

DS #:

5244

APN:

137-26-112-005 ? 137-26-112-006

PROJECT:

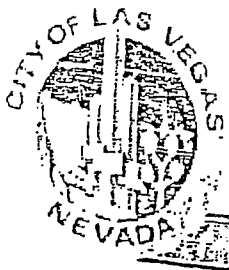
Summerlin V21 Arroyo - Phase 1 - Update

SUBMITTAL:

3rd

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		October 28, 2020
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for:	
	Summerlin V21 Arroyo – Phase 1 - Update	
Cross Streets:	Desert Foothill Boulevard & Redpoint Drive	
File Number:	F:\Depot\DSMemos\DS5244C.doc	
Parcel Number:	137-26-112-005 & 137-26-112-006	
Zoning Action:	N/A	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES	NO X
		COPIES TO: GCW Engineers/Surveyors Howard Hughes Company, LLC Bart Anderson, P.E., DevCo CCRFCFCD

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	2/5/2020	2/29/2020	Conditional Approval	\$400.00	3735425: \$400
2 nd Submittal	3/18/2020	4/2/2020	Not Approved	\$100.00	3783182: \$100
3 rd Submittal	10/19/2020	10/28/2020	See Comments Below	\$400.00	
TOTAL FEES (LDDRS):				\$900.00	----

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

- This drainage study is acceptable in concept;** however, *City of Las Vegas* will not formally accept the study until the *Clark County Regional Flood Control District (CCRFCFCD)* has issued a letter of concurrence. The engineer should contact the CCRFCFCD to confirm that they have begun their review.

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>

In an effort to increase administrative efficiency, for all original and re-submittal packages including updates and the addenda, the City of Las Vegas Public Works Department requires both a hardcopy and a digital copy (PDF) on CD for the drainage study.

A letter sealed and signed by a Nevada registered civil engineer must be included in every submittal certifying documents on the electronic CD matches 100% of the hardcopy submittal. The new submittal requirement is effective on May 1, 2019. If there are any questions regarding these new requirements, please contact Albert Sung in the City Flood Control Section at (702) 229-6541.



Sample Letter to
certify CD.pdf

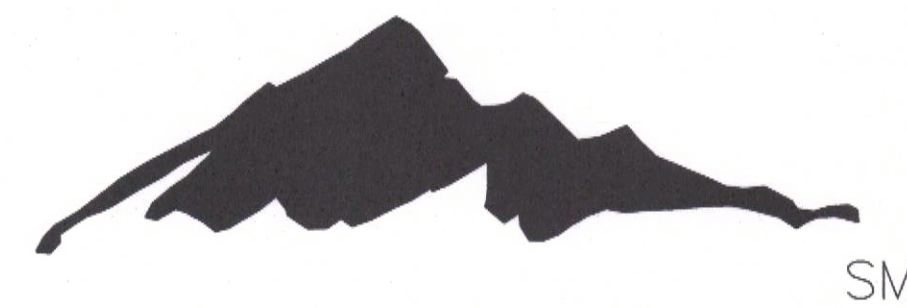
NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained 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: T20S/R59E/26
AREA K-26

SUMMERLIN



VILLAGE 21

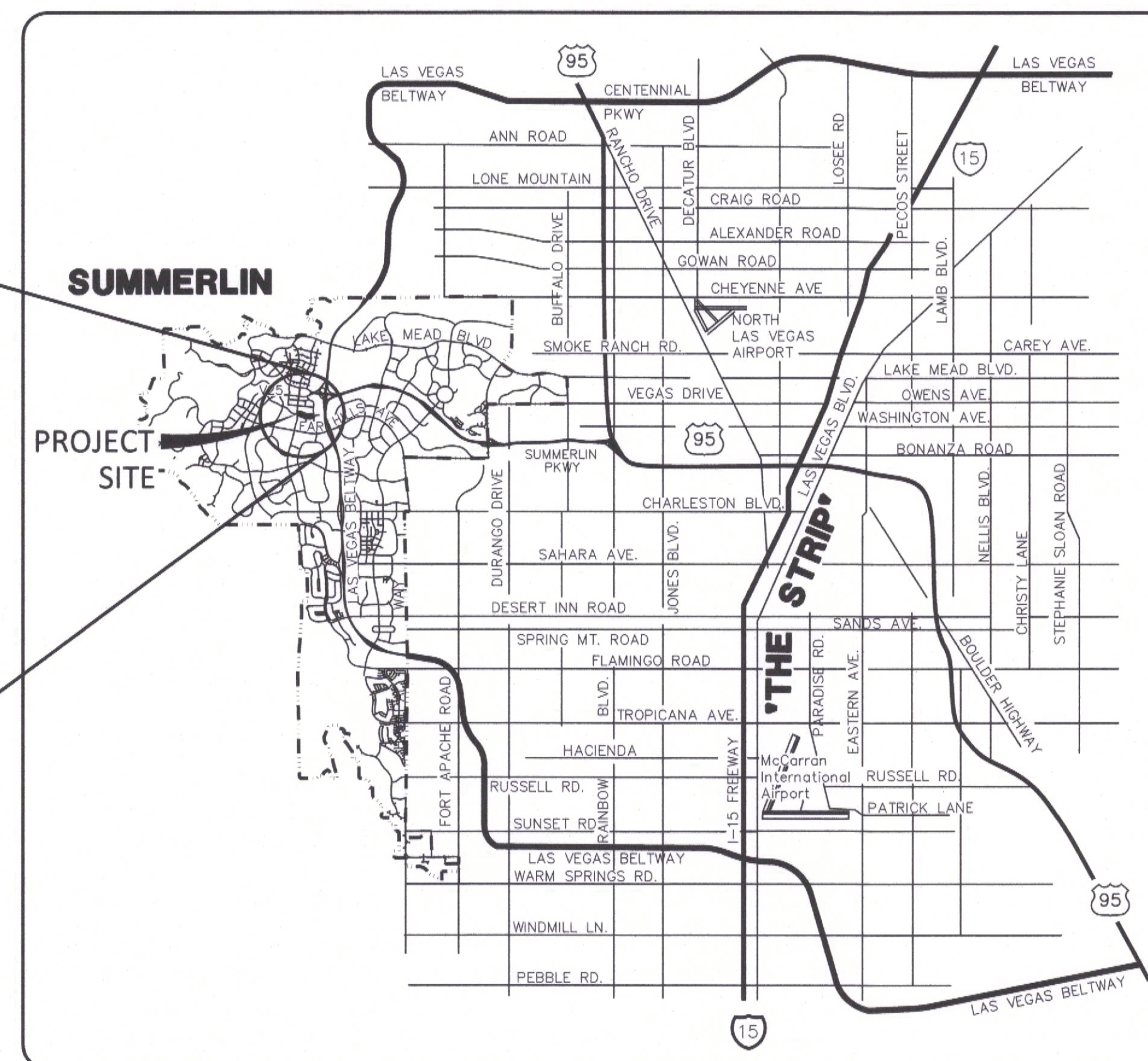
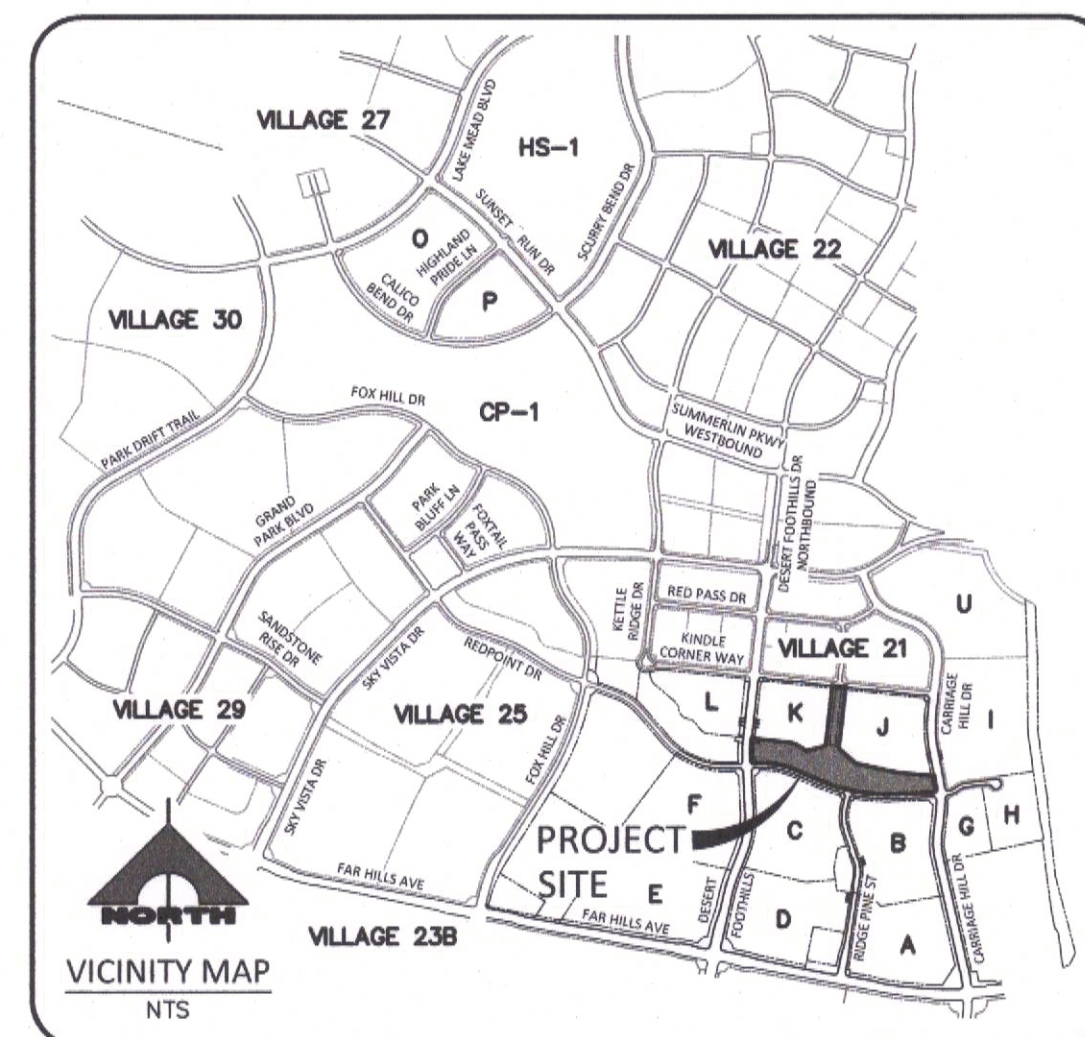
REDPOINT ARROYO - PHASE 1 IMPROVEMENTS

(DESERT FOOTHILLS DRIVE TO CARRIAGE DRIVE)

FUTURE SID #

A.P.N. 137-26-112-005, 137-26-112-006
2020

AREA = 8.37 ACRES

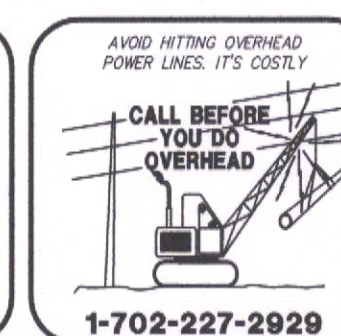


OWNER/DEVELOPER

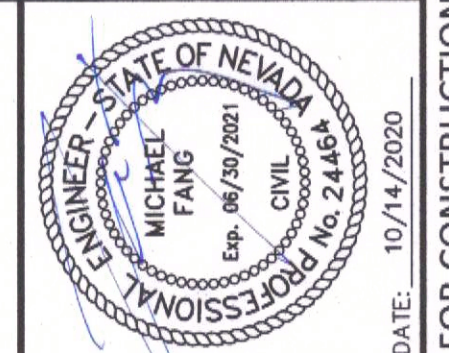
THE HOWARD HUGHES COMPANY, LLC
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
OFFICE PHONE NO. (702) 791-4300

ENGINEER

GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com



SHEET INDEX		
NO.	DWG	DESCRIPTION
1	G1	COVER SHEET
2	G2	GENERAL NOTES
3	G3	PROJECT DATA
4	HC1	HORIZONTAL CONTROL 1
5	HC2	HORIZONTAL CONTROL 2
6	HC3	HORIZONTAL CONTROL 3
7	HC4	HORIZONTAL CONTROL 4
8	GD1	GRADING PLAN 1
9	GD2	GRADING PLAN 2
10	GD3	GRADING PLAN 3
11	GD4	GRADING PLAN 4
12	DT1	SECTIONS & DETAILS



PROJECT NO.	DESIGN	DRAWN	CHECK	PLOT DATE	TIME	DATE
639-660-1	CC/PB	PB	CC	10-14-20	11:17:13	

GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
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CAUTION TO CONTRACTOR

THE CONTRACTOR SHALL BE RESPONSIBLE TO INVESTIGATE AND VERIFY THE ACTUAL LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND FACILITIES AT LEAST 48 HOURS IN ADVANCE OF THE PERFORMANCE OF ANY WORK.

THE HOWARD HUGHES COMPANY, LLC

KEVIN ORROCK
VICE PRESIDENT
DATE

DRAINAGE CERTIFICATION

I CERTIFY THAT THE GRADING PLANS ARE IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

MICHAEL FANG, P.E. 24464
DATE 10/14/2020

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES

PROJECT NO. 137353 FIRST APPROVAL DATE: _____
SHEETS: G1-G3, GD1-GD4

LAS VEGAS FIRE & RESCUE APPROVAL

LAS VEGAS FIRE & RESCUE
DATE

L#: LXX-XXXX-XXXX CLV#: 107XXXXX

THE HOWARD HUGHES COMPANY, LLC
REDPOINT ARROYO - PHASE 1 IMPROVEMENTS
(DESERT FOOTHILLS DRIVE TO CARRIAGE DRIVE)

COVER SHEET

DRAWING
G1

1 OF 12 SHTS

AGENCY REVIEW - NOT FOR CONSTRUCTION

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 EDITION; 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".

2. 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 AND SAIDED FOR PUBLIC WORKS CONSTRUCTION BY CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCE 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.

3. 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 AT THE CONTRACTOR'S EXPENSE. THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.

4. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS. ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.

5. 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.

6. PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.

7. EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED-TYPE CURB.

8. AC PAVEMENT TO BE ONE-HALF INCH (1/2") ABOVE UP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.

9. CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.

10. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235. EXISTANT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.

11. CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE. SLOPES FOR EXISTING AND NEW CONSTRUCTION, THE GRADING OF THE TRANSITIONS TO BE AS SHOWN ON PLANS.

12. ALL EXISTING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY XXXXXXXXXX, REPORT # XXXXX-X, DATE XXXXXXXXXX XXTH, 20XX, APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.

13. EXISTANT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY THE CITY ENGINEER. IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.

14. 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.

15. UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAYS APRONS, FLOWLINES, AND CROSS GUTTERS. UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.

WALL NOTES:

16. 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. CONTRACTOR REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.

17. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.

18. CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE LIDS AND SEWER CLEAN OUTS, ETC., TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.

19. 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.

20. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC., THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO INSPECTOR AND LOCATING CERTIFY THAT THE DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.

21. AFTER HAUNCHING AND PRIOR TO BACKFILL OPERATIONS WHICH WOULD COVER SANITARY SEWER AND STORM DRAIN FACILITIES, CONTRACTOR IS REQUIRED TO SUBMIT THE 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 MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES. THE LOCATION OF THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERAL EXITS THE PUBLIC RIGHT-OF-WAY, SEWER AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS.

OR

(MAY BE USED ONLY ON PROJECTS ASSOCIATED WITH A TENTATIVE MAP CONTAINING 5 LOTS OR MORE)

22. SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S) SHALL BE PROVIDED TO THE CITY AND APPROVED PRIOR TO ACCEPTANCE OF EXISTING UTILITY INSPECTION. THE MAP(S) SHALL INCLUDE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES. THE LOCATION OF THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERAL EXITS THE PUBLIC RIGHT-OF-WAY, SEWER AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS. THE LOCATION SHALL BE DESCRIBED BY COORDINATES WHICH SHALL BE BASED ON THE OFFICIAL HORIZONTAL AND VERTICAL CONTROL NETWORKS OF THE CITY OF LAS VEGAS. FINAL LOCATION COORDINATES SHALL BE VERIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTAINNESS OF ± 0.09 METERS (± 0.3 FEET) HORIZONTALLY AND VERTICALLY. A SEPARATE ELECTRONIC COMMA-SEPARATED FILE FOR THE SANITARY SEWER AND STORM DRAIN COORDINATES SHALL ACCOMPANY THE SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S).

23. CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTION NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST EDITION.

24. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE CODE ORDINANCE #6631 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.
2. ONLY FIRE HYDRANTS THAT ARE ON THE LAS VEGAS VALLEY WATER DISTRICT'S - APPROVED PRODUCTS LIST ARE ALLOWED TO BE INSTALLED.
3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED BEFORE APPROVAL BY THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK. [FPC SECTION 506.15]
4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW. [FPC SECTION 3310, SECTION 3312]
5. TO IDENTIFY FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE MARKER AT THE INTERSECTION OF THE LINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS [FPC SECTION 507.5.7.3]
6. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES SHALL BE CONDUCTED BEFORE COVERING THE LINES. CENTER LOADING IS ACCEPTABLE FOR THE HYDRO TESTS WITH PRIOR FIRE PREVENTION APPROVAL. [FPC SECTION 106.3]
7. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A. APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE. [FPC SECTION 507.2.1, NFPA 224]
8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE DONE BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION. [FPC SECTION 507]
9. PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED. [FPC SECTION 507.5.7.1]
10. PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW. [FPC SECTION 507]
11. FIRE HYDRANTS SPACING SHALL BE AS FOLLOWS: [FPC SECTION C102]
RESIDENTIAL - 500 FT UNSPRINKLERED; 600 FT SPRINKLERED.
COMMERCIAL - 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.
12. WHERE THE WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT A MAXIMUM OF 1,000 FT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS, WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) OR MORE TRAFFIC LANES AND/OR A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT 500 FT ON AN ALTERNATING BASIS. [FPC SECTION C102.8]
13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FT OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FT OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. [FPC SECTION C102.10]
15. A MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. [FPC SECTION C102.4]
16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. [FPC SECTION C102.7]
17. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. [FPC SECTION C102.6]
18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM, FOR SYSTEMS REQUIRED TO HAVE TWO (2) SOURCES OF WATER SUPPLY, SECTION C102.10. THE CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS AND/OR SPRINKLER LEAD-INS CAN BE OUT OF SERVICE DUE TO A SERVICE INTERRUPTION, FOR SYSTEMS PERMITTED TO HAVE ONE SOURCE OF WATER SUPPLY, SECTION C102.10. THE CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 3 FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS CAN BE OF SERVICE DUE TO A SERVICE INTERRUPTION. [FPC SECTION C104]
19. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS. [FPC SECTION 503.2.3]
20. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 12% AND 28 FT PRIOR TO OR AFTER THE GRADE CHANGE ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6% [FPC SECTION 503.2.7, 503.2.8]
21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE 10 FT LESS THAN 52 FT OUTSIDE AND 24 FT INSIDE TURNING RADIUS. [FPC 503.2.4]
22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13 FT 6 IN. [FPC SECTION 503.2.1]
23. FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 13 FT WITH PARKING ON BOTH SIDES MEASURED TO FACE OF CURB, NOT LESS THAN 28 FT WIDE WITH PARKING RESTRICTED TO ONE SIDE MEASURED TO FACE OF CURB, NOT LESS THAN 24 FT WIDE WITH NO PARKING ON EITHER SIDE MEASURED TO FACE OF CURB, FIRE LINES THROUGH PARKING LOTS SHALL NOT BE LESS THAN 24 FT. [FPC SECTION 503.2.1.1]
24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR LEVEL CURB OR DRIVEWAY IS MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. [FPC SECTION 503.1.1]
25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 200 FT FROM A DWELLING UNIT, APPROVED FOR 100 FT FROM A SINGLE POINT OF ACCESS IN EXCESS OF 600 FT, CLV REGULATION AND MOU.
26. ALL DEAD-END FIRE APPARATUS ROADS AND/OR FIRE LINES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT, CLV REGULATION
27. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, ONE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS OF 100 FT ALONG THE DESIGNATED FIRE LANE. APPROVED SIGNS SHALL BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FT OR LESS THAN 6 FT FROM THE GROUND LEVEL OF THE CURB. THE CURB SHALL BE PAINTED OR RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. [FPC SECTION 503.3]
28. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. [FPC SECTION 503.6]
29. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS, OR HAVING FOUR OR MORE TRAVEL LANES AND A TRAFFIC COUNT OF MORE THAN 30,000 VEHICLES PER DAY, ALL HYDRANTS BEING UTILIZED TO DELIVER FIRE FLOW TO PROPOSED DEVELOPMENT SHALL BE LOCATED ON THE SAME SIDE OF THE STREET AS THE PROPOSED DEVELOPMENT. CLV REGULATION.

NO PORTION OF THE SITE FALLS WITHIN A FEMA DESIGNATED SPECIAL FLOOD HAZARD AREA. SITE LOCATED ON PANEL 32003C2150E, DATED SEPTEMBER 27, 2002. THIS PANEL SHOWS THAT THE PROJECT IS LOCATED WITHIN A ZONE X AND NOT LOCATED WITHIN A FEMA DESIGNATED 100-YEAR ZONE A OR SPECIAL FLOOD HAZARD AREA.

1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE LVVMD. FOLLOWING WATER PLAN APPROVAL, NOTICE SHALL BE GIVEN TO THE LVVMD COMMUNICATION SUPPORT CENTER (258-7171) TWO 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 LVVMD INSPECTION. WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.
2. ALL WORK SHALL CONFORM TO LVVMD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, AND TO THE 2010 EDITION OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS). THE LATEST EDITION OF ANY STANDARD SUPERSEDES 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 DRAFT 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 LVVMD.
5. ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING WITH LVVMD APPROVED SERVICE SADDLES.
6. ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
7. ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
8. ALL WATER AND STORM DRAIN OR SANITARY SEWER 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 PASSING HEALTH WATER SAMPLE OBTAINED, PRIOR TO OPERATION AND USE.
10. THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVMD 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 LVVMD INSPECTION DIVISION PRIOR TO SHUTDOWN. PROPER WRITTEN NOTIFICATION MUST BE GIVEN TO ALL AFFECTED CUSTOMERS.
12. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE LISTED ON THE LVVMD APPROVED PRODUCTS LIST FOR NEW FACILITIES. LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS BY SUBMITTING SHOP DRAWINGS.
13. TELEPHONE "CALL BEFORE YOU DIG" AT 811 OR 1-800-227-2600
14. THE INSTALLATION OF LVVMD MUNICIPAL WATER FACILITIES WITH ALL STREETS IS ASSUMED TO BE IN COMPLIANCE WITH THE UNIFORM STANDARDS, INCLUDING THE PLACEMENT OF ASPHALT PAVING STREET SURFACES. ANY REPAIR WORK DONE BY THE LVVMD TO THE MUNICIPAL WATER FACILITIES WILL INCLUDE THE PLACEMENT OF AN APPROPRIATELY SIZED ASPHALT REPAIR ON THE STREET SURFACE.

- NONE

1. 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.
2. 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.
3. 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.
4. THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REMOVED OR LEFT ON SITE, FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.
5. 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.
6. THE 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
7. REPORT COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE.
8. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
9. 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.
10. 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.
11. IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT COVERED BY THE PERMIT, THE OWNER AGREES TO PROVIDE, AND INSTALL SUCH ITEM AT HIW OWN EXPENSE AND AT THE DIRECTION OF THE CITY ENGINEER. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

REVISED 4/15/10

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR THE SEWER 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.
2. 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.
3. CHISEL "S" OR "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
4. POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II AGGREGATE BASE.
5. ALL MANHOLES PAVED IN STREETS EIGHTY (80') FOOT R/W AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT R/W SHALL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
6. TIE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12") DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") DIAMETER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN LINE "Y" S SHALL BE USED ON LINES TWELVE INCHES (12") OR ABOVE.
7. WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVWMD STANDARDS WHENEVER A WATER MAIN CROSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18") UNDER A WATER MAIN.
8. 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.
9. 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.
10. INSTALLATION OF CURVED SEWER REQUIRES THE USE OF C-900 PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

REVISED 04/15/10

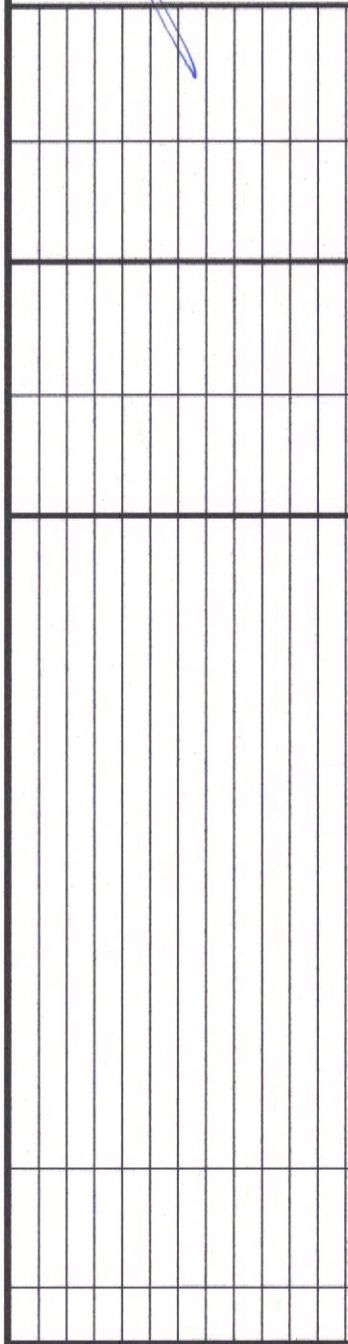
1. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR ANY OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, TO THE NEIGHBORHOOD OF THE CITY OF LAS VEGAS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED PROPERLY.
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 CLARK COUNTY UDCAS AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION MEASURES WILL BE INSTALLED ON ALL EXPOSED AREAS AND SHALL BE MAINTAINED UNTIL A PERMANENT COVER IS APPLIED AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TERMINATED OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NVRS100000, SECTION 3.I.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL AREAS OF EROSION, AND SHALL REPORT ANY SUCH ACTIVITY TO THE CITY OF LAS VEGAS OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS MAY APPLY; REFER TO THE NVRS100000, SECTION 3.I.5.
5. ACCUMULATED SEDIMENT IN BMPs SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED RAINFALL EVENT. WHEN NECESSARY, THE CAPACITY OF THE BMP SHALL BE MAINTAINED AT DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

1. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
3. BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCED WARNING SIGNS FOR THE CONSTRUCTION ZONE. IF THE CONTRACTOR IS CONSTRUCTING TEMPORARY STREETS THROUGH EXISTING ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SADDLE SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
4. WHEN A DESIGNATED "SUGGESTED ROUTE TO SCHOOL" IS ENCLOSED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO CROSS THE STREET, THE SIGN GUARD SHALL BE PLACED AT THE "CROSSING GUARD". THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.
5. 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 REPAIRED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW SIGNS SHALL UTILIZE TYPE X RETROREFLECTIVE SHEETING IN ACCORDANCE WITH COASTS 627 AND 716 AND SHALL HAVE AN ANTI-GRAFFITI PROTECTIVE OVERLAY FILM THAT IS A MATCHING CONTRACT TO AND OF THE SAME MANUFACTURER AS THE RETROREFLECTIVE SHEETING TO WHICH IT IS APPLIED. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE SIZED AND SHOWN IN ACCORDANCE WITH THE CITY STANDARD. SIGN COSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.
7. WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF A PROPOSED SIGN, SHOWN ON THE PLANS, TO BE MOUNTED ON THE SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.
8. 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 ON, WITHOUT, REGARDLESS OF THE TYPE OF CONSTRUCTION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
9. STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.
10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND INSURE THE COMMON 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.
11. 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.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING REGIONAL CONSTRUCTION DIVISION OF SOUTHERN NEVADA (RTO) 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.
13. 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 THE OFFICERS AND TRUCKS WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.
14. ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS OTHERWISE DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
15. 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 MARKINGS AND SIGNAGE THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADDITIONAL TRANSITIONS, MODIFICATIONS AND LANE WIDENINGS WHICH INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

4. ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA" (LATEST REVISION (U.S.S)), AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA" (USD), LATEST REVISION.
5. DESIGN PROFESSIONAL AND CONTRACTOR SHALL VERIFY CITY'S LATEST LED FIXTURE SPECIFICATIONS AND APPROVED FIXTURES PER CLV WEBSITE, UNDER BUILDING AND SAFETY FORMS, PRIOR TO ORDERING MATERIALS.
6. NO DEVIATION OF STREET LIGHT, POLE BOX, CONDUITS, ETC., LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE TRAFFIC ENGINEER AND THE CITY ENGINEER. ANY DEVIATION FROM THE PLAN LOCATION WILL REQUIRE COMPLIANCE WITH SECTION 623 OF THE USS.
7. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 623 G.03.01 OF THE USS.
8. ALL EMPTY CONDUIT SHALL HAVE AT LEAST ONE GREEN NO. #8 AWG WIRE INSTALLED TO AS-BUILT WIRE IN ACCORDANCE WITH SECTION 623 G.02.01 OF THE USS PRIOR TO BACKFILLING AND FINAL INSPECTION.
9. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN COMPLIANCE WITH USD NO. 320A WHEN POLE IS INSTALLED BEHIND SIDEWALK, AND SHALL AT NO TIME COMPLETELY ENCLOSE THE STREET LIGHTING POLE.
10. 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.
11. SERVICE POINT SHALL BE COORDINATED WITH NV ENERGY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE PLANS.
12. 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.
13. THE CONTRACTOR SHALL FURNISH COMPLETE CONDUIT, WIRE, ETC. FROM SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON THE PLANS.

LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES

PROJECT NO. 137353 FIRST APPROVAL DATE: _____



GCW
ENGINEERS & SURVEYORS

1555 S. RAINBOW
LAS VEGAS, NV 8
T: 702.804.2000
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G2

OF 12 SHOTS

ARD HUGHES COM

ABBREVIATIONS

	AIR	DIA, Ø	DIMETER	NOSHA	STATE OF NEVADA OCCUPATIONAL	SF	SQUARE FOOT/FEET
AC	ASPHALT CONCRETE, ACRE	DIP	DICTATE IRON PIPE		SAFETY AND HEALTH	SHLR	SHOULDER
ACP	ASBESTOS CEMENT PIPE	DIST	DISTANCE		ADMINISTRATION	SHT	SHEET
ADD'L	ADDITIONAL	DRV	DRIVE	NPC	NEVADA POWER COMPANY	SIS	SUMMERLIN IMPROVEMENT
AD	ANGLE POINT	DS	DOWNSPOUT	NTS	NOT TO SCALE	ST	STANDARDS
APN	ASSESSOR'S PARCEL NUMBER	DTL	DETAIL	NVE	NV ENERGY	SL	STREET LIGHT
APPROX	APPROXIMATELY	DWL	DRIVEWAY	OB	OVERBUILD	SP	SERVICE POINT
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	DWG	DRAWING	OC	ON CENTER	SQ	SQUARE
		E	EAST	OH	OVERHEAD CO COMMUNICATION	SR	SEWER RECLAIM MAIN
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	EOR	END CURB RETURN	OP	OVERHEAD POWER LINE	SS	SANITARY SEWER
		ELEC,ELE	ELECTRICAL	P	POWER LINE	SSMH	SANITARY SEWER MANHOLE
		ELEV	ELEVATION	P	PUBLIC ACCESS EASEMENT	ST	STATION
AVE	AVENUE	EP,EO	EDGE OF PAVEMENT	PB	PULL BOX	ST	STREET
AVAR	AIR VALVE, AIR RELEASE	EQ	EASEMENT	PBS	PLANTING BITUMINOUS SURFACE	STD	STANDARD
	ASSEMBLY	EVC	END VERTICAL CURVE	PDE	PUBLIC DRAINAGE EASEMENT	STL	STREET
AWWA	AMERICAN WATER WORKS ASSOCIATION	EVP	END VERTICAL POINT	PLT	PLATE	STRUCT	STRUCTURE
		EX,EXIST	EXISTING	PC	POINT OF CURVE, PRESSURE	SV	SKY VISTA DRIVE
BC	BACK OF CURB	EXP	EXPANSION JOINT	CLASS	CLASS	SVZ	SIGHT VISIBILITY ZONE
BOR	BEGIN CURB RETURN	FACE OF CURB	FACE OF CURB	PCC	POINT OF COMPOUND CURVE	SW	SIDEWALK
BLM	BUREAU OF LAND MANAGEMENT	FF, FFE	FINISH FLOOR ELEVATION	PE	PROJECT ENGINEER OR	SWG	SOUTHWEST GAS
BLVD	BOULEVARD	FG	FINISH GRADE	PE	POLYETHYLENE	SWG	TELEPHONE OR TOP
BM	BENCHMARK	FH	FIRE HYDRANT	PED	PEDESTRIAN	TAN	TANGENT
BO	BLOW-OFF	FL	FLOW LINE	PGL	PROFILE GRADE LINE	TB	TOP OF BERM
BYCE	BEGIN VERTICAL CURVE	FO	FIBER OPTIC	PH	POTHOLE	TOP	TOP OF CURB
	ELEVATION	FRP	FIBERGLASS REINFORCED PLASTIC	PI	POINT OF INTERSECTION	TCE	TEMPORARY CONSTRUCTION ESM
BVCS	BEGIN VERTICAL CURVE STATION	FS	FINISH SURFACE	PIV	POIP INDICATOR VALVE	TELE,TE	TELEPHONE
BVP	BEGIN VERTICAL POINT	FT	FOOT/FEET	PL, P/L	PROPERTY LINE	TEMP	TEMPORARY
C	C&G	FUT	FOOTING	PLCP	POLYURETHANE LINED AND COATED STEEL PIPE	TF	TOP OF FOOTING
C	C&G	FUT	FUTURE	PMF	PAVEMENT MARKING FILM	TG	TOP OF GRATE
CW	CURB AND GUTTER	G	GAS	PMB	PAVEMENT MARKING FILM	TMH	TOP OF MANHOLE
CATV	UNDERGROUND CABLE TV	GA	GAGE, GUY ANCHOR	POB	POINT OF BEGINNING	TOP	TOP OF PIPE
CCBM	CLARK COUNTY BENCH MARK	GB	GRADE BREAK	POC	POINT ON CURVE, POINT OF BEGINNING	TP	TELEPHONE POLE
CCPW	CLARK COUNTY PUBLIC WORKS	GR	GROUND	CON	CONNECTION	TRANS	TRANSITION
CCCTV	CLOSED-CIRCUIT TELEVISION	GRD	GRADE, GROUND	POT	POINT ON TANGENT	TRW	TOP OF RETAINING WALL
COWD	CLARK COUNTY WATER RECLAMATION DISTRICT	H, HGT	HEIGHT	PP	POWER POLE	TS	TEST STATION
CE	COMMON ELEMENT	HDL	HEADWALL	PROP	PROPOSED	TS&V	TAPPING SLEEVE & VALVE
CFC	CUBIC FEET PER SECOND	HW	HYDRAULIC GRADE LINE	PRC	POINT OF REVERSE CURVE	TW	TOP OF WALL
CIP	CAPITAL IMPROVEMENTS PROJECT, CORRUGATED IRON PIPE	HPTZ	HIGH POINT, HIGH PRESSURE	FRVC	POINT OF REVERSE VERTICAL CURVE	TY (TYP)	TYPICAL
		HPS	HIGH PRESSURE SODIUM	PSI	POUNDS PER SQUARE INCH	UDGS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR
CIPM	CURED-IN-PLACE MANHOLE	IBC	INTERNATIONAL BUILDING CODE	PVC	POINT OF TANGENCY		WATER DISTRIBUTION SYSTEMS (LATEST EDITION)
CIPP	CURED-IN-PLACE PIPE	INV	INVERT	PT	PUBLIC UTILITY EASEMENT	UG	UNDERGROUND
CIR	CIRCLE	INT	INTERIM	PV	POLYVINYL CHLORIDE	UL	UNDERGROUND
CLR	CLEAR OR CLEARANCE	JT	JOINT	PVI	POINT OF VERTICAL INTERSECTION	ULT	ULTIMATE
CLSM	CONTROLLED LOW STRENGTH MATERIAL	L	LENGTH	PVM	PAVEMENT	USDOCA	UNIFORM STD. DRAWINGS FOR
		L	LEFT	PZ	PRESSURE ZONE	USD	PUBLIC WORKS' CONSTRUCTION
CLV	CITY OF LAS VEGAS	LF	LINEAR FEET	R	RADIAL, RADII		OFF-SITE IMPROVEMENTS CLARK COUNTY AREA, NEVADA (LATEST EDITION)
CMF	CORRUGATED METAL PIPE	LIP	LIP OF GUTTER	RT	RIGHT	UT	UNDERGROUND TELEPHONE
CMU	CONCRETE MASONRY UNIT	LN	LANE	RCB	REINFORCED CONCRETE BOX	VAR	VARIABLE/VARIES
CNLV	CITY OF NORTH LAS VEGAS	LP	LOW POINT, LIGHT POLE	RCP	REINFORCED CONCRETE PIPE	VC	VERTICAL CURVE
CO	CLEANOUT	LS	LANDSCAPE	R	ROAD	VCP	VITRIFIED CLAY PIPE
CONC	CONCRETE	LS,LSCP	LAS VEGAS VALLEY WATER	RD	ROADWAY	VERT	VERTICAL
COND	CONDUIT	LWWD	DISTRICT	REC	RECTANGULAR	VG	VALLEY GUTTER
CONST	CONSTRUCT OR CONSTRUCTION	MAX	MAXIMUM	REF	REFERENCE	VOL	VOLUME
COORD	COORDINATE	MH	MANHOLE	REIN	REINFORCED	W	WATER, WEST
COR	CORNER	MIN	MINIMUM	REQD	REQUIRED	W/	WITH
CPEP	CORRUGATED POLYETHYLENE PIPE	MLTMCP	MORTAR LINED TAPE & MORTAR COATED PIPE	RIM	TOP OF RIM ELEVATION	WHH	WATER MANHOLE
CY	CUBIC YARD(S)	MP	MESA PARK	R/W,R/OW	RIGHT OF WAY	WS	WATER SUPPLY
Δ	DELTA	MOD	MODIFY/MODIFIED	RP	RADIUS POINT	WTR	WATER
DBL	DOUBLE	MON	MONUMENT	RPM	RAISED PAVEMENT MARKERS	XING	CROSSING
DCSWCS	DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEM (LATEST ED.)	MPH	MILES PER HOUR	RSQV	RESILIENT SEAT GATE VALVE	Y	YARD, YARD DRAIN
		N	NORTH	S	SEWER, SOUTH	Z	PRESSURE ZONE

LEGEND

	TYPICAL PROPOSED LINEWORK		DETAIL BUBBLE W/ REF.
	TYPICAL EXISTING LINEWORK		BENCHMARK
	TYPICAL FUTURE LINEWORK		GATE VALVE
	SECTION LINE		PRESSURE REDUCING VALVE
	EASEMENT LINE		BACK WATER VALVE
	EDGE OF PAVEMENT		DROP INLET
	LOTLINE		FIRE HYDRANT
	RIGHT-OF-WAY LINE		WATER METER
	PROPERTY LINE		WATER RPPA
	CENTERLINE		WATER RPDA
	TYPICAL UTILITY LINE 4" - 12" (SINGLE LINE)		TRAFFIC SIGNAL PULL BOX
	TYPICAL UTILITY LINE > THAN 12" (DOUBLE LINE)		STREET LIGHT CLARK COUNTY
	TYPICAL SEWER LINE W/MH		STREET LIGHT SUMMERLIN STD
	TYPICAL WATER LINE W/GV		
	TYPICAL STORM LINE W/MH		
	100 YR HYDRAULIC GRADE LINE CONCRETE OR STEEL ENCASUREMENT		
	TYPICAL STUB & BLOW-OFF		TRAFFIC SIGNAL/FLASHER
	EX. GAS LINE		EXISTING TELE POLE
	EX. ELECTRICAL		EXISTING POWER POLE
	EX. CABLE TV		EXISTING POLE
	EX. TELEPHONE		EX. ELEC MARKER
	EX. OVERHEAD POWER LINES		TRANSFORMER PAD
	EX. ELEC & PWR POLES		SERVICE PEDESTAL
	TYPICAL CURB & GUTTER, SIDEWALK & RAMP		PULLBOX
	POST AND CABLE FENCE		PROPOSED CONTOUR
	WROUGHT IRON FENCE		EXISTING CONTOUR
	CHAIN LINK FENCE		PROPOSED SPOT ELEVATION
	SAWCUT		EXISTING SPOT ELEVATION
	PAVEMENT RESORATION AREA		PROPOSED SLOPE
	PROPOSED ABANDONMENT		
	EXISTING ABANDONMENT		TOP SLOPE
	CUT LINE LIMITS		TOE SLOPE
	FILL LINE LIMITS		FINISH FLOOR ELEVATION

BASIS OF BEARING AND COORDINATES

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE
REFERENCE SYSTEM (NCRS), LAS VEGAS HIGH ELEVATION ZONE, NORTH AMERICAN
DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE
GREENWICH MERIDIAN.

LINEAR UNIT: US SURVEY FOOT (FTUS)
DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
SYSTEM: NEVADA COORDINATE REFERENCE SYSTEM (NCRS)
ZONE: LAS VEGAS HIGH ELEVATION ZONE

PROJECTION: TRANSVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORIGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 400,000.00 M (1,312,333.3333 FTUS)
EASTING AT CENTRAL MERIDIAN: 300,000 M (984,250.0000 FTUS)
SCALE FACTOR ON CENTRAL MERIDIAN: 1.000135 (EXACT)

NOTES:

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BENCHMARK

BM#	DESCRIPTION	NAVD 88 DATUM	NAVD 88 DATUM
CLV BM No. 5LV0926W6	CITY OF LAS VEGAS RIVET AND PLATE IN TOP OF CURB AT THE SOUTHEAST CORNER OF CARRIAGE HILLS DR. AND FAR HILLS AVE.	3229.22 (FEET)	984.267 (METERS)

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES

PROJECT NO. 137353

FIRST APPROVAL DATE:

CAUTION: HIGH PRESSURE GAS!!

CALL SOUTHWEST GAS AT 702-400-1789 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES 48 HOURS PRIOR TO CONSTRUCTION.

SOUTHERN NEVADA - SOUTHWEST GAS CORPORATION
GENERAL NOTES

1. IN THE EVENT OF NATURAL GAS EMERGENCIES CALL 911 AND 1-877-860-8020
2. MINIMUM HORIZONTAL AND VERTICAL CLEARANCES BETWEEN NATURAL GAS FACILITIES AND ANY UNDERGROUND UTILITIES AND/OR STRUCTURES, INCLUDING BUT NOT LIMITED TO WATER, SEWER, STORM DRAIN, COMMUNICATIONS, AND ELECTRIC LINES, SHALL BE AT LEAST 12-INCHES OR GREATER AS DICTATED BY LOCAL CODES AND STANDARDS.
c) ANY DEVIATION FROM SPECIFIED MINIMUM CLEARANCES MUST BE APPROVED BY ALL AFFECTED UTILITIES AND/OR MUNICIPALITIES
3. FOR VALVE ADJUSTMENT CONTACT 702-668-6107 48 HOURS PRIOR TO CONSTRUCTION
4. IN THE EVENT OF A NATURAL GAS CONFLICT WITH PROPOSED UTILITIES AND STRUCTURES CONTACT 702-365-2098

SOUTHWEST GAS APPROVAL

SOUTHWEST GAS CORPORATION

DATE _____

SITE IMPROVEMENT QUANTITIES (PRIVATE)

EXCAVATION	8,943	CY
EMBANKMENT	12,167	CY
NET (FILL)	3,224	CY
RIPRAP T=6"	2	CY
GRAVEL MULCH	291	CY

QUANTITIES ARE ESTIMATES ONLY. CONTRACTOR
IS TO VERIFY DURING BIDDING PROCESS.

WALKWAY QUANTITIES (PUBLIC)

CONCRETE SIDEWALK	21,460 SF
0" FACE - 6" CURB	3,584 LF
6" PVC PIPE	24 LF

QUANTITIES ARE ESTIMATES ONLY. CONTRACTOR
IS TO VERIFY DURING BIDDING PROCESS.

[illegible]

PROJECT NO.	639-660-1
DESIGN:	CC/PB
DRAWN:	PB
CHECK:	CC
PLOT DATE:	10-14-20
PLOT TIME:	11:17:20

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
acwengineering.com

GCL
ENGINEERS & SURVEYORS

THE HOWARD HUGHES COMPANY, LLC

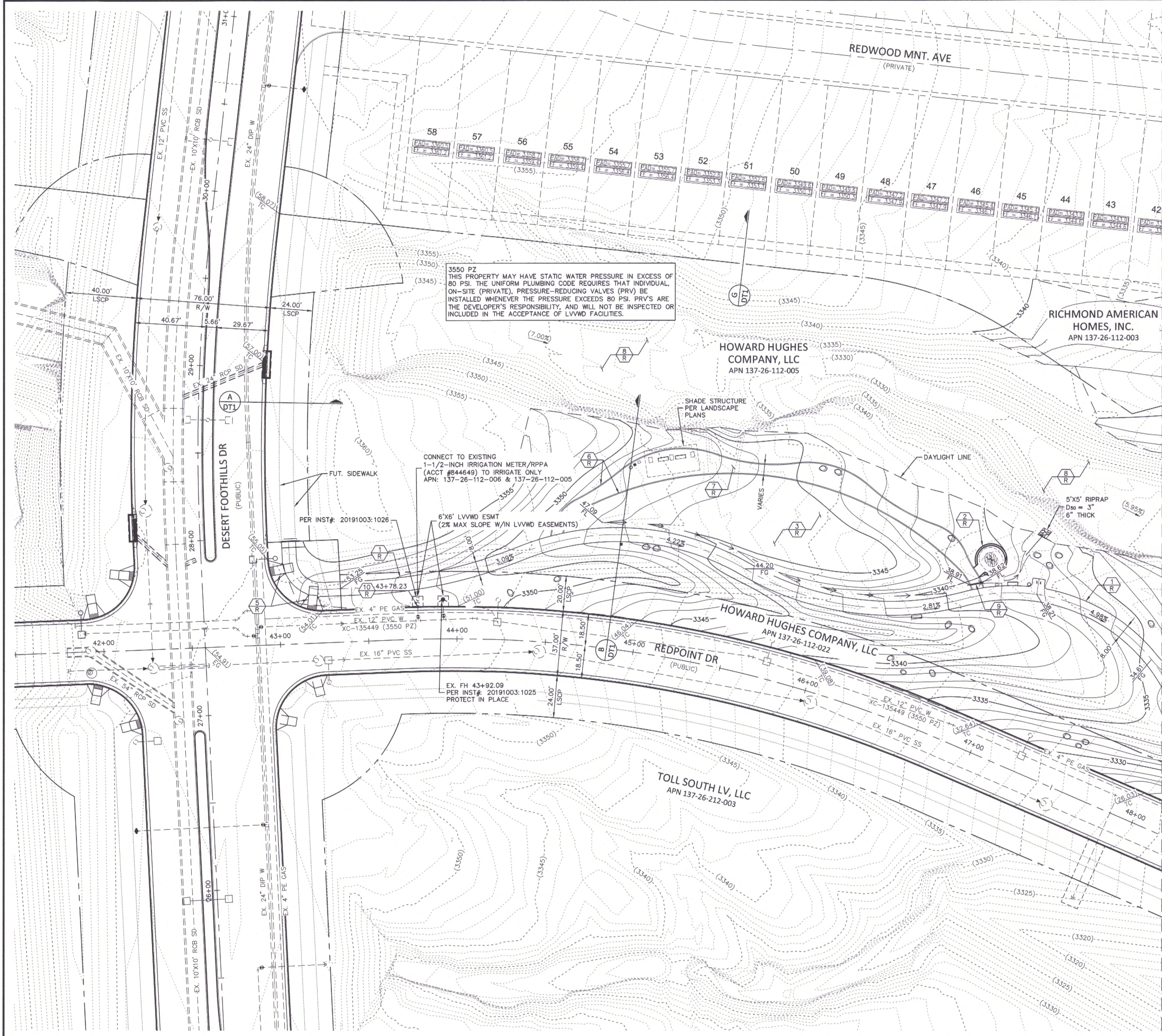
REDPOINT ARROYO - PHASE 1 IMPROVEMENTS (DESERT FOOTHILLS DRIVE TO CARRIAGE DRIVE)

PROJECT DATA

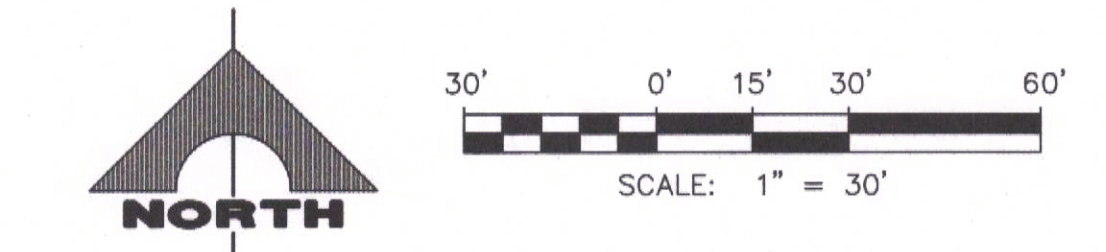
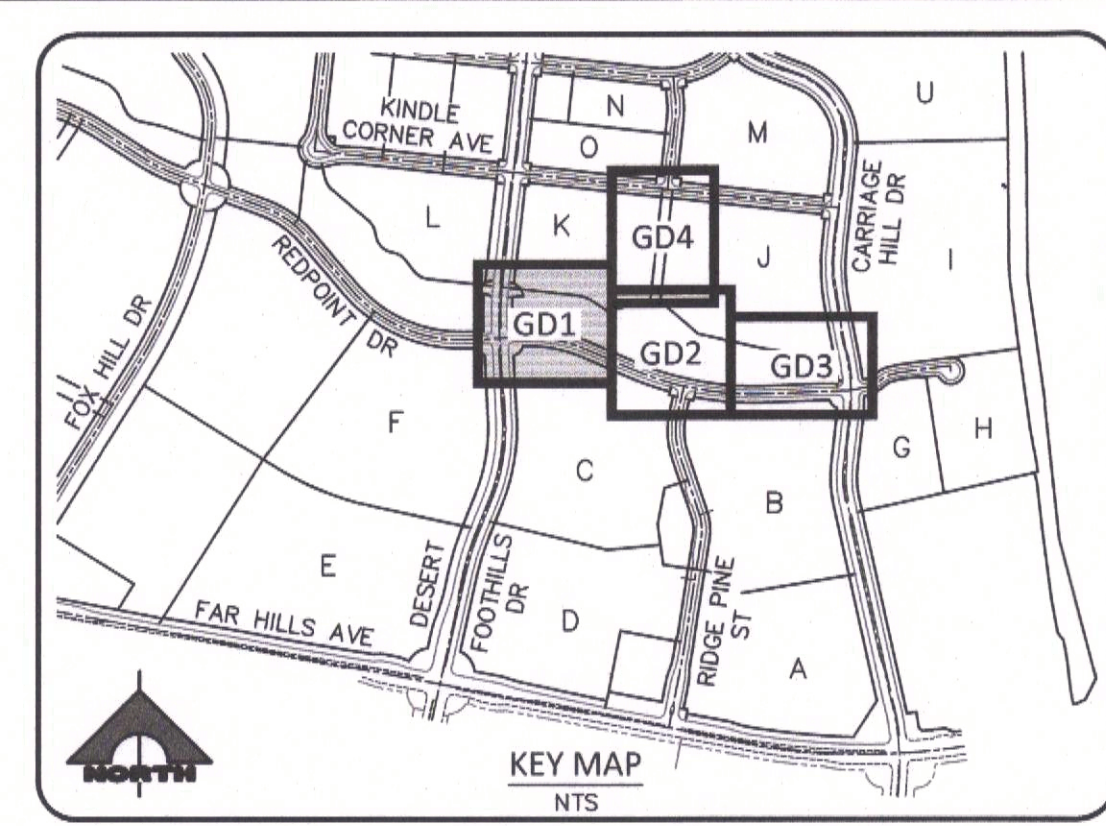
DRAWING

G3

3 OF 12 SHTS



MATCH LINE - SEE SHEET GD2



- ROADWAY CONSTRUCTION NOTES**
1. PROPOSED SIDEWALK (SEE LANDSCAPE PLANS)
 2. INSTALL DECORATIVE/RETAINING WALLS (SEE LANDSCAPE PLANS BY OTHERS)
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 10. EX. 1-1/2" IRRG. METER W/ 1-1/2" RPPA (PROJECT #135449) (ACCT 844649), PROTECT IN PLACE

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES

PROJECT NO. 137353 FIRST APPROVAL DATE:

BASIS OF BEARING AND COORDINATES

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS HIGH ELEVATION ZONE, NORTH AMERICAN DATUM OF 1983, SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

LINEAR UNIT: US SURVEY FOOT (FTUS)

DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00

SYSTEM: NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

ZONE: LAS VEGAS HIGH ELEVATION ZONE

PROJECTION: TRANSVERSE MERCATOR

STANDARD PARALLEL (AND LATITUDE OF GRID ORIGIN): 36°15'00"N

LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W

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EASTING AT CENTRAL MERIDIAN: 300,000 M (984,250.0000 FTUS)

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

Call 811
OR
1-800-842-2444

FAST
Call before you UnderGround
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FREIGHTWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

CALL BEFORE YOU DO OVERHEAD
AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

1-702-227-2929

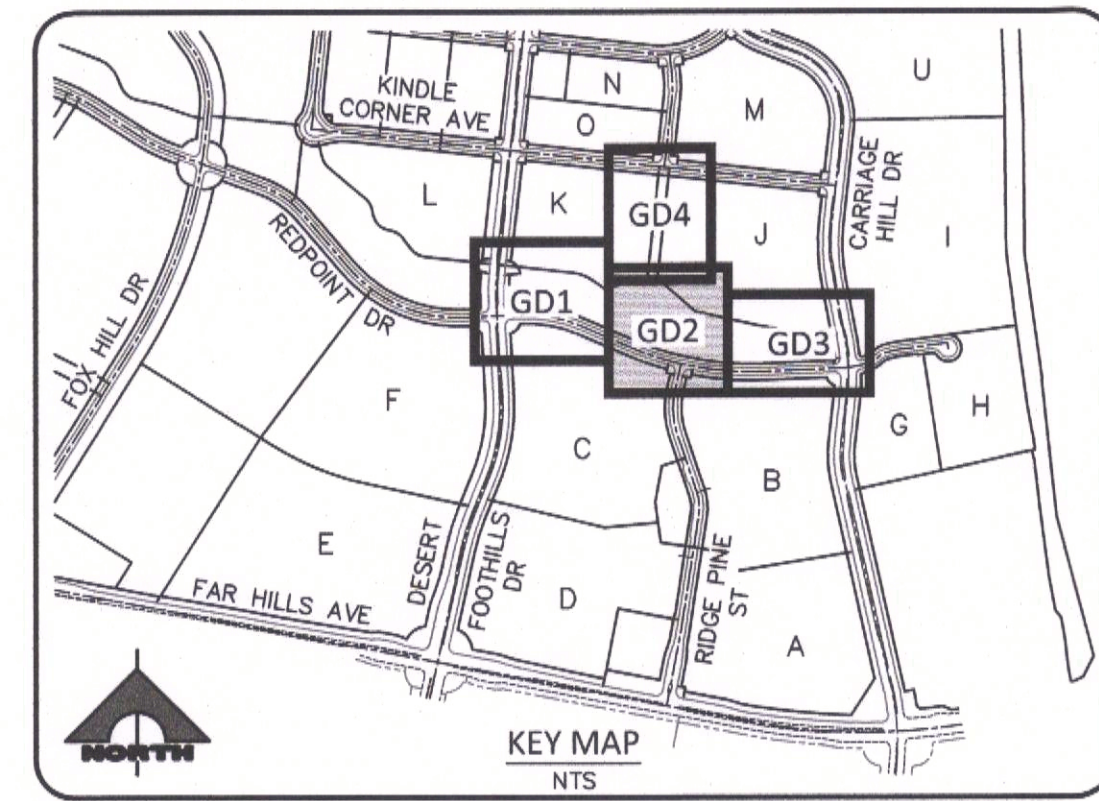
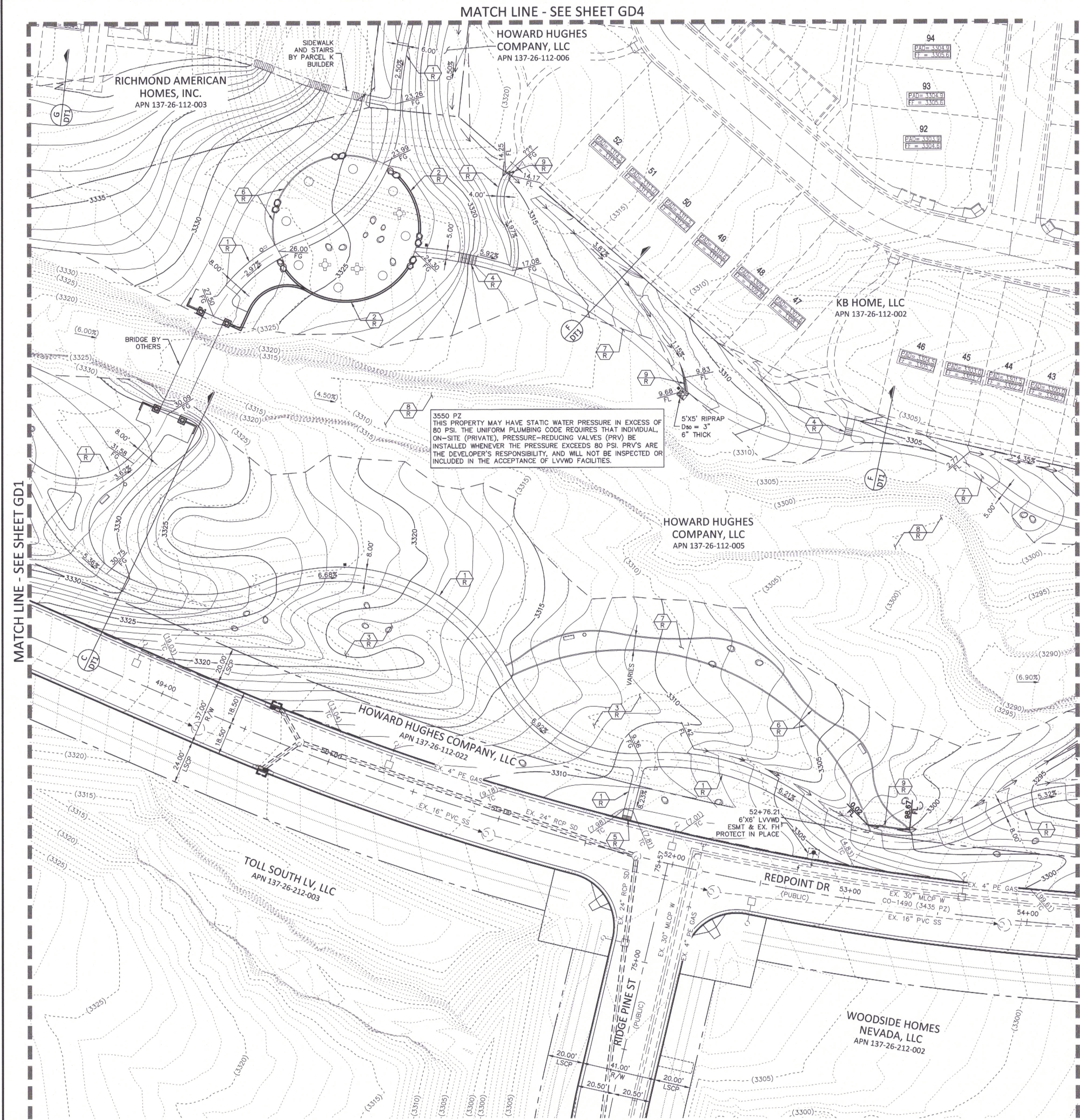
STATE OF NEVADA
MICHAEL FANG
Professional Engineer
No. 2448
Exp. 06/30/2021

PROJECT NO. 639-660-1
DESIGN: CC/PB
DRAWN: PB
CHECK: CC
PLOT DATE: 10-14-20
PLOT TIME: 11:18:00
DESCRIPTION: GRADING PLAN 1

THE HOWARD HUGHES COMPANY, LLC
REDPOINT ARROYO - PHASE I IMPROVEMENTS
(DESERT FOOTHILLS DRIVE TO CARRIAGE DRIVE)

DRAWING
GD1
8 OF 12 SHTS

AGENCY REVIEW - NOT FOR CONSTRUCTION



ROADWAY CONSTRUCTION NOTES

1. PROPOSED SIDEWALK (SEE LANDSCAPE PLANS)
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES

PROJECT NO. 137353 FIRST APPROVAL DATE:

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L#: LXX-XXXX-XXXX CLV#: 107XXXXX

ENGINEER
MICHAEL FANG
No. 24464
10/14/2020

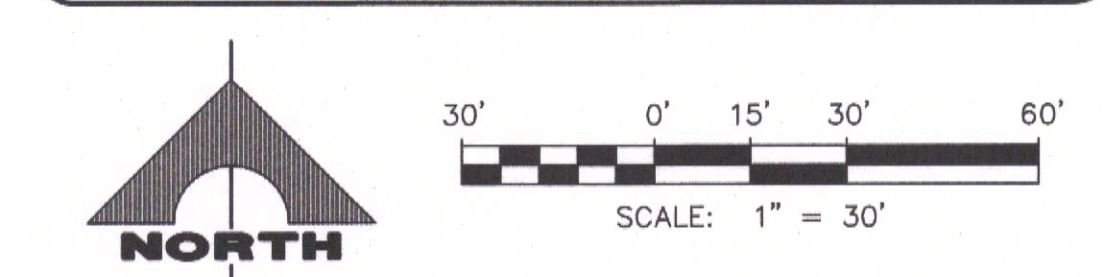
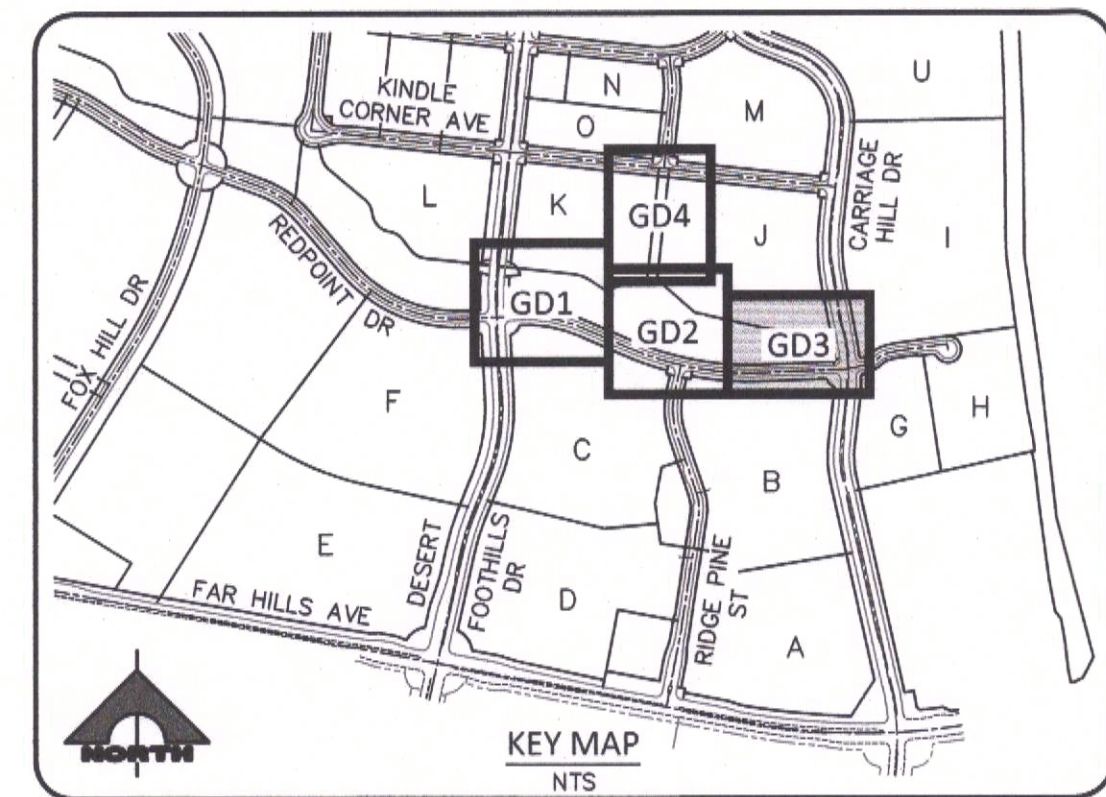
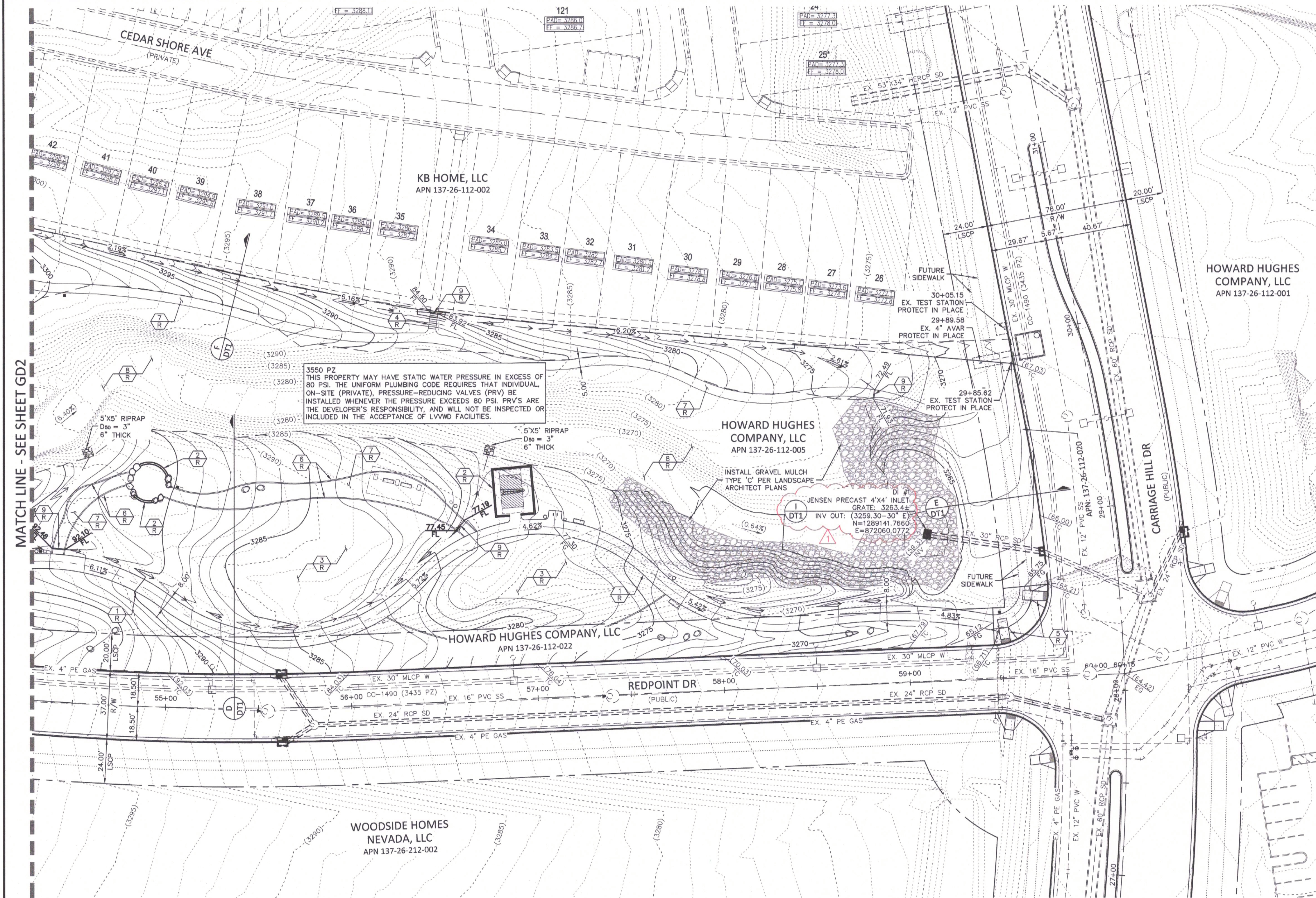
PROJECT NO. 639-660-1
DESIGN: CC/PB
DRAWN: PB
CHECK: CC
PLOT DATE: 10-14-20
PLOT TIME: 11:18:17
ALEXANDER, SANTIAGO

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gowengineering.com

THE HOWARD HUGHES COMPANY, LLC
REDPOINT ARROYO - PHASE 1 IMPROVEMENTS
(DESERT FOOTHILLS DRIVE TO CARRIAGE DRIVE)

DRAWING
GD2
9 OF 12 SHTS

GRADING PLAN 2



- ROADWAY CONSTRUCTION NOTES**
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LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES

PROJECT NO. 137353 FIRST APPROVAL DATE:

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L#: LXX-XXXX-XXXX CLV#: 107XXXXX

THE HOWARD HUGHES COMPANY, LLC
REDPOINT ARROYO - PHASE 1 IMPROVEMENTS
(DESERT FOOTHILLS DRIVE TO CARRIAGE DRIVE)

GD3
10 OF 12 SHTS

GRADING PLAN 3

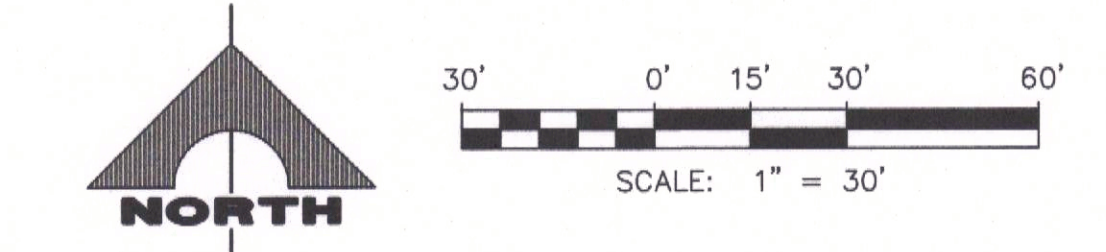
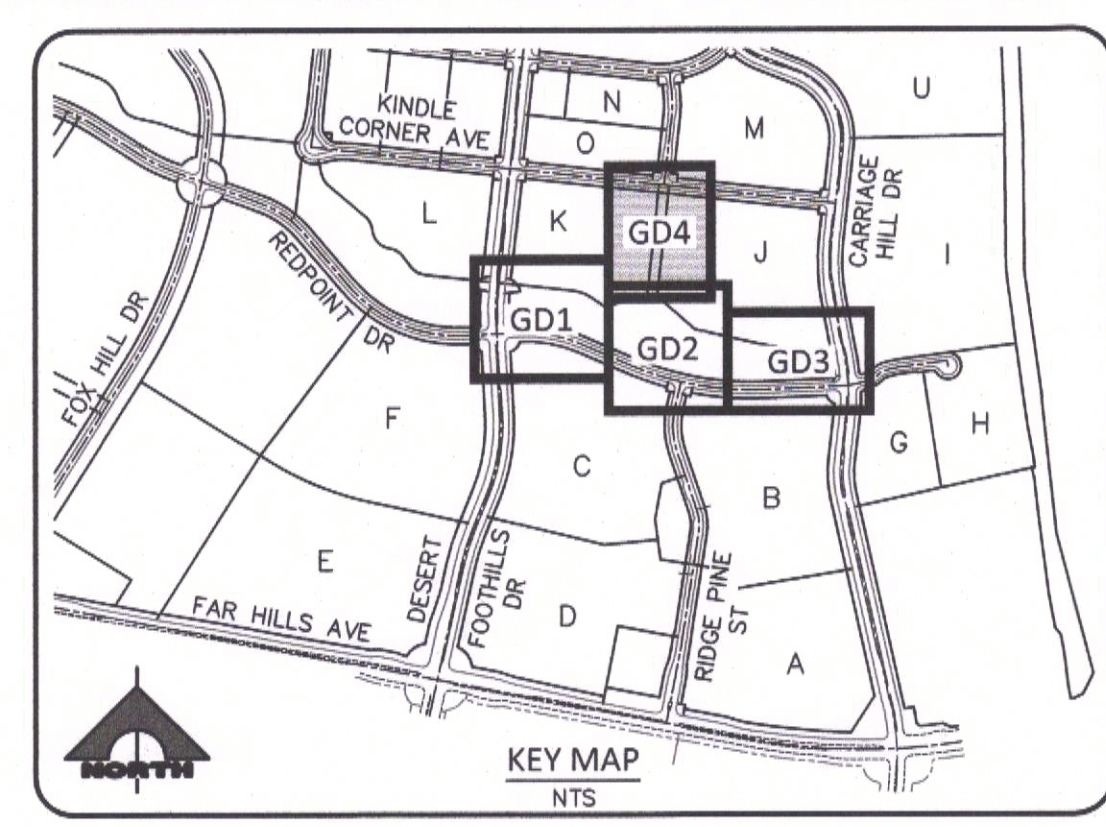
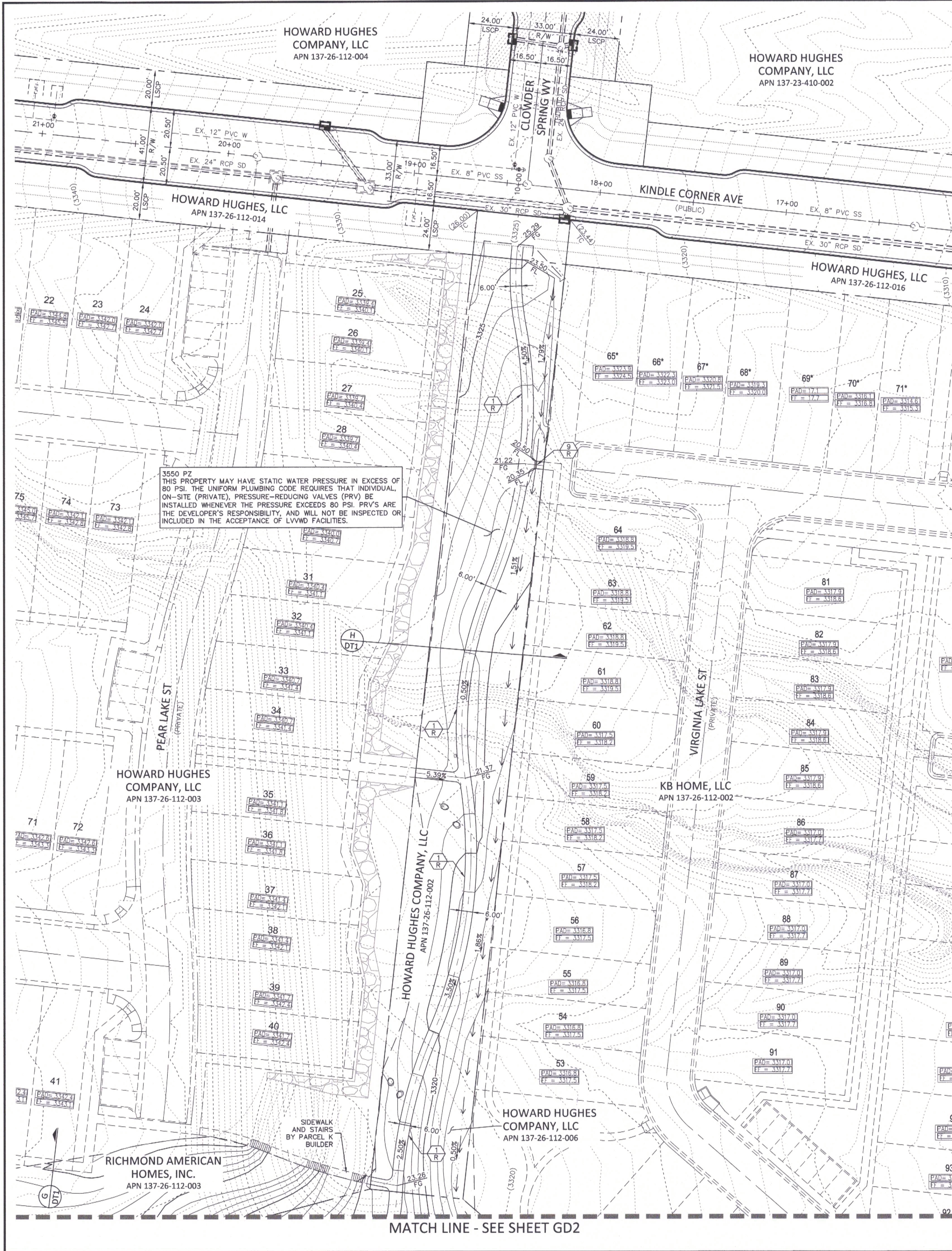
PROJECT NO. 639-660-1
DESIGN: CC/PB
DRAWN: PB
CHECK: CC
PLOT DATE: 10-14-20
PLOT TIME: 11:18:32
ALEXANDER, SANTIAGO

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

GCV
ENGINEERS & SURVEYORS

10/12/20 REVISED INLET GRADE ELEVATION

10/14/2020 DATE: 10/14/2020
GCW APP DATE: 10/14/2020
AGENCY REVIEW - NOT FOR CONSTRUCTION



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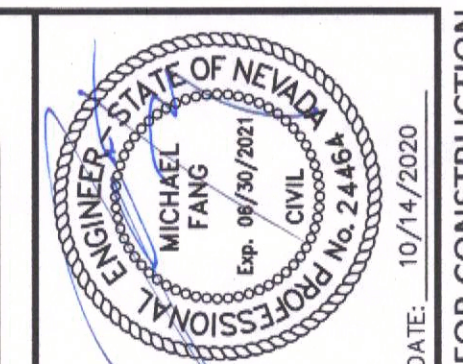
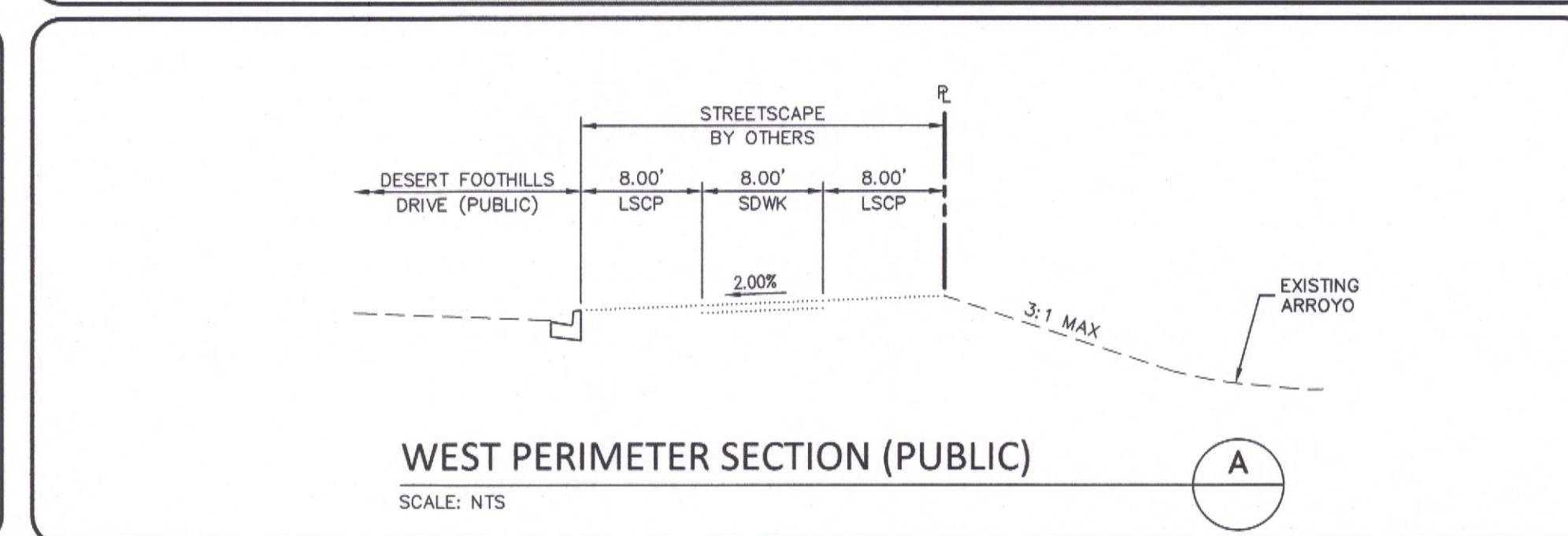
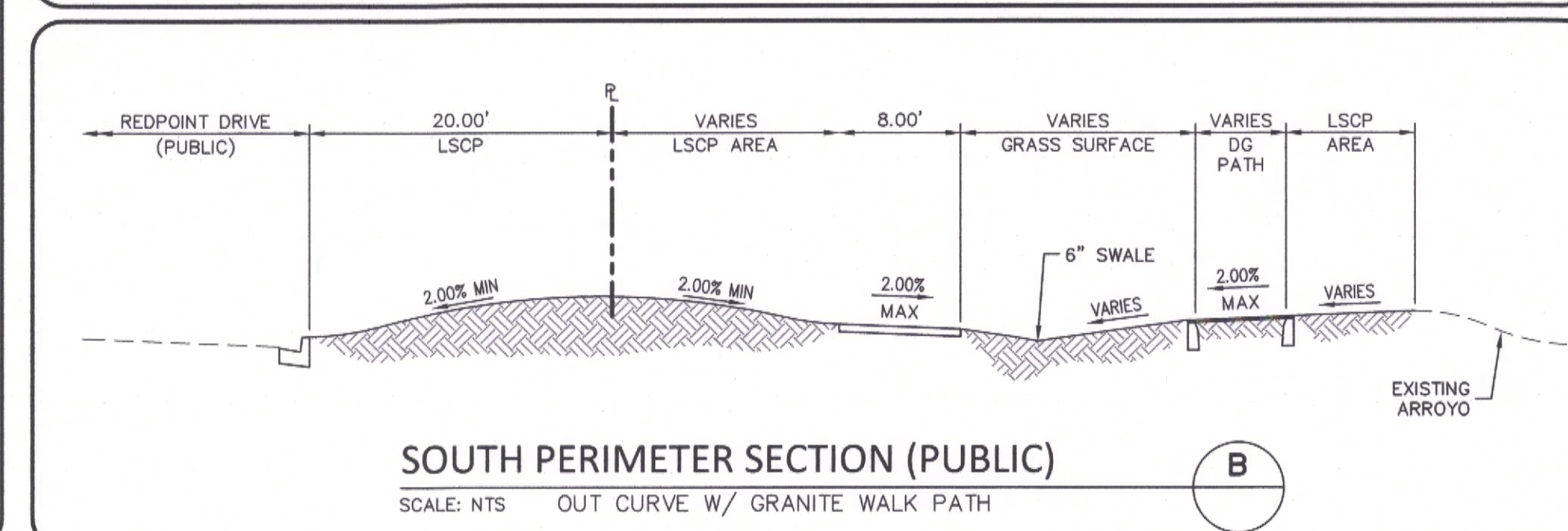
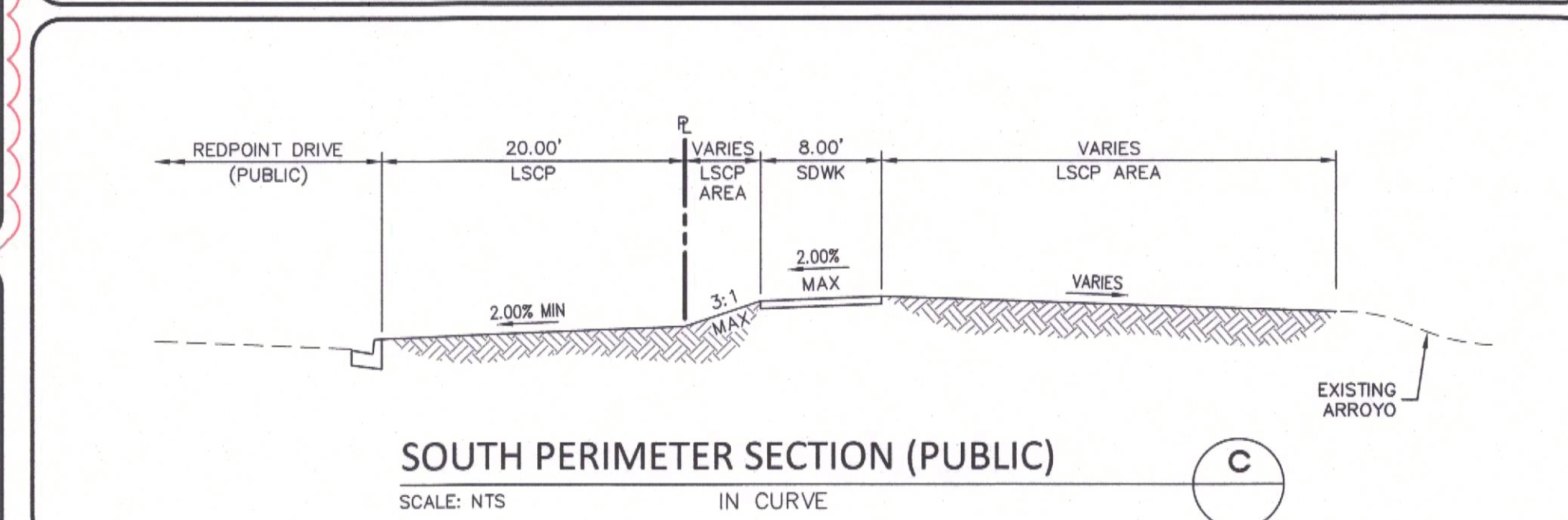
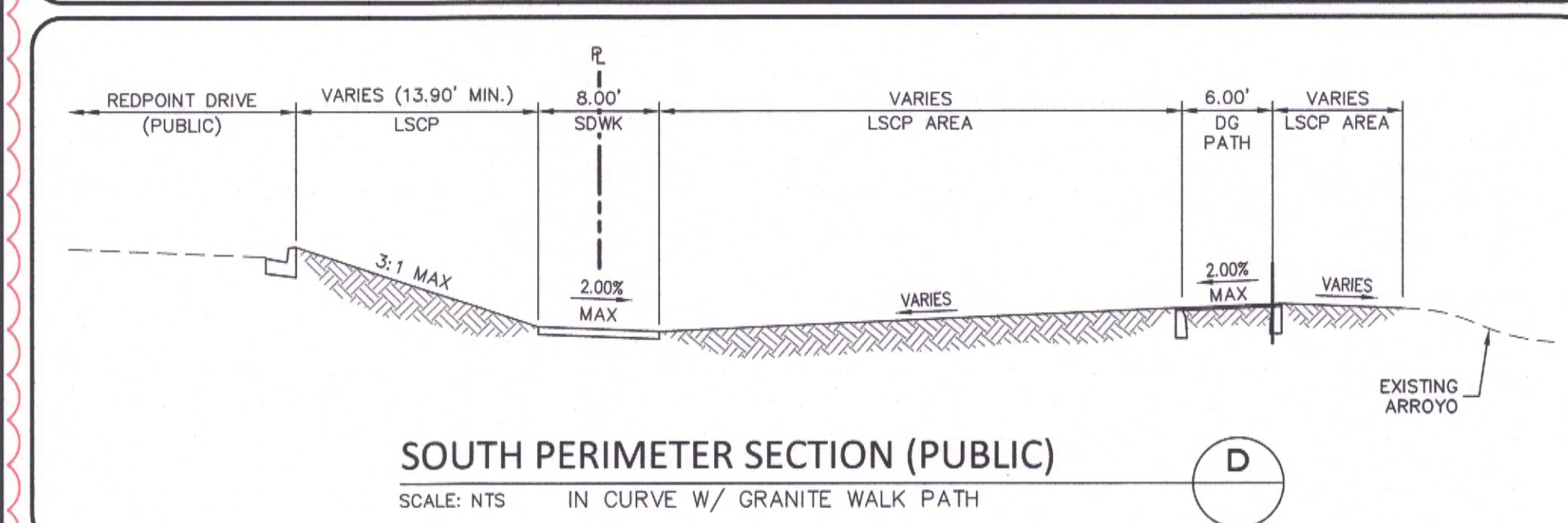
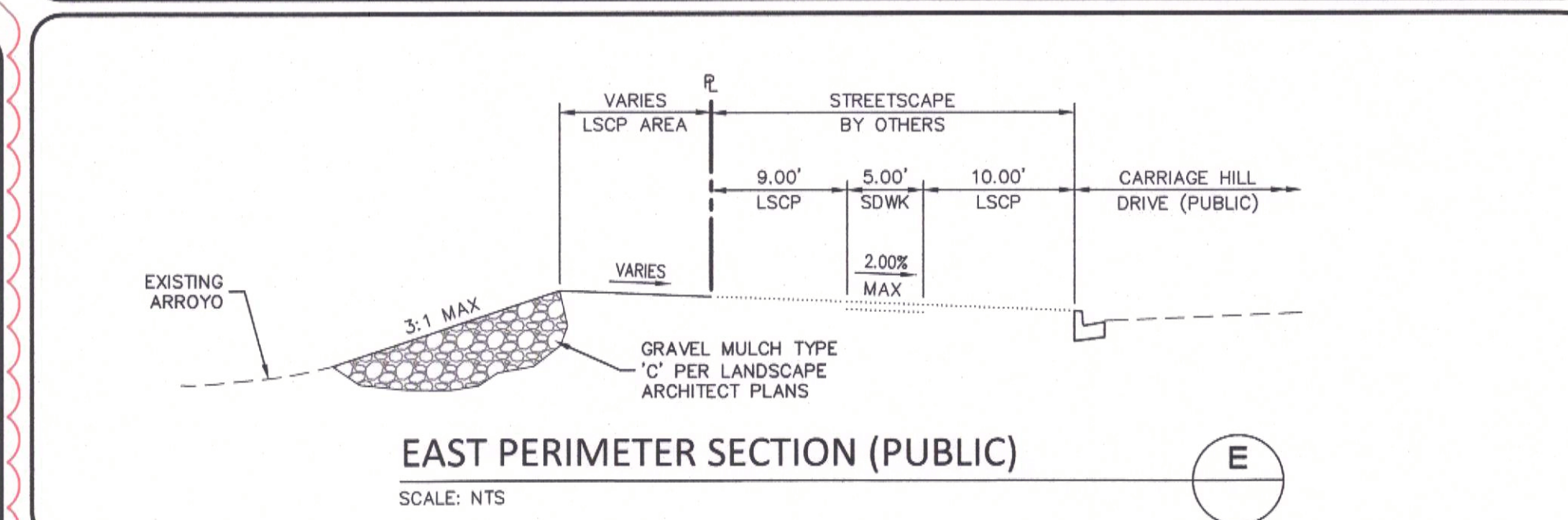
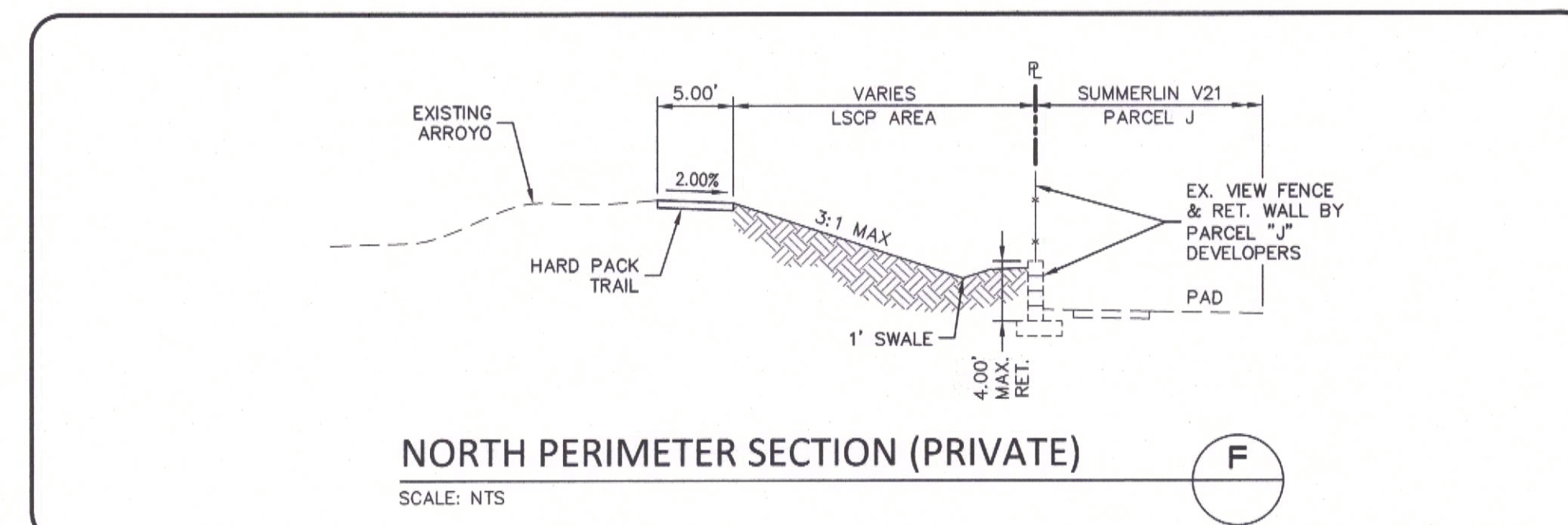
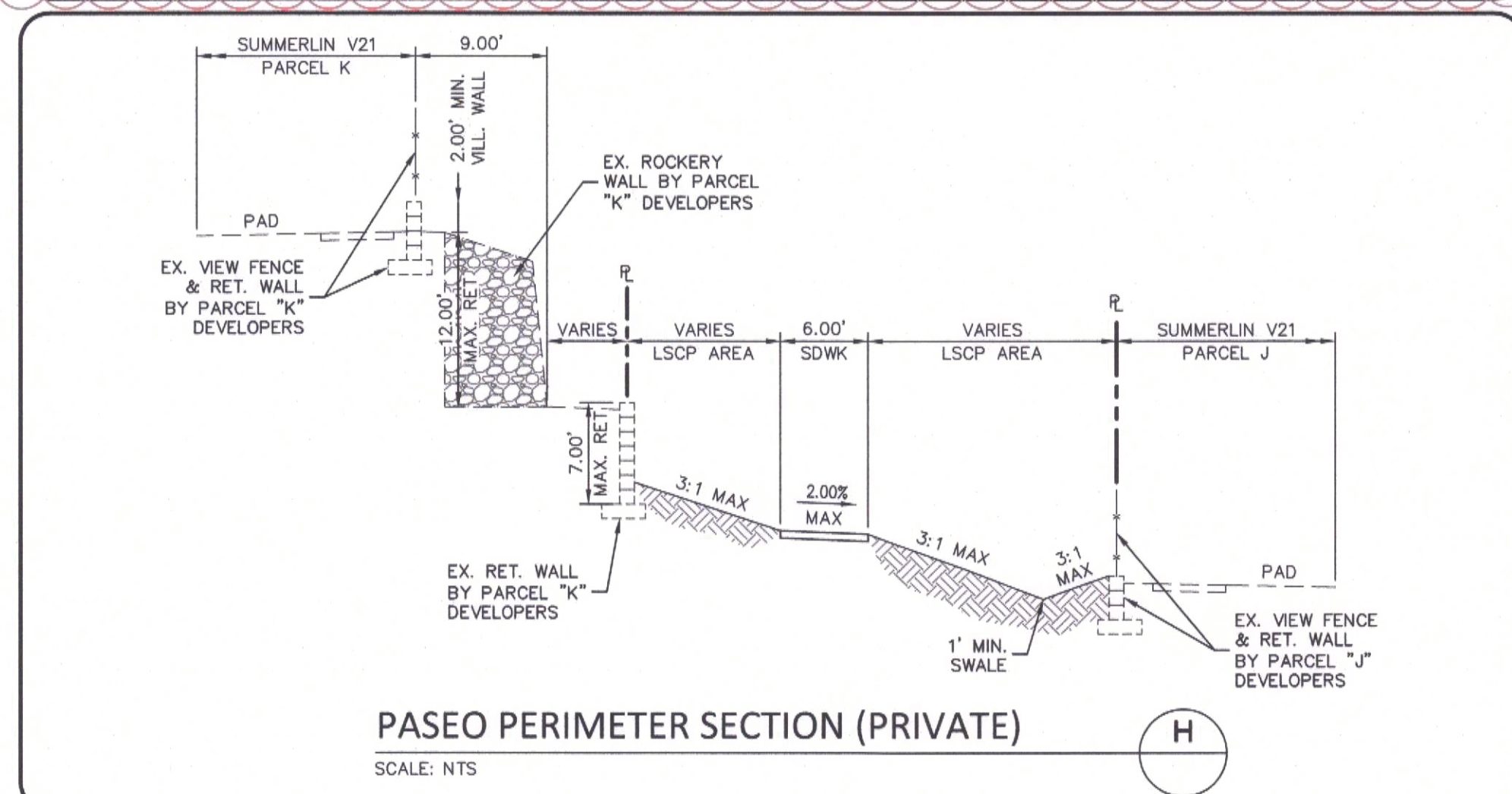
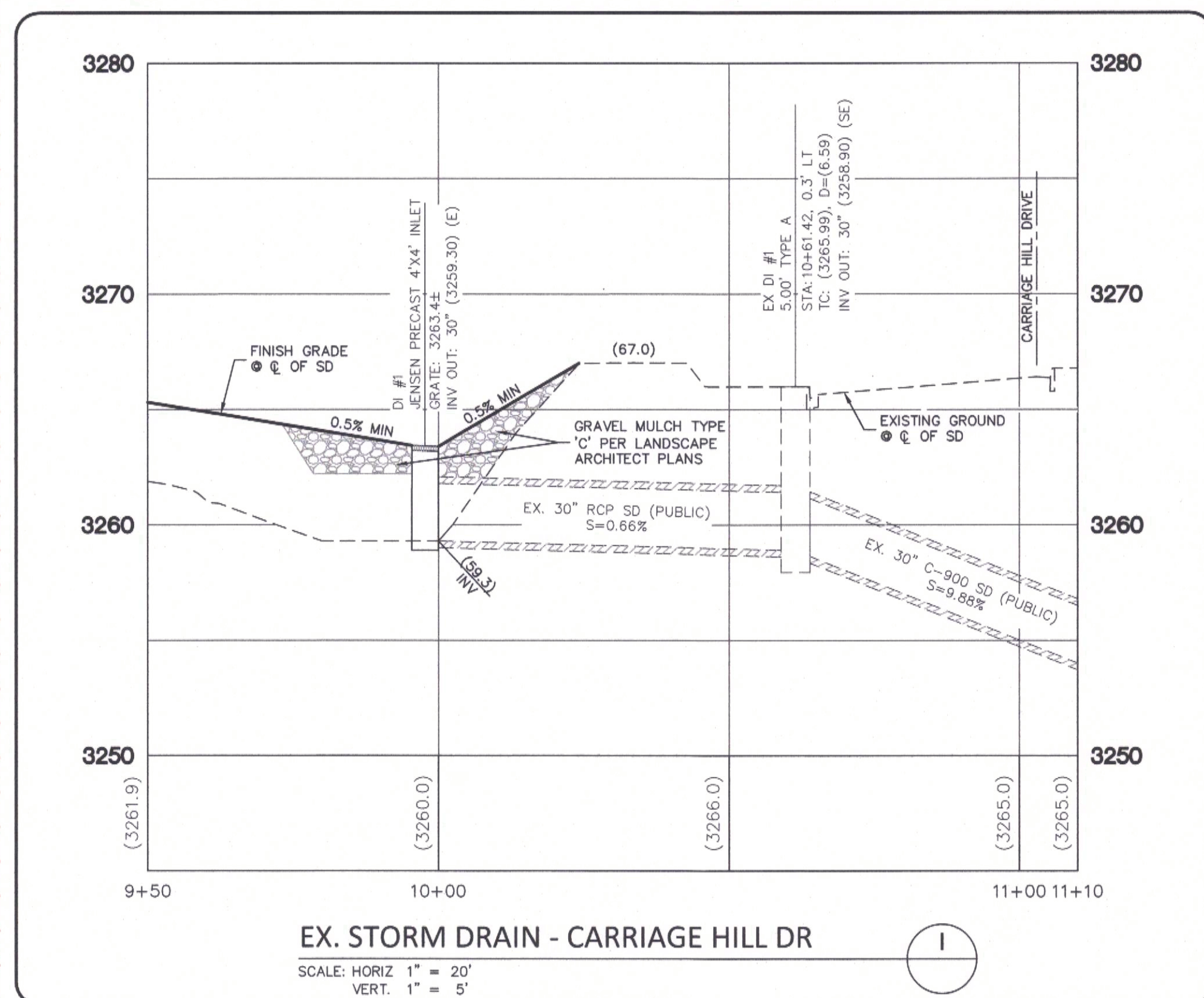
THE HOWARD HUGHES COMPANY, LLC
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LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gowengineering.com

REDPOINT ARROYO - PHASE 1 IMPROVEMENTS
(DESERT FOOTHILLS DRIVE TO CARRIAGE DRIVE)

GRADING PLAN 4

GD4
11 OF 12 SHEETS

AGENCY REVIEW - NOT FOR CONSTRUCTION

[illegible]

GCV
ENGINEERS \ SURVEYORS

1555 S. RAINBOW BLVD.,
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

IN PANDORA DATA PROJECTS 800 (438-4662) \ 702 (670-6000) \ 702 (670-6000)

ALEXANDER SANTAGO

--	--	--

DRAWING
DT1
12 OF 12 SHTS



Summerlin Village 21 Arroyo Phase 1

1st Response to Comments for the Update to the Technical Drainage Study

639-660-1

October 2020

Prepared for:
Howard Hughes Company
10801 Charleston Blvd., 3rd Floor
Las Vegas, Nevada 89146
702.791.4300

Prepared by GCW, Inc.

1555 South Rainbow Blvd
Las Vegas, NV 89146

P: 702.804.2000
F: 702.804.2298

info@gcwengineering.com
www.gcwengineering.com

639-660-1

October 14, 2020

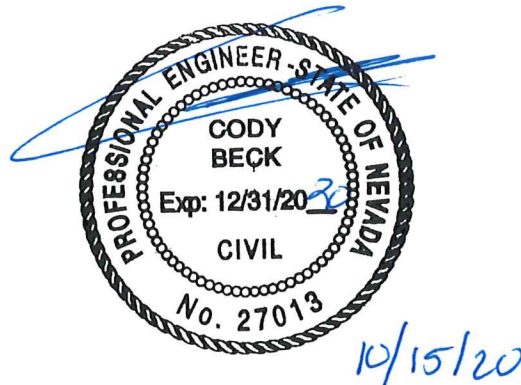
Oh Sang Kwon, P.E.
City of Las Vegas, Public Works
333 N. Rancho Drive, 7th Floor
Las Vegas, NV 89106

Re: 1st Response to Comments for the Update to the Technical Drainage Study for Summerlin Village 21 Arroyo Phase 1

Dear Mr. Kwon,

This letter is to certify that all documents provided with the electronic submittal (CD) match the hard copy submittal of the study.

Cordially,



Cody Beck, P.E.
GCW, Inc.



HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Summerlin Village 21 Arroyo Phase 1 Date: October 2020

Location of Development: a) Descriptive (Cross Streets) North/South: Desert Foothills

East/West: Redoint Drive

b) Section: 26 Township: 20S Range: 59E

c) APN : 137-26-112-005 & -006

Name of Owner: Howard Hughes Company, LLC

Telephone No.: 702.791.4300 Fax No.: _____ E-Mail Address: chris.anderson@howardhughes.com

Address: 10845 Griffith Peak Deive, Suite 160, Las Vegas, Nevada 89135

Contact Person-Name: Cody Beck, PE Telephone No.: 702.804.2089

* E-Mail Address: cbeck@gcwengineering.com Fax No.: _____

Firm: GCW, Inc.

Address: 1555 South Rainbow Boulevard, Las Vegas, NV 89146

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	☐	Park Amenities, Walking Pathways

1. Total Owned Land Area: At Site: 8.37 Acres Being Developed/Disturbed: 8.37 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

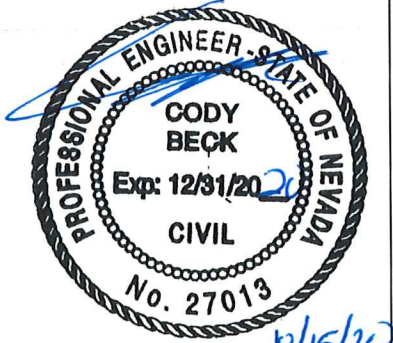
4. Proposed type of development (Residential, Commercial, Etc.): Local Park/Preserved Wash

5. Approximate upstream land area which drains to the subject site: 0-acres due to Desert Foothills Cutoff

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: Flood Control Master Plan Update - Summerlin West Planning Area and subsequent Updates.

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Existing 24" RCP Stub at the northwest corner of Carriage Hill Drive and Redpoint Drive

8. Briefly describe your proposed schedule for the subject project: The Client intends to construct the project as soon as practical. Any expediting of the process is appreciated.



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.**

Revision	Date

Local Entity File No. _____

REFERENCE:

STANDARD FORM 1



Summerlin Village 21 Arroyo Phase 1

1st Response to Comments for the Update to the Technical Drainage Study

639-660-1

October 2020

Prepared for:
Howard Hughes Company
10801 Charleston Blvd., 3rd Floor
Las Vegas, Nevada 89146
702.791.4300

Prepared by GCW, Inc.

1555 South Rainbow Blvd
Las Vegas, NV 89146

P: 702.804.2000
F: 702.804.2298

info@gcwengineering.com
www.gcwengineering.com

639-660-1

Subject: 1st Response to Comments for the Update to the Technical Drainage Study for Summerlin Village 21 Arroyo Phase 1 (DS5244B)

This report addresses City of Las Vegas (CLV) review comments dated April 2, 2020 included in Appendix A, regarding the project in its entirety.

Comment 1:

The top of grate of the proposed 4'x4' Jensen precast inlet is at 3264.3 and per *Grate Inlet Headwater Depth* calculation, the headwater depth is 1.0'. This makes the 100-year water surface elevation at the inlet to be 3265.3 which is higher than the top of curb elevation of "TC=65.21" at the BCR in *Carriage Hill Drive*. The flow in *Arroyo* will spill over to the adjacent roadway in every major event which is not acceptable.

Provide a closed berm around the proposed inlet to prevent the spill over or lower the headwater depth. Address and resolve in the next submittal.

Response:

The area has been revised to prevent runoff from spilling over to the adjacent roadways.

Comment 2:

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

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

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

Response:

Noted.

Respectfully,

Cody Beck, P.E.



APPENDIX A

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		April 2, 2020
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for:	COPIES TO:
	Summerlin V21 Arroyo – Phase 1 - Update	GCW Engineers/Surveyors
Cross Streets:	Desert Foothill Boulevard & Redpoint Drive	Howard Hughes Company, LLC
File Number:	F:\Depot\DSMemos\DS5244B.doc	Bart Anderson, P.E., DevCo
Parcel Number:	137-26-112-005 & 137-26-112-006	CCRFCD
Zoning Action:	N/A	
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	2/5/2020	2/29/2020	Conditional Approval	\$400.00	3735425: \$400
2 nd Submittal	3/18/2020	4/2/2020	See Comments Below	\$100.00	3783182: \$100
TOTAL FEES (LDDRS):				\$500.00	----

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 top of grate of the proposed 4'x4' Jensen precast inlet is at 3264.3 and per the *Grate Inlet Headwater Depth* calculation, the headwater depth is 1.0'. This makes the 100-year water surface elevation at the inlet to be 3265.3 which is higher than the top of curb elevation of "TC=65.21" at the BCR in *Carriage Hill Drive*. The flow in the *Arroyo* will spill over to the adjacent roadway in every major event which is not acceptable.

Provide a closed berm around the proposed inlet to prevent the spill over or lower the headwater depth. Address and resolve in the next submittal.

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

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

In an effort to increase administrative efficiency, for all original and re-submittal packages including updates and the addenda, the City of Las Vegas Public Works Department requires both a hardcopy and a digital copy (PDF) on CD for the drainage study.

A letter sealed and signed by a Nevada registered civil engineer must be included in every submittal certifying documents on the electronic CD matches 100% of the hardcopy submittal. The new submittal requirement is effective on May 1, 2019. If there are any questions regarding these new requirements, please contact Albert Sung in the City Flood Control Section at (702) 229-6541.



Sample Letter to
certify CD.pdf

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: T20S/R59E/26
AREA K-26