



**ADDENDUM #3 to the
TECHNICAL DRAINAGE STUDY
FOR
Kyle Canyon Road and Oso Blanca Road**

**JOB NO. 200203
January 2023**

Prepared by:

ACG Design
4310 Cameron St, Suite 12-A
Las Vegas, NV 89103
(702) 448-8737

Prepared for:

Kyle Canyon Next And Last Frontier, LLC
Michael Swecker
6655 West Sahara Avenue #B200-113
Las Vegas, NV 89146



HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: KYLE CANYON RD. AND OSO BLANCA RD. Date: JANUARY 6, 2023

Location of Development: a) Descriptive (Cross Streets) North/South: OSO BLANCA RD.

East/West: KYLE CANYON RD.

b) Section: 1 Township: 19 SOUTH Range: 59 EAST

c) APN: 126-01-702-007 & 126-01-799-006 (PUBLIC R/W)

Name of Owner: KYLE CANYON NEXT & LAST FRONTIER, LLC - MICHAEL SWECKER

Telephone No.: N/A Fax No.: E-Mail Address: MIKESWECKER@GMAIL.COM

Address: 6655 WEST SAHARA AVENUE, #B200-113 LAS VEGAS, NV 89146

Contact Person-Name: RANDY SKORPINSKI, PE Telephone No.: 702-448-8737

* E-Mail Address: RSKORPINSKI@ACG.DESIGN Fax No.: N/A

Firm: ACG DESIGN

Address: 4310 CAMERON ST., SUITE 12-A LAS VEGAS, NV 89103

Type of Land Development/Land Disturbance Process:

☐	Rezoning	☐	Subdivision Map	☐	Clearing and Grading Only
☐	Parcel Map	☐	Planned Unit Development	☐	Other (Please specify below)
☐	Large Parcel Map	☒	Building Permit	☐	

1. Total Owned Land Area: At Site: 2.48+/- ACRES Being Developed/Disturbed: 2.48+/- ACRES

2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ Yes** ☒ No

3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ Yes** ☐ No

4. Proposed type of development (Residential, Commercial, Etc.): COMMERCIAL - CONVENIENCE STORE

5. Approximate upstream land area which drains to the subject site: 25.00+/- ACRES

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: TDS FOR US95 KYLE CANYON ROAD INTERCHANGE

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: EAST TO EXISTING DUAL RCBS (6' X 3' RCB's)

8. Briefly describe your proposed schedule for the subject project: ASAP



Engineer's Seal

Submit this form as part of the required drainage study to the local entity which has jurisdiction over the subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study.

***New Required Field**

****Review and concurrence of the Clark County Regional Flood Control District is required.**

Local Entity File No.	Revision	Date

REFERENCE:

STANDARD FORM 1

COMMENT LETTER

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		December 19, 2022
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	COPIES TO:	
	ACG Design	
Drainage Study for: Kyle Canyon Road & Oso Blanca Road		Kyle Canyon Next & Last Frontier
Cross Streets:	SWC Kyle Canyon Rd. & Oso Blanca Road	Bart Anderson, P.E., DevCo
File Number:	F:\Depot\DSMemos\DS5573C.doc	CCRFC
Parcel Number:	126-01-702-007	NDOT
Zoning Action:	22-0102-TMP1; 22-0106-SDR1 & 22-0106-SUP1	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES	NO X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal (Paid on 6/14/2022)	5/25/2022 & 6/14/2022	6/15/2022	Not Approved	\$400.00	4827859: \$400
2 nd Submittal (Paid on 8/15/2022)	8/10/2022 & 8/15/2022	8/30/2022	Not Approved	\$400.00	4908948: \$400
3 rd Submittal (Paid on 12/14/2022)	11/30/2022 & 12/14/2022	12/19/2022	See Comments Below	\$400.00	5073107: \$400
TOTAL FEES (LDDRS):				\$1,200.00	----

REMARKS:

The Drainage Study for the subject project has been reviewed and:

	is approved subject to conformance to all City standards and the following conditions:
X	must be resubmitted or supplemented including the following:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
	is conditionally approved subject to Clark County Public Works Department concurrence.

1. The site is adjacent to or crosses an existing or proposed *Clark County Regional Flood Control District* (CCRFC) master planned facility. Therefore, CCRFC concurrence is required prior to final approval of the drainage study.

Please note that effective March 15, 2019, the CCRFC adopted new requirements for drainage study concurrence submittal. Follow the link below for specific guidance.

<http://gustfront.ccrfcd.org/LandDev/LandDev.aspx>

2. The project proposes to construct facilities and/or increase flows within *Nevada Department of Transportation* (NDOT) right-of-way. The engineer must contact NDOT for encroachment permit for the proposed project.

3. The proposed transition structure from a 54"-storm drain to a dual 6'x3' RCBs is a special designed facility. All special structures and mainline storm drain connection (such as between the existing and the new 2# 6'x3'-RCBs) require details and structural calculations to be reviewed by the *City of Las Vegas Building & Safety Department*. Approval by the *Building Department* must be obtained prior to the final approval of the subject drainage study.
4. Revise the proposed riprap pad at the upstream end of the 54"-storm drain at *Rufian Road* to concrete to provide a drivable access for the City maintenance crew. Make sure the concrete pad is wide enough for the City vehicle to make a turn-around.
5. **Sheet C7:** Show the proposed storm drain manhole at the proposed 6'x3' RCB in the profile.
6. **Sheet C7 and Sheet C16:** Per Sheet C7, the vertical distance between the street surface and the top of the 6'x3'-RCB is about 1.5' only. However, per Sheet C16, "*Profile-Junction Structure with Connection to Proposed Dual 6'x3' RCB's*", the proposed manhole is seemingly more than 1.5' in height and is not compatible with the *Plan & Profile* sheet.

The storm drain manhole appears to require a special design to accommodate for the shallow depth of cover (1.5' only). Provide special structural design and calculations to *City Building Department* for review and approval prior to the final approval of the subject drainage study.

7. **Sheet C16:** Enlarge the 24"-wide access manhole to 30"-wide minimum.
8. Dedicate the proposed 30' easement as "Public Drainage Easement with Surface to be Privately Maintained by the Property Owner". Record as such in the Subdivision Plat Map.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see <http://ndep.nv.gov/bwpc/storm01.htm> or call (775) 687-9429.

END OF REMARKS

AYS

T/R/S: T19S/R59E/01

AREA F-01

January 12, 2023

Albert Sung, P.E.
Flood Control Project Engineer
Department of Public Works
City of Las Vegas
495 S. Main Street
Las Vegas, NV 89101

Subject: Addendum #3 to Technical Drainage Study for Kyle Canyon Road & Oso Blanca Road
APN: 126-01-702-007
DS 5573C

Dear Albert Sung,

We are in receipt of your comment letter, dated: December 19, 2022, for the above referenced project.

In response to your comments, the following responses are being offered:

- 1) The site is adjacent to or crosses an existing or proposed *Clark County Regional Flood Control District* (CCRFCFCD) master planned facility. Therefore, CCRFCFCD concurrence is required prior to final approval of the drainage study.

Please note that effective March 15, 2019, the CCRFCFCD adopted new requirements for drainage study concurrence submittal. Follow the link below for specific guidance.

<http://gustfront.ccrfcd.org/LandDev/LandDev.aspx>

Response 1: Noted. However, per your e-mail January 11, 2023, we can submit this Supplement without the CCRFCFCD concurrence and you will give a conditional approval of the drainage study. Per instruction, we need to have structural approval prior to submitting to CCRFCFCD for their concurrence.

- 2) The project proposes to construct facilities and/or increase flows within *Nevada Department of Transportation* (NDOT) right-of-way. The engineer must contact NDOT for encroachment permit for the proposed project.

Response 2: Noted. We will coordinate with NDOT for encroachment permit.

- 3) The proposed transition structure from a 54"-storm drain to a dual 6'x3' RCBs is a special designed facility. All special structures and mainline storm drain connection (such as between the existing and the new 2# 6'x3'-RCBs) require details and structural calculations to be reviewed by the *City of Las Vegas Building & Safety Department*. Approval by the *Building Department* must be obtained prior to the final approval of the subject drainage study.

Response 3: Noted. However, per your e-mail January 11, 2023, we can submit this Supplement without the required details and structural calculations, and you will give a conditional approval of the drainage study pending the structural review by the City Building Department. Per suggestion, we will submit the improvement plans to the City Land Development Department to get their review process started.

- 4) Revise the proposed riprap pad at the upstream end of the 54"-storm drain at *Rufian Road* to concrete to provide a drivable access for the City maintenance crew. Make sure the concrete pad is wide enough for the City vehicle to make a turn-around.

Response 4: Noted. The proposed riprap pad has been revised to concrete.

- 5) **Sheet C7:** Show the proposed storm drain manhole at the proposed 6'x3' RCB in the profile.

Response 5: Noted. The plans have been revised to show the two proposed storm drain manholes at the proposed skewed dual 6'x3' RCB in the profile.

- 6) **Sheet C7 and Sheet C16:** Per Sheet C7, the vertical distance between the street surface and the top of the 6'x3'-RCB is about 1.5' only. However, per Sheet C16, "*Profile-Junction Structure with Connection to Proposed Dual 6'x3' RCB's*", the proposed manhole is seemingly more than 1.5' in height and is not compatible with the *Plan & Profile* sheet.

The storm drain manhole appears to require a special design to accommodate for the shallow depth of cover (1.5' only). Provide special structural design and calculations to *City Building Department* for review and approval prior to the final approval of the subject drainage study.

Response 6: The proposed manhole for the junction structure access is closer to the on-site curb and not the Oso Blanca Road street curb. At the street curb, the depth is about 1.5', but at the on-site curb, the depth is more like 5'. This manhole riser height is set at approximately 4.9'. See revised Sheets.

The two storm drain manholes on the skewed dual 6'x3' RCB will have a special manhole design to account for the 1.5' height at that location under Oso Blanca Road.

7) **Sheet C16:** Enlarge the 24"-wide access manhole to 30"-wide minimum.

Response 7: Noted. The access manhole has been widened to 30".

8) Dedicate the proposed 30' easement as "Public Drainage Easement with Surface to be Privately Maintained by the Property Owner". Record as such in the Subdivision Plat Map.

Response 8: Please note, that next to the 30' wide dimension label there is a construction note no. 38 that also points to the 30' wide easement lines. This note no. 38 states: "30' wide subsurface public drainage easement with surface to be privately maintained by property owner".

There was no room to fit the requested "sentence description" within a dimension tag.

The 30' easement is also labeled accordingly in cross section E & F on sheet C14.

If you have any questions or further comments, please contact our office at your convenience.

Sincerely,

Randy Skorpinski, PE
ACG Design



Z:\PROJECTS_CURRENT\COMMERCIAL CLIENTS\MICHAEL SNECKER\200203-- CIV @ OSO BLANCA & KYLE CANYON\ENGINEERING\CIVIL DRAWINGS\IMPROVEMENT PLANS\200203--C_C4-CYDING 1/12/2023 12:45 PM

CITY OF LAS VEGAS GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".
- THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCES WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.
- ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
- TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY, PRIOR TO THE USE ON THE PROJECT.
- PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
- EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED-TYPE CURB.
- AC PAVEMENT TO BE ONE-HALF INCH (½") ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.
- CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.
- SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF THE TRANSITIONS TO BE AS SHOWN ON PLANS.
- ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY THE (COMPANY , _ REPORT #, DATE) APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.
- EXACT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS ENGINEER IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH N.R.S. STATUTE NO. 625.380 & CITY OF LAS VEGAS TITLE 18, APPENDIX D.
- UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.

WALL NOTES:

- ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOOD CONTROL AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.
- ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.
- CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEAN OUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
- MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT OR THE CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.
- WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC, THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO OFFSITE INSPECTION AND TESTING CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.
- AFTER HAUNCHING AND PRIOR TO BACKFILL OPERATIONS WHICH WOULD COVER SANITARY SEWER AND STORM DRAIN FACILITIES, CONTRACTOR IS REQUIRED TO SCHEDULE CLV OPEN-TRENCH UTILITY SURVEY INSPECTION FOR DETERMINATION OF FINAL LOCATION COORDINATES. FACILITIES TO BE LOCATED BY CLV SHALL INCLUDE AT A MINIMUM THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLE, STORM DRAIN MANHOLE AND TRANSITION STRUCTURES, STORM DRAIN LATERALS AND THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS.
- CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTIONS NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST ADDITION.
- A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

NOTICE TO CONTRACTOR

- CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONALS HARMLESS FROM ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.
- CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- THE EXISTENCE AND APPROXIMATE LOCATION OF ANY UNDERGROUND FACILITIES SHOWN HEREON WERE OBTAINED FROM A SEARCH OF AVAILABLE RECORDS. THERE MAY, HOWEVER BE EXISTING UTILITIES NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THE UTILITIES OR STRUCTURES SHOWN HEREON AND ANY OTHER NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
- 14 GAUGE SOLID COPPER WIRE FOR LINE LOCATION SHALL BE REQUIRED OVER ALL SERVICE LATERALS NOT INSTALLED PERPENDICULAR TO THE MAIN IN ACCORDANCE WITH UDACS PLATE No. 27.
- SEE PLAN AND PROFILE AND MASTER UTILITY SHEETS FOR COMPLETE WATER AND SEWER DESIGN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DUST AND EROSION CONTROL DURING CONSTRUCTION.
- SEE LANDSCAPE PLANS FOR LANDSCAPING. (SEE ARCH PACKAGE- COMPLETED BY OTHERS)

CITY OF LAS VEGAS GRADING NOTES

- IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.
- CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.
- THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.
- THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.
- CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:

	HORIZONTAL	VERTICAL	COMPACTION
A. PAVEMENT AREA SUBGRADE	0.1"	+0.0" TO	-0.1" SEE SOILS REPORT
B. ENGINEERED FILL	0.5"	+0.1" TO	-0.1" SEE SOILS REPORT

COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE.
- ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
- THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.
- THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.
- IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY ENGINEER. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

CITY OF LAS VEGAS TRAFFIC NOTES

- ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
- THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
- BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
- WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENCLOSED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THAT WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A QUALIFIED "CROSSING GUARD". THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.
- IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW TRAFFIC SIGNS SHALL BE FABRICATED WITH DIAMOND GRADE VIP CLASS 6 REFLECTIVE SHEETING OR APPROVED EQUAL. ALL NEW TRAFFIC SIGNS, EXCEPT STREETNAME AND SCHOOL SPEED LIMIT SIGNS, SHALL HAVE 3M SERIES 1160 OR APPROVED EQUIVALENT ANTI-GRAFFITI PROTECTIVE OVERLAY FILM; SCHOOL ZONE SIGNS SHALL HAVE 3M SERIES 1150 ANTI-GRAFFITI PROTECTIVE OVERLAY FILM. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.
- WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.
- ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HERE UNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
- STREET SIGNS AND STOPS SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO INSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR IMSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHT OF WAY.
- WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING CITIZENS AREA TRANSIT (C.A.T.) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.
- GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT (PHONE # 828-3442) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.
- ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS OTHERWISE DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
- THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECT'S OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

CITY OF LAS VEGAS SEWER NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CITY ENGINEER.
- CHISEL "S" OR "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
- POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II AGGREGATE BASE.\
- ALL MANHOLES PAVED IN STREETS EIGHTY (80') FOOT R/W AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT R/W WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
- TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12") DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN LINE "Y" 'S SHALL BE USED ON LINES TWELVE INCHES (12") OR ABOVE.
- WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18") UNDER A WATER MAIN.
- ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF LAS VEGAS MUST BE STATE OF NEVADA CLASS "A" CONTRACTORS.
- THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN ONE TENTH (0.1) OF A FOOT FROM THE APPROVED CONSTRUCTION PLANS AT ANY LOCATION. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED OR REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY OF LAS VEGAS.
- INSTALLATION OF CURVED SEWER REQUIRES THE USE OF C-900 PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

CITY OF LAS VEGAS STREETLIGHT NOTES

- ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION (USS), AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA" (USD), LATEST REVISION.
- NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS, ETC., LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF TRAFFIC ENGINEERING AND THE CITY ENGINEER. ANY DEVIATION FROM THE PLAN LOCATION WILL REQUIRE COMPLIANCE WITH SECTION 623 OF THE USS.
- ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 623 G.03.01 OF THE USS.
- ALL EMPTY CONDUIT SHALL HAVE AT LEAST ONE GREEN #8 AWG WIRE INSTALLED AS TRACER WIRE IN ACCORDANCE WITH SECTION 623 G.02.01 OF THE USS PRIOR TO BACKFILLING AND FINAL INSPECTION.
- ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC. SHALL LEAVE A MINIMUM CLEARANCE IN ACCORDANCE WITH THE USD NO. 320A WHEN POLE IS INSTALLED BEHIND SIDEWALK, AND SHALL AT NO TIME COMPLETELY ENCLOSE THE STREET LIGHTING POLE.
- AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TRAFFIC ENGINEERING DIVISION PRIOR TO ANY PRE-FINAL INSPECTION. THE AS-BUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.
- SERVICE POINT SHALL BE COORDINATED WITH NV ENERGY COMPANY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE CIVIL PLANS.
- WHEREVER THERE IS AN OVERHEAD UTILITY THAT MAY CONFLICT WITH THE INSTALLATION OF STREETLIGHTING CIRCUITS AND/OR POLES, THESE CONFLICTS MUST BE RESOLVED BETWEEN THE DEVELOPER AND THE UTILITIES INVOLVED BEFORE STREETLIGHT BASES ARE INSTALLED. AT NO EXPENSE TO THE CITY OF LAS VEGAS.
- THE CONTRACTOR SHALL FURNISH COMPLETE CONDUIT, WIRE, ETC., FROM SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON PLANS.

APPROVED FOR CONSTRUCTION

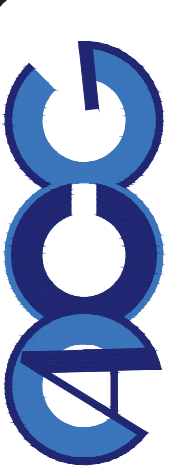
LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES
PROJECT NO. _____ FIRST APPROVED DATE: _____

APPROVAL						APPROD. BY	DATE
REVISIONS						REV	DESCRIPTION

KYLE CANYON ROAD AND
OSO BLANCA ROAD

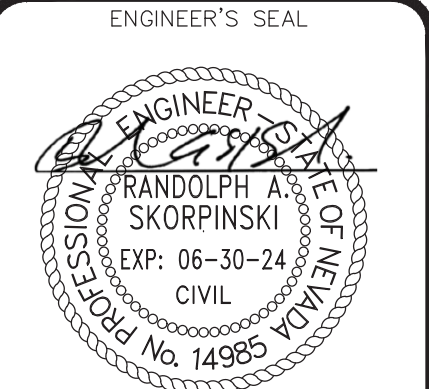
GENERAL NOTES SHEET 1

APN: 126-01-702-007 / 008
10051 KYLE CANYON ROAD
LAS VEGAS, NV 89166



ACG DESIGN
4310 CAMERON ST, SUITE 12-A
LAS VEGAS, NEVADA 89103
OFFICE: 702.448.8737
WEBSITE: WWW.ACG.DESIGN

ENGINEER'S SEAL



1/19/2023

DATE:	01/12/23
PROJ. NO:	200203
DRAWN BY:	ARB
CHECKED BY:	RAS
SCALE:	AS NOTED
JURISDICTION:	CLV

DRAWING NUMBER:

C2

SHEET 2 OF 18

AGENCY NUMBER:

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES ITS COSTLY.



1-800-642-2444

AVOID HITTING OVERHEAD POWER LINES. ITS COSTLY.



1-702-227-2929

FAST

Call before you dig
UnderGround
1-702-432-5300

FREEMAN AND ARTERIAL SYSTEM OF TRANSPORTATION

LAS VEGAS VALLEY WATER DISTRICT STANDARD NOTES:
LVVWD PROJECT # _____

1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE LVVWD. FOR THE WATER PLANS, PLEASE ADVISE SHAW-BROWN TO THE LVVWD COMMUNICATIONS SUPPORT CENTER (258-7171) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. FOR FUTURE INSPECTIONS, NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO THE REQUESTED LVVWD INSPECTION. WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.
2. ALL WORK SHALL CONFORM TO LVVWD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, AND TO THE 2010 EDITION OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS). THE 2010 EDITION OF THE UDACS SHALL SUPERSEDE ANY CONFLICTS CONTAINED IN THE APPROVED DRAWINGS AND/OR SPECIFICATIONS.
3. ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2 ABOVE, SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT FACTOR OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
4. A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
5. ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
6. ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, ALLEYWAYS.
7. ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, WALKWAY AND CURB GUTTERS.
8. ALL WATER AND STORM DRAIN OR SANITARY SERVICE CROSSINGS SHALL CONFORM TO SECTION 2.22 OF THE 2010 EDITION OF THE UDACS.
9. ALL WATER FACILITIES AND APPURTENANCES SHALL BE DISINFECTED, PRESSURE TESTED AND HAVE AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO OPERATION AND USE.
10. THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 OR 258-3802, TWO (2) WORKING DAYS PRIOR TO METER PICKUP.
11. ANY INTERRUPTION OF SERVICE MUST BE PERFORMED IN ACCORDANCE WITH UDACS SECTION 3.14.01, AND APPROVED BY THE LVVWD INSPECTION DIVISION PRIOR TO SHUTDOW. PROPER WRITTEN NOTIFICATION MUST BE GIVEN TO ALL AFFECTED CUSTOMERS.
12. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD APPROVED PRODUCTS LIST FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS BY SUBMITTING SHOP DRAWINGS.
13. TELEPHONE USA NORTH 811 "CALL BEFORE YOU DIG" AT "811" OR 1-800-642-2444.
14. THE INSTALLATION OF LAS VEGAS VALLEY WATER DISTRICT (LVVWD) MUNICIPAL WATER FACILITIES WITHIN ALL STREETS IS ASSUMED TO BE IN COMPLIANCE WITH THE UNIFORM STANDARDS, INCLUDING THE PLACEMENT OF FACILITY PAVING STREET SURFACES. ANY REPAIR WORK DONE BY THE LVVWD TO THE MUNICIPAL WATER FACILITIES WILL INCLUDE THE PLACEMENT OF AN APPROPRIATELY SIZED ASPHALT REPAIR PATCH ON THE STREET SURFACE.

ANY DECORATIVE PAVING SURFACE WITHIN THE STREET IS THE RESPONSIBILITY OF THE OWNER'S ASSOCIATION, OR THE INDIVIDUAL PROPERTY OWNERS IF NO OWNER'S ASSOCIATION IS IN EXISTENCE, OR THE AGENCY HAVING JURISDICTION. DECORATIVE SURFACE MATERIALS PLACED WITHIN THE TEN FOOT EASEMENT ADJUTING A PUBLIC STREET OR STREET RIGHT OF WAY SHALL BE REMOVED DURING THE REPAIR OR OPERATION OF THE FACILITIES. WILL BE REPLACED BY LVVWD WITH AN APPROPRIATELY SIZED PLAIN FINISH CONCRETE PATCH. THE LVVWD WILL NOT RESTORE, AND WILL NOT BE RESPONSIBLE FOR THE RESTORATION OF ANY DECORATIVE PAVING SURFACE WITHIN THE STREET. THE LVVWD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.
15. NO LEAD COMPLIANCE NOTE:

TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, ALL WATER WORKS BRASS PRODUCTS PROPOSED TO BE RELOCATED, OR INSTALLED AS NEW MUST BE INSTALLED WITH THE LEAD FREE APPROVED PRODUCT. THE OLD LEADED PRODUCT MAY NOT BE REUSED.
16. PROTECT IN PLACE AND ADJUST LVVWD EXISTING FACILITIES TO FINISHED GRADE PER UDACS PLATES. ALL LVVWD FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.
17. DRY UTILITY NOTES: MAINTAIN A MINIMUM 12" VERTICAL SEPARATION AT ALL POINTS OF CROSSINGS. MAINTAIN A MINIMUM 3' PARALLEL SEPARATION.

3. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, AND OTHER DEBRIS, AND DISCHARGE ALL MATERIALS THAT HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF THE CITY OF LAS VEGAS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN THE CITY OF LAS VEGAS DESIGN STANDARD AND THE LAS VEGAS CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SUCH STABILIZATION MEASURES SHALL BE IN ACCORDANCE WITH THE GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR1000000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND AREAS THAT ARE THE EXPOSURE OF EXISTING UTILITIES, EROSION AND EXIT LOCATIONS, AND ALL BMP'S WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. INSPECTIONS AND CORRECTIVE ACTIONS INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES, REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR1000000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMP'S SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RAIN EVENT OR PRIOR TO THE NEXT RAIN EVENT. STORMWATER STORAGE AND RETENTION BASINS SHALL BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.
6. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL RESPOND TO STORMWATER INSPECTION CORRECTIVE ACTIONS IN THE MANNER PRESCRIBED BY THE CITY OF LAS VEGAS, INCLUDING BUT NOT LIMITED TO, PROVIDING PHOTOS AND DESCRIPTIONS OF THE CORRECTIVE ACTION COMPLETED BY THE CONTRACTOR OR HIS AGENT.

- NONE

1. IN THE EVENT OF NATURAL GAS EMERGENCIES CALL 911 AND 1-877-860-6020.
2. MINIMUM HORIZONTAL AND VERTICAL CLEARANCE BETWEEN NATURAL GAS FACILITIES AND ANY UNDERGROUND UTILITIES AND/OR STRUCTURES, INCLUDING BUT NOT LIMITED TO WATER, SEWER, STORM DRAIN, COMMUNICATIONS, AND ELECTRIC SHALL BE AT LEAST 12-INCHES OR GREATER AS DICTATED BY LOCAL CODES AND STANDARDS.

(a) ANY DEVIATION FROM SPECIFIED MINIMUM CLEARANCES MUST BE APPROVED BY ALL AFFECTED UTILITIES AND/OR MUNICIPALITIES.
3. FOR VALVE ADJUSTMENT CONTACT (702)528-7881 14 DAYS PRIOR TO CONSTRUCTION.
4. IN THE EVENT OF A NATURAL GAS CONFLICT WITH PROPOSED UTILITIES AND STRUCTURES CONTACT (702)365-2099.
5. FOR STANDBY WHEN EXCAVATING (INCLUDING SAW CUTTING AND PAVEMENT REMOVAL) OVER OR NEAR HIGH PRESSURE GAS LINES CONTACT 702-278-8451 48 HOURS PRIOR TO CONSTRUCTION.

CAUTION: HIGH PRESSURE GAS!!!
CALL SOUTHWEST GAS AT (702)278-8451 FOR STANDBY WHEN EXCAVATING
OVER OR NEAR HIGH PRESSURE GAS LINES 48 HOURS PRIOR TO CONSTRUCTION.

REVISÉ 09/08/2020

QUANTITY ESTIMATE DISCLAIMER NOTE

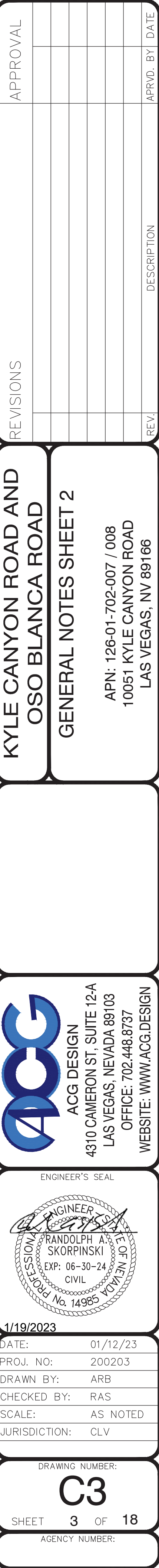
QUANTITIES SHOWN ARE ENGINEERING ESTIMATES ONLY. CONTRACTOR TO PERFORM AN INDEPENDENT ESTIMATE.

DATE:

DATE: _____

LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES

PROJECT NO. _____ FIRST APPROVED DATE: _____



Z:\PROJECTS_CURRENT\COMMERCIAL CLIENTS\MICHAEL SNECKEN\202023- CIV @ OSO BLANCA & KYLE CANYON\ENGINEERING\CIVIL DRAWINGS\IMPROVEMENT PLANS\202023-CL_C4-CV.DWG 11/21/2022 3:17 PM

ABBREVIATIONS

ABAN	ABANDON	GB	GRADE BREAK
AB	AGGREGATE BASE	GM	GAS METER
ABS	ABSOLUTE	GPM	GALLONS PER MINUTE
AC	ASPHALTIC CONCRETE	GRD	GRADE
ACKV	AUTOMATIC CHECK VALVE	GRT	GRATE
ADA	AMERICAN DISABILITY ACT	GUT	GUTTER
ADDL	ADDITIONAL	GV	GATE VALVE
ADDM	ADDENDUM	HERCP	HORIZONTAL/ELLIPTICAL REINFORCED CONCRETE PIPE
ADJ	ADJUSTABLE	HP	HIGH POINT
AGG	AGGREGATE	IN	INCH
AL	ALUMINUM	INSTR	INSTRUMENT
AMT	AMOUNT	INT	INTERIOR
&	AND	INV	INVERT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	IRR	IRRIGATION
APN	ASSESSOR PARCEL NUMBER	LEN OR L	LENGTH OF CURVATURE
APPROX	APPROXIMATE	LF	LINEAR FOOT
APVD	APPROVED	LT	LEFT/LIGHT
ASPH	ASPHALT	LTVWD	LAS VEGAS VALLEY WATER DISTRICT
ASSN	ASSOCIATION	M	METER
ASSY	ASSEMBLY	MAX	MAXIMUM
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	N	NORTH
AVE	AVENUE	NAP	NOT-A-PART
AWWA	AMERICAN WATER WORKS ASSOCIATION	NDOT	NEVADA DEPARTMENT OF TRANSPORTATION
BC	BOLT CIRCLE/BACK OF CURB	NE	NORTHEAST
BCR	BACK OF CURB RADIUS BEGINNING OF CURVE RETURN	NG	NATURAL GROUND
BORY LINE	BOUNDARY LINE	NO. #	NUMBER
BETW. B/W	BETWEEN	NPC	NEVADA POWER COMPANY
BK	BOOK/BACK	NTS	NOT TO SCALE
BLDG	BUILDING	NW	NORTHWEST
BLK	BLOCK	MH	MANHOLE
BLM	BUREAU OF LAND MANAGEMENT	MIN	MINIMUM
BLVD	BOULEVARD	QHP	OVER HEAD POWER
BM	BENCHMARK	CHTEL	OVER HEAD TELEPHONE
BO	BLOW OFF ASSEMBLY	P	POLE/PRESSURE/PIPE/POWER
BC, BOC	BACK OF CURB	P/L / R	PROPERTY LINE
BOT	BOTTOM	PERP	PERPENDICULAR
BW, BOW	BACK OF WALK	PG	PRESSURE GAGE
BPV	BACK PRESSURE VALVE	PKWY	PARKWAY
BRG	BEARING	PRIV	PRIVATE
BS	BACK SIGHT	PRV	PRESSURE REDUCING VALVE
BVC	BEGINNING OF VERTICAL CURVE	PSI	POUNDS PER SQUARE INCH
BSW	BACK OF SIDEWALK	PVC	POLYVINYL CHLORIDE PIPE
C	CONDUIT	QTY	QUANTITY
C&G	CURB & GUTTER	R	RADIUS
CAP	CAPACITY	(R)	RADIAL
CATV	CABLE TELEVISION	R.D.O.	ROOF DRAIN OUTLET PIPE LOCATION
CAV	COMBINATION AIR VALVE	RPDA	REDUCED PRESSURE DETECTOR ASSEMBLY
CC	CLARK COUNTY	RPPA	REDUCED PRESSURE PRINCIPLE ASSEMBLY
CCWRD	CLARK COUNTY WATER RECLAMATION DISTRICT	RR	RAILROAD
CI	CAST IRON	ROW	RIGHT OF WAY
CIP	CAST IRON PIPE/CAST IN PLACE	S/C	SAW CUT
CIR	CIRCLE	SCCP	STEEL CYLINDER CONCRETE PIPE
CIRCUM	CIRCUMFERENCE	SDMH	STORM DRAIN MANHOLE
CL OR R	CENTERLINE	SW, SDWK	SIDEWALK
CO	COUNTY/COMPANY/CONTRACT	SE	SOUTHEAST
COL	COLUMN	SEC	SECTION/SECOND(ARY)
CONC	CONCRETE	SHT	SHEET
CONST	CONSTRUCTION	SIG	SIGNAL
COR	CORNER	SF, SQ FT	SQUARE FOOT (FEET)
CONC	CONCRETE	SY, SQ YD	SQUARE YARD
CONN	CONNECTION	SNBORS	SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD
CONT	CONTINUE OR CONTINUOUS		
CTR	CENTER	SS	SANITARY SEWER
CU	CUBIC	ST	STREET
CY	CUBIC YARD	STA	STATION
D OR Δ	DELTA ANGLE	STD	STANDARD
D/W	DRIVEWAY	SL, STLT	STREET LIGHT
DBO	DESIGNED BY OTHERS	SUR	SURVEY
DCSWCS	DESIGN AND CONSTRUCTION STANDARDS FOR WASTE WATER COLLECTION SYSTEMS	SVZ	SITE VISIBILITY ZONE
DEMO	DEMOLITION	T	TELEPHONE/TANGENT
DEPT	DEPARTMENT	TAN	TANGENT
DET	DETAIL	TC	TOP OF CURB
DEV	DEVELOPMENT	TF	TOP OF FOOTING
DI	DROP INLET OR DUCTILE IRON	TFW	TOP OF FLOOD WALL
DIA OR Ø	DIAMETER	TMH	TOP OF MANHOLE
DIM	DIMENSION	TR.DR.	TRENCH DRAIN
DIP	DUCTILE IRON PIPE	TRW	TOP OF RETAINING WALL
DIR	DIRECTION	TOT	TOTAL
DIST	DISTANCE	TW	TOP OF WALL
DMH	DROP MANHOLE	TS	TRAFFIC SIGNAL
DOM	DOMESTIC	TRANS	TRANSITION/TRANSMISSION
DR	DRIVE	(TYP)	TYPICAL
DWG	DRAWING	UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS
DWY	DRIVEWAY	USD	UNIFORM STANDARD DRAWINGS
E	EAST	VC	VERTICAL CURVE
EC	EXISTING CONCRETE	VERT	VERTICAL
ECR	END OF CURVE RETURN	VG	VALLEY GUTTER
EOC	END OF CURVE	W/	WITH
EOP	EDGE OF PAVEMENT	WM	WATER METER
EOS	EDGE OF SHOULDER	W	WATER
ESMT	EASEMENT	WV	WATER VALVE
EVC	END OF VERTICAL CURVE	YD	YARD
EX	EXISTING		
FC	FACE OF CURB		
FF	FINISHED FLOOR		
FG	FINISHED GRADE		
FH	FIRE HYDRANT		
FL OR L	FLOW LINE		
FN	FENCE		
FW	FACE OF WALL		
FTNTR	FASTENER		
FT	FOOT OR FEET		
FUT	FUTURE		

NOTE:
THIS IS A STANDARD ABBREVIATION SHEET.
SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET
BUT NOT USED IN THE PLANS. ALL ABBREVIATIONS
USED ON THE PLANS MUST APPEAR ON THIS SHEET.

UTILITY

WATER PIPELINE

BLOWOFF

COMBINATION AIR VALVE

REDUCER

WATER VALVE

FIRE HYDRANT ASSEMBLY

WATER METER

SANITARY SEWER MANHOLE

STREET LIGHT (GENERIC SYMBOL NOT RELATED TO WATTAGE)

ELECTRICAL BOX

ELECTRICAL PANEL BOX

CABLE TV

GAS LINE

SANITARY SEWER

UNDERGROUND POWER

UNDERGROUND TELEPHONE

VALVE (INITIALS INDICATE OWNERSHIP AND/ OR TYPE)

UTILITY BOX (INITIALS INDICATE OWNER AND / OR TYPE)

UTILITY STUB-OUT

TRAFFIC CONTROL SIGN

100 W LUMINAIRE

150 W LUMINAIRE

200 W LUMINAIRE

250 W LUMINAIRE

400 W LUMINAIRE

750 W LUMINAIRE

TRAFFIC SIGNAL POLE

GATE VALVE

DOUBLE CHECK DETECTOR ASSEMBLY (DCDA)

REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA)

ROOF DRAIN OUTLET PIPE LOCATION

GEOMETRIC

EDGE OF PAVEMENT

FENCE

CURB, GUTTER AND SIDEWALK

CENTER LINE

BLOCK WALL/RETAINING WALL

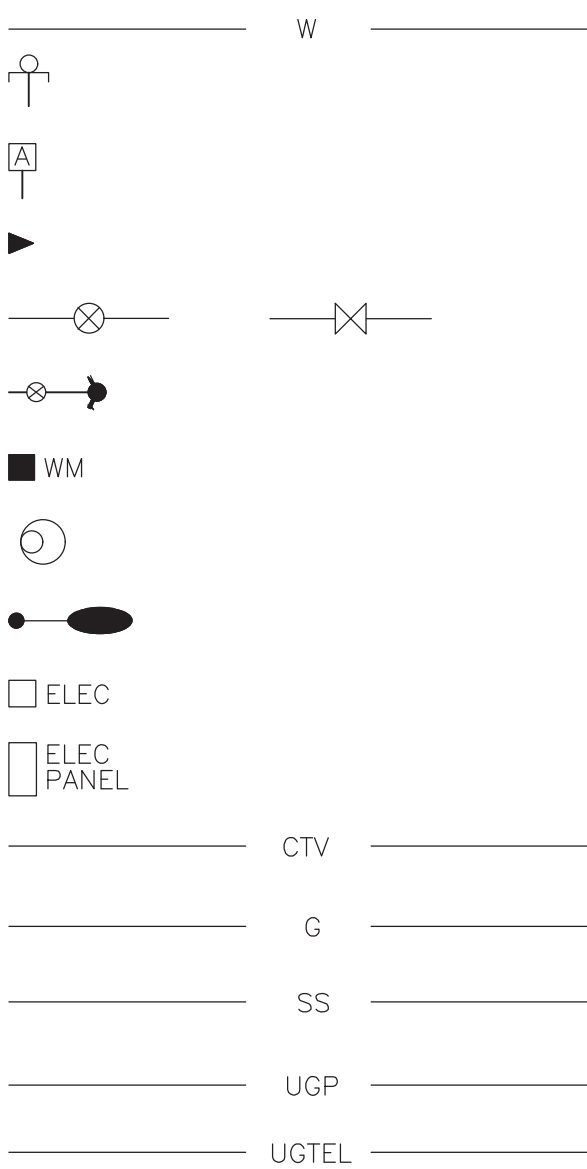
SCREEN WALL

STREET NAME SIGN

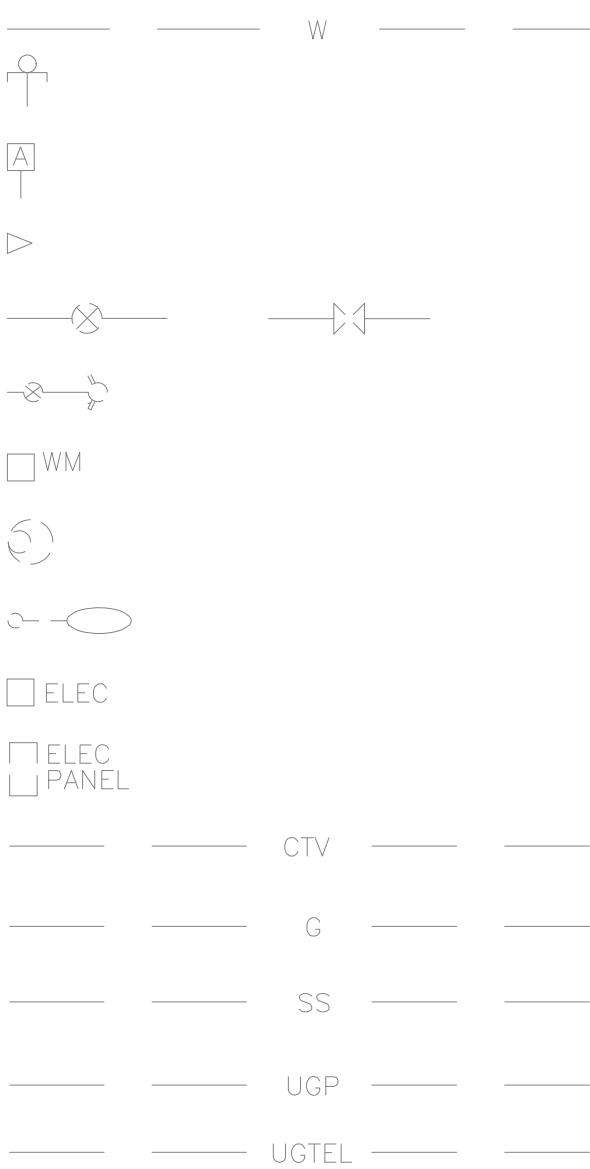
DRIVEWAY

WHEELCHAIR RAMP

PROPOSED



EXISTING



SITE PLAN

STEPS (NOTE TYPE AND NO. OF RISERS)

EXISTING BUILDING & FOUNDATION

MISCELLANEOUS

REFERENCE BUBBLE

IDENTIFICATION HEXAGON

SAW CUT LINE-ASPHALT CONC. OR PCC CONC.

DRAINAGE / GRADING

STORM DRAIN MANHOLE (SIZE AS NOTED PER PLAN)

CONTOURS

STORM DRAIN (SIZE AS NOTED PER PLAN)

DIRECTION OF FLOW

FLOW LINE OF DITCH OR CHANNEL

DROP INLET

ELEVATIONS

CUT OR FILL SLOPES

VALLEY GUTTER

SPECIAL SURVEY LEGEND & ABBREVIATIONS

W	WATER PULLBOX/METER/SHUT OFF
E	ELECTRIC PULLBOX/METER/TRANSFORMER
T	TELEPHONE PULLBOX/HANDHOLE
FO	FIBER OPTIC PULLBOX/HANDHOLE
SL	STREETLIGHT PULLBOX/HANDHOLE
TS	TRAFFIC SIGNAL PULLBOX/HANDHOLE
ICV	IRRIGATION CONTROL VALVE
SS	SANITARY SEWER
CTV	CATV PULLBOX/HANDHOLE
AL	AREA LIGHT PULLBOX/HANDHOLE
RB	RED BOX DVD RENTAL KIOSK

	FIRE HYDRANT
	WATER VALVE
	GAS METER
	SEWER MANHOLE
	GAS VALVE
	SEWER CLEANOUT
	AREA LIGHT
	STREET LIGHT
	SIGN
	INTERCEPTOR MANHOLE
	TILE WALKWAY
	DESERT LANDSCAPE AREA
	8" CONCRETE BOLLARD
	TRAFFIC SIGNAL POLE
	AREA LIGHT
	STORM MANHOLE
	SHRUB
	FLOWERS/PLANT
	TREE
	PALM TREE
	BUILDING COLUMN
	TRASH CAN

SURVEY

SURVEY MONUMENT

PROPERTY LINE

RIGHT-OF-WAY LINE

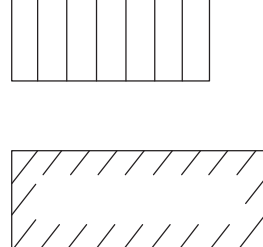
PATENT RESERVATION OR EASEMENT LINE

SECTION LINE

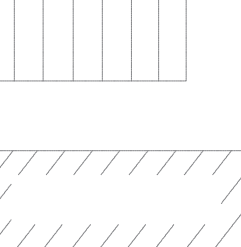
CONCRETE MONUMENT

CONCRETE MONUMENT SURVEY LINE

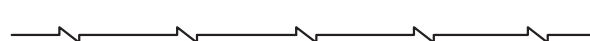
PROPOSED



EXISTING



DETAIL OR SECTION REFERENCE NUMBER (DETAIL) OR LETTER (SECTION)
DRAWING NUMBER OF SHEET WHERE DETAIL OR SECTION RESIDES
ALL SHEETS THAT REFERENCE TO THE DETAIL OR SECTION



PROPOSED

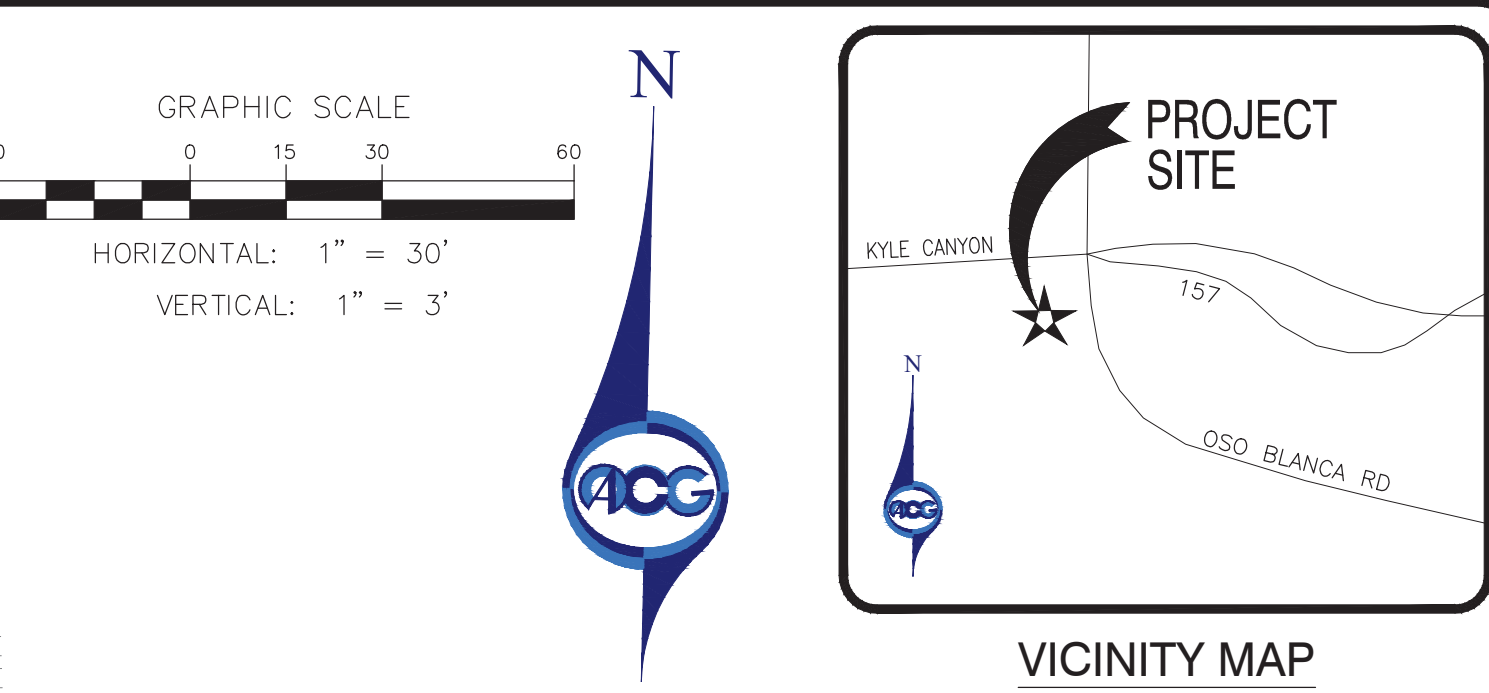


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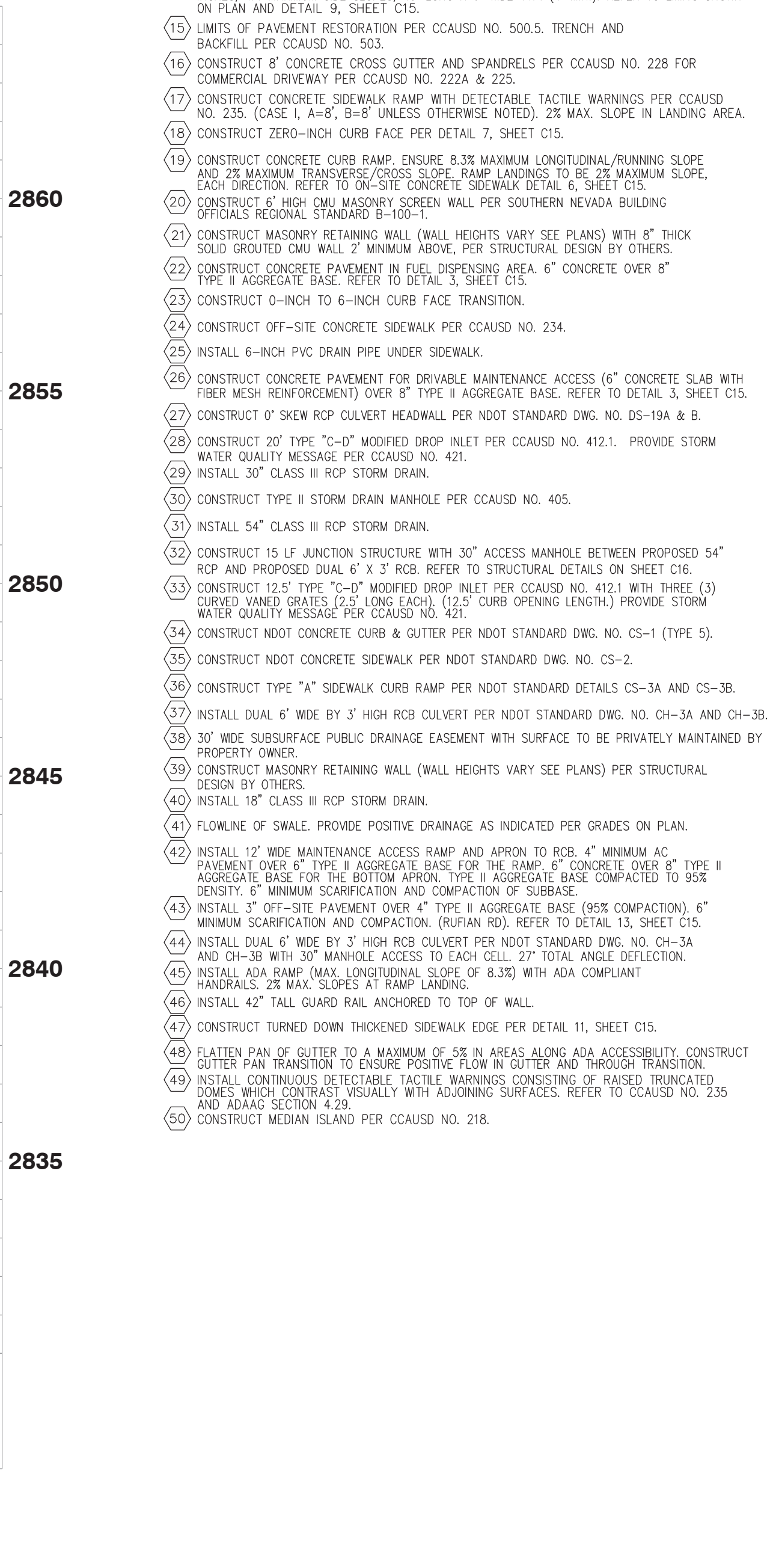


APPROVAL						APPROV. BY	DATE
REVISIONS						REV	
KYLE CANYON ROAD AND OSO BLANCA ROAD							
LEGEND & ABBREVIATIONS							
APN: 126-01-702-007 / 008 10051 KYLE CANYON ROAD LAS VEGAS, NV 89166							
ACG DESIGN 4310 CAMERON ST. SUITE 12-A LAS VEGAS, NEVADA 89103 OFFICE: 702.448.8737 WEBSITE: WWW.ACG.DESIGN							
ENGINEER'S SEAL							
1/19/2023							
DATE: 11/21/22							
PROJ. NO: 200203							
DRAWN BY: ARB							
CHECKED BY: RAS							
SCALE: AS NOTED							
JURISDICTION: CLV							
DRAWING NUMBER: C4							
SHEET 4 OF 18							
AGENCY NUMBER:							

LEGEND	
	AC PAVEMENT
	CONCRETE
	LIMITS OF PAVEMENT RESTORATION PER CCAUSD NO. 500.5
	PROPOSED NO PARKING AREA AND ADA ACCESSIBLE ROUTE

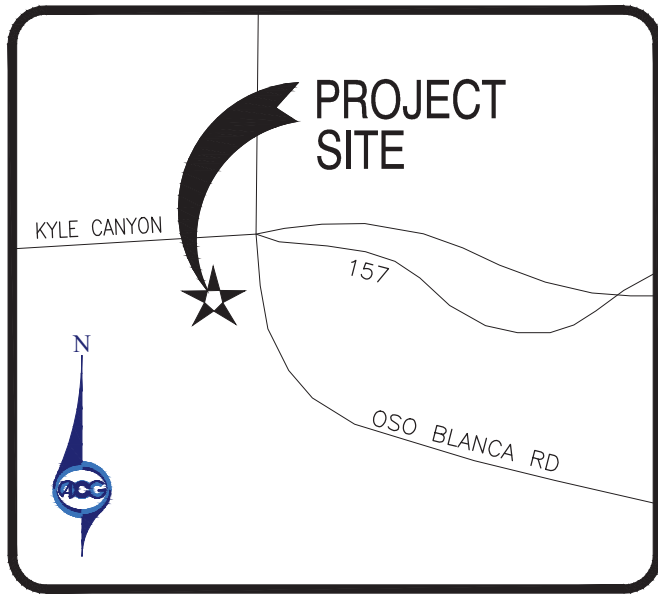
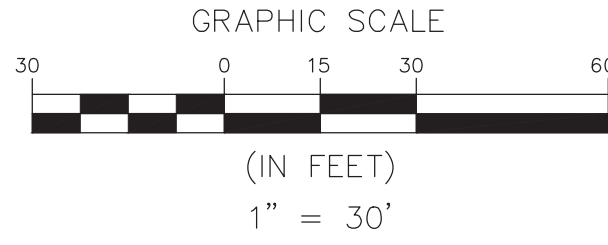
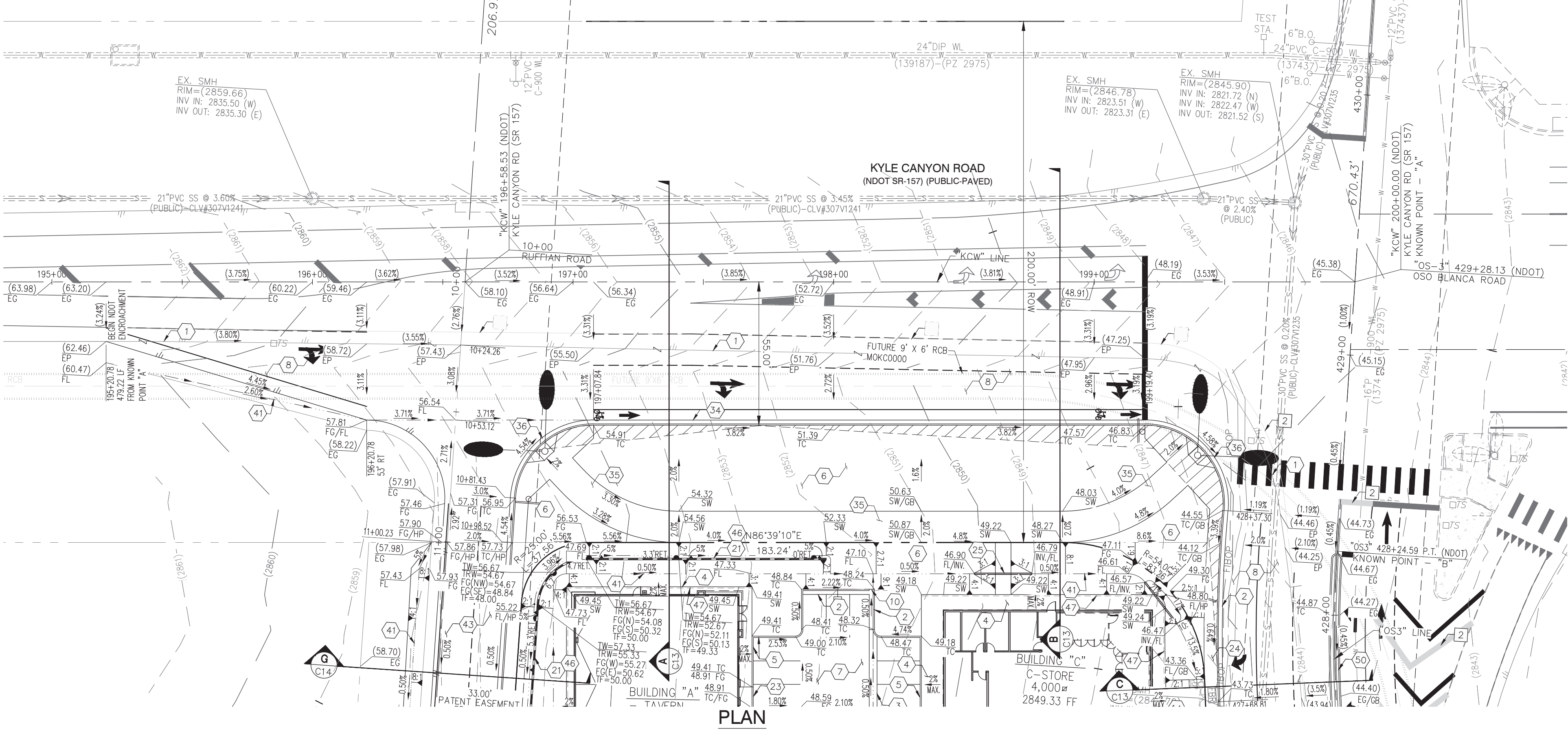


ALL STORM DRAIN DROP INLETS TO BE CONSTRUCTED WITH A CONCRETE STAMP AND SIGN DETAIL PER USDOCA DRAWING NO. 421 (STORMWATER QUALITY MANAGEMENT STAMP AND SIGN DETAIL).



KYLE CANYON ROAD AND OSO BLANCA ROAD	REVIEWS		APPROVAL	
54-INCH RCP PLAN & PROFILE APN: 126-01-702-007 / 008 10051 KYLE CANYON ROAD LAS VEGAS, NV 89166	REV		DESCRIPTION	
 ACG DESIGN 4310 CAMERON ST, SUITE 12-A LAS VEGAS, NEVADA 89103 OFFICE: 702.448.8737 WEBSITE: WWW.ACG.DESIGN				
ENGINEER'S SEAL 				
1/19/2023				
DATE:		01/12/23		
PROJ. NO:		200203		
DRAWN BY:		ARB		
CHECKED BY:		RAS		
SCALE:		AS NOTED		
JURISDICTION:		CLV		
DRAWING NUMBER:				
C7				
SHEET		7		OF 18
AGENCY NUMBER:				

Z:\PROJECTS_CURRENT\COMMERCIAL CLIENTS\MICHAEL SNECKER\200203- CIG @ OSO BLANCA & KYLE CANYON\ENGINEERING\CIVIL DRAWINGS\IMPROVEMENT PLANS\200203-C8-p82-KYLE.DWG 12/20/2022 2:35 PM



VICINITY MAP

SITE DEMOLITION NOTES

- 1 REMOVE EXISTING 24" RCP STORM DRAIN PIPE.
- 2 REMOVE EXISTING PAVEMENT STRIPING.

CONSTRUCTION NOTES

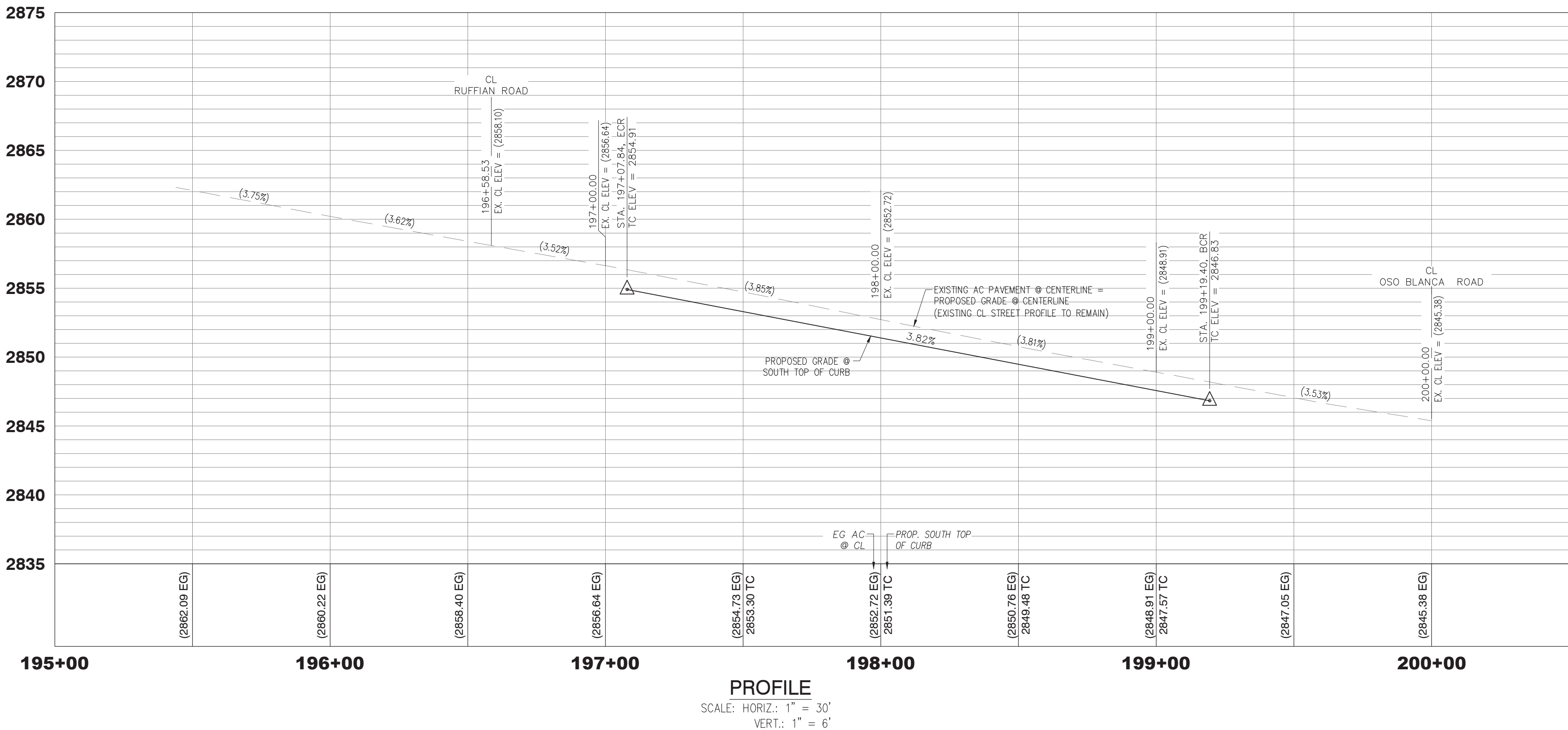
- 1 SAWCUT & MATCH EXISTING PAVEMENT.
- 2 CONSTRUCT 1" CURB AND GUTTER PER CCAUSD NO. 216.
- 3 CONSTRUCT 3" WIDE VALLEY GUTTER. REFER TO DETAIL 5, SHEET C15.
- 4 CONSTRUCT ON-SITE CONCRETE SIDEWALK PER DETAIL 6, SHEET C15.
- 5 CONSTRUCT MODIFIED "A" TYPE CURB PER DETAIL 1, SHEET C15.
- 6 LANDSCAPE AREA (DESIGNED BY OTHERS)
- 7 INSTALL ON-SITE PAVEMENT (2" AC FOR AUTO PARKING, 3" AC FOR MAIN CORRIDOR AND TRUCK ACCESS) OVER 4" TYPE II AGGREGATE BASE (95% COMPACTION), 6" MINIMUM SCARIFICATION AND COMPACTION. REFER TO DETAIL 2, SHEET C15.
- 8 INSTALL 9.5" OFF-SITE PAVEMENT OVER 6" TYPE II AGGREGATE BASE (95% COMPACTION), 6" MINIMUM SCARIFICATION AND COMPACTION. (KYLE CANYON RD AND OSO BLANCA RD). REFER TO DETAIL 11, SHEET C15.
- 9 CONSTRUCT SIDEWALK DRAIN PER CCAUSD NO. 236.
- 10 PROVIDE 2' CURB OPENING TO ALLOW RUN-OFF TO SPILL OUT OF CURB. REFER TO DETAIL 10, SHEET C15.
- 11 INSTALL 8' X 6.5" PRECAST BUMPER BLOCKS PER CCAUSD NO. 238.
- 12 CONSTRUCT TRASH ENCLOSURE PER ARCHITECTURAL PLANS.
- 13 CONSTRUCT CONCRETE APRON FOR TRASH ENCLOSURE (6" CONCRETE SLAB WITH 666/1.4X1.4 W.W.F.) OVER 8" TYPE II AGGREGATE BASE. REFER TO DETAIL 4, SHEET C15.
- 14 FLOWLINE OF PROPOSED SWALE PER BMP DESIGN CRITERIA. D₅₀=4 INCHES MIN. THICKNESS = 8 INCHES. 4:1 MAXIMUM SIDE SLOPES, 40' LONG X 6' WIDE TYP. (4' MIN.). REFER TO LIMITS SHOWN ON PLAN AND DETAIL 9, SHEET C15.
- 15 LIMITS OF PAVEMENT RESTORATION PER CCAUSD NO. 500.5. TRENCH AND BACKFILL PER CCAUSD NO. 503.
- 16 CONSTRUCT 8" CONCRETE CROSS GUTTER AND SPANDRELS PER CCAUSD NO. 228 FOR COMMERCIAL DRIVEWAY PER CCAUSD NO. 222A & 225.
- 17 CONSTRUCT CONCRETE SIDEWALK RAMP WITH DETECTABLE TACTILE WARNINGS PER CCAUSD NO. 235. (CASE I, A+B, D+E UNLESS OTHERWISE NOTED). 2% MAX. SLOPE IN LANDING AREA.
- 18 CONSTRUCT ZERO-INCH CURB FACE PER DETAIL 7, SHEET C15.
- 19 CONSTRUCT CONCRETE CURB RAMP. ENSURE 8.3% MAXIMUM LONGITUDINAL/RUNNING SLOPE AND 2% MAXIMUM TRANSVERSE/CROSS SLOPE. RAMP LANDINGS TO BE 2% MAXIMUM SLOPE. EACH DIRECTION. REFER TO ON-SITE CONCRETE SIDEWALK DETAIL 6, SHEET C15.
- 20 CONSTRUCT 6" HIGH CMU MASONRY SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD B-100-1.
- 21 CONSTRUCT MASONRY RETAINING WALL (WALL HEIGHTS VARY SEE PLANS) WITH 8" THICK SOLID GROUTED CMU WALL 2" MINIMUM ABOVE. PER STRUCTURAL DESIGN BY OTHERS.
- 22 CONSTRUCT CONCRETE PAVEMENT IN FUEL DISPENSING AREA. 6" CONCRETE OVER 8" TYPE II AGGREGATE BASE. REFER TO DETAIL 3, SHEET C15.
- 23 CONSTRUCT 0-INCH TO 6-INCH CURB FACE TRANSITION.
- 24 CONSTRUCT OFF-SITE CONCRETE SIDEWALK PER CCAUSD NO. 234.
- 25 INSTALL 6-INCH PVC DRAIN PIPE UNDER SIDEWALK.
- 26 CONSTRUCT CONCRETE PAVEMENT FOR DRIVABLE MAINTENANCE ACCESS (6" CONCRETE SLAB WITH FIBER MESH REINFORCEMENT) OVER 8" TYPE II AGGREGATE BASE. REFER TO DETAIL 3, SHEET C15.
- 27 CONSTRUCT 0' SKEW RCP CULVERT HEADWALL PER NDOT STANDARD DWG. NO. DS-19A & B.
- 28 CONSTRUCT 20" TYPE "C-D" MODIFIED DROP INLET PER CCAUSD NO. 412.1. PROVIDE STORM WATER QUALITY MESSAGE PER CCAUSD NO. 421.
- 29 INSTALL 30" CLASS III RCP STORM DRAIN.
- 30 CONSTRUCT TYPE II STORM DRAIN MANHOLE PER CCAUSD NO. 405.
- 31 INSTALL 54" CLASS III RCP STORM DRAIN.
- 32 CONSTRUCT 15 LF JUNCTION STRUCTURE WITH 30" ACCESS MANHOLE BETWEEN PROPOSED 54" RCP AND PROPOSED DUAL 6' X 3' RCB. REFER TO STRUCTURAL DETAILS ON SHEET C16.
- 33 CONSTRUCT 12.5' TYPE "C-D" MODIFIED DROP INLET PER CCAUSD NO. 412.1 WITH THREE (3) CURVED VANED GRATES (2.5' LONG EACH). (12.5' CURB OPENING LENGTH). PROVIDE STORM WATER QUALITY MESSAGE PER CCAUSD NO. 421.
- 34 CONSTRUCT NDOT CONCRETE CURB & GUTTER PER NDOT STANDARD DWG. NO. CS-1 (TYPE 5).
- 35 CONSTRUCT NDOT CONCRETE SIDEWALK PER NDOT STANDARD DWG. NO. CS-2.
- 36 CONSTRUCT TYPE "A" SIDEWALK CURB RAMP PER NDOT STANDARD DETAILS CS-3A AND CS-3B.
- 37 INSTALL DUAL 6' WIDE BY 3' HIGH RCB CULVERT PER NDOT STANDARD DWG. NO. CH-3A AND CH-3B. PROPERTY OWNER.
- 38 30" WIDE SUBSURFACE PUBLIC DRAINAGE EASEMENT WITH SURFACE TO BE PRIVATELY MAINTAINED BY PROPERTY OWNER.
- 39 CONSTRUCT MASONRY RETAINING WALL (WALL HEIGHTS VARY SEE PLANS) PER STRUCTURAL DESIGN BY OTHERS.
- 40 INSTALL 18" CLASS III RCP STORM DRAIN.
- 41 FLOWLINE OF SWALE. PROVIDE POSITIVE DRAINAGE AS INDICATED PER GRADES ON PLAN.
- 42 INSTALL 12" WIDE MAINTENANCE ACCESS RAMP AND APRON TO RCB. 4" MINIMUM AC PAVEMENT OVER 6" TYPE II AGGREGATE BASE FOR THE RAMP. 6" CONCRETE OVER 8" TYPE II AGGREGATE BASE FOR THE BOTTOM APRON. TYPE II AGGREGATE BASE COMPACTED TO 95% DENSITY. 6" MINIMUM SCARIFICATION AND COMPACTION OF SUBBASE.
- 43 INSTALL 3" OFF-SITE PAVEMENT OVER 4" TYPE II AGGREGATE BASE (95% COMPACTION), 6" MINIMUM SCARIFICATION AND COMPACTION. (RUFFIAN RD). REFER TO DETAIL 13, SHEET C15.
- 44 INSTALL DUAL 6' WIDE BY 3' HIGH RCB CULVERT PER NDOT STANDARD DWG. NO. CH-3A AND CH-3B WITH 30" MANHOLE ACCESS TO EACH CELL. 27" TOTAL ANGLE DEFLECTION.
- 45 INSTALL ADA RAMP (MAX. LONGITUDINAL SLOPE OF 8.3%) WITH ADA COMPLIANT HANDRAILS. 2% MAX. SLOPES AT RAMP LANDING.
- 46 INSTALL 42" TALL GUARD RAIL ANCHORED TO TOP OF WALL.
- 47 CONSTRUCT TURNED DOWN THICKENED SIDEWALK EDGE PER DETAIL 11, SHEET C15.
- 48 FLATTEN PAN OF GUTTER TO A MAXIMUM OF 5% IN AREAS ALONG ADA ACCESSIBILITY. CONSTRUCT GUTTER PAN TRANSITION TO ENSURE POSITIVE FLOW IN GUTTER AND THROUGH TRANSITION.
- 49 INSTALL CONTINUOUS DETECTABLE TACTILE WARNINGS CONSISTING OF RAISED TRUNCATED DOMES WHICH CONTRAST VISUALLY WITH ADJOINING SURFACES. REFER TO CCAUSD NO. 235 AND ADAAG SECTION 4.29.
- 50 CONSTRUCT MEDIAN ISLAND PER CCAUSD NO. 218.

NEVADA DEPARTMENT OF TRANSPORTATION (NDOT) PERMIT REQUIRED

AN APPROVED NDOT OCCUPANCY PERMIT SHALL BE OBTAINED THROUGH THE AGENCY PRIOR TO ANY CONSTRUCTION WITHIN THE NDOT RIGHT-OF-WAY. PLANS SHOWING WORK IN THE NDOT RIGHT-OF-WAY MUST SHOW NDOT STATIONING. THE DEVELOPER ASSUMED ALL LIABILITY FOR WORK CONDUCTED UNDER THE AGENCY OBTAINED PERMIT THROUGH WARRANTY EXPIRATION.

NEVADA DEPARTMENT OF TRANSPORTATION (NDOT) PLAN REFERENCE

THE BASIS FOR STATIONING FOR KYLE CANYON ROAD (SR 157) IS THE CENTERLINE INTERSECTION OF KYLE CANYON ROAD AND OSO BLANCA ROAD, AS SHOWN IN NDOT CONTRACT NUMBER 3692, PROJECT NO. NHP-STP-095-2(062). "KCW" STATION 200+00.00, IS HEREIN REFERRED TO AS "KNOWN POINT-A". THE BASIS FOR STATIONING FOR OSO BLANCA ROAD IS THE P.T. ALONG OSO BLANCA ROAD CENTERLINE SOUTH OF THE CENTERLINE INTERSECTION OF KYLE CANYON ROAD AND OSO BLANCA ROAD, AS SHOWN IN NDOT CONTRACT NUMBER 3692, PROJECT NO. NHP-STP-095-2(062). "OS3" STATION 428+24.59, P.T., IS HEREIN REFERRED TO AS "KNOWN POINT-B".



I CERTIFY THAT THIS GRADING PLAN CONFORMS TO THE APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT THE CITY OF LAS VEGAS.

Randolph A. Skorpinski
RANDOLPH SKORPINSKI, P.E.
(NV #14985)

1/19/2023
DATE

APPROVAL		DESCRIPTION	REV.	APPROV. BY	DATE
DATE	BY				

KYLE CANYON ROAD AND
OSO BLANCA ROAD

KYLE CANYON RD PLAN & PROFILE

APN: 126-01-702-007 / 008
10051 KYLE CANYON ROAD
LAS VEGAS, NV 89166



ACG DESIGN
4310 CAMERON ST, SUITE 12-A
LAS VEGAS, NEVADA 89103
OFFICE: 702.448.8737
WEBSITE: WWW.ACG.DESIGN

ENGINEER'S SEAL



1/19/2023

DATE: 01/12/23
PROJ. NO: 200203
DRAWN BY: ARB
CHECKED BY: RAS
SCALE: AS NOTED
JURISDICTION: CLV

DRAWING NUMBER:

C8

SHEET 8 OF 18

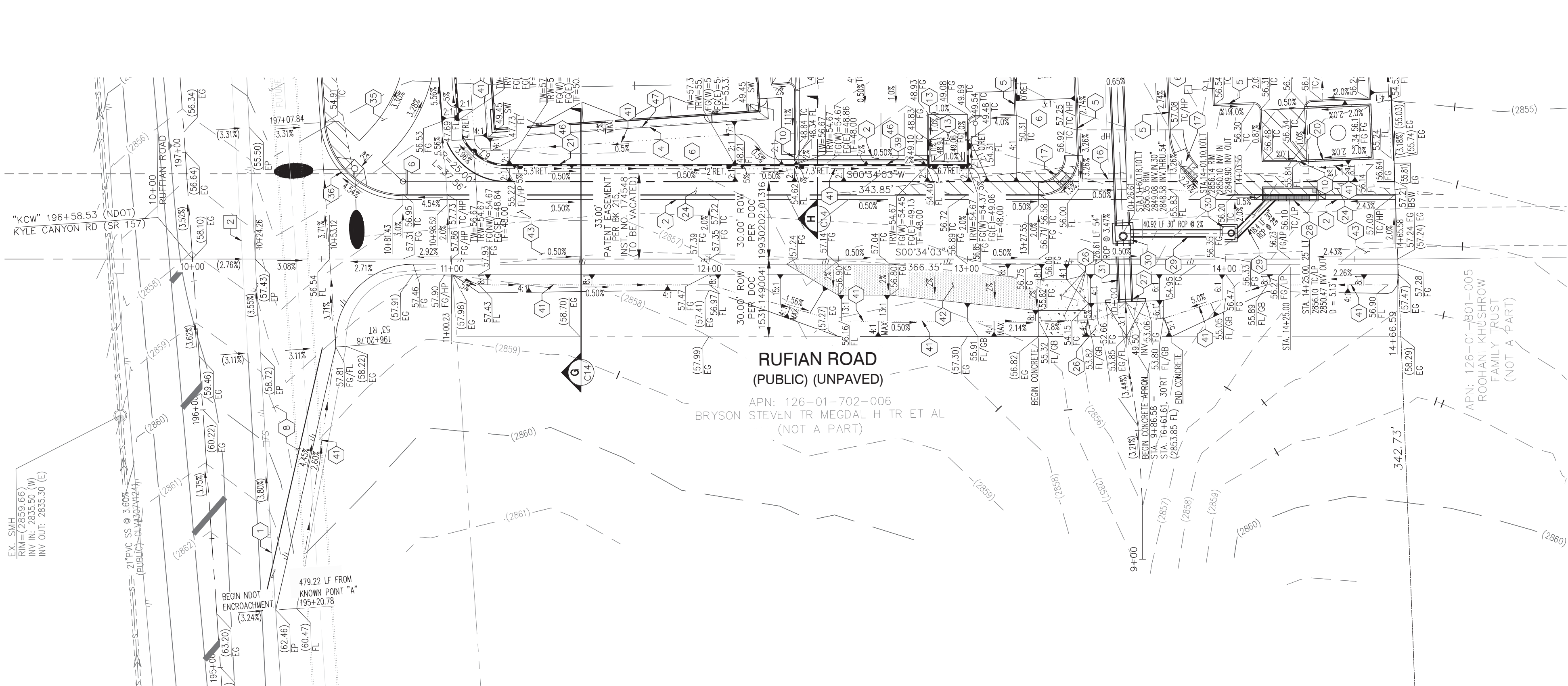
AGENCY NUMBER:

NEVADA DEPARTMENT OF TRANSPORTATION (NDOT) PLAN REFERENCE

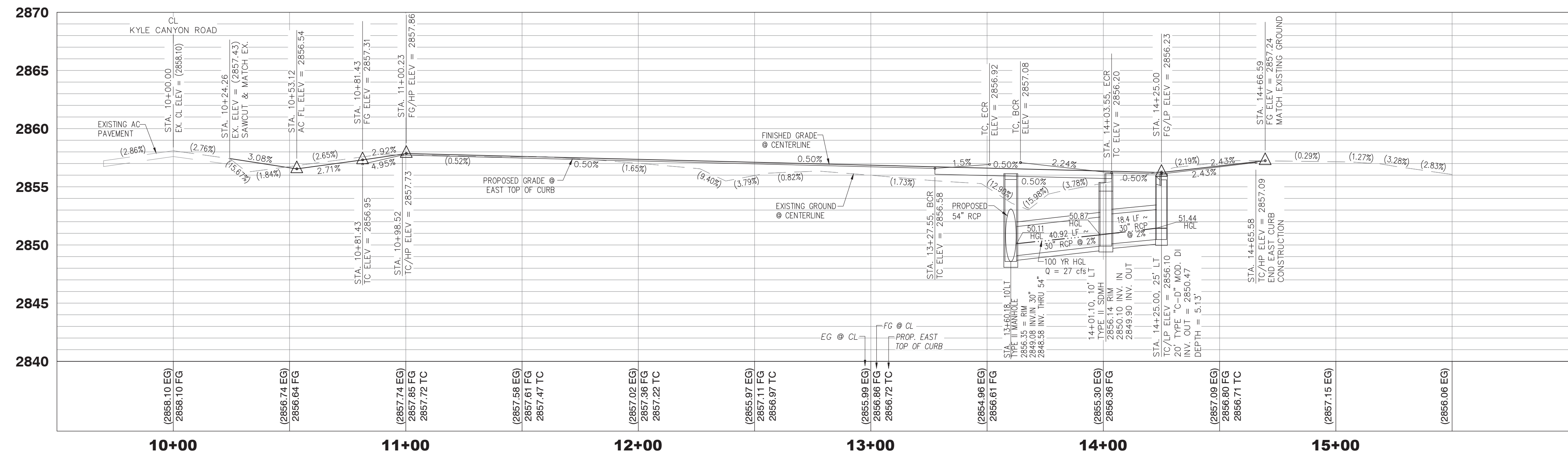
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[illegible]

Z:\PROJECTS_CURRENT\COMMERCIAL CLIENTS\MICHAEL SNECKER\200203- CIG @ OSO BLANCA & KYLE CANYON\ENGINEERING\CIVIL DRAWINGS\IMPROVEMENT PLANS\200203-CIG-9&6-RUFIAIDWG 1/12/2023 12:43 PM

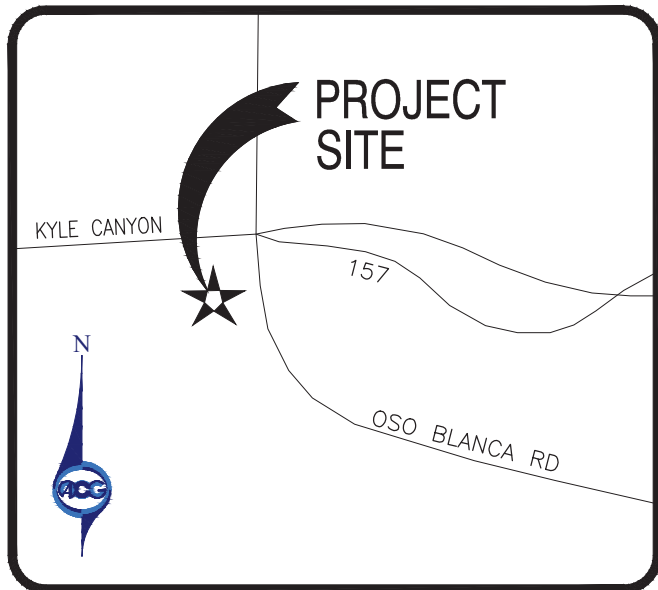
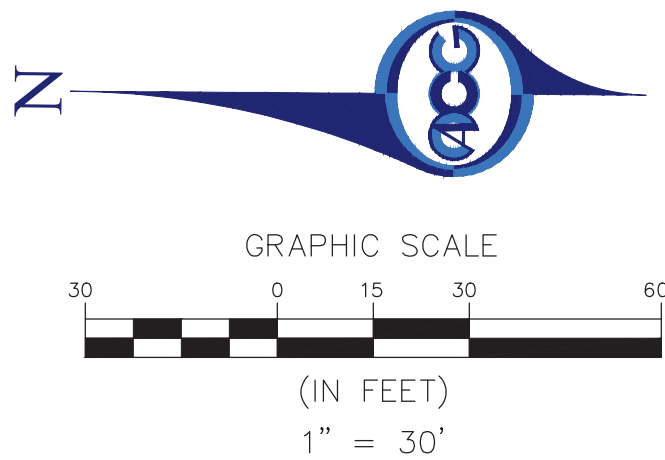


PLAN



PROFILE

SCALE: HORIZ.: 1" = 30'
VERT.: 1" = 6'



VICINITY MAP

SITE DEMOLITION NOTES

- 1 REMOVE EXISTING 24" RCP STORM DRAIN PIPE.
- 2 REMOVE EXISTING PAVEMENT STRIPING.

CONSTRUCTION NOTES

- 1 SAWCUT & MATCH EXISTING PAVEMENT.
- 2 CONSTRUCT 1" CURB AND GUTTER PER CCAUSD NO. 216.
- 3 CONSTRUCT 3" WIDE VALLEY GUTTER. REFER TO DETAIL 5, SHEET C15.
- 4 CONSTRUCT ON-SITE CONCRETE SIDEWALK PER DETAIL 6, SHEET C15.
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- 8 INSTALL 6" 4" OFF-SITE PAVEMENT OVER 6" TYPE II AGGREGATE BASE (95% COMPACTION), 6" MINIMUM SCARIFICATION AND COMPACTION. (KYLE CANYON RD AND OSO BLANCA RD). REFER TO DETAIL 11, SHEET C15.
- 9 CONSTRUCT SIDEWALK DRAIN PER CCAUSD NO. 236.
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- 30 CONSTRUCT TYPE II STORM DRAIN MANHOLE PER CCAUSD NO. 405.
- 31 INSTALL 54" CLASS III RCP STORM DRAIN.
- 32 CONSTRUCT 15 LF JUNCTION STRUCTURE WITH 30" ACCESS MANHOLE BETWEEN PROPOSED 54" RCP AND PROPOSED DUAL 6' X 3' RCB. REFER TO STRUCTURAL DETAILS ON SHEET C16.
- 33 CONSTRUCT 12.5' TYPE "C-D" MODIFIED DROP INLET PER CCAUSD NO. 412.1 WITH THREE (3) CURVED VANED GRATES (2.5' LONG EACH). (12.5' CURB OPENING LENGTH.) PROVIDE STORM WATER QUALITY MESSAGE PER CCAUSD NO. 421.
- 34 CONSTRUCT NDOT CONCRETE CURB & GUTTER PER NDOT STANDARD DWG. NO. CS-1 (TYPE 5).
- 35 CONSTRUCT NDOT CONCRETE SIDEWALK PER NDOT STANDARD DWG. NO. CS-2.
- 36 CONSTRUCT TYPE "A" SIDEWALK CURB RAMP PER NDOT STANDARD DETAILS CS-3A AND CS-3B.
- 37 INSTALL DUAL 6' WIDE BY 3' HIGH RCB CULVERT PER NDOT STANDARD DWG. NO. CH-3A AND CH-3B.
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- 44 INSTALL DUAL 6' WIDE BY 3' HIGH RCB CULVERT PER NDOT STANDARD DWG. NO. CH-3A AND CH-3B WITH 30" MANHOLE ACCESS TO EACH CELL. 27" TOTAL ANGLE DEFLECTION.
- 45 INSTALL ADA RAMP (MAX. LONGITUDINAL SLOPE OF 8.3% WITH ADA COMPLIANT HANDRAILS. 2% MAX. SLOPES AT RAMP LANDING).
- 46 INSTALL 42" TALL GUARD RAIL ANCHORED TO TOP OF WALL.
- 47 CONSTRUCT TURNED DOWN THICKENED SIDEWALK EDGE PER DETAIL 11, SHEET C15.
- 48 FLATTEN PAN OF GUTTER TO A MAXIMUM OF 5% IN AREAS ALONG ADA ACCESSIBILITY. CONSTRUCT GUTTER PAN TRANSITION TO ENSURE POSITIVE FLOW IN GUTTER AND THROUGH TRANSITION.
- 49 INSTALL CONTINUOUS DETECTABLE TACTILE WARNINGS CONSISTING OF RAISED TRUNCATED DOMES WHICH CONTRAST VISUALLY WITH ADJOINING SURFACES. REFER TO CCAUSD NO. 235 AND ADAAG SECTION 4.29.
- 50 CONSTRUCT MEDIAN ISLAND PER CCAUSD NO. 218.

I CERTIFY THAT THIS GRADING PLAN CONFORMS TO THE APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT THE CITY OF LAS VEGAS.

Randolph A. Skorpiński
RANDOLPH SKORPINSKI, P.E.
(NV #14985)

1/19/2023
DATE

APPROVAL	REVISIONS	DESCRIPTION	APPROV. BY	DATE

KYLE CANYON ROAD AND OSO BLANCA ROAD

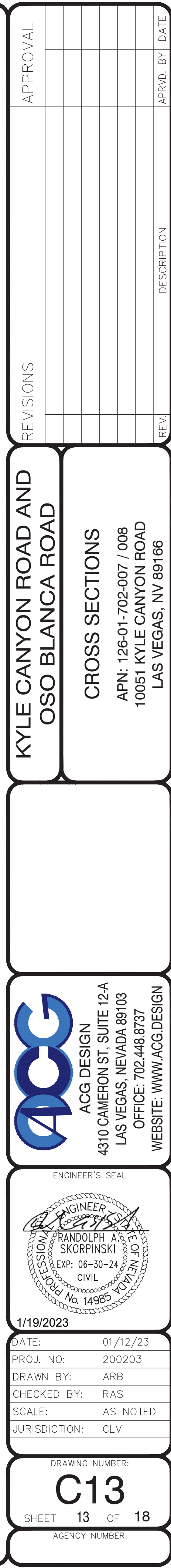
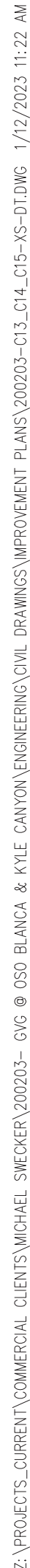
RUFIAN ROAD PLAN & PROFILE
APN: 126-01-702-007 / 008
10051 KYLE CANYON ROAD
LAS VEGAS, NV 89166

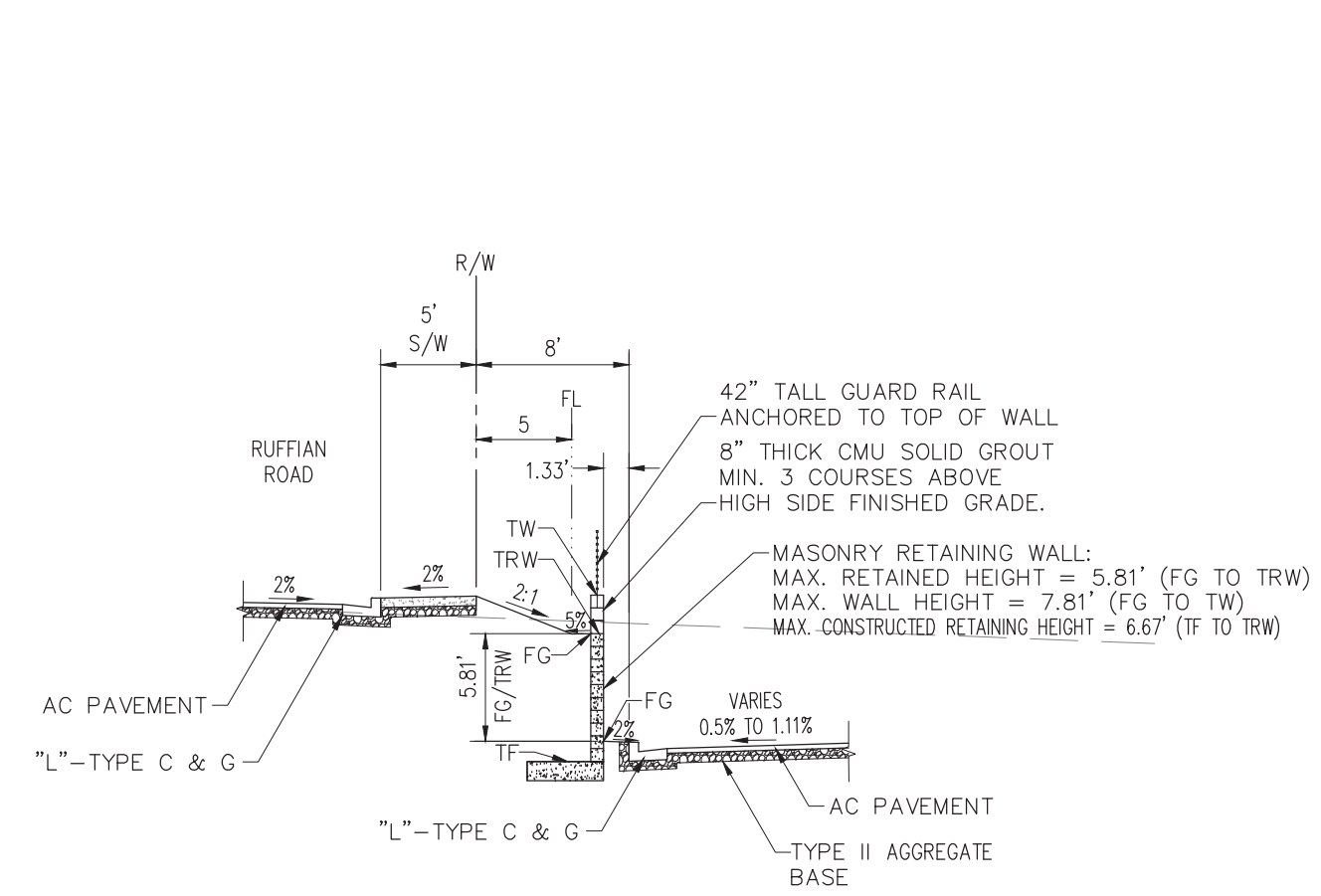
ACG DESIGN
4310 CAMERON ST, SUITE 12-A
LAS VEGAS, NEVADA 89103
OFFICE: 702.448.8737
WEBSITE: WWW.ACG.DESIGN

ENGINEER'S SEAL
R. SKORPINSKI
REGISTERED PROFESSIONAL ENGINEER
CIVIL
EXP. 06-30-24
Lic. No. 14985

1/19/2023
DATE: 01/12/23
PROJ. NO: 200203
DRAWN BY: ARB
CHECKED BY: RAS
SCALE: AS NOTED
JURISDICTION: CLV

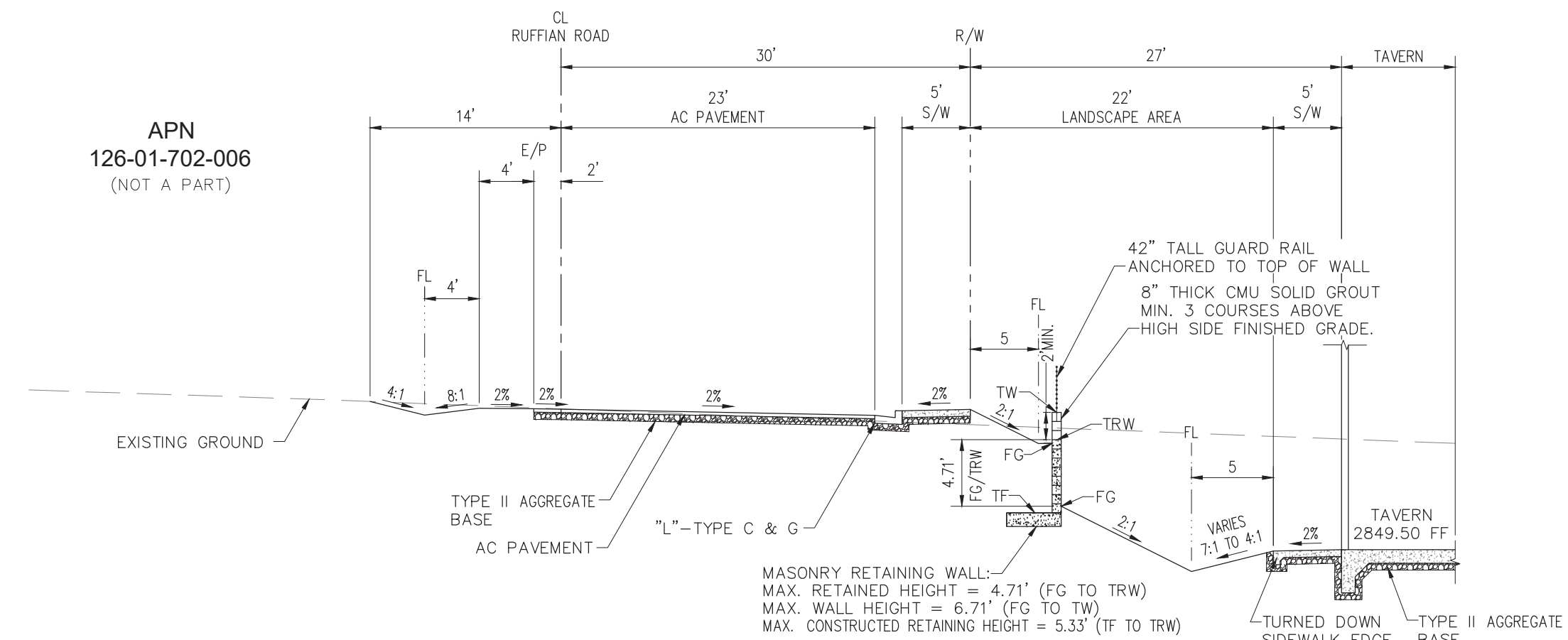
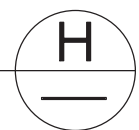
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C10
SHEET 10 OF 18
AGENCY NUMBER:





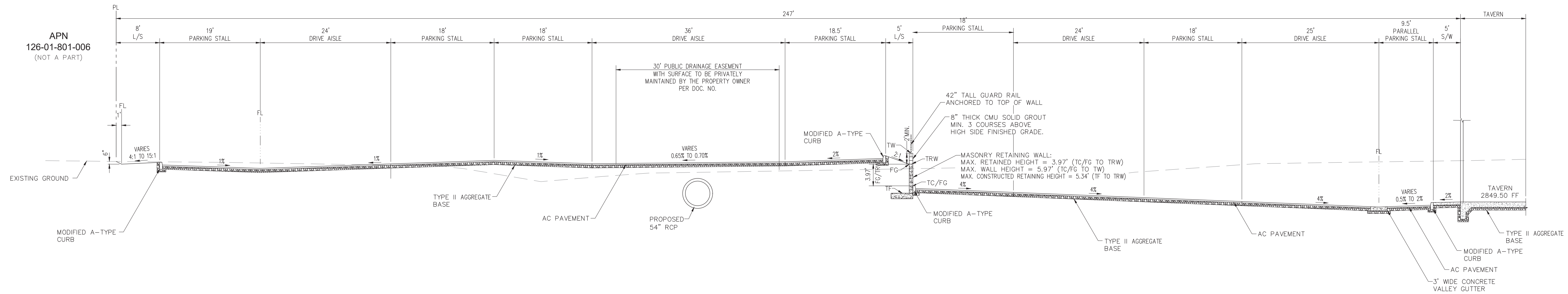
CROSS SECTION

NTS



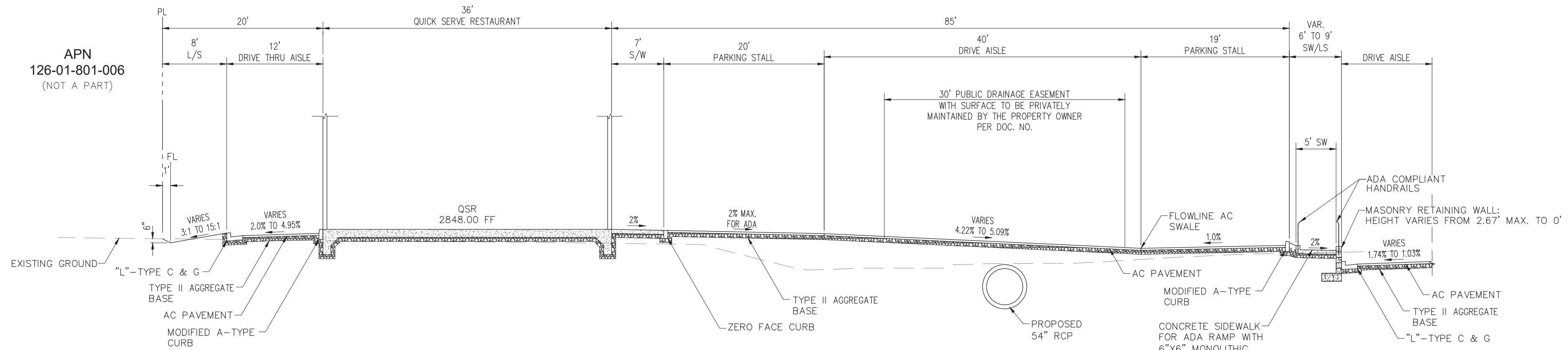
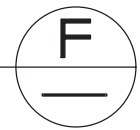
CROSS SECTION

NTS



CROSS SECTION

NTS



CROSS SECTION

NTS



REVISIONS		APPROVAL
REV.	DESCRIPTION	APPROV. BY DATE

KYLE CANYON ROAD AND
OSO BLANCA ROAD

CROSS SECTIONS

APN: 126-01-702-007 / 008
10051 KYLE CANYON ROAD
LAS VEGAS, NV 89166



ENGINEER'S SEAL



1/19/2023

DATE: 01/12/23

PROJ. NO: 200203

DRAWN BY: ARB

CHECKED BY: RAS

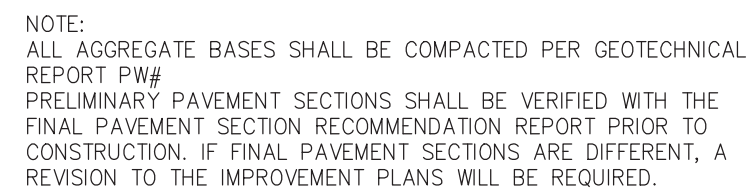
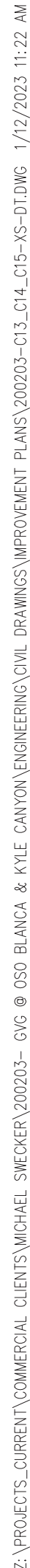
SCALE: AS NOTED

DRAWING NUMBER:

C14

SHEET 14 OF 18

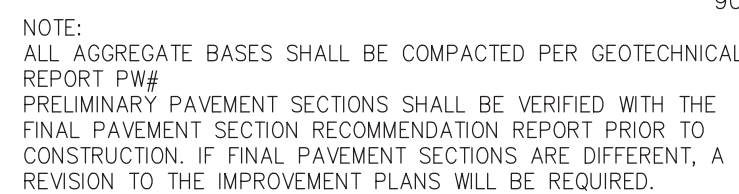
AGENCY NUMBER:



11



4



13



1/4" R — Varies —



- EXPANSION JOINT
- NOTES:
1. ON ALL CURB RETURNS A 1/2" MAX. EXPANSION JOINT SHALL BE CONSTRUCTED BETWEEN THE BACK OF CURB AND THE SIDEWALK FOR THE ENTIRE LENGTH OF THE RETURN.
 2. THE TYPE II AGGREGATE BASE THICKNESS IS SHOWN ON THE TYPICAL SECTION DRAWINGS PER USD NO. 202-207.
 3. LONGITUDINAL WEAKENED PLANE JOINT REQUIRED AT MIDPOINT OF SIDEWALK 10' OR WIDER.
 4. CONTRACTOR HAS THE OPTION TO SAWCUT OR TOOL WEAKENED PLANE JOINT.

ON-SITE SIDEWALK CONSTRUCTION DETAIL 6

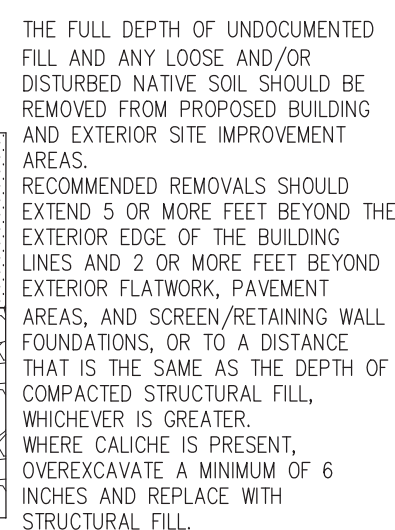


HANDICAP ACCESSIBILITY SIGN



1. FINISHED ASPHALT CONCRETE SURFACE TO BE FLUSH WITH VALLEY GUTTER LIP.

3' VALLEY GUTTER



MODIFIED "A" CURB



ON-SITE AC PAVEMENT SECTION

**KYLE CANYON ROAD AND
OSO BLANCA ROAD**

DETAILS

APN: 126-01-702-007 / 008
10051 KYLE CANYON ROAD
LAS VEGAS, NV 89166



ACG DESIGN
3310 CAMERON ST., SUITE 12-A
LAS VEGAS, NEVADA 89103
OFFICE: 702.448.8737
WEBSITE: WWW.ACG.DESIGN

ENGINEER'S SEAL



1/19/2023

DATE:	01/12/23
PROJ. NO:	200203
DRAWN BY:	ARB
CHECKED BY:	RAS
SCALE:	AS NOTED
JURISDICTION:	CLV

DRAWING NUMBER

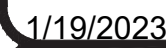
C15

AGENCY NUMBER



JUNCTION STRUCTURE WITH CONNECTION
TO PROPOSED DUAL 6'X3' RCB'S

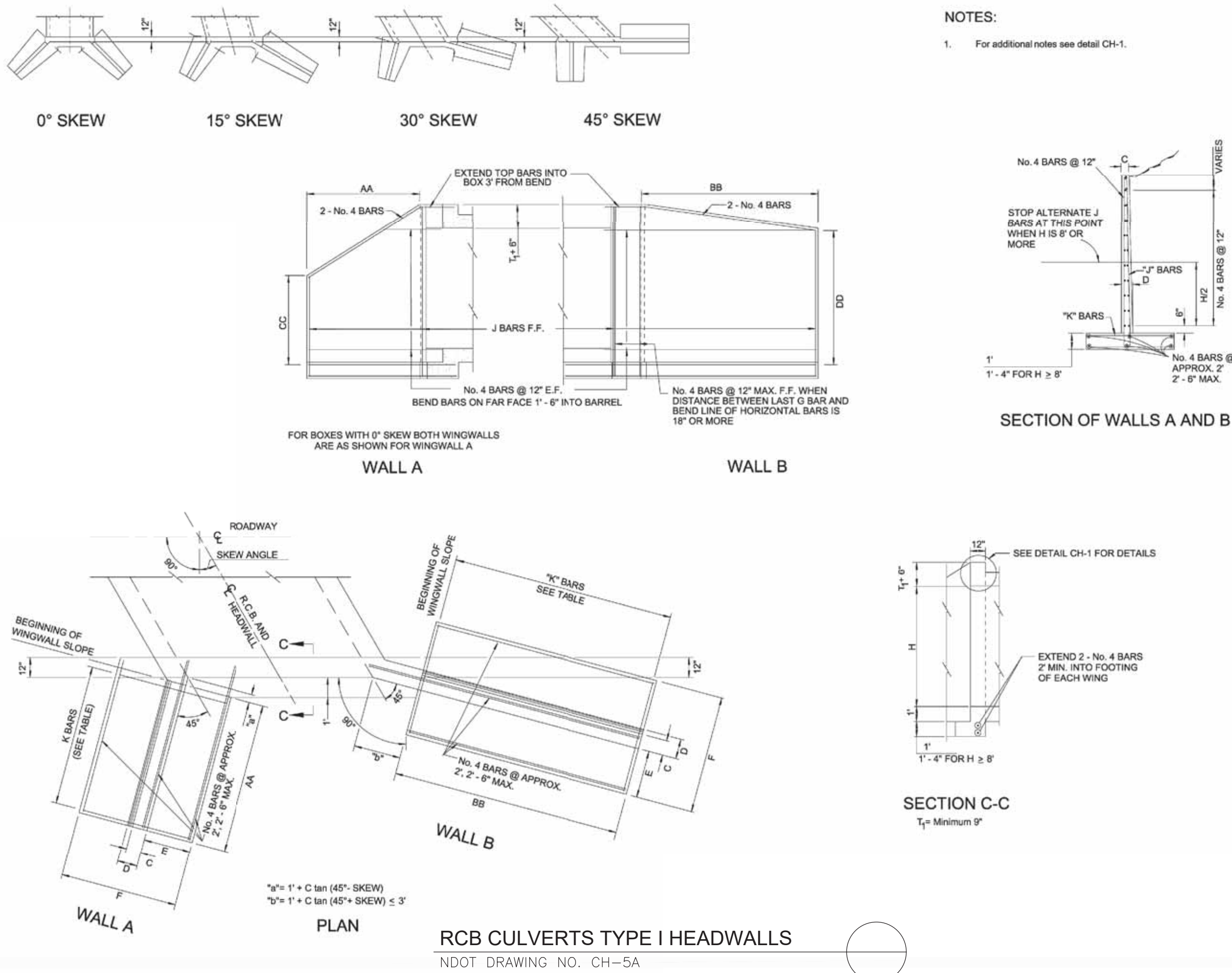
**KYLE CANYON ROAD AND
OSO BLANCA ROAD
JUNCTION STRUCTURE
DETAILS**
APN: 126-01-702-007 / 008
10051 KYLE CANYON ROAD
LAS VEGAS, NV 89166

DRAWING NUMBER

SHEET 16 OF 18

AGENCY NUMBER

Z:\PROJECTS_CURRENT\COMMERCIAL CLIENTS\MICHAEL SNECKER\200203- CVC @ OSO BLANCA & KYLE CANYON\ENGINEERING\CIVIL DRAWINGS\IMPROVEMENT PLANS\200203-C17-018-NDOT-DTS.DWG 12/20/2022 2:35 PM



SPAN, "S"		FT.	5			6			7			8			10			10		
HEIGHT, "H"		FT.	3	4	5	3	4	5	3	4	5	3	4	5	3	4	5	3	4	5
MAXIMUM EARTH COVER		FT.	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20
CONC.	ROOF	T1	IN.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	WALLS	T2	IN.	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	INVERT	T3	IN.	8	10	8	10	8	10	8	10	8	10	8	10	8	10	8	10	8
REINFORCEMENT	"a"	BAR SIZE	IN.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		SPACING	FT.-IN.	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
		LENGTH	FT.-IN.	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
	"b"	BAR SIZE	IN.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		SPACING	FT.-IN.	5.9	5.10	6.3	6.4	6.6	6.10	5.10	5.10	6.4	6.4	6.10	5.10	5.10	6.4	6.4	6.10	5.10
		LENGTH	FT.-IN.	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	"c"	BAR SIZE	IN.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		SPACING	FT.-IN.	4.1	4.3	5.1	5.3	6.1	6.3	4.3	4.4	5.3	5.4	6.3	6.4	7.3	7.4	4.4	4.7	5.4
		LENGTH	FT.-IN.	4.1	4.3	5.1	5.3	6.1	6.3	4.3	4.4	5.3	5.4	6.3	6.4	7.3	7.4	4.4	4.7	5.4
	"d"	BAR SIZE	IN.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		SPACING	FT.-IN.	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
		LENGTH	FT.-IN.	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
QUANT.	No. 5 @ 6"	LENGTH	FT.-IN.	8.4	8.4	10.4	10.4	12.4	12.4	8.7	8.6	10.7	10.8	12.7	12.8	14.7	14.8	8.4	10.4	11.4
	No. 4 @ 12"	NUMBER *		70	70	76	76	82	82	78	78	84	84	90	90	96	96	86	86	92
QUANT.	CONCRETE	C.F.A.F.	24.0	26.0	26.0	28.0	30.0	30.0	28.0	29.0	30.8	31.9	32.8	33.9	34.8	35.9	34.0	39.7	36.0	42.0
	REINFORCEMENT	LB./L.F.	167	166	177	178	187	188	187	212	197	223	207	233	217	246	234	244	244	255

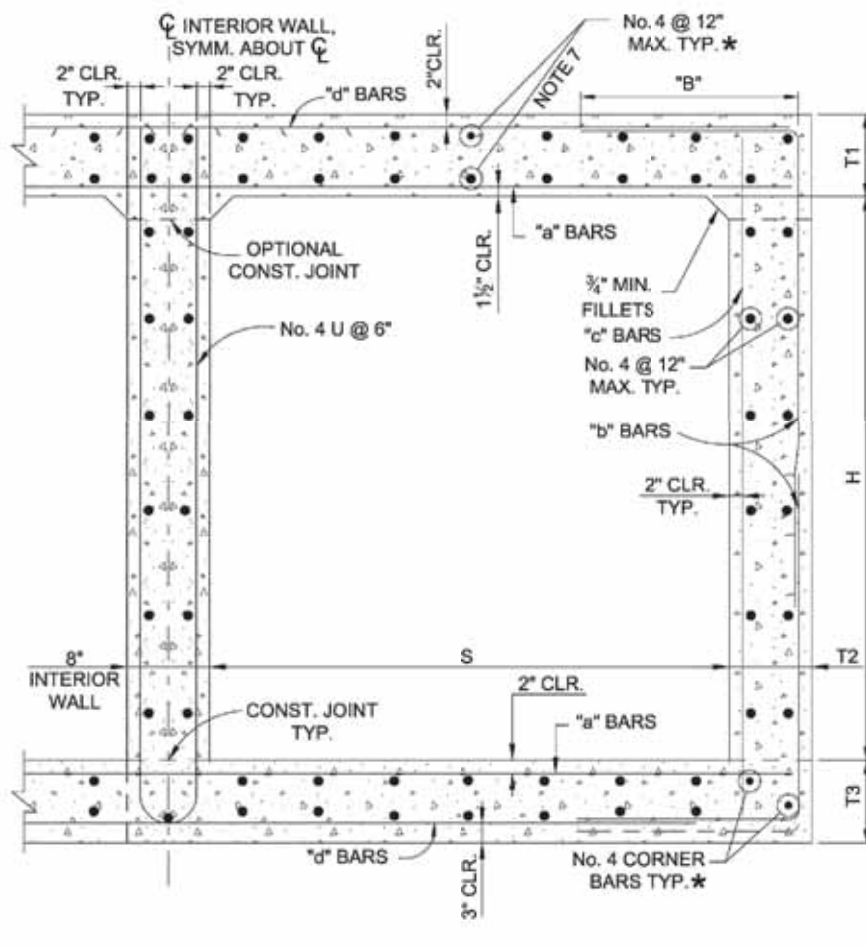
		SPAN, "S"		FT.		12												10												11												12												7												8												9												10												11												14												10												12												13												14											
		HEIGHT, "H"		FT.		10		20		7		10		5		8		10		10		10		10		11		10		12		7		8		9		10		11		10		12		13		14																																																																																																																													
		MAXIMUM EARTH COVER		FT.		10		20		7		10		5		8		10		10		10		10		11		10		12		7		8		9		10		11		10		12		13		14																																																																																																																													
CONC.	ROOF	T1	IN.	12.5	17.5	12.5	17.5	12.5	17.5	12.5	17.5	12.5	17.5	12.5	17.5	12.5	17.5	12.5	17.5	12.5	17.5	12.5	17.5	12.5	17.5	12.5	17.5	12.5	17.5	13	19	13	19	13	19	13	19	13	19	13	19	13	19	13	19	13	19	13	19																																																																																																																												
	WALLS	T2	IN.	8	14	5	14	9	14	9	14	9	14	9	14	9	14	9	14	9	14	9	14	9	14	9	14	9	14	10	14	10	14	10	14	10	14	10	14	10	14	10	14	10	14	10	14																																																																																																																														
	INVERT	T3	IN.	13	19	13	19	13	19	13	19	13	19	13	19	13	19	13	19	13	19	13	19	13	19	13	19	13	19	15	21	15	21	15	21	15	21	15	21	15	21	15	21	15	21	15	21																																																																																																																														
REINFORCEMENT	"a"	BAR SIZE	IN.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6																																																																																																																													
		SPACING	FT.-IN.	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	26	30	26	30	26	30	26	30	26	30	26	30	26	30	26	30	26	30																																																																																																																														
		LENGTH	FT.-IN.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6																																																																																																																														
	"b"	BAR SIZE	IN.	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6																																																																																																																												
		SPACING	FT.-IN.	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6																																																																																																																												
		LENGTH	FT.-IN.	7.8	9.2	8.4	9.8	8.8	10.2	9.2	10.8	9.4	11.2	10.6	11.8	11.4	12.2	8.4	9.11	8.0	9.5	8.11	9.0	10.5	10.1	10.6	11.5	10.5	11.1	10.1	11.1	11.5	10.5	11.1	11.5	12.5	11.1	12.1	11.5	12.1	11.5	12.1	11.5	12.1	11.5	12.1																																																																																																																															
	"c"	BAR SIZE	FT.-IN.	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	3.0	3.9	3.0	3.9	3.0	3.9	3.0	3.9	3.0	3.9	3.0	3.9	3.0	3.9	3.0	3.9	3.0	3.9																																																																																																																														
		SPACING	FT.-IN.	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12																																																																																																																													
		LENGTH	FT.-IN.	7.9	8.8	6.9	9.8	10.8	11.6	11.9	12.8	12.9	13.8	13.9	14.8	14.9	15.8	14.8	15.1	16.1	15.1	16.1	15.1	16.1	15.1	16.1	15.1	16.1	15.1	16.1	11	11.1	11.1	12.1	11.1	12.1	11.1	12.1	11.1	12.1	11.1	12.1	11.1	12.1	11.1	12.1	11.1	12.1																																																																																																																													
	"d"	BAR SIZE	IN.	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8																																																																																																																													
		SPACING	FT.-IN.	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8																																																																																																																													
		LENGTH	FT.-IN.	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	25.10	26.8	26	30	26	30	26	30	26	30	26	30	26	30	26	30	26	30	26	30																																																																																																																														
QUANT.	No. 4 @ 6"	LENGTH	FT.-IN.	15.7	17.5	17.7	19.5	19.7	21.5	21.7	23.5	23.7	25.5	25.7	27.5	27.7	29.5	18	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36	36	38	38	40	40	42	42	44	44	46	46	48	48																																																																																																																														
	No. 4 @ 12"	NUMBER *		144	144	150	150	156	156	162	162	168	168	174	174	180	180	186	174	174	180	186	186	192	192	198	198	204	204	210	210	216	216	222	222	228	228	234	234	240	240	246	246	252	252	258	258																																																																																																																														
QUANT.	CONCRETE	C.F.A.F.	68.6	100.1	70.8	103.1	72.9	106.1	75.1	109.1	77.3	112.1	79.4	115.1	84.0	118.1	87.1	127.8	84.1	117.8	84.1	127.8	84.1	117.8	84.1	117.8	84.1	117.8	118.1	134.4	94.1	137.6	94.1	137.6	94.1	137.6	94.1	137.6	94.1	137.6	94.1	137.6	94.1	137.6	94.1	137.6	94.1	137.6	94.1																																																																																																																												
	REINFORCEMENT	LB./L.F.	587	651	601	667	615	683	629	698	643	714	702	730	721	745	724	895	736	910	791	906	806	942	821	958	836	973	859	989	878	1005	878	1005	878	1005	878	1005	878	1005	878	1005	878	1005	878	1005	878	1005																																																																																																																													

★QUANTITY INCLUDES NO. 4 CORNER BARS

*QUANTITY INCLUDES No. 4 CORNER BARS

RCB CULVERTS DOUBLE

NDOT DRAWING NO. CH-3B



- NOTES:
- DESIGN SPECIFICATIONS: "AASHTO LRFD Bridge Design Specifications 2012".
 - CONSTRUCTION SPECIFICATIONS: "State of Nevada Department of Transportation Standard Specifications for Road and Bridge Construction 2014".
 - LIVE LOADS: HL-93 Design Truck, 32.0 KIP Axle; HL-93 Design Tandem, Two 25.0 KIP Axles; Spaced 4-Foot Apart; Live Load Impact Factor for Top Slab is 5% up to 2-Foot of Cover.
 - CONCRETE: Class DA Modified, Major FC=4,500 PSI @ 28 Days, Class D Modified in Clark County.
 - REINFORCING STEEL: All reinforcing steel to be ASTM A615 grade 60 or A706. Dimension relating to bar spacing are center to center.
 - DESIGNATION: Box culverts are shown on plans as span times height times length, 10' x 8' x 195' RCB.
 - Where traffic loads will be placed directly on the top surface of the culvert, and/or up to 2-feet of fill, increase top slab thickness by 1/2-inch and cover for top reinforcement from 2-inches to 2 1/2-inches. Provide epoxy coated reinforcement in top slab, except in Clark County. Decrease spacing of top slab bottom longitudinal bars, No. 4 @ 12-inches, to 6-inch spacing. Use EA Modified Major concrete, Class E Modified in Clark County, in lieu of Class DA. Adjust quantities accordingly. ADD: FC = 4,500 PSI @ 28 Days.
 - For additional notes, see detail CH-1.

APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD		NDOT DETAILS		APN: 126-01-702-007 / 008		10051 KYLE CANYON ROAD		LAS VEGAS, NV 89166		APPROVAL		REVISIONS		KYLE CANYON ROAD AND OSO BLANCA ROAD	
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