AND TIME.
11. WATER VALVE MARKERS SHALL BE BLUE CARSONITE UTILITY MARKER (CRM-3066), 5'-2" WITH DECAL READING "WATER VALVE" OR AS DIRECTED BY THE WATER UTILITY.
12. ALL WATER MAIN AND WATER SERVICE INSPECTIONS MUST BE COMPLETED PRIOR TO ANY CERTIFICATE OF OCCUPANCY OR NOTICE OF COMPLETION BY THE WATER UTILITY ACCEPTING IMPROVEMENTS.

DOUGLAS COUNTY GRADING GENERAL NOTES:

- 1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, OSHA REQUIREMENTS FOR EXCAVATION, AND SPECIAL REQUIREMENTS OF THE PERMIT. VIOLATIONS WILL RESULT IN THE STOPPAGE OF ALL WORK UNTIL THE VIOLATION IS CORRECTED.
2. NO WORK SHALL BE STARTED WITHOUT FIRST NOTIFYING THE COUNTY ENGINEERING INSPECTOR AT (775) 690-6468 AT LEAST 2 WORKING DAYS BEFORE WORK IS COMMENCED.
3. SLOPES SHALL BE NO STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL, OR AS DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE COUNTY.
4. ALL GRADING SHALL BE IN CONFORMANCE WITH THE APPROVED GEOTECHNICAL REPORT PREPARED BY "XXXXXXXXXXXX", DATED XX, XX, XXXX.
5. FILLS SHALL BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION."
6. THE ENGINEER OF RECORD SHALL PROVIDE THE COUNTY AND ALL OTHER APPROPRIATE ENTITIES WITH COPIES OF ALL TEST RESULTS ON A WEEKLY BASIS AND A BOUND REPORT OF THE TEST RESULTS AND INSPECTION REPORTS, ARRANGED IN CHRONOLOGICAL ORDER, AT THE COMPLETION OF THE PROJECT. THE ENGINEER OF RECORD SHALL PROVIDE THE COUNTY WITH AN OPINION REGARDING THE CONSTRUCTION SIMILAR TO THE FOLLOWING:
ENGINEER'S OPINION

I HEREBY CERTIFY THAT I AM A LICENSED ENGINEER IN THE STATE OF NEVADA, TO THE BEST OF MY KNOWLEDGE AND INFORMATION THE PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS, AND IN MY PROFESSIONAL OPINION, IS IN COMPLIANCE WITH APPLICABLE LAWS, CODES AND ORDINANCES.

- 7. FILL AREAS SHALL BE CLEARED OF ALL VEGETATION AND DEBRIS, SCARIFIED, AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO THE PLACING OF FILL.
8. PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE USED TO PROTECT ADJOINING PROPERTIES DURING CONSTRUCTION OF IMPROVEMENTS.
9. DUST SHALL BE CONTROLLED BY THE CONTRACTOR TO THE SATISFACTION OF THE COUNTY, AND IN ACCORDANCE WITH THE AIR QUALITY PERMIT FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION WHEN REQUIRED.
10. ALL STREETS SHALL BE MAINTAINED FREE OF DUST AND MUD CAUSED BY GRADING OPERATIONS. ALL OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE STORMWATER DISCHARGE PERMIT FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION.
11. ALL CESSPOOLS, SEPTIC TANKS, ETC., TO BE ABANDONED SHALL BE FILLED OR REMOVED IN ACCORDANCE WITH THE STATE OF NEVADA STANDARDS AND CERTIFIED BY THE ENGINEER OF RECORD.
12. EXISTING WELLS TO BE ABANDONED SHALL BE CAPPED IN ACCORDANCE WITH THE STATE OF NEVADA DIVISION OF WATER RESOURCES REGULATIONS FOR WATER WELL AND RELATED DRILLING.
13. THE DEVELOPER'S ENGINEER OR SURVEYOR SHALL SET GRADE STAKES FOR ALL DRAINAGE DEVICES AND THE CONTRACTOR SHALL OBTAIN INSPECTION BEFORE PLACING CONCRETE.
14. FINISHED GRADING WILL BE COMPLETED AND APPROVED, AND SLOPE PLANTING AND IRRIGATION SYSTEMS INSTALLED BEFORE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
15. NO ROCK OR SIMILAR MATERIAL GREATER THAN 4" IN DIAMETER SHALL BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED BY THE GEOTECHNICAL ENGINEER IN ADVANCE AND APPROVED BY THE COUNTY.
16. THE GEOTECHNICAL ENGINEER SHALL VERIFY ALL GRADING INCLUDING COMPACTION REQUIREMENTS AND THE STABILITY OF SLOPES CREATED, EXISTING OR REMAINING.
17. IN THE EVENT OF CHANGES ARISING DURING CONSTRUCTION, THE DEVELOPER'S ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR REVIEW AND APPROVAL BY THE COUNTY. NO CHANGES IN THE DESIGN WILL BE PERMITTED UNLESS WRITTEN APPROVAL IS GIVEN BY THE COUNTY.
18. EROSION CONTROL:
a. IN CASE OF EMERGENCY CALL THE CONTRACTOR.
b. A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT APPROVED LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES OR TO REPAIR DAMAGED EROSION CONTROL MEASURES.
c. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS AND DESILTING FACILITIES. GRADED SLOPE SURFACE PROTECTION MEASURES DAMAGED DURING THE RAINSTORM SHALL ALSO BE REPAIRED.
d. FILL SLOPES AT THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE TOP OF THE SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
e. A SIX-FOOT HIGH PERIMETER FENCE OR A 24-HOUR GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN A FACILITY EXCEEDS 18 INCHES.
f. STORMWATER SHALL BE CONTROLLED BY THE CONTRACTOR TO THE SATISFACTION OF THE COUNTY AND IN ACCORDANCE WITH THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION STORMWATER PERMIT.
g. CONTRACTOR SHALL PLACE HYDROSEEDING WITH TEMPORARY IRRIGATION ON ALL CUT AND FILL SLOPES AND ALL OTHER DISTURBED AREAS UNLESS OTHERWISE DIRECTED BY DOUGLAS COUNTY.

Table with columns: NO., DATE, REVISION BLOCK, BY.

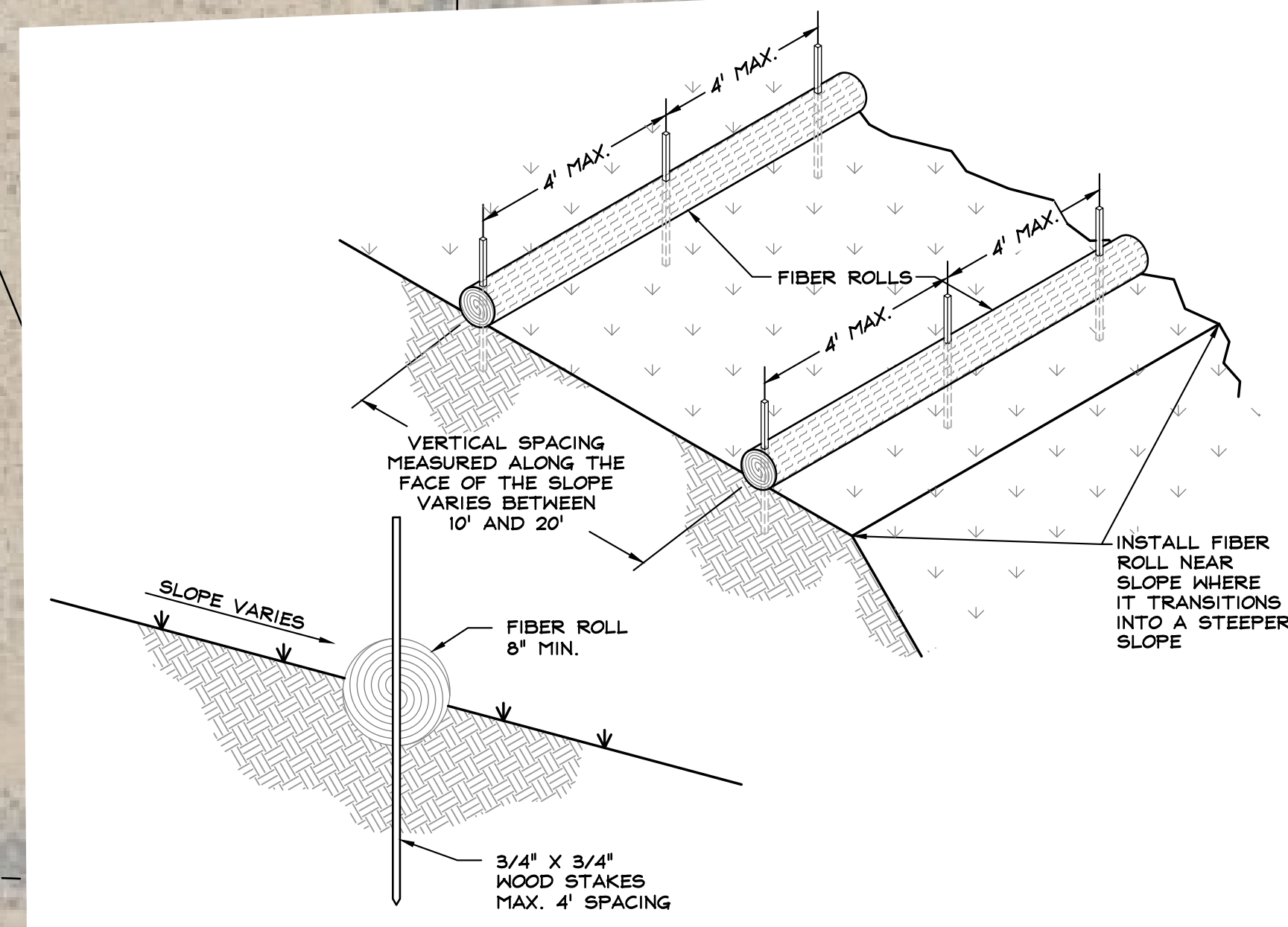
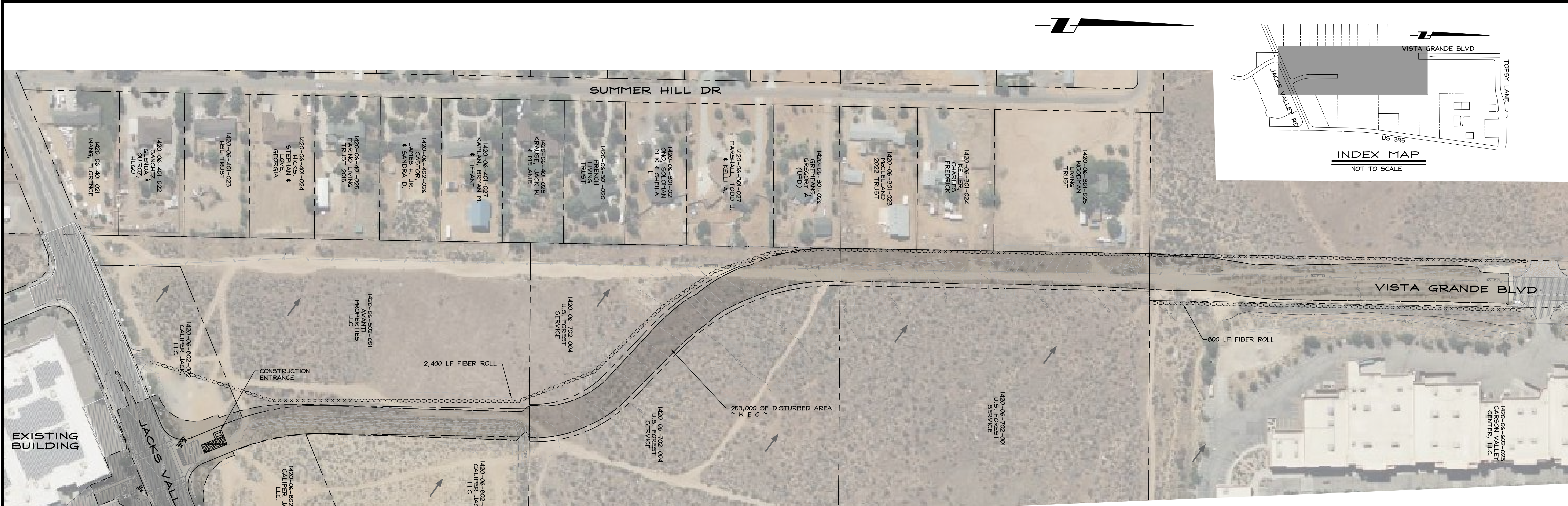
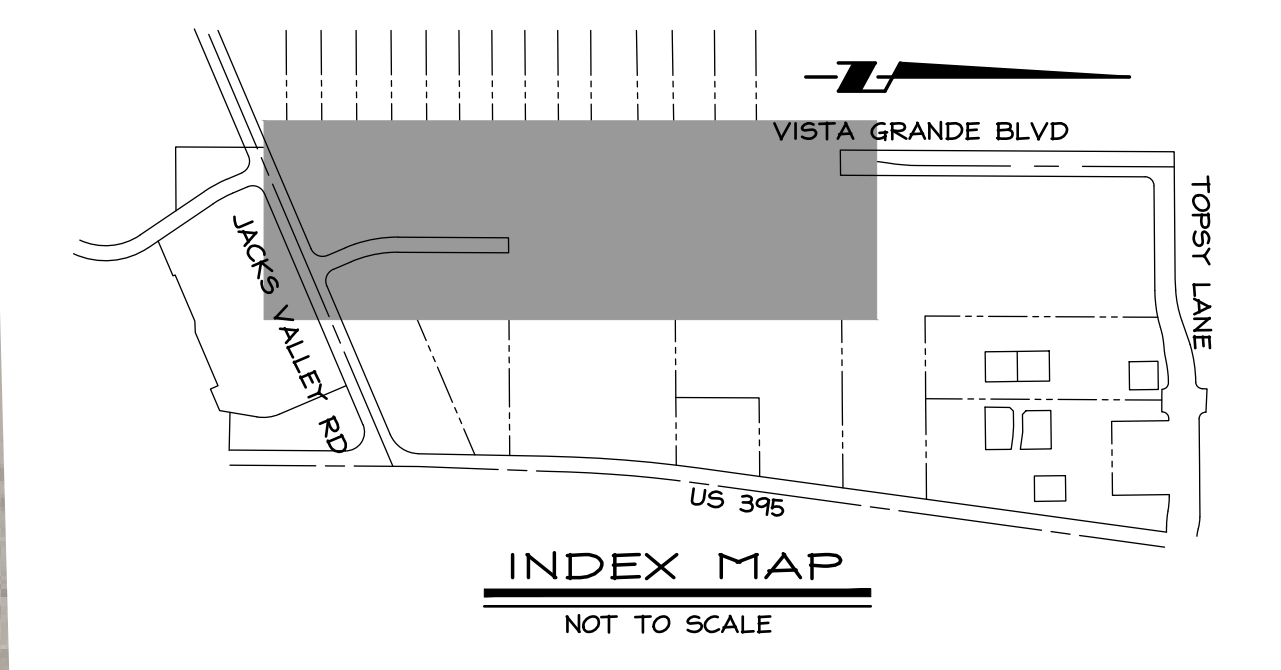
R/O Anderson logo and contact information: 1336 CENTERVILLE LANE GARDNERVILLE, NV 89410. PHONE: (775) 782-2723. FAX: (775) 782-7084.

VISTA GRANDE BOULEVARD (NORTH EXTENSION) DOUGLAS COUNTY PUBLIC WORKS

NOTES, ABBREVIATIONS & LEGEND. Includes a table for drawing information: DRAWN: KLM, JOB: 2096-005, ENGINEER: DB/ROA, DRAWING: SEE PLOT STAMP, SCALE: AS SHOWN, SHEET: C2, DATE: 1.24.2024, OF: 7 SHEETS.

60% REVIEW SET - 1.24.2024





- NOTES:**
1. INSTALL ALONG SLOPE CONTOUR, PERPENDICULAR TO FLOWLINE DIRECTION.
  2. FIBER ROLLS MUST BE ENTRENCHED 1/3 TO 1/2 HEIGHT OF ROLL TO ENSURE MAXIMUM CONTACT SURFACE AREA WITH SOIL.
  3. ENSURE THAT THE FIBER ROLL MAKES GOOD CONTACT WITH THE SOIL AT ALL LOCATIONS; THERE SHALL BE NO GAPS BENEATH THE FIBER ROLL.
  4. FIBER ROLLS SHALL BE STAKED IN SUCH A MANNER THAT THEY ARE NOT DISTURBED BY WIND OR SHEET FLOW RUNOFF.
  5. IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED A MINIMUM OF 18", NOT ABUTTED.
  6. TURN THE ENDS OF THE FIBER ROLL UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL.
  7. INSPECT AND MAINTAIN FIBER ROLLS DAILY AND AFTER EACH STORM EVENT. REMOVE SEDIMENT DEPOSITS WHEN DEPOSITS REACH 1/2 HEIGHT OF INSTALLED BARRIER.

**FIBER ROLL INSTALLATION DETAIL**  
NTS

- LEGEND**
- EXISTING PAVEMENT
  - CLEAR AND GRUB AREA
  - FIBER ROLL PER DETAIL ON THIS SHEET.
  - WIND EROSION AND DUST CONTROL
  - GENERAL FLOW DIRECTION
  - STREET SWEEPING
  - TRAILER
  - MATERIAL DELIVERY, HANDLING, STORAGE AND STOCKPILE MANAGEMENT.
  - PORTABLE TOILET
  - CONSTRUCTION EXIT TIRE WASH PER DETAIL ON THIS SHEET.
  - STOCKPILE MANAGEMENT
  - SPILL PREVENTION AND CONTROL
  - WATER RETENTION POND
  - CONSTRUCTION SITE ENTRANCE AND EXIT PER DETAIL ON THIS SHEET.
  - FIBER ROLL FOR GUTTER SEDIMENT CONTROL PER DETAIL ON THIS SHEET.

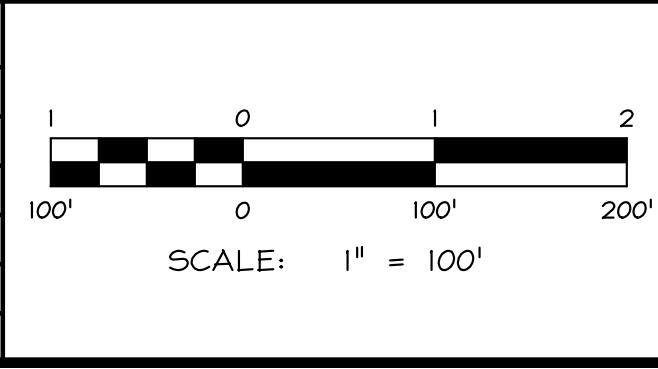
**EROSION CONTROL NOTES**

- IN CASE OF EMERGENCY CALL R.O. ANDERSON ENGINEERING, INC. AT 775-782-2322
- PRIOR TO ANY EARTHWORK, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF AND COMPLY WITH THE REQUIREMENTS OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND THE CONSTRUCTION STORMWATER PERMIT ISSUED BY NDEP.
- DUST SHALL BE CONTROLLED BY THE CONTRACTOR TO THE SATISFACTION OF THE COUNTY AND IN ACCORDANCE WITH THE PROJECT SWPPP AND THE CONSTRUCTION STORMWATER PERMIT ISSUED BY NDEP.
- THE CONTRACTOR SHALL MAINTAIN A CLEAN PROJECT SITE, REMOVING CONSTRUCTION DEBRIS AT THE END OF EACH ACTIVITY DAY. TRASH WILL BE HAULED TO THE DOUGLAS COUNTY TRANSFER STATION OR OTHER LICENSED DISPOSAL FACILITY. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE.
- THE CONTRACTOR SHALL MAINTAIN DEBRIS FREE CONSTRUCTION ROUTES, ADJACENT STREETS AND STORM DRAIN SYSTEMS.
- A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES. NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT APPROVED LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES OR TO REPAIR DAMAGED EROSION CONTROL MEASURES.
- AT LEAST ONCE PER WEEK AND FOLLOWING A STORM EVENT OF 0.5 INCHES OR GREATER ALL BMP'S AND GRADED SLOPE SURFACE PROTECTION MEASURES SHALL BE INSPECTED TO VERIFY CONTINUED SATISFACTORY OPERATION AND REPAIRED OR REPLACED IF NECESSARY.
- ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.
- FILL SLOPES AT THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE TOP OF THE SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
- A SIX-FOOT HIGH PERIMETER FENCE OR A 24-HOUR GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN A FACILITY EXCEEDS 18 INCHES.
- BUILT UP SEDIMENT SHALL BE REMOVED AS NECESSARY TO MAINTAIN PROPER FUNCTIONING OF THE BMP'S
- A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. THE REPORT WILL CONTAIN THE NAME OF THE INSPECTOR, MEASURES, AREAS INSPECTED, OBSERVED CONDITIONS, AND NOTE CHANGES NECESSARY TO THE SWPPP. REPORTS SHALL BE KEPT WITH SWPPP ON SITE.
- REPORT RELEASES OF REPORTABLE QUANTITIES OF OIL OR HAZARDOUS MATERIALS (IF THEY OCCUR) TO NDEP AND THE OWNER WITHIN 24 HOURS.
- PROTECT EXISTING UTILITIES, SIDEWALKS, PAVEMENT, AND OTHER INFRASTRUCTURE IN PLACE, EXCEPT WHERE SPECIFICALLY IDENTIFIED FOR DEMOLITION HEREON.
- PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE USED TO PROTECT ADJOINING PROPERTIES AND ALL IRRIGATION FACILITIES DURING CONSTRUCTION OF IMPROVEMENTS.
- AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS AND DESILTING FACILITIES. GRADED SLOPE SURFACE PROTECTION MEASURES DAMAGED DURING THE RAINSTORM SHALL ALSO BE REPAIRED.
- STORMWATER SHALL BE CONTROLLED BY THE CONTRACTOR TO THE SATISFACTION OF THE COUNTY AND IN ACCORDANCE WITH THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION STORMWATER PERMIT.
- CONTRACTOR SHALL PLACE HYDROSEEDING WITH TEMPORARY IRRIGATION ON ALL CUT AND FILL SLOPES AND ALL OTHER DISTURBED AREAS UNLESS OTHERWISE DIRECTED BY DOUGLAS COUNTY.

**GENERAL NOTES**

- LOCATION OF FIBER ROLL AND OTHER BMP'S MAY BE FIELD ADJUSTED WITH APPROVAL OF ENGINEER.
- ADJUST FRAMES, COVERS, RIMS, ETC. OF EX INFRASTRUCTURE TO NEW GRADE AS NECESSARY, PER APPLICABLE STANDARD DETAIL.
- REMOVAL OF VEGETATION SHALL INCLUDE REMOVAL OF STUMP AND ROOT BALL AND FILLING OF HOLE LEFT BY ROOT BALL WITH DG IN COMPACTED LIFTS.
- IN GENERAL, DEMOLITION SHALL INCLUDE BACKFILL OF EXCAVATION WITH DG IN COMPACTED LIFTS.
- DEMOLITION SHALL INCLUDE REMOVAL OF EXISTING IRRIGATION SYSTEM THAT SERVES THE EX IRRIGATED FIELDS WITHIN THE CLEAR AND GRUB AREA.
- CONTRACTOR SHALL ANTICIPATE DE-WATERING FOR THIS PROJECT.

| NO. | DATE | REVISION BLOCK | BY |
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**R/O Anderson**  
www.roanderson.com

MINDEN 10300 Denville Rd. Box 2223 Minden, NV 89423 P 775.782.2322 F 775.782.7084

RENO 10300 Denville Rd. Box 2223 Reno, NV 89423 P 775.782.2322 F 775.782.7084

**VISTA GRANDE BOULEVARD (NORTH EXTENSION)**  
**DOUGLAS COUNTY PUBLIC WORKS**

**EXISTING CONDITIONS & TEMPORARY EROSION CONTROL**

**ROBERT O. ANDERSON**  
Exp. 12-31-24  
Professional Engineer - State of Nevada  
Civil Engineering  
No. 7767

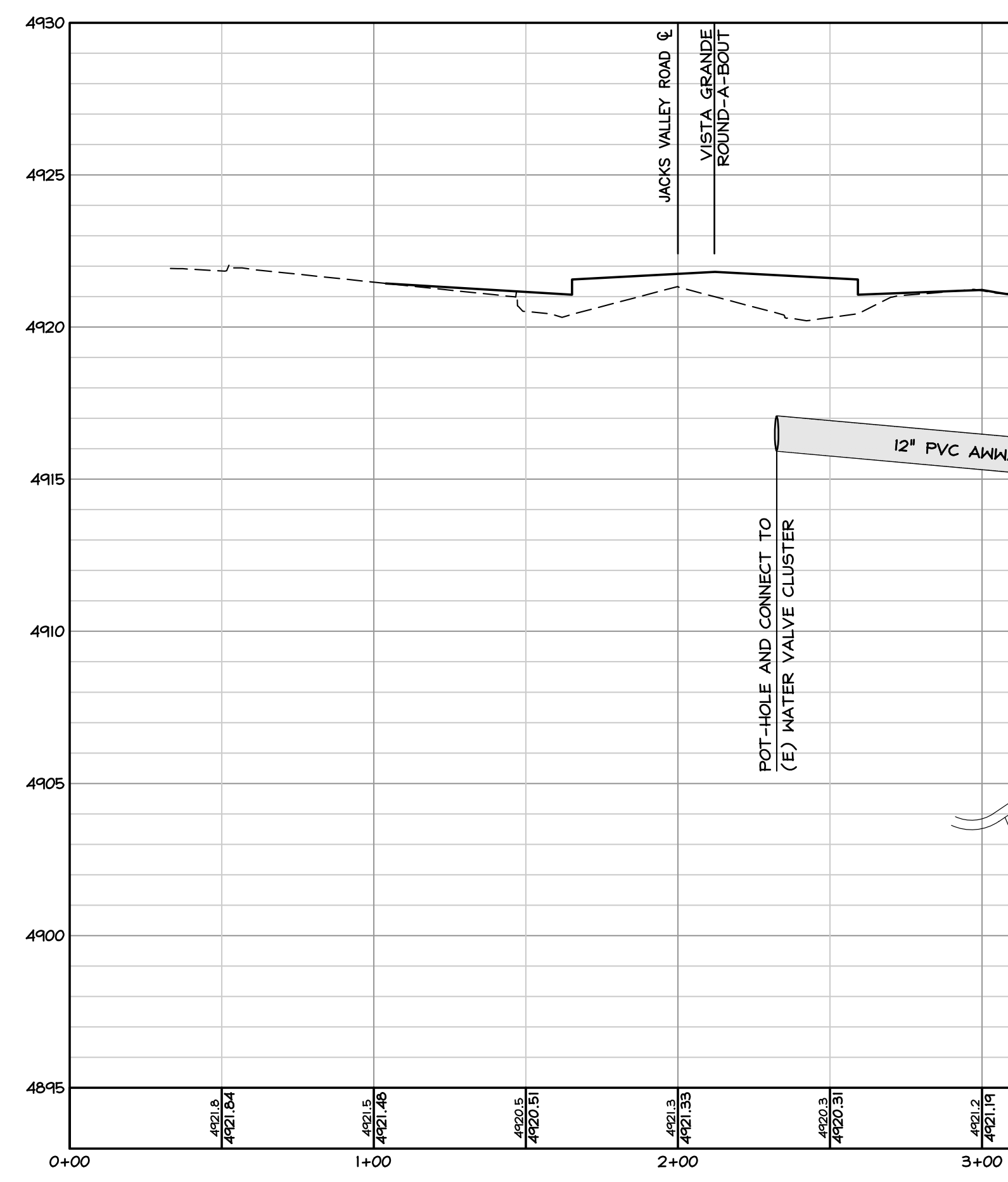
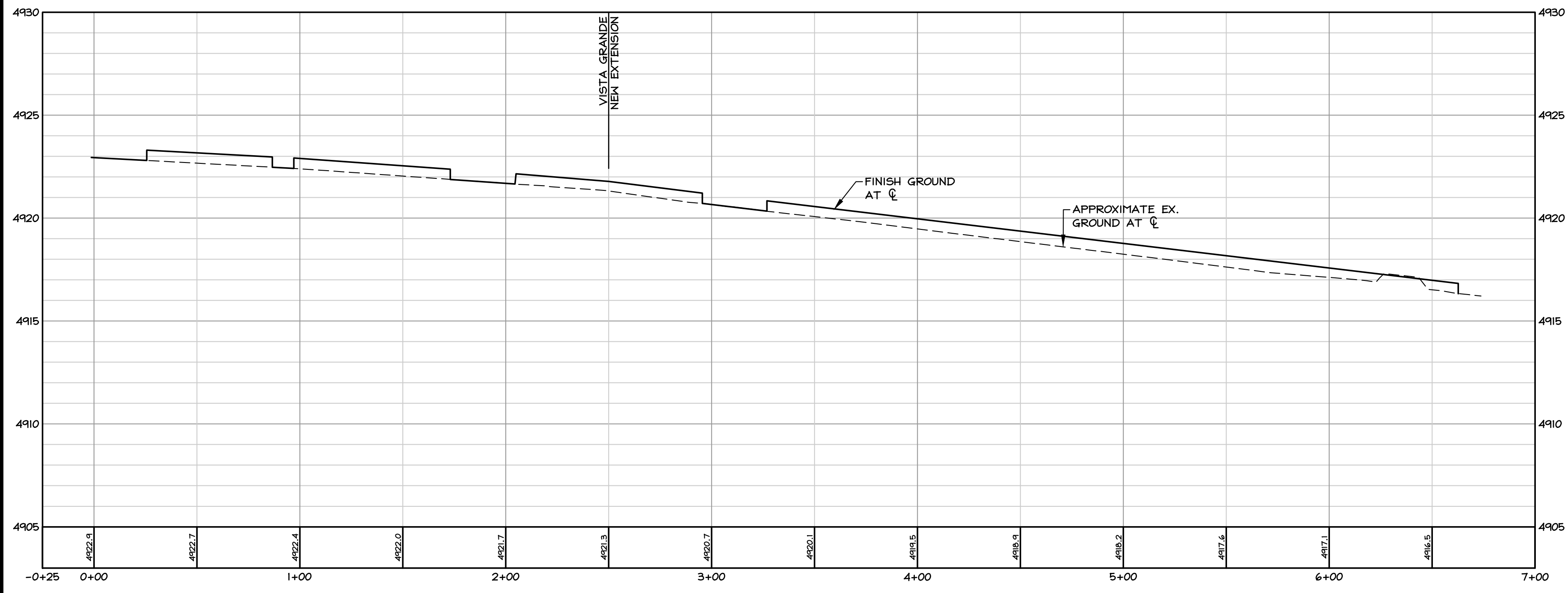
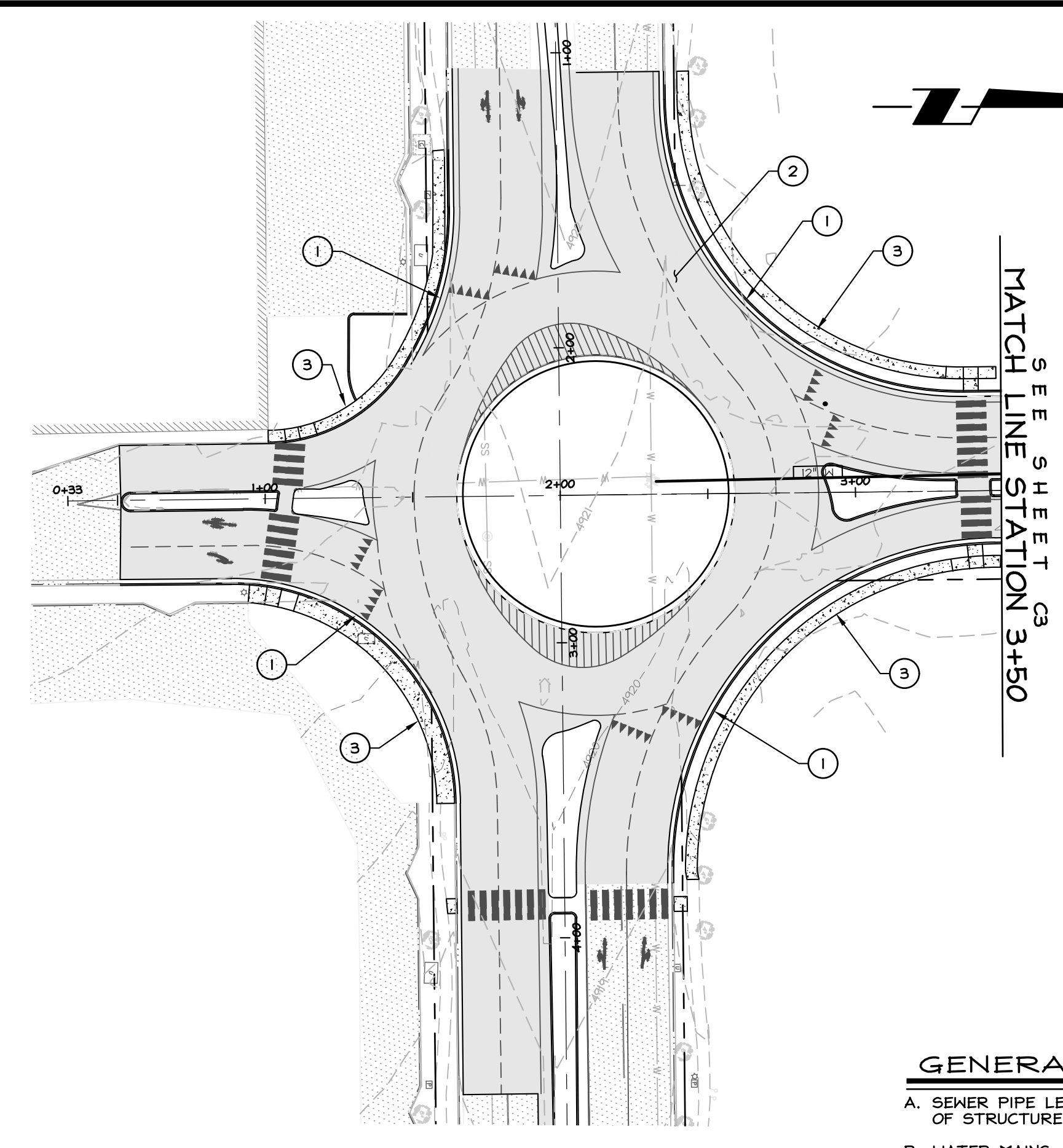
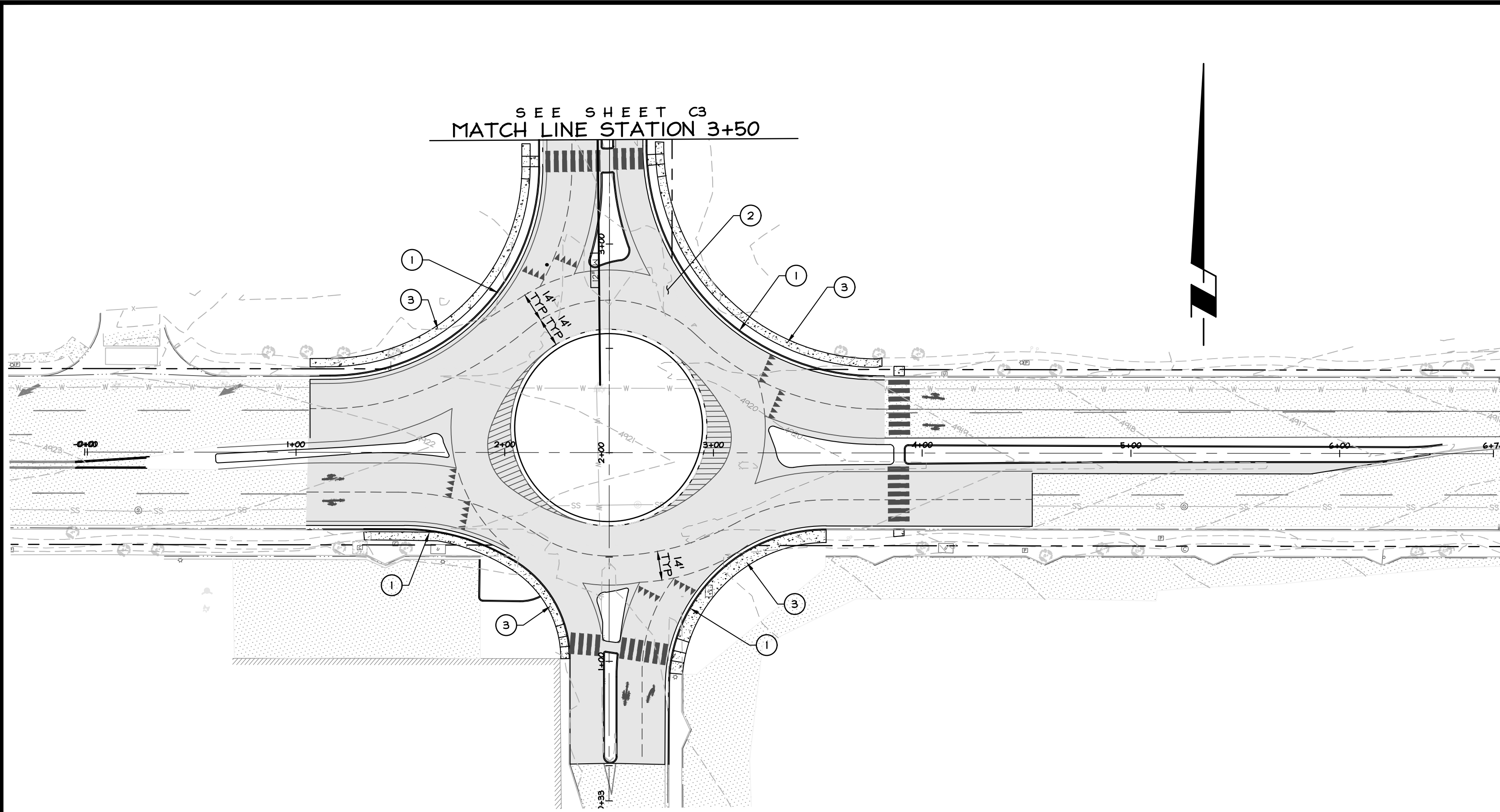
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ENGINEER: DB/ROA  
SCALE: AS SHOWN  
DATE: 1.24.2024

JOB: 2096-005  
DRAWING: SEE PLOT STAMP  
SHEET: C3  
OF: 7 SHEETS

60% REVIEW SET - 1.24.2024

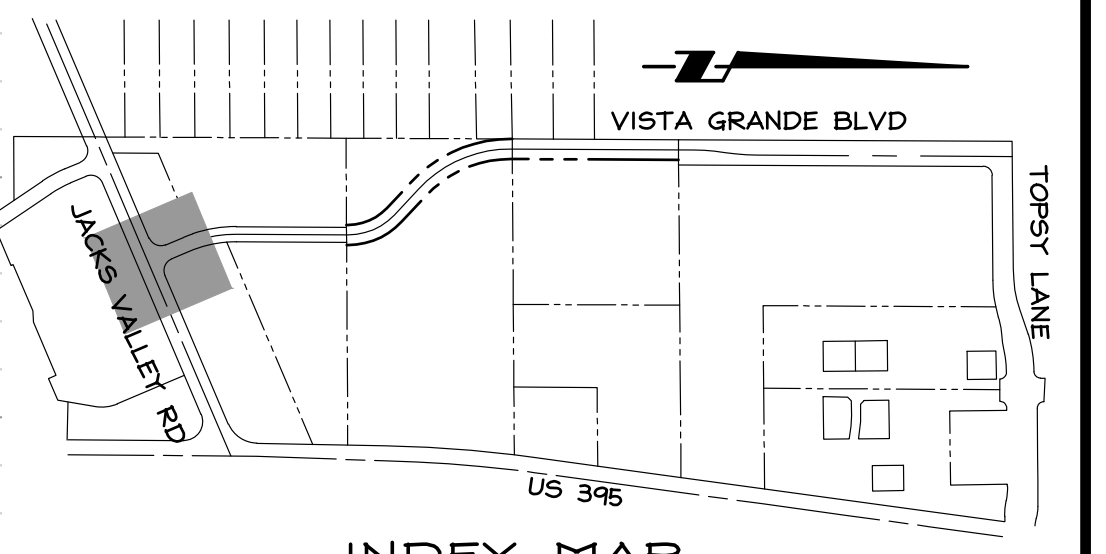
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- GENERAL NOTES**
- A. SEWER PIPE LENGTHS ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
  - B. WATER MAINS AND TRENCH SHALL BE CONSTRUCTED PER DC B01 AND DC B21 ON C7.
  - C. SEWER MAINS AND TRENCH SHALL BE CONSTRUCTED PER DC C01 ON C8.
  - D. THRUST BLOCKS SHALL BE INSTALLED ON THE WATER MAIN AT ALL TEES, HORIZONTAL AND VERTICAL BENDS PER DETAIL DC B12 ON C7.
  - E. ALL SEWER MANHOLES SHALL BE PER DC C03 ON C8.
  - F. EXISTING UTILITIES ARE SHOWN AS APPROXIMATE AND CONTRACTOR SHALL POT-HOLE AND VERIFY ACTUAL LOCATION PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES AND CONFLICTS TO ENGINEER FOR RESOLUTION.
  - G. FIRE HYDRANT ASSEMBLY PER DETAIL DC B14 ON C7. PAINT CURB RED TO 3 FT. EACH SIDE FROM CENTER OF HYDRANT.
  - H. GATE VALVE PER DETAIL DC B10 WITH VALVE BOX PER DETAIL DC B11 ON C7.

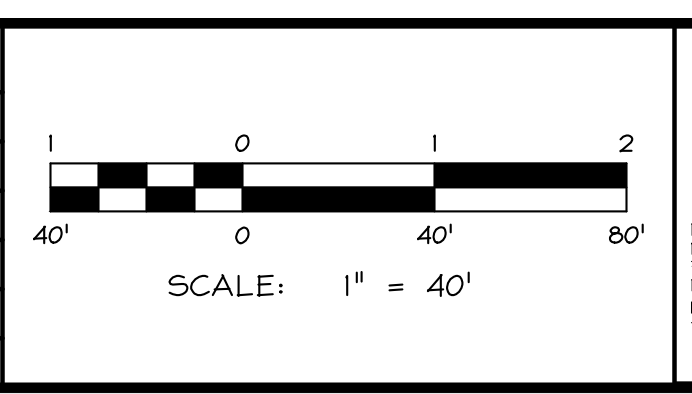
- CONSTRUCTION NOTES**
- SYMBOL USED FOR GENERAL CONSTRUCTION NOTES
  - 1. TYPE 1 P.C.C. CURB AND GUTTER PER DETAIL DC A05-A ON C6.
  - 2. FLEXIBLE PAVEMENT SECTION PER DETAIL ON C6.
  - 3. TYPICAL SIDEWALK PER DETAIL DC A06 ON C6.



HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'

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**R/O Anderson**  
KRW.RANDERSON.COM

MINDEN: 1403 Eisenhower Ave, P.O. Box 2229, Minden, NV 89423, P: 775.782.2322, F: 775.782.7084

RENO: 1060 Durbin, Diamond Pkwy, Unit 105, Reno, NV 89423, P: 775.782.2322, F: 775.782.7084

**VISTA GRANDE BOULEVARD (NORTH EXTENSION)**  
DOUGLAS COUNTY PUBLIC WORKS

**PLAN & PROFILE**  
JACKS VALLEY ROAD  
ROUND-A-BOUT

**PRELIMINARY**  
For Review Only  
No. 7767

|                  |                         |
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| DRAWN: KLM       | JOB: 2096-005           |
| ENGINEER: DB/ROA | DRAWING: SEE PLOT STAMP |
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| DATE: 1.24.2024  | OF: 7 SHEETS            |



60% REVIEW SET - 1.24.2024

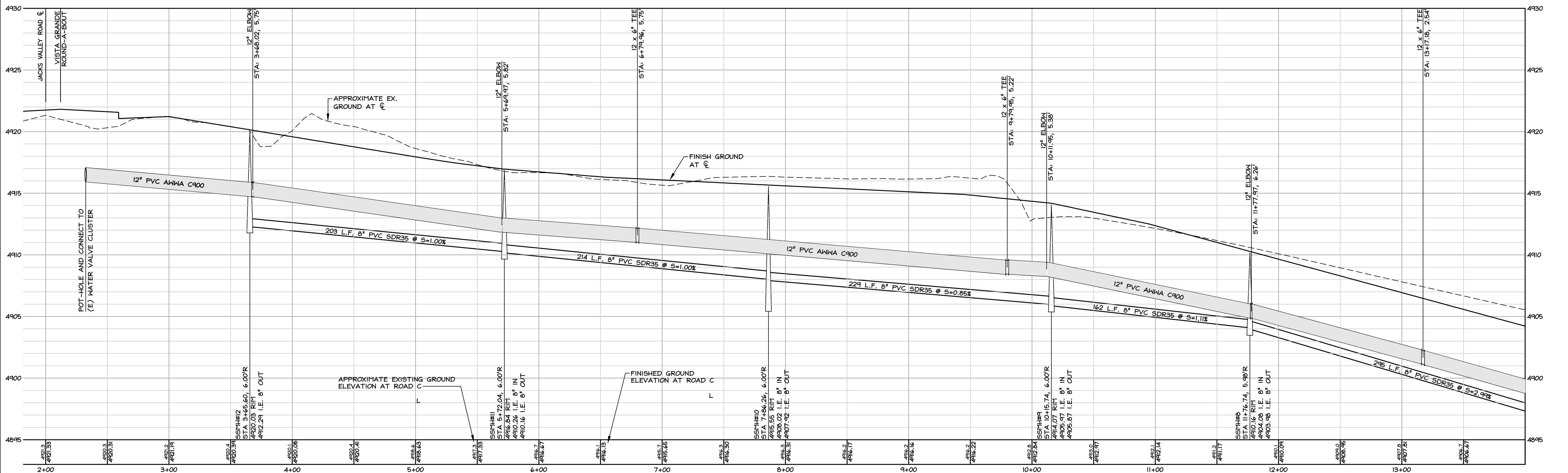
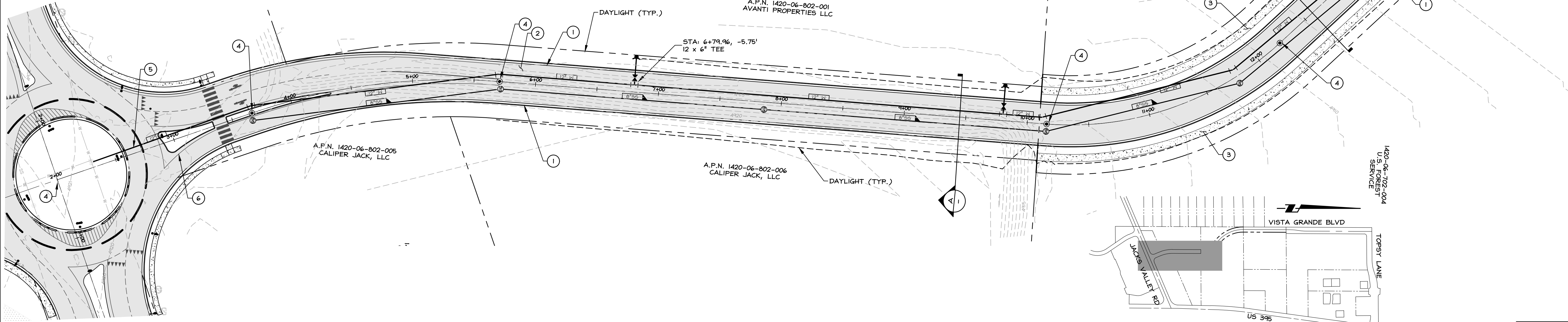
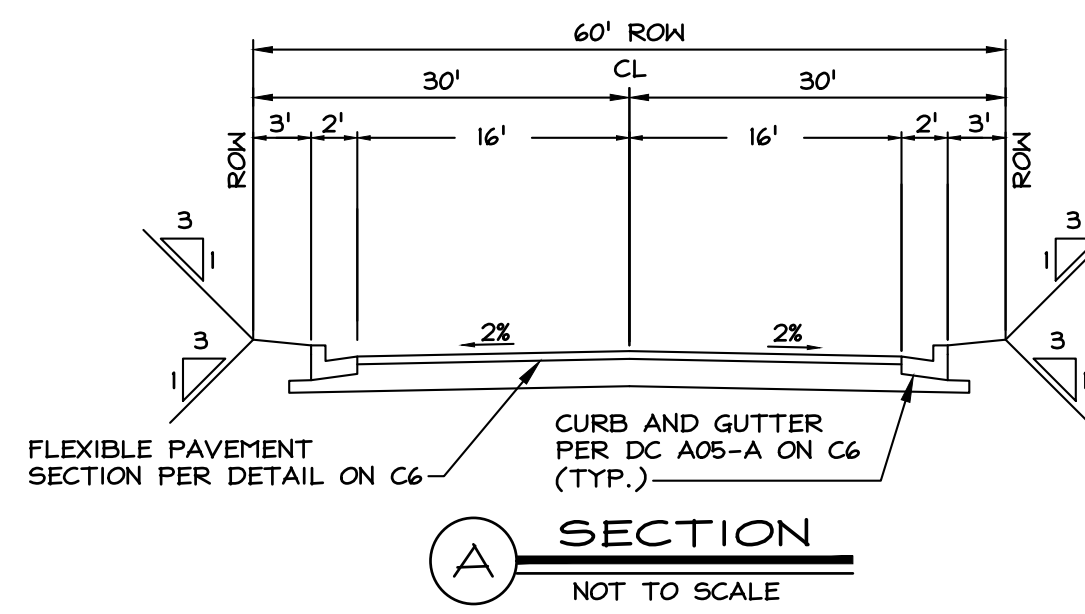


**GENERAL NOTES**

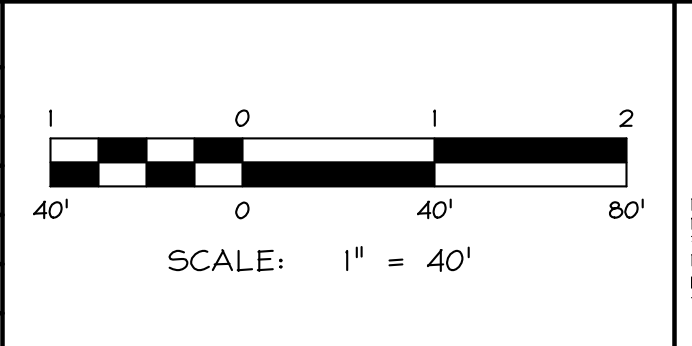
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- H. GATE VALVE PER DETAIL DC B10 WITH VALVE BOX PER DETAIL DC B11 ON C7.

**CONSTRUCTION NOTES**

- SYMBOL USED FOR GENERAL CONSTRUCTION NOTES
- 1. TYPE I P.C.C. CURB AND GUTTER PER DETAIL DC A05-A ON C6.
- 2. FLEXIBLE PAVEMENT SECTION PER DETAIL ON C6.
- 3. TYPICAL SIDEWALK PER DETAIL DC A06 ON C6.
- 4. MONUMENT PER DETAIL DC A12 ON C6.
- 5. STREET CUT REPAIR PER DETAIL DC A14 ON C6.
- 6. SAWCUT, TRIM, TACK, AND MATCH EXISTING PAVEMENT.



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**R/O Anderson**  
WWW.RANDERSON.COM  
 MINDEN 1400 Eisenhower Ave P.O. Box 2229 Minden, NV 89423 P 775.782.2322 F 775.782.7084  
 RENO 1060 Durkin Diamond Pkwy, Unit 108 Reno, NV 89423 P 775.782.2322 F 775.782.7084

**VISTA GRANDE BOULEVARD (NORTH EXTENSION)**  
**DOUGLAS COUNTY PUBLIC WORKS**

**PLAN AND PROFILE**  
**STA. 3+00 TO 14+00**

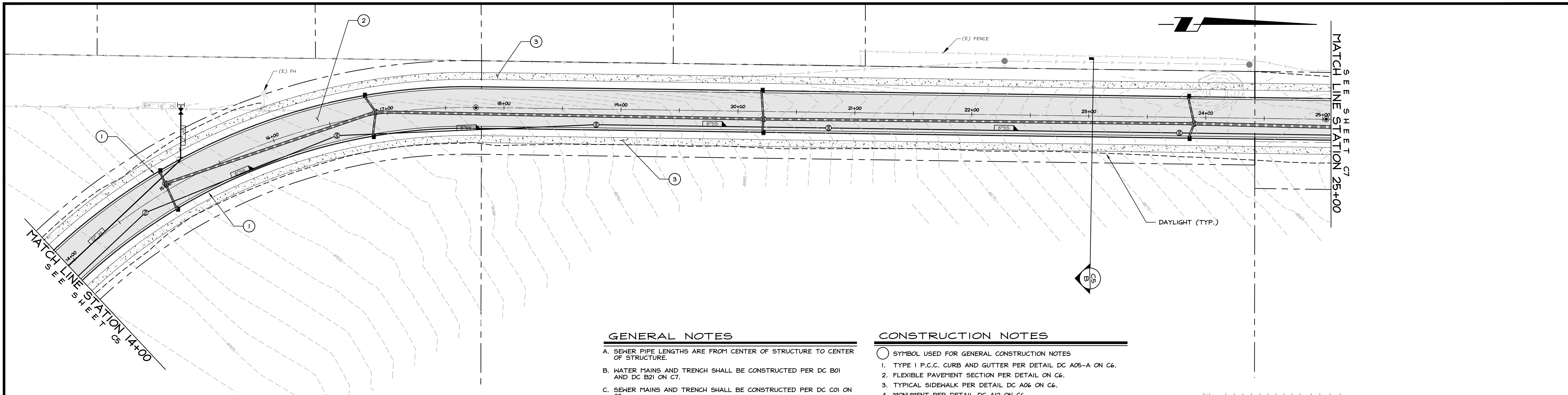
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| DATE: 1.24.2024  | OF: 7 SHEETS            |



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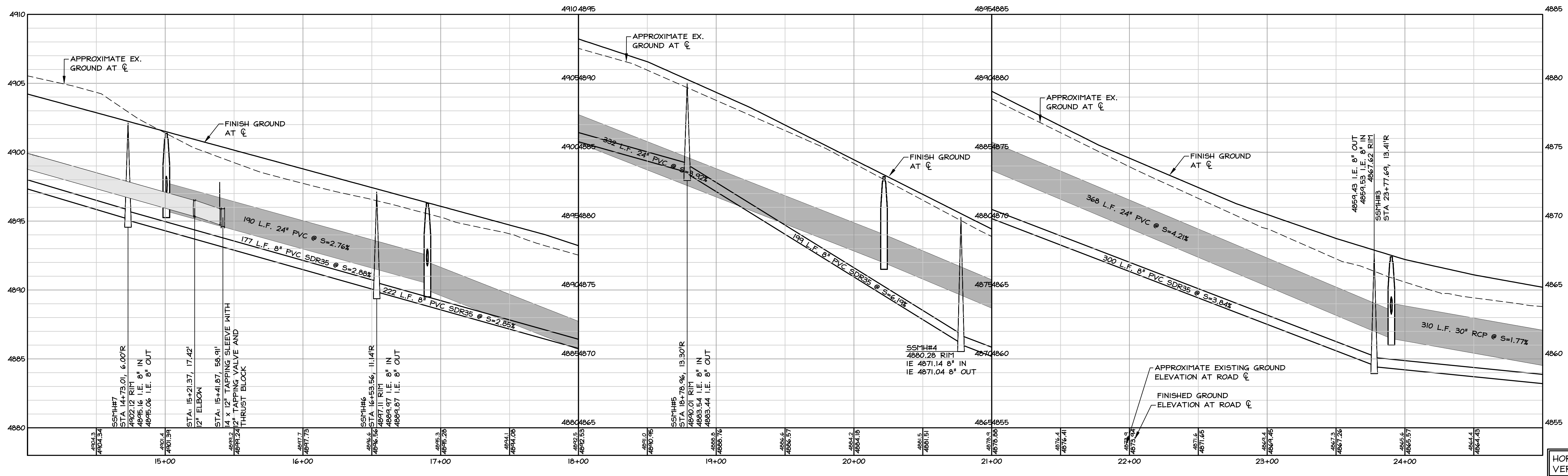
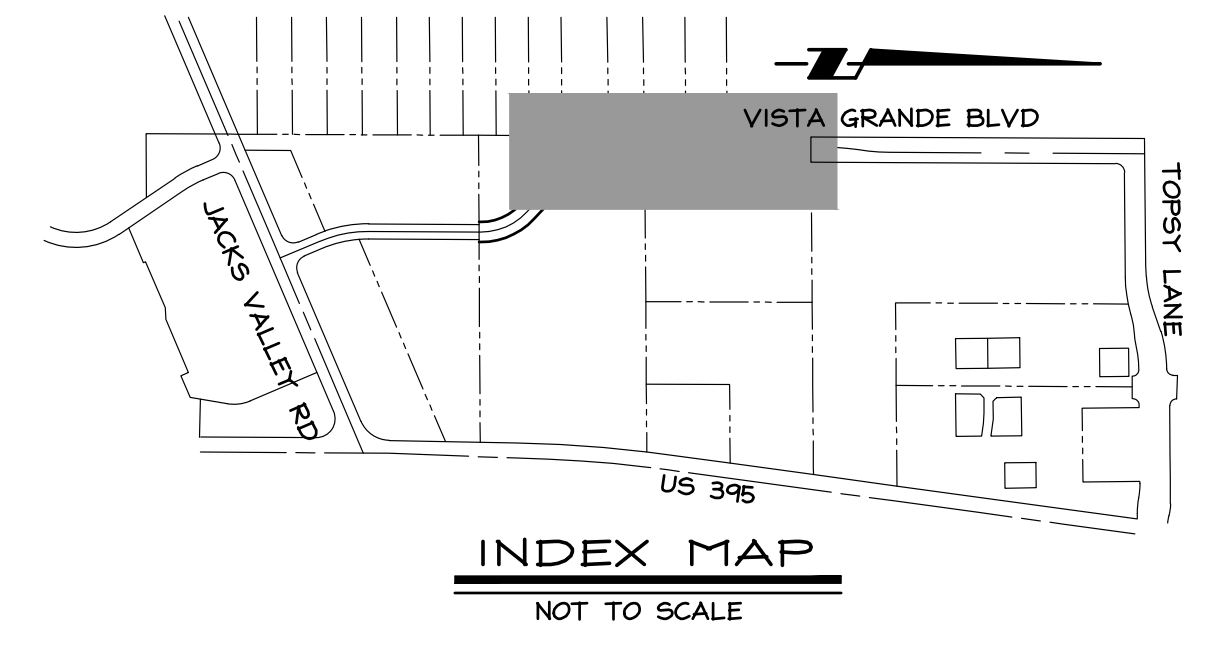


**GENERAL NOTES**

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- H. GATE VALVE PER DETAIL DC B10 WITH VALVE BOX PER DETAIL DC B11 ON C7.

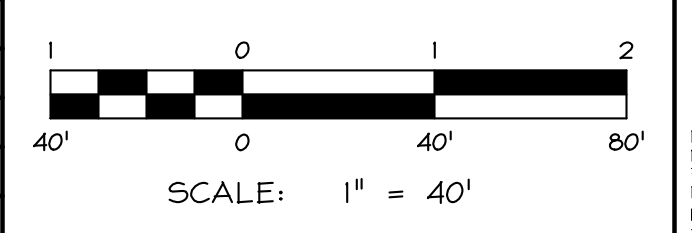
**CONSTRUCTION NOTES**

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- 6. SAWCUT, TRIM, TACK, AND MATCH EXISTING PAVEMENT.



HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'

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**R/O Anderson**  
KIM R. ANDERSON, CEM  
MINDEN 1403 Eisenhower Ave P.O. Box 2229 Minden, NV 89423 P 775.782.2322 F 775.782.7084  
RENO 1060 DuRoi Diamond Pkwy, Unit 105 Reno, NV 89420 P 775.782.2322 F 775.782.7084

**VISTA GRANDE BOULEVARD (NORTH EXTENSION)**  
DOUGLAS COUNTY PUBLIC WORKS

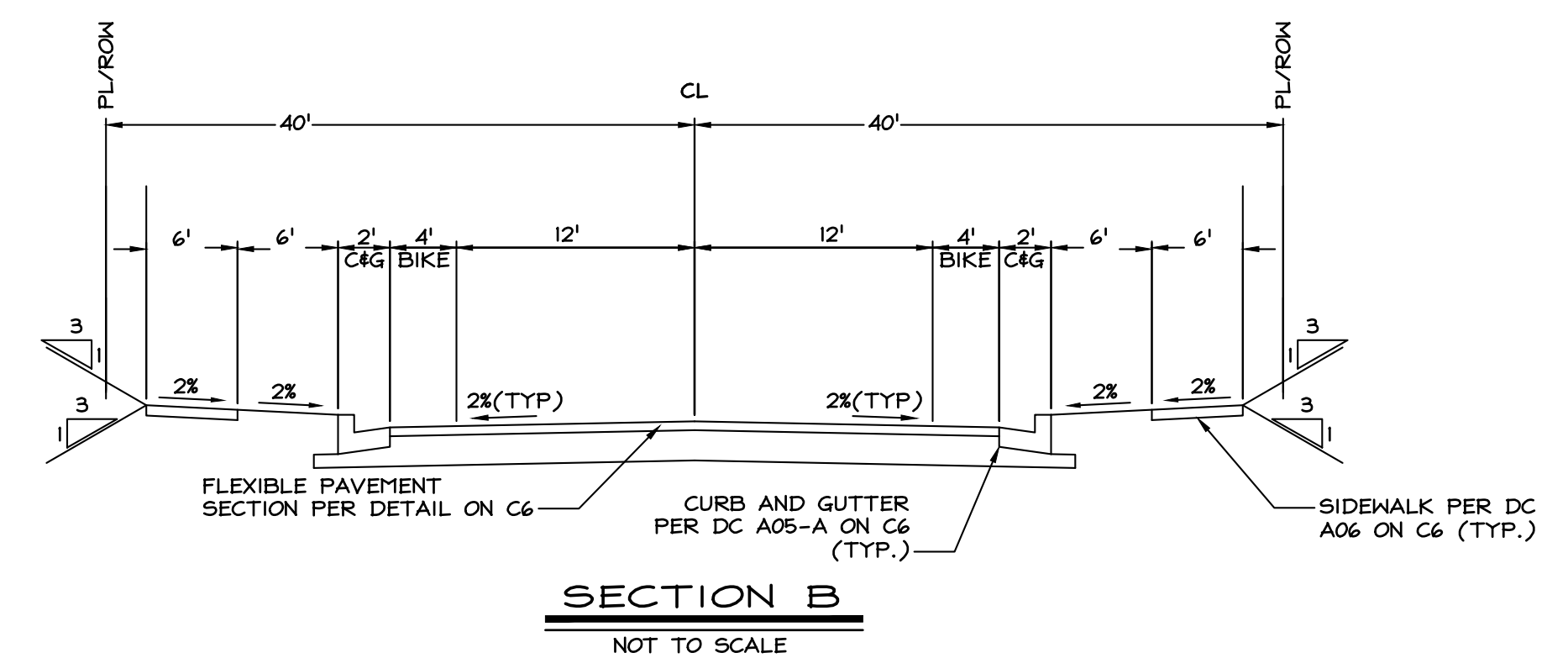
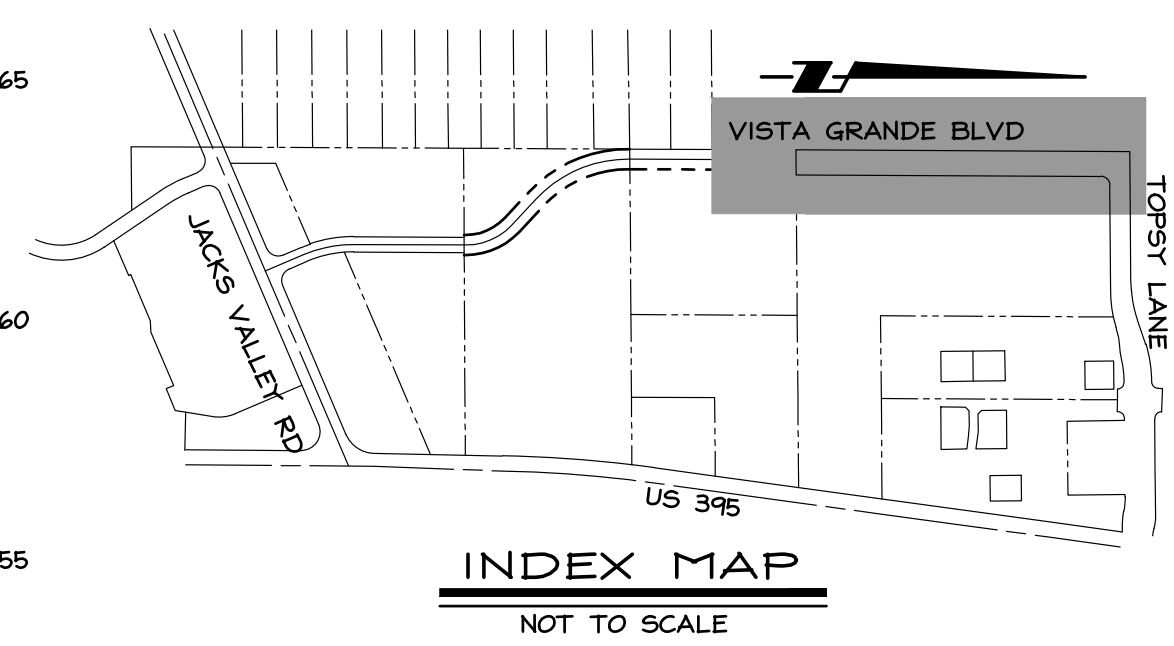
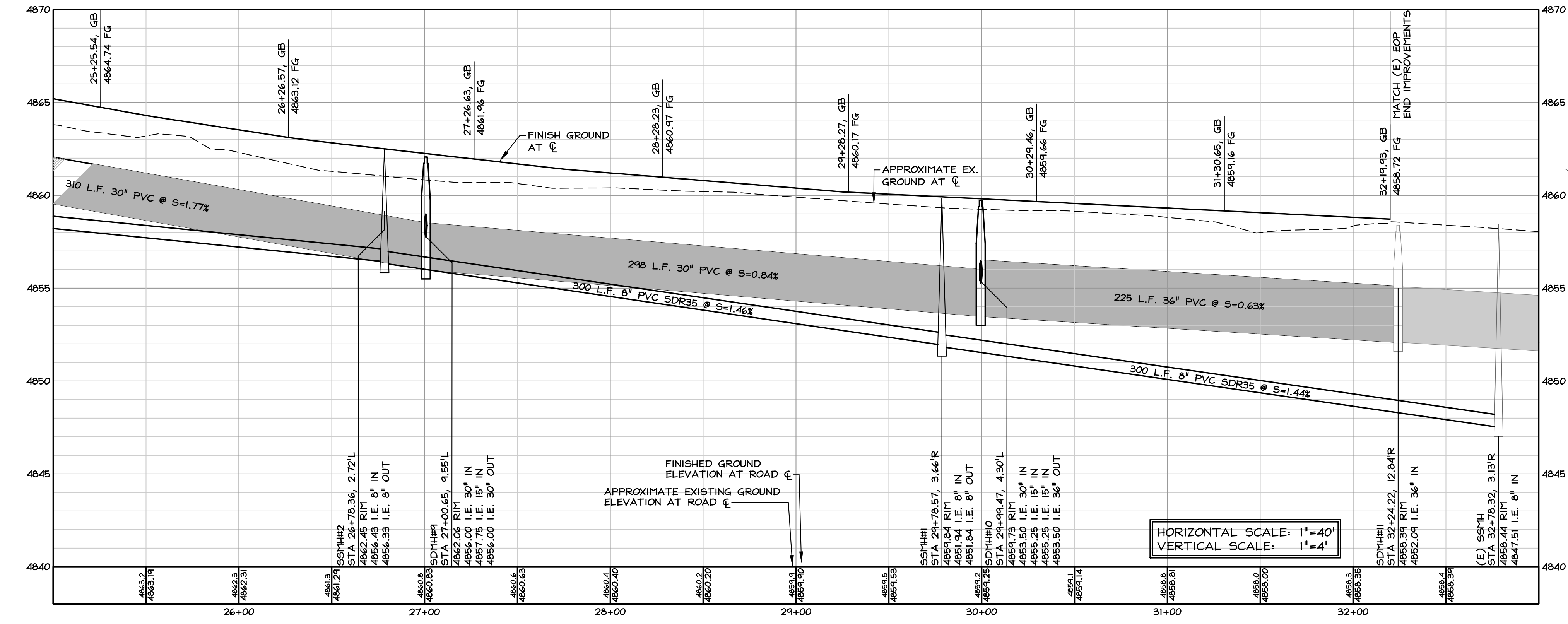
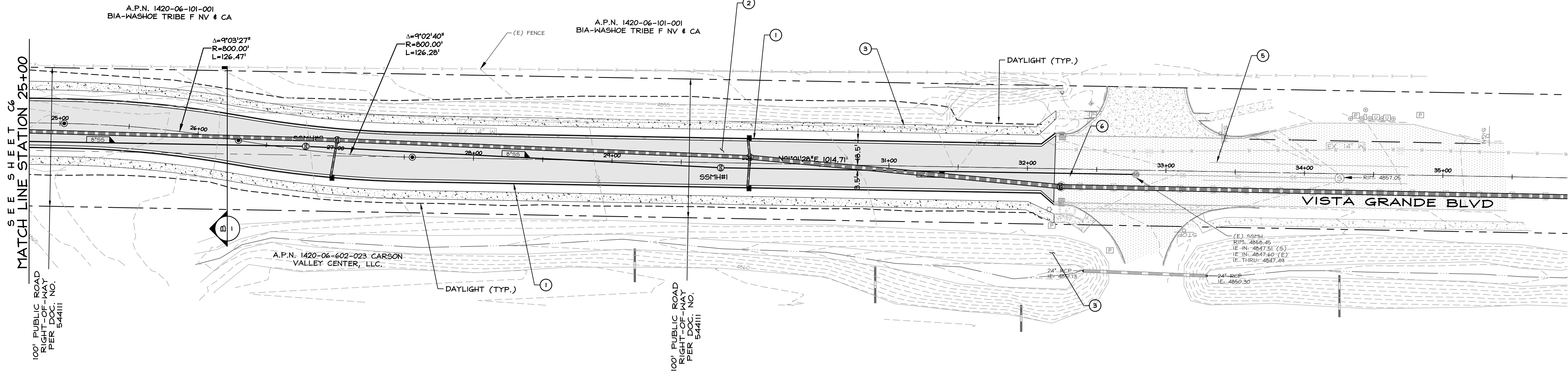
PLAN AND PROFILE  
STA. 14+00 TO 25+00



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| SCALE: AS SHOWN  | SHEET: C6               |
| DATE: 1.24.2024  | OF: 7 SHEETS            |

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**CONSTRUCTION NOTES**

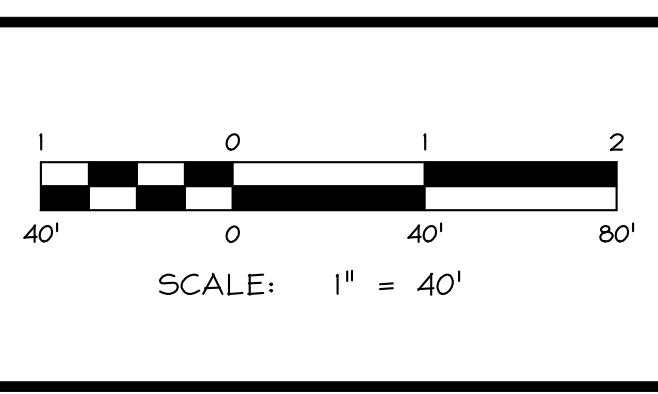
- SYMBOL USED FOR GENERAL CONSTRUCTION NOTES
- 1. TYPE 1 P.C.C. CURB AND GUTTER PER DETAIL DC A05-A ON C6.
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- 3. TYPICAL SIDEWALK PER DETAIL DC A06 ON C6.
- 4. MONUMENT PER DETAIL DC A12 ON C6.
- 5. STREET CUT REPAIR PER DETAIL DC A14 ON C6.
- 6. SAWCUT, TRIM, TACK, AND MATCH EXISTING PAVEMENT.

**GENERAL NOTES**

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- H. GATE VALVE PER DETAIL DC B10 WITH VALVE BOX PER DETAIL DC B11 ON C7.

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**R|O Anderson**  
WWW.ROANDERSON.COM

MINDEN 1603 Emeraldale Ave P.O. Box 2224 Minden, NV 89423 P: 775.782.2322 F: 775.782.7084

RENO 9560 Double Diamond Pkwy, Unit 1B Reno, NV 89521 P: 775.782.2322 F: 775.782.7084

**VISTA GRANDE BOULEVARD (NORTH EXTENSION)**  
**DOUGLAS COUNTY PUBLIC WORKS**

**PLAN AND PROFILE**  
**STA. 27+00 TO 32+00**

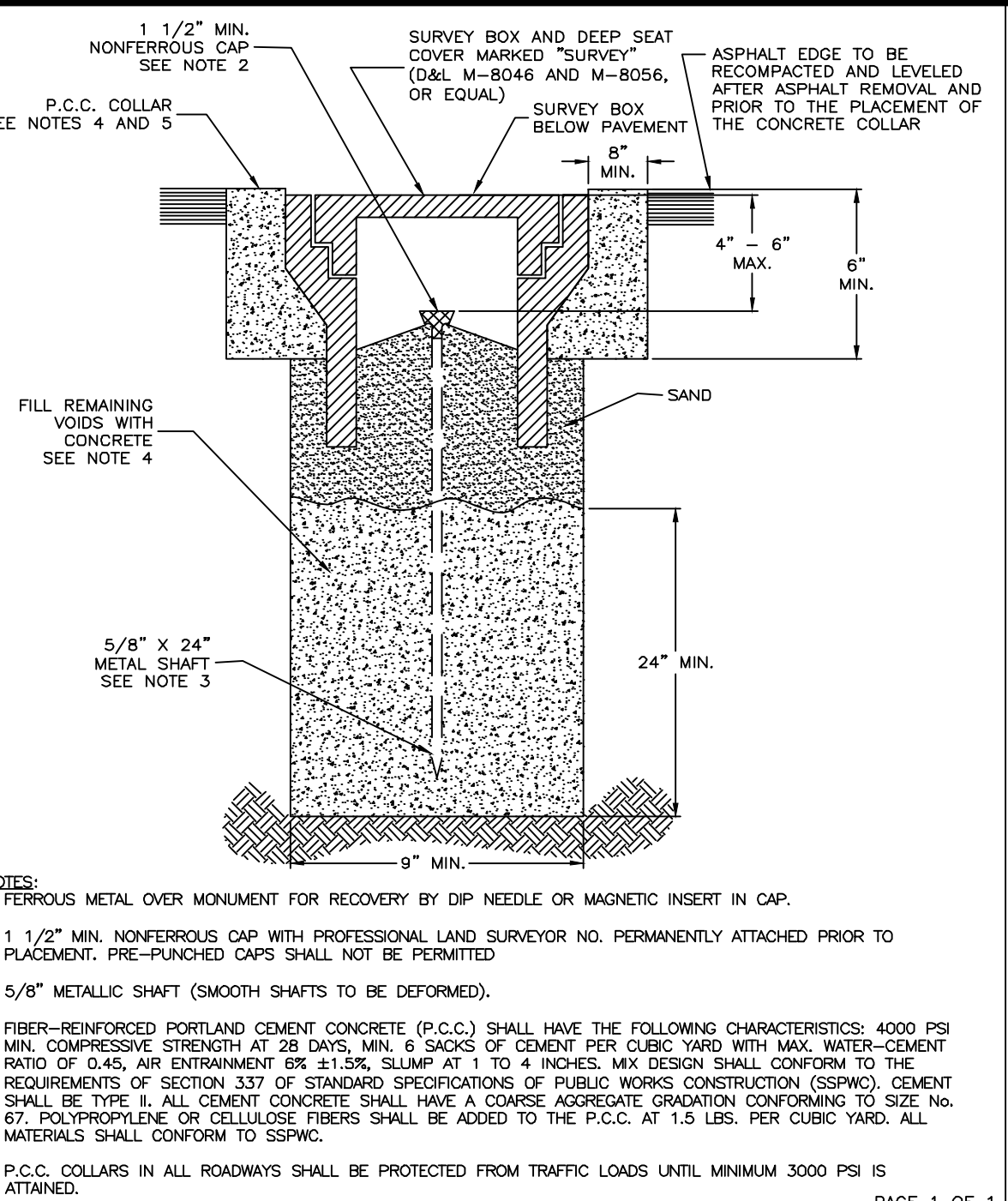
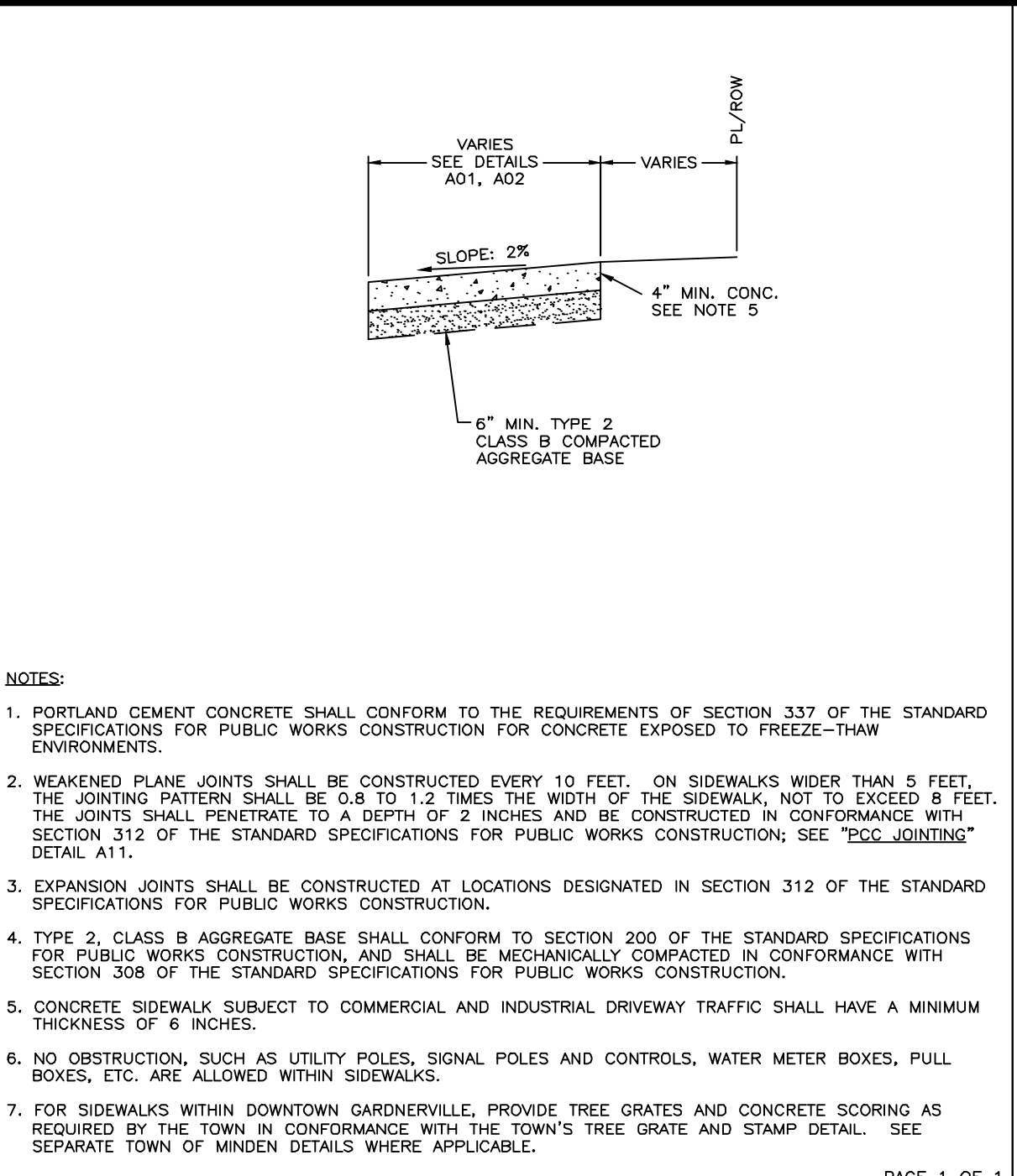
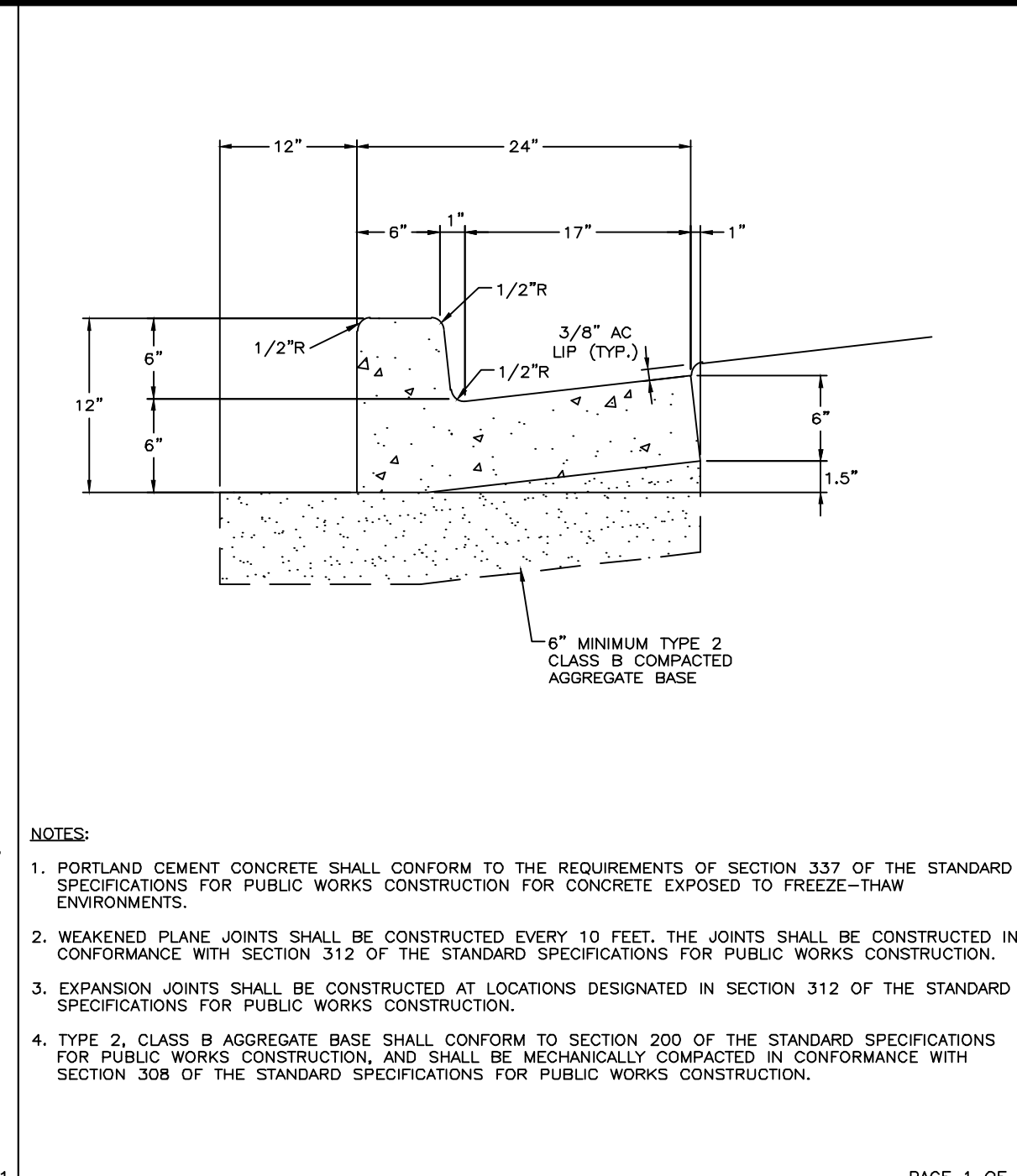
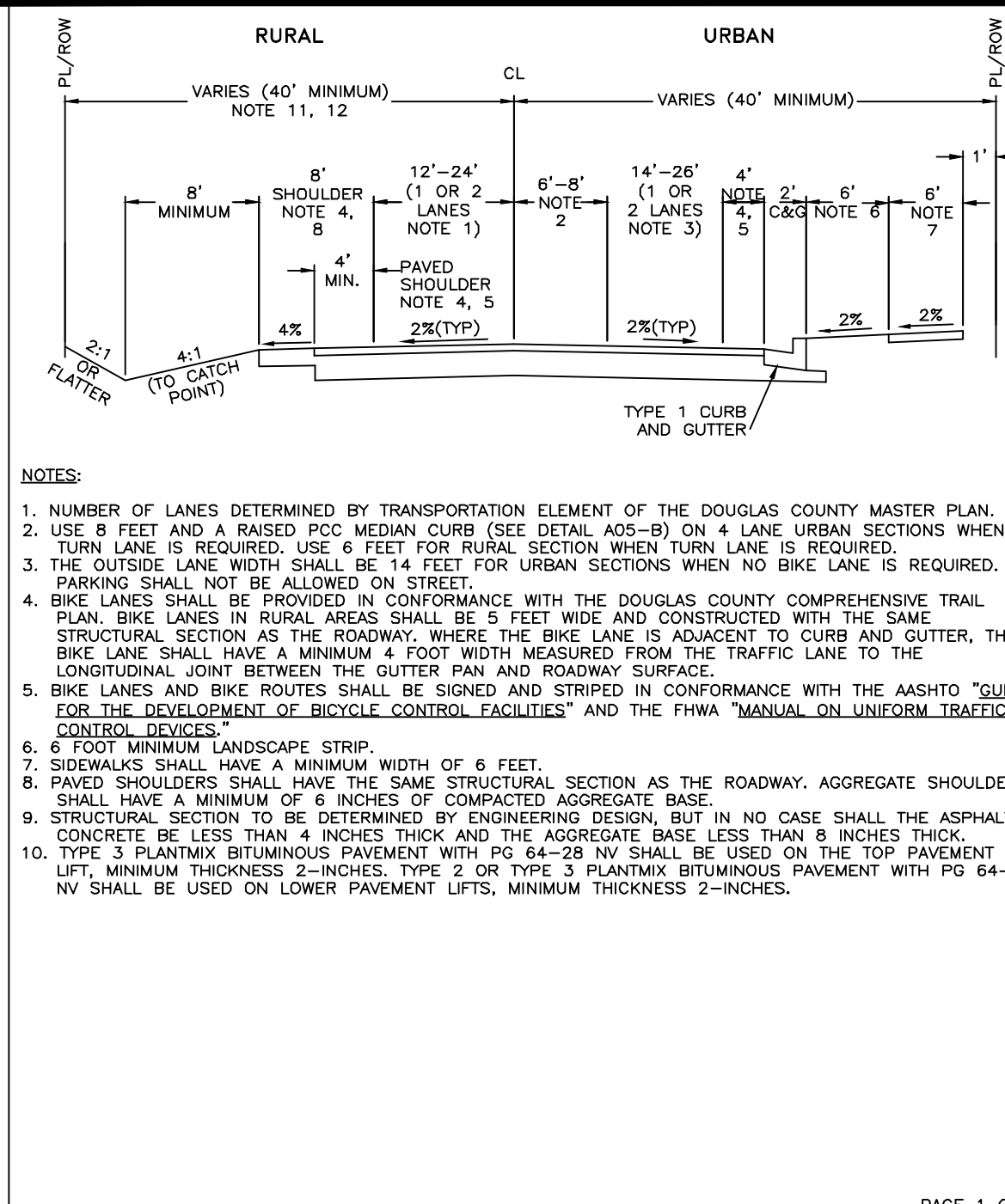
**PRELIMINARY**  
**FOR REVIEW ONLY**

DATE: 1.24.2024 OF: 7 SHEETS

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 ENGINEER: DB/ROA DRAWING: SEE PLOT STAMP  
 SCALE: AS SHOWN SHEET: C7

**60% REVIEW SET - 1.24.2024**



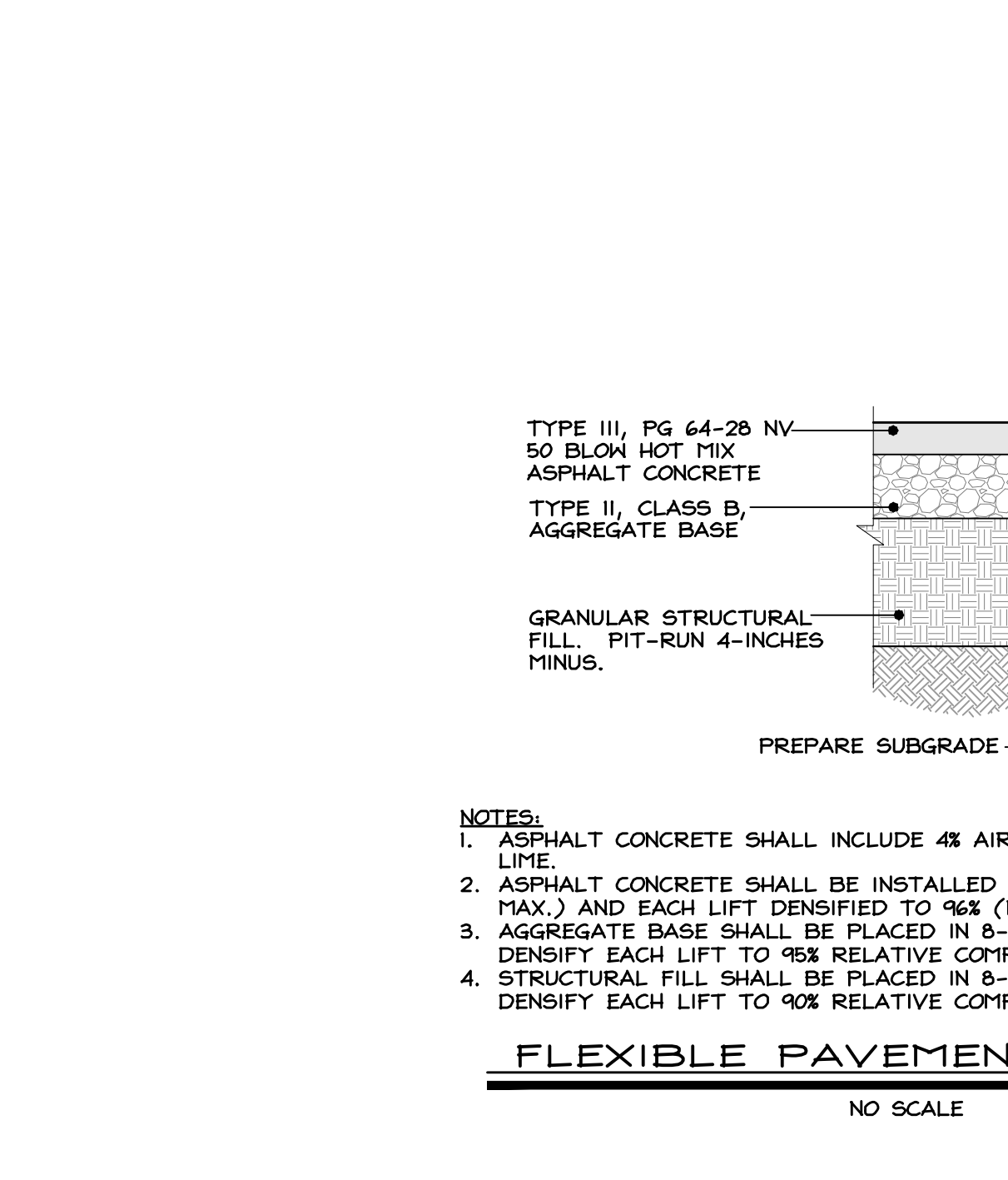
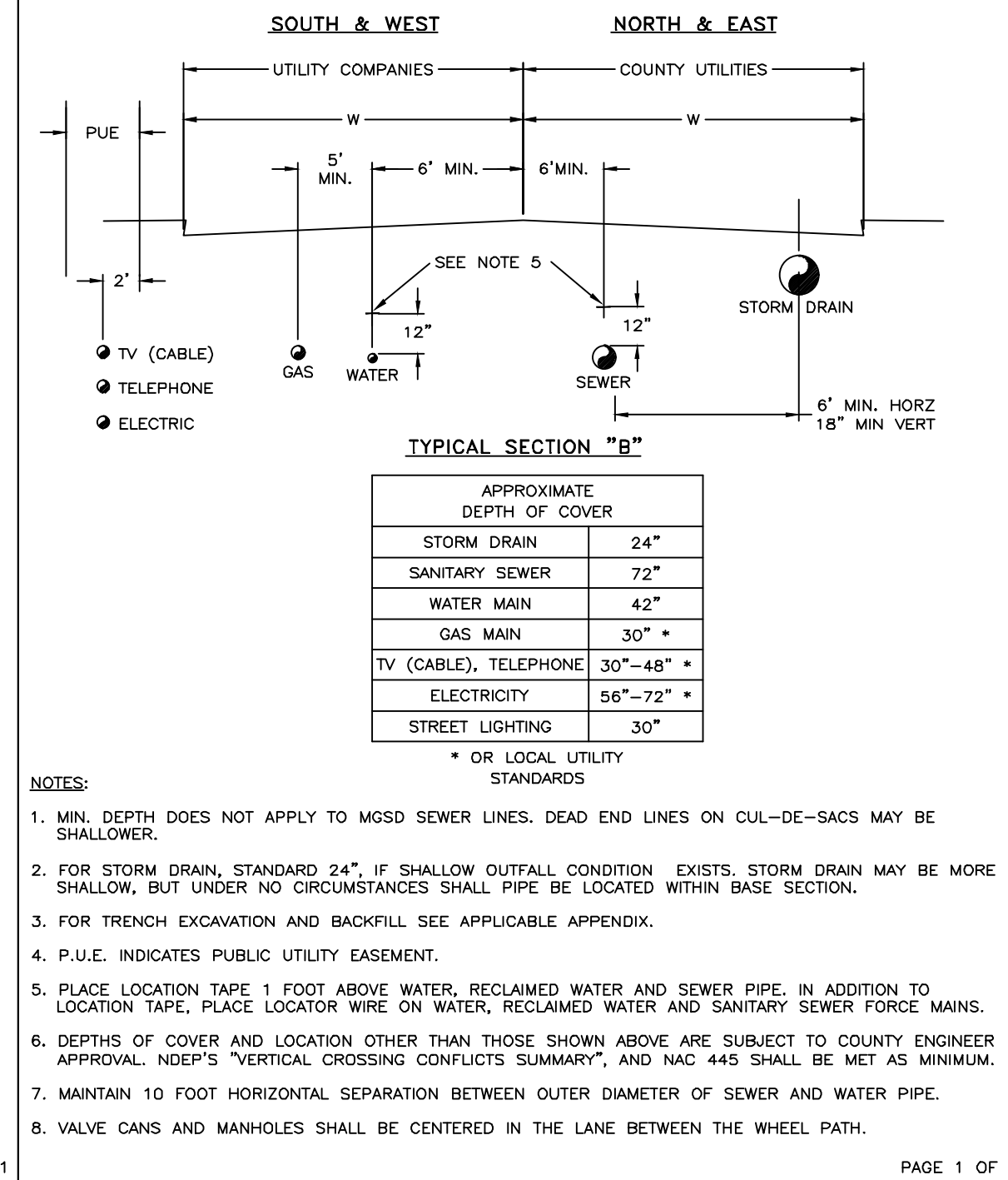
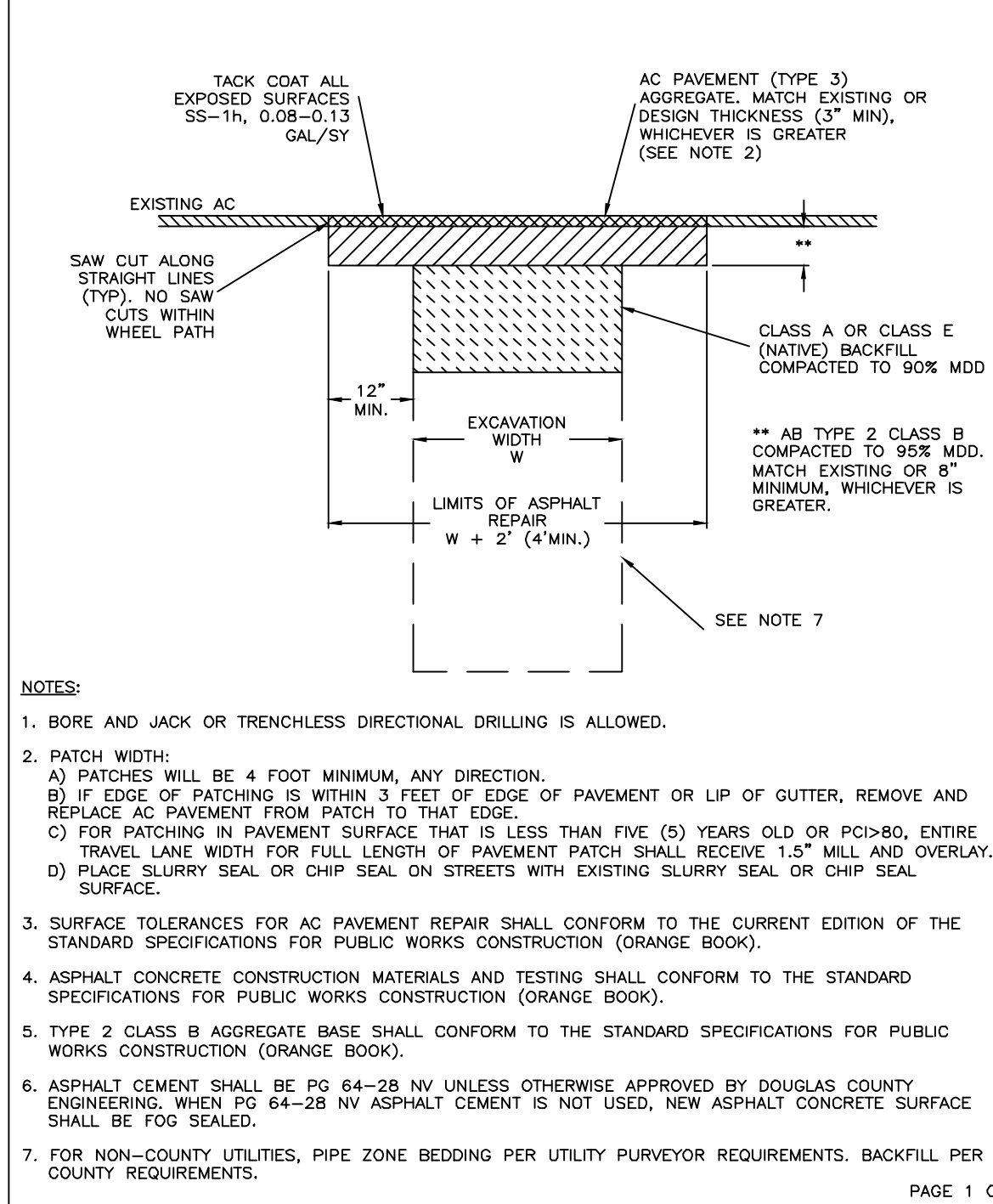


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| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|     |          |      | ARTERIAL/COLLECTOR TYPICAL ROAD SECTION       | DATE: JULY 2017         |
|     |          |      |   | DWG: A01                |

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| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|     |          |      | TYPE 1 PCC CURB & GUTTER                      | DATE: JULY 2017         |
|     |          |      |   | DWG: A05-A              |

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| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|     |          |      | TYPICAL SIDEWALK                              | DATE: JULY 2017         |
|     |          |      |   | DWG: A06                |

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| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|     |          |      | MONUMENTS                                     | DATE: JULY 2017         |
|     |          |      |   | DWG: A12                |



|     |          |      |   |                         |
|-----|----------|------|---|-------------------------|
| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|     |          |      | STREET CUT REPAIR                             | DATE: JULY 2017         |
|     |          |      |   | DWG: A14                |

|     |          |      |   |                         |
|-----|----------|------|---|-------------------------|
| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|     |          |      | TYPICAL UTILITY MAIN LOCATIONS                | DATE: JULY 2017         |
|     |          |      |   | DWG: A15                |

| NO. | DATE | REVISION BLOCK | BY |
|-----|------|----------------|----|
|     |      |                |    |
|     |      |                |    |
|     |      |                |    |

**R/O Anderson**  
 WWW.ROANDERSON.COM

MINDEN 603 Emeraldale Ave P.O. Box 2291 Minden, NV 89423 P: 775.782.2322 F: 775.782.7084

RENO 140 W. Halfpenny Lane Suite 507 Reno, NV 89501 P: 775.782.2322 F: 775.782.7084

**VISTA GRANDE BOULEVARD (NORTH EXTENSION)**  
**DOUGLAS COUNTY**

**DETAILS**

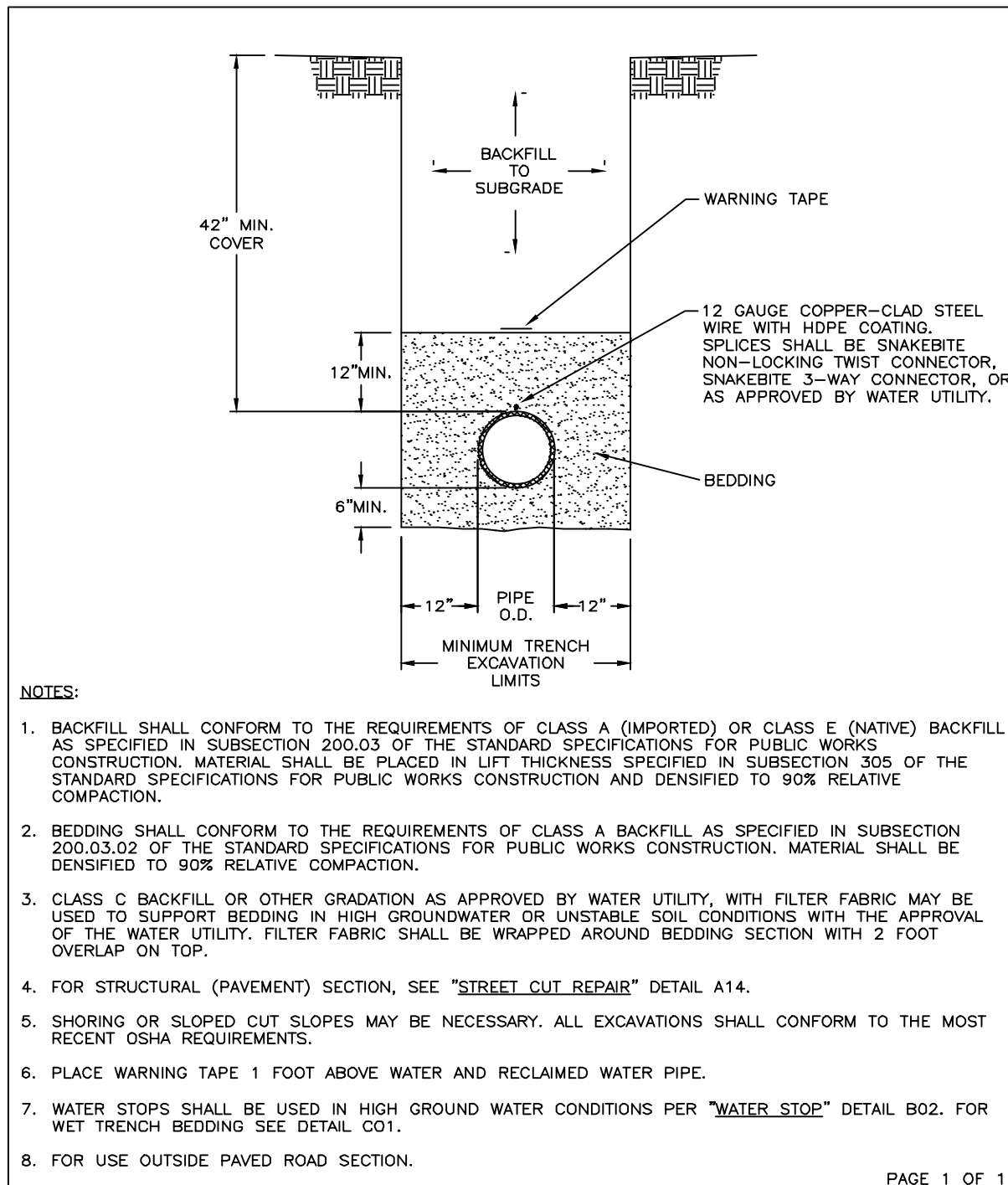
**PROFESSIONAL ENGINEER - STATE OF NEVADA**  
 ROBERT O. ANDERSON  
 Exp. 12-31-20  
 CIVIL No. 7761

DRAWN: MCR JOB: 0110-019  
 ENGINEER: ROA DRAWING: DETAILS  
 SCALE: NO SCALE SHEET: C6  
 DATE: 1-24-24 OF: 8 SHEETS



60% REVIEW SET - 1.24.2024



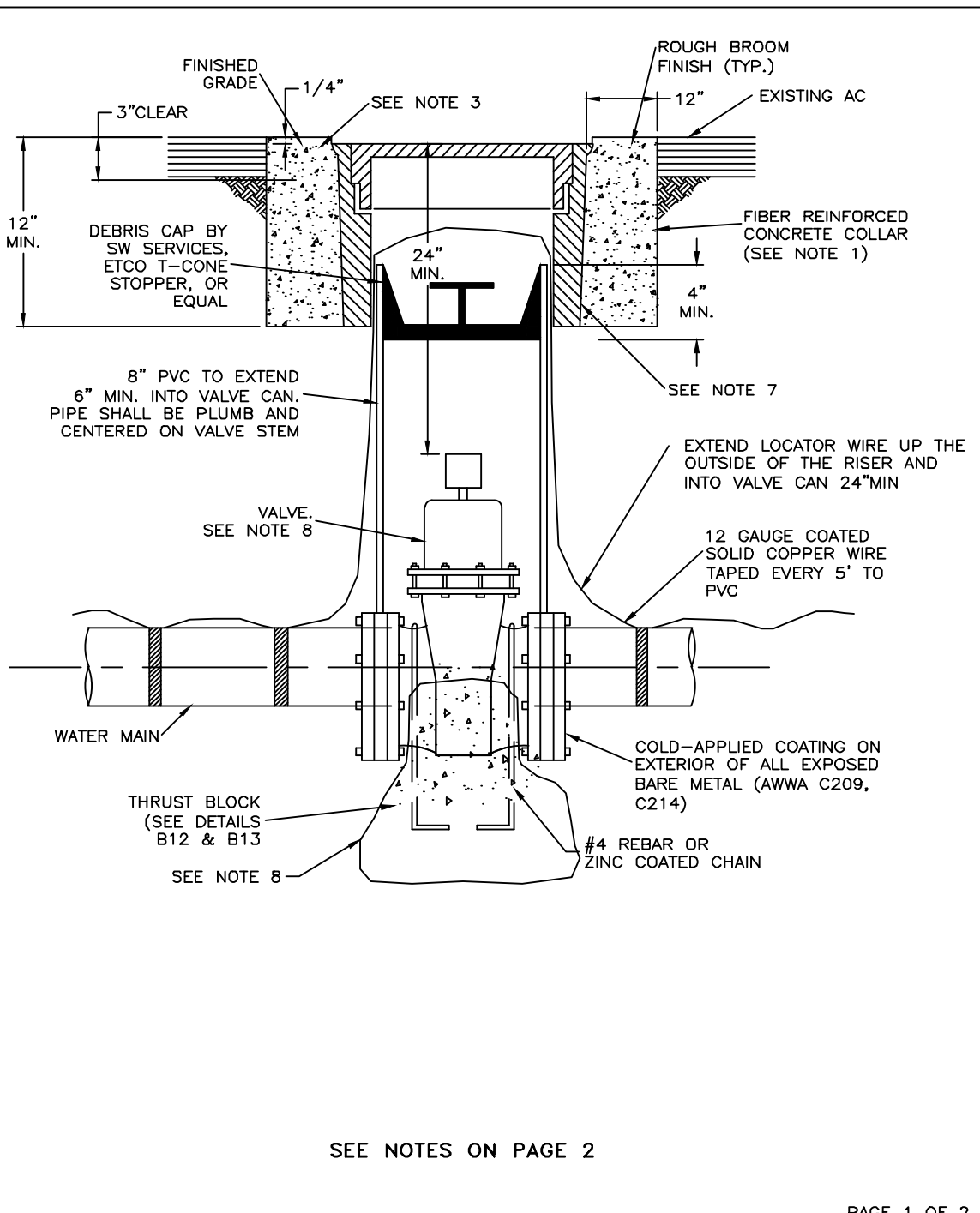


NOTES:

- BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF CLASS A (IMPORTED) OR CLASS E (NATIVE) BACKFILL AS SPECIFIED IN SUBSECTION 200.03 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. MATERIAL SHALL BE PLACED IN LIFT THICKNESS SPECIFIED IN SUBSECTION 305 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 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 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. MATERIAL SHALL BE DENSIFIED TO 90% RELATIVE COMPACTION.
- CLASS C BACKFILL OR OTHER GRADATION AS APPROVED BY WATER UTILITY, WITH FILTER FABRIC MAY BE USED TO SUPPORT BEDDING IN HIGH GROUNDWATER OR UNSTABLE SOIL CONDITIONS WITH THE APPROVAL OF THE WATER UTILITY. FILTER FABRIC SHALL BE WRAPPED AROUND BEDDING SECTION WITH 2 FOOT OVERLAP ON TOP.
- FOR STRUCTURAL (PAVEMENT) SECTION, SEE "STREET CUT REPAIR" DETAIL A14.
- SHORING OR SLOPED CUT SLOPES MAY BE NECESSARY. ALL EXCAVATIONS SHALL CONFORM TO THE MOST RECENT OSHA REQUIREMENTS.
- PLACE WARNING TAPE 1 FOOT ABOVE WATER AND RECLAIMED WATER PIPE.
- WATER STOPS SHALL BE USED IN HIGH GROUND WATER CONDITIONS PER "WATER STOP" DETAIL B02. FOR WET TRENCH BEDDING SEE DETAIL C01.
- FOR USE OUTSIDE PAVED ROAD SECTION.

PAGE 1 OF 1

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|-----|----------|------|---|-------------------------|
|     |          |      | TRENCH EXCAVATION & BACKFILL                  | DATE: JULY 2017         |
|     |          |      | DWG: B01                                      |                         |



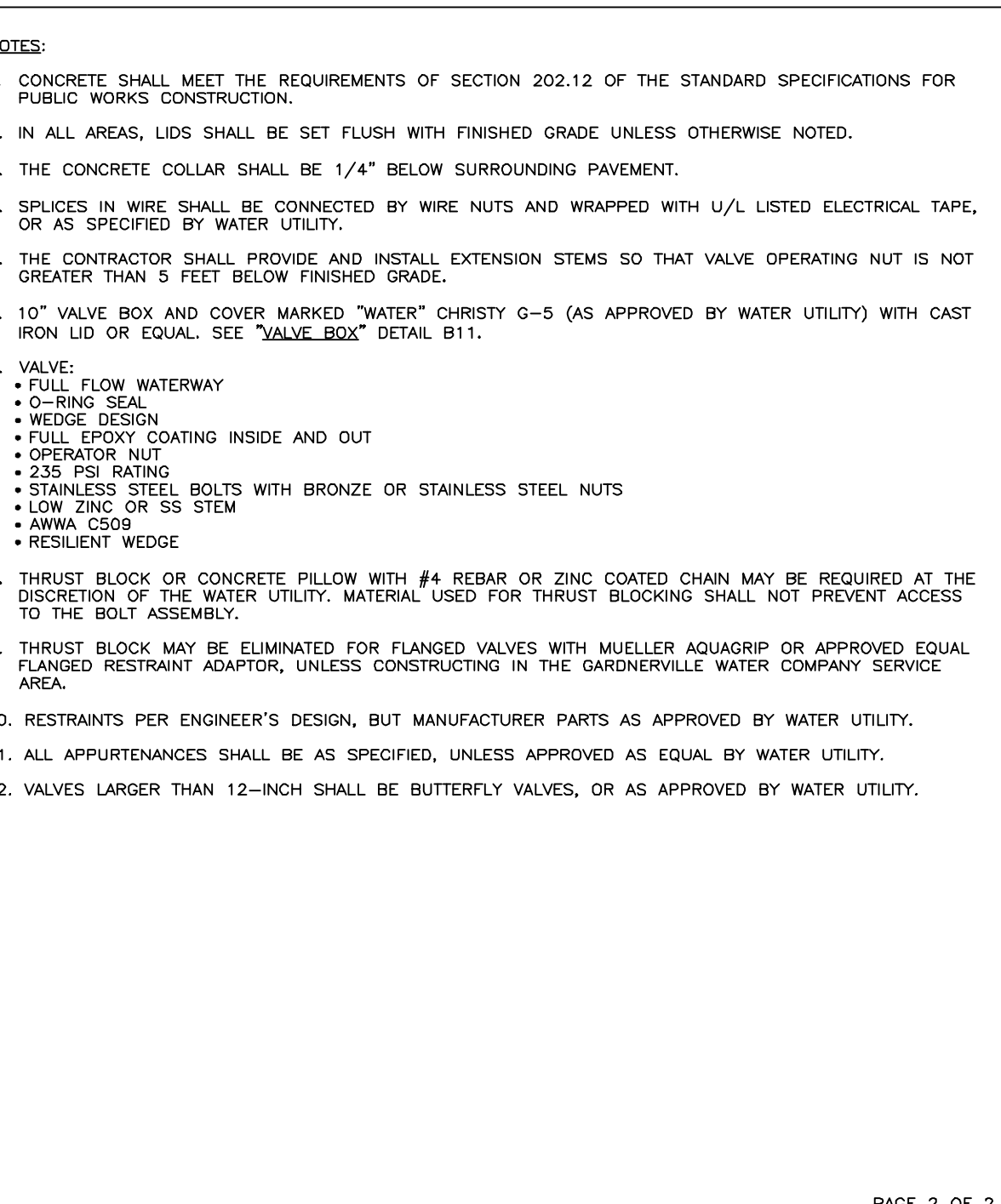
NOTES:

- CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 202.12 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- IN ALL AREAS, LIDS SHALL BE SET FLUSH WITH FINISHED GRADE UNLESS OTHERWISE NOTED.
- THE CONCRETE COLLAR SHALL BE 1/4" BELOW SURROUNDING PAVEMENT.
- SPLICES IN WIRE SHALL BE CONNECTED BY WIRE NUTS AND WRAPPED WITH U/L LISTED ELECTRICAL TAPE, OR AS SPECIFIED BY WATER UTILITY.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL EXTENSION STEMS SO THAT VALVE OPERATING NUT IS NOT GREATER THAN 5 FEET BELOW FINISHED GRADE.
- 10" VALVE BOX AND COVER MARKED "WATER" CHRISTY G-5 (AS APPROVED BY WATER UTILITY) WITH CAST IRON LID OR EQUAL. SEE "VALVE BOX" DETAIL B11.
- VALVE:
  - FULL FLOW WATERWAY
  - G-RING SEAL
  - WEDGE DESIGN
  - FULL EPOXY COATING INSIDE AND OUT
  - OPERATOR NUT
  - 235 PSI RATING
  - STAINLESS STEEL BOLTS WITH BRONZE OR STAINLESS STEEL NUTS
  - LOW ZINC OR SS STEM
  - AWWA C509
  - RESILIENT WEDGE
- THRUST BLOCK OR CONCRETE PILLOW WITH #4 REBAR OR ZINC COATED CHAIN MAY BE REQUIRED AT THE DISCRETION OF THE WATER UTILITY. MATERIAL USED FOR THRUST BLOCKING SHALL NOT PREVENT ACCESS TO THE BOLT ASSEMBLY.
- THRUST BLOCK MAY BE ELIMINATED FOR FLANGED VALVES WITH MUELLER AQUAGRIP OR APPROVED EQUAL FLANGED RESTRAINT ADAPTOR, UNLESS CONSTRUCTING IN THE GARDNERVILLE WATER COMPANY SERVICE AREA.
- RESTRAINTS PER ENGINEER'S DESIGN, BUT MANUFACTURER PARTS AS APPROVED BY WATER UTILITY.
- ALL APPURTENANCES SHALL BE AS SPECIFIED, UNLESS APPROVED AS EQUAL BY WATER UTILITY.
- VALVES LARGER THAN 12-INCH SHALL BE BUTTERFLY VALVES, OR AS APPROVED BY WATER UTILITY.

SEE NOTES ON PAGE 2

PAGE 1 OF 2

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|-----|----------|------|---|-------------------------|
|     |          |      | VALVE   | DATE: JULY 2017         |
|     |          |      | DWG: B10                                      |                         |

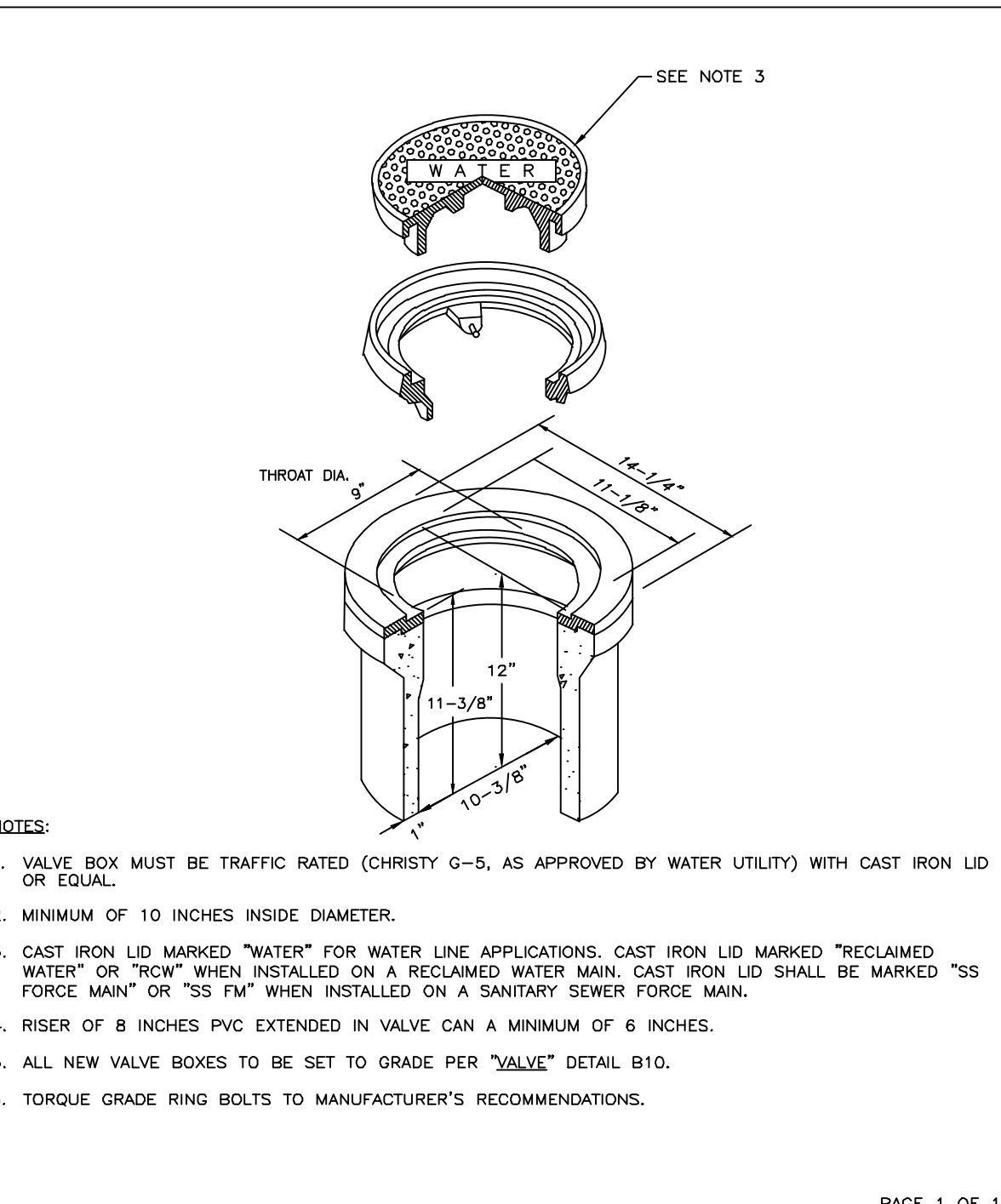


NOTES:

- VALVE BOX MUST BE TRAFFIC RATED (CHRISTY G-5, AS APPROVED BY WATER UTILITY) WITH CAST IRON LID OR EQUAL.
- MINIMUM OF 10 INCHES INSIDE DIAMETER.
- CAST IRON LID MARKED "WATER" FOR WATER LINE APPLICATIONS. CAST IRON LID MARKED "RECLAIMED WATER" OR "TOW" WHEN INSTALLED ON A RECLAIMED WATER MAIN. CAST IRON LID SHALL BE MARKED "SS FORCE MAIN" OR "SS FM" WHEN INSTALLED ON A SANITARY SEWER FORCE MAIN.
- RISER OF 8 INCHES PVC EXTENDED IN VALVE CAN A MINIMUM OF 6 INCHES.
- ALL NEW VALVE BOXES TO BE SET TO GRADE PER "VALVE" DETAIL B10.
- TORQUE GRADE RING BOLTS TO MANUFACTURER'S RECOMMENDATIONS.

PAGE 2 OF 2

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|-----|----------|------|---|-------------------------|
|     |          |      | VALVE BOX                                     | DATE: JULY 2017         |
|     |          |      | DWG: B10                                      |                         |



NOTES:

- CONCRETE FOR THRUST BLOCKS SHALL CONFORM TO SECTION 337.10 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
- THRUST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED SOIL.
- JOINTS AND FACE OF PLUGS SHALL BE KEPT CLEAR OF CONCRETE.
- THRUST BLOCK BEARING AREAS ARE FOR A 160 PSI TEST PRESSURE WITH 2000 PSF BEARING CAPACITY. NOMINAL PIPE DIAMETER, AND A FACTOR OF SAFETY OF 1.5. INSTALLATIONS USING DIFFERENT TEST PRESSURES, AND/OR SOIL TYPES SHALL BE ADJUSTED BY THE DESIGN ENGINEER.
- ALL JOINTS SHALL BE POLYWRAPPED (VIRGIN POLYETHYLENE, 8 MILS THICK).

PAGE 1 OF 1

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|-----|----------|------|---|-------------------------|
|     |          |      | THRUST BLOCKS                                 | DATE: JULY 2017         |
|     |          |      | DWG: B12                                      |                         |

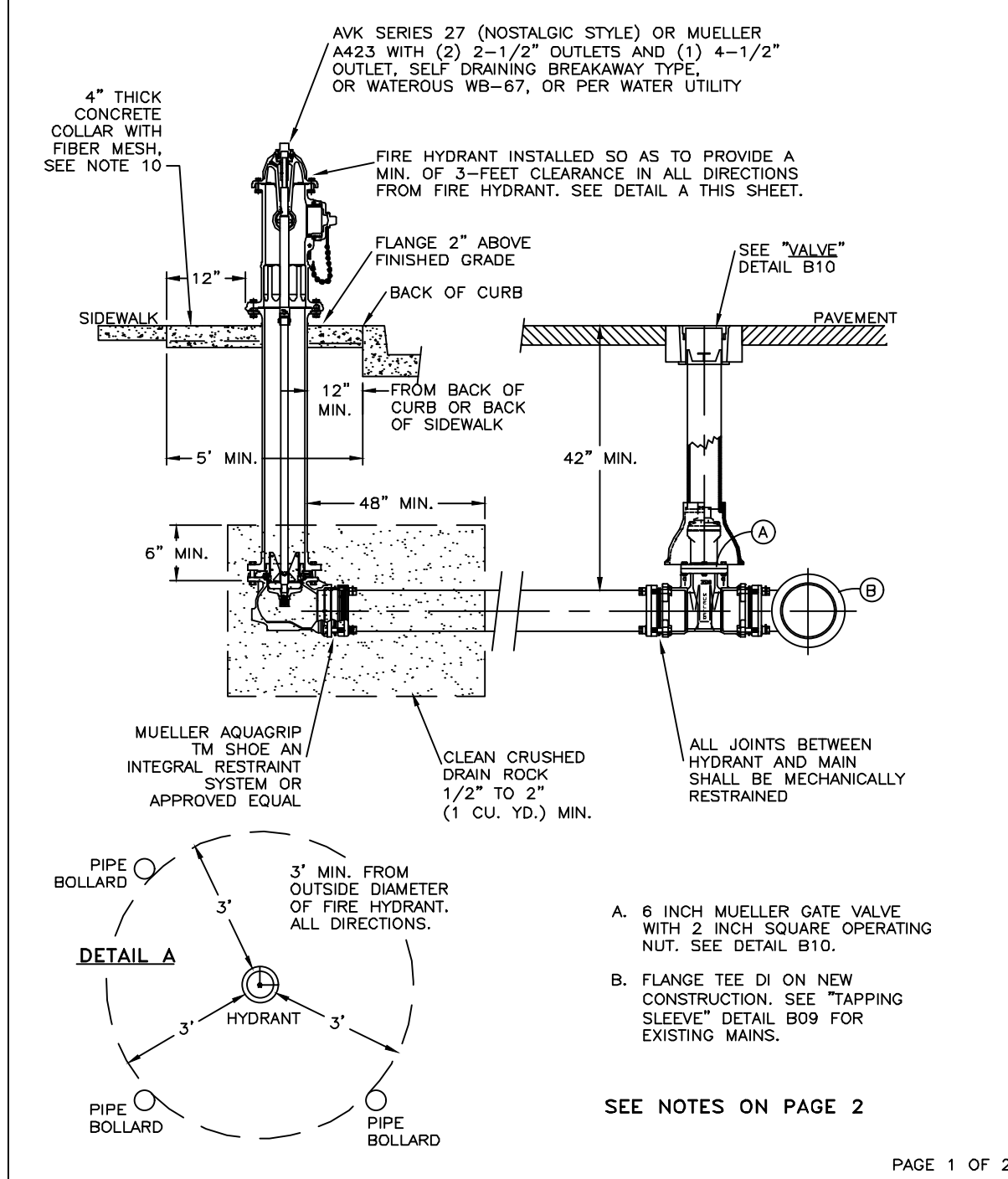
| Type of Fitting      | 90° Bend        | 45° Bend     | 11.25° or 22.5° Bend |
|----------------------|-----------------|--------------|----------------------|
| Typical Installation |                 |              |                      |
| Type of Fitting      | Tee or Dead End | Cross w/Plug | Tee w/Plug           |
| Typical Installation |                 |              |                      |

Minimum Thrust Block Bearing Area - Square Feet (Y x X)

| Type of Fitting | 90° Bend, Cross w/Plug or Tee w/Plug | 45° Bend | 11.25° or 22.5° Bend | Tee or Dead End |
|-----------------|--------------------------------------|----------|----------------------|-----------------|
| 4"              | 2                                    | 1        | 1                    | 2               |
| 6"              | 5                                    | 3        | 2                    | 4               |
| 8"              | 8                                    | 5        | 3                    | 6               |
| 10"             | 13                                   | 7        | 4                    | 9               |
| 12"             | 18                                   | 10       | 5                    | 13              |
| 14"             | 25                                   | 13       | 7                    | 17              |
| 16"             | 32                                   | 17       | 9                    | 23              |

NOTES:

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- ALL JOINTS SHALL BE POLYWRAPPED (VIRGIN POLYETHYLENE, 8 MILS THICK).



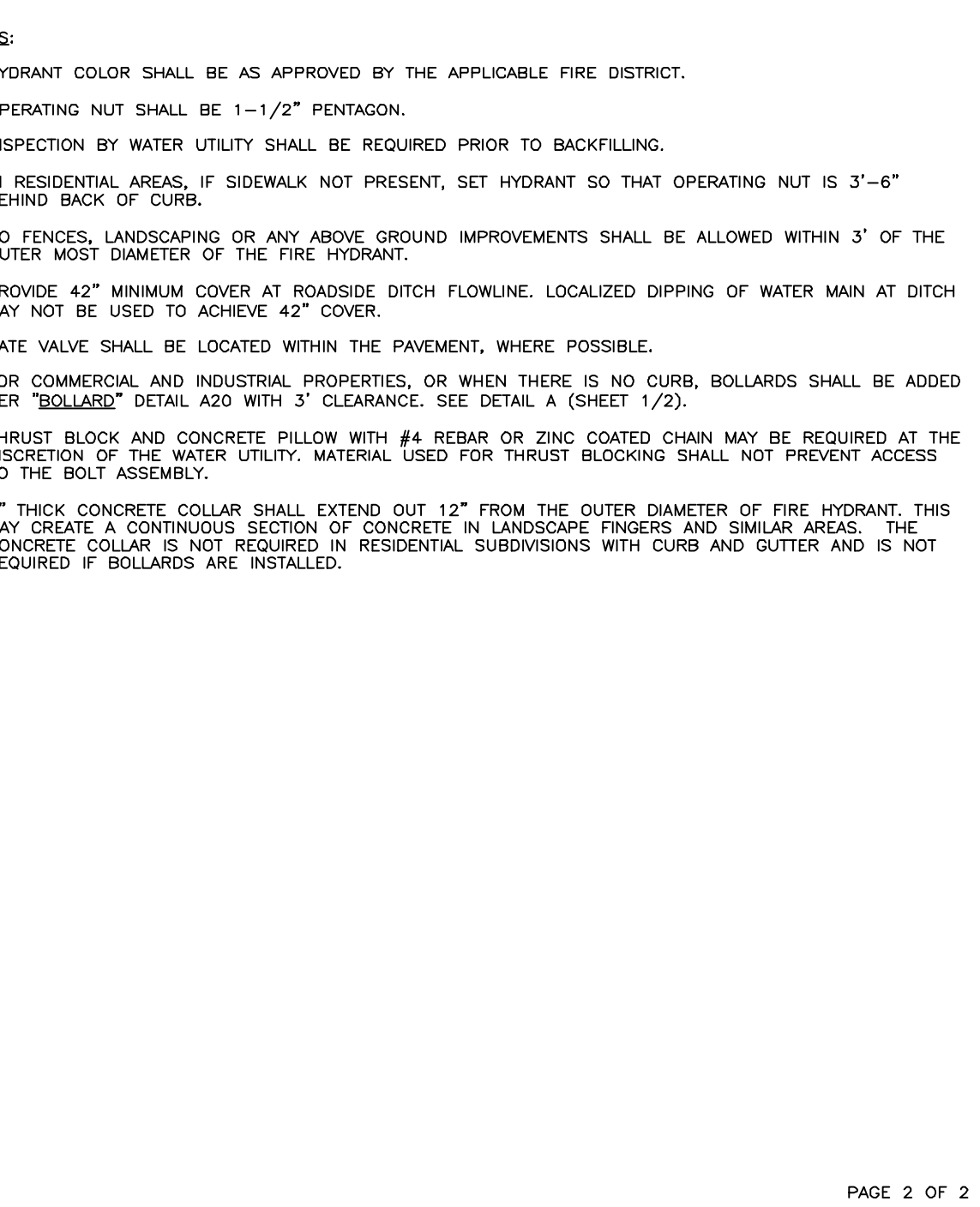
NOTES:

- HYDRANT COLOR SHALL BE AS APPROVED BY THE APPLICABLE FIRE DISTRICT.
- OPERATING NUT SHALL BE 1-1/2" PENTAGON.
- INSPECTION BY WATER UTILITY SHALL BE REQUIRED PRIOR TO BACKFILLING.
- IN RESIDENTIAL AREAS, IF SIDEWALK NOT PRESENT, SET HYDRANT SO THAT OPERATING NUT IS 3'-6" BEHIND BACK OF CURB.
- NO FENCES, LANDSCAPING OR ANY ABOVE GROUND IMPROVEMENTS SHALL BE ALLOWED WITHIN 3' OF THE OUTER MOST DIAMETER OF THE FIRE HYDRANT.
- PROVIDE 42" MINIMUM COVER AT ROADSIDE DITCH DOWNLINE. LOCALIZED DIPPING OF WATER MAIN AT DITCH MAY NOT BE USED TO ACHIEVE 42" COVER.
- GATE VALVE SHALL BE LOCATED WITHIN THE PAVEMENT, WHERE POSSIBLE.
- FOR COMMERCIAL AND INDUSTRIAL PROPERTIES, OR WHEN THERE IS NO CURB, BOLLARDS SHALL BE ADDED PER "BOLLARD" DETAIL A20 WITH 3' CLEARANCE. SEE DETAIL A (SHEET 1/2).
- THRUST BLOCK AND CONCRETE PILLOW WITH #4 REBAR OR ZINC COATED CHAIN MAY BE REQUIRED AT THE DISCRETION OF THE WATER UTILITY. MATERIAL USED FOR THRUST BLOCKING SHALL NOT PREVENT ACCESS TO THE BOLT ASSEMBLY.
- 4" THICK CONCRETE COLLAR SHALL EXTEND OUT 12" FROM THE OUTER DIAMETER OF FIRE HYDRANT. THIS MAY CREATE A CONTINUOUS SECTION OF CONCRETE IN LANDSCAPE FINGERS AND SIMILAR AREAS. THE CONCRETE COLLAR IS NOT REQUIRED IN RESIDENTIAL SUBDIVISIONS WITH CURB AND GUTTER AND IS NOT REQUIRED IF BOLLARDS ARE INSTALLED.

SEE NOTES ON PAGE 2

PAGE 1 OF 2

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|-----|----------|------|---|-------------------------|
|     |          |      | FIRE HYDRANT ASSEMBLY                         | DATE: JULY 2017         |
|     |          |      | DWG: B14                                      |                         |



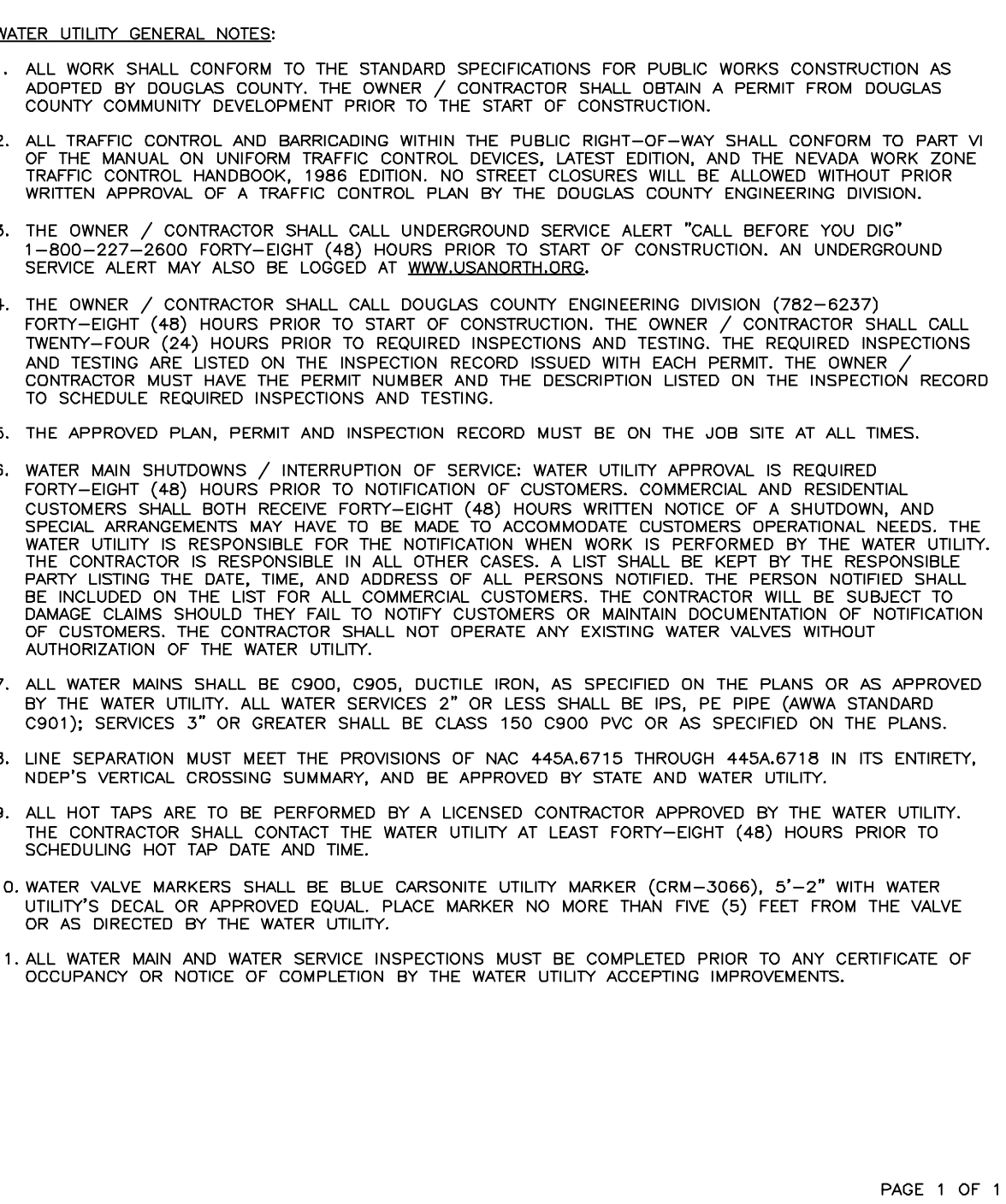
NOTES:

- CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 202.12 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- IN ALL AREAS, LIDS SHALL BE SET FLUSH WITH FINISHED GRADE UNLESS OTHERWISE NOTED.
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- THE CONTRACTOR SHALL PROVIDE AND INSTALL EXTENSION STEMS SO THAT VALVE OPERATING NUT IS NOT GREATER THAN 5 FEET BELOW FINISHED GRADE.
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  - G-RING SEAL
  - WEDGE DESIGN
  - FULL EPOXY COATING INSIDE AND OUT
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  - 235 PSI RATING
  - STAINLESS STEEL BOLTS WITH BRONZE OR STAINLESS STEEL NUTS
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SEE NOTES ON PAGE 2

PAGE 2 OF 2

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|-----|----------|------|---|-------------------------|
|     |          |      | FIRE HYDRANT ASSEMBLY                         | DATE: JULY 2017         |
|     |          |      | DWG: B14                                      |                         |



NOTES:

- ALL WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AS ADOPTED BY DOUGLAS COUNTY. THE OWNER / CONTRACTOR SHALL OBTAIN A PERMIT FROM DOUGLAS COUNTY COMMUNITY DEVELOPMENT PRIOR TO THE START OF CONSTRUCTION.
- ALL TRAFFIC CONTROL AND BARRICADING WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND THE NEVADA WORK ZONE TRAFFIC CONTROL HANDBOOK, 1986 EDITION. NO STREET CLOSURES WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF A TRAFFIC CONTROL PLAN BY THE DOUGLAS COUNTY ENGINEERING DIVISION.
- THE OWNER / CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT "CALL BEFORE YOU DIG" 1-800-227-2600 FORTY-EIGHT (48) HOURS PRIOR TO START OF CONSTRUCTION. AN UNDERGROUND SERVICE ALERT MAY ALSO BE LOGGED AT WWW.SANDELOBS.COM.
- THE OWNER / CONTRACTOR SHALL CALL DOUGLAS COUNTY ENGINEERING DIVISION (782-6237) FORTY-EIGHT (48) HOURS PRIOR TO START OF CONSTRUCTION. THE OWNER / CONTRACTOR SHALL CALL TWENTY-FOUR (24) HOURS PRIOR TO REQUIRED INSPECTIONS AND TESTING. THE REQUIRED INSPECTIONS AND TESTING ARE LISTED ON THE INSPECTION RECORD ISSUED WITH EACH PERMIT. THE OWNER / CONTRACTOR MUST HAVE THE PERMIT NUMBER AND THE DESCRIPTION LISTED ON THE INSPECTION RECORD TO SCHEDULE REQUIRED INSPECTIONS AND TESTING.
- THE APPROVED PLAN, PERMIT AND INSPECTION RECORD MUST BE ON THE JOB SITE AT ALL TIMES.
- WATER MAIN SHUTDOWNS / INTERRUPTION OF SERVICE: WATER UTILITY APPROVAL IS REQUIRED FORTY-EIGHT (48) HOURS PRIOR TO NOTIFICATION OF CUSTOMERS. COMMERCIAL AND RESIDENTIAL CUSTOMERS SHALL BOTH RECEIVE FORTY-EIGHT (48) HOURS WRITTEN NOTICE OF A SHUTDOWN, AND SPECIAL ARRANGEMENTS MAY HAVE TO BE MADE TO ACCOMMODATE CUSTOMERS OPERATIONAL NEEDS. THE WATER UTILITY IS RESPONSIBLE FOR THE NOTIFICATION WHEN WORK IS PERFORMED BY THE WATER UTILITY. 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. THE CONTRACTOR WILL BE SUBJECT TO DAMAGE CLAIMS SHOULD THEY FAIL TO NOTIFY CUSTOMERS OR MAINTAIN DOCUMENTATION OF NOTIFICATION OF CUSTOMERS. THE CONTRACTOR SHALL NOT OPERATE ANY EXISTING WATER VALVES WITHOUT AUTHORIZATION OF THE WATER UTILITY.
- ALL WATER MAINS SHALL BE C900, DUCTILE IRON, AS SPECIFIED ON THE PLANS OR AS APPROVED BY THE WATER UTILITY. ALL WATER SERVICES 2" OR LESS SHALL BE IPS, PE PIPE (AWWA STANDARD C901); SERVICES 3" OR GREATER SHALL BE CLASS 150 C900 PVC OR AS SPECIFIED ON THE PLANS.
- LINE SEPARATION MUST MEET THE PROVISIONS OF NAC 445A.6715 THROUGH 445A.6718 IN ITS ENTIRETY. NDEP'S VERTICAL CROSSING SUMMARY, AND BE APPROVED BY STATE AND WATER UTILITY.
- ALL HOT TAPS ARE TO BE PERFORMED BY A LICENSED CONTRACTOR APPROVED BY THE WATER UTILITY. THE CONTRACTOR SHALL CONTACT THE WATER UTILITY AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO SCHEDULING HOT TAP DATE AND TIME.
- WATER VALVE MARKERS SHALL BE BLUE CARSONITE UTILITY MARKER (CRM-3066), 5'-2" WITH WATER UTILITY'S DECAL OR APPROVED EQUAL. PLACE MARKER NO MORE THAN FIVE (5) FEET FROM THE VALVE OR AS DIRECTED BY THE WATER UTILITY.
- ALL WATER MAIN AND WATER SERVICE INSPECTIONS MUST BE COMPLETED PRIOR TO ANY CERTIFICATE OF OCCUPANCY OR NOTICE OF COMPLETION BY THE WATER UTILITY ACCEPTING IMPROVEMENTS.

PAGE 1 OF 1

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|-----|----------|------|---|-------------------------|
|     |          |      | WATER UTILITY GENERAL NOTES                   | DATE: JULY 2017         |
|     |          |      | DWG: B21                                      |                         |

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|-----|----------|------|---|-------------------------|
|     |          |      | FIRE HYDRANT ASSEMBLY                         | DATE: JULY 2017         |
|     |          |      | DWG: B14                                      |                         |

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|-----|----------|------|---|-------------------------|
|     |          |      | FIRE HYDRANT ASSEMBLY                         | DATE: JULY 2017         |
|     |          |      | DWG: B14                                      |                         |

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY |
|-----|----------|------|---|-------------------------|
|     |          |      | WATER UTILITY GENERAL NOTES                   | DATE: JULY 2017         |
|     |          |      | DWG: B21                                      |                         |

| NO. | DATE | REVISION BLOCK | BY |
|-----|------|----------------|----|
|     |      |                |    |

**R/O Anderson**  
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RENO 140 W. Hillflower Lane Suite 507 Reno, NV 89501 P: 775.782.2322 F: 775.782.7084

**VISTA GRANDE BOULEVARD (NORTH EXTENSION)**

**DOUGLAS COUNTY**

**DETAILS**

**PROFESSIONAL ENGINEER - STATE OF NEVADA**

ROBERT O. ANDERSON  
 Exp. 12-31-20  
 CIVIL No. 7761

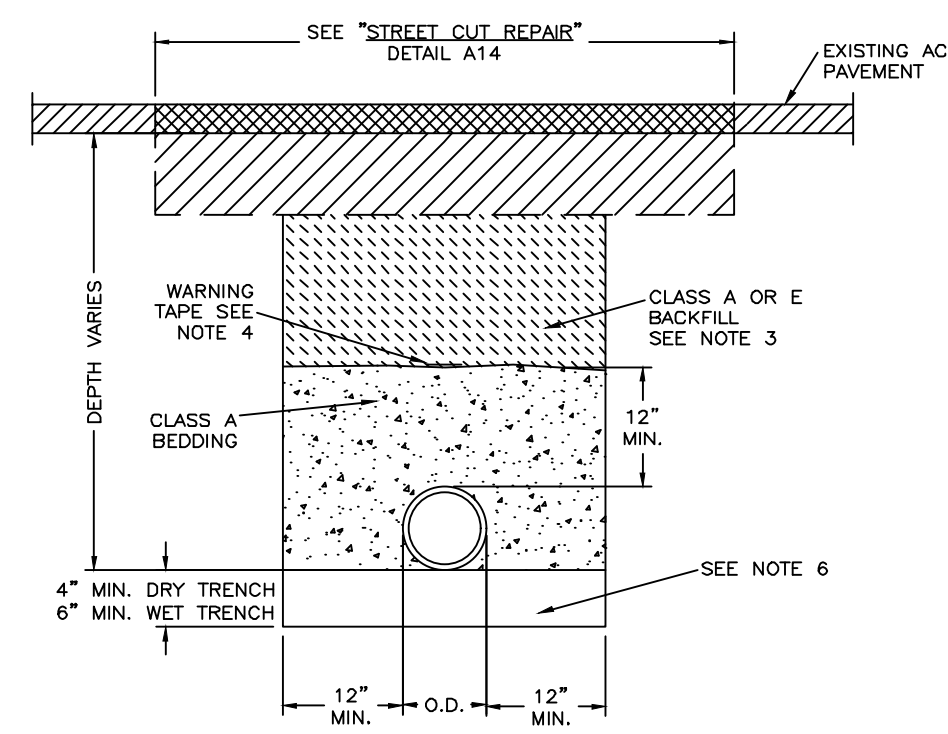
DRAWN: MCR  
 ENGINEER: ROA  
 SCALE: NO SCALE  
 DATE: 1-24-24

JOB: 0110-019  
 DRAWING: DETAILS  
 SHEET: C7  
 OF: 8 SHEETS



60% REVIEW SET - 1.24.2024





THE FOLLOWING GRADED BEDDING MATERIAL MAY BE USED IN WET TRENCHES:

| U.S. STANDARD SIEVE SIZE | PERCENT BY WEIGHT PASSING |
|--------------------------|---------------------------|
| 1.5"                     | 100%                      |
| 1"                       | 50-90%                    |
| 3/4"                     | 30-70%                    |
| 3/8"                     | 10-40%                    |
| #4                       | 5-25%                     |
| #200                     | 0-10%                     |

CLASS A BACKFILL PER ORANGE BOOK 200.03.02 USED AS BEDDING MATERIAL MUST BE USED IN DRY TRENCHES ONLY, SEE NOTE 6.

SEE NOTES ON PAGE 2

PAGE 1 OF 2

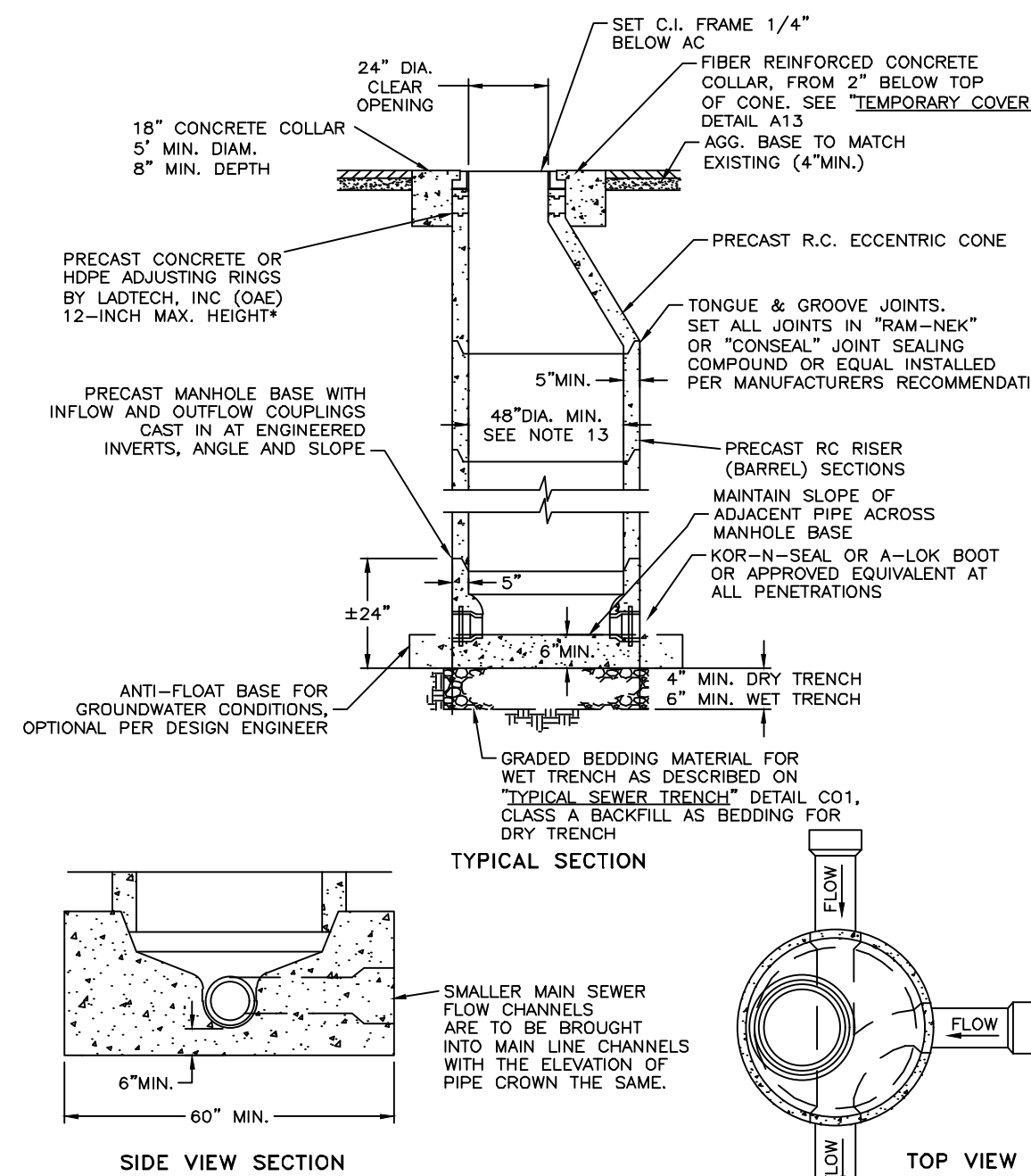
| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY     |
|-----|----------|------|---|-----------------------------|
|     |          |      | TYPICAL SEWER TRENCH                          | DATE: JULY 2017<br>DWG: C01 |

NOTES:

- ALL REQUIREMENTS OF THE SEWER UTILITY ORDINANCE, APPENDIX D SEWER FACILITIES ORDINANCE FROM TITLE 20, MUST BE MET.
- ANY VARIATION IN BEDDING GRADATIONS SHALL ONLY BE ALLOWED IF GRADATION OF ALTERNATIVE MATERIAL IS SUBMITTED TO AND APPROVED BY THE COUNTY ENGINEER OR SEWER UTILITY PRIOR TO CONSTRUCTION.
- CLASS A AND CLASS E BACKFILL AND BEDDING MATERIAL SHALL CONFORM TO SECTION 200 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. BEDDING AND BACKFILL SHALL BE MECHANICALLY COMPACTED OR CONSOLIDATED IN CONFORMANCE WITH SECTION 305 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- PLACE WARNING TAPE 1-FOOT ABOVE SEWER PIPE. WARNING TAPE SHALL READ "CAUTION SEWER MAIN".
- SEWER PIPE COLOR SHALL BE GREEN FOR GRAVITY SEWER AND PURPLE FOR RECLAIMED WATER.
- BEDDING MATERIAL SHALL BE PER ORANGE BOOK 200 COMPACT OR CONSOLIDATE TO PROVIDE PROPER SUPPORT OF PIPE.

FORCE MAIN NOTES:

- FORCE MAIN BEDDING MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF CLASS A BACKFILL AS SPECIFIED IN SUBSECTION 200.03.02 OF THE ORANGE BOOK. MATERIAL SHALL BE DENSIFIED TO 90% RELATIVE COMPACTION.
- BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF CLASS E BACKFILL AS SPECIFIED IN SUBSECTION 200.03.06 OF THE ORANGE BOOK. MATERIAL SHALL BE PLACED IN LIFT THICKNESS SPECIFIED IN SUBSECTION 305 OF THE ORANGE BOOK AND DENSIFIED TO 90% RELATIVE COMPACTION.
- PLACE WARNING TAPE 1-FOOT ABOVE THE FORCE MAIN. WARNING TAPE SHALL READ "CAUTION FORCE MAIN".
- FORCE MAIN SHALL HAVE A MINIMUM OF 4 FEET OF COVER MEASURED FROM FINISHED GRADE TO TOP OF PIPE.



\* NO WOOD OR PVC SHIMS WILL BE ALLOWED BETWEEN LID RING AND ADJUSTING RING OR MANHOLE WITH LATTECH SYSTEM

PAGE 1 OF 2

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY     |
|-----|----------|------|---|-----------------------------|
|     |          |      | SANITARY SEWER MANHOLE                        | DATE: JULY 2017<br>DWG: C03 |

NOTES:

- CONTRACTOR SHALL CONTACT AND COORDINATE WITH THE SEWER UTILITY AND ALL OTHER UTILITIES 48 HOURS PRIOR TO CONSTRUCTION.
- ALL CONSTRUCTION SHALL CONFORM TO SEWER UTILITY'S STANDARDS AND NO BACKFILLING WILL BE ALLOWED UNTIL INSPECTED AND APPROVED.
- MANHOLE SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE SECTIONS CONFORMING TO ASTM DESIGNATION C478.
- EXCAVATION FOR MANHOLE MUST BE MADE TO A MINIMUM OF 1-FOOT OUTSIDE OF THE MANHOLE WALL TO PROVIDE FOR ADEQUATE WORKSPACE. SPACE OUTSIDE OF THE MANHOLE SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 12-INCHES IN DEPTH. EACH LAYER SHALL BE THOROUGHLY COMPACTED TO THE DENSITY OF THE EARTH IN THE ADJACENT TRENCH SECTIONS. (MIN. 90% IN EXISTING OR PROPOSED STREET OR ALLEY RIGHTS-OF-WAY).
- CAST IRON FRAME AND COVER SHALL BE 24-INCH DIAMETER (CLEAR OPENING) AND SHALL BE MANUFACTURED FROM GRAY CAST IRON CONFORMING TO ASTM DESIGNATION: A 48, CLASS 30 AND DESIGNED FOR A MINIMUM HS-20 TRAFFIC LOADING. COVERS AND FRAMES SHALL BE MATCH-MARKED IN PAIRS AND SEATING SURFACES MACHINED SO THAT COVER IS NON-ROCKING. COVERS SHALL HAVE ONE PICK HOLE, AND ONE CENTRALLY LOCATED 1-INCH DIA. HOLE. COVERS SHALL HAVE NO "THRU" HOLES.
- ALL BASES MUST BE PRECAST UNLESS OTHERWISE APPROVED BY THE SEWER UTILITY.
- CONCRETE FOR CAST-IN-PLACE MANHOLE BASE, IF APPROVED BY THE SEWER UTILITY FOR USE, SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- SEWER STUBS FOR FUTURE EXTENSION SHALL BE NO MORE THAN 5-FEET IN LENGTH.
- THE TOP OF INCOMING LATERAL SEWERS SHALL ENTER THE MANHOLE AT AN ELEVATION EQUAL TO THE TOP OF THE MAIN LINE. EXCEPTIONS ONLY BY PRIOR SEWER UTILITY APPROVAL.
- INVERTS SHALL BE FORMED DIRECTLY IN CONCRETE OF MANHOLE BASE AND SHALL BE SMOOTH AND ACCURATELY SHAPED TO A SEMI-CIRCULAR BOTTOM CONFORMING TO THE INSIDE OF THE ADJACENT SEWER SECTION. MAINTAIN SLOPE OF ADJACENT PIPELINE ACROSS THE MANHOLE BASE.
- WHERE MANHOLES ARE NOT LOCATED IN STREETS, PLACE TOP OF MANHOLE 8-INCHES ABOVE THE EXISTING GROUND UNLESS OTHERWISE REQUIRED BY THE SEWER UTILITY. INSTALL THE CONCRETE COLLAR FROM A POINT 6-INCHES OUTSIDE THE TOP OF THE COVER FRAME AND EXTEND A MINIMUM OF 12-INCHES BELOW THE SURROUNDING GROUND SURFACE. TAPER THE CONCRETE COLLAR FROM TOP TO BOTTOM AT A 1:1 SLOPE OR FLATTER.
- PROVIDE 60-INCH MINIMUM DIAMETER MANHOLE FOR PIPES LARGER THAN 15-INCH DIAMETER.
- COAT EXTERIOR OF MANHOLE WHERE GROUNDWATER CONDITIONS ARE PRESENT AS APPROVED BY SEWER UTILITY.
- MANHOLES SHALL BE VACUUM TESTED FROM TOP OF CONE PRIOR TO PAVING IN AREAS OF HIGH GROUNDWATER AS DIRECTED BY SEWER UTILITY.
- POLYMER MANHOLES SHALL BE REQUIRED AT ALL FORCE MAIN OUTLETS. POLYMER MANHOLES SHALL BE INSTALLED DOWNSTREAM OF MANHOLE WHERE FORCE MAIN CONVERTS TO GRAVITY FLOW. ONE POLYMER MANHOLE FOR EVERY 1-INCH DIAMETER SIZE OF THE FORCE MAIN.

PAGE 2 OF 2

| NO. | REVISION | DATE | STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION | SECTION: DOUGLAS COUNTY     |
|-----|----------|------|---|-----------------------------|
|     |          |      | SANITARY SEWER MANHOLE                        | DATE: JULY 2017<br>DWG: C03 |

Y:\Clients - Files\010\010-1019-1019-CAD\Engineering\Improvement - Plans\010-1019 - DETAILS.dwg 1/26/2024 6:08:01 PM Kristin Morton

| NO. | DATE | REVISION BLOCK | BY |
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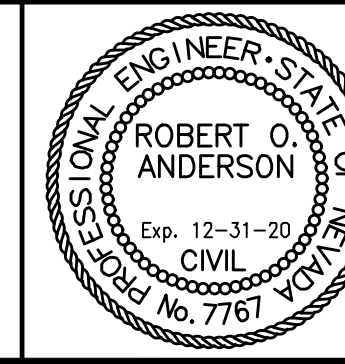
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VISTA GRANDE BOULEVARD (NORTH EXTENSION)  
DOUGLAS COUNTY

DETAILS



|                 |                  |
|-----------------|------------------|
| DRAWN: MCR      | JOB: 0110-019    |
| ENGINEER: ROA   | DRAWING: DETAILS |
| SCALE: NO SCALE | SHEET: C8        |
| DATE: 1-24-24   | OF: 8 SHEETS     |



60% REVIEW SET - 1.24.2024