

IMPROVEMENT PLANS FOR ANGEL PARK DETENTION BASIN EXPANSION

CITY OF LAS VEGAS
STATE OF NEVADA
BID NO. 13.36800



Mayor:
Carolyn G. Goodman

Councilmen:
Stavros S. Anthony (Mayor Pro-Tem)
Lois Tarkanian
Steven D. Ross
Ricki Y. Barlow
Bob Coffin
Bob Beers

City Manager:
Elizabeth N. Fretwell

Director of Public Works:
Jorge Cervantes, P.E., P.T.O.E.

City Engineer:
David Bowers, P.E., P.T.O.E.

DEPARTMENT OF PUBLIC WORKS
495 S. MAIN STREET
LAS VEGAS, NV 89101
(702) 229-6276

FUNDED BY:
CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

REVIEWED BY:

CLV City Engineer	_____	Date
CLV Construction Management	_____	Date
CLV Engineering Project Manager	_____	Date
CLV Traffic Engineer	_____	Date
<i>Ma. Gal</i>	_____	8/16/12 Date
Clark County Regional Flood Control District		
<i>Frank Hagan</i>	_____	8/16/12 Date
CenturyLink		
<i>Maizara Najm</i>	_____	8/17/12 Date
Cox Communication Las Vegas, Inc.		
<i>ASH</i>	_____	(No LVWD Facility)
Las Vegas Valley Water District Engineering Services Manager		
Project # 116601	Date: 8-2-12	
Sheets: G1-G3		
<i>Nancy Martin</i>	_____	8-16-2012 Date
NV Energy Distribution		
<i>Jim Hany</i>	_____	8-7-2012 Date
NV Energy Transmission		
<i>Kristina Frandino</i>	_____	8/6/12 Date
Southwest Gas Company		

THE SIGNATURE ABOVE ACKNOWLEDGES THAT THE UTILITY COMPANY REPRESENTATIVE HAS REVIEWED THE PLANS, AND THAT TO THE BEST OF HIS OR HER KNOWLEDGE THE UTILITY LINES ARE SHOWN IN THE CORRECT LOCATIONS AND ARE THE CORRECT SIZES. WHILE SUCH DATA HAS BEEN COLLECTED WITH REASONABLE CARE, THERE IS NO EXPRESSED OR IMPLIED GUARANTEE THAT THE LOCATIONS ARE EXACT. THE CONTRACTOR SHALL BEAR THE RESPONSIBILITY OF OBTAINING THE ACTUAL FIELD LOCATIONS.

NV ENERGY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NV ENERGY RESERVES THE RIGHT TO ADDRESS ANY EXISTING OR FUTURE CONFLICTS ONCE THE FINAL DESIGN IS COMPLETED. THE NEW SERVICE AND THE RESOLUTION OF ANY CONFLICTS WILL BE ACCOMPLISHED PURSUANT TO THE NEVADA PUBLIC UTILITY COMMISSION'S RULES AND REGULATIONS.

THE AFFIXED CENTURYLINK APPROVAL DOES NOT ASSUME OR GUARANTEE LIABILITY FOR KNOWN OR UNKNOWN CONFLICTS WITH EXISTING OR PROPOSED IMPROVEMENTS. RESOLUTION OF ANY CONFLICT WILL BE ACCOMPLISHED PURSUANT TO LOCAL ORDINANCES, NEVADA REVISED STATUTES AND/OR PUBLIC UTILITY COMMISSION RULES AND REGULATIONS.

DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1535 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 - F: 702.804.2299 - G: WALLACE.COM
REVISION	BY
DATE	REV
COVER SHEET	
TITLE: ANGEL PARK DETENTION BASIN EXPANSION	
SHEET	TITLE
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SCALE:	PROJECT NO: 412-646
DRAWN BY: RKB	DESIGNED BY:
CHECKED BY:	PROJECT NO: 412-646
SEAL	
7/24/12	
SHEET	
1 OF 60 SHEETS	
HANSEN NO. 36800	DRAWING NO. 731-49-J

ANGEL PARK DETENTION BASIN EXPANSION

CITY OF LAS VEGAS TRAFFIC NOTES

- 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 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.
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 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.
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 REPLACED 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 TRAFFIC SIGNS SHALL BE FABRICATED WITH DIAMOND GRADE MIP CLASS 6 REFLECTIVE SHEETING OR APPROVED EQUAL. ALL NEW TRAFFIC SIGNS, EXCEPT STREET NAME 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.
7. 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.
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 UNDER, REGARDLESS OF THE STATUS OF COMPLETION 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 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.
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 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.
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 THESE OFFICERS SHALL BE SET BY METRO AND 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 DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
15. 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 SIGNING, 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.

REVISED 05/05/2008

TRAIL LIGHTING NOTES

- 1. EXISTING TRAIL LIGHTS TO BE RELOCATED SHALL BE REMOVED AND STORED BY CONTRACTOR. POLES AND LUMINAIRE ASSEMBLIES SHALL BE PROTECTED FROM DAMAGE DURING REMOVAL, STORAGE AND REINSTALLATION. COMPLETE ASSEMBLY CONDITION (INCLUDING BASE COVER) SHALL BE EVALUATED AND DOCUMENTED, IN A MANNER ACCEPTABLE TO OWNER, PRIOR TO COMMENCEMENT OF CONSTRUCTION PROJECT. UPON COMPLETION OF CONSTRUCTION ALL COMPLETE ASSEMBLIES SHALL BE DEEMED TO MEET THE PRE CONSTRUCTION CONDITION PRIOR TO ACCEPTANCE BY OWNER, REGARDLESS OF THE PRECONSTRUCTION CONDITION. ALL RELOCATED TRAIL LIGHTS SHALL BE OPERABLE UPON COMPLETION OF CONSTRUCTION.
2. CONDUCTORS SHALL BE REMOVED TO NEXT LIGHT IN EACH DIRECTION FROM THE AREA OF CONSTRUCTION.
3. EXISTING CONDUITS SHALL BE INTERCEPTED AT THE CONSTRUCTION BOUNDARY AND EXTENDED AND/OR REROUTED TO THE RELOCATED LIGHT LOCATION AS NECESSARY. NO FABRICATED OR FACTORY BENDS SHALL BE USED AT THE POINT OF INTERCEPTION. USE ONLY STRAIGHT UNION COUPLINGS AND SWEEP STRAIGHT LENGTHS OF CONDUIT TO PROPOSED LIGHT LOCATION.
4. ALL PROPOSED CONDUITS AND CONDUCTORS SHALL BE NEW AND OF SAME SIZE, TYPE, RATING, AND CERTIFICATION AS THOSE REMOVED TO RELOCATE LIGHTS.
5. ALL ELECTRICAL WORK SHALL COMPLY WITH LATEST EDITION OF NFPA 70 (NATIONAL ELECTRICAL CODE) AS ADOPTED BY AUTHORITY WITH LOCAL AMENDMENTS.

CITY OF LAS VEGAS GENERAL NOTES

- 1. 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".
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 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 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, AND 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 OR REPLACED SATISFACTORY TO THE CITY ENGINEER OR 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 DESIGN TO BE APPROVED BY THE QUALITY CONTROL DIVISION, 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 1/2" ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS.
9. CURB AND GUTTER WITH A GRADE OF LESS THAN FOUR-TENTHS OF ONE PERCENT SHALL BE WATER-TESTED AS SOON AS POSSIBLE AFTER CONSTRUCTION. ANY CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY SHALL BE REMOVED AND REPLACED PER USD 216.
10. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER USD 235, CASE 1. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY PROJECT REPRESENTATIVE.
11. 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 TRANSITIONS TO BE AS SHOWN ON PLANS, OR AS DESIGNATED IN THE FIELD BY CITY PROJECT REPRESENTATIVE.
12. EXACT LOCATION OF ALL SAWCUT LINES MAY BE DETERMINED IN THE FIELD BY A CITY PROJECT REPRESENTATIVE IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.
13. 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. 623.550.
14. 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 AFFECTED UTILITY COMPANY AND THE CITY ENGINEER.
15. 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 CLV BUILDING DEPARTMENT.
16. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHTS OF WAY.
17. CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, SEWER CLEANOUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
18. MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF MDT AND CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.
19. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC. THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE ENGINEER CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.
20. SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S) SHALL BE PROVIDED TO THE ENGINEER PRIOR TO PROJECT ACCEPTANCE. THE MAP(S) SHALL INCLUDE THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, AND THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXITS THE PUBLIC RIGHT-OF-WAY. THE LOCATION SHALL BE DESCRIBED BY STATE PLANE COORDINATES WHICH SHALL BE BASED ON THE "NEVADA COORDINATE SYSTEM OF 1983, EAST ZONE" AS DEFINED BY THE NEVADA REVISED STATUTES CHAPTER 327, AND TIED TO THE CITY OF LAS VEGAS VERTICAL CONTROL BENCHMARK NETWORK. COORDINATES MUST BE CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTAINITIES OF +/- 0.1 METER (+/- 0.3 FEET). A SEPARATE ELECTRONIC CHAMA DELIMITED FILE FOR THE SANITARY SEWER AND STORM DRAIN COORDINATES SHALL ALSO ACCOMPANY THE SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S).
21. SANITARY SEWER SERVICE LATERALS REQUIRE THE INSTALLATION OF A MARKER BALL AT THE CONNECTION OF THE SEWER SERVICE LATERAL TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERAL EXITS THE PUBLIC RIGHT-OF-WAY. STORM DRAIN LATERALS REQUIRE THE INSTALLATION OF A MARKER BALL AT THE CONNECTION OF THE STORM DRAIN LATERAL TO THE STORM DRAIN MAIN AND WHERE THE STORM DRAIN LATERAL EXITS THE PUBLIC RIGHT-OF-WAY OR WHERE THE STORM DRAIN LATERAL CONNECTS TO A DROP INLET. THE MARKER BALL SHALL BE 3M 4" MARKER BALL 1404-XR OR APPROVED EQUAL.
22. 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.
23. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

REV. DATE APRIL 25, 2011 (CPM VERSION)

CITY OF LAS VEGAS SEWER NOTES

- 1. 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.
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 WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
6. 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" SHALL BE USED ON LINES TWELVE INCHES (12") OR ABOVE.
7. 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.
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-90 PVC PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

REV. DATE JANUARY 2008

CITY OF LAS VEGAS GRADING NOTES

- 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 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.
5. 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:
A. PAVEMENT AREA SUBGRADE HORIZONTAL 0.1"± VERTICAL +0.0' TO -0.1'
B. ENGINEERED FILL 0.5"± +0.1' TO -0.1'
COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE. COMPACTION SHALL COMPLY WITH THE REQUIREMENTS OF THE ENGINEER.
6. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
7. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSIDERATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.
8. 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.
9. IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, SUCH ITEM SHALL BE PROVIDED, AS DIRECTED BY THE CITY ENGINEER, AT NO EXPENSE TO THE CITY OF LAS VEGAS. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

REV. DATE JULY 2008

LAS VEGAS VALLEY WATER DISTRICT (LVVWD) STANDARD NOTES

LVVWD PROJECT # 116601

- 1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, NOTICE SHALL BE GIVEN TO THE LVVWD COMMUNICATION 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 LATEST EDITION OF 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 DRAFT OR EDITION OF THE UNIFORM 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 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 SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED, AND AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVWD DISTRIBUTION SYSTEM.
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 SHUTDOWN. PROPER WRITTEN NOTIFICATION MUST BE GIVEN TO ALL AFFECTED CUSTOMERS.
12. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE LISTED ON THE LVVWD PRE-APPROVED MATERIALS AND MANUFACTURER'S LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.
13. TELEPHONE "CALL BEFORE YOU DIG" AT "811" OR 1-800-227-2600.

DEVIATIONS FROM STANDARDS

NONE

BASIS OF BEARINGS

S 02°07'24" E - BEING THE BEARING OF THE EAST LINE OF THE NORTHEAST ONE-QUARTER OF SECTION 28, TOWNSHIP 20 SOUTH, RANGE 80 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA AS SHOWN BY THAT PARTICULAR RECORD OF SURVEY RECORDED IN FILE 131, PAGE 85 OF SURVEYS IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

PROJECT BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV0028SW6 RIVET AND PLATE IN TOP OF CURB @ SE CORNER DURANGO DR. AND SUMMERLIN PARKWAY NAVD 88 ELEVATION - 803.17814 METERS CLV 2008 ADJUSTMENT 2635.09 FEET

DISCLAIMER NOTE

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APPROVED FOR CONSTRUCTION LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER PROJECT NO. 116601 DATE: 8-2-12

HANSEN NO. 36800

Professional Engineer seal for Grant Y. Tokumi, License No. 15517, State of Nevada, Civil Engineering, Exp. 08/26/2011. Includes drawing number 731-49-J and sheet number 3 of 60 sheets.

Department of Public Works contact information: 400 Stewart Avenue, Las Vegas, Nevada 89101. Phone: (702) 229-8276. G.C. Wallace Companies contact information: 1555 S. Rainbow Boulevard - Las Vegas, NV 89146. Phone: (702) 894-2000. Website: GCWALLACE.COM.

General Notes section containing drawing title 'ANGEL PARK DETENTION BASIN EXPANSION', sheet number '3 OF 60 SHEETS', and drawing number '731-49-J'. Includes fields for 'DRAWN BY', 'DESIGNED BY', 'CHECKED BY', 'PROJECT NO.', and 'SCALE'.

ANGEL PARK DETENTION BASIN EXPANSION

REMOVAL NOTES

- 1 REMOVE CONCRETE OUTLET
- 2 REMOVE CONCRETE HEADWALL
- 3 REMOVE CONCRETE SLAB
- 4 NOT USED
- 5 NOT USED
- 6 NOT USED
- 7 NOT USED
- 8 REMOVE RACK / GRATE
- 9 REMOVE GATE OPERATING HARDWARE
- 10 REMOVE STEEL CAGE
- 11 REMOVE SLUICE GATE
- 12 REMOVE CURB AND GUTTER
- 13 REMOVE PBS
- 14 REMOVE CONCRETE CHANNEL AND CUT-OFF WALLS (BOTH SIDES)
- 15 REMOVE CONCRETE SWALE
- 16 REMOVE CONCRETE TRANSITION, CURB & GUTTER, AND CUT-OFF WALL
- 17 REMOVE CHAIN-LINK FENCE
- 18 REMOVE ASPHALT PAVEMENT TRAIL
- 19 REMOVE AND SALVAGE LIGHT POLE. REMOVE FOUNDATION
- 20 REMOVE AND SALVAGE EXISTING BENCH ASSEMBLY.
- 21 NOT USED
- 22 REMOVE AND RELOCATE 3" STEEL CONDUIT
- 23 REMOVE AND REPLACE SIGN. SEE 4 C25
- 24 REMOVE AND SALVAGE TRASH RECEPTACLE ASSEMBLY
- 25 REMOVE VEHICLE BARRIER FENCE
- 26 REMOVE POST AND CABLE RAILING
- 27 REMOVE RCB END FLARED SECTION
- 28 REMOVE SIDEWALK

CONSTRUCTION NOTES

- 1 SAWCUT AND REMOVE RCP 2' FROM HEADWALL. SLURRY FILL AND ABANDON REMAINING RCP
- 2 FILL AND GRADE TO MATCH EXISTING
- 3 BACKFILL SUMP/DEPRESSION
- 4 SLURRY FILL RCP AND ABANDON IN PLACE
- 5 CONSTRUCT "L" TYPE CURB AND GUTTER PER USD 216
- 6 NOT USED
- 7 COMPACTED FILL TO 90% MODIFIED PROCTOR PER ASTM D1557
- 8 8" SCARIFY AND RECOMPACT NATIVE MATERIAL TO 90% MODIFIED PROCTOR PER ASTM D1557
- 9 12" TYPE II AGGREGATE BASE COMPACTED TO 90% MODIFIED PROCTOR PER ASTM D1557
- 10 COMPACTED FILL TO 90% MODIFIED PROCTOR PER ASTM D1557
- 11 NOT USED
- 12 INSTALL CHAIN-LINK FENCE 1 C25
- 13 INSTALL CHAIN-LINK GATE 2 C25
- 14 REINSTALL EXISTING LIGHT PER 5 C26
- 15 CONSTRUCT NEW PBS TRAIL PER 7 C23
- 16 INSTALL VEHICLE BARRIER FENCE PER 6 C25
- 17 CONSTRUCT 12' WIDE DRIVEWAY PER USD 224. TRANSITION LENGTH REVISED FROM 4' TO 8' PER PER USD 235 CASE III RAMP OUTSIDE CURB RETURN. A=8', B=8'
- 18 CONSTRUCT PBS PER 3 C28
- 19 CONSTRUCT TYPE "CM2" DROP INLET PER USD 412.1
- 20 PROTECT-IN-PLACE
- 21 INSTALL RIPRAP PER 10 C26
- 22 REMOVE AND REPLACE 3" STEEL CONDUIT, CONDUCTORS AND #5 PULLBOX. SEE 3/C14
- 23 INSTALL POST & CABLE RAILING PER 4 C26
- 24 INSTALL WARNING SIGN DETENTION BASIN PER 2 C27
- 25 INSTALL SEDIMENT GAUGE PER 5 C25
- 26 CONTRACTOR TO CLEAN AND CLEAR EXISTING CULVERT OF SILT AND DEBRIS BEFORE CONSTRUCTING NEW FACILITIES A MINIMUM DISTANCE OF 3'.
- 27 CONTRACTOR TO CLEAN AND CLEAR EXISTING RCP OF SILT AND DEBRIS BEFORE CONSTRUCTING NEW FACILITIES
- 28 CONSTRUCT TYPE 2B DROP INLET PER NDOT R.4.2.2
- 29 CONSTRUCT DROP INLET CONCRETE APRON PER NDOT R.4.2.7. WIDTH OF CONCRETE APRON TO MATCH WIDTH OF ADJACENT CONCRETE VALLEY GUTTER
- 30 REINSTALL EXISTING BENCH ASSEMBLY PER 3 C27, 4 C27
- 31 REINSTALL EXISTING TRASH RECEPTACLE PER 6 C27
- 32 SAWCUT DEPTH GAUGE AND MATCH CONCRETE SPILLWAY, EPOXY COAT EXPOSED REBAR, 1/2" EXPANSION JOINT WITH FILLER AND SEALANT.

LEGEND

(0.00) INV
0.00 INV
2.356.1 INV

EXISTING ELEVATION
PROPOSED ELEVATION
EXISTING SPOT ELEVATION
RIGHT-OF-WAY LINE
PROPERTY LINE
ROAD CENTERLINE
1/16TH SECTION LINE
1/8TH SECTION LINE
SECTION LINE
HYDRAULIC GRADE LINE (HGL)
PROPOSED DRAINAGE EASEMENT
EASEMENT LINE
EXISTING TELEPHONE LINE
EXISTING OVERHEAD TELEPHONE LINE
EXISTING FENCE
EXISTING SANITARY SEWER LINE
PROPOSED SANITARY SEWER LINE
EXISTING WATER LINE
PROPOSED WATER LINE
EXISTING GAS LINE
EXISTING UNDERGROUND POWER
EXISTING OVERHEAD POWER
EXISTING FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION LINE
EXISTING STORM DRAIN
EXISTING STORM DRAIN
PROPOSED REINFORCED CONCRETE BOX
PROPOSED STORM DRAIN
EXISTING CABLE TELEVISION
EXISTING OVERHEAD CABLE TELEVISION
EXISTING CONTOUR
PROPOSED CONTOUR
EXISTING MANHOLE
PROPOSED MANHOLE
EXISTING FIRE HYDRANT
EXISTING VALVE
PROPOSED VALVE
CONSTRUCTION LIMITS
FLOW DIRECTION
PROPOSED SCARP
EXISTING EDGE OF PAVEMENT
EXISTING BOUNDARY LINE
PLANTMIX BITUMINOUS SURFACE
RIPRAP PER PLAN
CONCRETE

LEGEND & ABBREVIATIONS

ABBREVIATIONS

AC = ASPHALTIC CONCRETE
ACP = ASBESTOS CEMENT PIPE
AEP = AUTHORIZATION TO ENTER PROPERTY
AP, ANG. PNT. = ANGLE POINT
ASSY = ASSEMBLY
AVAR = AIR VACUUM AIR RELIEF (VALVE)
AWWA = AMERICAN WATER WORKS ASSOCIATION
BC = BACK OF CURB
BCR = BEGIN CURB RETURN
BM = BENCHMARK
B/O = BLOW OFF VALVE
BW = BACK OF WALK
CATV = CABLE TELEVISION
CFS = CUBIC FEET PER SECOND
CIP = CAST-IN-PLACE
CCWRD = CLARK COUNTY WATER RECLAMATION DISTRICT
CL/C = CENTERLINE
CLSM = CONTROLLED LOW STRENGTH MATERIAL
CLV = CITY OF LAS VEGAS
CML&C = CONCRETE MORTAR LINED AND COATED
CMP = CORRUGATED METAL PIPE
CMU = CONCRETE MASONRY UNIT
CONC = CONCRETE
C&G = CURB AND GUTTER
D = DEPTH
DI = DROP INLET
DIP = DUCTILE IRON PIPE
DR = DRIVE OR DRAIN
DSCWCS = DESIGN & CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS
EA = EACH
EFF = EFFLUENT
ELEV./ EL = ELEVATION
EP = EDGE OF PAVEMENT
ERW = EFFLUENT REUSE WATER
EXIST./ EX = EXISTING
FAST = FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION
FF = FINISH FLOOR
FG = FINISH GRADE
FL = FLOW LINE
FM = FORCE MAIN
FO = FIBER OPTIC CABLE
FS = FINISH SURFACE
FUT = FUTURE
G = GAS
GB = GRADE BREAK
GIS = GEOGRAPHIC INFORMATION SYSTEM
HDPE = HIGH DENSITY POLYETHYLENE PIPE
HERCP = HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HGL = HYDRAULIC GRADE LINE
HP = HIGH POINT
HPG = HIGH PRESSURE GAS
I.D. = INSIDE DIAMETER
ITS = INTELLIGENT TRANSPORTATION SYSTEM
INV = INVERT
L = LENGTH
L / LT = LEFT OF
LF = LINEAR FEET
LM = LONE MOUNTAIN ROAD ALIGNMENT
LP = LOW POINT
LV = LAS VEGAS
LVACTS = LAS VEGAS AREA COMPUTER TRAFFIC SYSTEM
LVVWD = LAS VEGAS VALLEY WATER DISTRICT
MH = MANHOLE
MLCP = MORTAR LINED AND COATED STEEL PIPE

ABBREVIATIONS (CONTINUED)

NAVD = NORTH AMERICAN VERTICAL DATUM
NDOT = NEVADA DEPARTMENT OF TRANSPORTATION
NG = NATURAL GRADE
OH = OVERHEAD
OH CATV = OVERHEAD CABLE TELEVISION
OH TEL = OVERHEAD TELEPHONE
OHP = OVERHEAD POWER
PBS = PLANTMIX BITUMINOUS SURFACE
PC = POINT OF CURVE
PCC = POINT OF COMPOUND CURVE
PMF = PAVEMENT MARKING FILM
PPCBR = PORTABLE PRECAST BARRIER RAIL
PPM = POLYUREA PAVEMENT MARKINGS
PRC = POINT REVERSE CURVE
PROP = PROPOSED
PT = POINT OF TANGENT
PB = PULL BOX
PVC = POLYVINYL CHLORIDE PIPE
Q100 = 100-YEAR CONDITION DESIGN FLOW
(R) = RADIAL
R / RT = RIGHT OF
RCB = REINFORCED CONCRETE BOX
RCP = REINFORCED CONCRETE PIPE
R/W = RIGHT-OF-WAY
SD = STORM DRAIN
SDMH = STORM DRAIN MANHOLE
SIM = SIMILAR
SNWA = SOUTHERN NEVADA WATER AUTHORITY
SS = SANITARY SEWER
SSMH = SANITARY SEWER MANHOLE
STA = STATION
STD.DWG.NO. = STANDARD DRAWING NUMBER
STLT = STREETLIGHT
STL = STEEL
SW = SIDEWALK
TAB = TOP AND BOTTOM
TC = TOP OF BACK OF CURB
TEL = TELEPHONE
T/THK = THICK
TMH = TOP OF MANHOLE
TOE = TOE OF CHANNEL
TOP = TOP OF CHANNEL
TRANS = TRANSITION
TS = TRAFFIC SIGNAL
TW = TOP OF WALL
UDACS = UNIFORM DESIGN AND CONSTRUCTION STANDARDS
UGE = UNDERGROUND ELECTRIC
UGP = UNDERGROUND POWER
UNO = UNLESS NOTED OTHERWISE
USD = UNIFORM STANDARD DRAWINGS, CLARK COUNTY AREA
U.S. = UNITED STATES
V.C. = VERTICAL CURVE
VCP = VITRIFIED CLAY PIPE
W = WATER
W/ = WITH
WWF = WELDED WIRE FABRIC

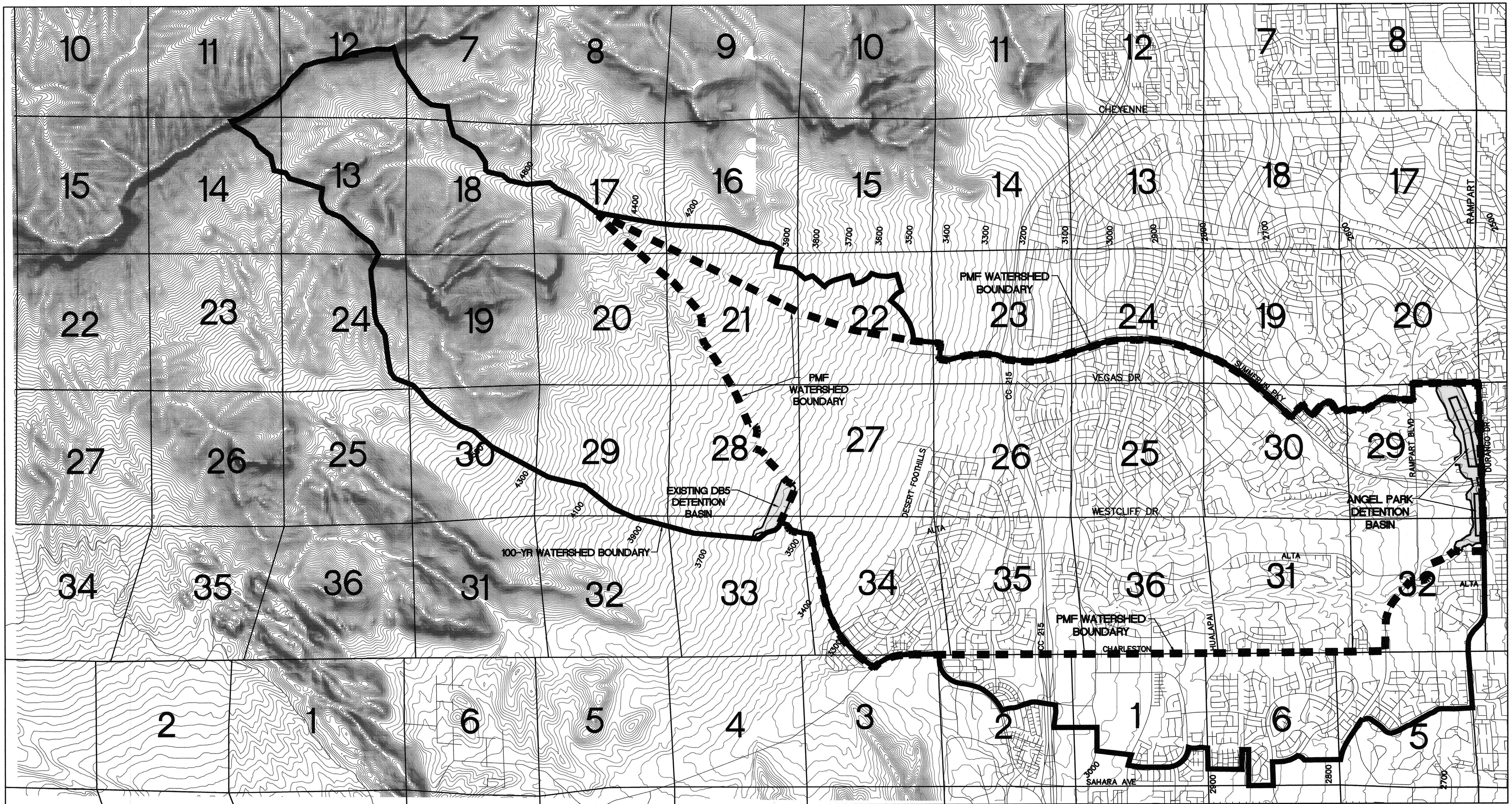
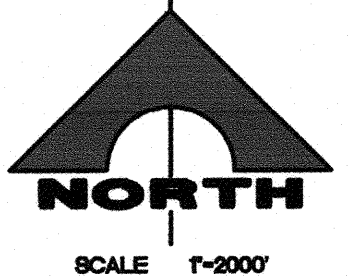
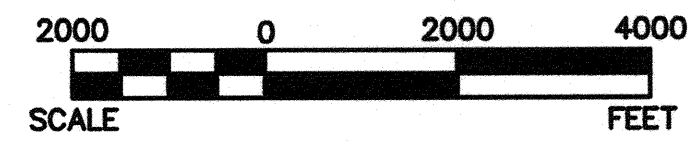
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LEGEND, SYMBOLS, AND ABBREVIATIONS	ANGEL PARK DETENTION BASIN EXPANSION
DRAWN BY: RKB	DESIGNED BY:
CHECKED BY:	PROJECT NO: 412-646
SCALE:	SCALE:
SEAL	SEAL
GRANT Y. TOKUMI Exp. 04/26/2014 CIVIL Lic. No. 15517	GRANT Y. TOKUMI Exp. 04/26/2014 CIVIL Lic. No. 15517
4 OF 60 SHEETS	731-49-J

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LEGEND

- 100-YR WATERSHED BOUNDARY
- PMF WATERSHED BOUNDARY

PMF SUMMARY

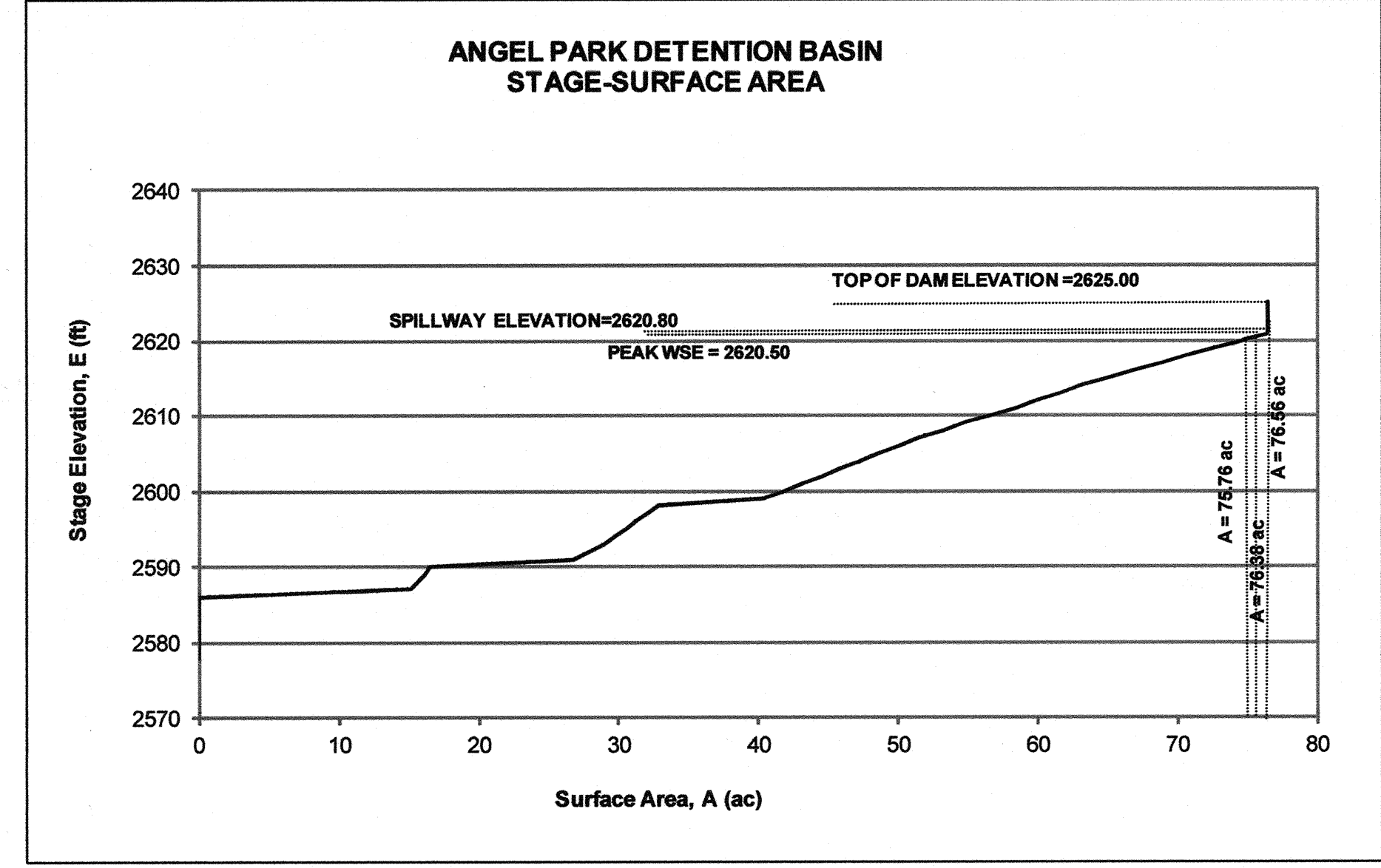
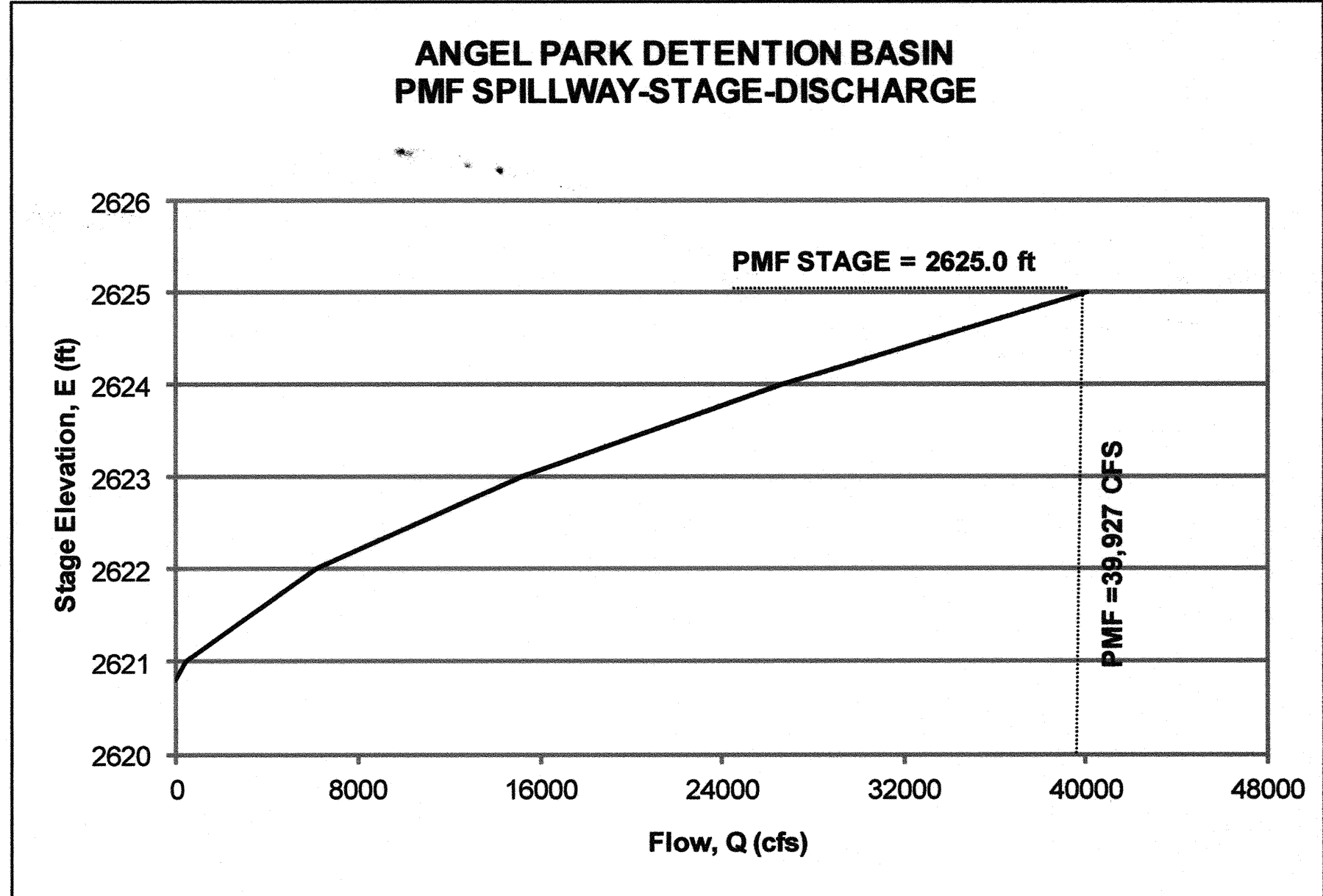
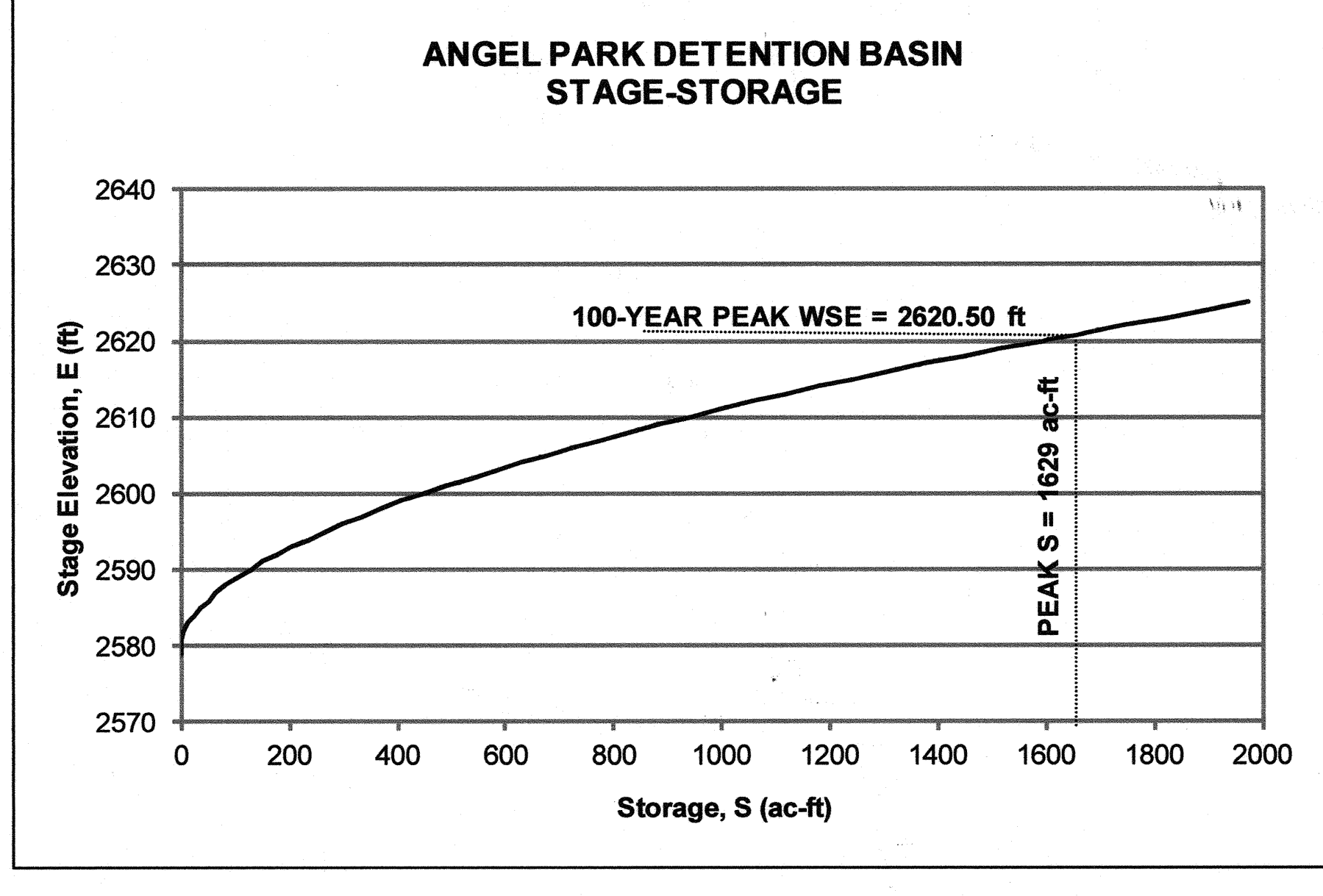
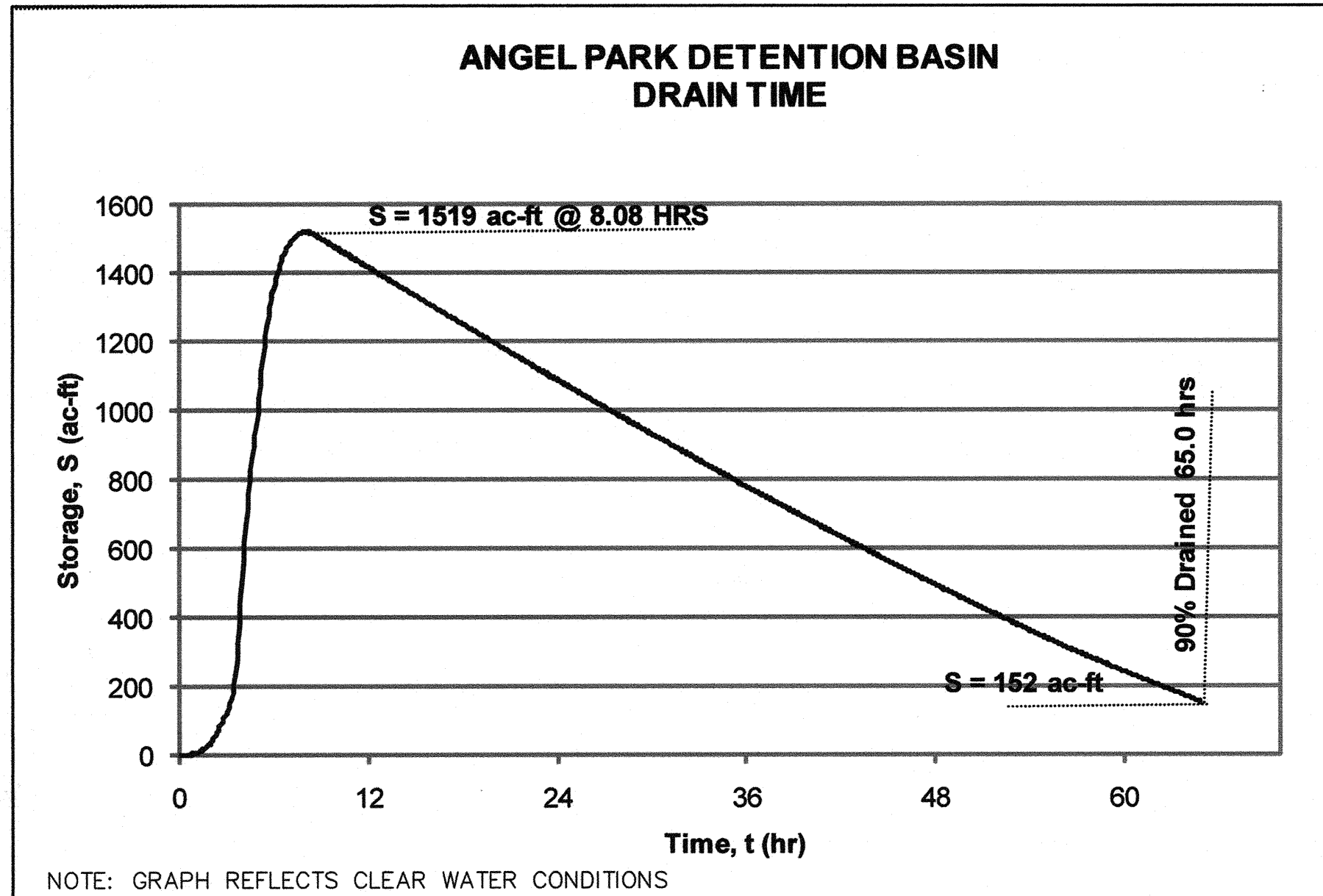
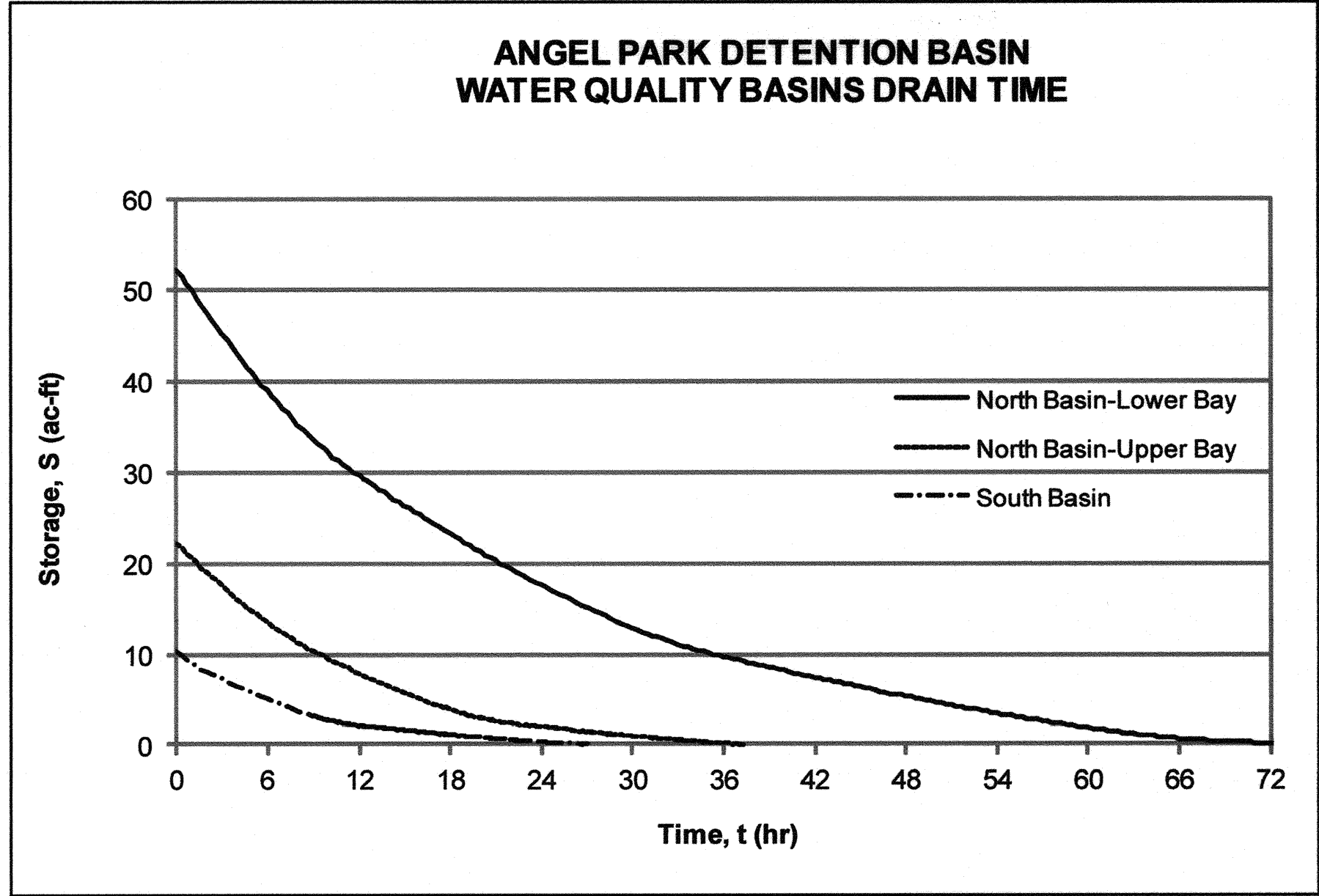
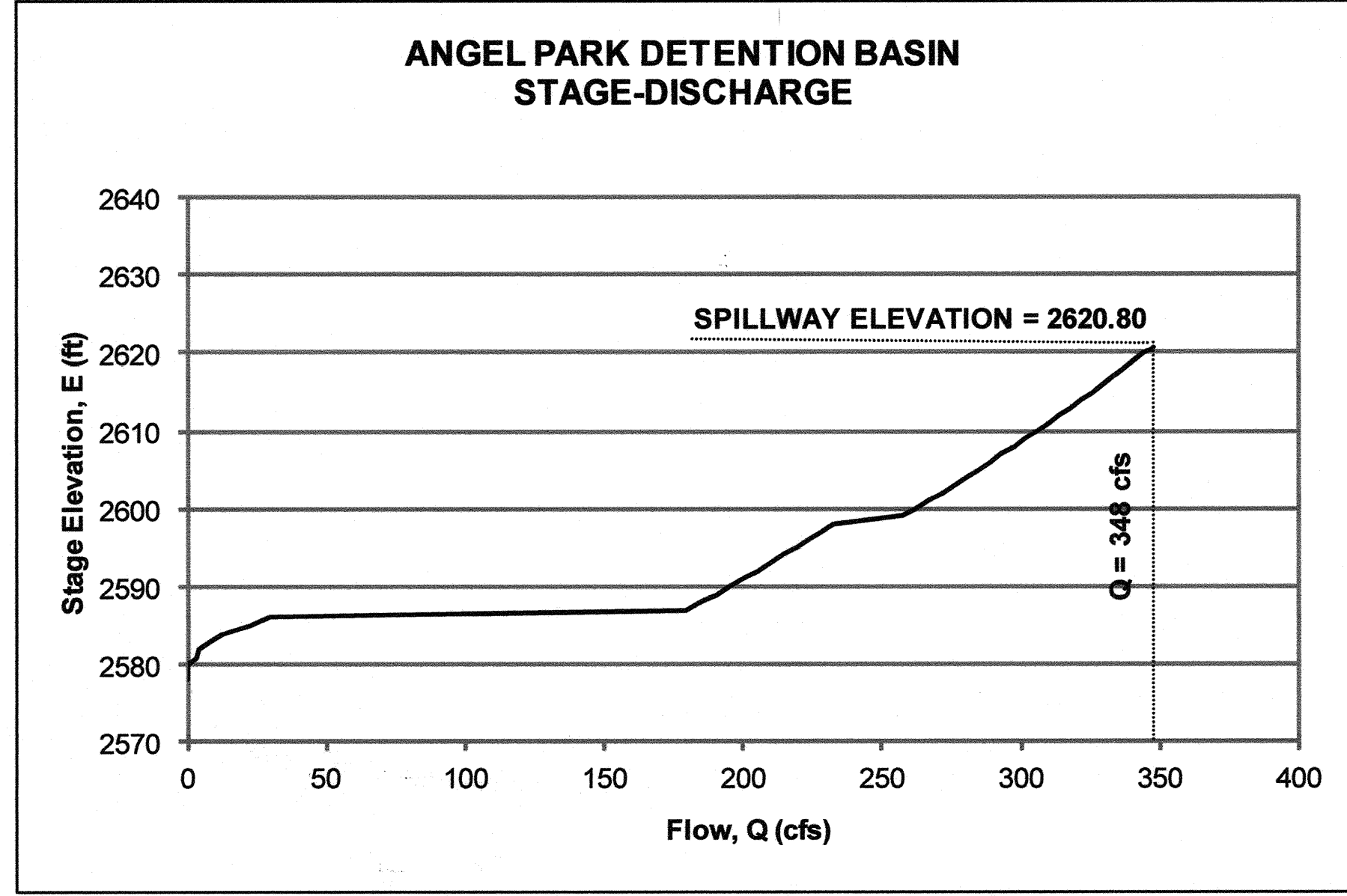
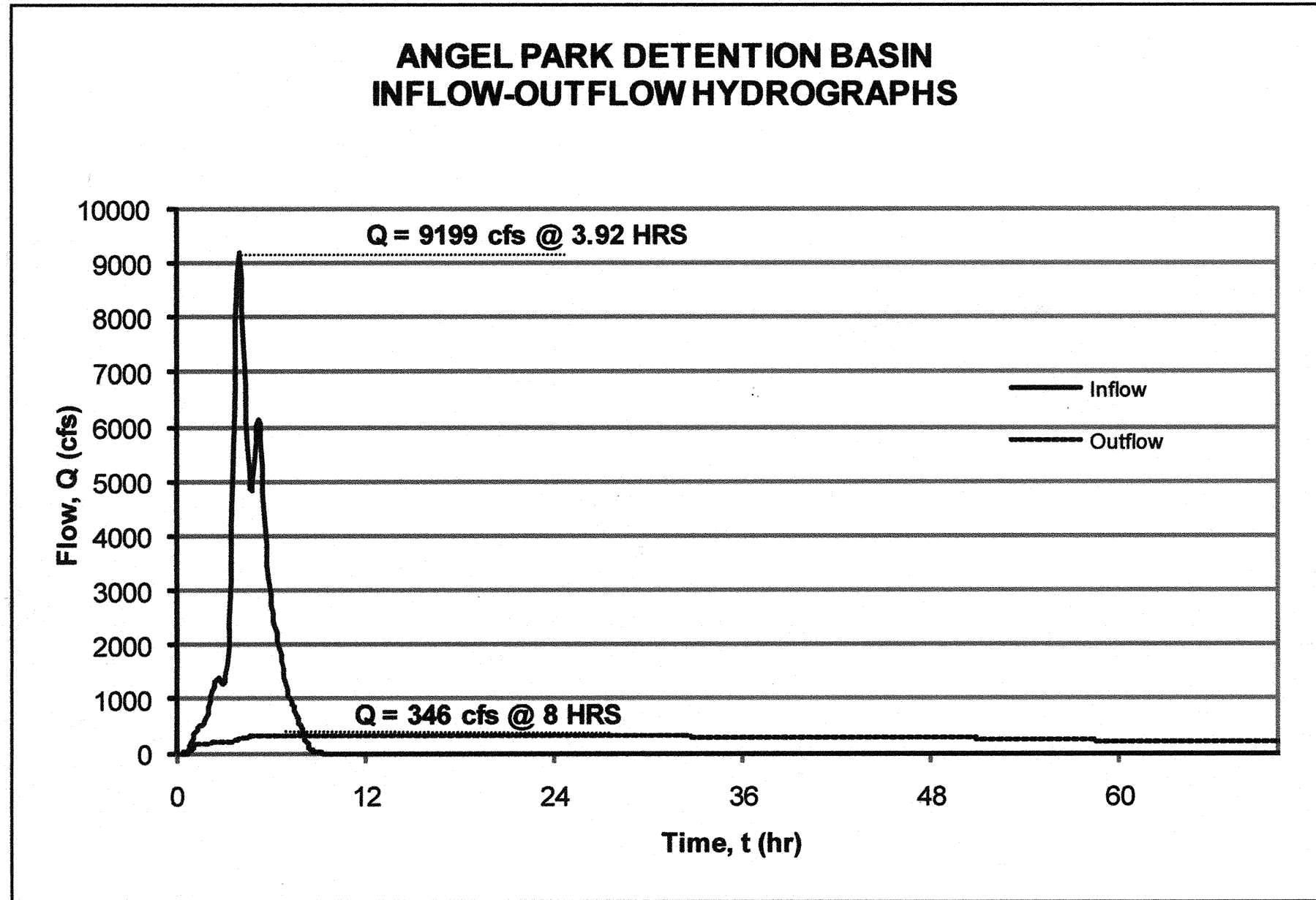
DESIGN CHARACTERISTIC	DESIGN PARAMETER
TRIBUTARY AREA	11.62 SQ MI
PEAK FLOW	39,927 CFS
SPILLWAY LENGTH	1,558 FT
SPILLWAY CREST ELEVATION	2,620.8 FT
PEAK STAGE ELEVATION	2,625.0 FT
TOP OF EMBANKMENT	2,625.0 FT

DETENTION BASIN CHARACTERISTICS (100-YEAR STORM)

DESIGN CHARACTERISTIC	DESIGN PARAMETER
PEAK STORAGE VOLUME	1,629 ac ft
PEAK STAGE W/ SEDIMENT	2,620.50 ft
SPILLWAY ELEVATION	2,620.80 ft
EMBANKMENT ELEVATION	2,625 ft
PEAK INFLOW	9,199 cfs
PEAK OUTFLOW	347 cfs
TRIBUTARY AREA	21.99 sq mi

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ANGEL PARK DETENTION BASIN EXPANSION



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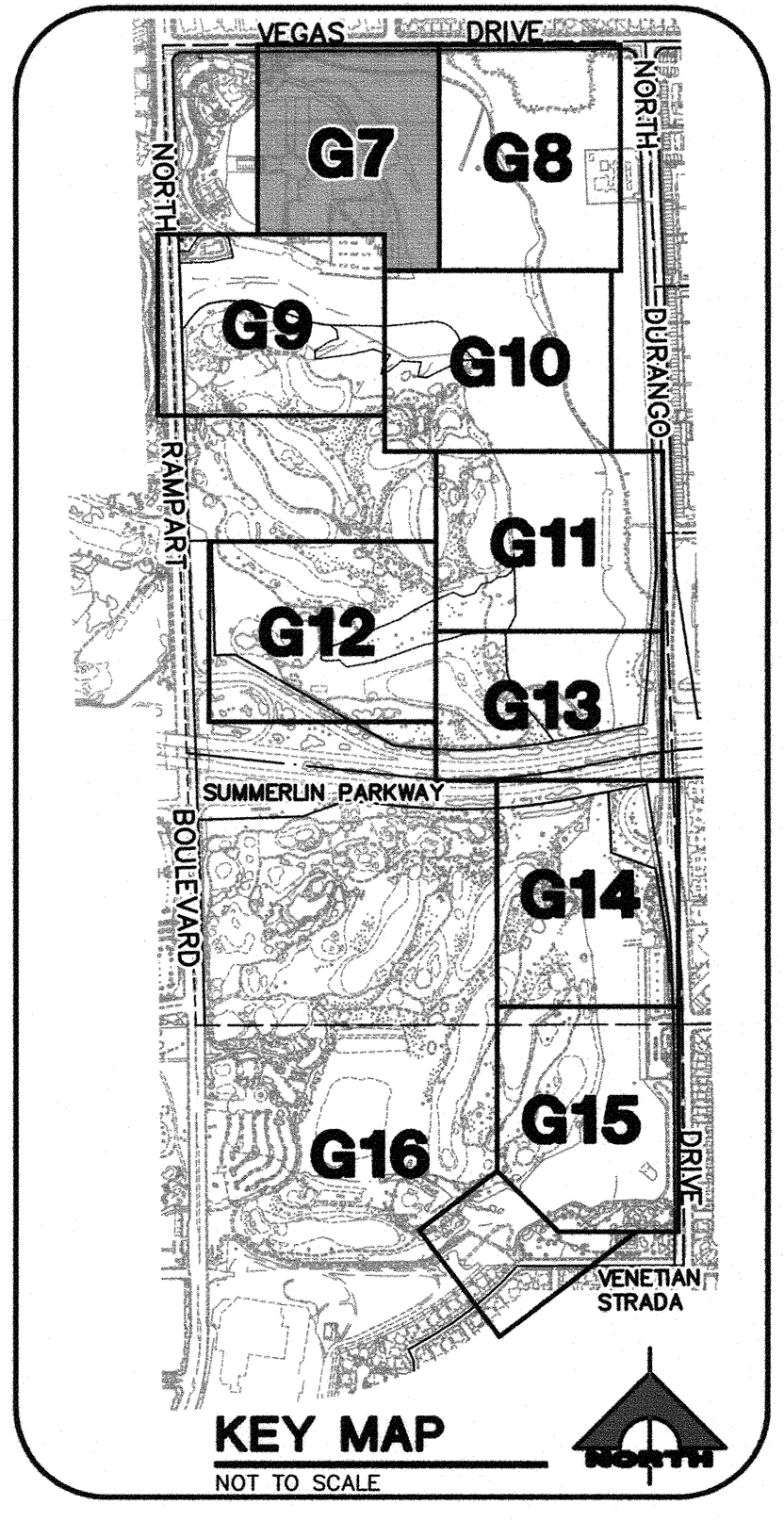
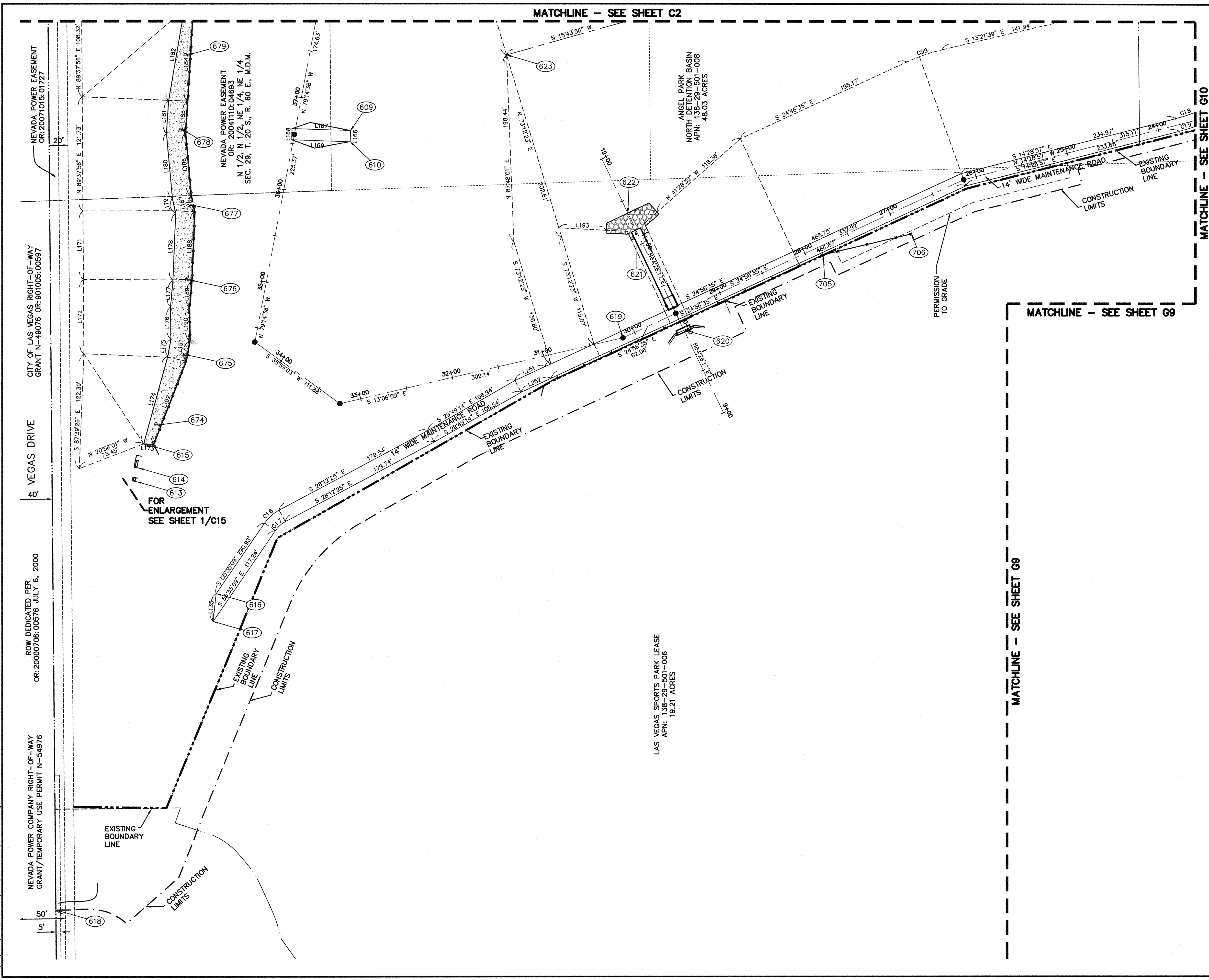
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HANSEN NO. 36800		SHEET G6 6 OF 60 SHEETS DRAWING NO. 731-49-J	

ANGEL PARK DETENTION BASIN EXPANSION

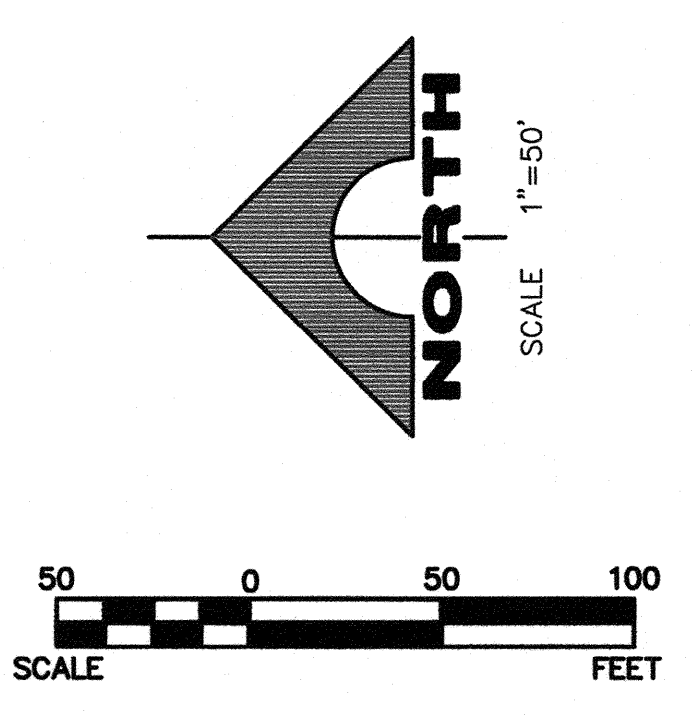
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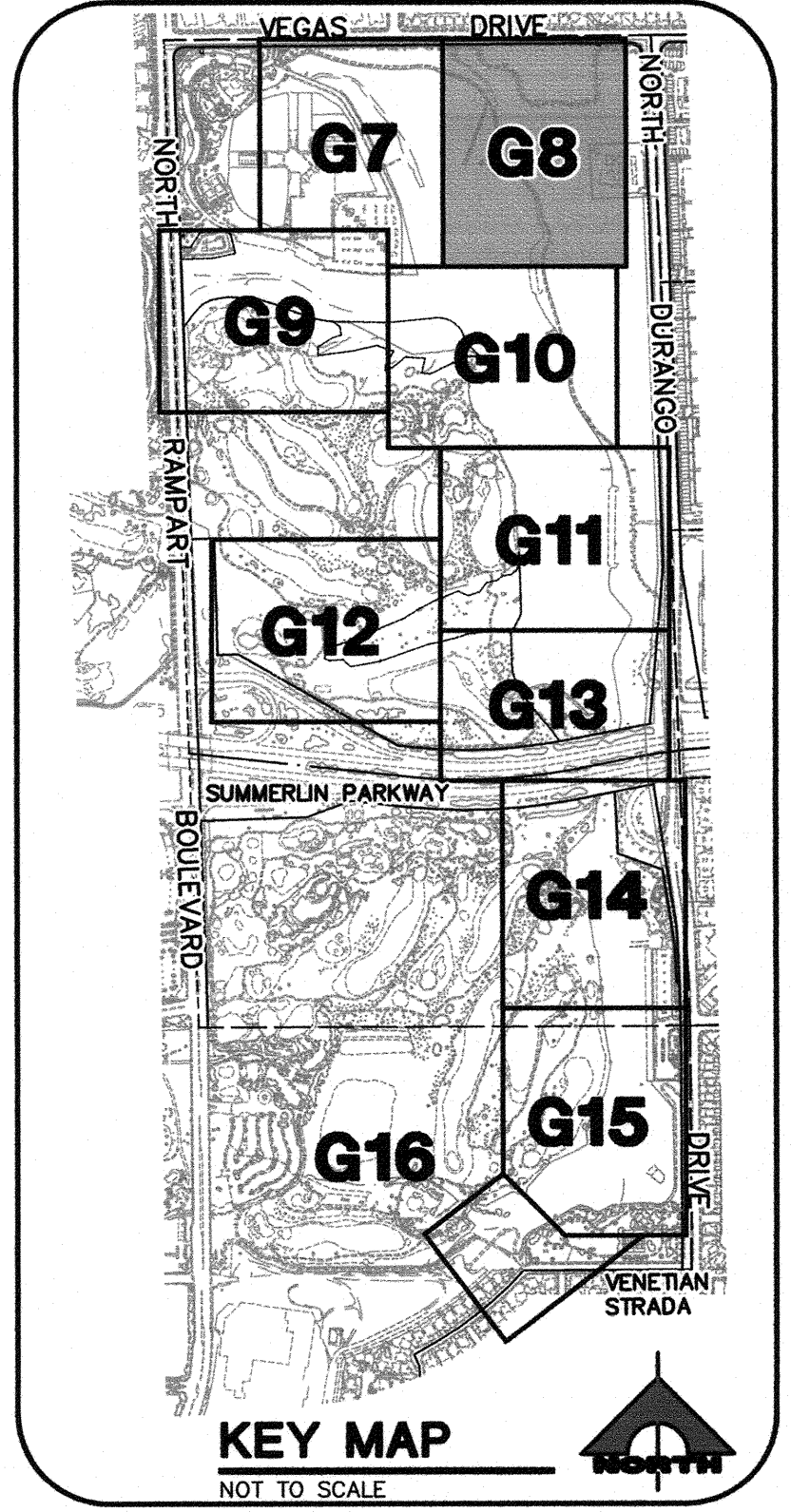
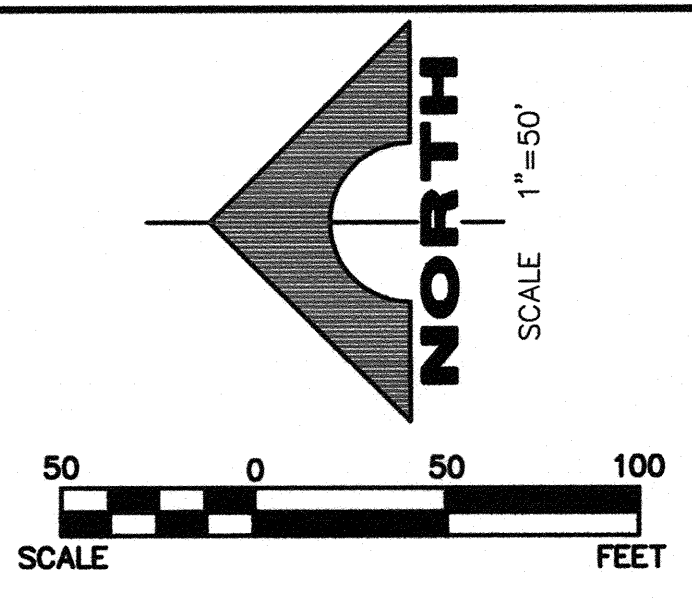
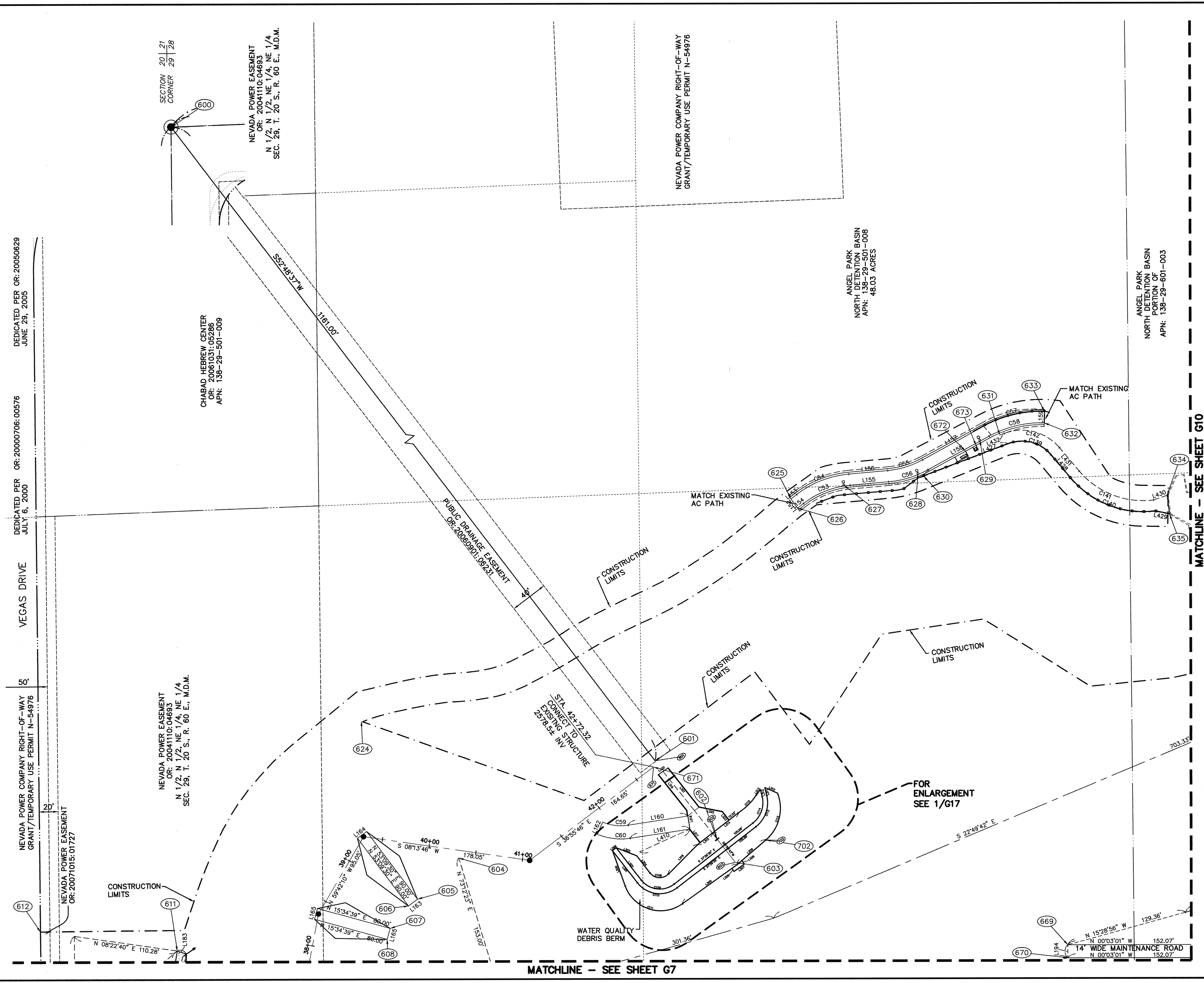
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		ANGEL PARK DETENTION BASIN EXPANSION		
SHEET HORIZONTAL CONTROL PLAN	TITLE ANGEL PARK DETENTION BASIN EXPANSION	DRAWN BY: RKB	DESIGNED BY:	CHECKED BY:
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HANSEN NO. 36800	SHEET G7 7 OF 60 SHEETS DRAWING NO. 731-49-J	ANGEL PARK DETENTION BASIN EXPANSION		

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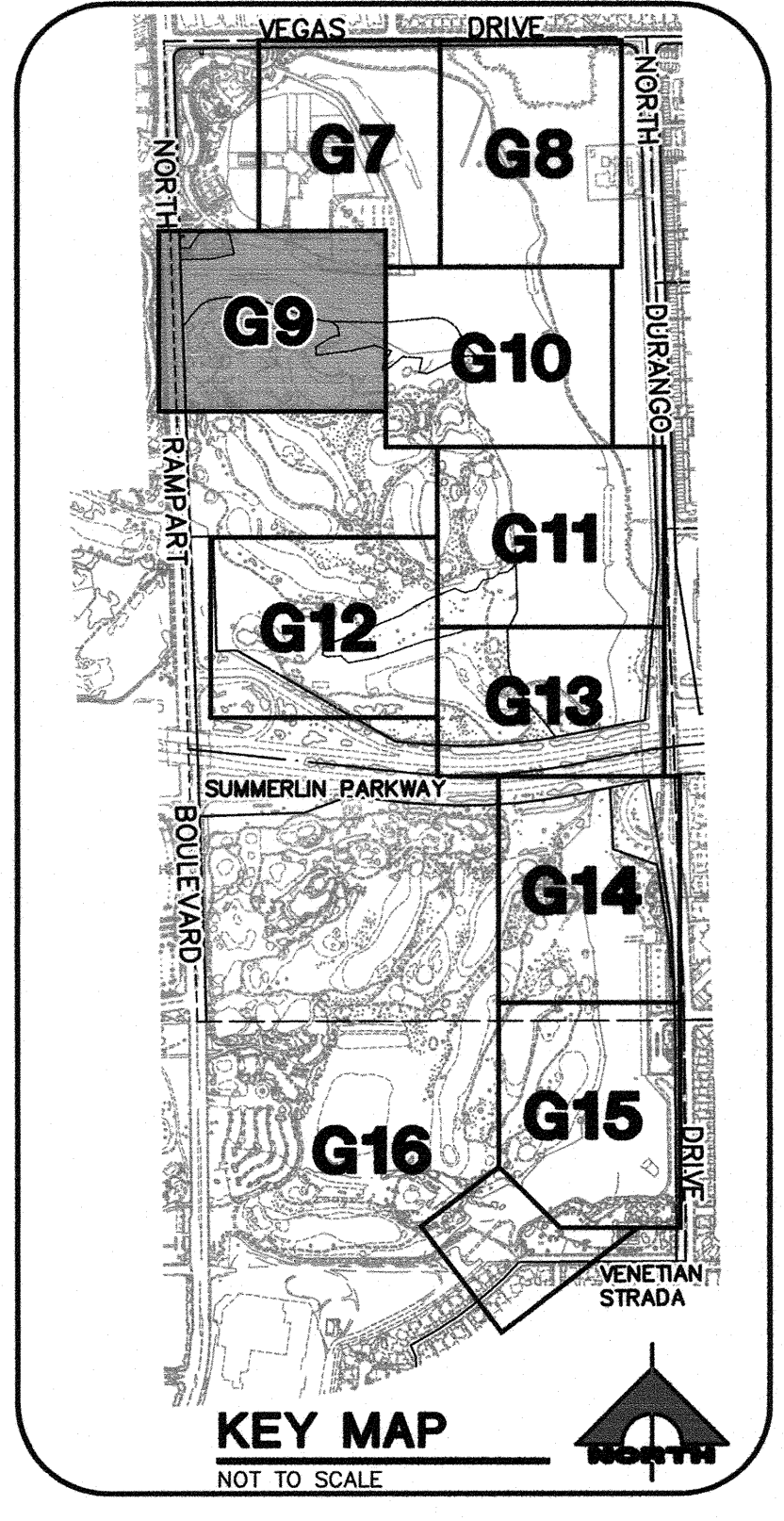
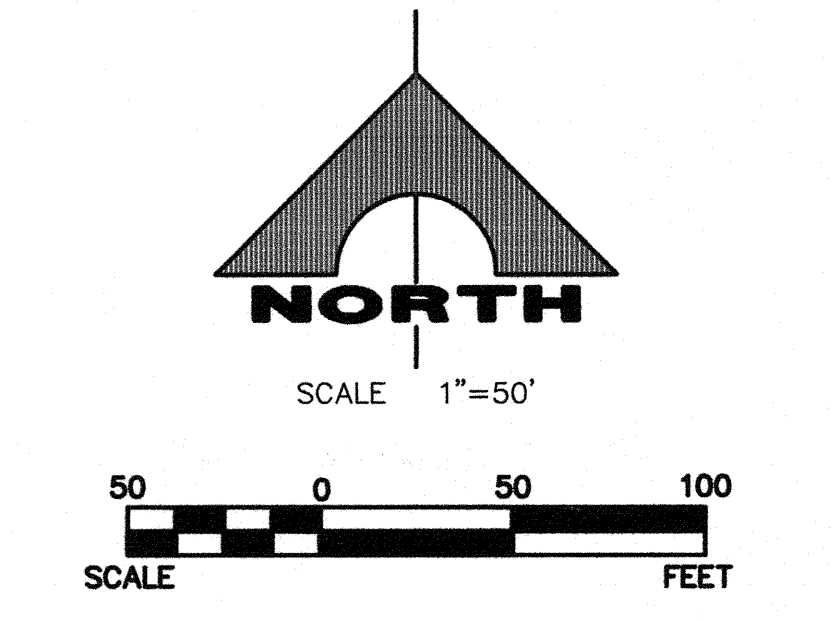
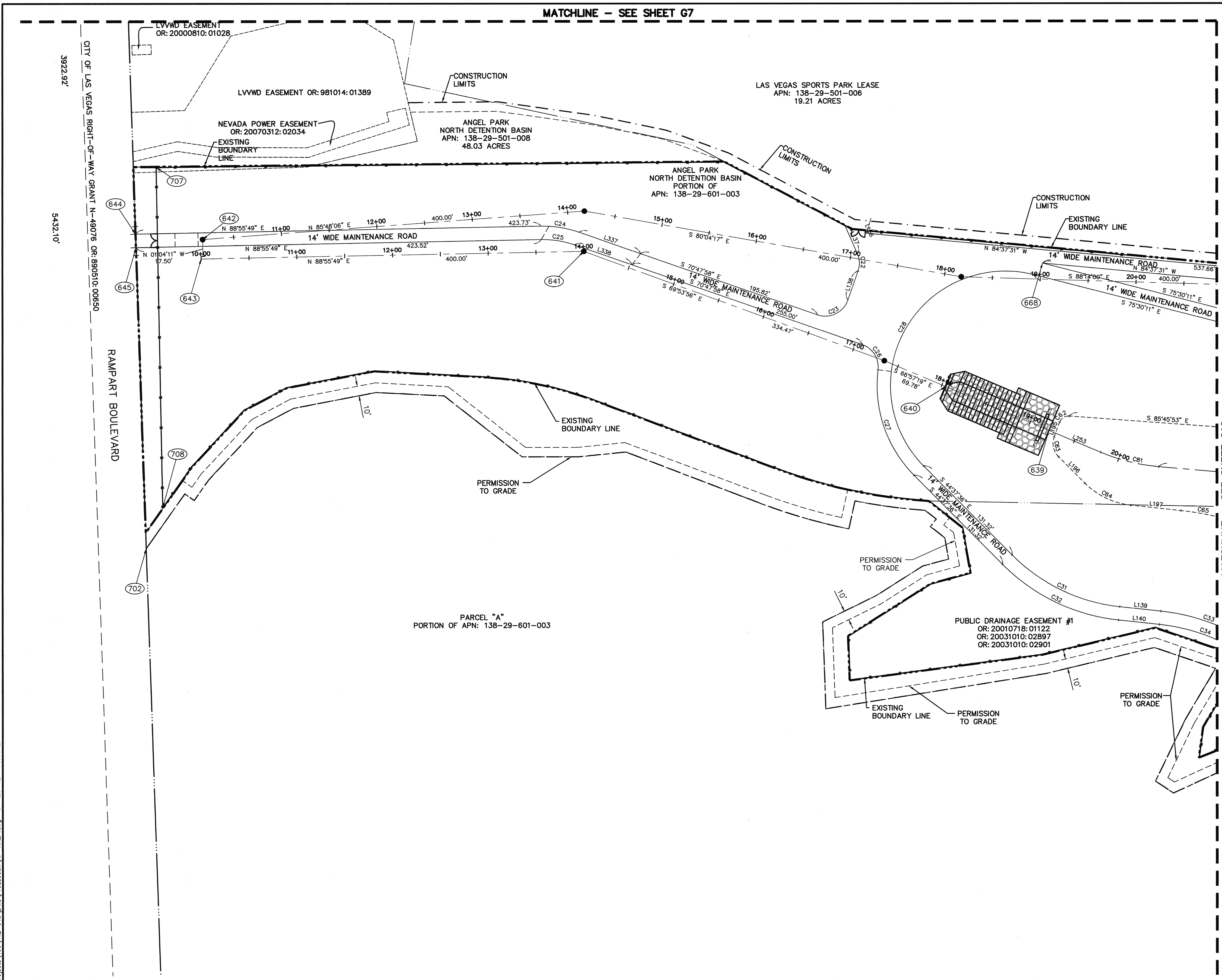


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SHEET HORIZONTAL CONTROL PLAN	TITLE ANGEL PARK DETENTION BASIN EXPANSION
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HANSEN NO. 36800	SHEET G8 8 OF 60 SHEETS DRAWING NO. 731-49-J
REV. DATE BY REVISION	ANGEL PARK DETENTION BASIN EXPANSION

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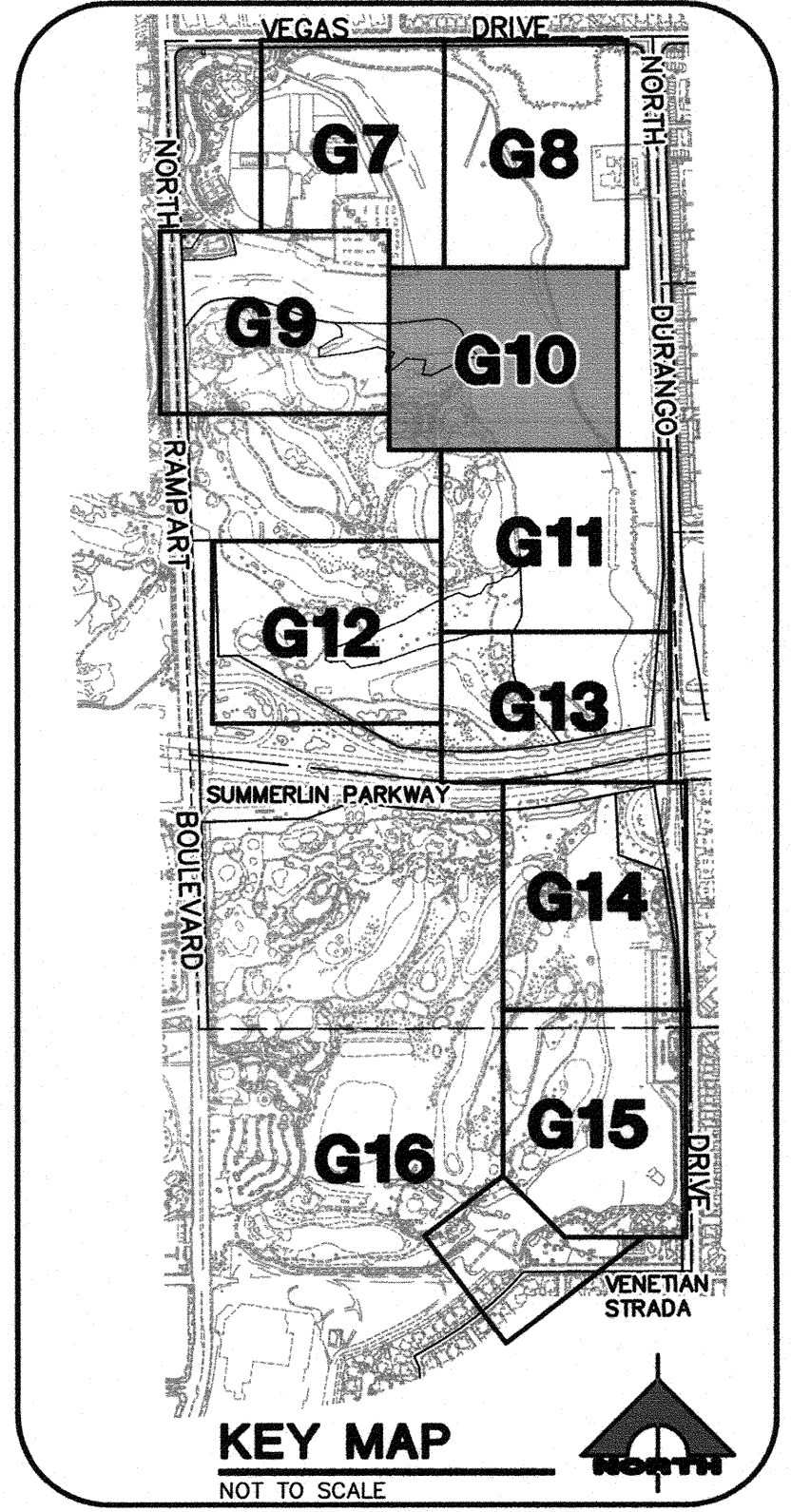
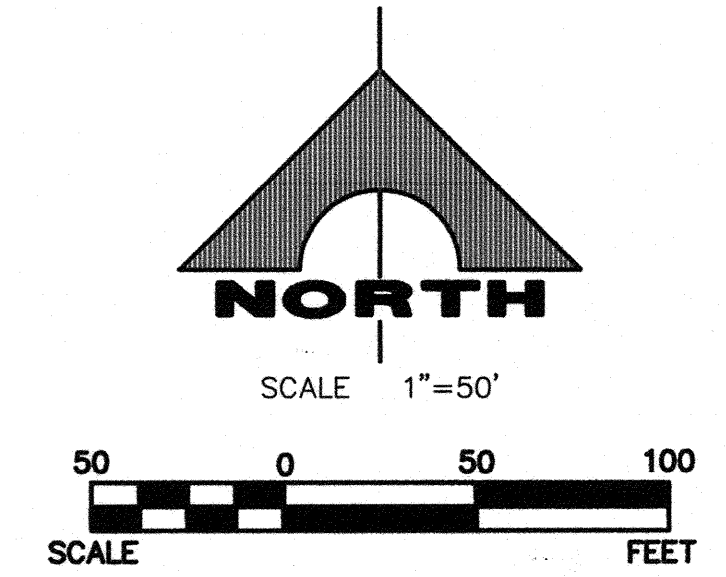
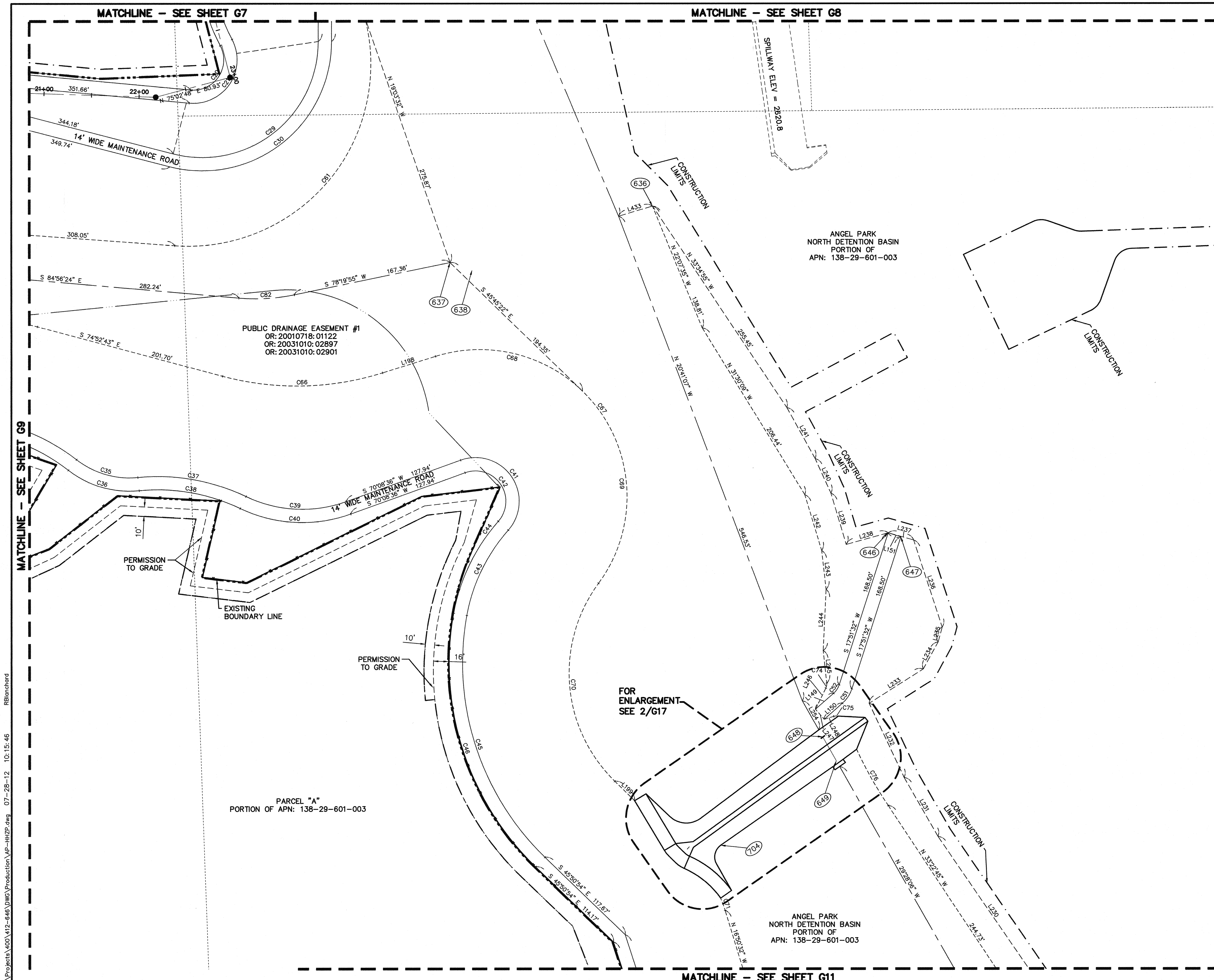
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DRAWN BY: _____ DESIGNED BY: _____ CHECKED BY: _____ PROJECT NO: 412-646				SCALE: _____ SHEET: G9 9 OF 60 SHEETS DRAWING NO. 731-49-J			
HANSEN NO. 36800				REVISION DATE BY			

ANGEL PARK DETENTION BASIN EXPANSION



DISCLAIMER NOTE
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DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-8276		G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.2000 - F: 702.894.2299 - GCWALLACE.COM	
SHEET HORIZONTAL CONTROL PLAN		TITLE ANGEL PARK DETENTION BASIN EXPANSION	
DRAWN BY:	DESIGNED BY:	CHECKED BY:	PROJECT NO: 412-646
HANSEN NO. 36800		SHEET G10 10 OF 60 SHEETS DRAWING NO. 731-49-J	

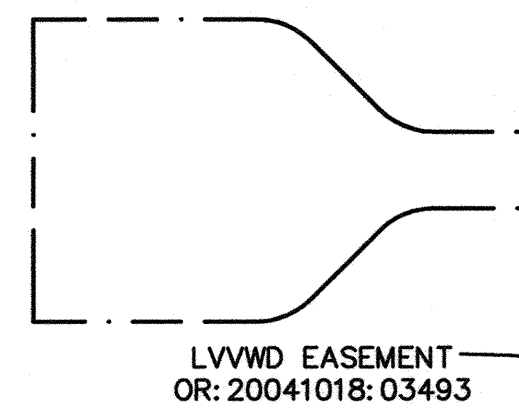
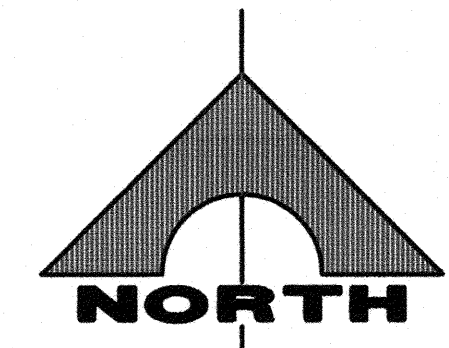
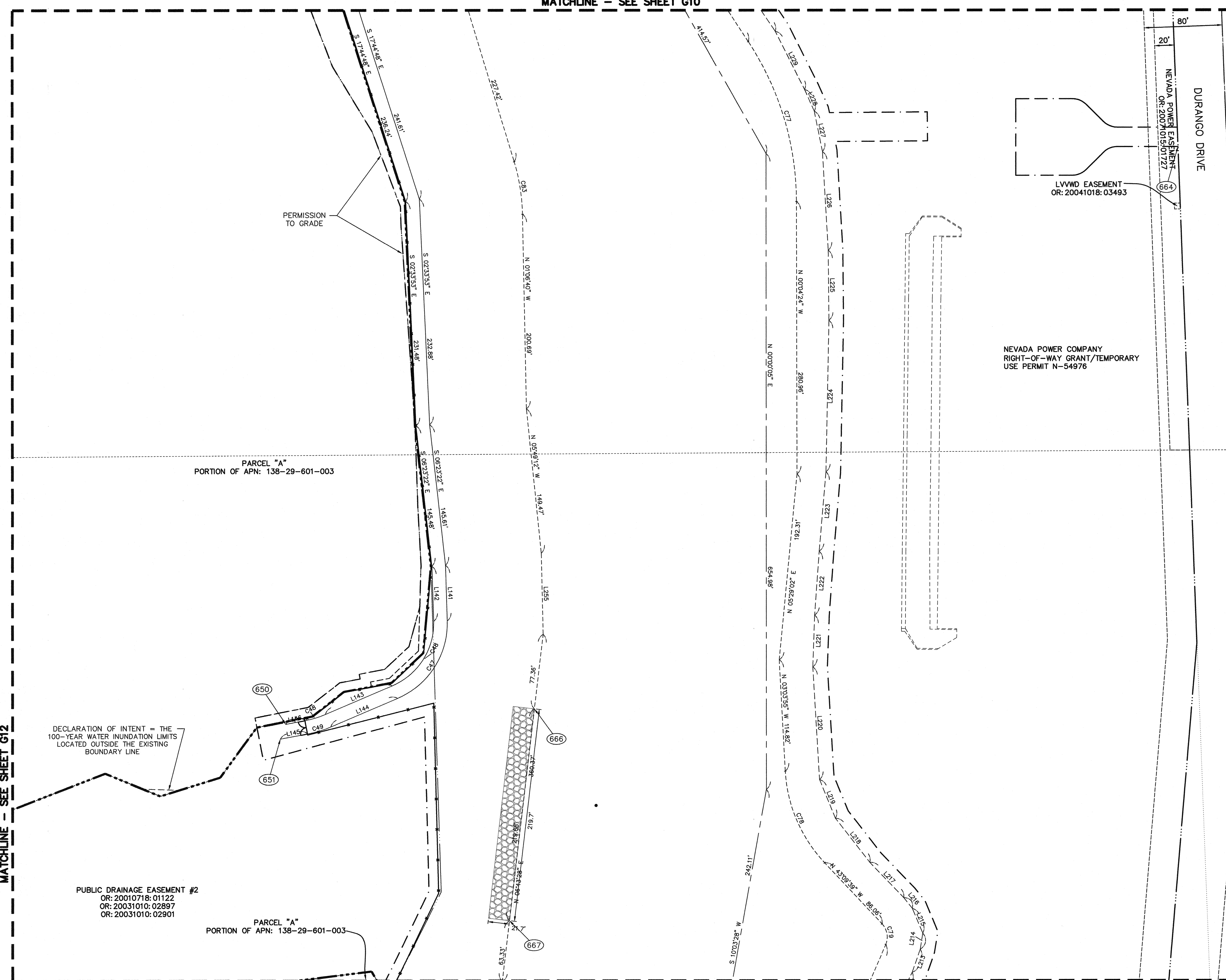
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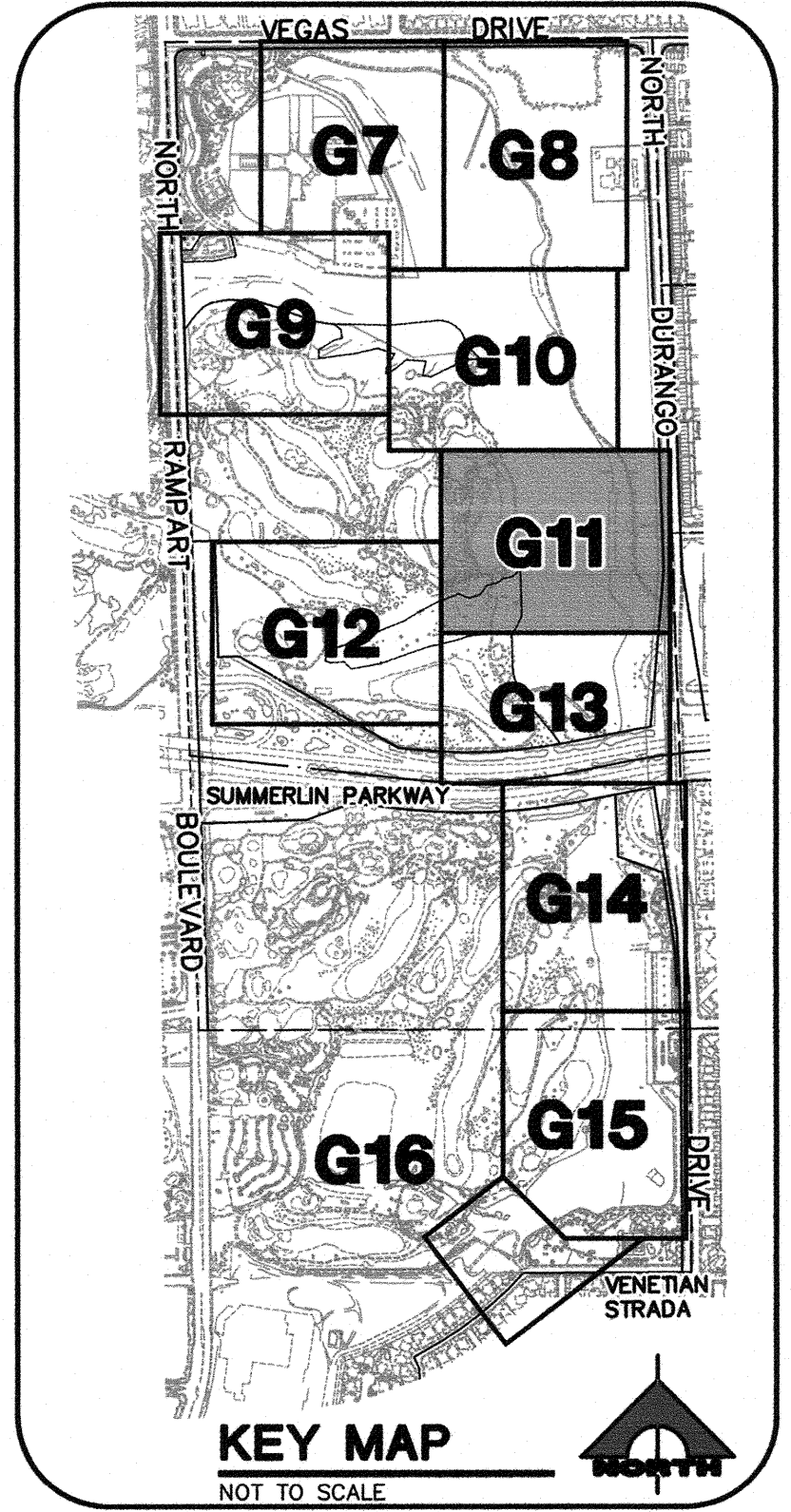
MATCHLINE - SEE SHEET G12

MATCHLINE - SEE SHEET G10

MATCHLINE - SEE SHEET G13



NEVADA POWER COMPANY
RIGHT-OF-WAY GRANT/TEMPORARY
USE PERMIT N-54976



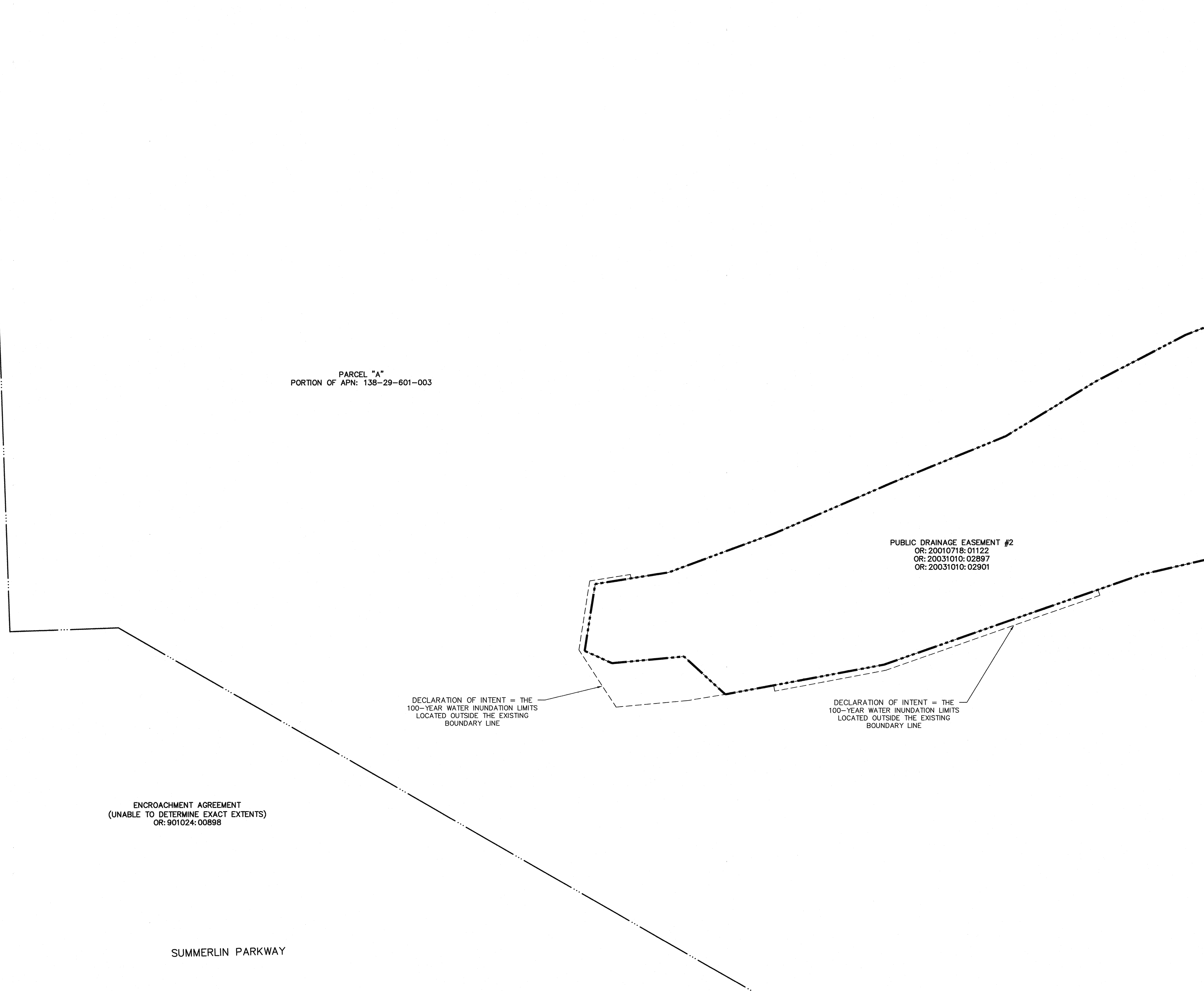
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<p>DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-8276</p>		<p>G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD • LAS VEGAS, NV 89146 T: 702.894.2000 • F: 702.894.2299 • GCWALLACE.COM</p>	
<p>SHEET HORIZONTAL CONTROL PLAN</p>		<p>TITLE ANGEL PARK DETENTION BASIN EXPANSION</p>	
<p>DRAWN BY:</p>	<p>DESIGNED BY:</p>	<p>CHECKED BY:</p>	<p>PROJECT NO: 412-646</p>
<p>SCALE:</p>		<p>SCALE:</p>	
<p>SEAL</p>		<p>SHEET G11 11 OF 60 SHEETS DRAWING NO. 731-49-J</p>	
<p>HANSEN NO. 36800</p>		<p>ANGEL PARK DETENTION BASIN EXPANSION</p>	

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PARCEL "A"
PORTION OF APN: 138-29-601-003

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OR: 20010718: 01122
OR: 20031010: 02897
OR: 20031010: 02901

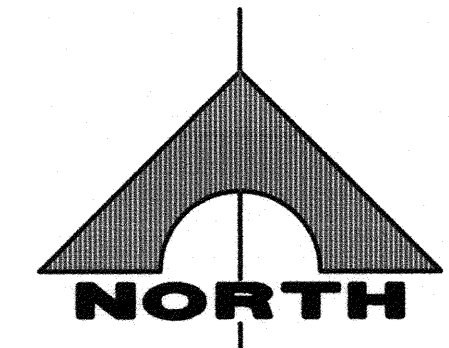
DECLARATION OF INTENT = THE
100-YEAR WATER INUNDATION LIMITS
LOCATED OUTSIDE THE EXISTING
BOUNDARY LINE

DECLARATION OF INTENT = THE
100-YEAR WATER INUNDATION LIMITS
LOCATED OUTSIDE THE EXISTING
BOUNDARY LINE

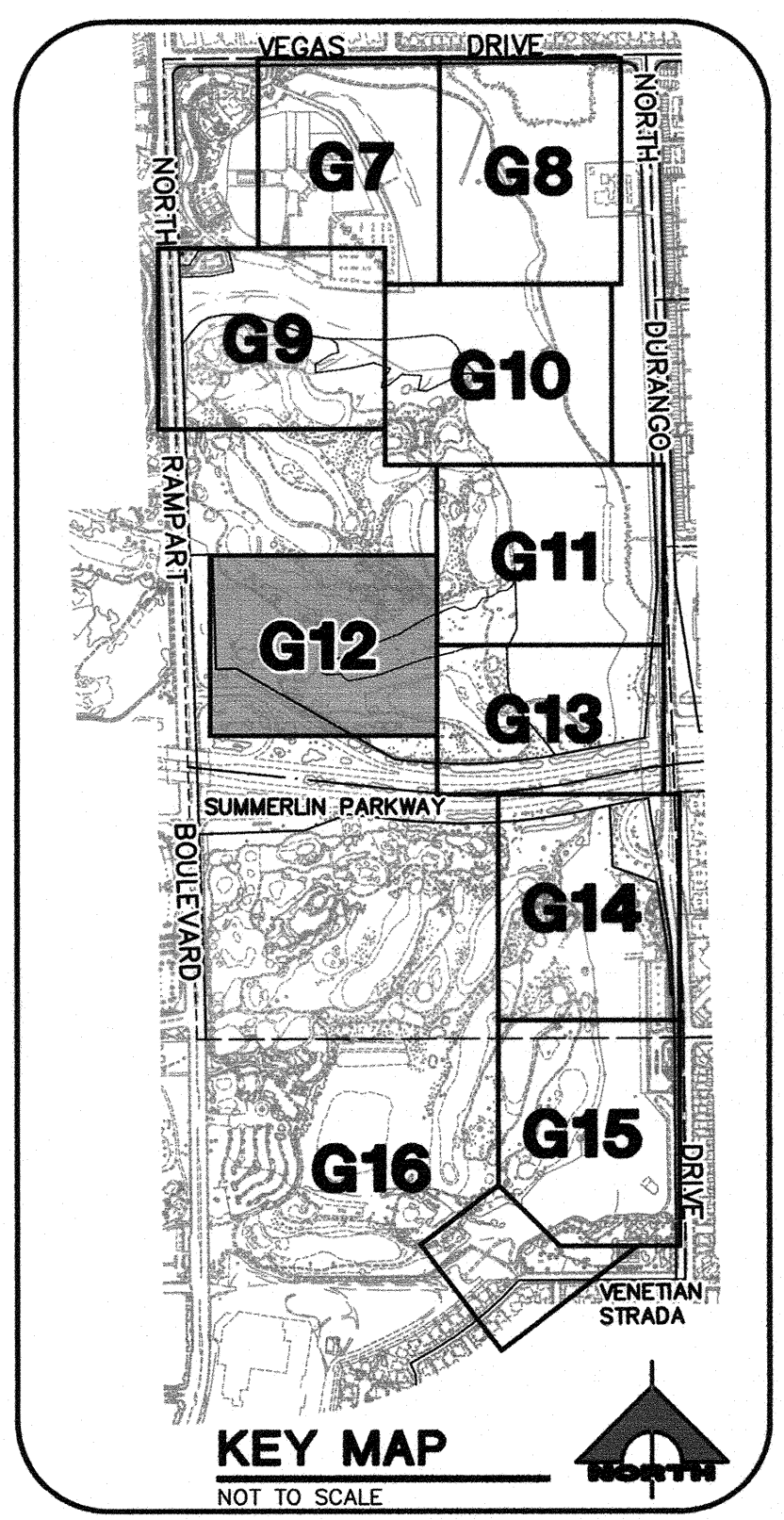
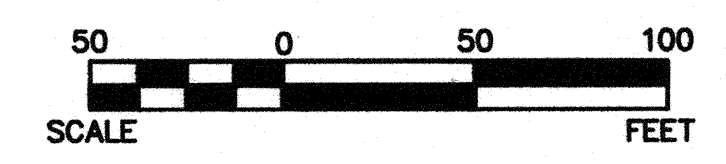
ENCROACHMENT AGREEMENT
(UNABLE TO DETERMINE EXACT EXTENTS)
OR: 901024:00898

SUMMERLIN PARKWAY

MATCHLINE - SEE SHEET G11
MATCHLINE - SEE SHEET G13





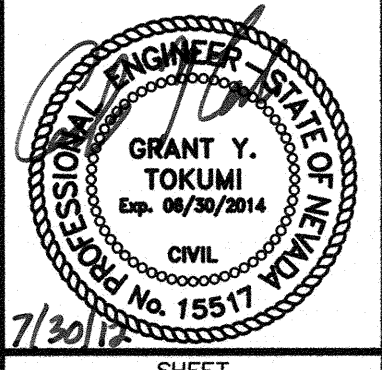
SCALE 1"=50'



DISCLAIMER NOTE

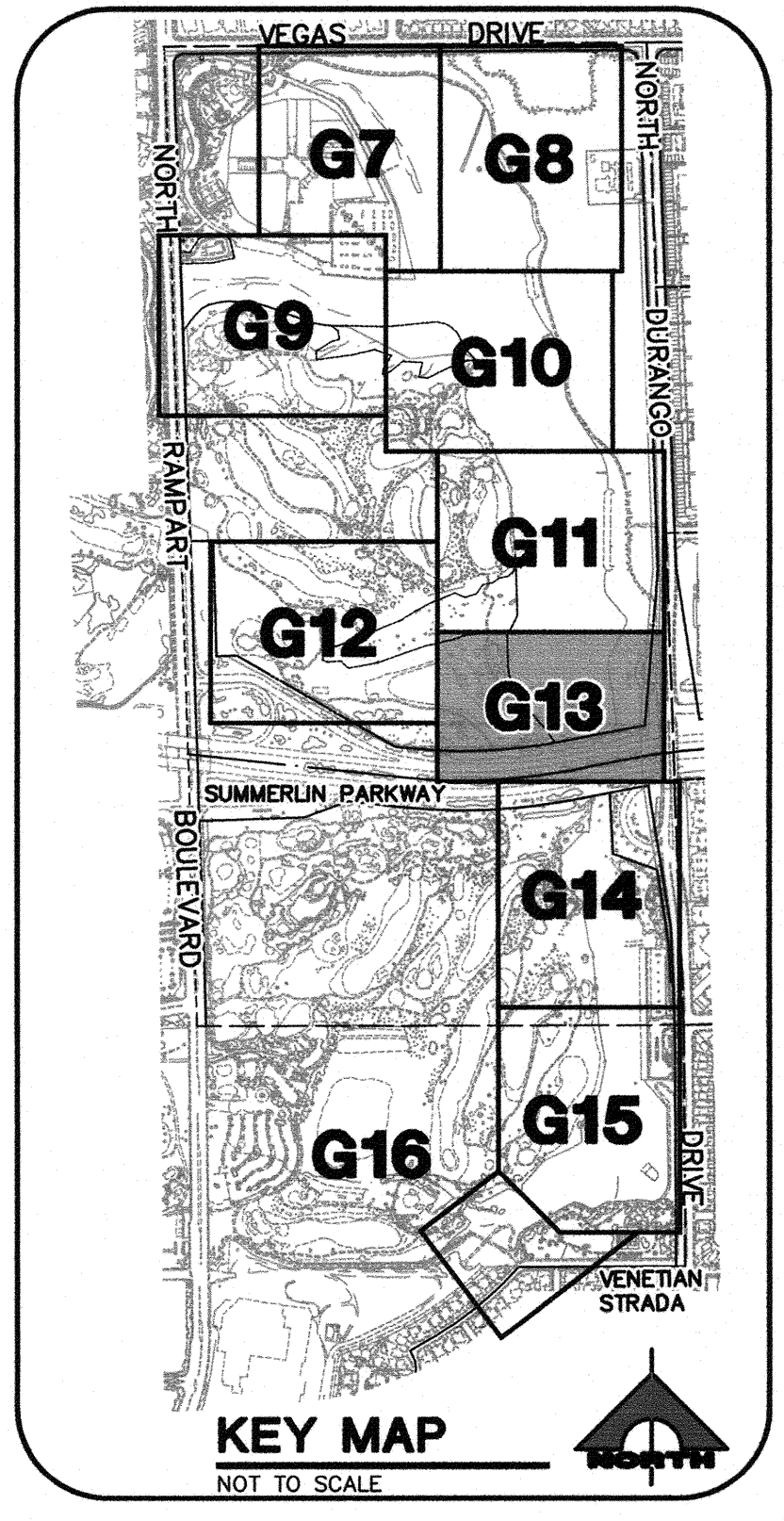
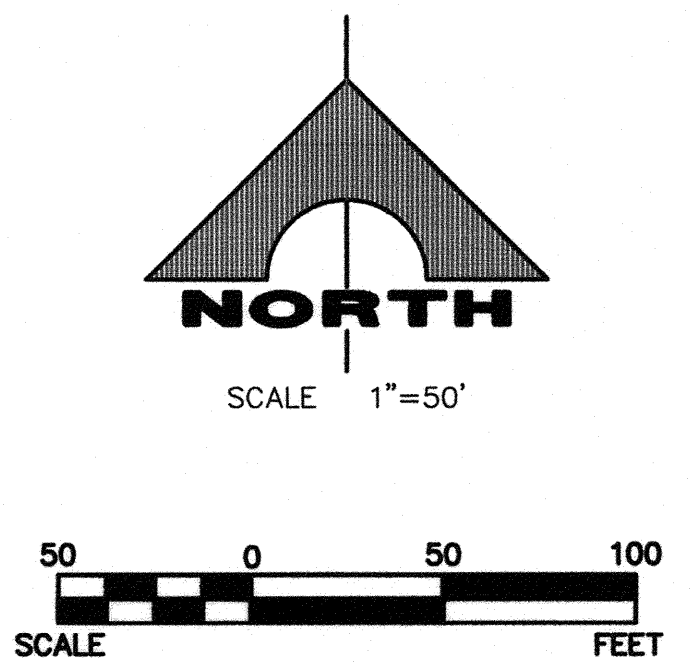
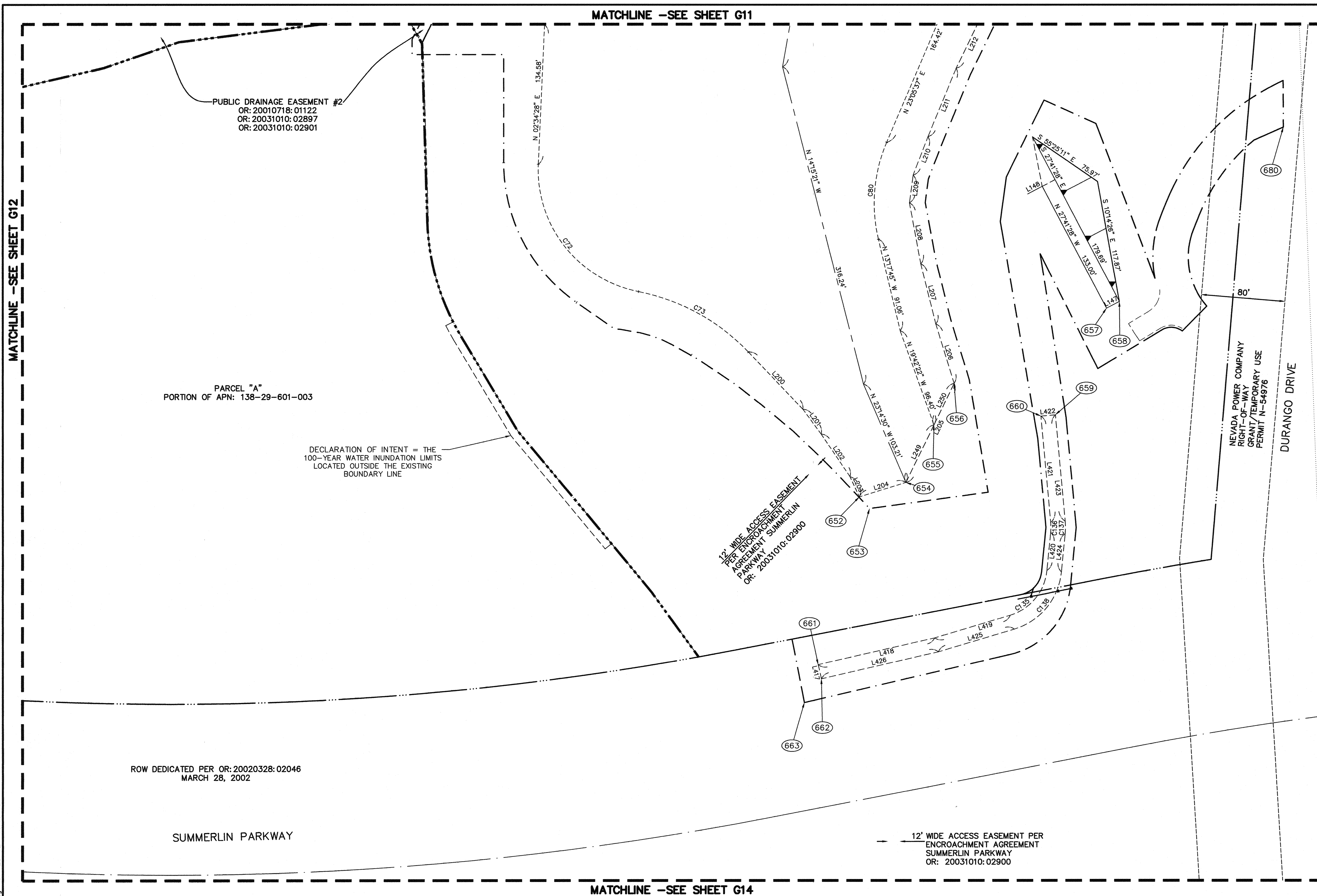
UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.



 DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 228-6276		 G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 F: 702.804.2299 GCWALLACE.COM	
SHEET HORIZONTAL CONTROL PLAN		TITLE ANGEL PARK DETENTION BASIN EXPANSION	
DRAWN BY:	DESIGNED BY:	CHECKED BY:	PROJECT NO:
			412-646
SCALE:		HORIZ. VERT.	
		SHEET G12 12 OF 60 SHEETS	
HANSEN NO. 36800		DRAWING NO. 731-49-J	

ANGEL PARK DETENTION BASIN EXPANSION

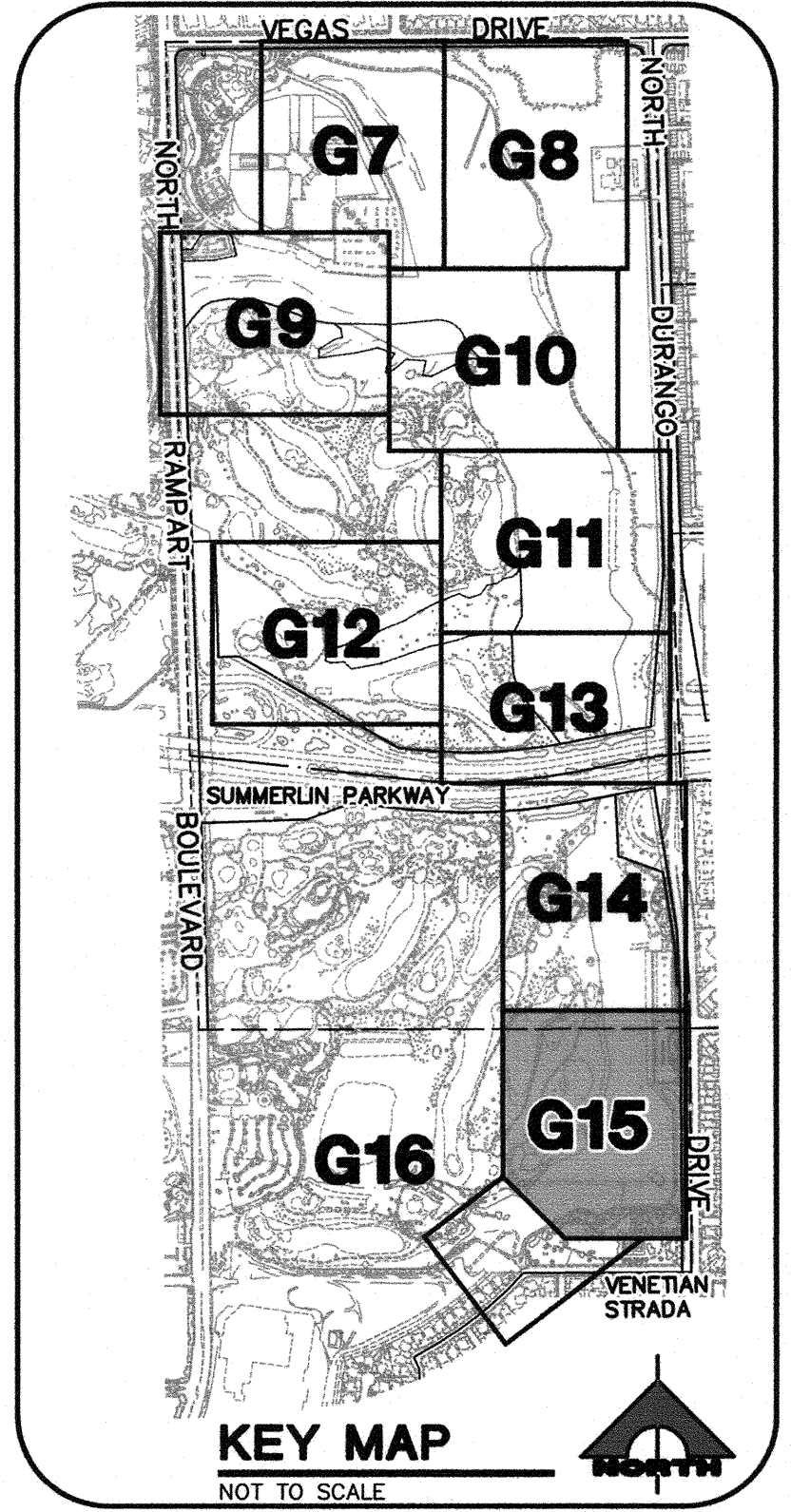
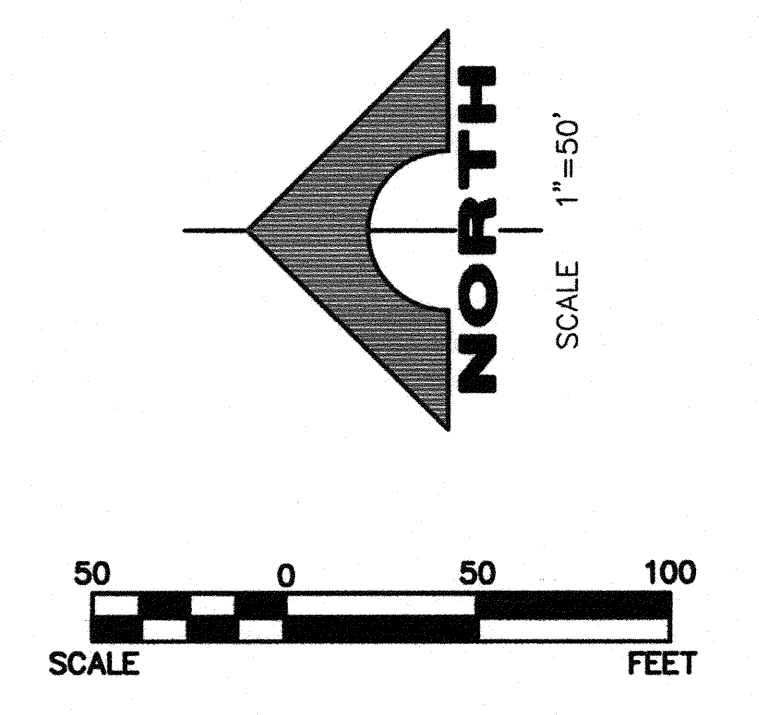
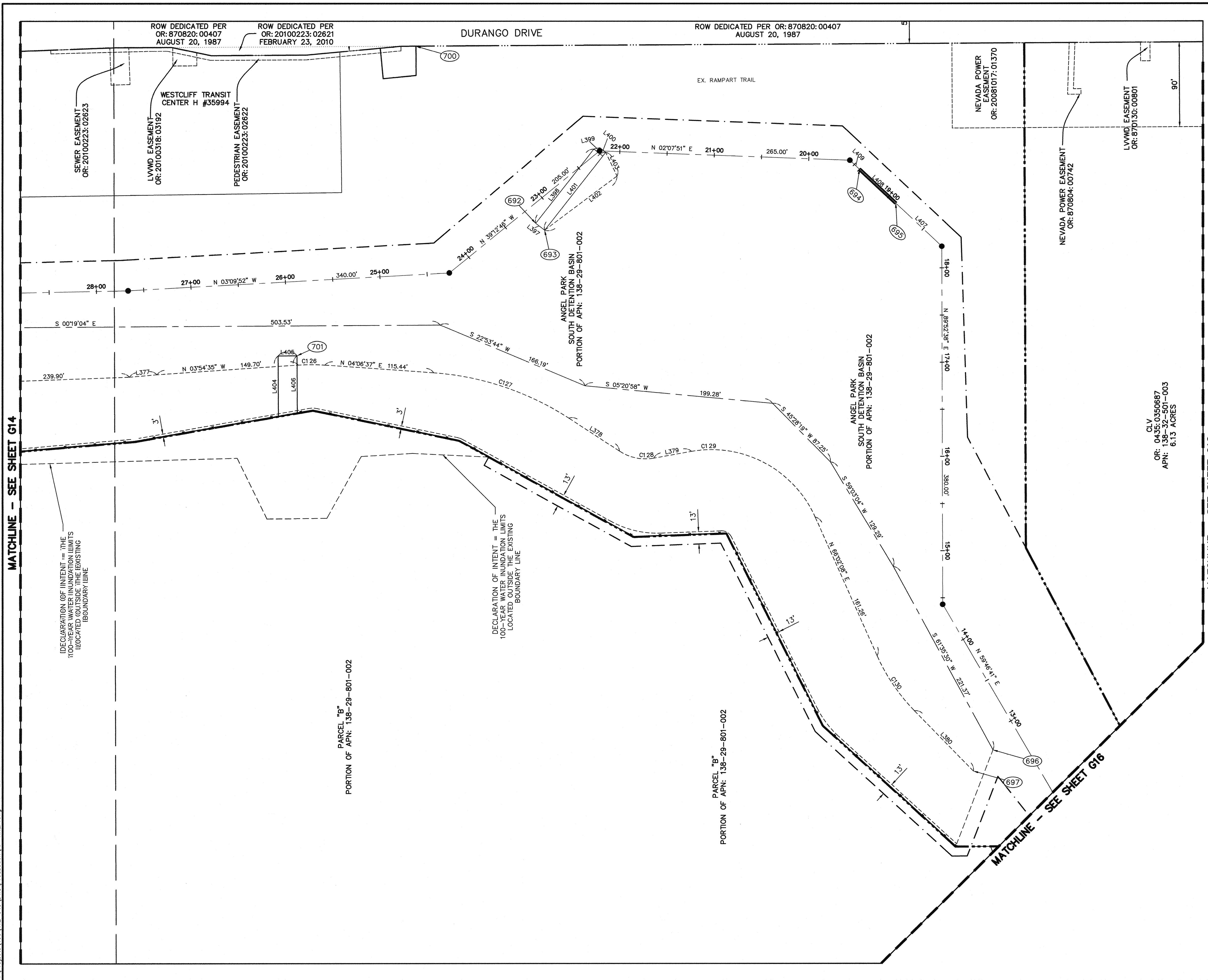
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SHEET HORIZONTAL CONTROL PLAN TITLE ANGEL PARK DETENTION BASIN EXPANSION		DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE, #1101 LAS VEGAS, NEVADA 89101 (702) 229-6276	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD, LAS VEGAS, NV 89146 T: 702.804.2000 F: 702.804.2299 GCWALLACE.COM
DRAWN BY: DESIGNED BY: CHECKED BY: PROJECT NO: 412-646	SCALE: HORIZ: 1"=50' VERT:	SEAL 	SHEET G13 13 OF 60 SHEETS DRAWING NO. 731-49-J



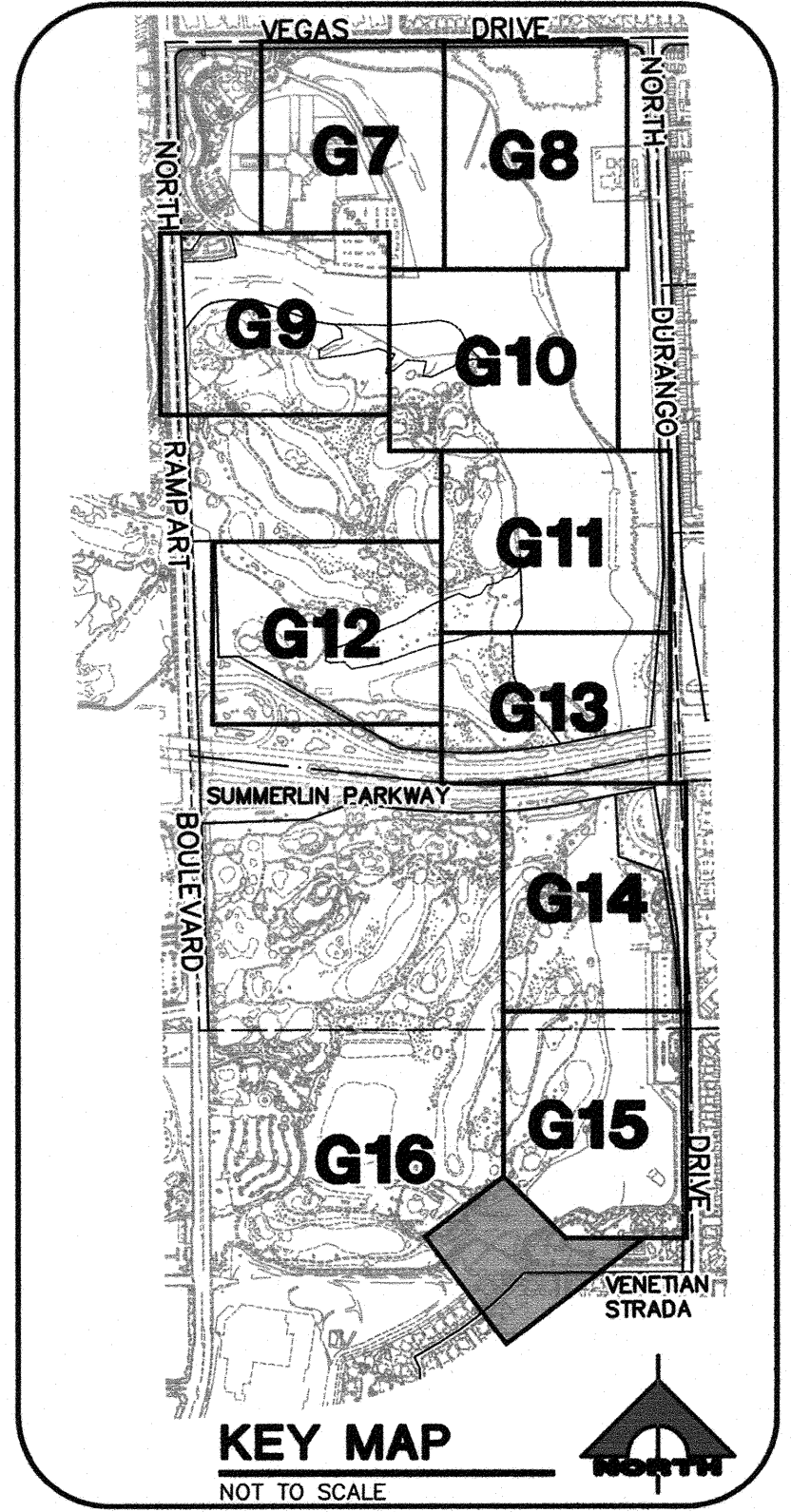
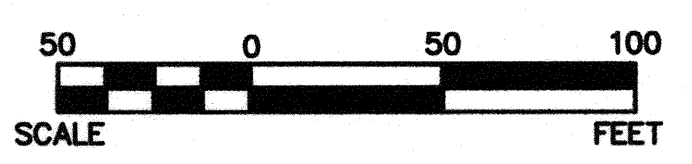
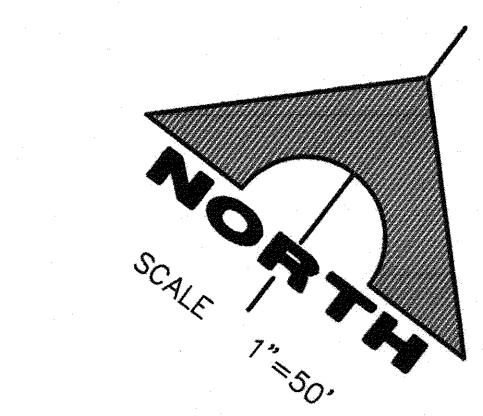
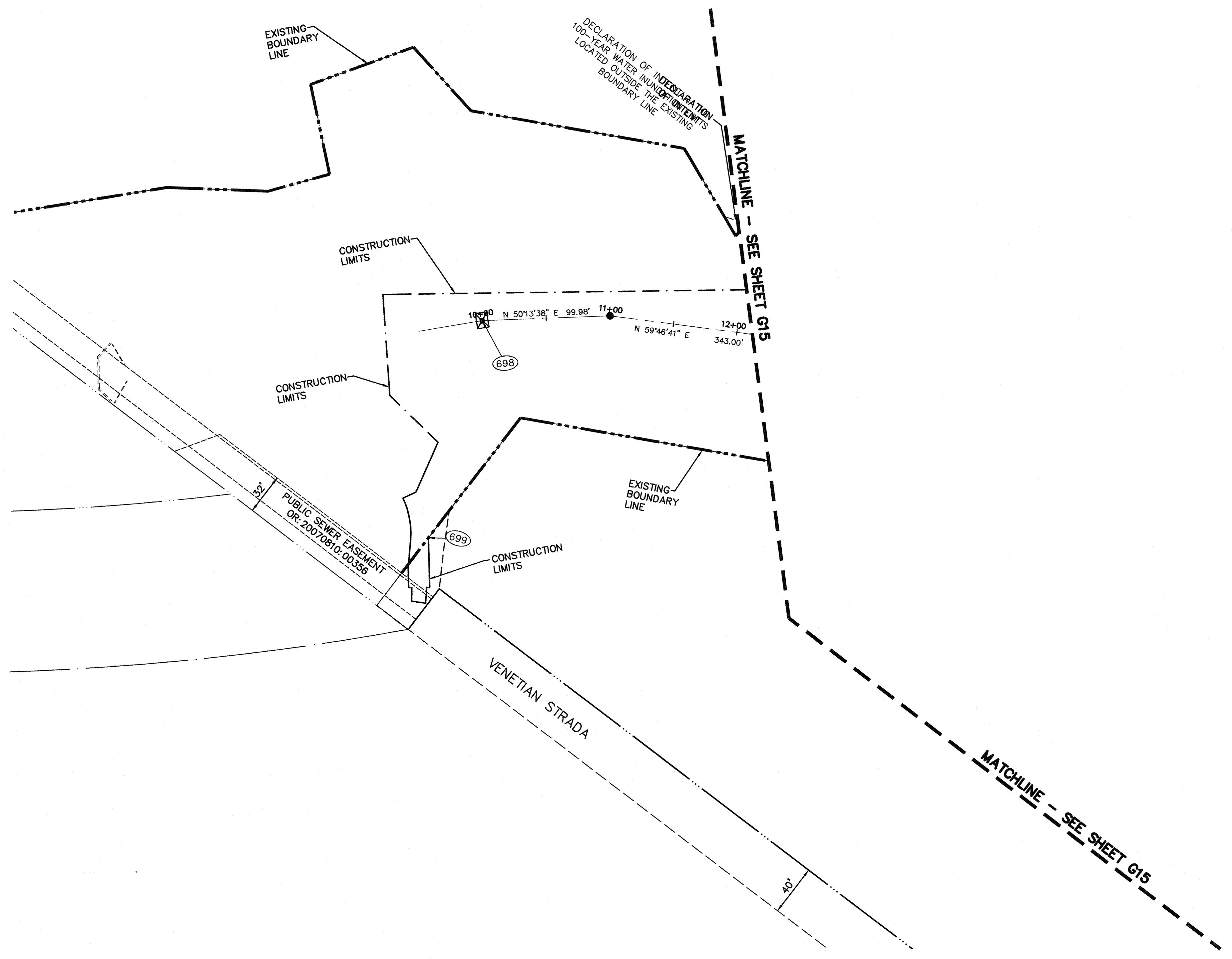
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SHEET HORIZONTAL CONTROL PLAN DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-8276	TITLE ANGEL PARK DETENTION BASIN EXPANSION	DRAWN BY:	DESIGNED BY:	CHECKED BY:	PROJECT NO: 412-646
		SCALE:	HORIZ FEET:	REV. DATE BY REVISION	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD • LAS VEGAS, NV 89146 T: 702.894.2000 • F: 702.894.2299 • GCWALLACE.COM
SHEET G15 15 OF 60 SHEETS DRAWING NO. 731-49-J		HANSEN NO. 36800			

F:\Projects\1001\412-646\DWG\Production\412-646-1111P.dwg 07-28-12 10:11:04 RBlenchard



DISCLAIMER NOTE

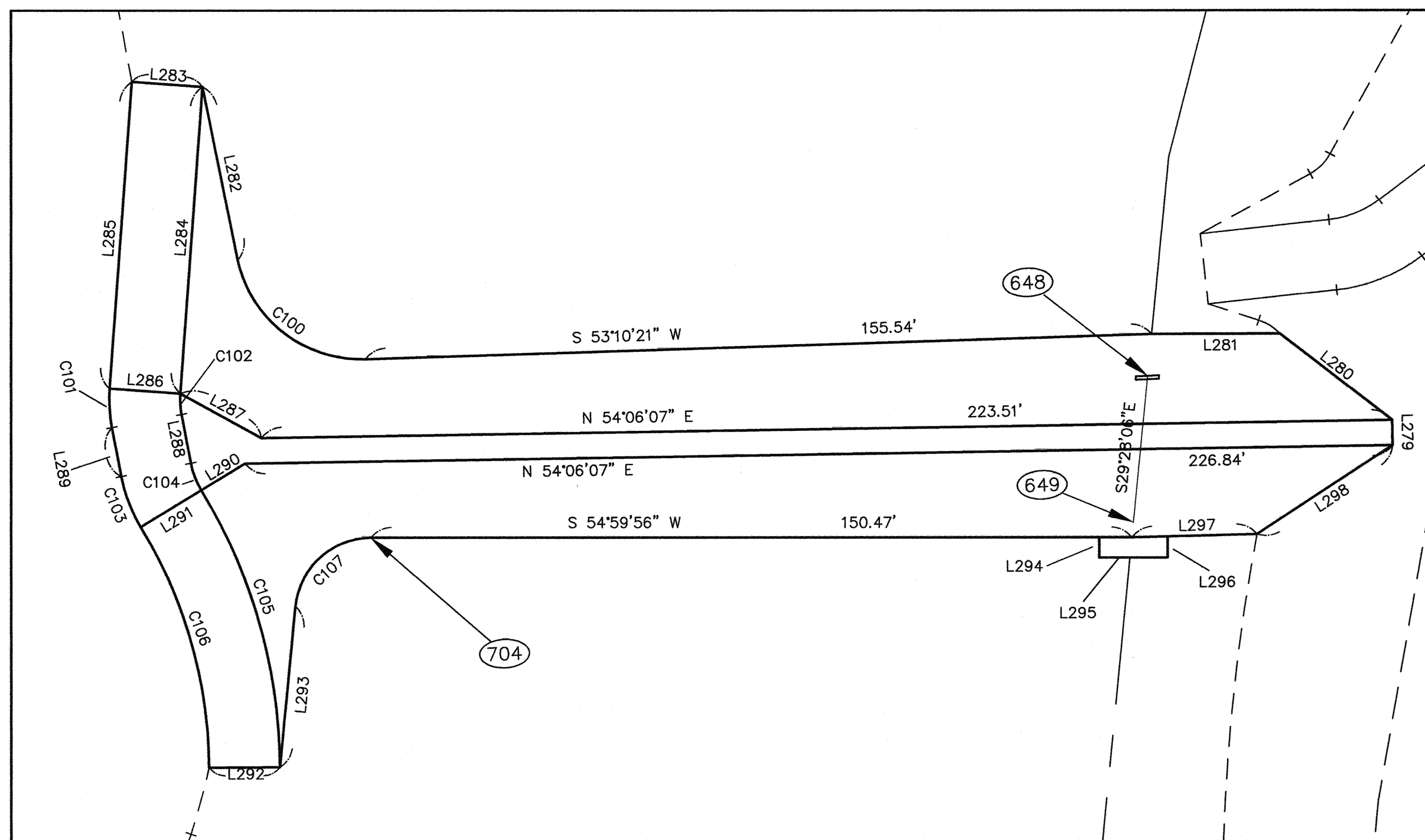
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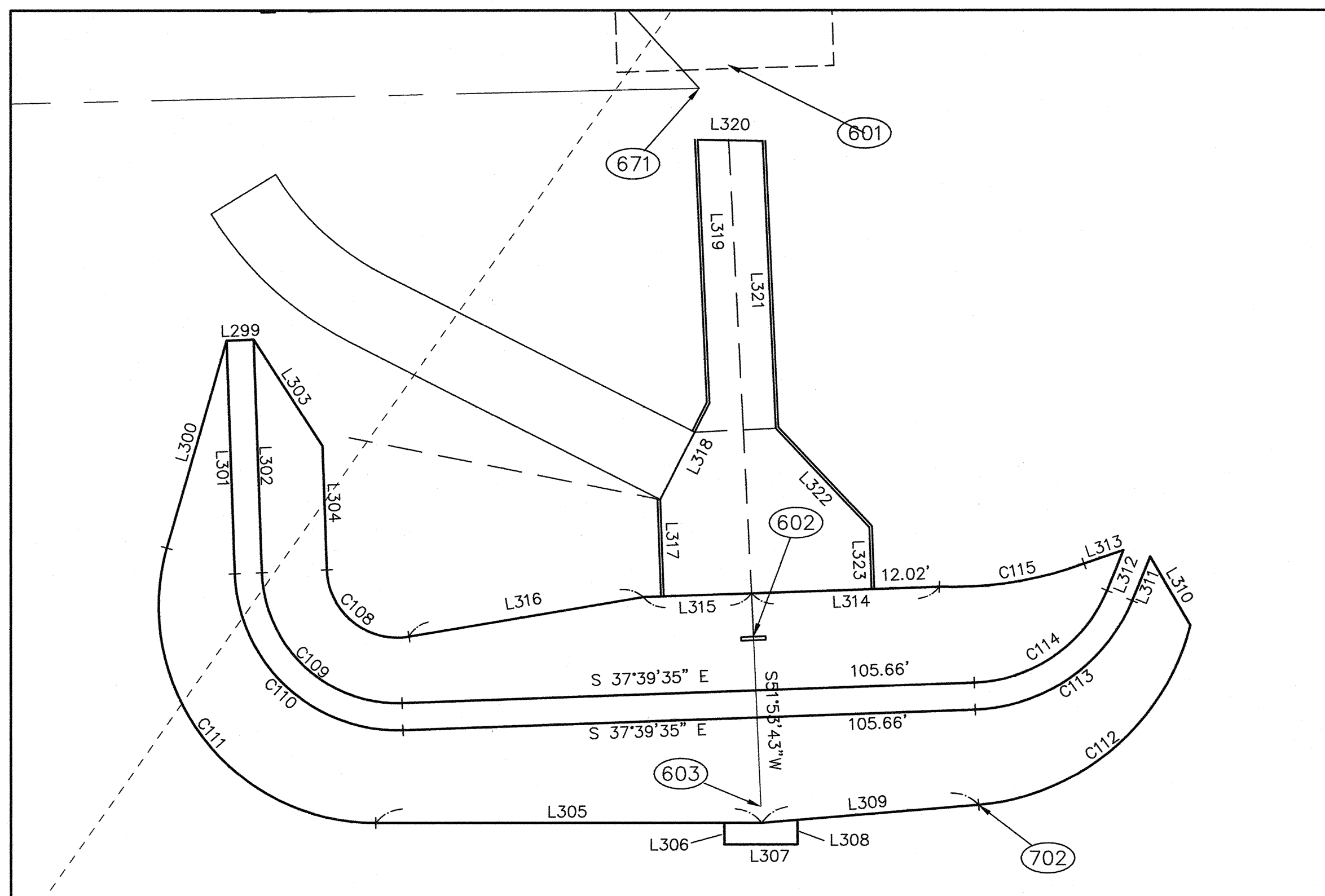
DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276		G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD • LAS VEGAS, NV 89146 T: 702.894.2000 • F: 702.894.2299 • GCWALLACE.COM	
SHEET HORIZONTAL CONTROL PLAN		TITLE ANGEL PARK DETENTION BASIN EXPANSION	
DRAWN BY:	DESIGNED BY:	CHECKED BY:	PROJECT NO: 412-646
HANSEN NO. 36800		SHEET G16 16 OF 60 SHEETS DRAWING NO. 731-49-J	
REV. DATE BY		REV. DATE BY	
SCALE: 1"=50'		SCALE: 1"=50'	

ANGEL PARK DETENTION BASIN EXPANSION

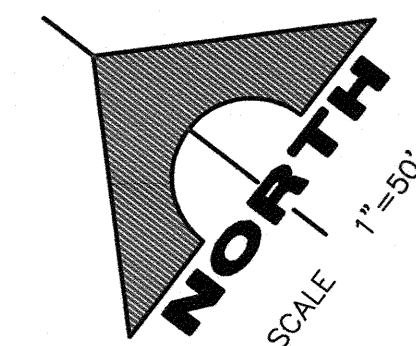
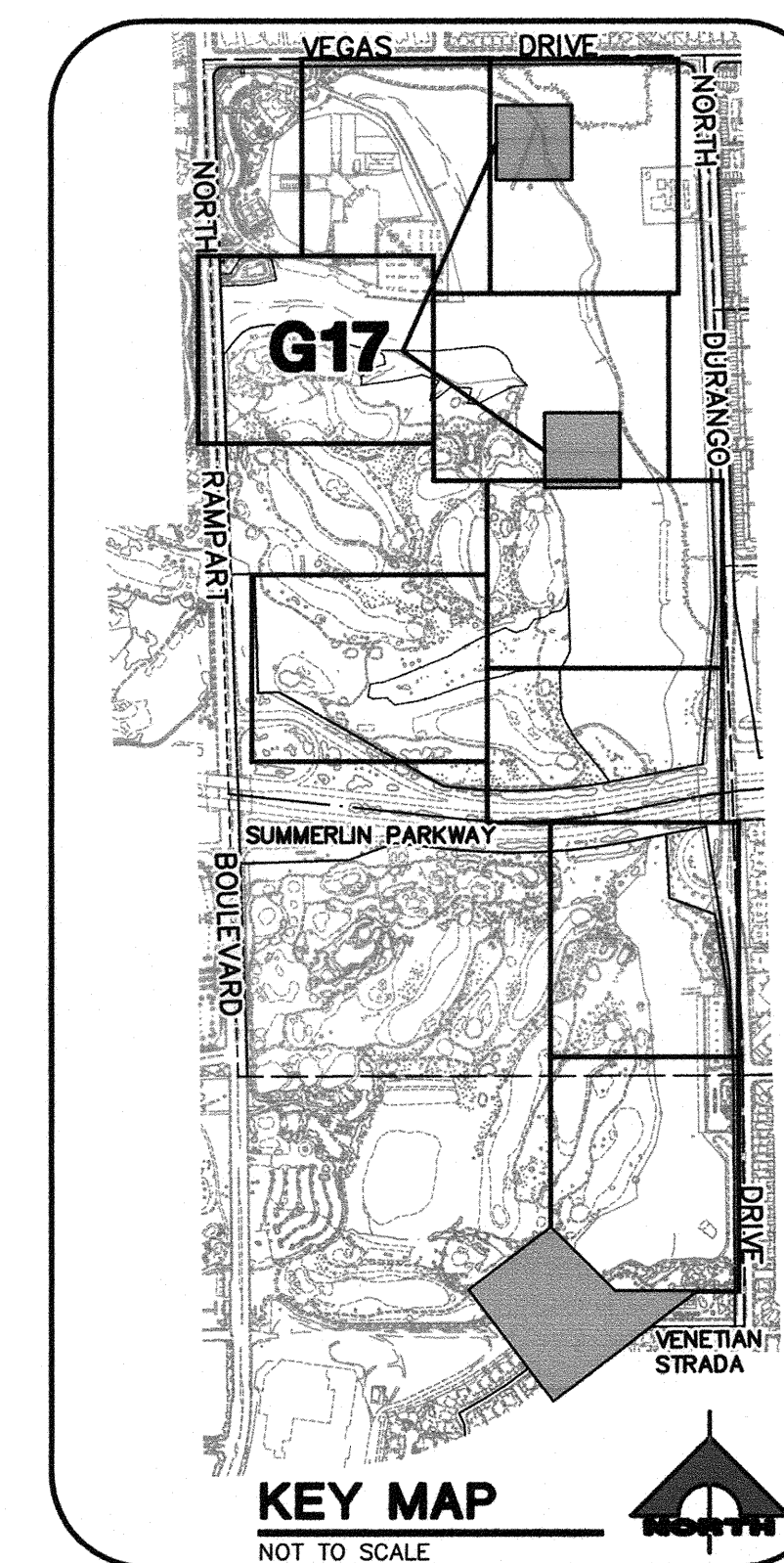
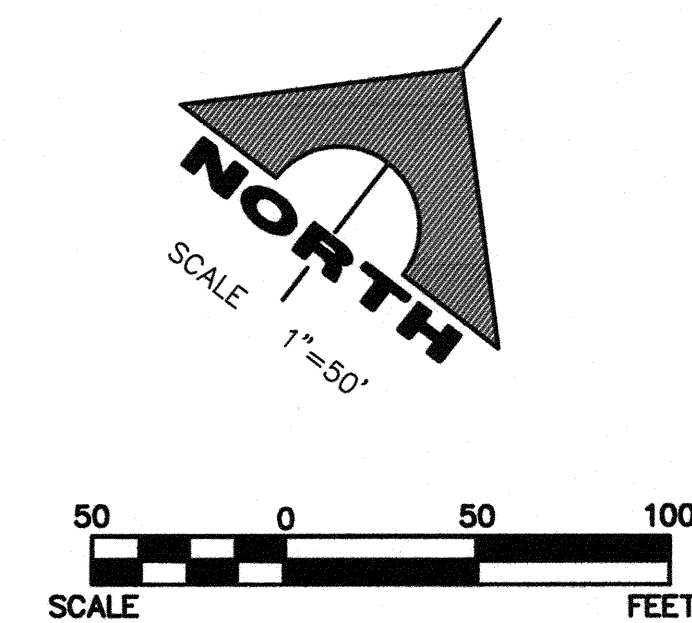
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NORTH BASIN - UPPER BAY
WATER QUALITY DEBRIS BERM 2 G17



NORTH BASIN - LOWER BAY
WATER QUALITY DEBRIS BERM 1 G17



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		DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 228-6276		
SHEET HORIZONTAL CONTROL PLAN WATER QUALITY BERMS		TITLE ANGEL PARK DETENTION BASIN EXPANSION		
DRAWN BY: _____ DESIGNED BY: _____ CHECKED BY: _____ PROJECT NO: 412-646	SCALE: _____ HORIZ. FEET: _____	SEAL 		
SHEET G17 17 OF 60 SHEETS		DRAWING NO. 731-49-J		

ANGEL PARK DETENTION BASIN EXPANSION

POINT TABLE table with columns: POINT #, NORTHING, EASTING, DESCRIPTION. Contains 708 rows of data.

CURVE TABLE table with columns: CURVE, DELTA, RADIUS, LENGTH, TANGENT. Contains 128 rows of data.

LINE TABLE table with columns: LINE, BEARING, LENGTH. Contains 128 rows of data.

LINE TABLE table with columns: LINE, BEARING, LENGTH. Contains 128 rows of data.

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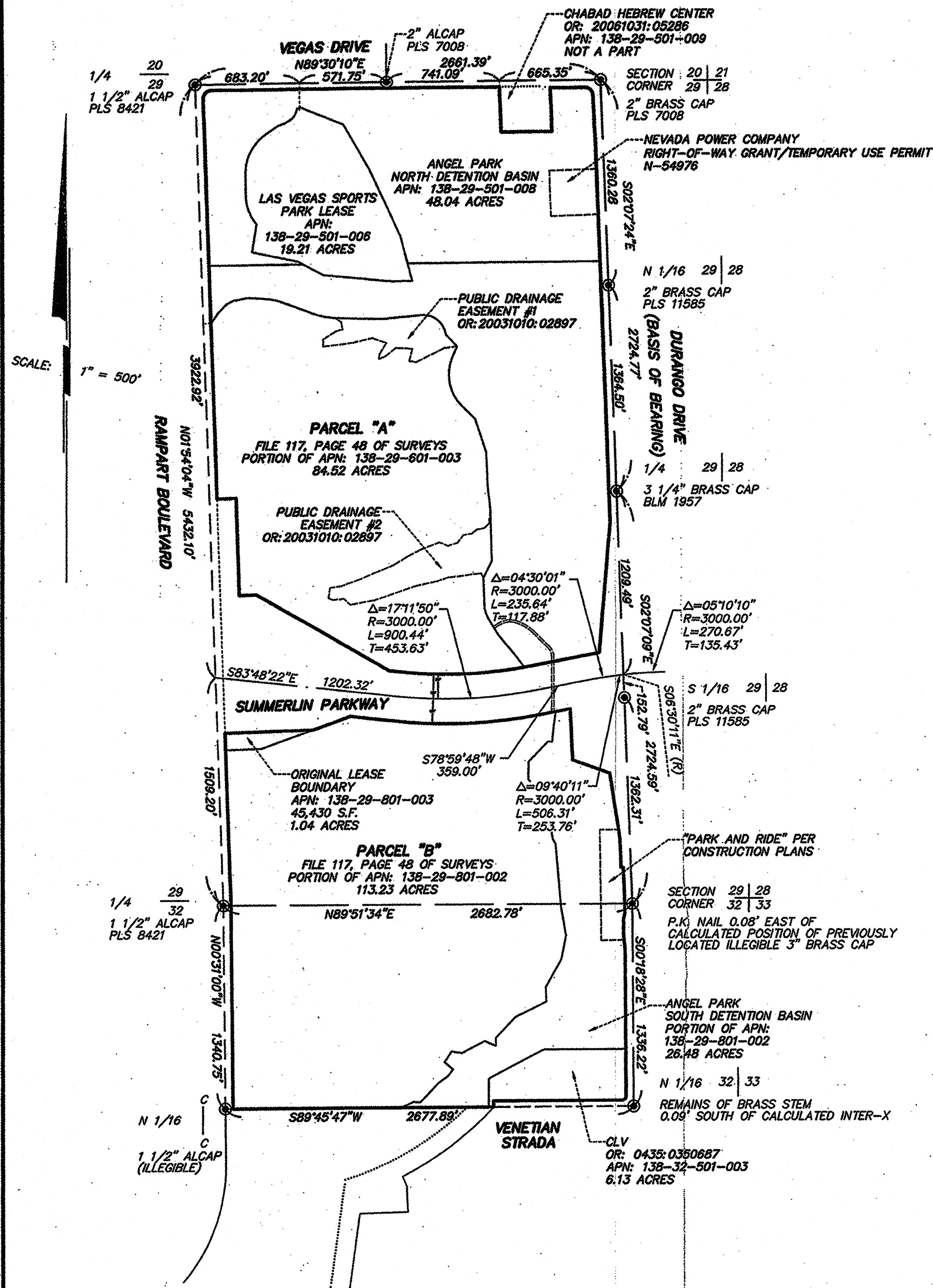
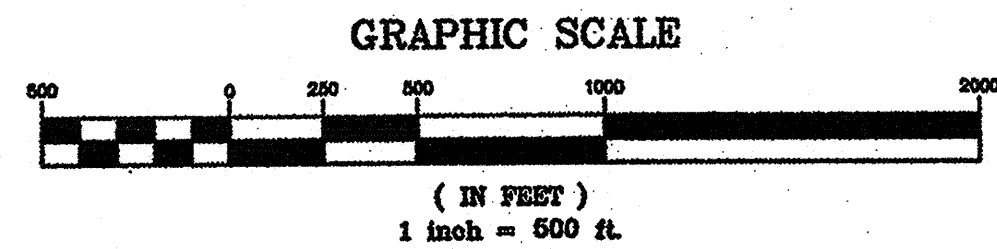
Call before you Dig logo with 811 logo and phone number 1-800-227-2929.

Professional Engineer seal for Grant Y. Tokumi, License No. 15517, State of Nevada.

SHEET: HORIZONTAL CONTROL PLAN LINE, CURVE AND POINT TABLE
DRAWN BY:
DESIGNED BY:
CHECKED BY:
PROJECT NO: 412-646
SCALE:
HORIZ:
VERT:

DEPARTMENT OF PUBLIC WORKS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101
(702) 228-6276
G.C. WALLACE COMPANIES
ENGINEERS | PLANNERS | SURVEYORS
1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146
T: 702.894.2000 - F: 702.894.2299 - WWW.WALLACE.COM

ANGEL PARK DETENTION BASIN EXPANSION
REVISION BY DATE
REV 1



LINE	BEARING	LENGTH
L1	S03°50'30"E	100.01'
L2	S02°07'08"E	197.19'
L3	N83°48'22"W	75.41'
L4	S88°05'55"W	110.20'
L5	S88°05'55"W	124.91'
L6	N35°03'20"E	84.46'
L7	N42°48'39"E	80.58'
L8	N82°20'20"E	48.96'
L9	N79°14'32"E	93.28'
L10	S68°49'52"E	112.80'
L11	S69°22'35"E	201.04'
L12	S43°24'20"E	107.87'
L13	S23°47'27"W	70.63'
L14	S45°30'54"E	113.92'
L15	S30°51'25"E	108.28'
L16	N35°50'06"W	76.89'
L17	S83°14'13"W	82.36'
L18	N83°04'01"W	47.27'
L19	N12°58'15"E	82.88'
L20	N87°00'15"W	107.43'
L21	S82°05'07"W	90.90'
L22	S68°30'18"W	43.10'
L23	N08°07'08"E	32.65'
L24	N30°33'00"E	83.84'
L25	N71°06'40"W	97.87'
L26	S76°30'27"W	121.83'
L27	N02°04'06"W	46.67'
L28	N57°41'37"E	102.07'
L29	N74°51'04"E	43.29'
L30	N10°03'57"W	48.38'
L31	N51°43'23"W	44.97'
L32	N29°37'40"W	32.77'
L33	S70°55'39"W	76.07'
L34	S76°58'47"W	150.48'
L35	N47°26'52"W	56.99'
L36	S84°46'31"W	73.45'
L37	N65°36'36"W	30.37'
L38	N08°56'52"E	88.78'
L39	N81°03'18"E	75.46'
L40	N69°43'31"E	114.11'
L41	S67°26'34"E	61.18'
L42	N72°36'24"E	84.48'
L43	N38°07'01"E	63.77'
L44	N78°53'23"E	58.14'
L45	N62°05'51"E	40.95'
L46	N79°14'14"E	48.89'
L47	N46°44'59"E	44.53'
L48	N05°04'59"E	90.07'
L49	N78°59'48"E	208.75'
L50	N87°52'50"E	15.00'
L51	S00°18'28"E	80.63'
L52	S11°58'02"W	42.33'
L53	S00°18'28"E	100.61'
L54	S05°26'33"E	100.56'
L55	S00°14'13"E	40.00'
L56	N78°59'48"E	108.80'
L57	N78°59'48"E	96.95'
L58	N89°40'22"E	30.90'
L59	S07°44'23"W	104.11'
L60	S04°39'49"W	96.30'
L61	N89°35'58"W	27.60'
L62	S27°50'23"E	38.74'
L63	S02°09'36"E	98.33'
L64	S00°19'20"E	48.46'
L65	N68°04'12"W	79.93'
L66	N78°46'33"W	86.93'
L67	S32°31'37"W	85.38'
L68	S49°30'19"E	71.93'
L69	S36°54'40"W	49.95'
L70	S54°30'28"W	79.13'
L71	N87°35'55"W	47.44'
L72	S64°41'47"W	85.15'
L73	N64°51'35"E	95.42'
L74	S65°36'27"W	25.44'
L75	S49°41'58"W	10.81'
L76	S17°31'37"W	35.04'
L77	S70°40'49"E	17.12'
L78	N00°29'51"W	15.06'

NO.	RADIUS	DELTA	LENGTH	TANGENT
C1	54.00'	91°24'15"	86.15'	55.34'
C2	155.00'	01°59'07"	5.37'	2.89'
C3	54.00'	88°22'26"	83.29'	52.49'
C4	3165.00'	01°54'53"	105.77'	52.89'
C5	2835.00'	00°43'57"	36.24'	18.12'
C6	2835.00'	16°27'53"	814.68'	410.17'
C7	400.00'	17°27'17"	121.86'	61.40'
C8	550.00'	17°03'51"	163.80'	82.51'
C9	230.00'	29°08'33"	118.99'	59.79'
C10	25.00'	90°04'15"	39.30'	25.03'
C11	175.00'	11°24'06"	34.82'	17.47'
C12	110.00'	15°54'29"	30.54'	15.37'
C13	76.00'	31°50'21"	42.23'	21.68'

SURVEYOR'S CERTIFICATE

1. DANNY E. HILL, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEVADA, AS AN AGENT OF G.C. WALLACE INC. CERTIFY THAT:

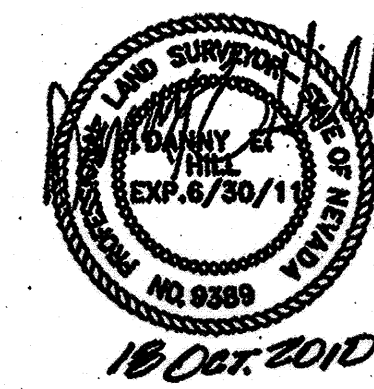
2. THIS PLAT REPRESENTS THE RESULTS OF A SURVEY CONDUCTED UNDER MY DIRECT SUPERVISION AT THE INSTANCE OF THE CITY OF LAS VEGAS.

3. THE LAND SURVEYED LIES WITHIN A PORTION OF THE EAST HALF (E 1/2) OF SECTION 29, TOGETHER WITH A PORTION OF THE NORTH HALF (N 1/2) OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 32 TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AND THE SURVEY WAS COMPLETED ON SEPTEMBER 28, 2010.

4. THIS PLAT COMPLIES WITH THE APPLICABLE STATE STATUTES AND ANY LOCAL ORDINANCES IN EFFECT ON THE DATE THAT THE GOVERNING BODY GAVE ITS FINAL APPROVAL.

5. THE MONUMENTS DEPICTED ON THIS PLAT ARE OF THE CHARACTER SHOWN, OCCUPY THE POSITIONS INDICATED, AND ARE OF SUFFICIENT NUMBER AND DURABILITY.

DANNY E. HILL
PROFESSIONAL LAND SURVEYOR
NEVADA LICENSE NO. 9389



BASIS OF BEARING

SOUTH 02°07'24" EAST, BEING THE BEARING OF THE EAST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 29, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., AS SHOWN IN FILE 131, PAGE 85 OF SURVEYS ON FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

LEGEND

- SURVEY BOUNDARY LINE
- PARCEL LINE
- EXISTING LOT/RIGHT-OF-WAY LINE
- STREET CENTERLINE
- SECTION LINE
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- EASEMENT LINE
- FOUND MONUMENTATION AS SHOWN AND DESCRIBED
- △ FOUND ALCAP PLS 4541
- L1 LINE SEGMENT NUMBER
- C1 CURVE NUMBER
- (R) RADIAL LINE
- APN: ASSESSOR'S PARCEL NUMBER
- O.R. OFFICIAL RECORDS

COUNTY RECORDER'S NOTE

ANY SUBSEQUENT CHANGES TO THIS MAP SHOULD BE EXAMINED AND MAY BE DETERMINED BY REFERENCE TO THE COUNTY RECORDER'S CUMULATIVE MAP INDEX, N.R.S. 278.5995

RECORD OF SURVEY FOR ANGEL PARK GOLF COURSE		INSTRUMENT NO. 009117 OFFICIAL RECORDS BOOK NO. 20101019 FILED AT THE REQUEST OF G.C. WALLACE INC.
A PORTION OF THE EAST HALF (E 1/2) OF SECTION 29, TOGETHER WITH A PORTION OF THE NORTH HALF (N 1/2) OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 32 TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA		DATE 10/19/10 AT 10:16 FILE 182 PAGE 66
G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146 T: 702.804.2000 F: 702.804.2289 GCWALLACE.COM		OF SURVEYS CLARK COUNTY, NEVADA RECORDS DEBBIE CONWAY, RECORDER SEE \$ 61 DEPUTY STN.

SECTION 20 | 21
CORNER 29 | 28
2" BRASS CAP
PLS 7008

1/4 20
29
1 1/2" ALCAP
PLS 8421

VEGAS DRIVE

CIELO VISTA AVENUE

(BASIS OF BEARING)
S02°07'24"E 1380.27'
2724.77'

DURANGO DRIVE

S02°07'24"E 2328.07'
1384.50'

N 1/16 29 28
2" BRASS CAP
PLS 11585

CHABAD HEBREW CENTER
OR: 20081031-05288
APN: 138-29-501-009
NOT A PART

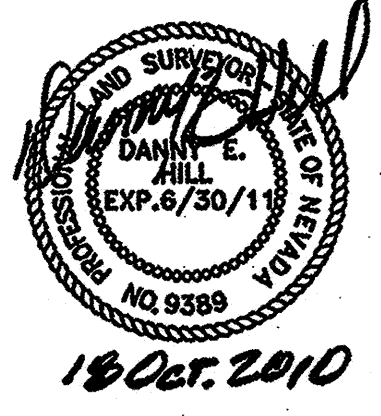
NEVADA POWER COMPANY
RIGHT-OF-WAY GRANT/
TEMPORARY USE PERMIT
N-54976

ANGEL PARK
NORTH DETENTION BASIN
APN: 138-29-501-008
48.04 ACRES

ANGEL PARK
NORTH DETENTION BASIN
PORTION OF
APN: 138-29-501-003
81.82 ACRES

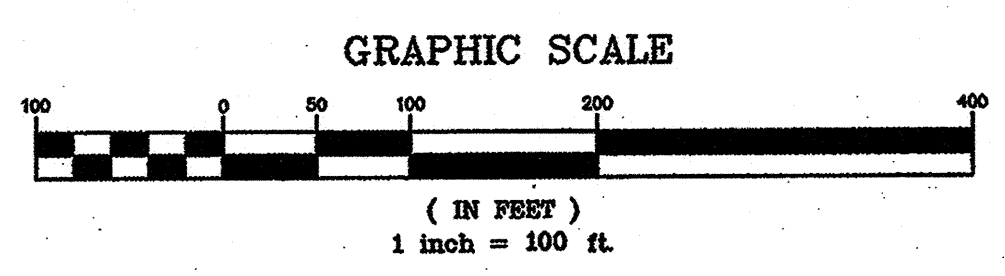
LAS VEGAS SPORTS PARK LEASE
APN: 138-29-501-006
18.21 ACRES

PARCEL "A"
FILE 117, PAGE 48 OF SURVEYS
PORTION OF APN: 138-29-501-003
84.52 ACRES



18 Oct. 2010

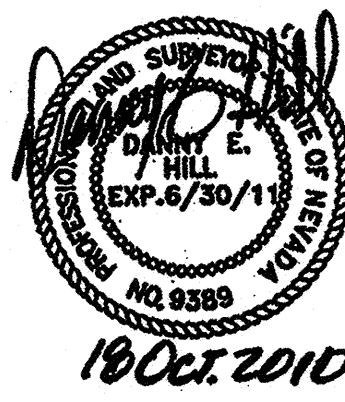
SCALE: 1" = 100'



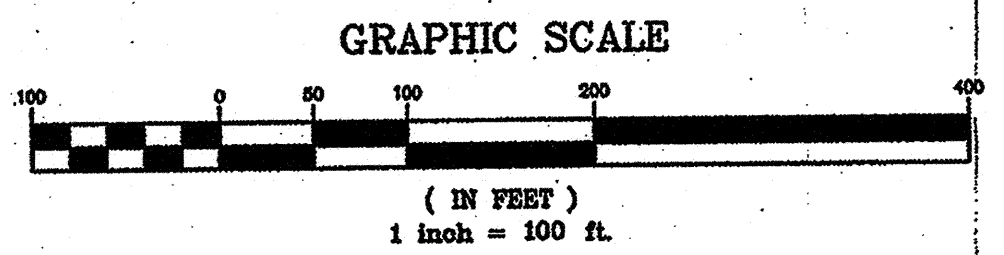
NOTE
1. SEE SHEET 1 OF 5 FOR LEGEND AND LINE AND CURVE TABLES.

MATCH LINE - SEE SHEET 3 OF 5

MATCH LINE - SEE SHEET 2 OF 5



SCALE: 1" = 100'



PARCEL "A"
FILE 117, PAGE 48 OF SURVEYS
PORTION OF APN: 138-29-601-003
84.52 ACRES

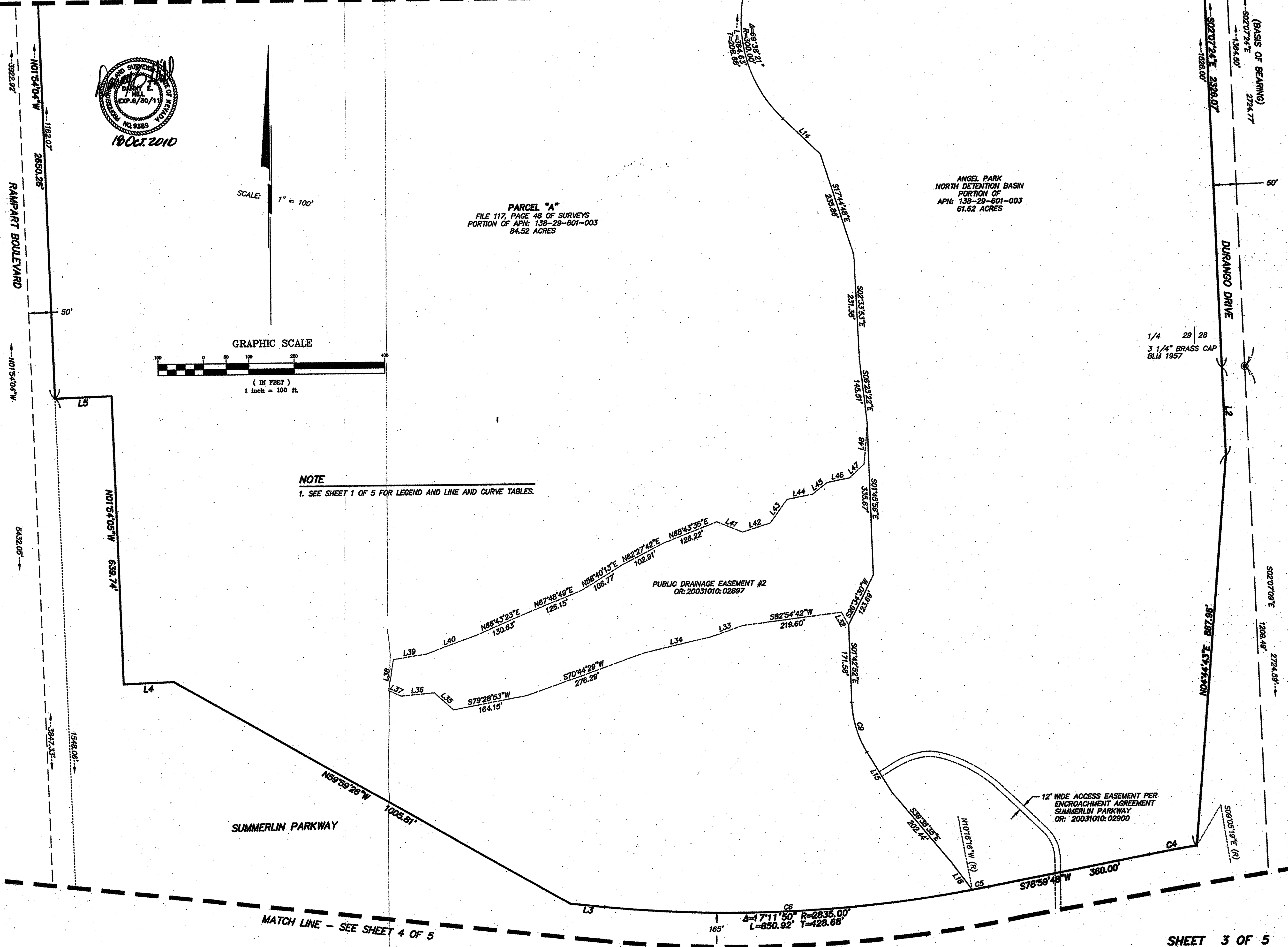
ANGEL PARK
NORTH DETENTION BASIN
PORTION OF
APN: 138-29-601-003
61.62 ACRES

1/4 29 28
3 1/4" BRASS CAP
BLM 1957

NOTE
1. SEE SHEET 1 OF 5 FOR LEGEND AND LINE AND CURVE TABLES.

PUBLIC DRAINAGE EASEMENT #2
OR: 20031010: 02897

12' WIDE ACCESS EASEMENT PER
ENCROACHMENT AGREEMENT
SUMMERLIN PARKWAY
OR: 20031010: 02900



SUMMERLIN PARKWAY

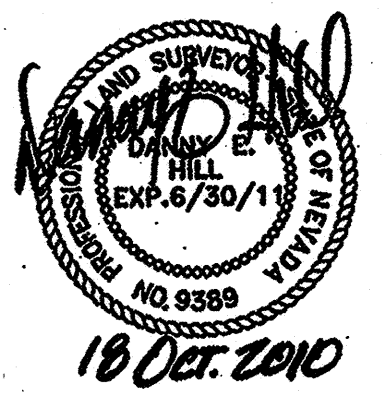
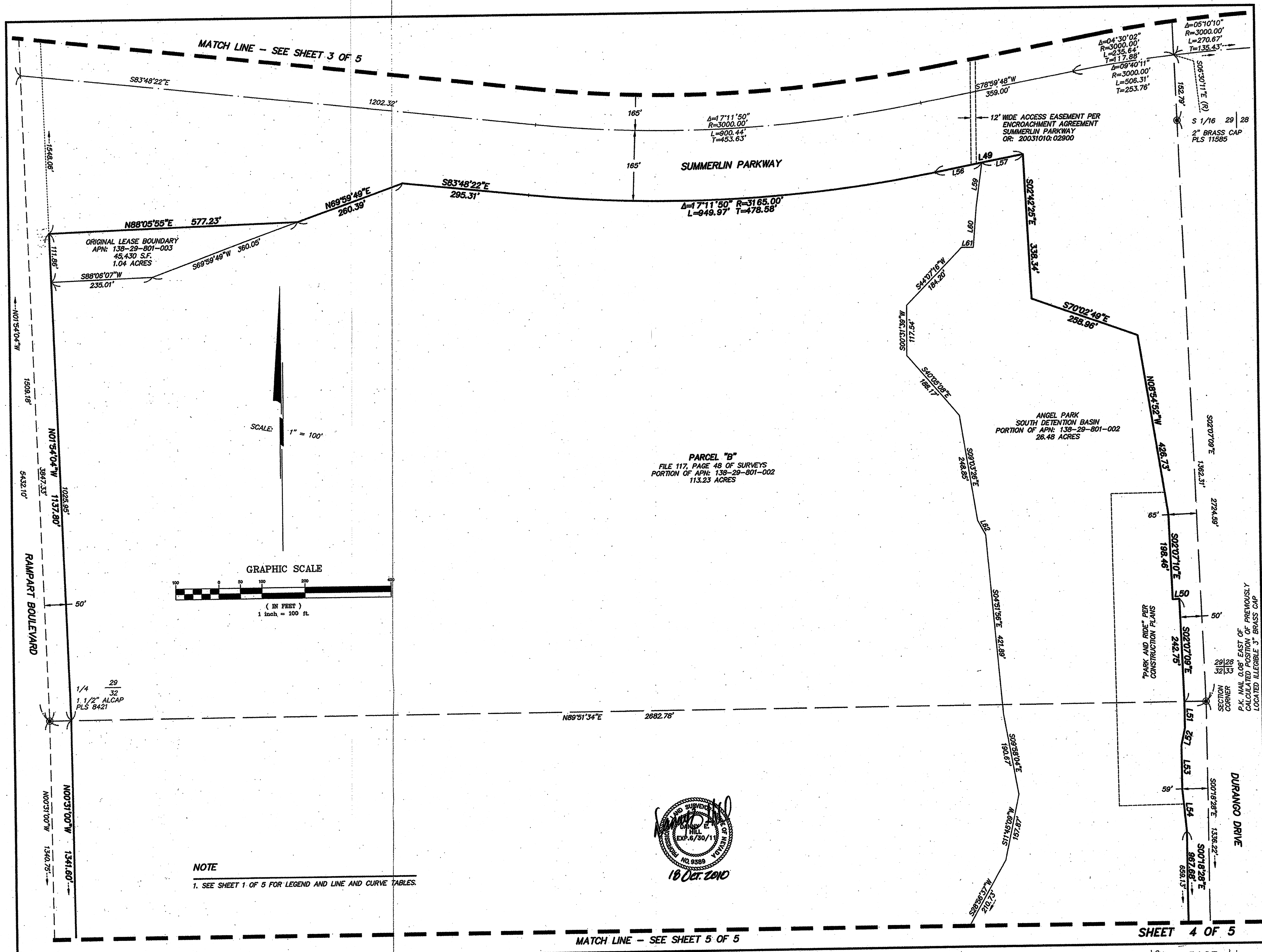
RAMPART BOULEVARD

DURANGO DRIVE

MATCH LINE - SEE SHEET 4 OF 5

SHEET 3 OF 5

FILE 182 PAGE 66



MATCH LINE - SEE SHEET 3 OF 5

MATCH LINE - SEE SHEET 5 OF 5

SHEET 4 OF 5

MATCH LINE - SEE SHEET 4 OF 5

PARCEL "B"
FILE 117, PAGE 48 OF SURVEYS
PORTION OF APN: 138-29-801-002
113.23 ACRES

ANGEL PARK
SOUTH DETENTION BASIN
PORTION OF APN: 138-29-801-002
26.48 ACRES

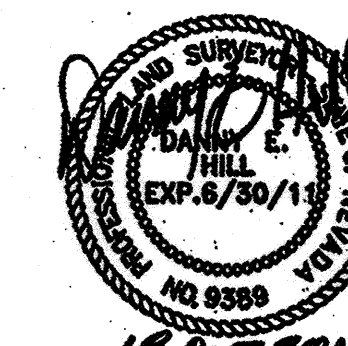
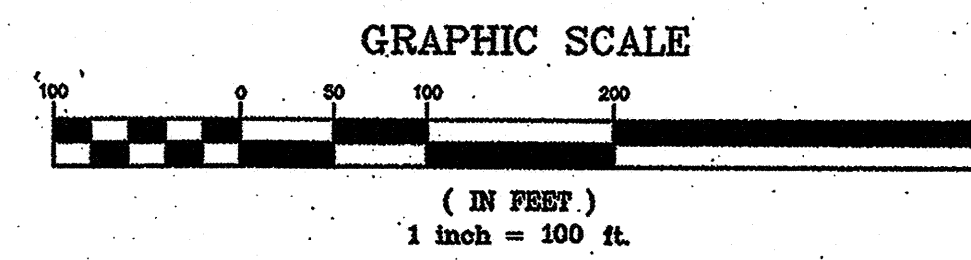
CLV
OR: 0435:0350687
APN: 138-32-501-003
6.13 ACRES

PARCEL 2
FILE 76, PAGE 65 OF PARCEL MAPS
GREAT WASH PARK LLC
APN: 138-32-601-003
NOT A PART

AMENDED PLAT OF A PORTION OF
ANGEL PARK RANCH UNIT NO. 2
BOOK 65, PAGE 77 OF PLATS
NOT A PART

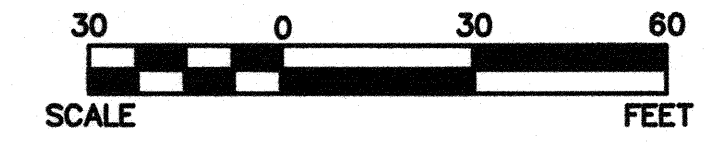
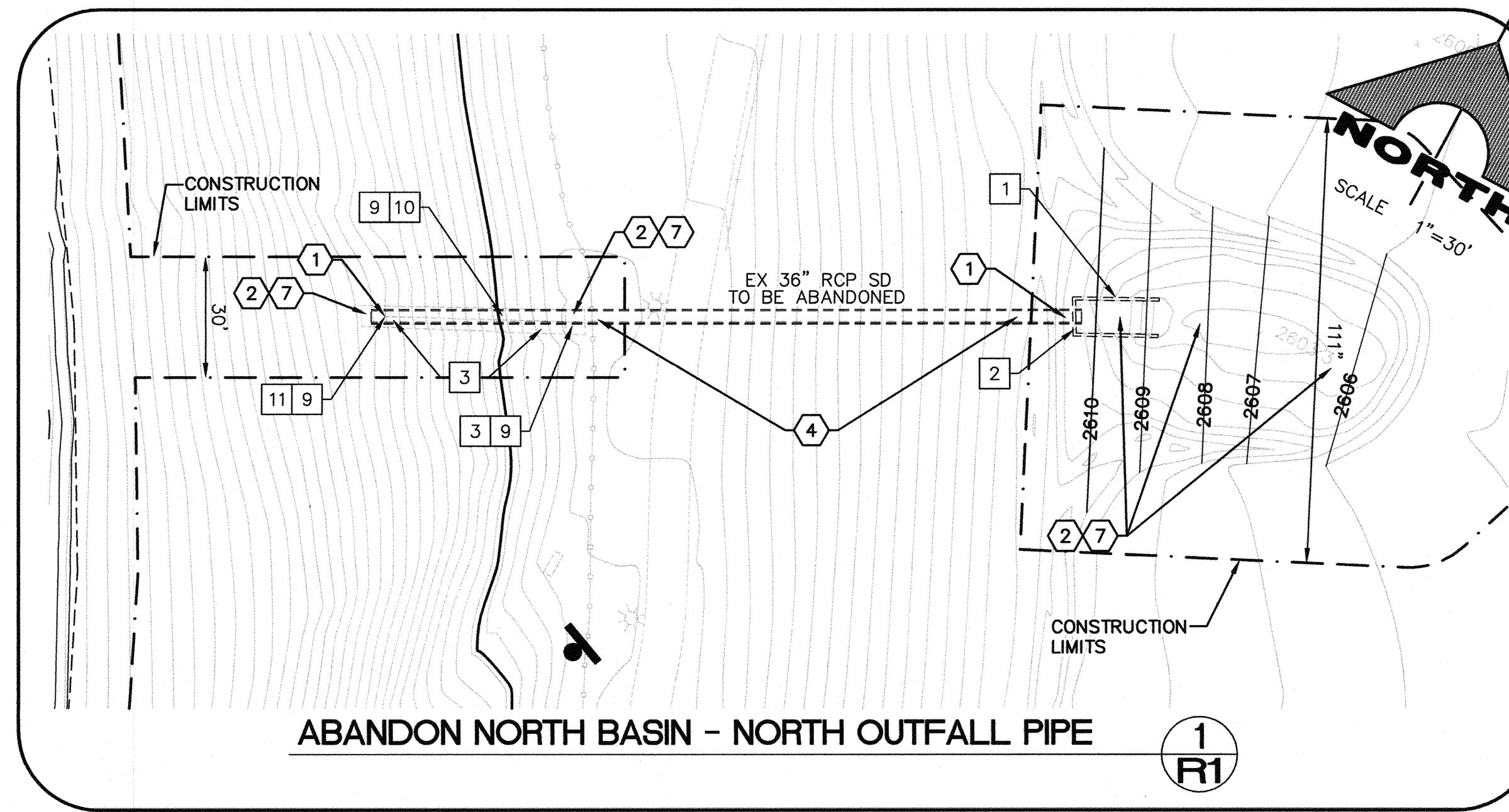
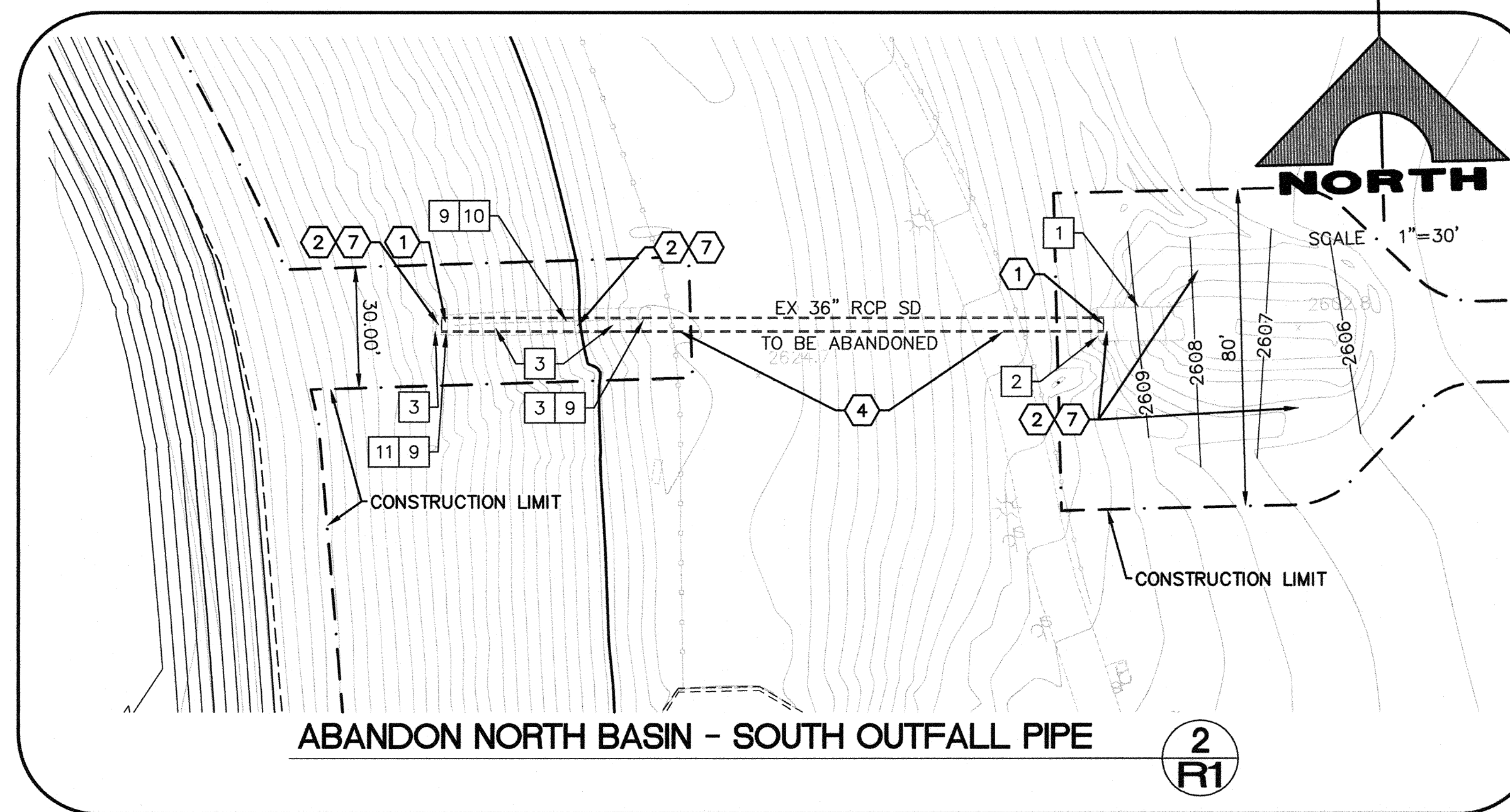
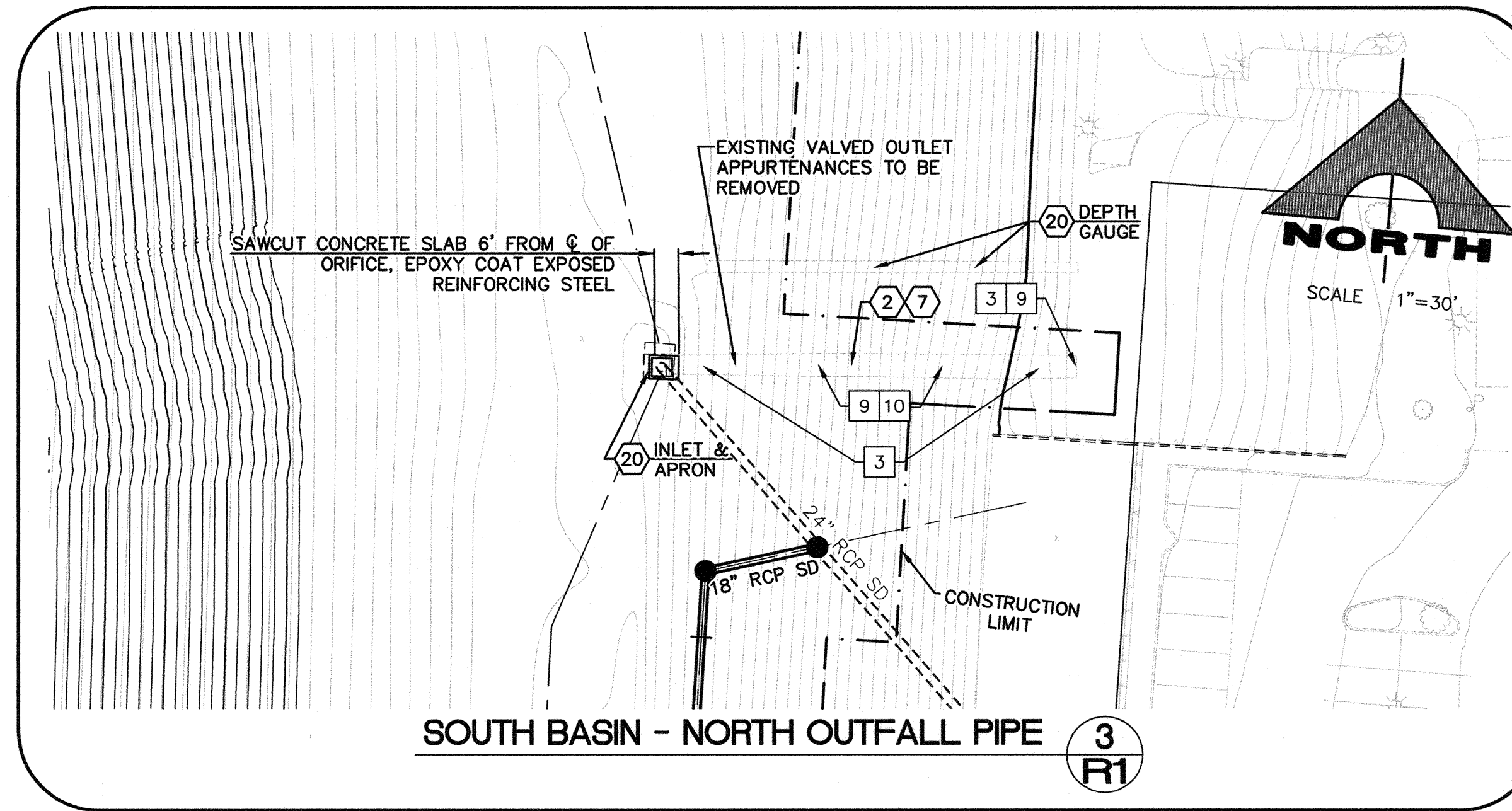
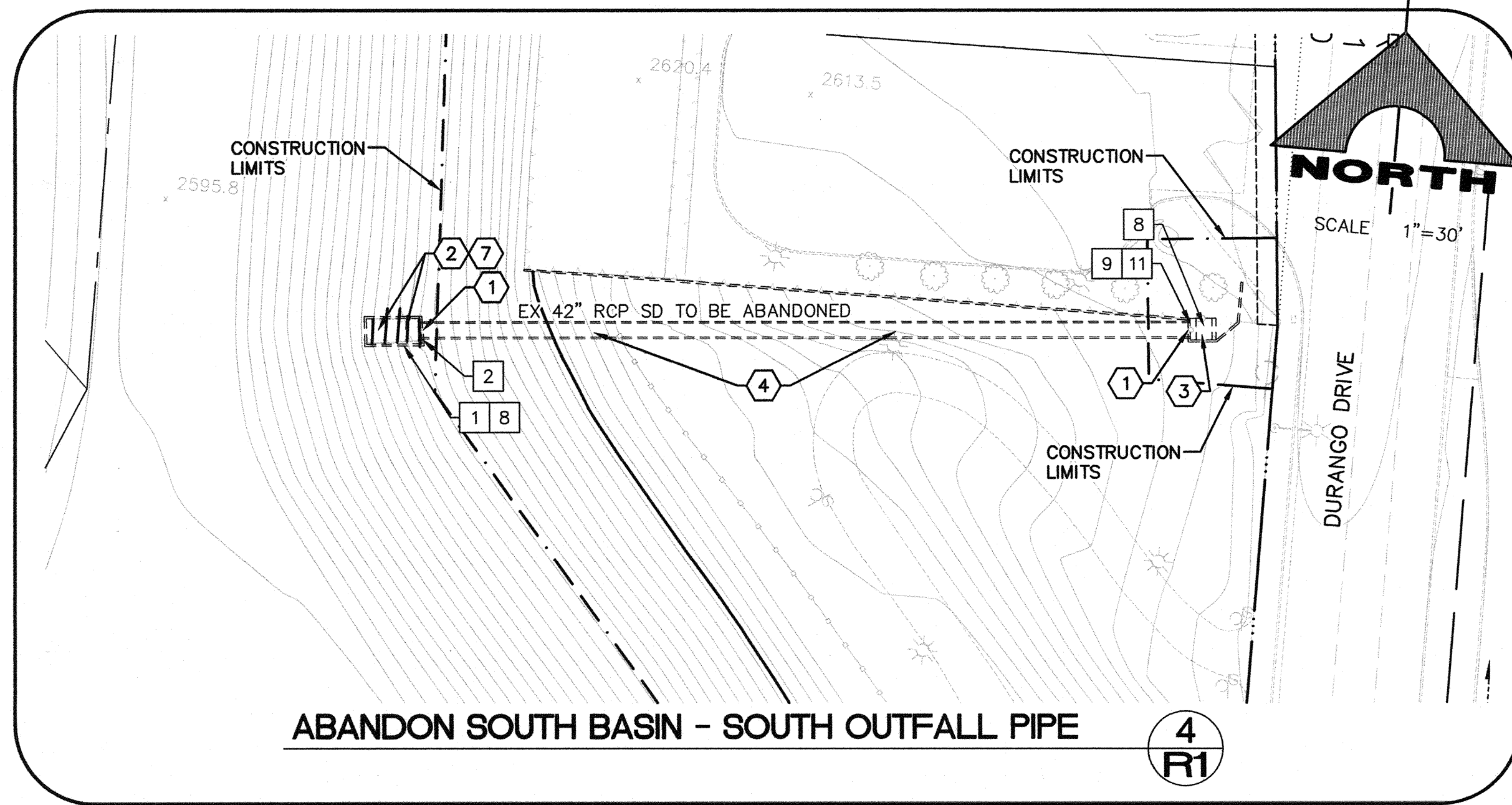
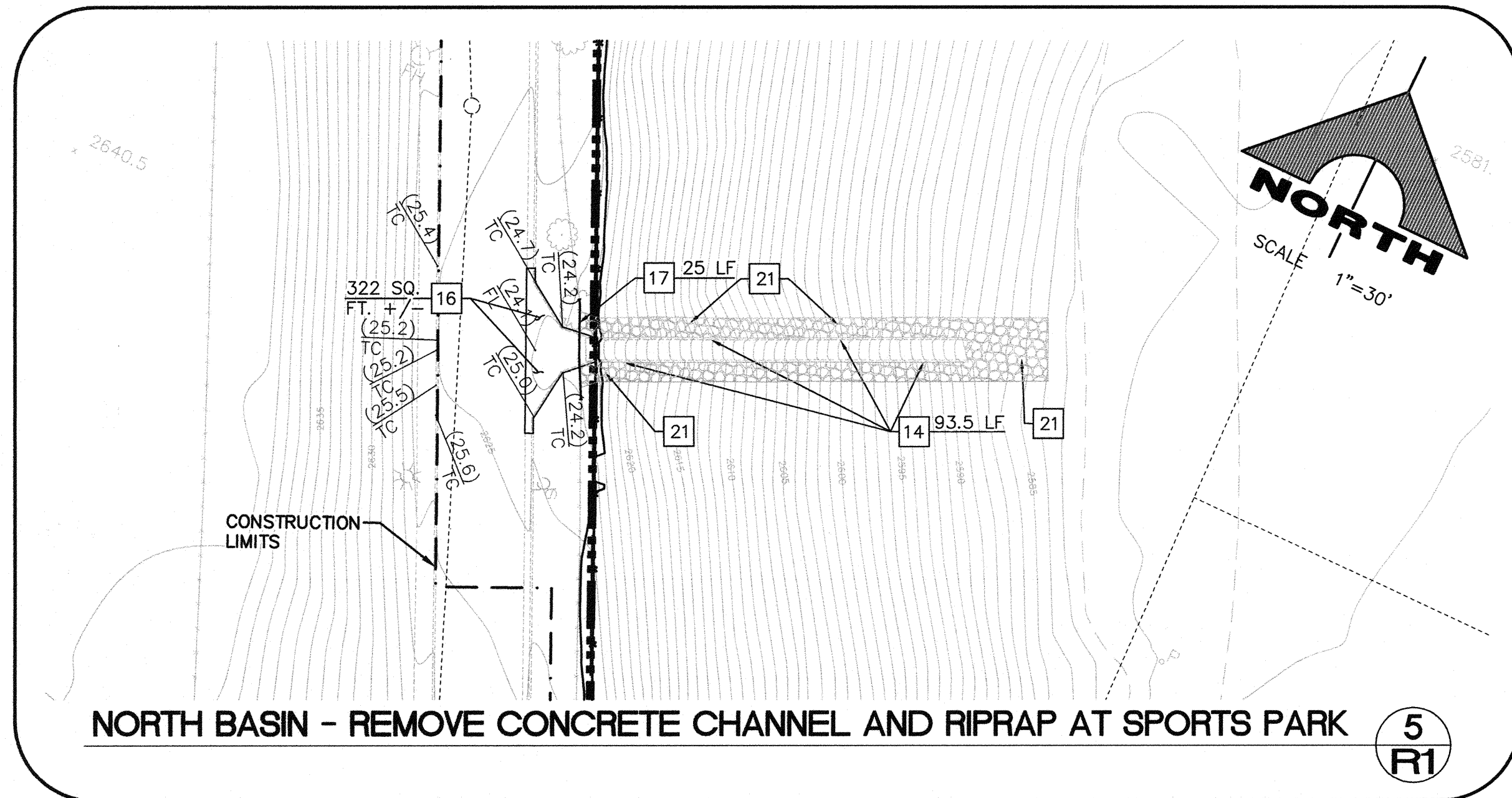
NOTE
1. SEE SHEET 1 OF 5 FOR LEGEND AND LINE AND CURVE TABLES.

SCALE: 1" = 100'



18 Oct. 2010

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REMOVAL NOTES

- 1 REMOVE CONCRETE OUTLET
- 2 REMOVE CONCRETE HEADWALL
- 3 REMOVE CONCRETE SLAB
- 8 REMOVE RACK / GRATE
- 9 REMOVE GATE OPERATING HARDWARE
- 10 REMOVE STEEL CAGE
- 11 REMOVE SLUICE GATE
- 14 REMOVE CONCRETE CHANNEL AND CUT-OFF WALLS (BOTH SIDES)
- 16 REMOVE CONCRETE TRANSITION, CURB & GUTTER, AND CUT-OFF WALL
- 17 REMOVE CHAIN-LINK FENCE
- 21 REMOVE RIPRAP

CONSTRUCTION NOTES

- 1 SAWCUT AND REMOVE RCP 2' FROM HEADWALL, SLURRY FILL AND ABANDON REMAINING RCP
- 2 FILL AND GRADE TO MATCH EXISTING
- 3 BACKFILL SUMP/DEPRESSION
- 4 SLURRY FILL RCP AND ABANDON IN PLACE
- 7 COMPACTED FILL TO 90% MODIFIED PROCTOR PER ASTM D1557
- 20 PROTECT-IN-PLACE

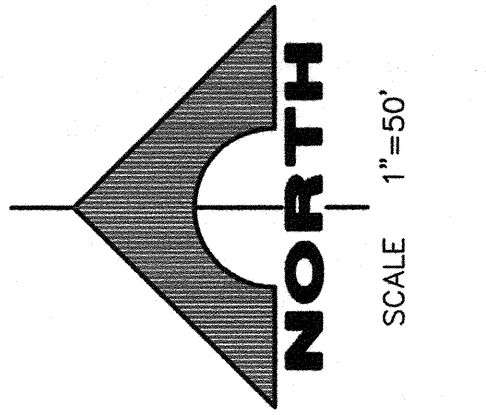
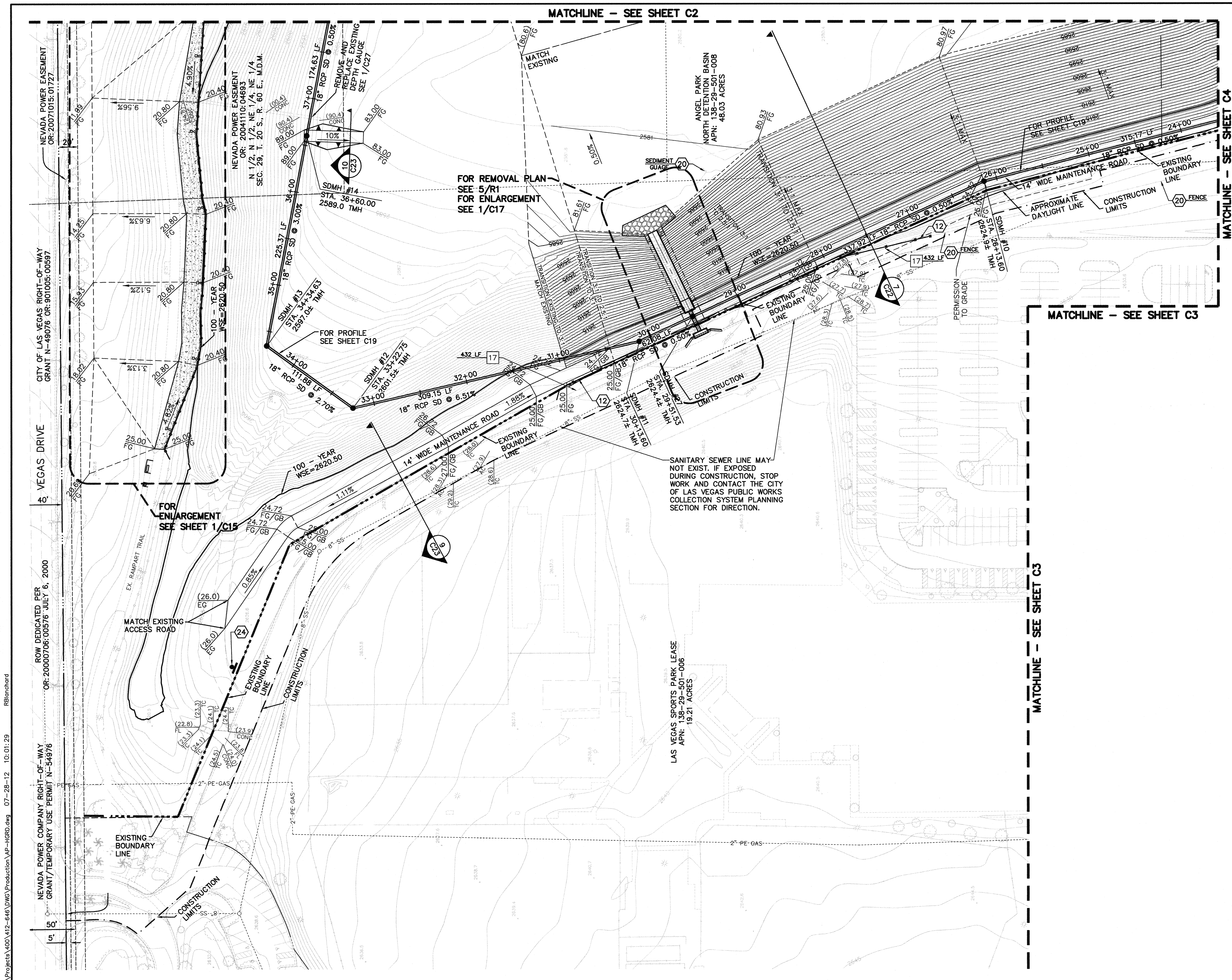
DISCLAIMER NOTE

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.



REVISION		DATE	BY
DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE, #1101 LAS VEGAS, NEVADA 89101 (702) 229-6276		G. C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD, LAS VEGAS, NV 89146 T: 702.804.2000 F: 702.804.2299 GCWALLACE.COM	
SHEET		TITLE	
REMOVAL PLAN		ANGEL PARK DETENTION BASIN EXPANSION	
DRAWN BY: RKB	DESIGNED BY:	CHECKED BY:	PROJECT NO: 412-646
SCALE: 1"=100'		SCALE: 1"=30'	
SEAL		SHEET	
		R1	
24 OF 60 SHEETS		DRAWING NO. 731-49-J	
HANSEN NO. 36800			

ANGEL PARK DETENTION BASIN EXPANSION

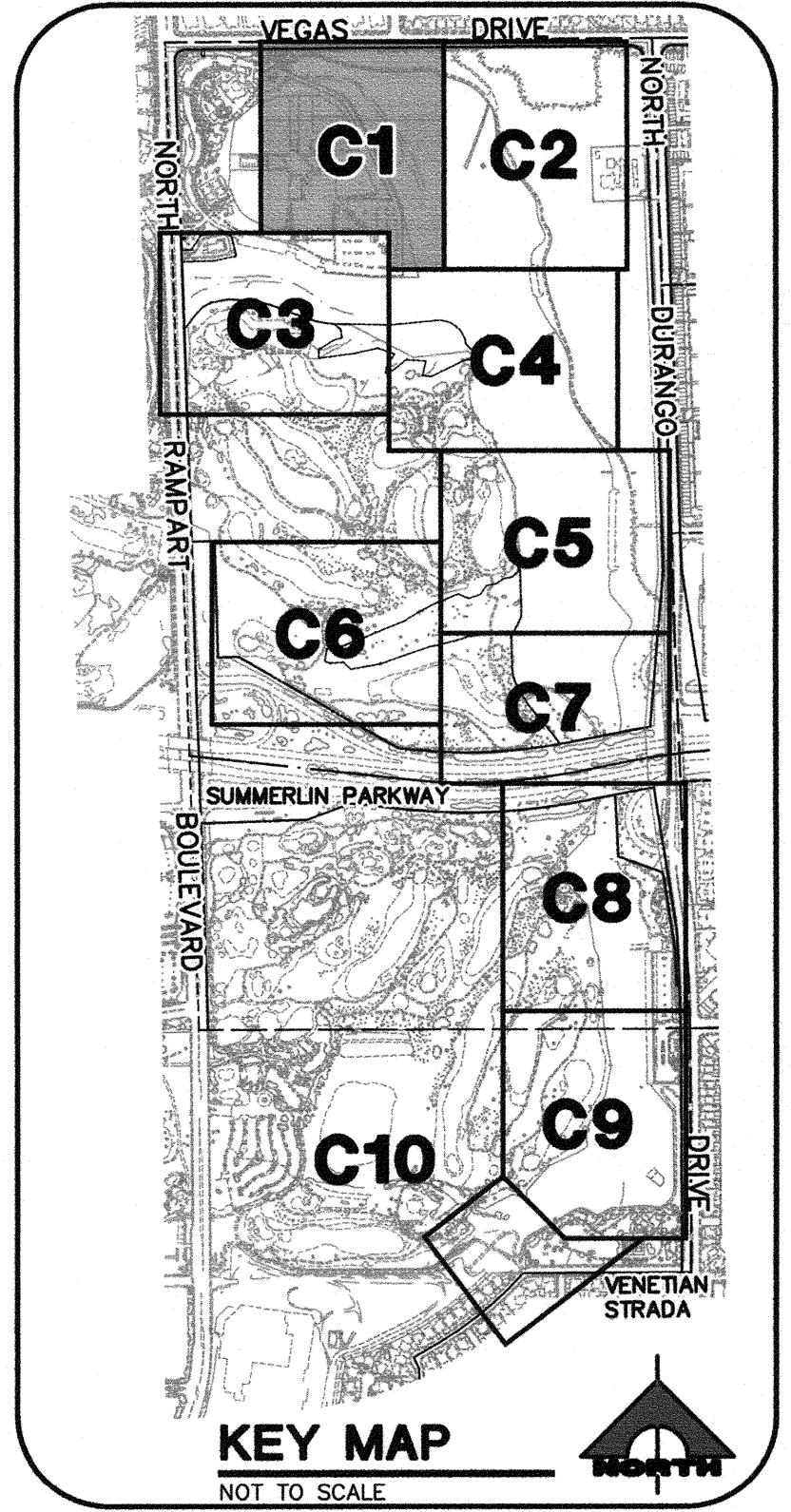


REMOVAL NOTES

- 17 REMOVE CHAIN-LINK FENCE

CONSTRUCTION NOTES

- 12 INSTALL CHAIN-LINK FENCE
- 20 PROTECT-IN-PLACE
- 24 INSTALL WARNING SIGN DETENTION BASIN PER



DISCLAIMER NOTE

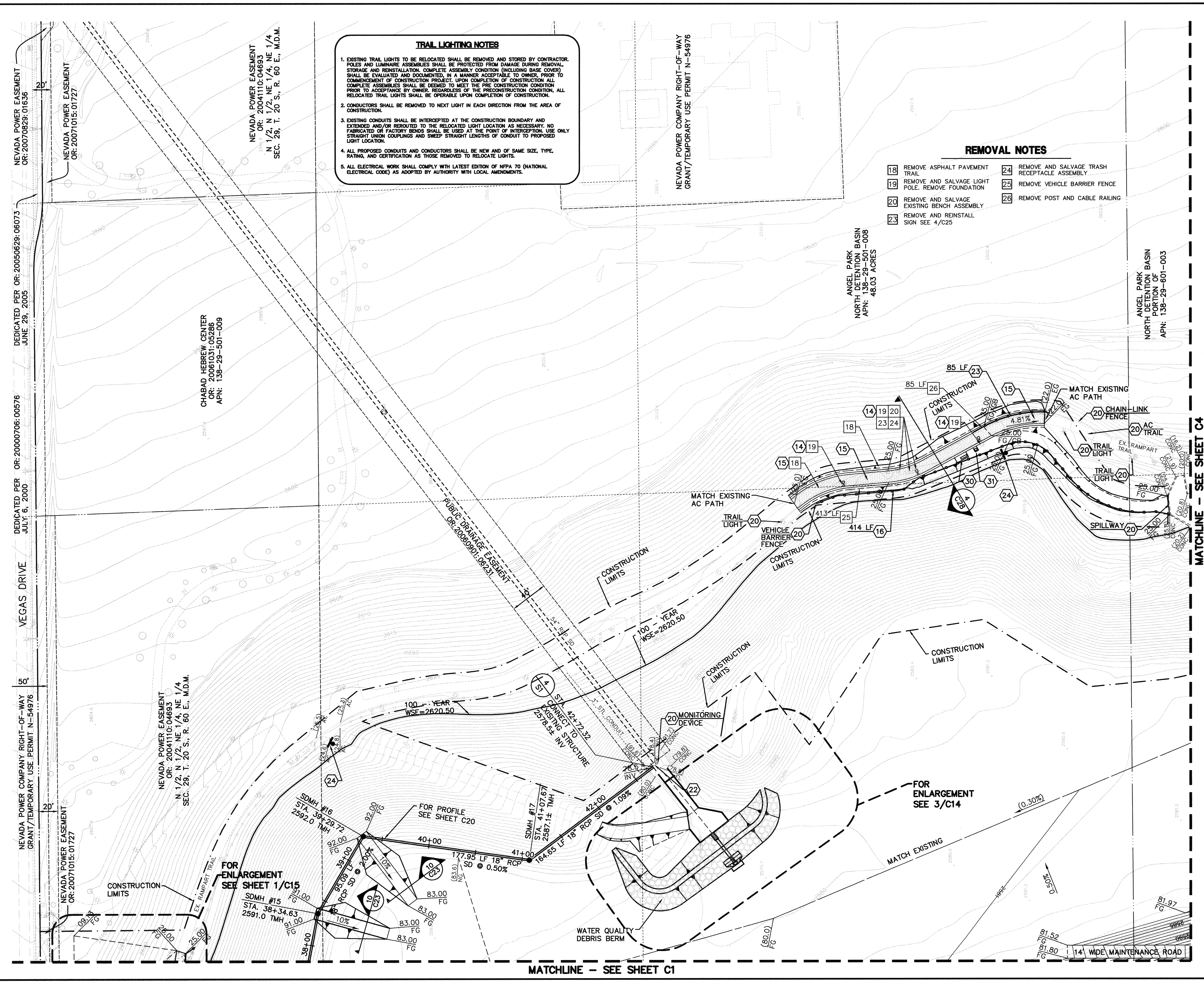
UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.



DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-8276		G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.2000 F: 702.894.2299 GCWALLACE.COM	
GRADING PLAN		ANGEL PARK DETENTION BASIN EXPANSION	
SHEET:	TITLE:	SCALE:	HORIZ. FEET:
DRAWN BY: RKB	DESIGNED BY:	CHECKED BY:	PROJECT NO: 412-646
SEAL		SHEET C1 25 OF 60 SHEETS	
HANSEN NO. 36800		DRAWING NO. 731-49-J	

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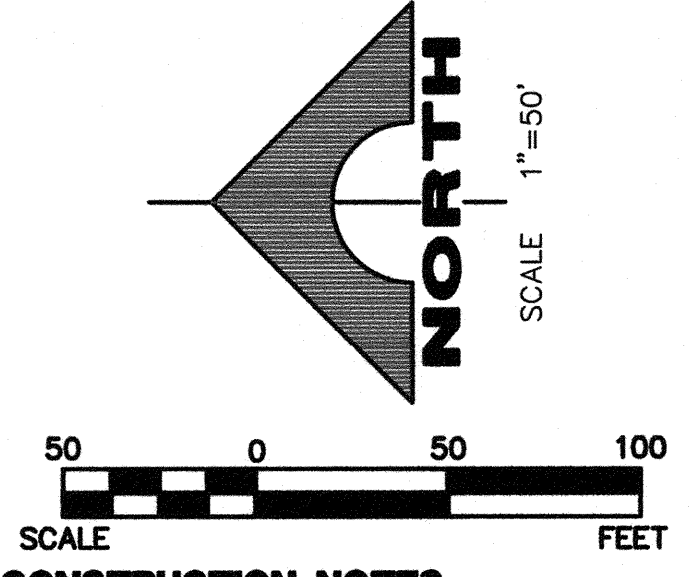


TRAIL LIGHTING NOTES

- EXISTING TRAIL LIGHTS TO BE RELOCATED SHALL BE REMOVED AND STORED BY CONTRACTOR. POLES AND LUMINAIRE ASSEMBLIES SHALL BE PROTECTED FROM DAMAGE DURING REMOVAL. STORAGE AND REINSTALLATION, COMPLETE ASSEMBLY CONDITION (INCLUDING BASE COVER) SHALL BE EVALUATED AND DOCUMENTED IN A MANNER ACCEPTABLE TO OWNER, PRIOR TO COMMENCEMENT OF CONSTRUCTION PROJECT. UPON COMPLETION OF CONSTRUCTION ALL COMPLETE ASSEMBLIES SHALL BE DEEMED TO MEET THE PRE CONSTRUCTION CONDITION PRIOR TO ACCEPTANCE BY OWNER, REGARDLESS OF THE PRECONSTRUCTION CONDITION. ALL RELOCATED TRAIL LIGHTS SHALL BE OPERABLE UPON COMPLETION OF CONSTRUCTION.
- CONDUCTORS SHALL BE REMOVED TO NEXT LIGHT IN EACH DIRECTION FROM THE AREA OF CONSTRUCTION.
- EXISTING CONDUITS SHALL BE INTERCEPTED AT THE CONSTRUCTION BOUNDARY AND EXTENDED AND/OR RELOCATED TO THE RELOCATED LIGHT LOCATION AS NECESSARY. NO FABRICATED OR FACTORY BENDS SHALL BE USED AT THE POINT OF INTERCEPTION. USE ONLY STRAIGHT UNION COUPLINGS AND SWEET STRAIGHT LENGTHS OF CONDUIT TO PROPOSED LIGHT LOCATION.
- ALL PROPOSED CONDUITS AND CONDUCTORS SHALL BE NEW AND OF SAME SIZE, TYPE, RATING, AND CERTIFICATION AS THOSE REMOVED TO RELOCATE LIGHTS.
- ALL ELECTRICAL WORK SHALL COMPLY WITH LATEST EDITION OF NFPA 70 (NATIONAL ELECTRICAL CODE) AS ADOPTED BY AUTHORITY WITH LOCAL AMENDMENTS.

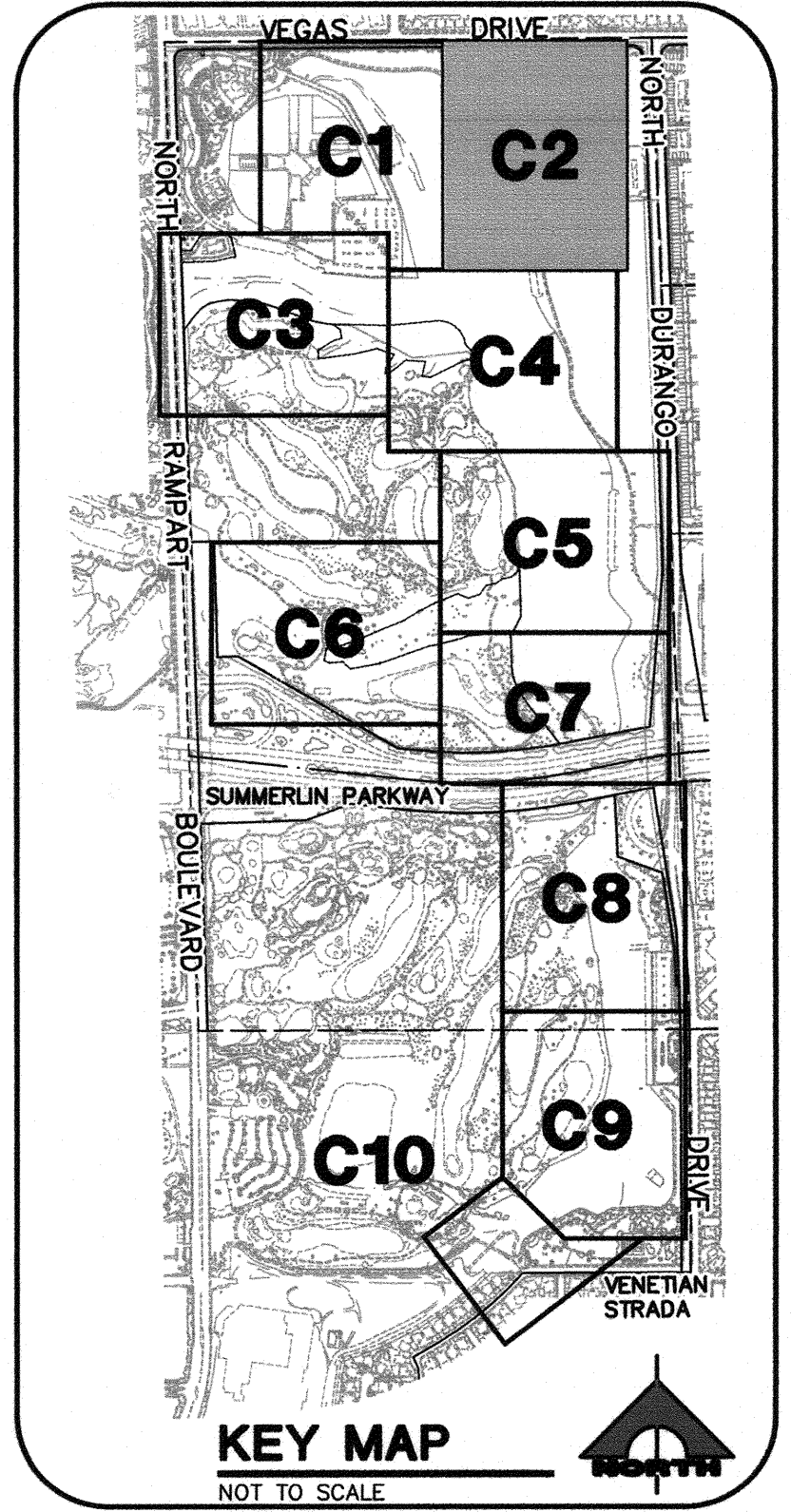
REMOVAL NOTES

18 REMOVE ASPHALT PAVEMENT TRAIL	24 REMOVE AND SALVAGE TRASH RECEPTACLE ASSEMBLY
19 REMOVE AND SALVAGE LIGHT POLE, REMOVE FOUNDATION	25 REMOVE VEHICLE BARRIER FENCE
20 REMOVE AND SALVAGE EXISTING BENCH ASSEMBLY	26 REMOVE POST AND CABLE RAILING
23 REMOVE AND REINSTALL SIGN SEE 4/C25	



CONSTRUCTION NOTES

- REINSTALL EXISTING LIGHT PER 5/C26
- CONSTRUCT NEW PBS TRAIL PER 7/C27
- INSTALL VEHICLE BARRIER FENCE PER 6/C25
- PROTECT-IN-PLACE
- REMOVE AND REPLACE 3" STEEL CONDUIT, CONDUCTORS AND #5 PULLBOX. SEE 3/C14
- INSTALL POST & CABLE RAILING PER 4/C26
- INSTALL WARNING SIGN DETENTION BASIN PER 2/C27
- REINSTALL EXISTING BENCH ASSEMBLY PER 3/C27, 4/C27
- REINSTALL EXISTING TRASH RECEPTACLE PER 6/C27



DISCLAIMER NOTE

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Call before you Dig
Avoid hitting overhead power lines. It's costly. It's deadly.

1-800-227-2000

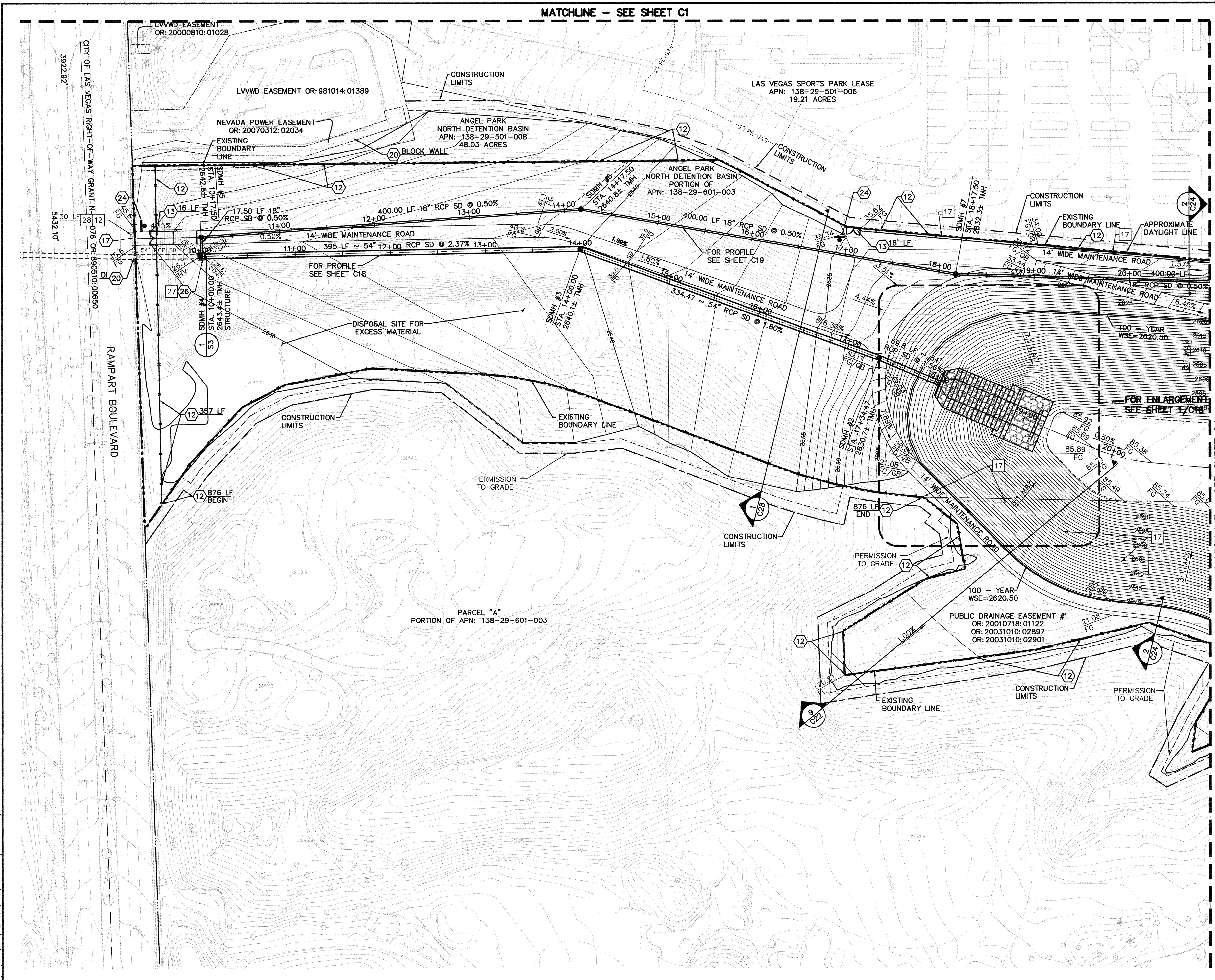
AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY. IT'S DEADLY.

1-702-227-2929

GRADING PLAN				ANGEL PARK DETENTION BASIN EXPANSION			
DRAWN BY: _____				DESIGNED BY: _____			
CHECKED BY: _____				PROJECT NO: 412-646			
SCALE: _____				SHEET 26 OF 60 SHEETS			
DRAWING NO. 731-49-J				DRAWING NO. 731-49-J			
HANSEN NO. 36800				ANGEL PARK DETENTION BASIN EXPANSION			

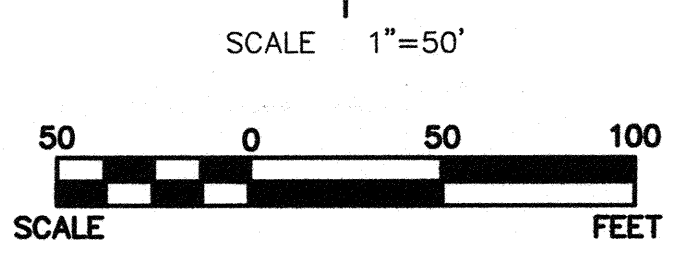
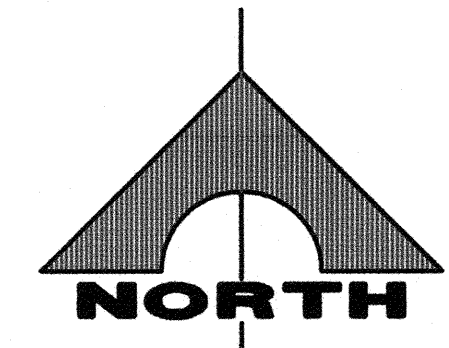
GRANT Y. TOKUMI
Exp. 06/26/2011
CIVIL ENGINEER
LICENSE NO. 15517
STATE OF NEVADA

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MATCHLINE - SEE SHEET C1

MATCHLINE - SEE SHEET C4

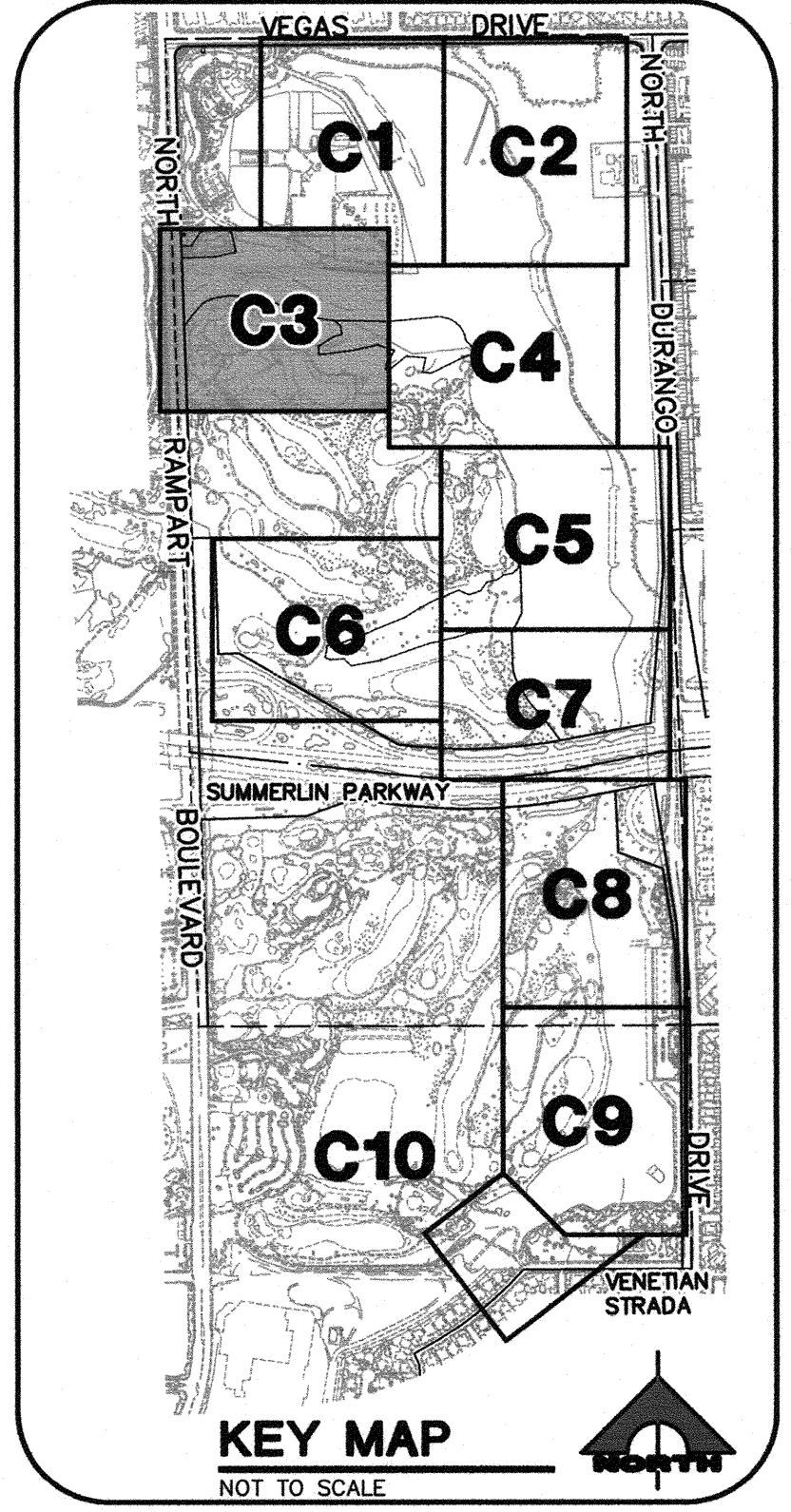


REMOVAL NOTES

- 12 REMOVE CURB AND GUTTER
- 17 REMOVE CHAIN-LINK FENCE
- 27 REMOVE RCB END FLARED SECTION
- 28 REMOVE SIDEWALK

CONSTRUCTION NOTES

- 12 INSTALL CHAIN-LINK FENCE (1 C25)
- 13 INSTALL CHAIN-LINK GATE (2 C25)
- 17 CONSTRUCT 12' WIDE DRIVEWAY PER USD 224. TRANSITION LENGTH REVISED FROM 4' TO 8' PER PER USD 235 CASE III RAMP OUTSIDE CURB RETURN. A=8', B=8'
- 20 PROTECT-IN-PLACE
- 24 INSTALL WARNING SIGN DETENTION BASIN PER (2 C27)
- 26 CONTRACTOR TO CLEAN AND CLEAR EXISTING CULVERT OF SILT AND DEBRIS BEFORE CONSTRUCTING NEW FACILITIES A MINIMUM DISANCE OF 3'

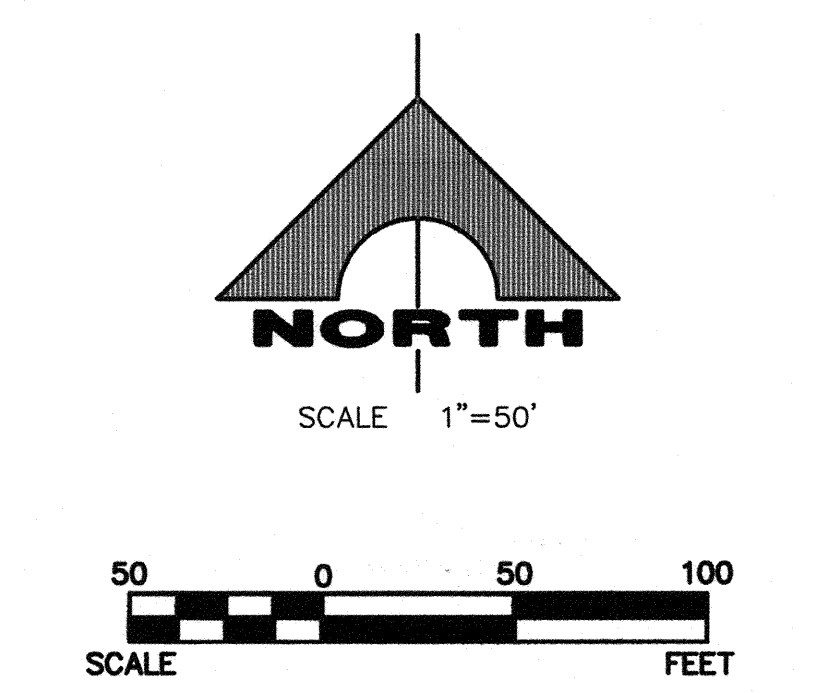
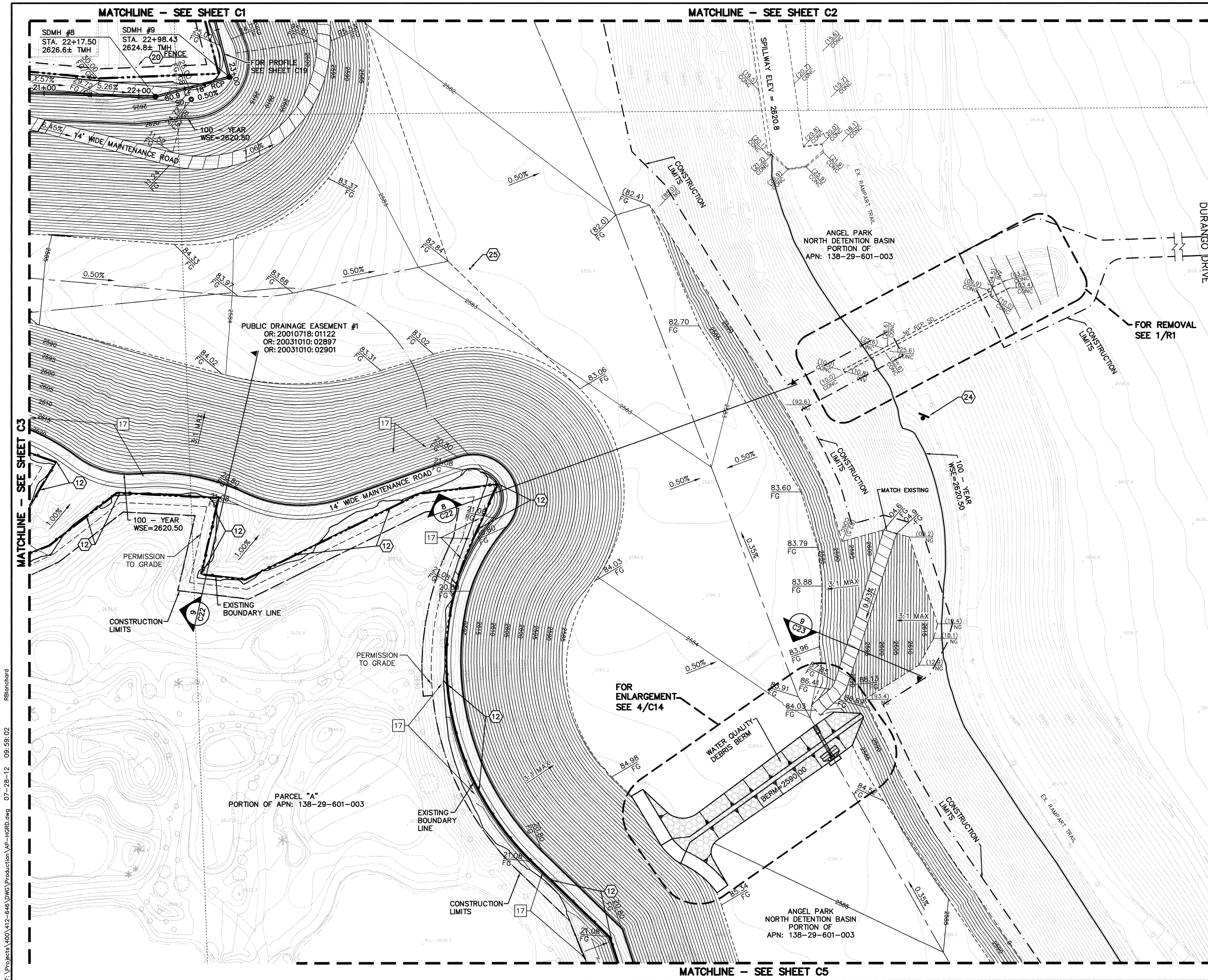


DISCLAIMER NOTE

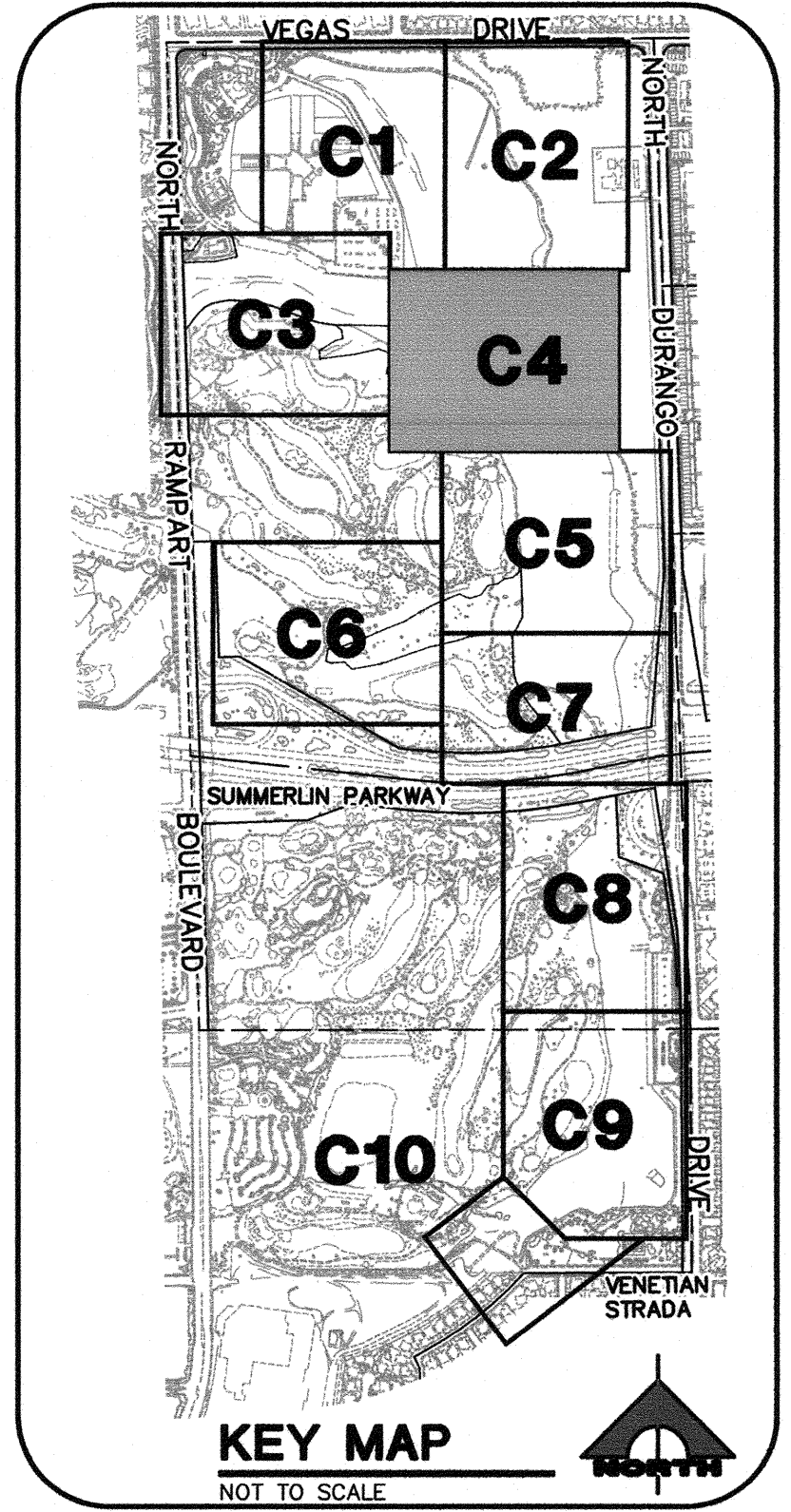
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<p>DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276</p>		<p>G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 F: 702.804.2299 - GC.WALLACE.COM</p>	
<p>GRADING PLAN</p>		<p>ANGEL PARK DETENTION BASIN EXPANSION</p>	
<p>SHEET</p>	<p>C3</p>	<p>TITLE</p>	<p>ANGEL PARK DETENTION BASIN EXPANSION</p>
<p>DRAWN BY:</p>	<p>DESIGNED BY:</p>	<p>CHECKED BY:</p>	<p>PROJECT NO:</p>
<p>SCALE:</p>	<p>SCALE:</p>	<p>SCALE:</p>	<p>SCALE:</p>
<p>7/30/12</p>		<p>7/30/12</p>	
<p>SEAL</p>		<p>SEAL</p>	
<p>SHEET</p>		<p>SHEET</p>	
<p>27 OF 60 SHEETS</p>		<p>27 OF 60 SHEETS</p>	
<p>DRAWING NO.</p>		<p>DRAWING NO.</p>	
<p>36800</p>		<p>731-49-J</p>	



- REMOVAL NOTES**
- 17 REMOVE CHAIN-LINK FENCE
- CONSTRUCTION NOTES**
- 12 INSTALL CHAIN-LINK FENCE (1 C25)
 - 20 PROTECT-IN-PLACE
 - 24 INSTALL WARNING SIGN DETENTION BASIN PER (2 C27)
 - 25 INSTALL SEDIMENT GAUGE PER (3 C25)



DISCLAIMER NOTE

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Call before you Dig
Avoid hitting underground power lines. It's costly. Call before you do overhead.

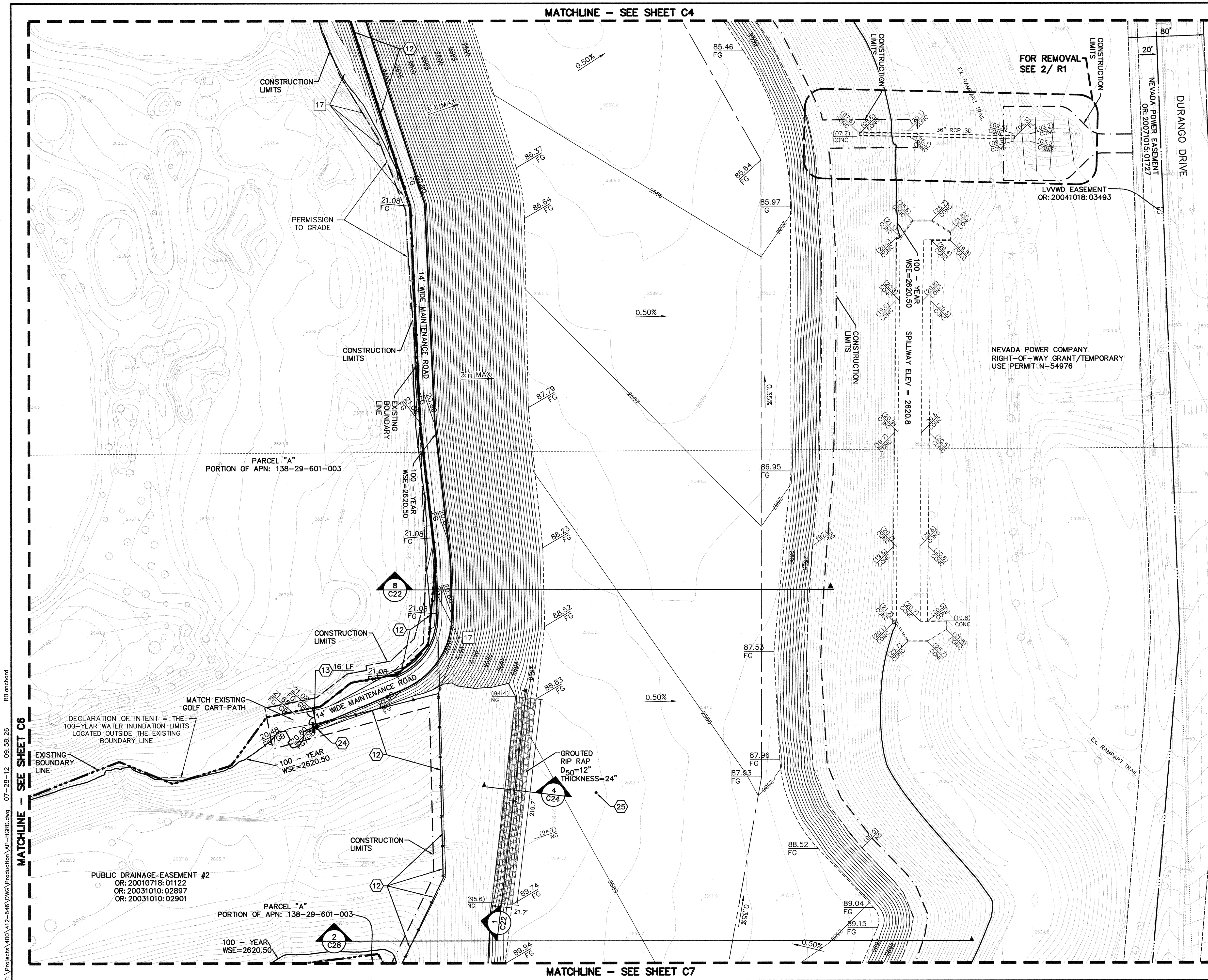
1-800-227-2600

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY!

1-702-227-2929

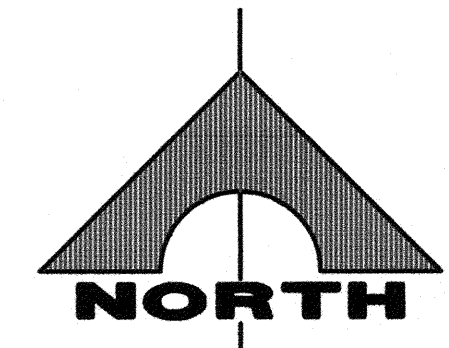
<p>DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101</p>	<p>G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.2000 F: 702.894.2299 - GCWALLACE.COM</p>			
<p>GRADING PLAN</p>	<p>ANGEL PARK DETENTION BASIN EXPANSION</p>			
<p>SHEET</p>	<p>TITLE</p>			
<p>DRAWN BY:</p>	<p>DESIGNED BY:</p>	<p>CHECKED BY:</p>	<p>PROJECT NO:</p>	<p>SCALE:</p>
<p>SEAL</p>				
<p>SHEET 28 OF 60 SHEETS</p>	<p>DRAWING NO. 731-49-J</p>			

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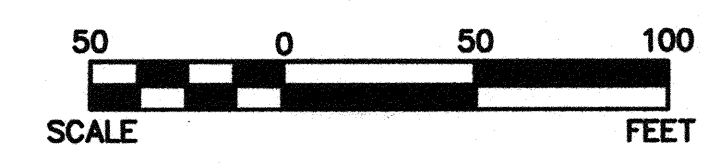


MATCHLINE - SEE SHEET C4

MATCHLINE - SEE SHEET C7



SCALE 1"=50'

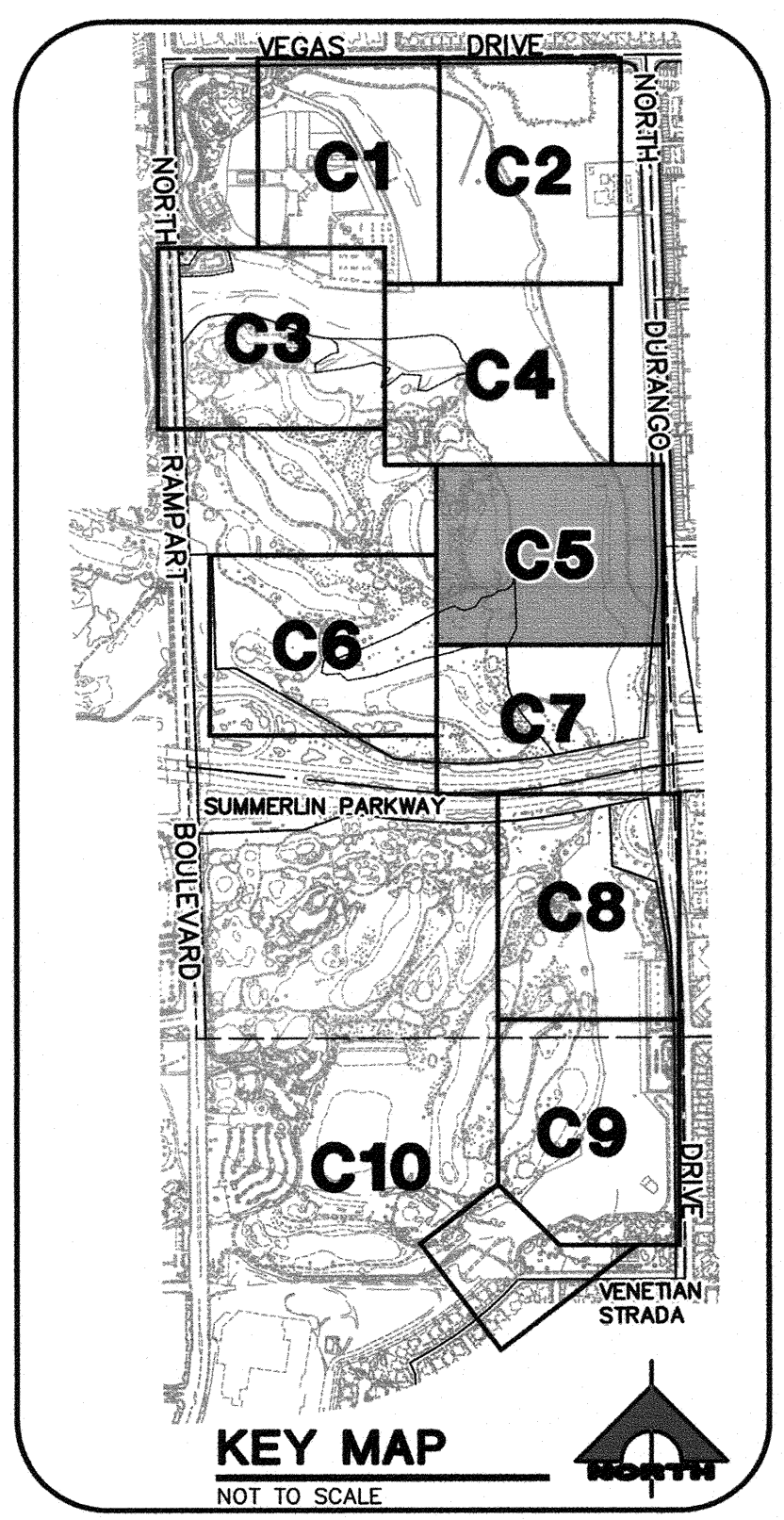


REMOVAL NOTES

- 17 REMOVE CHAIN-LINK FENCE

CONSTRUCTION NOTES

- 12 INSTALL CHAIN-LINK FENCE (1 C25)
- 13 INSTALL CHAIN-LINK GATE (2 C25)
- 24 INSTALL WARNING SIGN DETENTION BASIN PER (2 C27)
- 25 INSTALL SEDIMENT GAUGE PER (5 C25)



DISCLAIMER NOTE

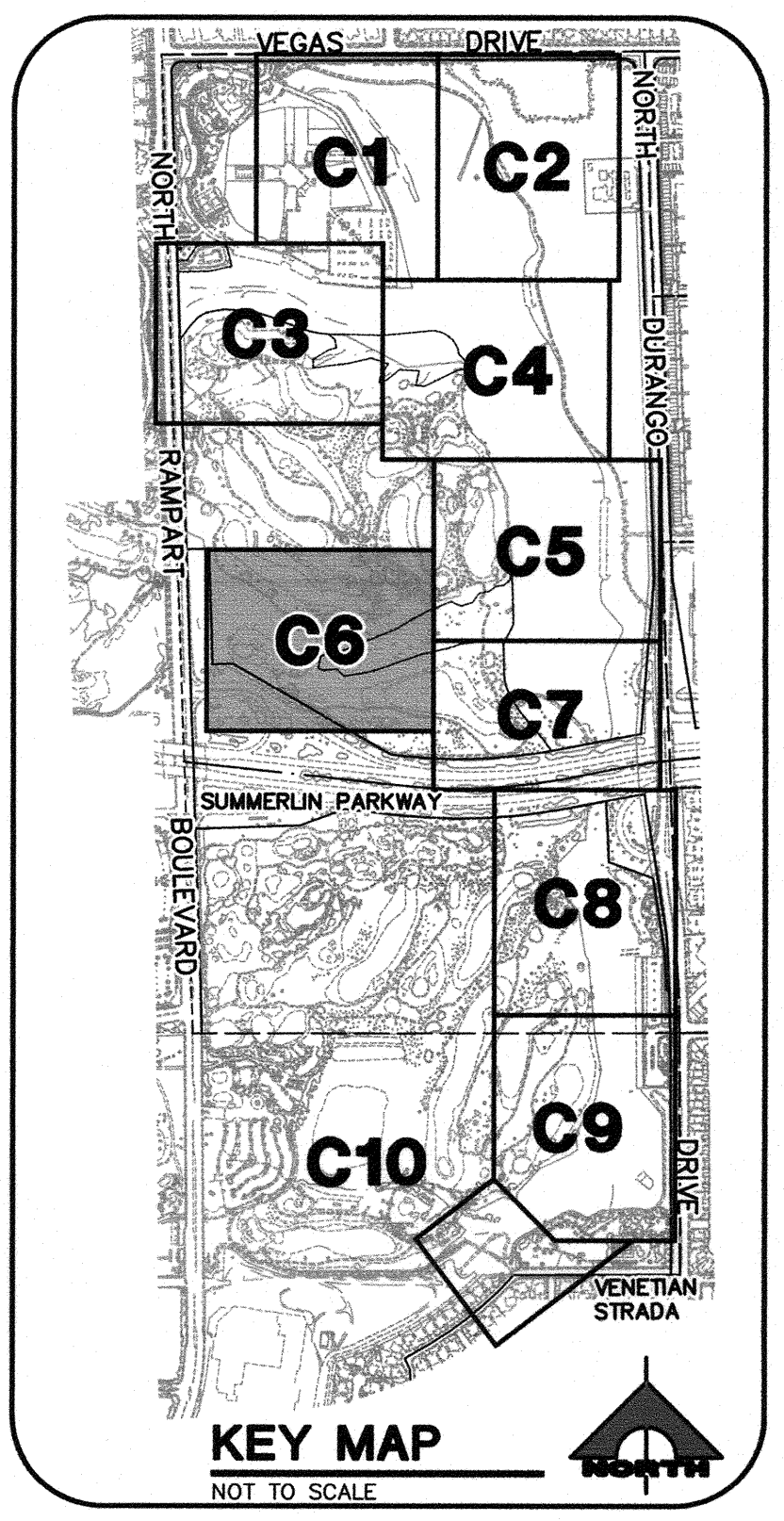
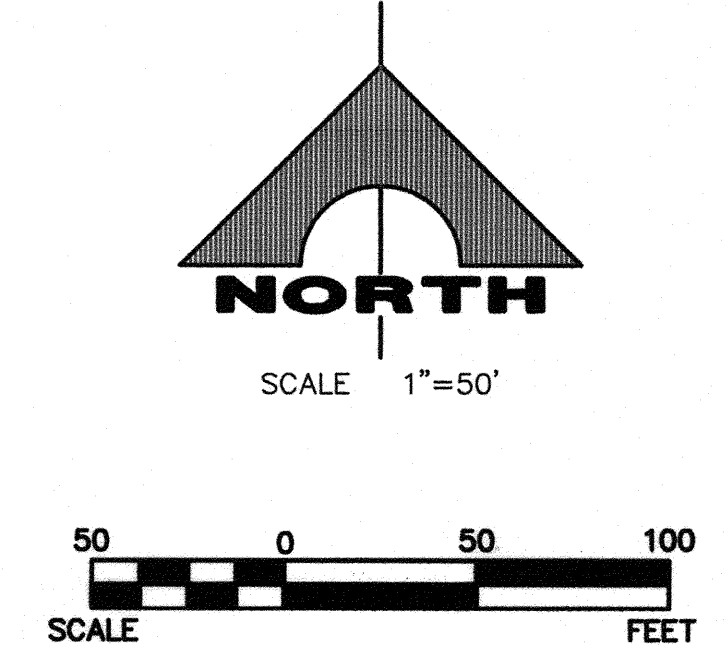
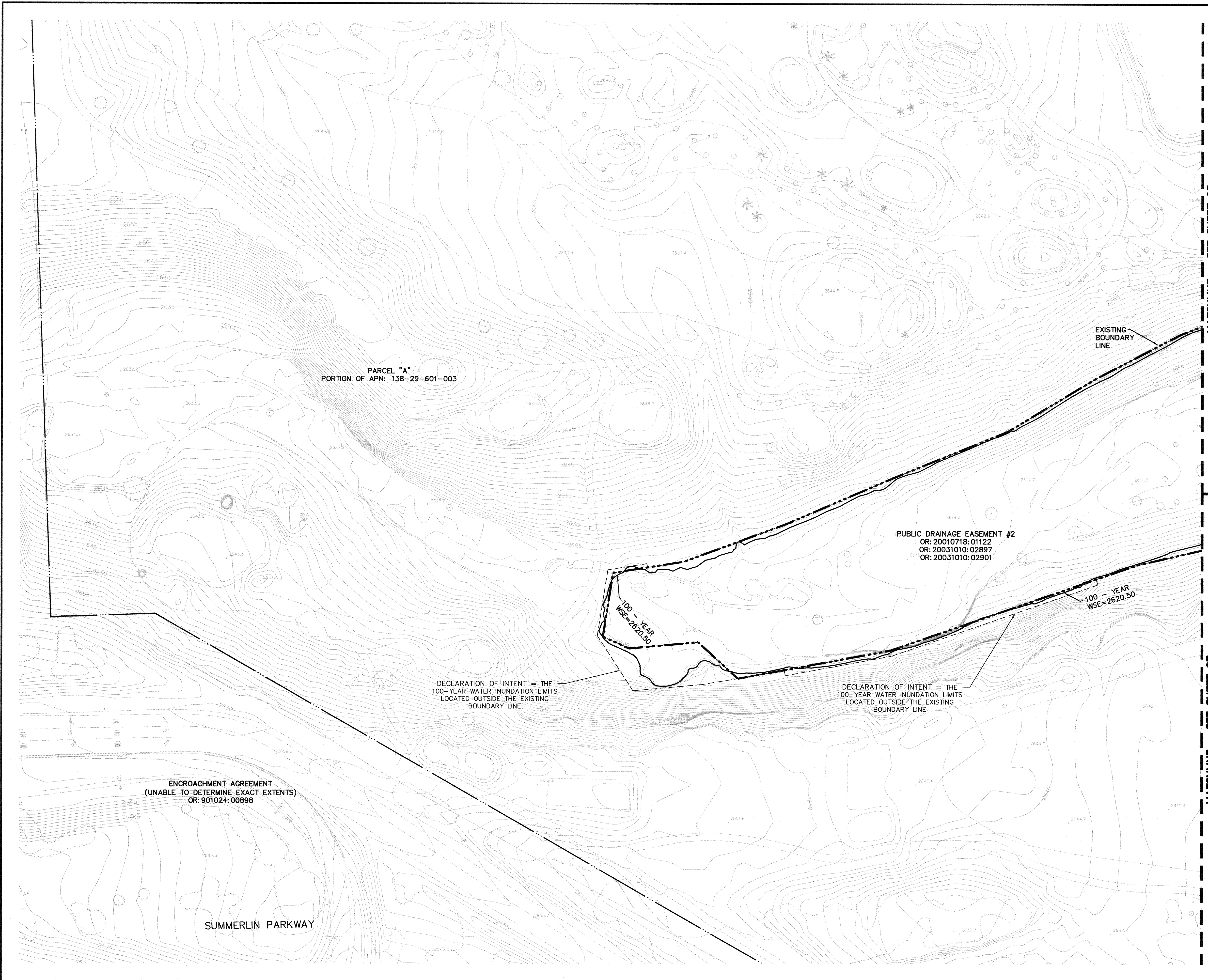
UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.



DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2299 - F: 702.804.2299 - G: WALLACE.COM
GRADING PLAN	ANGEL PARK DETENTION BASIN EXPANSION
SHEET: _____ DRAWN BY: _____ DESIGNED BY: _____ CHECKED BY: _____ PROJECT NO: 412-646 SCALE: _____ SEAL: _____ GRANT Y. TOKUMI CIVIL ENGINEER LICENSE NO. 15517	DATE: _____ REVISION: _____ BY: _____ DATE: _____ SHEET C5 29 OF 60 SHEETS DRAWING NO. 731-49-J

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DISCLAIMER NOTE

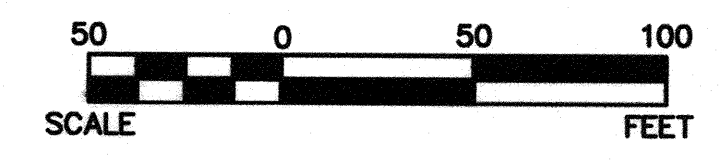
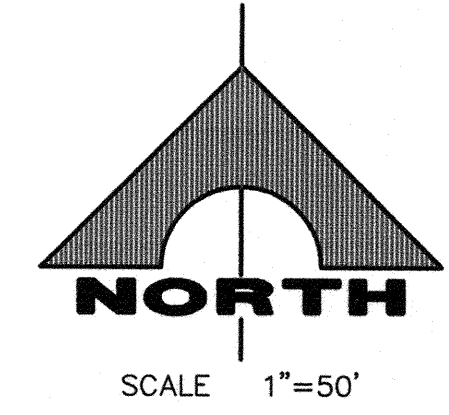
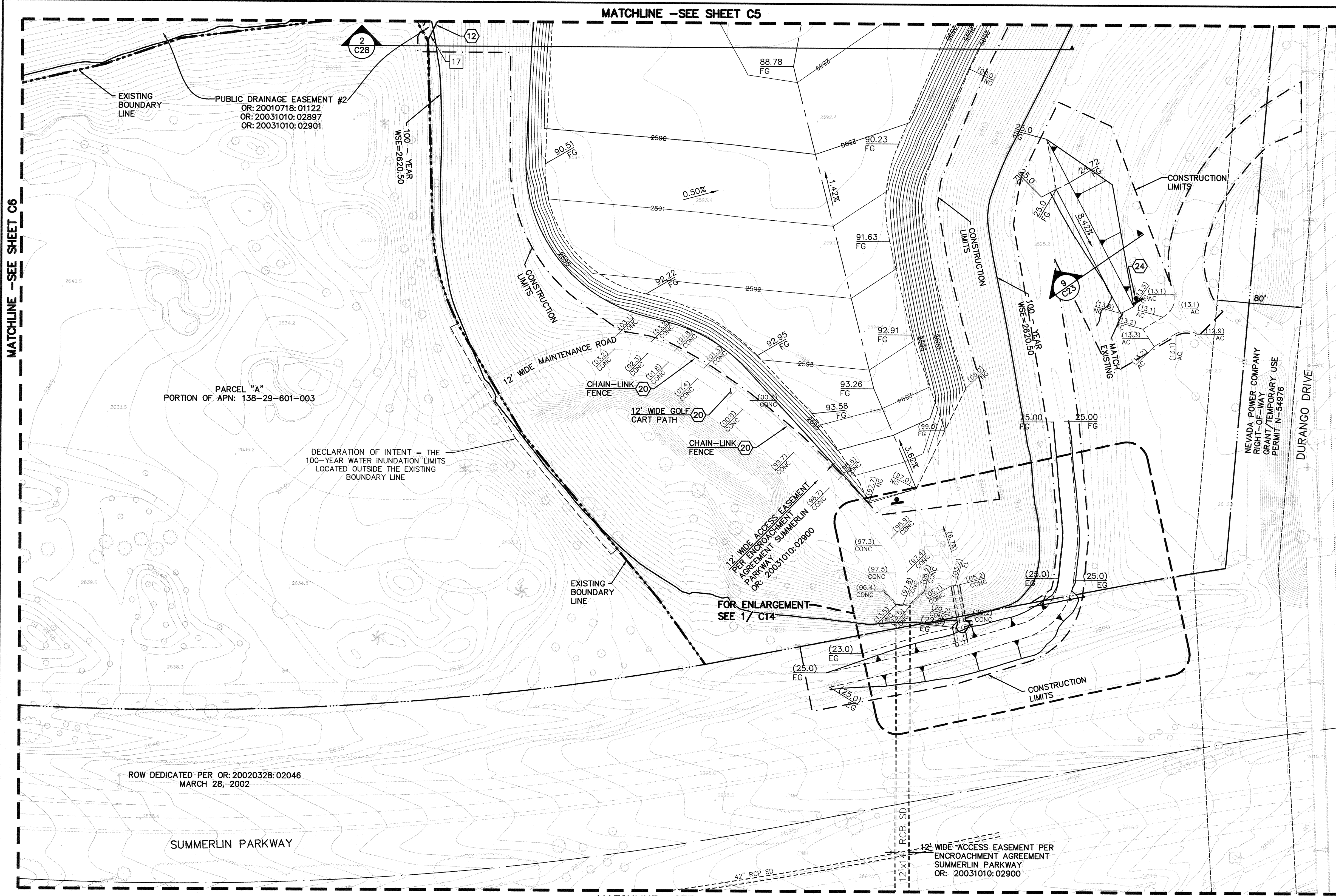
UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

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Call 811
OR
1-800-227-2800

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<p>DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276</p>				<p>G. C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD, LAS VEGAS, NV 89146 T: 702.804.2299 F: 702.804.2299 GCWALLACE.COM</p>			
<p>GRADING PLAN</p>				<p>ANGEL PARK DETENTION BASIN EXPANSION</p>			
<p>SHEET</p>				<p>TITLE</p>			
<p>DRAWN BY:</p>				<p>SCALE: HORIZ VERT</p>			
<p>DESIGNED BY:</p>				<p>PROJECT NO: 412-646</p>			
<p>CHECKED BY:</p>				<p>SEAL</p>			
<p>7/30/12</p>				<p>GRANT Y. TOKUMI Exp. 04/30/2014 CIVIL No. 15517 TOKUMI JOE</p>			
<p>SHEET</p>				<p>SHEET</p>			
<p>30 OF 60 SHEETS</p>				<p>DRAWING NO.</p>			
<p>HANSEN NO. 36800</p>				<p>731-49-J</p>			
<p>ANGEL PARK DETENTION BASIN EXPANSION</p>							

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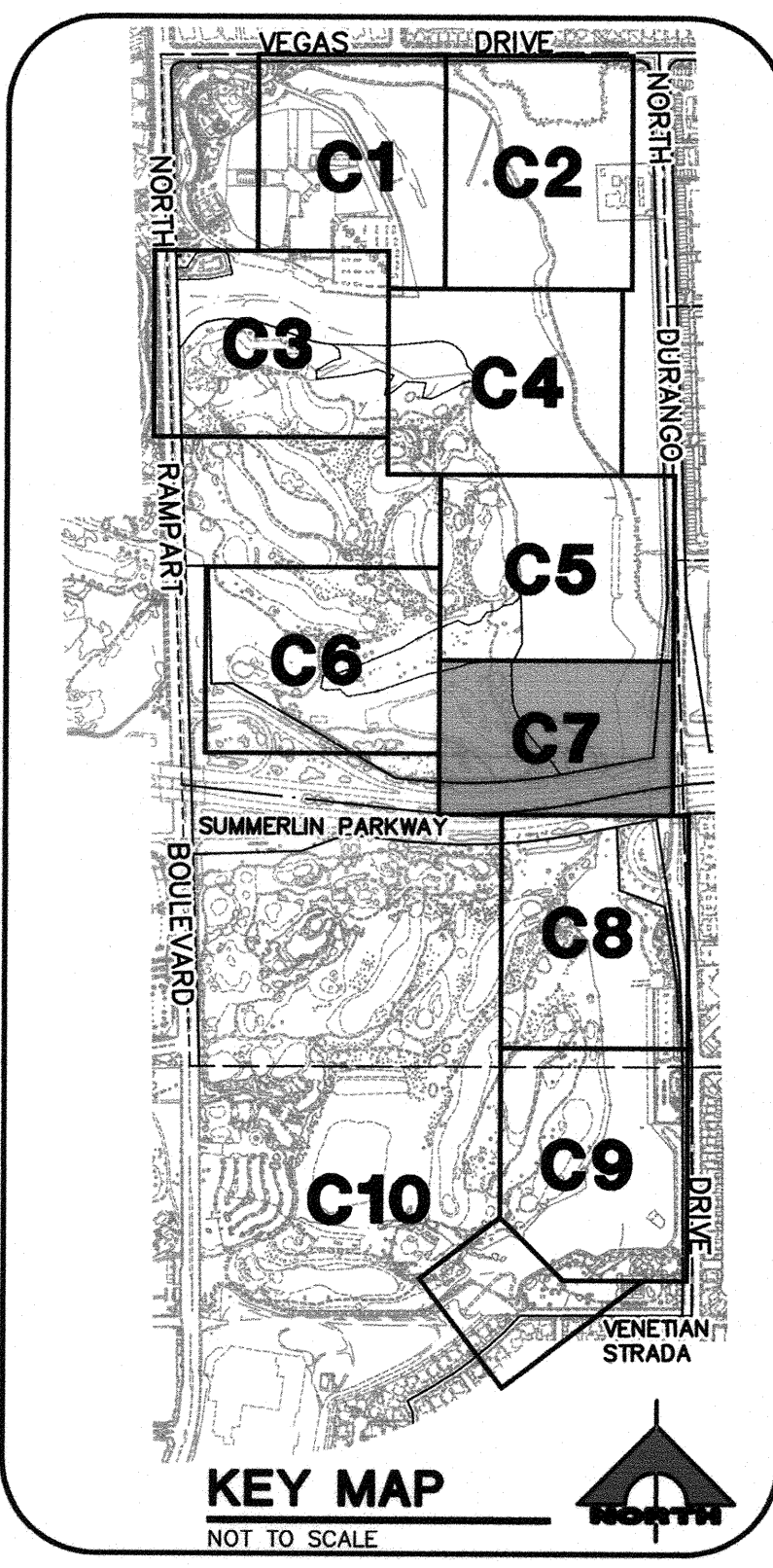


REMOVAL NOTES

- 17 REMOVE CHAIN-LINK FENCE

CONSTRUCTION NOTES

- 12 INSTALL CHAIN-LINK FENCE (1 C25)
- 20 PROTECT-IN-PLACE
- 24 INSTALL WARNING SIGN DETENTION BASIN PER (2 C27)



DISCLAIMER NOTE

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REV	DATE	BY	REVISION

DEPARTMENT OF PUBLIC WORKS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101
(702) 229-6276

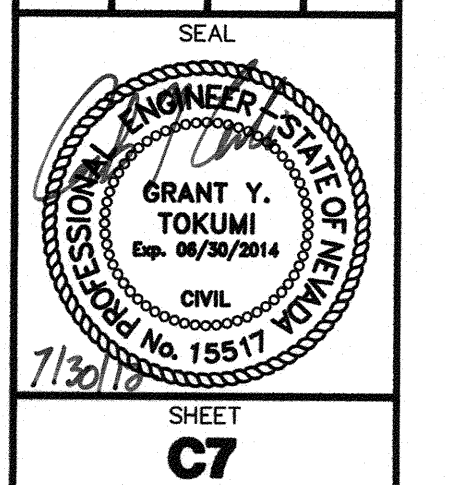
G.C. WALLACE COMPANIES
ENGINEERS | PLANNERS | SURVEYORS
1555 S. RAINBOW BOULEVARD, LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299 GCWALLACE.COM

GRADING PLAN

SHEET TITLE
ANGEL PARK DETENTION BASIN EXPANSION

DRAWN BY:
DESIGNED BY:
CHECKED BY:
PROJECT NO.:
412-646

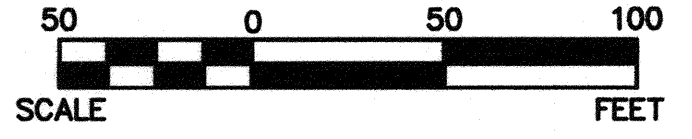
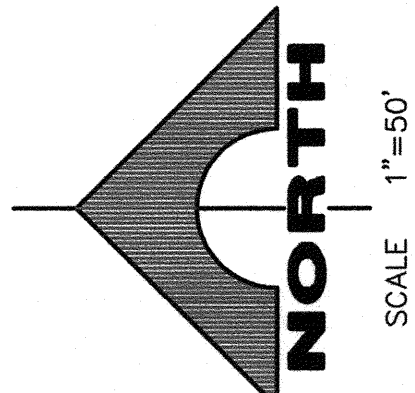
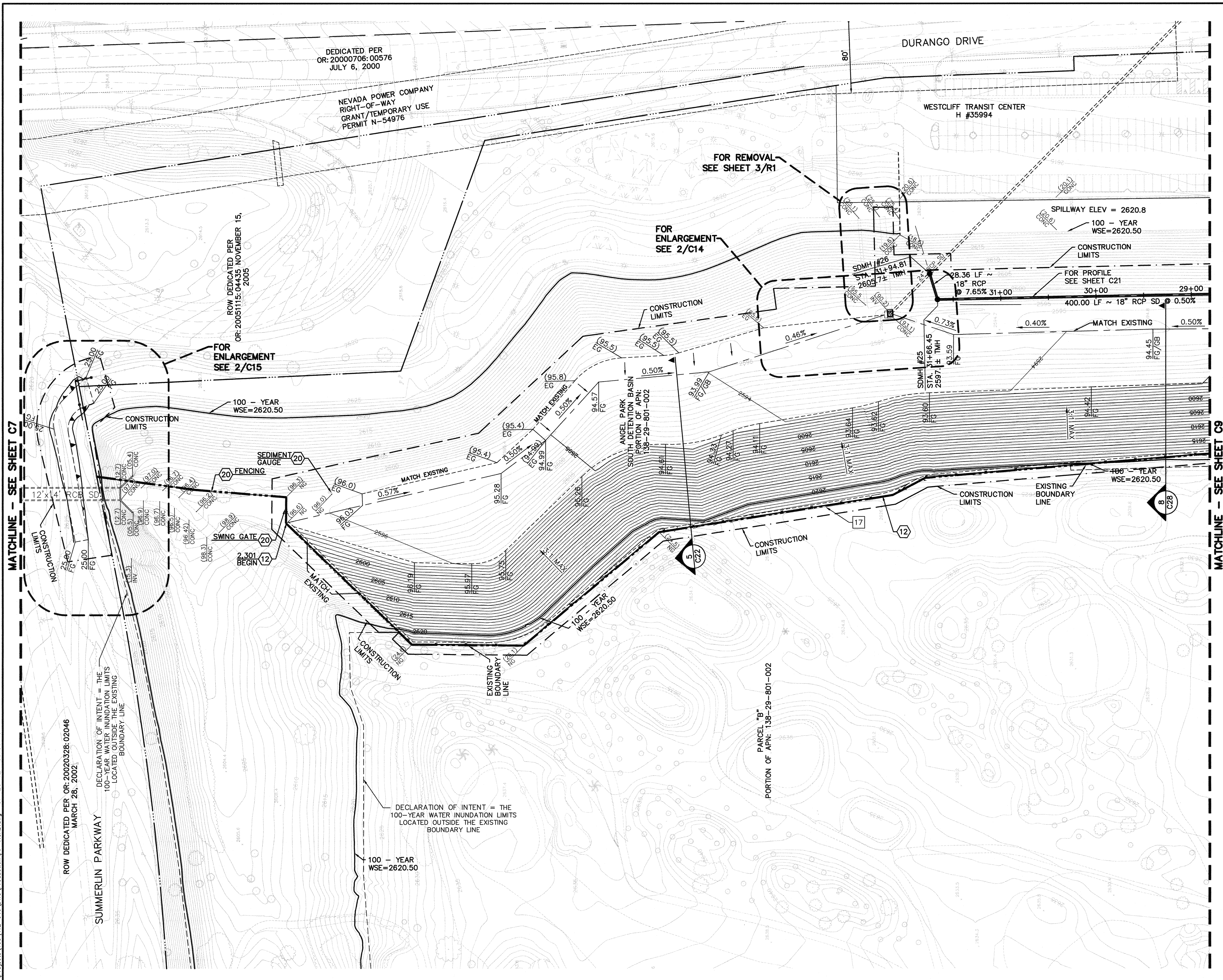
SCALE:
HORIZ
VERT



HANSEN NO. 36800

SHEET 31 OF 60 SHEETS
DRAWING NO. 731-49-J

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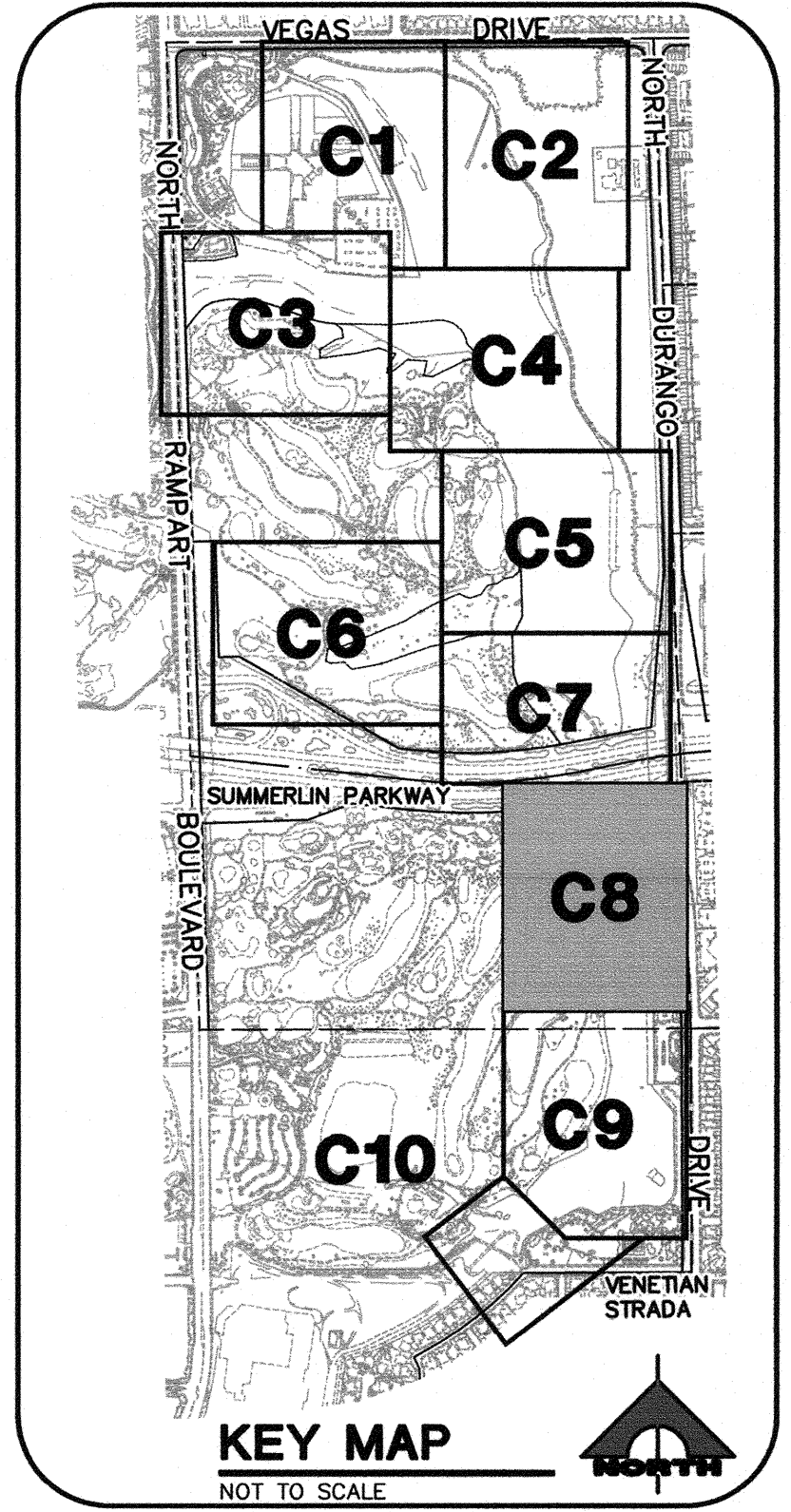


REMOVAL NOTES

- 17 REMOVE CHAIN-LINK FENCE

CONSTRUCTION NOTES

- 12 INSTALL CHAIN-LINK FENCE
- 20 PROTECT-IN-PLACE



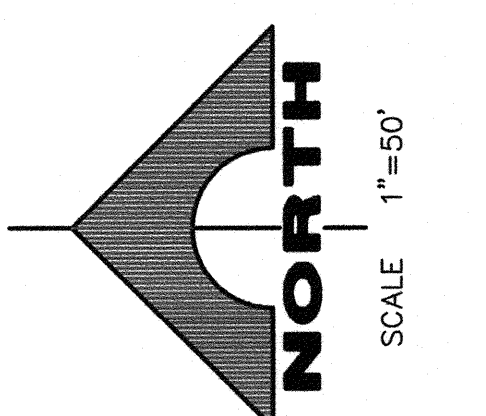
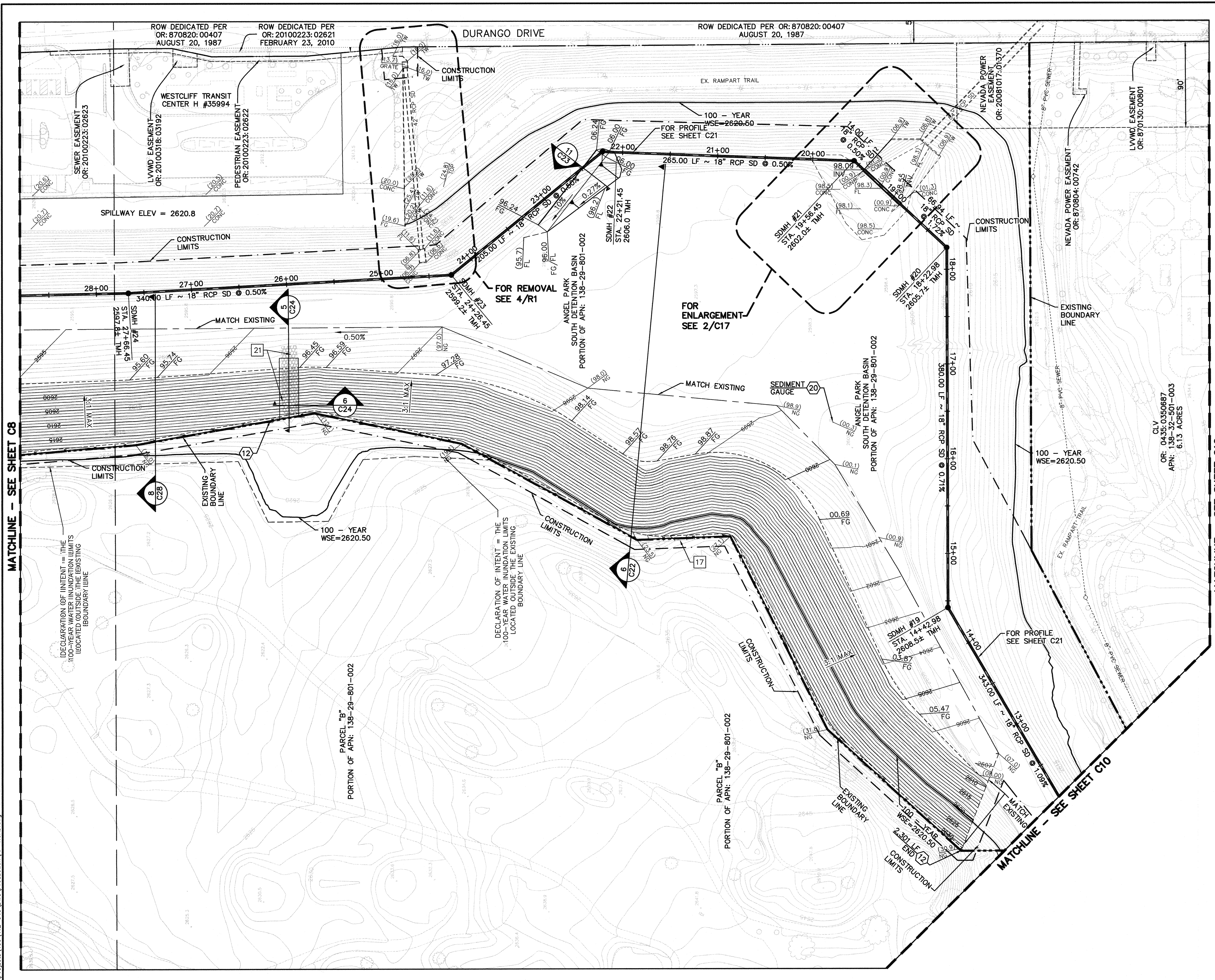
DISCLAIMER NOTE

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<p>DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276</p>		<p>G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.2000 F: 702.894.2299 - GC.WALLACE.COM</p>	
<p>GRADING PLAN</p>		<p>ANGEL PARK DETENTION BASIN EXPANSION</p>	
<p>SHEET</p>	<p>TITLE</p>	<p>SCALE:</p>	<p>REVISION</p>
<p>17</p>	<p>ANGEL PARK DETENTION BASIN EXPANSION</p>	<p>HORIZ. 1"=50'</p>	<p>DATE</p>
<p>DRAWN BY:</p>	<p>DESIGNED BY:</p>	<p>CHECKED BY:</p>	<p>PROJECT NO:</p>
<p>SCALE</p>	<p>SCALE</p>	<p>SCALE</p>	<p>412-646</p>
<p>SEAL</p>		<p>SEAL</p>	
<p>SHEET</p>		<p>SHEET</p>	
<p>32 OF 60 SHEETS</p>		<p>731-49-J</p>	
<p>HANSEN NO. 36800</p>		<p>DRAWING NO. 731-49-J</p>	

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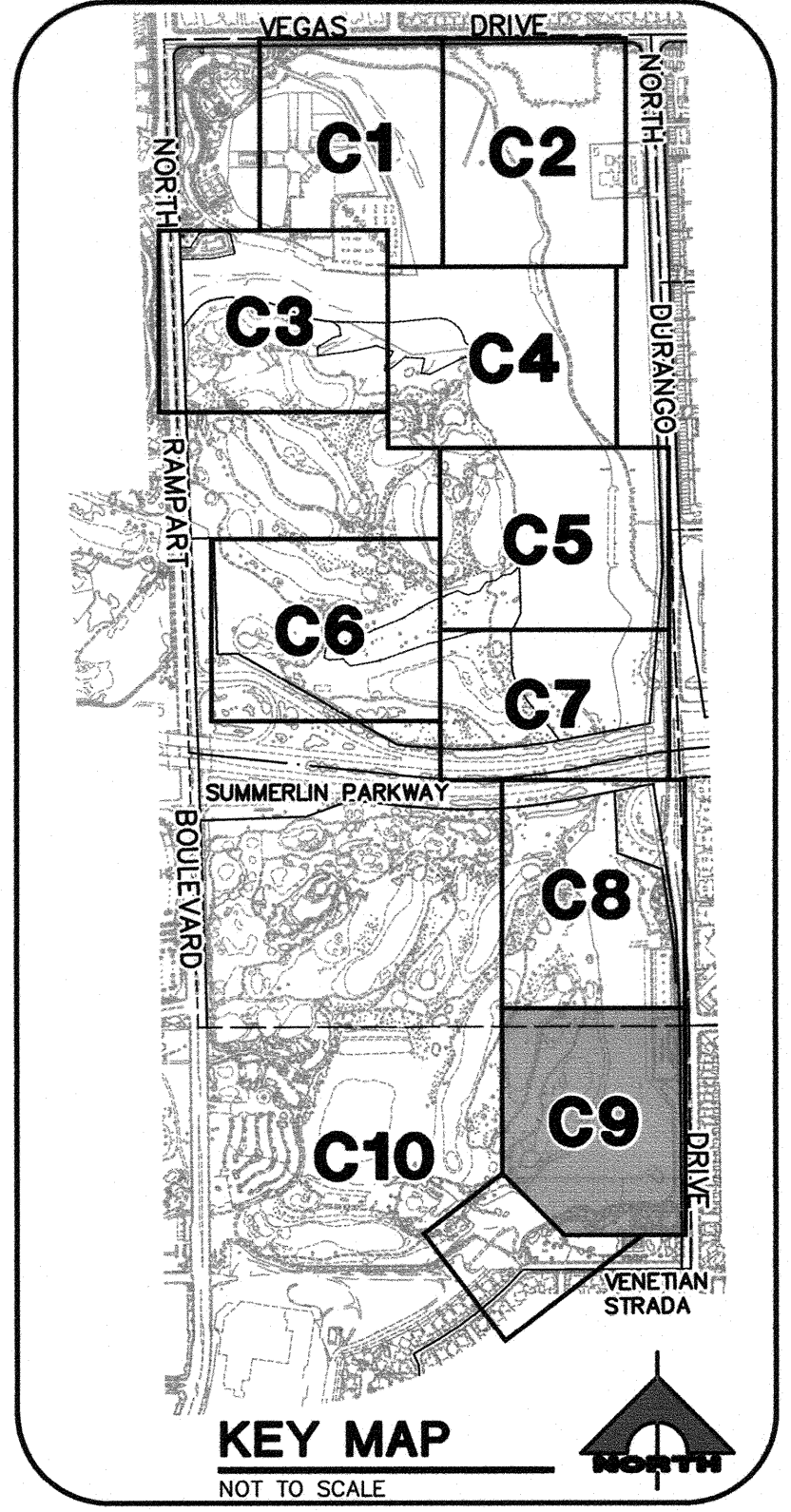
SCALE
50 0 50 100
FEET

REMOVAL NOTES

- 17 REMOVE CHAIN-LINK FENCE
- 21 REMOVE RIPRAP

CONSTRUCTION NOTES

- 12 INSTALL CHAIN-LINK FENCE
- 20 PROTECT-IN-PLACE



KEY MAP
NOT TO SCALE

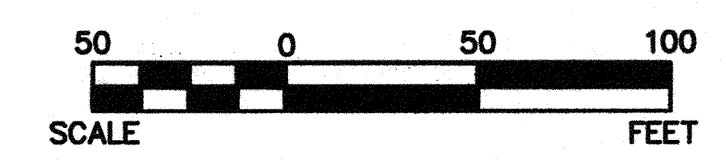
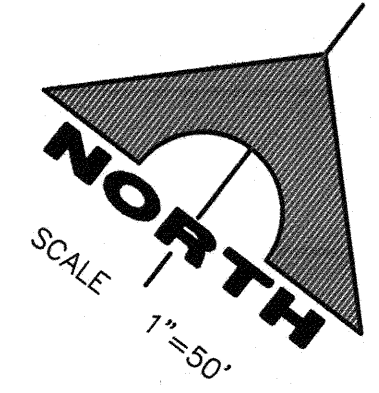
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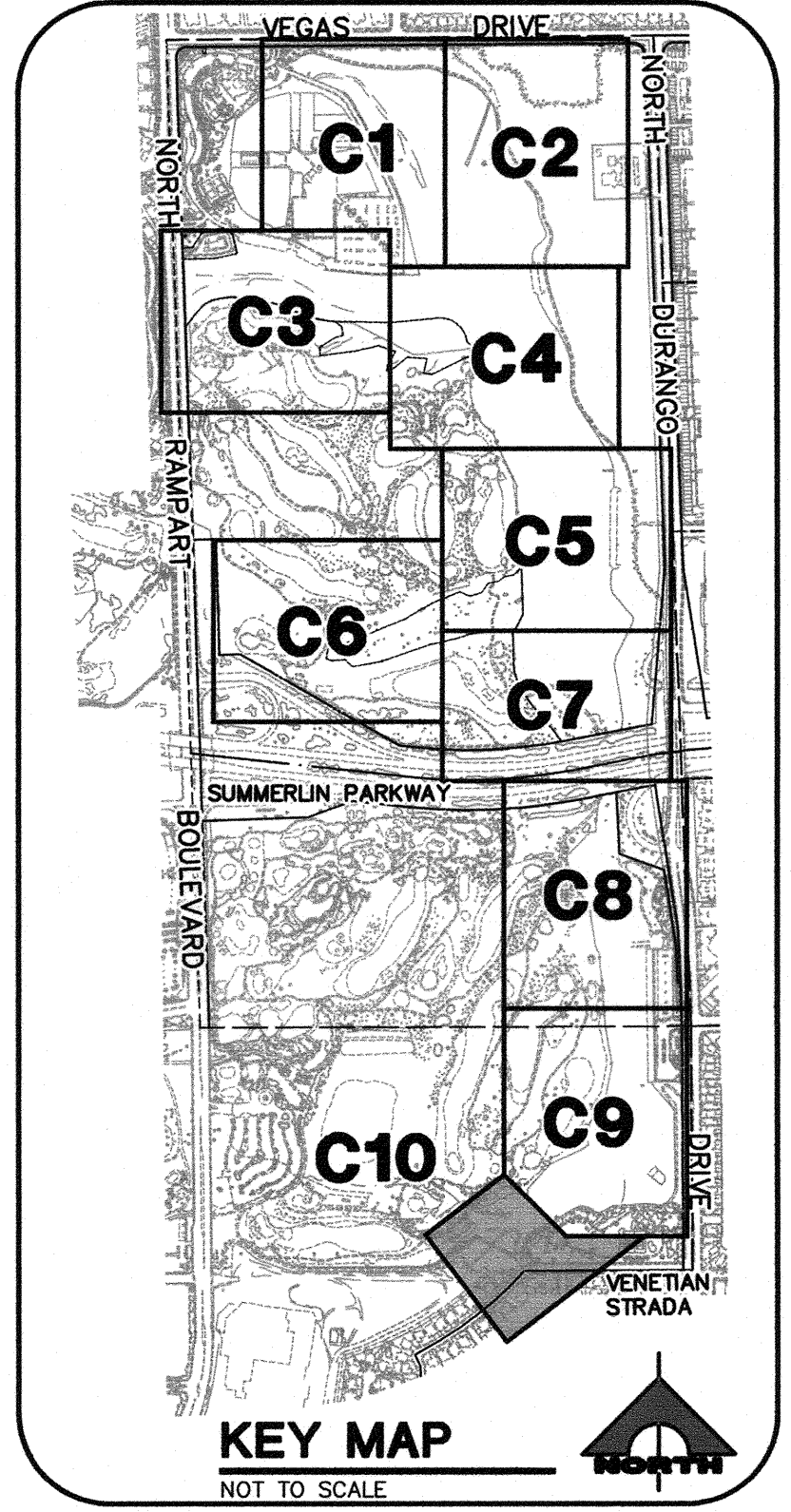
<p>DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 228-6276</p>		<p>G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 - F: 702.804.2299 - GC-WALLACE.COM</p>	
<p>GRADING PLAN</p>		<p>ANGEL PARK DETENTION BASIN EXPANSION</p>	
<p>SHEET</p>	<p>SCALE</p>	<p>DATE</p>	<p>BY</p>
<p>33 OF 60 SHEETS</p>	<p>DRAWING NO. 731-49-J</p>	<p>HANSEN NO. 36800</p>	<p>PROJECT NO. 412-646</p>

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CONSTRUCTION NOTES

- (20) PROTECT-IN-PLACE
- (24) INSTALL WARNING SIGN DETENTION BASIN PER (27)
- (28) CONSTRUCT TYPE 2B DROP INLET PER NDOT R.4.2.2
- (29) CONSTRUCT DROP INLET CONCRETE APRON PER NDOT R.4.2.7. WIDTH OF CONCRETE APRON TO MATCH WIDTH OF ADJACENT CONCRETE VALLEY GUTTER



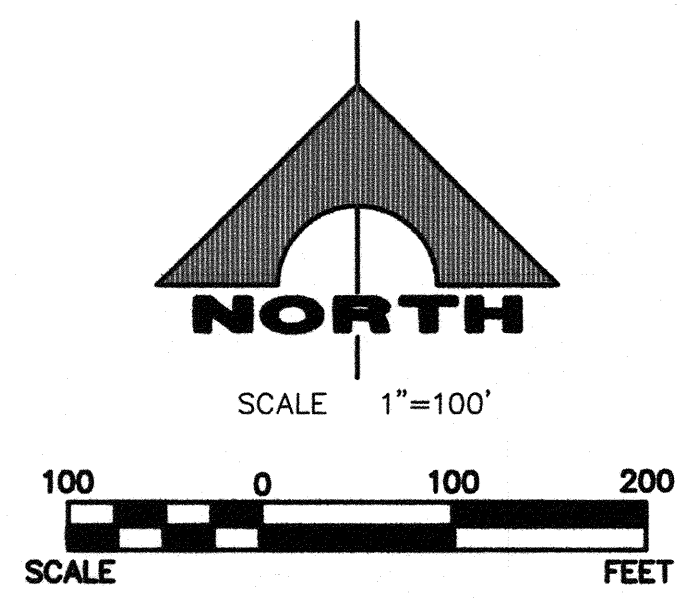
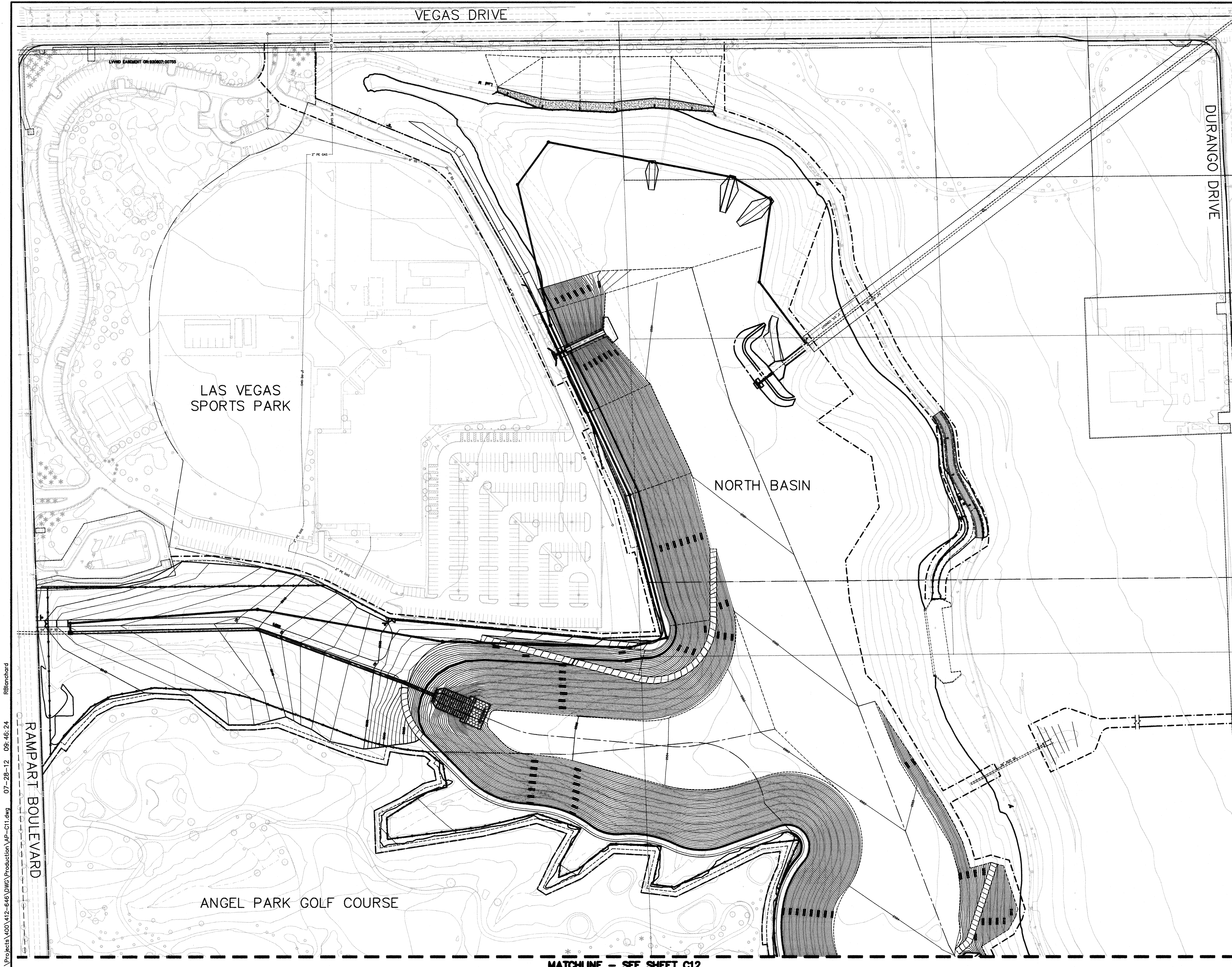
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GRADING PLAN		ANGEL PARK DETENTION BASIN EXPANSION	
SHEET C10	TITLE ANGEL PARK DETENTION BASIN EXPANSION	SCALE 412-646	HORIZ. VERT.
DRAWN BY: DESIGNED BY: CHECKED BY: PROJECT NO: 412-646	SEAL 		
HANSEN NO. 36800		SHEET C10 34 OF 60 SHEETS DRAWING NO. 731-49-J	

ANGEL PARK DETENTION BASIN EXPANSION

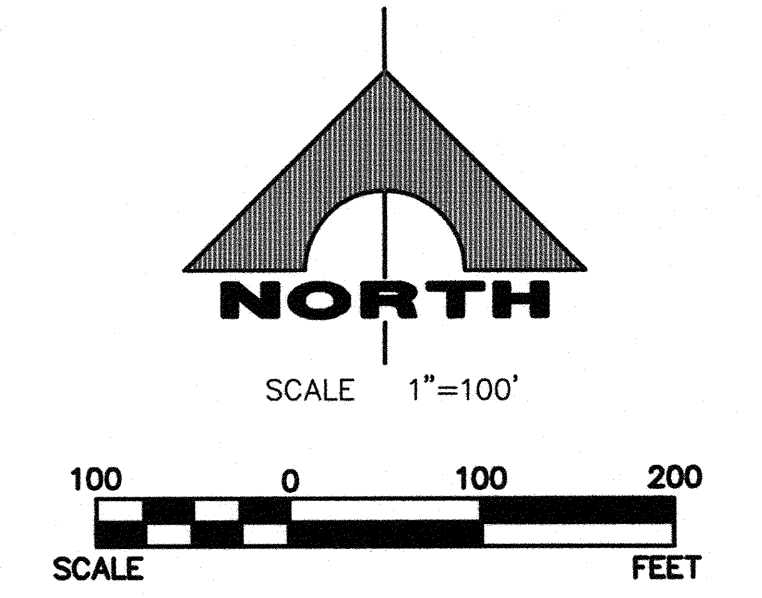
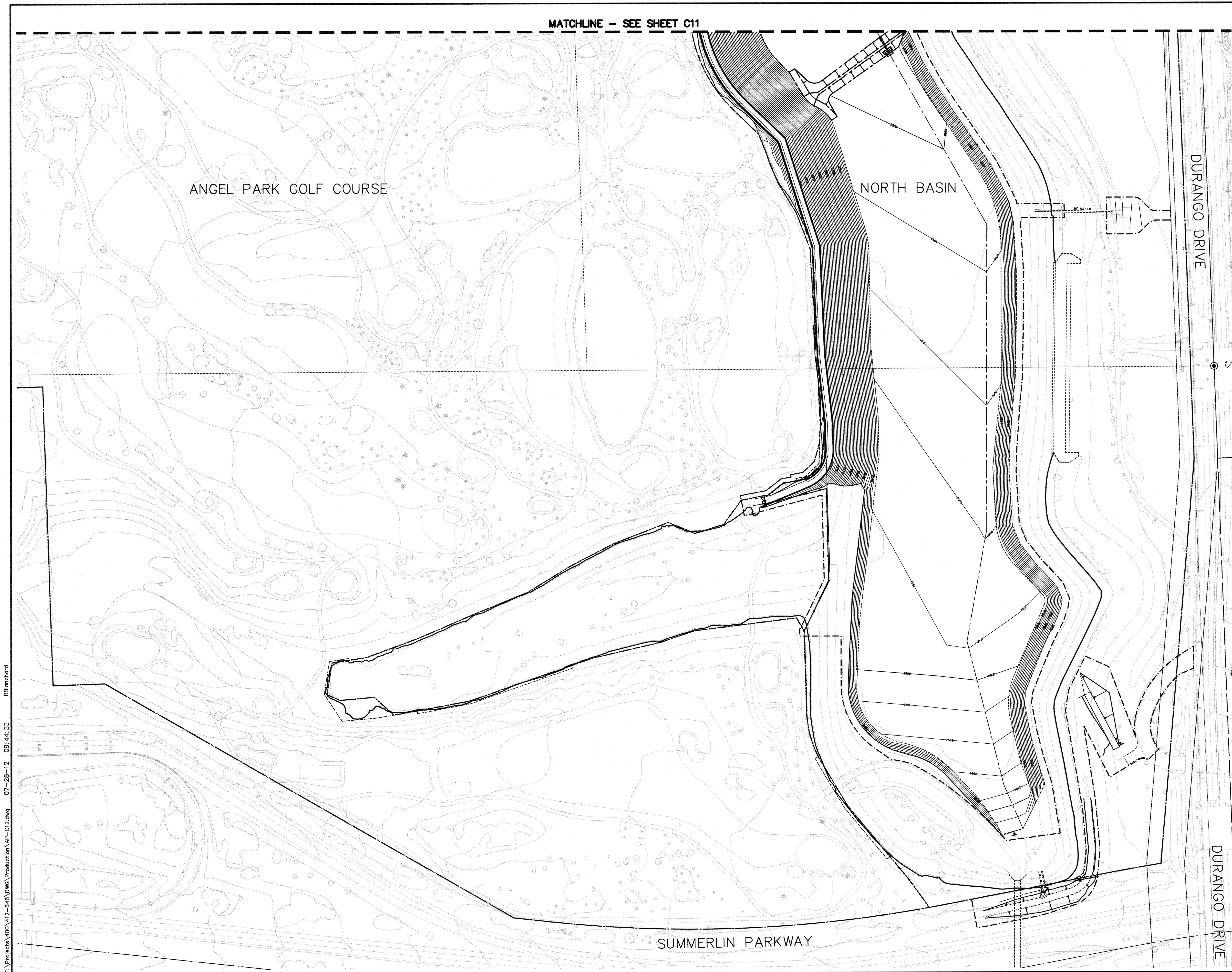


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DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 225-6276	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1535 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.2000 F: 702.894.2299 GCWALLACE.COM	REV	DATE	BY	REVISION
SHEET OVERALL GRADING PLAN NORTH BASIN		TITLE ANGEL PARK DETENTION BASIN EXPANSION			
DRAWN BY: RKB	DESIGNED BY: RKB	CHECKED BY: RKB	PROJECT NO: 412-646	SCALE: 1"=100'	HORIZ VERT
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HANSEN NO. 96800		SHEET C11 35 OF 60 SHEETS DRAWING NO. 731-49-J			

MATCHLINE - SEE SHEET C12

ANGEL PARK DETENTION BASIN EXPANSION



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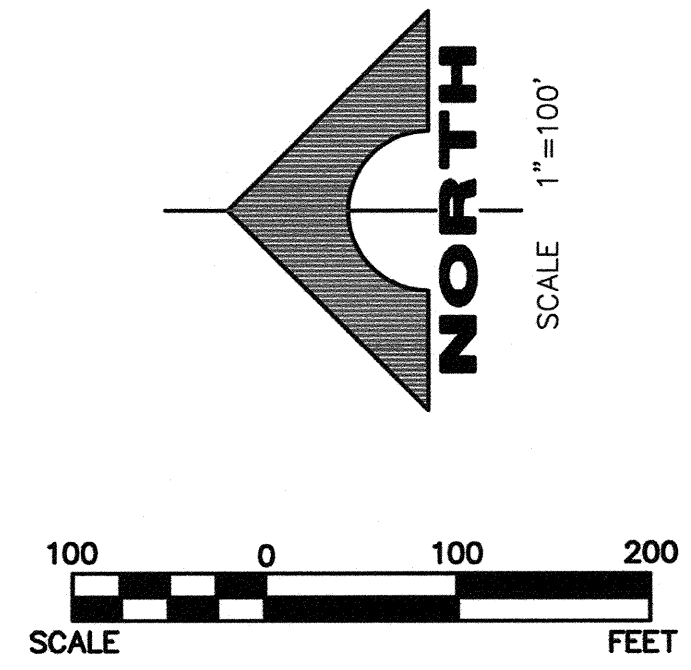
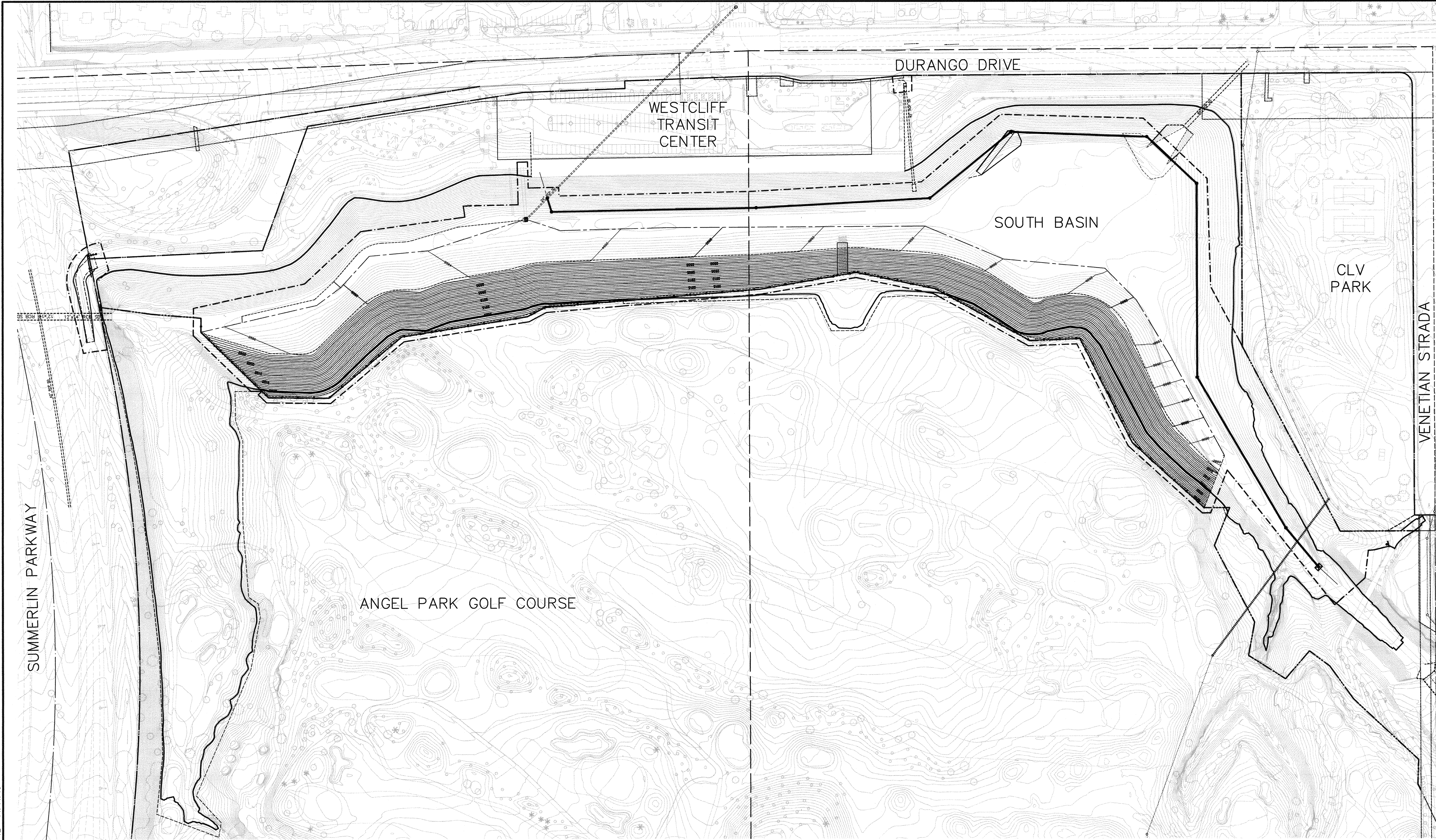
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DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 228-6276		OVERALL GRADING PLAN NORTH BASIN	ANGEL PARK DETENTION BASIN EXPANSION	SHEET	DATE	BY	REVISION
				PROJECT NO: 412-646	SCALE: 1"=100' HORIZONTAL VERTICAL	DRAWN BY: RKB	DESIGNED BY:
		SHEET C12		HANSEN NO. 36800		DRAWING NO. 731-49-J	

ANGEL PARK DETENTION BASIN EXPANSION

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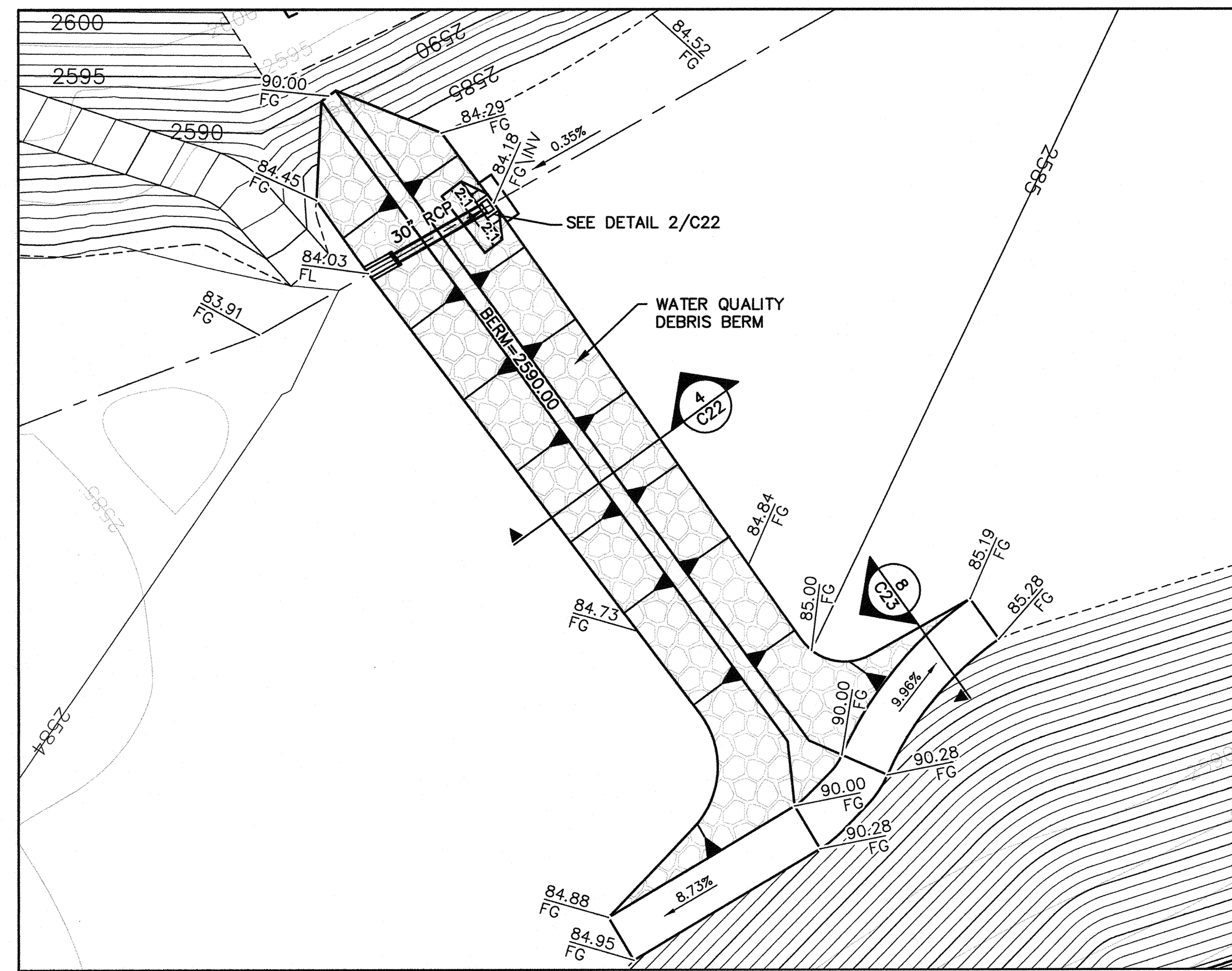
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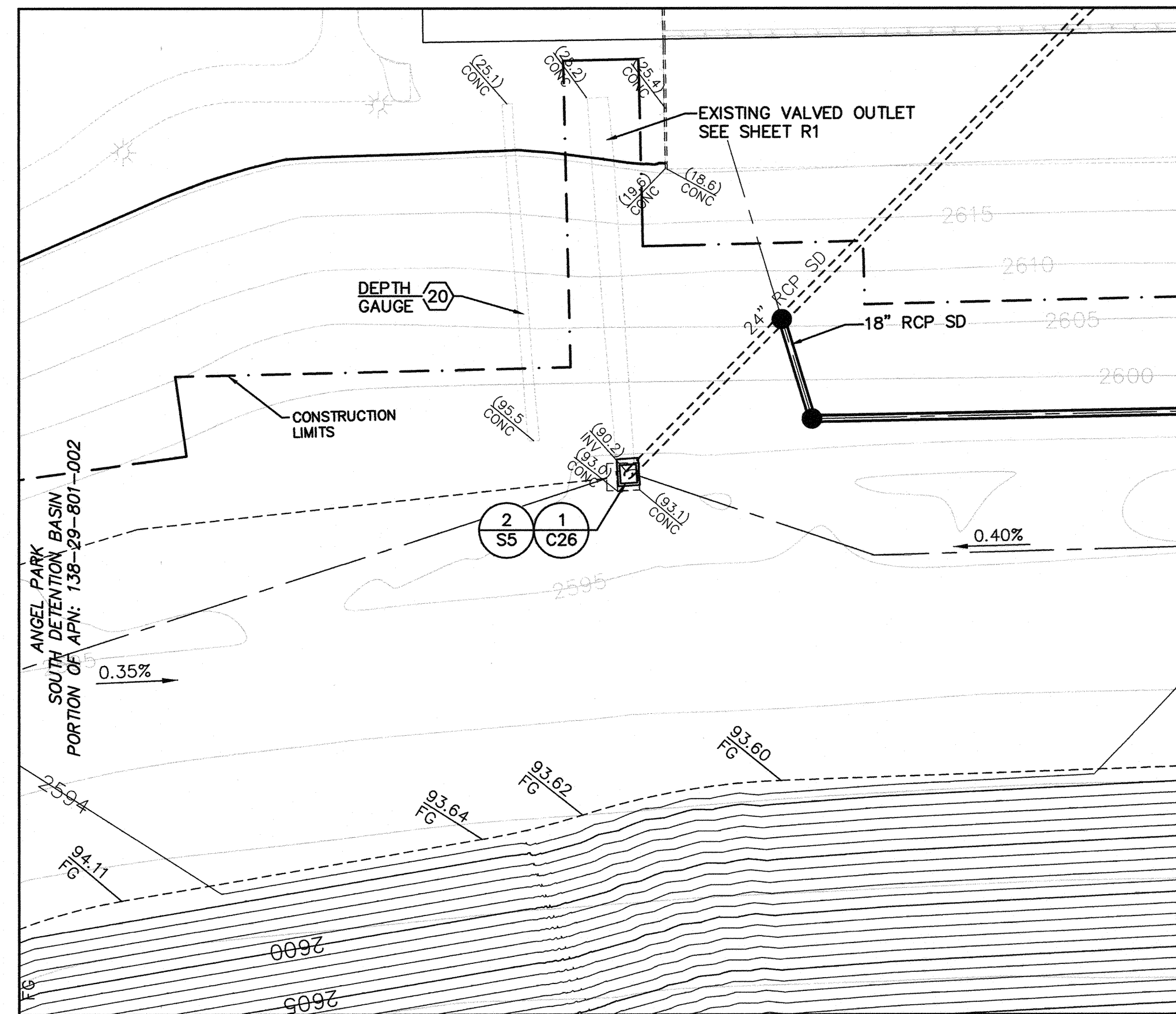


<p>DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276</p>	<p>G. C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1655 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 - F: 702.804.2599 - G: WALLACE.COM</p>	REV	DATE	BY	REVISION
<p>SHEET OVERALL GRADING PLAN SOUTH BASIN</p>		<p>TITLE ANGEL PARK DETENTION BASIN EXPANSION</p>			
<p>DRAWN BY: R/B</p>	<p>DESIGNED BY:</p>	<p>CHECKED BY:</p>	<p>PROJECT NO: 4.1.2-646</p>	<p>SCALE: 1"=100' HORIZ VERT</p>	<p>SEAL</p>
<p>HANSEN NO. 36800</p>		<p>SHEET C13 37 OF 60 SHEETS DRAWING NO. 731-49-J</p>			

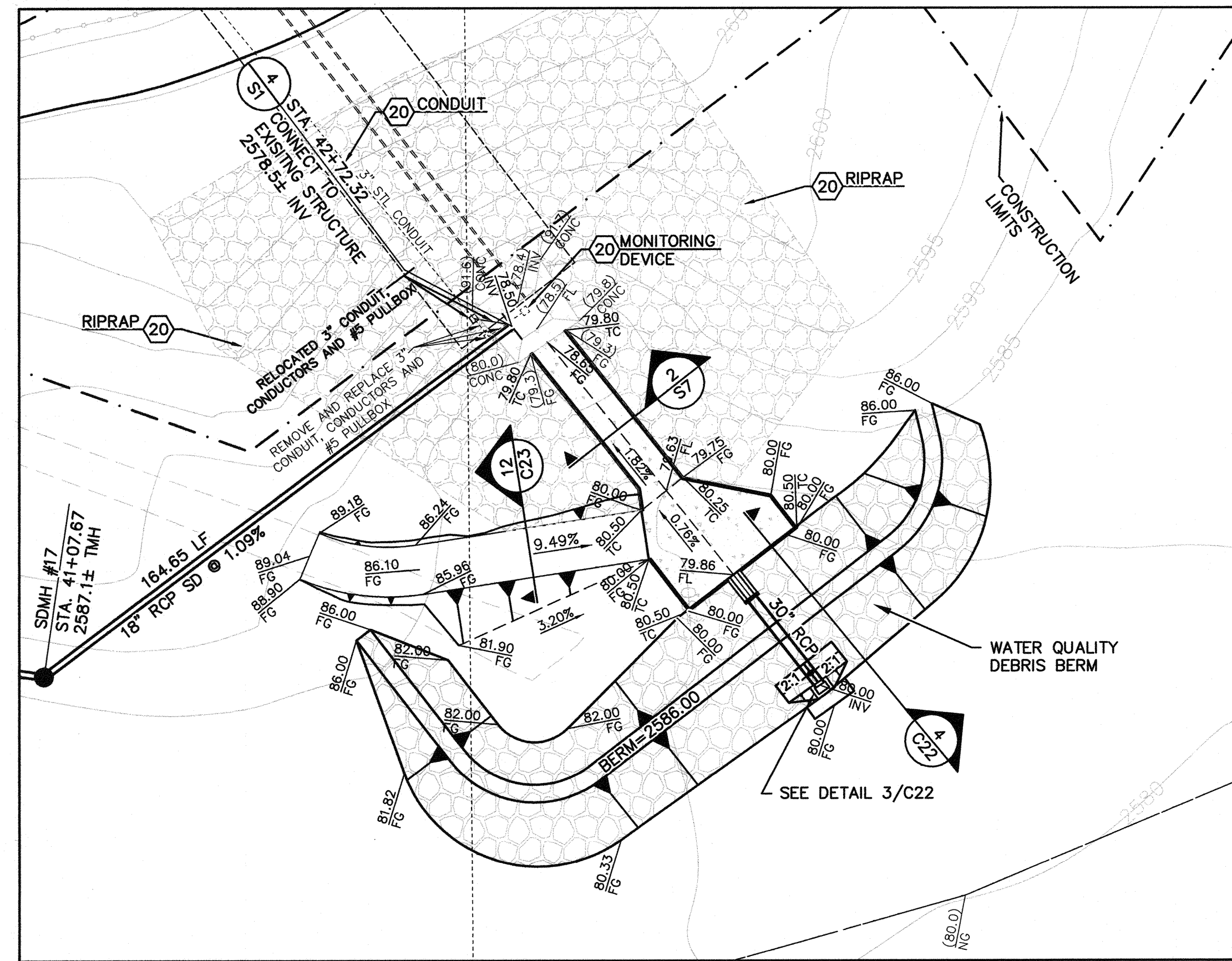
ANGEL PARK DETENTION BASIN EXPANSION



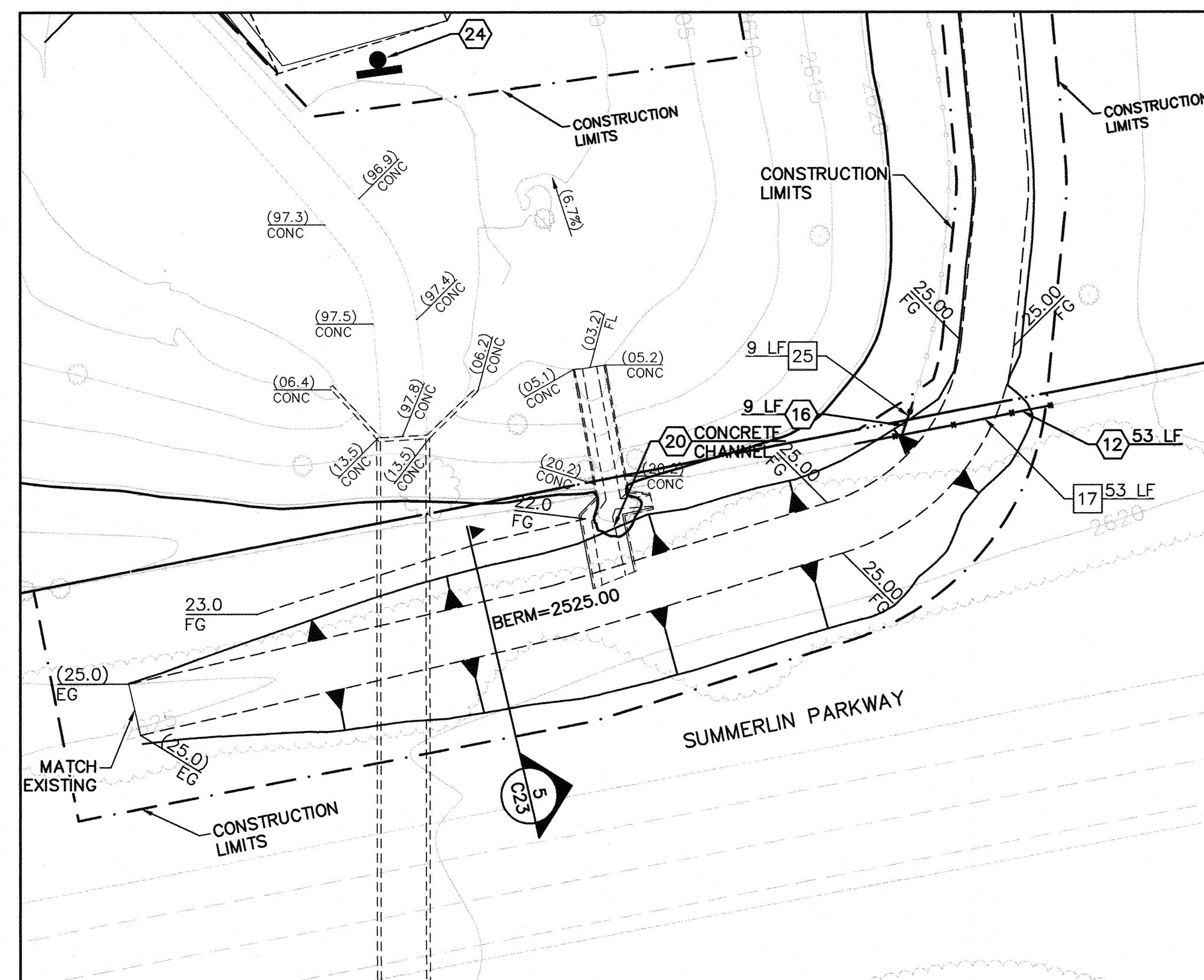
NORTH BASIN - UPPER BAY
WATER QUALITY DEBRIS BERM 4 C14



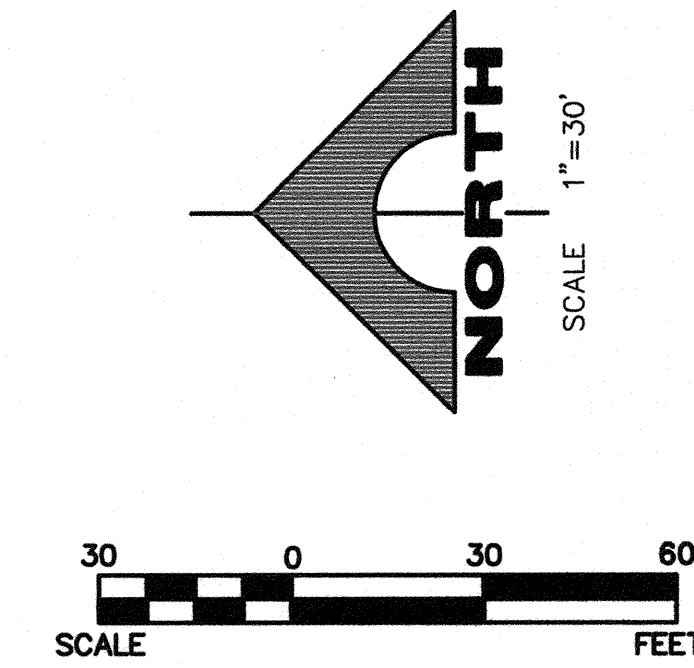
SOUTH BASIN
WATER QUALITY STANDPIPE 2 C14



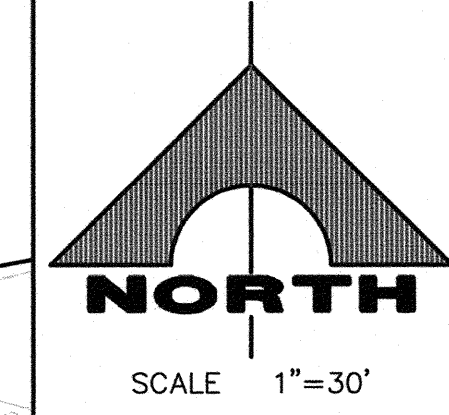
NORTH BASIN - LOWER BAY
WATER QUALITY DEBRIS BERM 3 C14



NORTH BASIN
1 C14



- REMOVAL NOTES**
- 17 REMOVE CHAIN-LINK FENCE
 - 25 REMOVE VEHICLE BARRIER FENCE
- CONSTRUCTION NOTES**
- 12 INSTALL CHAIN-LINK FENCE 1 C25
 - 16 INSTALL VEHICLE BARRIER FENCE PER 6 C25
 - 20 PROTECT-IN-PLACE
 - 24 INSTALL WARNING SIGN DETENTION BASIN PER 2 C27



DISCLAIMER NOTE

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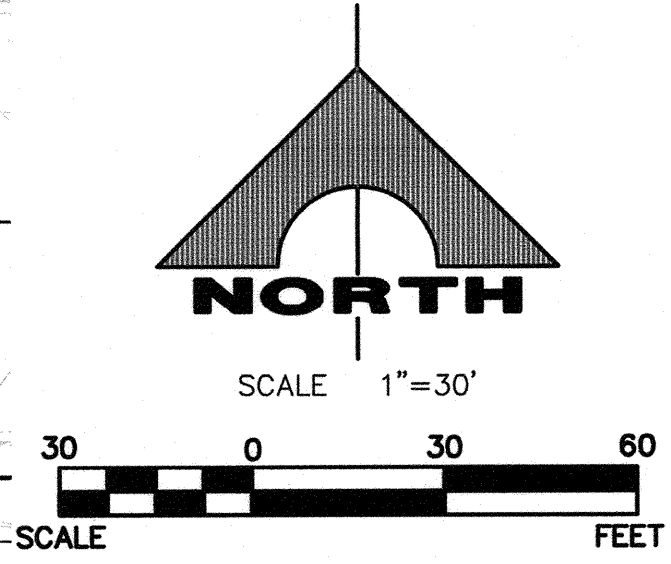
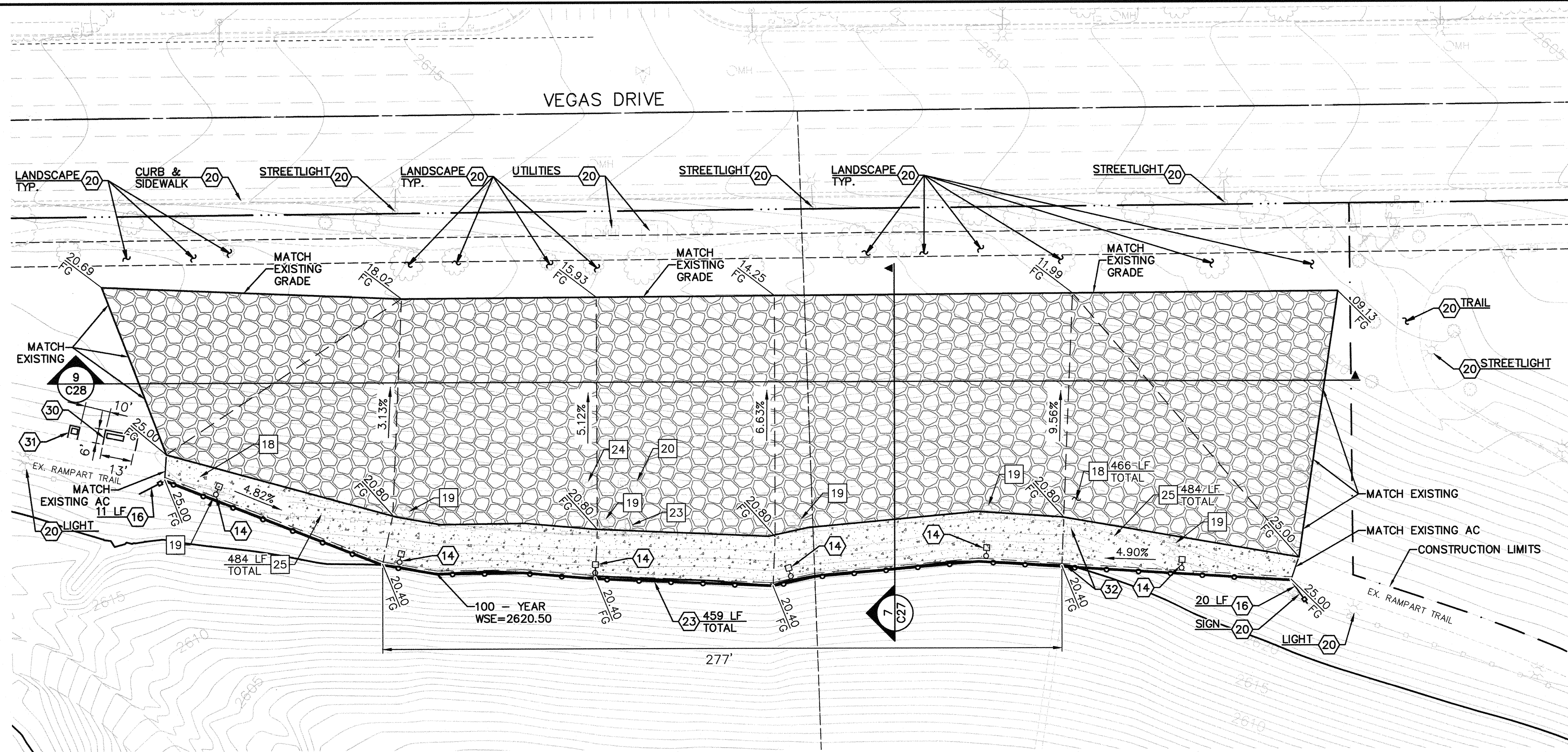
AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

CALL BEFORE YOU DO OVERHEAD

1-702-227-2929

REVISION	DATE	BY	REV	DATE	BY	REV	DATE
ANGEL PARK DETENTION BASIN EXPANSION							
<p>DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101</p>				<p>G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 - F: 702.804.2299 - GCWALLACE.COM</p>			
<p>GRANT Y. TOKUMI CIVIL ENGINEER No. 15517</p>				<p>ANGEL PARK DETENTION BASIN EXPANSION</p>			
<p>ENLARGEMENT - NORTH AND SOUTH BASIN BERMS</p>				<p>ANGEL PARK DETENTION BASIN EXPANSION</p>			
<p>SHEET RKB</p>				<p>TITLE</p>			
<p>DRAWN BY: RKB</p>				<p>DESIGNED BY:</p>			
<p>CHECKED BY:</p>				<p>PROJECT NO: 412-645</p>			
<p>SCALE: 1"=30'</p>				<p>SCALE: 1"=30'</p>			
<p>SEAL</p>				<p>SHEET</p>			
<p>38 OF 60 SHEETS</p>				<p>DRAWING NO. 731-49-J</p>			
<p>HANSEN NO. 36800</p>				<p>38 OF 60 SHEETS</p>			

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REMOVAL NOTES

- 17 REMOVE CHAIN-LINK FENCE
- 18 REMOVE ASPHALT PAVEMENT TRAIL
- 19 REMOVE AND SALVAGE LIGHT POLE. REMOVE FOUNDATION
- 20 REMOVE AND SALVAGE EXISTING BENCH ASSEMBLY
- 23 REMOVE AND REPLACE SIGN. SEE 4 C25
- 24 REMOVE AND SALVAGE TRASH RECEPTACLE ASSEMBLY
- 25 REMOVE VEHICLE BARRIER FENCE

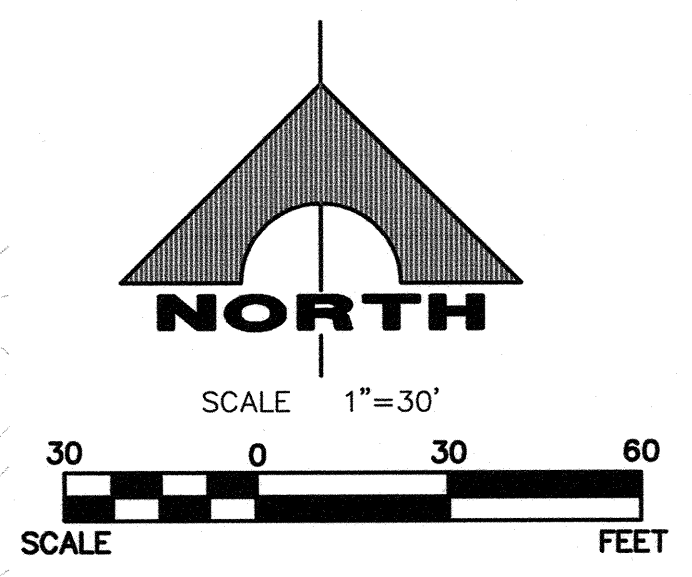
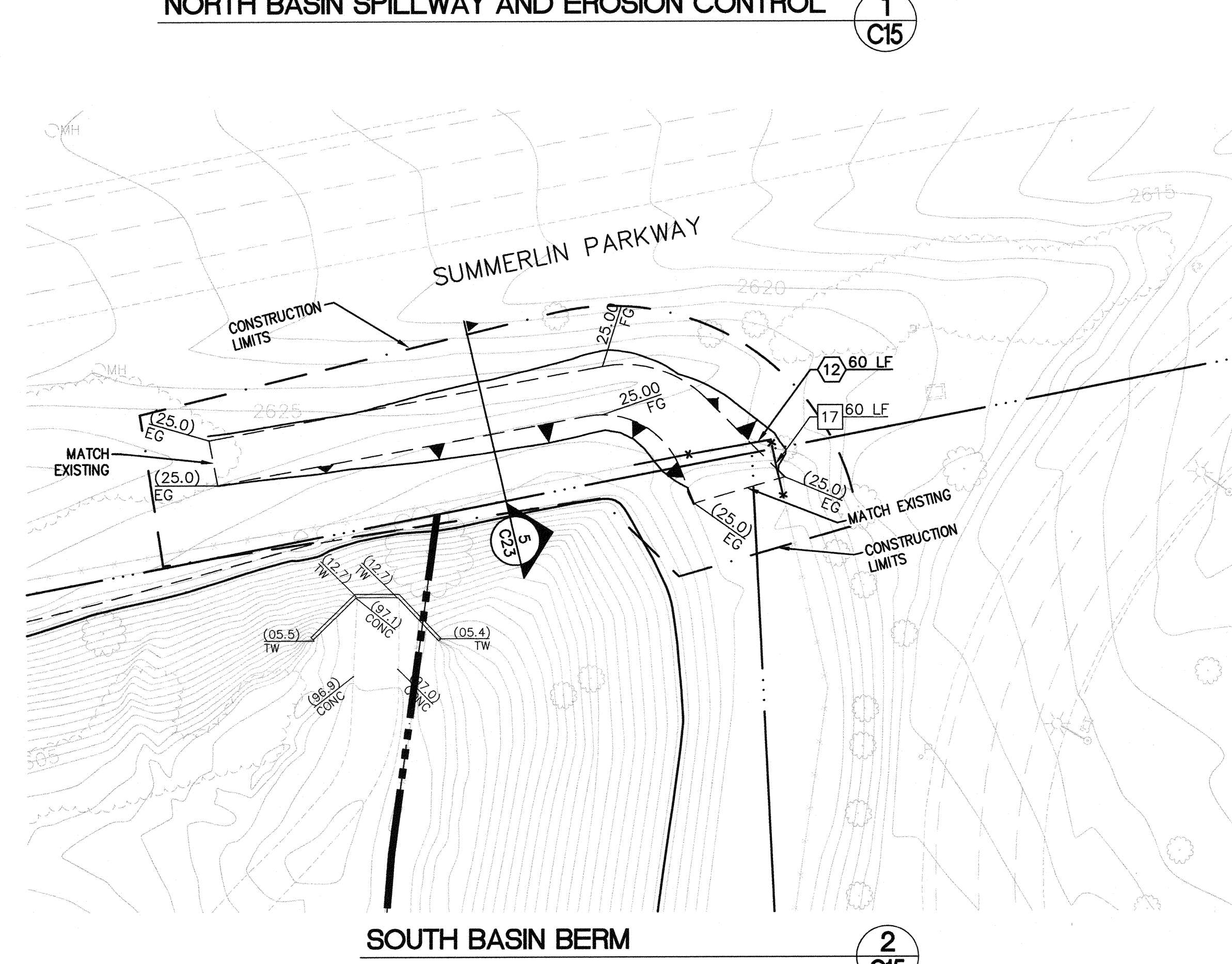
CONSTRUCTION NOTES

- 12 INSTALL CHAIN-LINK FENCE 1 C25
- 14 REINSTALL EXISTING LIGHT PER 5 C26
- 16 INSTALL VEHICLE BARRIER FENCE PER 6 C25
- 20 PROTECT-IN-PLACE
- 23 INSTALL POST & CABLE RAILING PER 4 C28
- 30 REINSTALL EXISTING BENCH ASSEMBLY PER 3 C27, 4 C27
- 31 REINSTALL EXISTING TRASH RECEPTACLE PER 6 C27
- 32 SAWCUT DEPTH GAUGE AND MATCH CONCRETE SPILLWAY, EPOXY COAT EXPOSED REBAR, 1/2" EXPANSION JOINT WITH FILLER AND SEALANT.

ELECTRICAL NOTES

ALL ELECTRICAL CONNECTIONS WITHIN THE SPILLWAY LIMITS ARE REQUIRED TO BE A MINIMUM 18-INCHES ABOVE THE 100-YEAR WATER SURFACE ELEVATION. NO ELECTRICAL PULL BOXES ARE ALLOWED WITHIN SPILLWAY AREA.

NORTH BASIN SPILLWAY AND EROSION CONTROL 1 C15



TRAIL LIGHTING NOTES

1. EXISTING TRAIL LIGHTS TO BE RELOCATED SHALL BE REMOVED AND STORED BY CONTRACTOR. POLES AND LUMINAIRE ASSEMBLIES SHALL BE PROTECTED FROM DAMAGE DURING REMOVAL, STORAGE AND REINSTALLATION. COMPLETE ASSEMBLY CONDITION (INCLUDING BASE COVER) SHALL BE EVALUATED AND DOCUMENTED, IN A MANNER ACCEPTABLE TO OWNER, PRIOR TO COMMENCEMENT OF CONSTRUCTION PROJECT. UPON COMPLETION OF CONSTRUCTION ALL COMPLETE ASSEMBLIES SHALL BE DEEMED TO MEET THE PRE CONSTRUCTION CONDITION PRIOR TO ACCEPTANCE BY OWNER. REGARDLESS OF THE PRECONSTRUCTION CONDITION, ALL RELOCATED TRAIL LIGHTS SHALL BE OPERABLE UPON COMPLETION OF CONSTRUCTION.
2. CONDUCTORS SHALL BE REMOVED TO NEXT LIGHT IN EACH DIRECTION FROM THE AREA OF CONSTRUCTION.
3. EXISTING CONDUITS SHALL BE INTERCEPTED AT THE CONSTRUCTION BOUNDARY AND EXTENDED AND/OR REROUTED TO THE RELOCATED LIGHT LOCATION AS NECESSARY. NO FABRICATED OR FACTORY BENDS SHALL BE USED AT THE POINT OF INTERCEPTION. USE ONLY STRAIGHT UNION COUPLINGS AND SWEEP STRAIGHT LENGTHS OF CONDUIT TO PROPOSED LIGHT LOCATION.
4. ALL PROPOSED CONDUITS AND CONDUCTORS SHALL BE NEW AND OF SAME SIZE, TYPE, RATING, AND CERTIFICATION AS THOSE REMOVED TO RELOCATE LIGHTS.
5. ALL ELECTRICAL WORK SHALL COMPLY WITH LATEST EDITION OF NFPA 70 (NATIONAL ELECTRICAL CODE) AS ADOPTED BY AUTHORITY WITH LOCAL AMENDMENTS.

DISCLAIMER NOTE

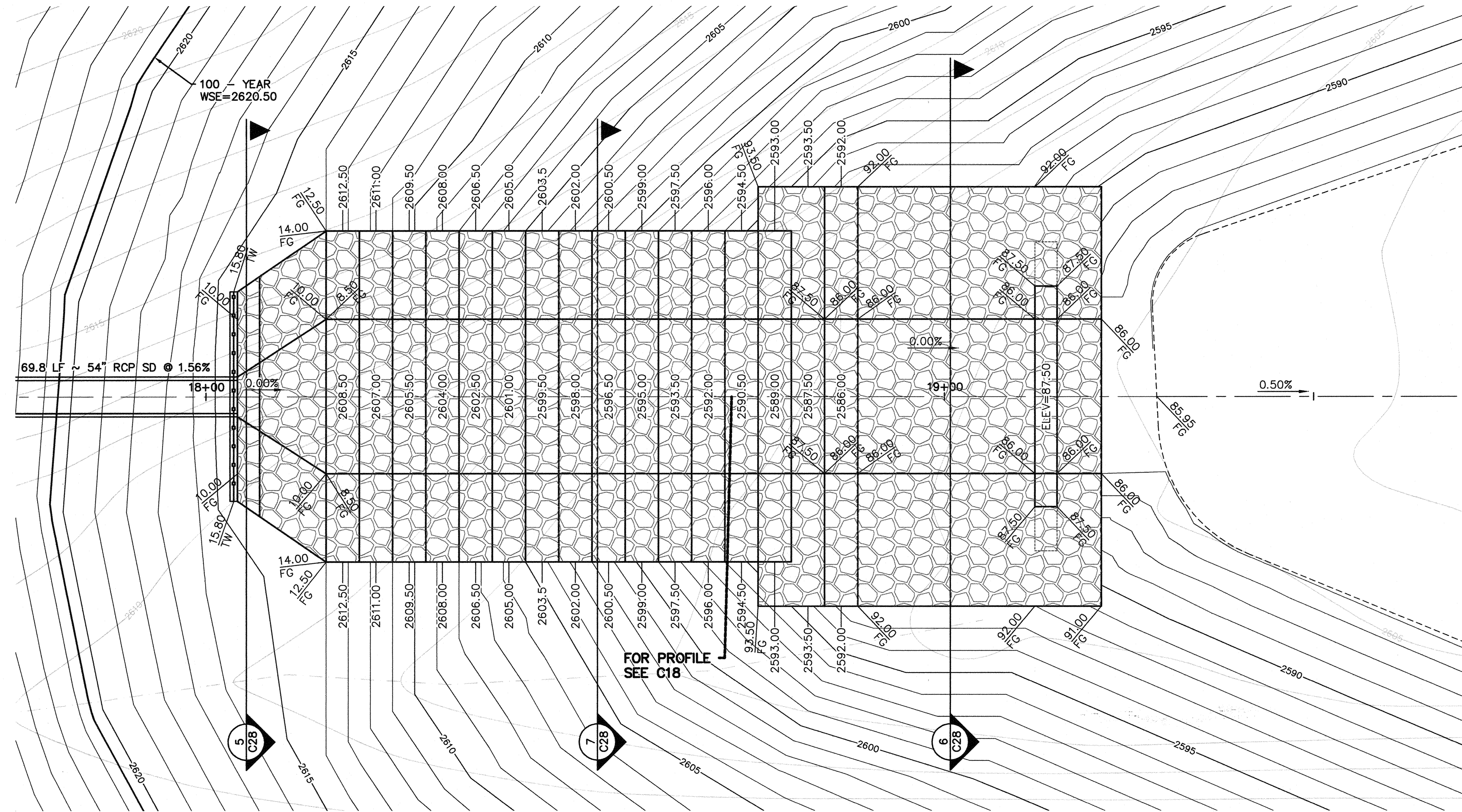
UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.



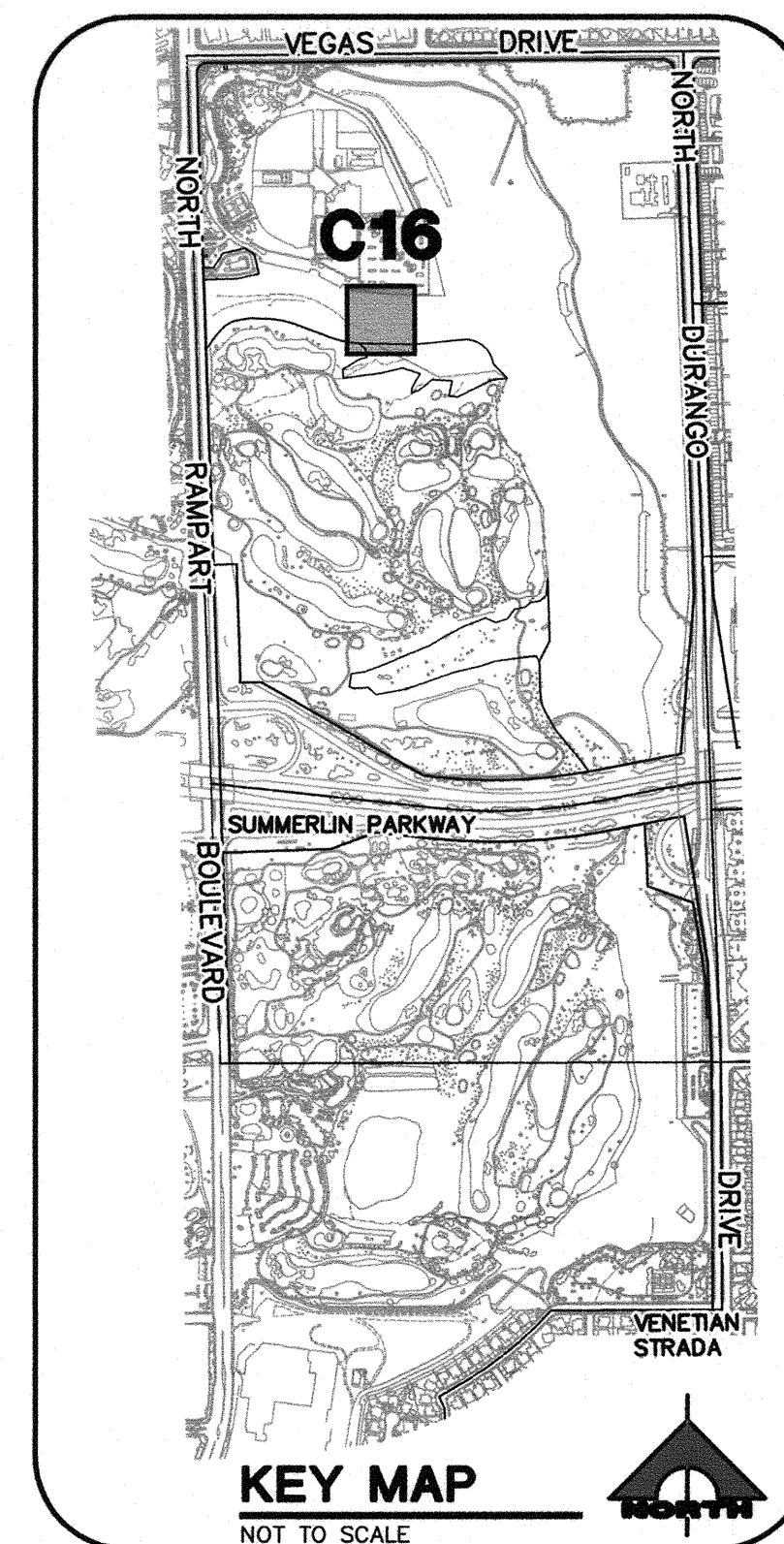
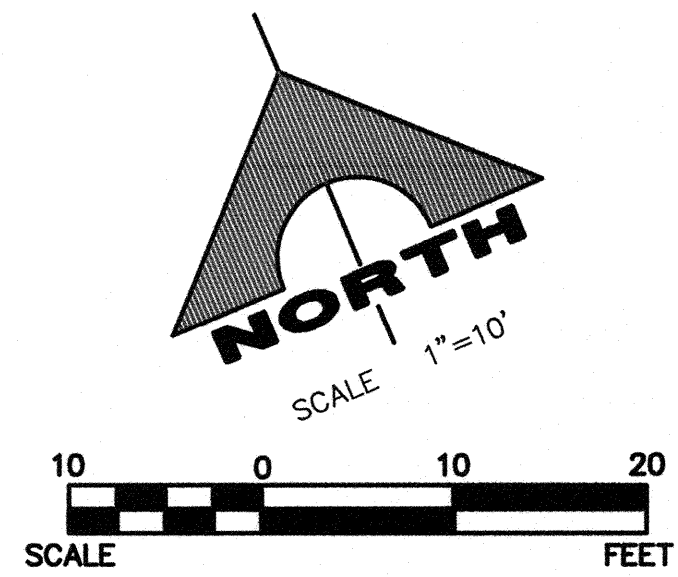
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DRAWN BY:	DEPARTMENT OF PUBLIC WORKS		
	400 STEWART AVENUE LAS VEGAS, NEVADA 89101		
DESIGNED BY:	G. C. WALLACE COMPANIES		
	ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 - F: 702.804.2299 - GCWALLACE.COM		
CHECKED BY:	ANGEL PARK DETENTION BASIN EXPANSION		
	NORTH BASIN		
PROJECT NO:	412-646		
	SCALE: 1"=100'		
HANSEN NO. 36800		DRAWING NO. 731-49-J	
SHEET C15		39 OF 60 SHEETS	

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WIRE MESH GABION OUTFALL FOR PROFILE, SEE SHEET C18 **1**
C16



DISCLAIMER NOTE

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.



REVISION	DATE	BY

DEPARTMENT OF PUBLIC WORKS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101

G.C. WALLACE COMPANIES
ENGINEERS | PLANNERS | SURVEYORS
1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146
T: 702.894.2000 - F: 702.894.2299 - GCWALLACE.COM

SHEET
**ENLARGEMENT
WIRE MESH GABION OUTFALL**

TITLE
**ANGEL PARK DETENTION
BASIN EXPANSION**

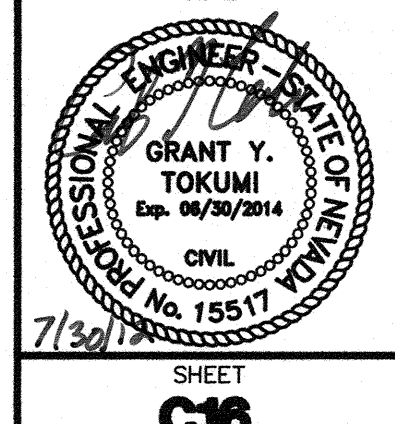
DRAWN BY:
RKB

DESIGNED BY:

CHECKED BY:

PROJECT NO:
412-646

SCALE: 1"=10"
HORIZ
VERT

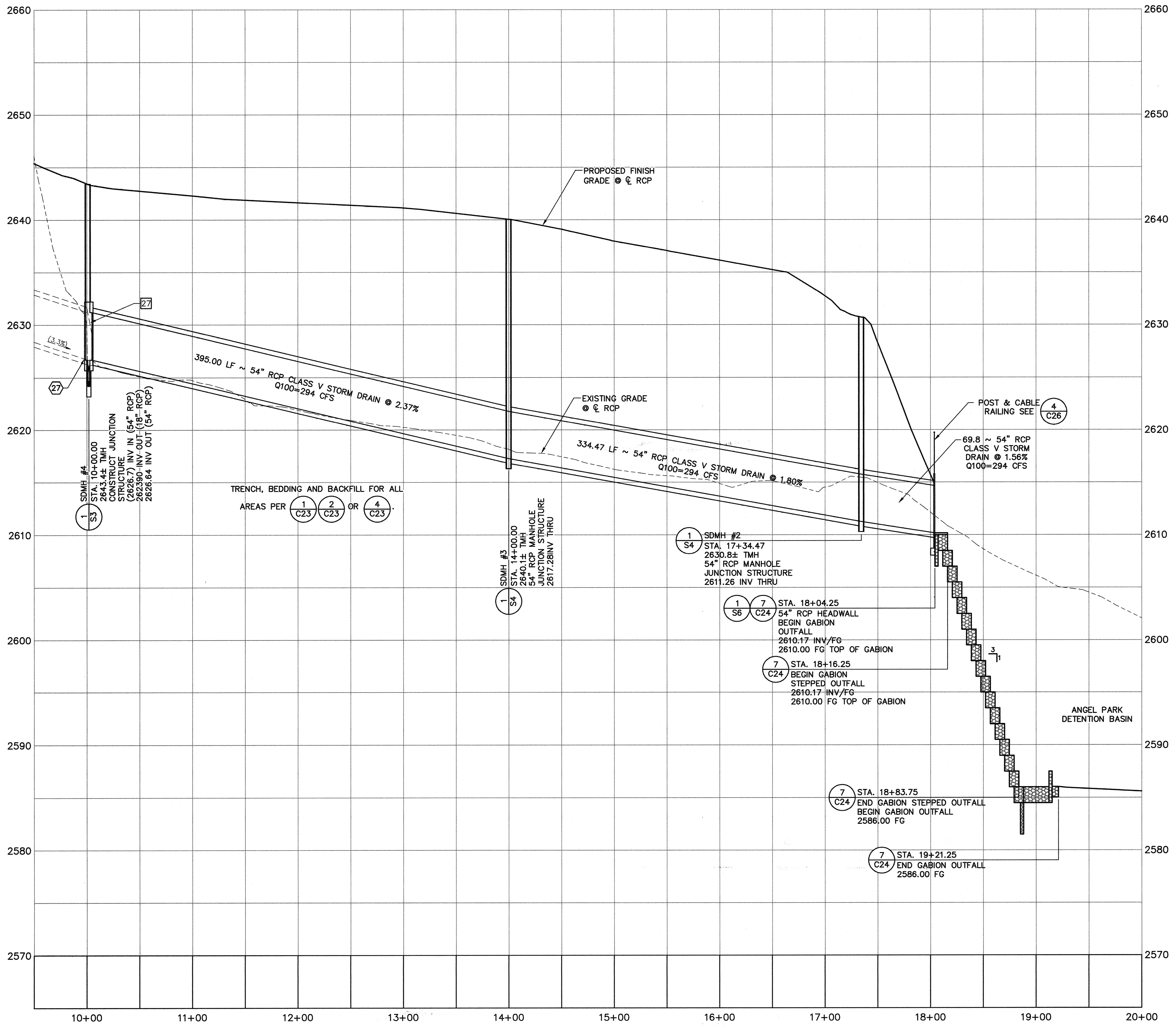


SHEET
C16
40 OF 60 SHEETS

DRAWING NO.
731-49-J

HANSEN NO.
36800

ANGEL PARK DETENTION BASIN EXPANSION



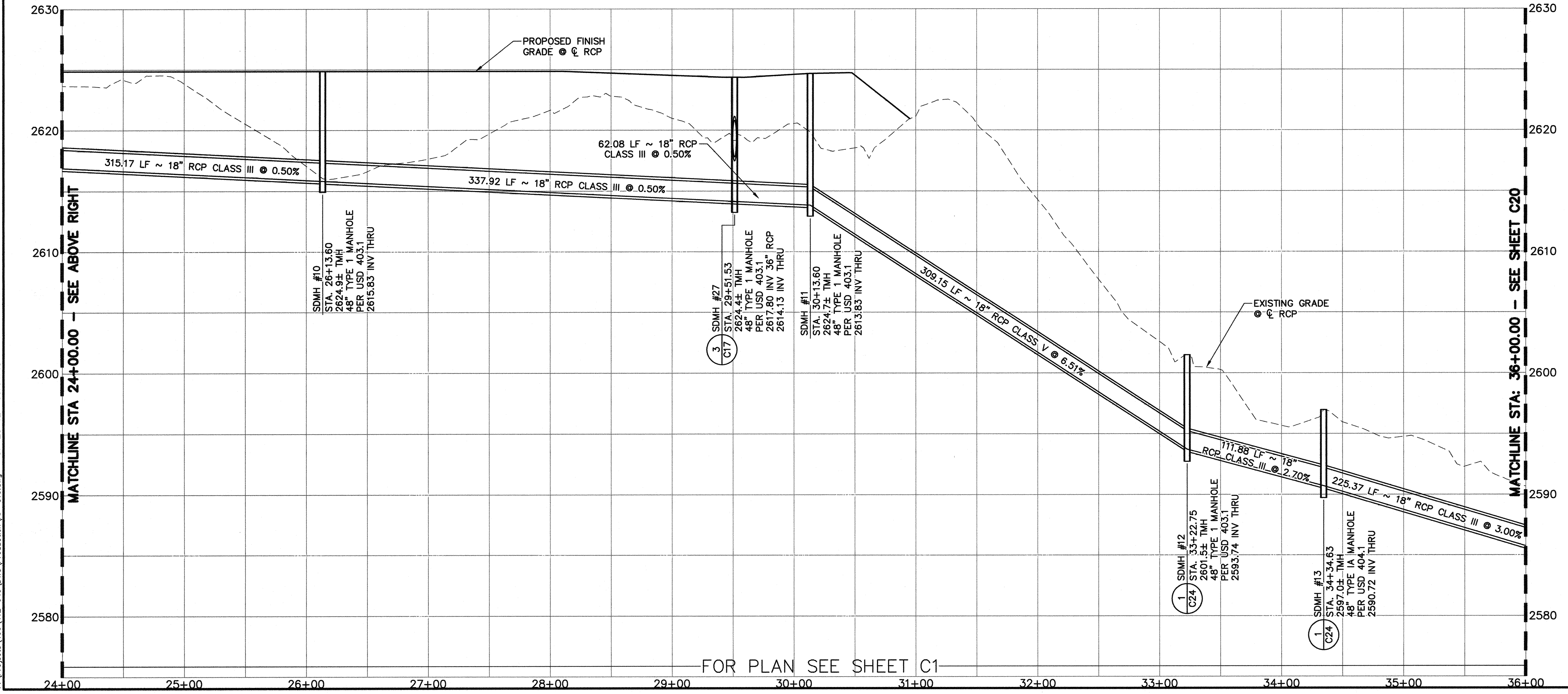
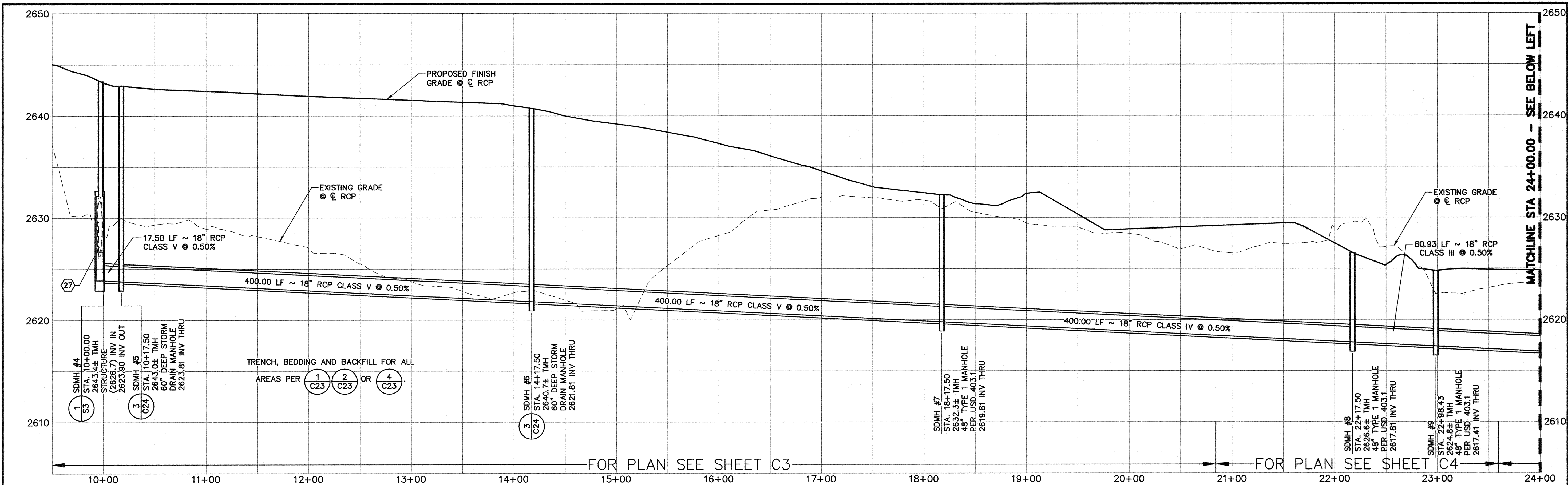
- REMOVAL NOTES**
- 27 REMOVE RCB END FLARED SECTION
- CONSTRUCTION NOTES**
- 27 CONTRACTOR TO CLEAN AND CLEAR EXISTING RCP OF SILT AND DEBRIS BEFORE CONSTRUCTING NEW FACILITIES

DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 228-6276		G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.2000 - F: 702.894.2299 - GCWALLACE.COM	
PROFILE 64" RCP STORM DRAIN		TITLE ANGEL PARK DETENTION BASIN EXPANSION	
SHEET RCB	DRAWN BY: RCB	DESIGNED BY: RCB	CHECKED BY: RCB
PROJECT NO: 412-646	SCALE: 1"=50' 1"=5'	PROJECT NO: 412-646	PROJECT NO: 412-646
Call before you Dig 811 1-800-227-2000		AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY. CALL BEFORE YOU DO OVERHEAD 1-702-227-2929	
GRANT Y. TOKUMI CIVIL ENGINEER No. 15517 7/30/11		SEAL SHEET C18 42 OF 60 SHEETS DRAWING NO. 731-49-J	

FOR PLAN SEE SHEET C3

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CONSTRUCTION NOTES

27 CONTRACTOR TO CLEAN AND CLEAR EXISTING RCP OF SILT AND DEBRIS BEFORE CONSTRUCTING NEW FACILITIES A MINIMUM DISTANCE OF 3'

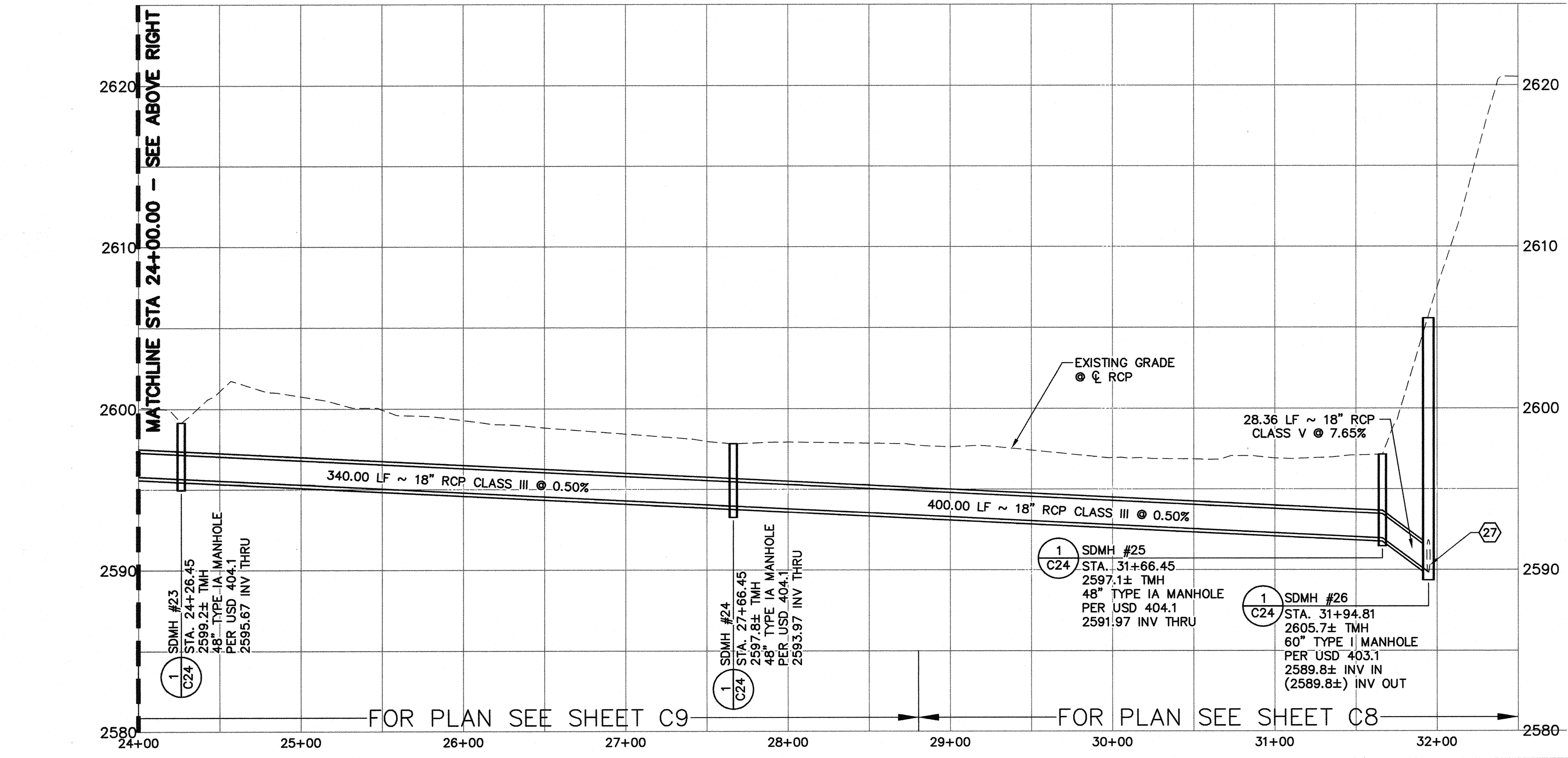
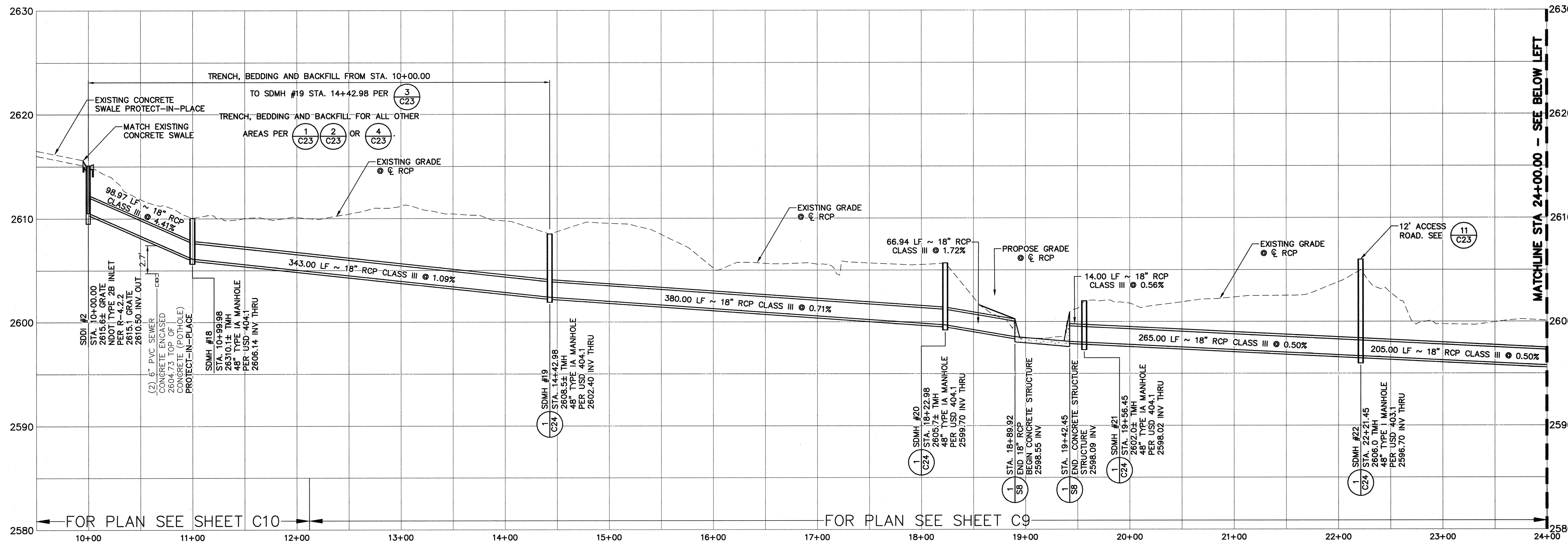
DISCLAIMER NOTE

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<p>DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 228-8276</p>	<p>G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.2000 - F: 702.894.2299 - GCWALLACE.COM</p>
<p>PROFILE 18" RCP LOW FLOW STORM DRAIN NORTH BASIN</p>	<p>TITLE ANGEL PARK DETENTION BASIN EXPANSION</p>
<p>DRAWN BY: RKB</p>	<p>DESIGNED BY:</p>
<p>CHECKED BY:</p>	<p>PROJECT NO: 412-646</p>
<p>SCALE: 1"=50' 1"=5'</p>	<p>HORIZ VERT</p>
<p>SEAL GRANT Y. TOKUMI Exp. 04/29/2011 CIVIL No. 15517</p>	<p>SHEET C19 43 OF 60 SHEETS DRAWING NO. 731-49-J</p>
<p>HANSEN NO. 36800</p>	<p>REVISION</p>

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CONSTRUCTION NOTES

27 CONTRACTOR TO CLEAN AND CLEAR EXISTING RCP OF SILT AND DEBRIS BEFORE CONSTRUCTING NEW FACILITIES

DISCLAIMER NOTE

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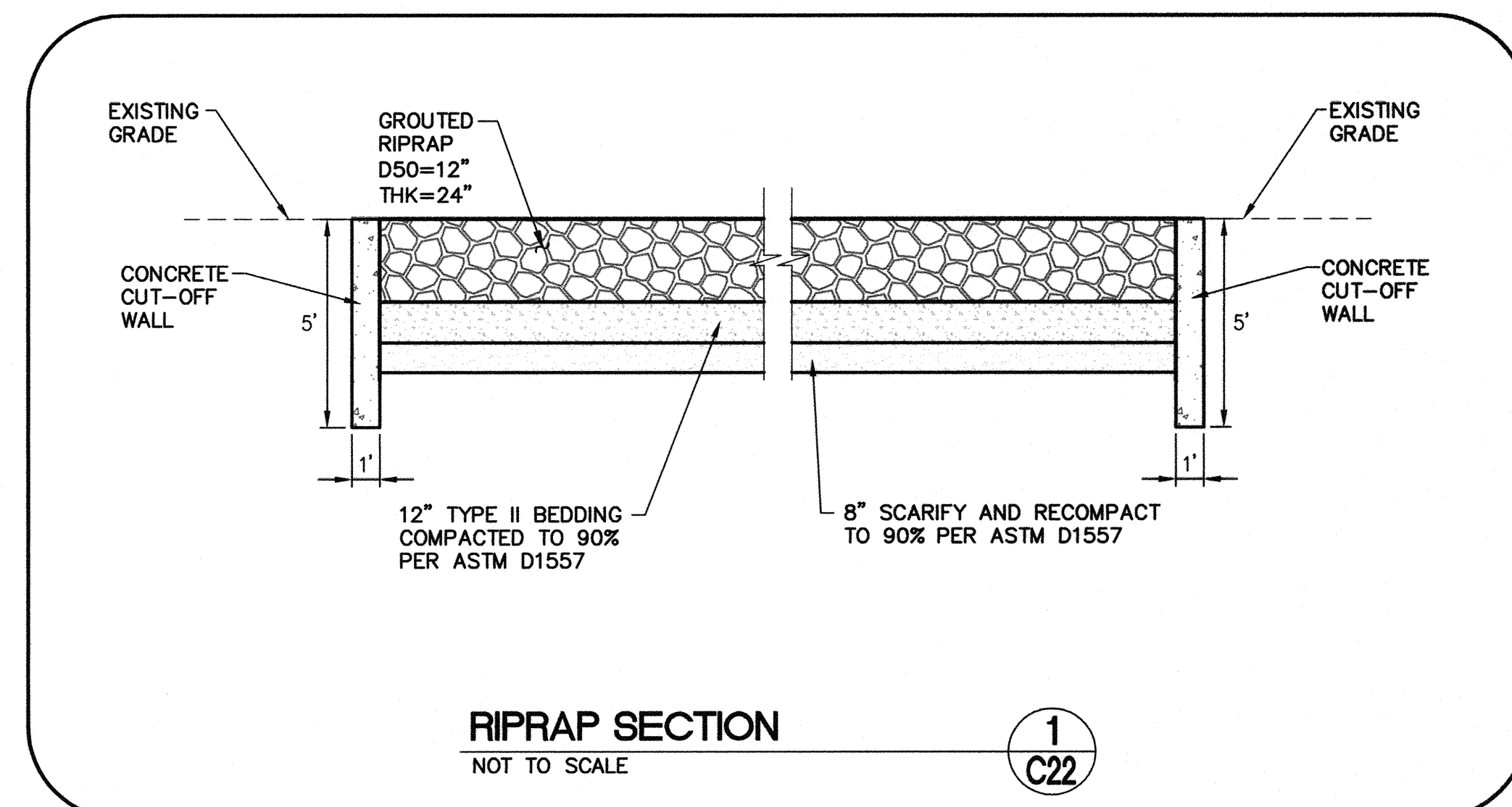
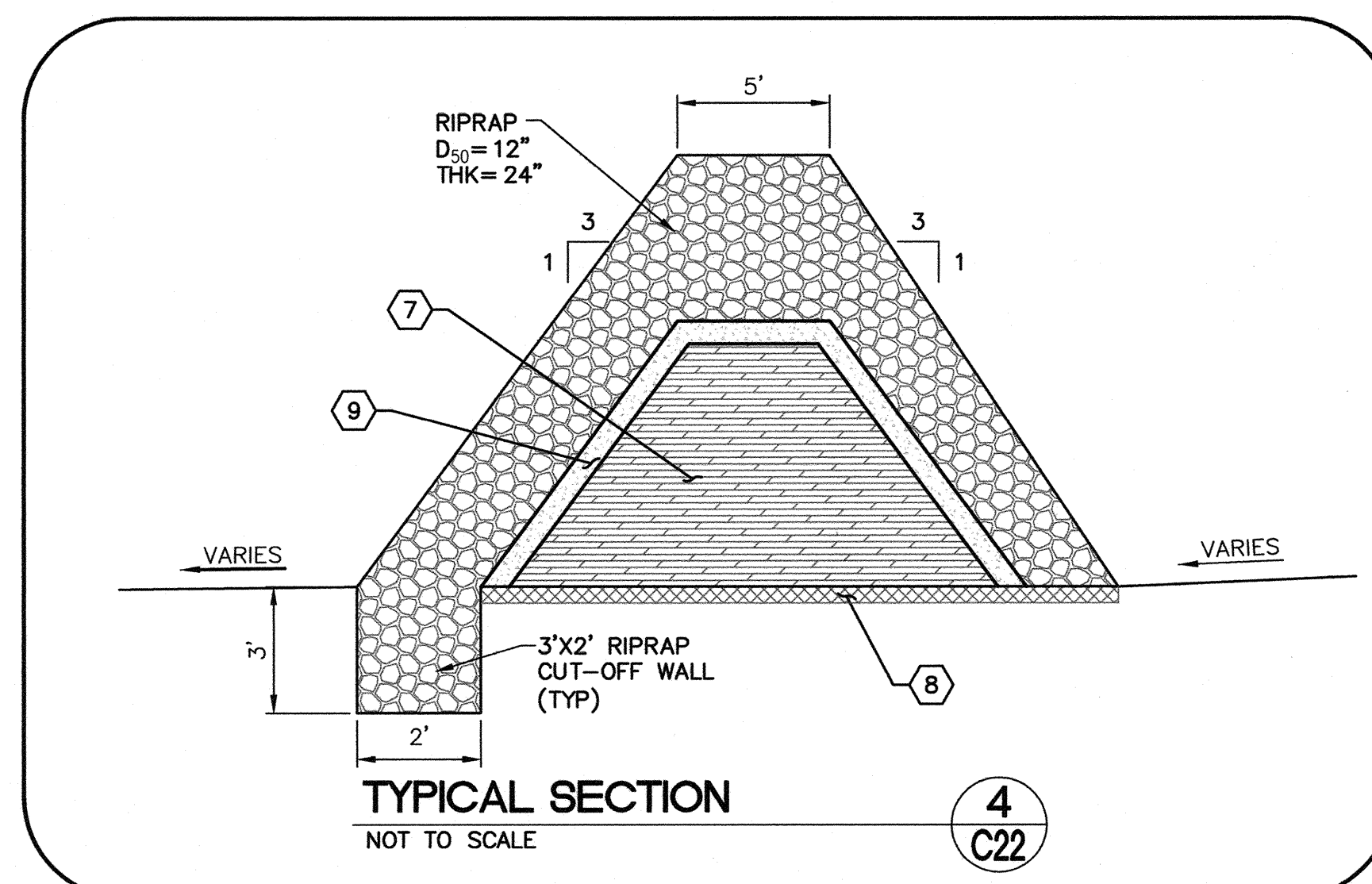
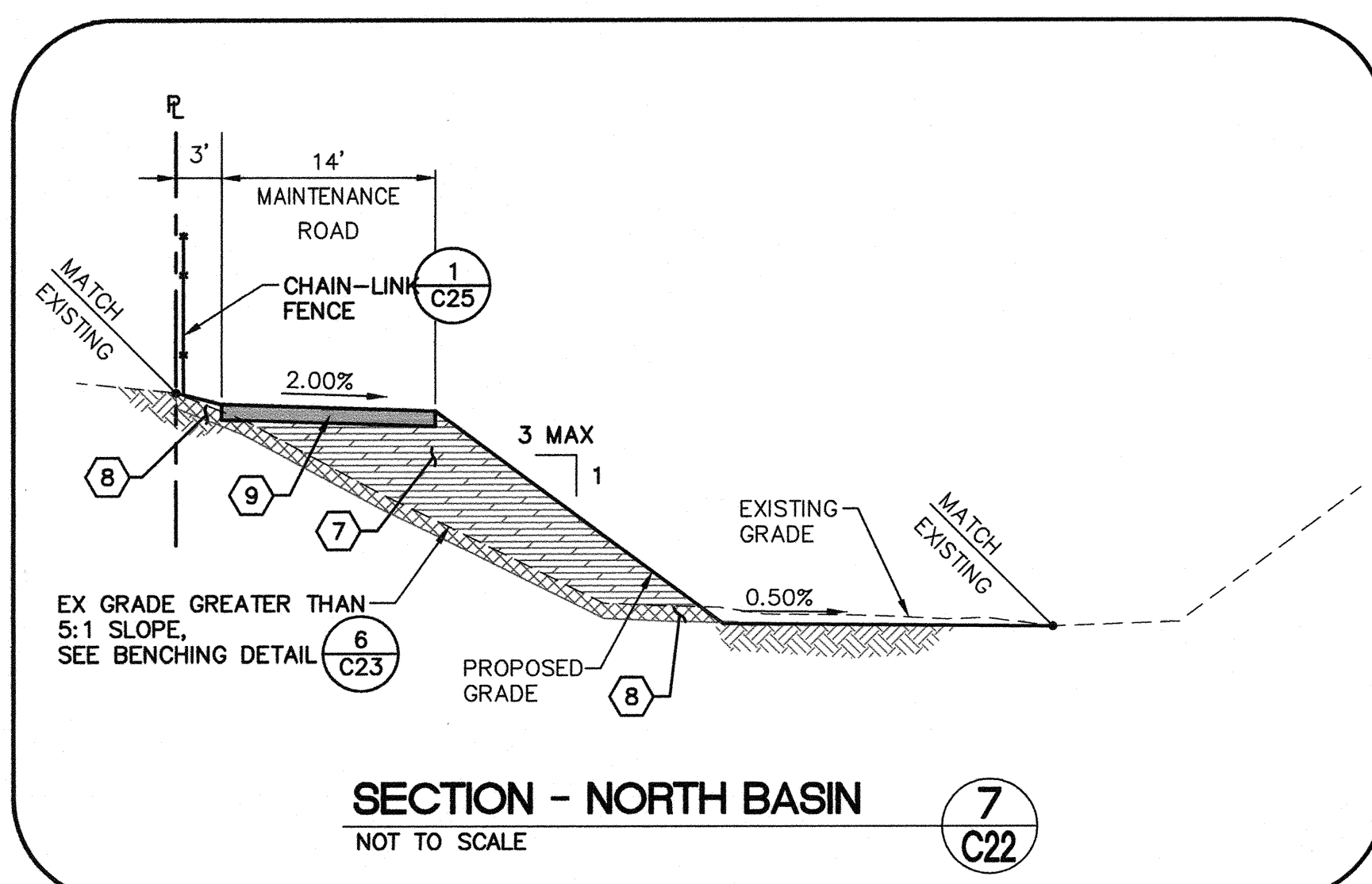
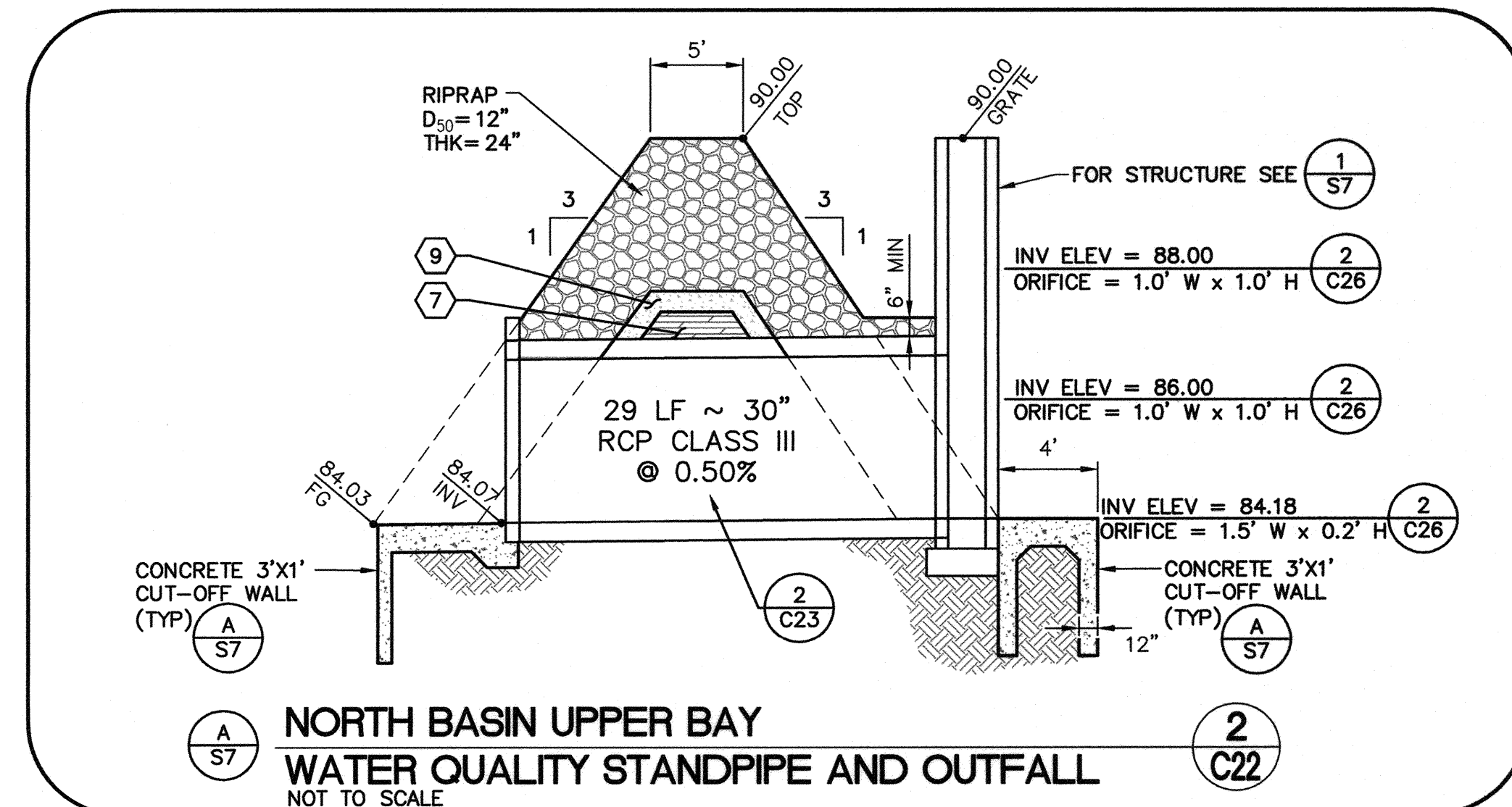
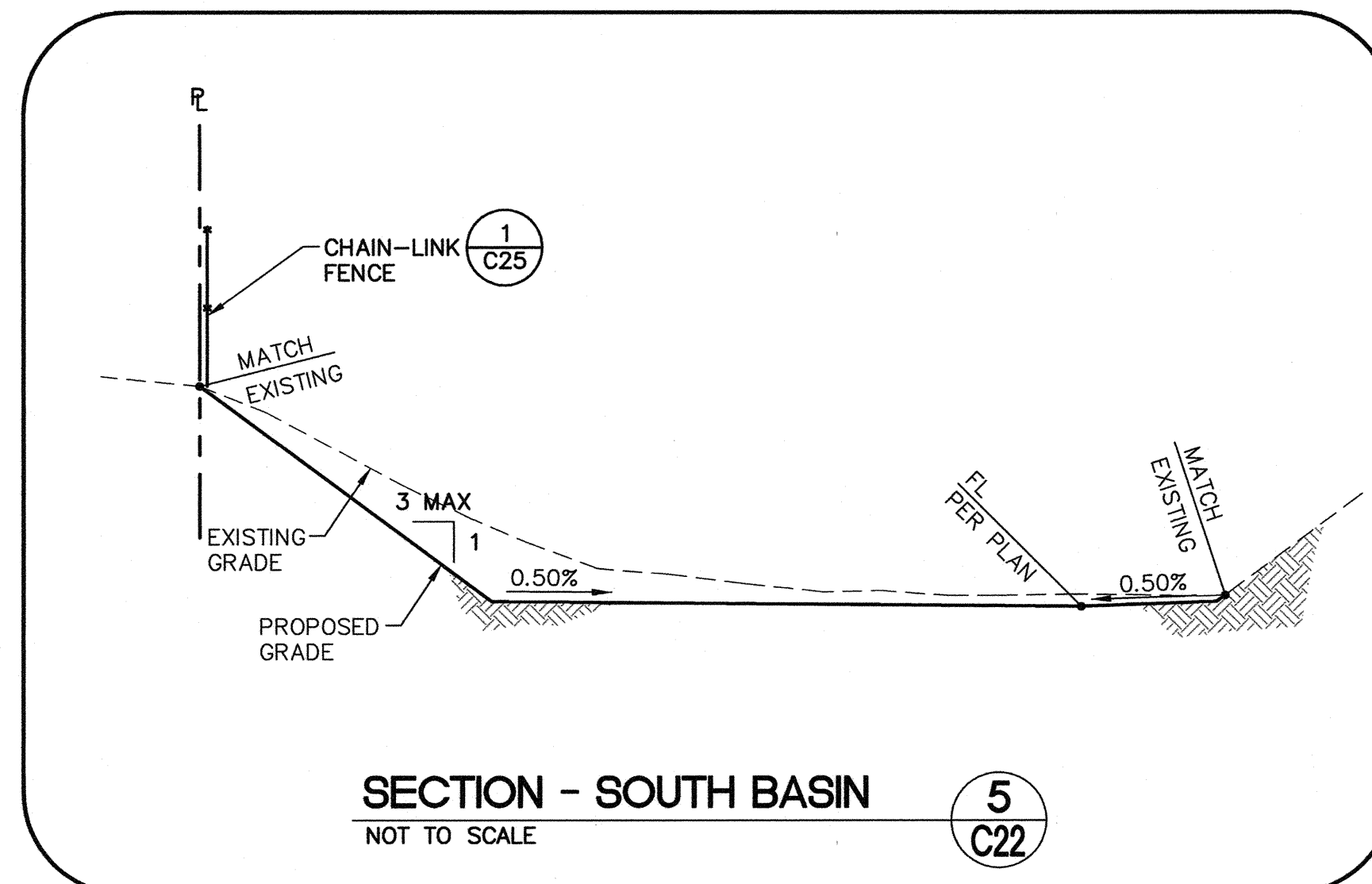
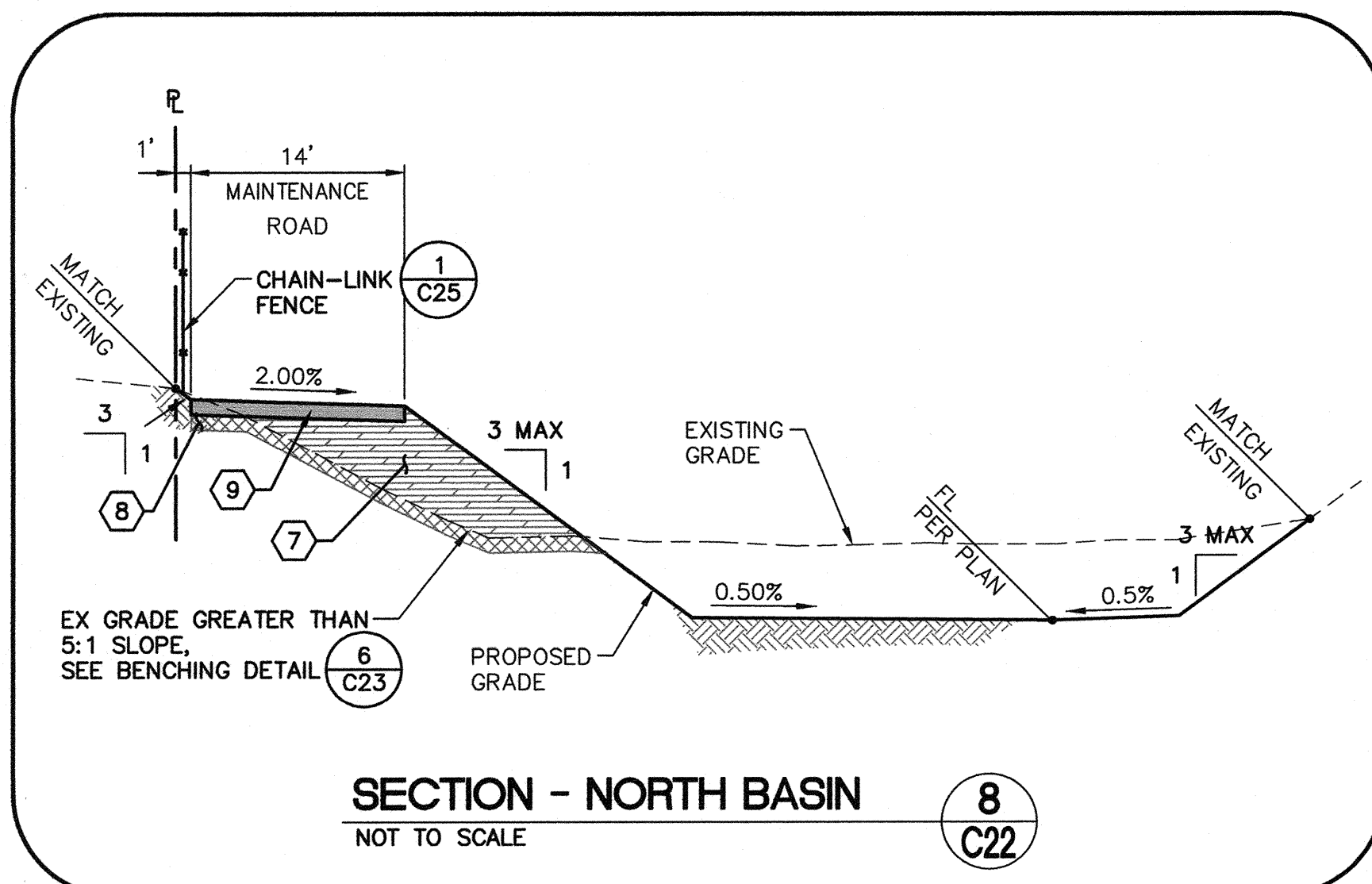
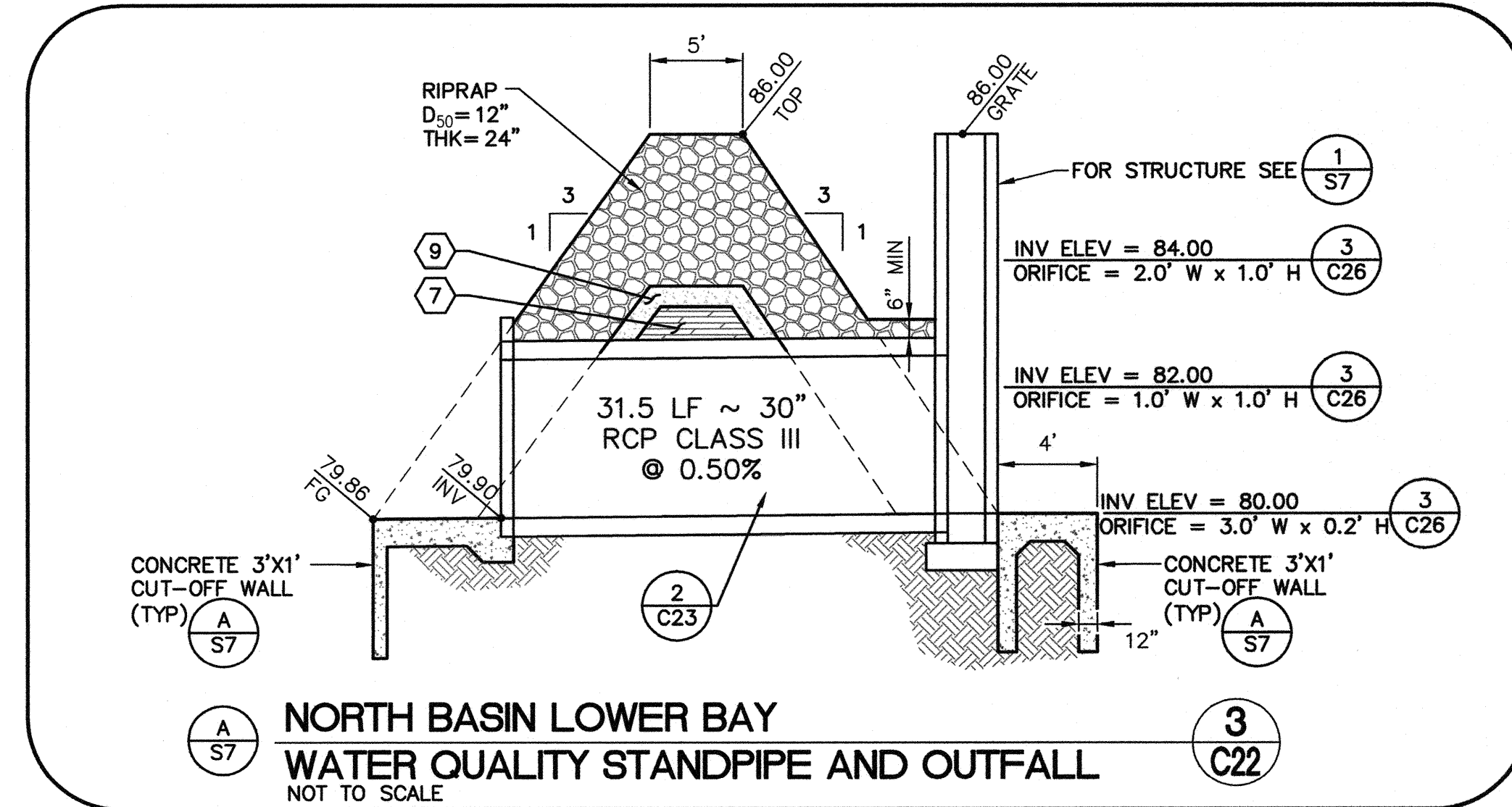
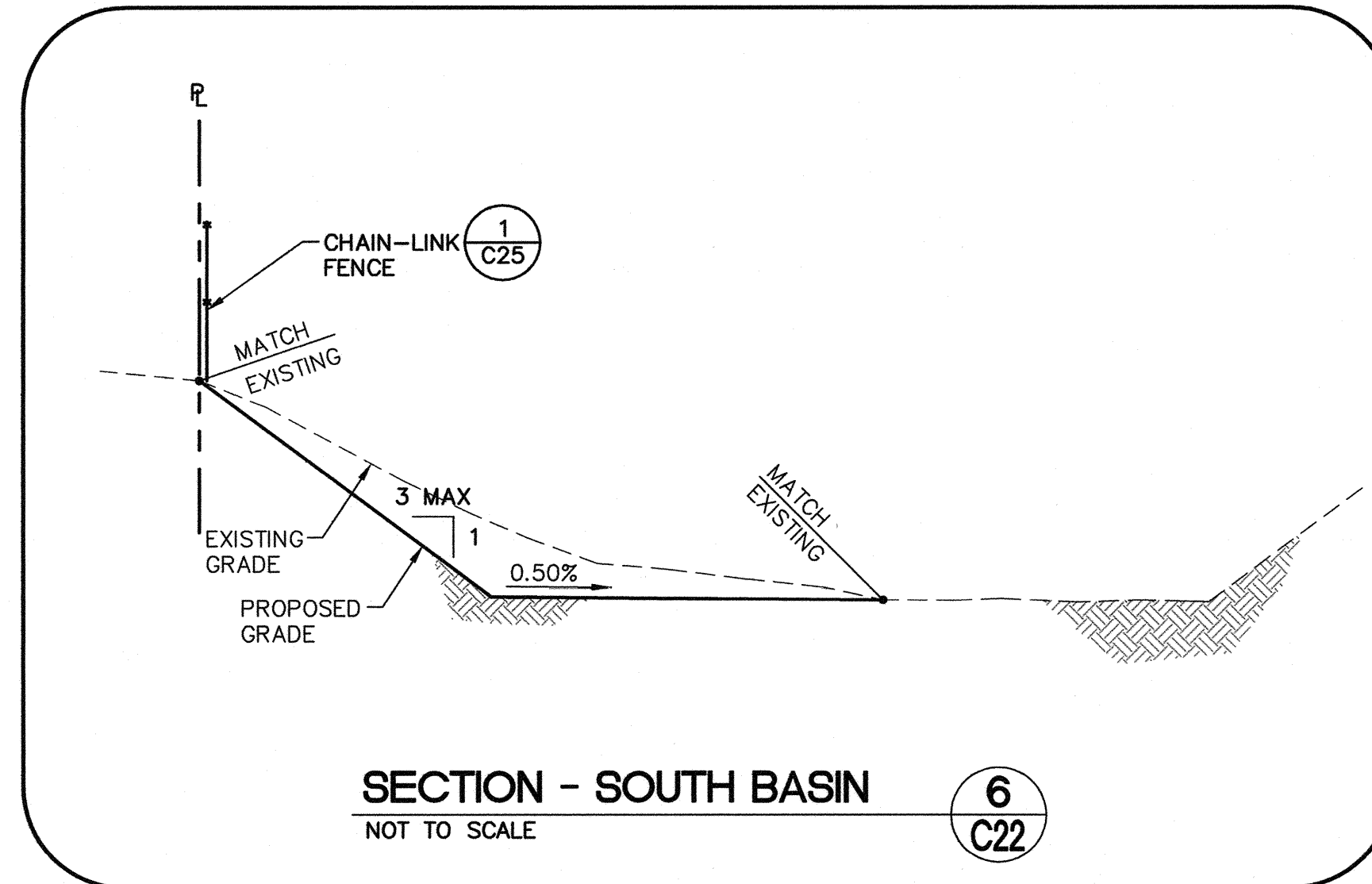
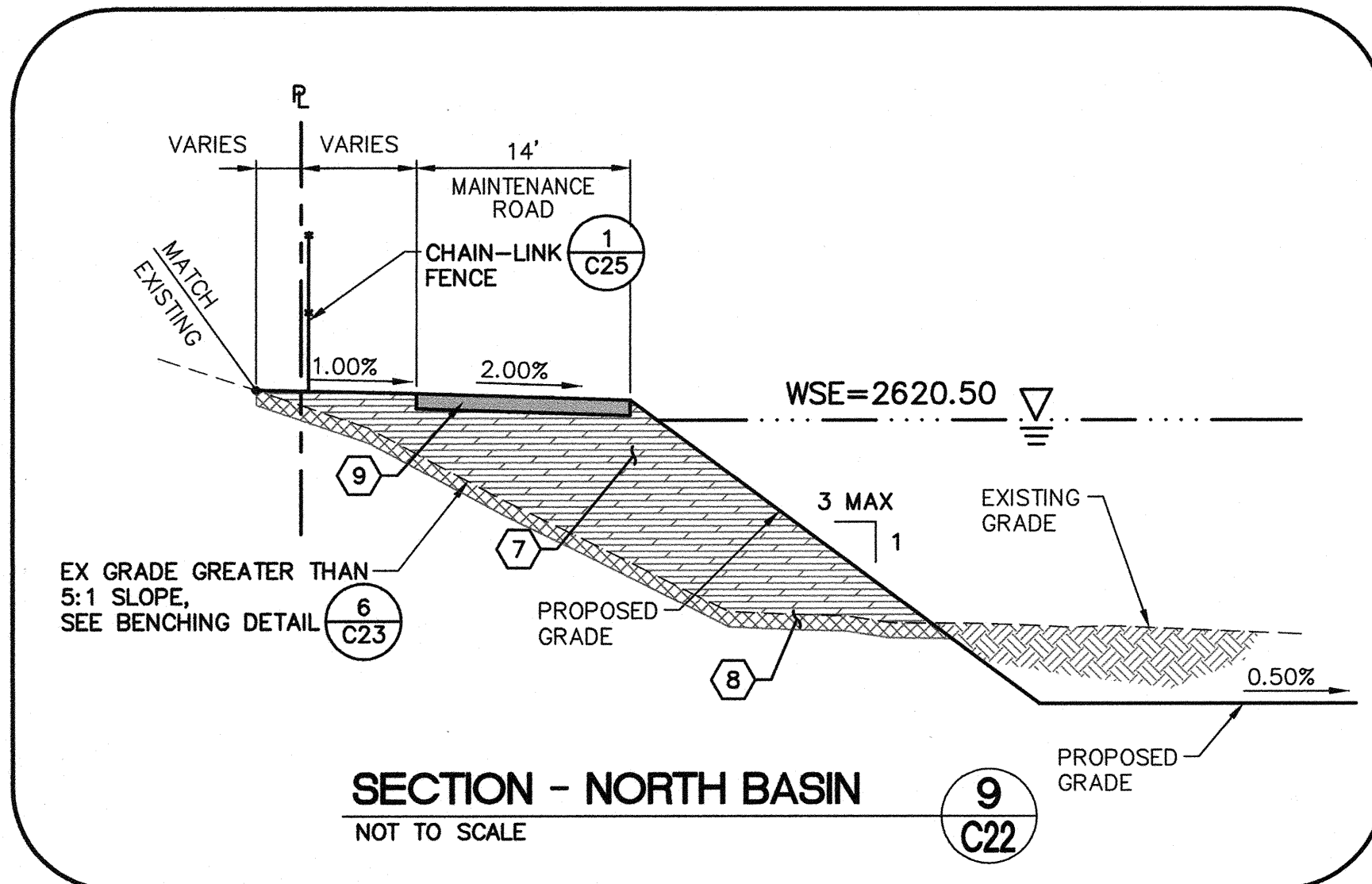


<p>DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101</p>		<p>G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1535 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 - F: 702.804.2299 - GCWALLACE.COM</p>	
<p>PROFILE 18" RCP LOW FLOW STORM DRAIN SOUTH BASIN</p>		<p>TITLE ANGEL PARK DETENTION BASIN EXPANSION</p>	
<p>SHEET C21</p>	<p>DRAWN BY: RKB</p>	<p>DESIGNED BY: RKB</p>	<p>CHECKED BY: RKB</p>
<p>SCALE: 1"=50' 1"=5'</p>	<p>PROJECT NO: 412-646</p>	<p>DATE: 08/29/2011</p>	<p>REVISION BY DATE</p>
<p>HANSEN NO. 36800</p>		<p>SHEET C21 45 OF 60 SHEETS DRAWING NO. 731-49-J</p>	

ANGEL PARK DETENTION BASIN EXPANSION

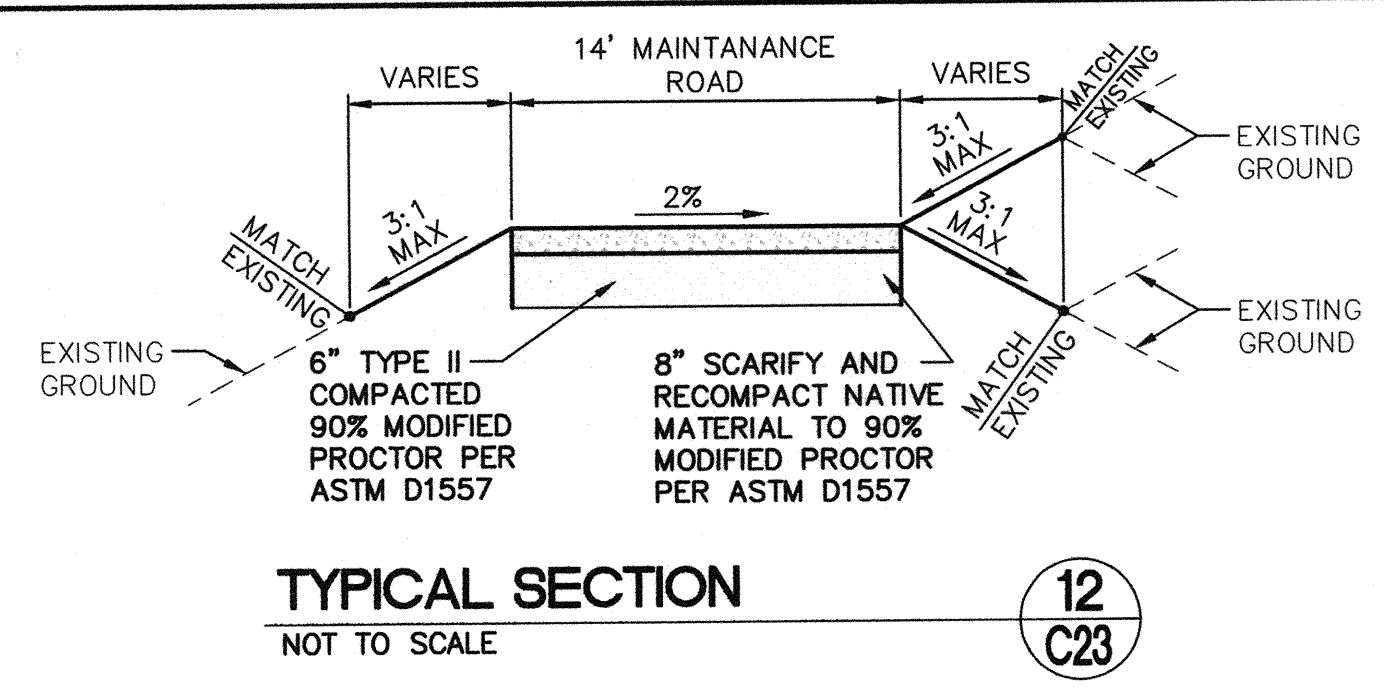
CONSTRUCTION NOTES

- 7 COMPACTED FILL TO 90% MODIFIED PROCTOR PER ASTM D1557
- 8 8" SCARIFY AND RECOMPACT NATIVE MATERIAL TO 90% MODIFIED PROCTOR PER ASTM D1557
- 9 12" TYPE II AGGREGATE BASE COMPACTED TO 90% MODIFIED PROCTOR PER ASTM D1557

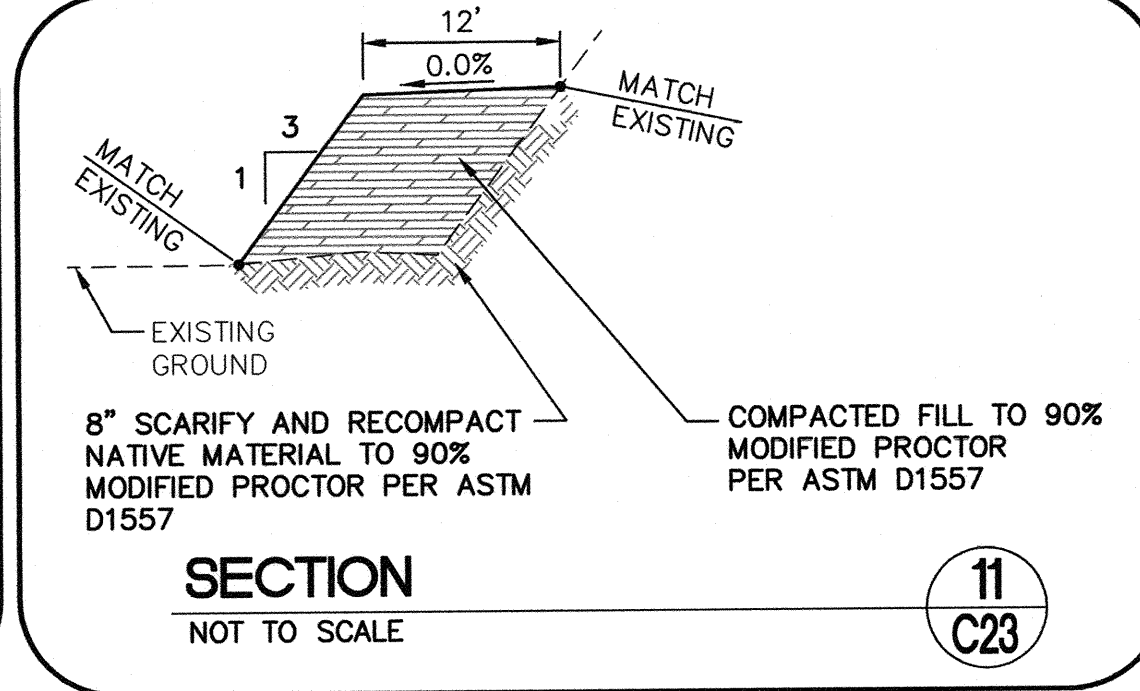


DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-8276	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.3000 F: 702.894.2299 GCWALLACE.COM
TYPICAL CROSS SECTIONS	ANGEL PARK DETENTION BASIN EXPANSION
DRAWN BY: RKB/KN DESIGNED BY: CHECKED BY: PROJECT NO: 412-646	SCALE: NONE HORIZ: NONE VERT: NONE
	SHEET C22 46 OF 60 SHEETS DRAWING NO. 731-49-J

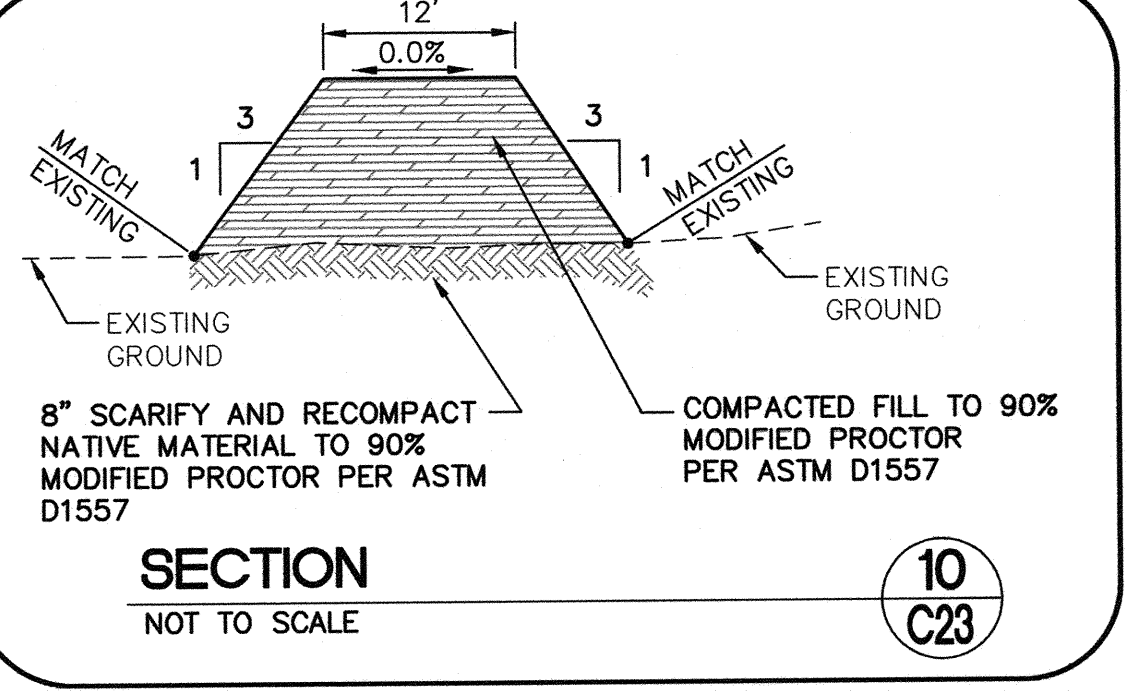
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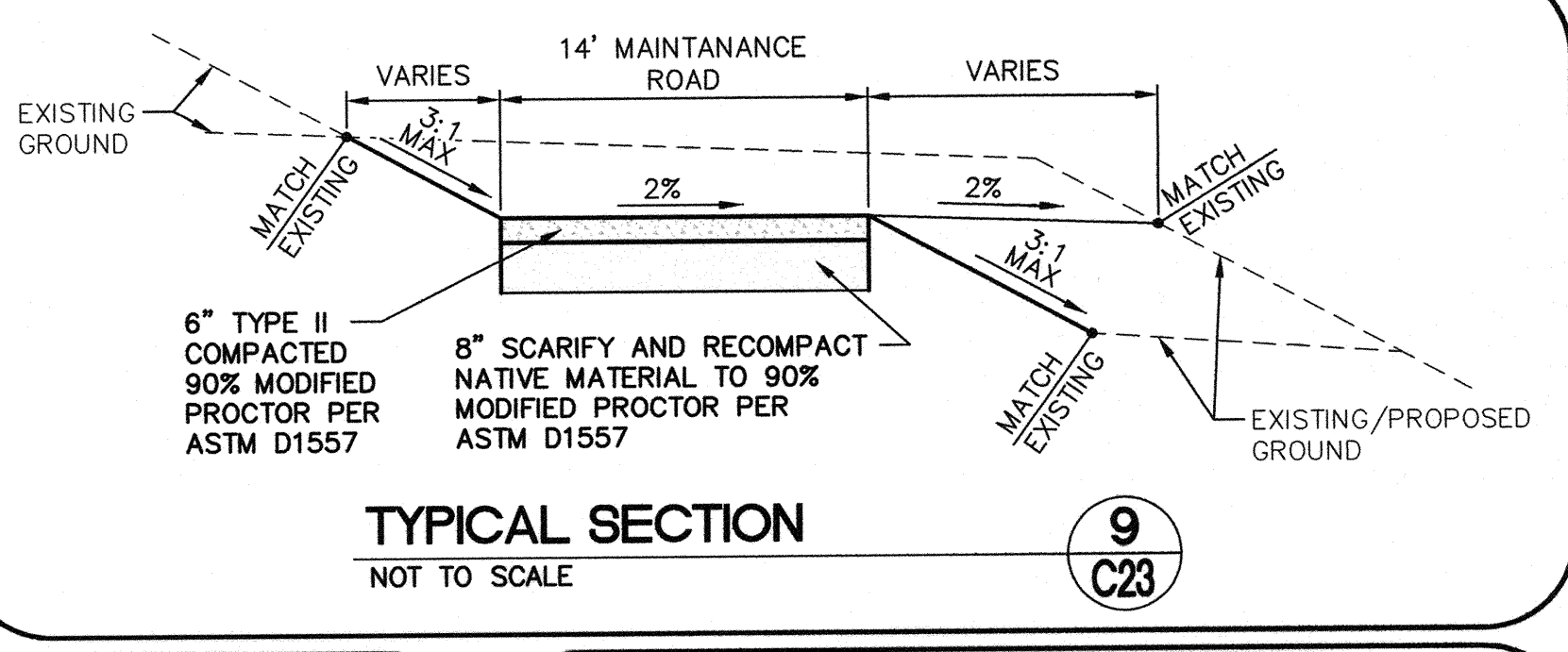
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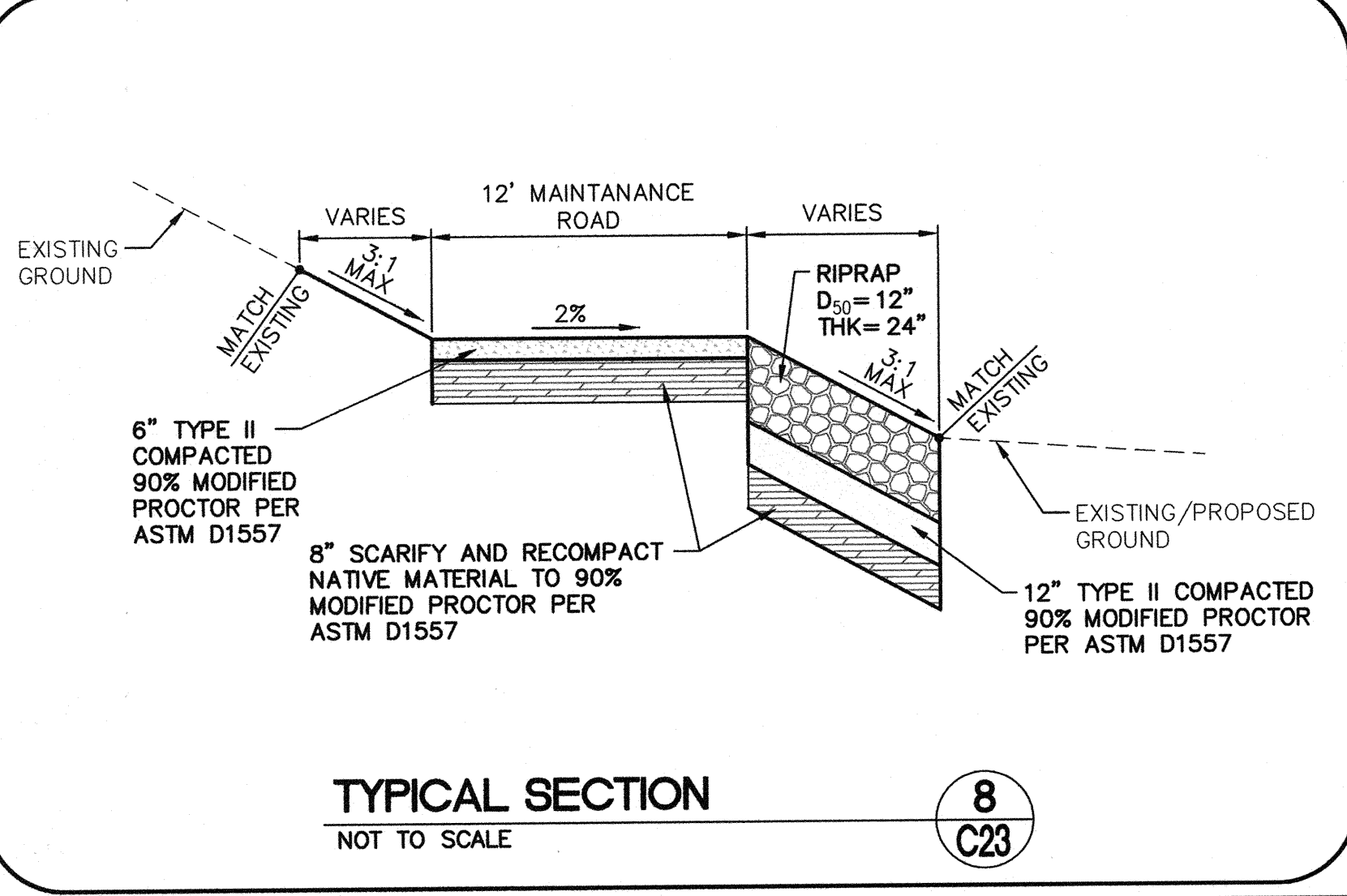
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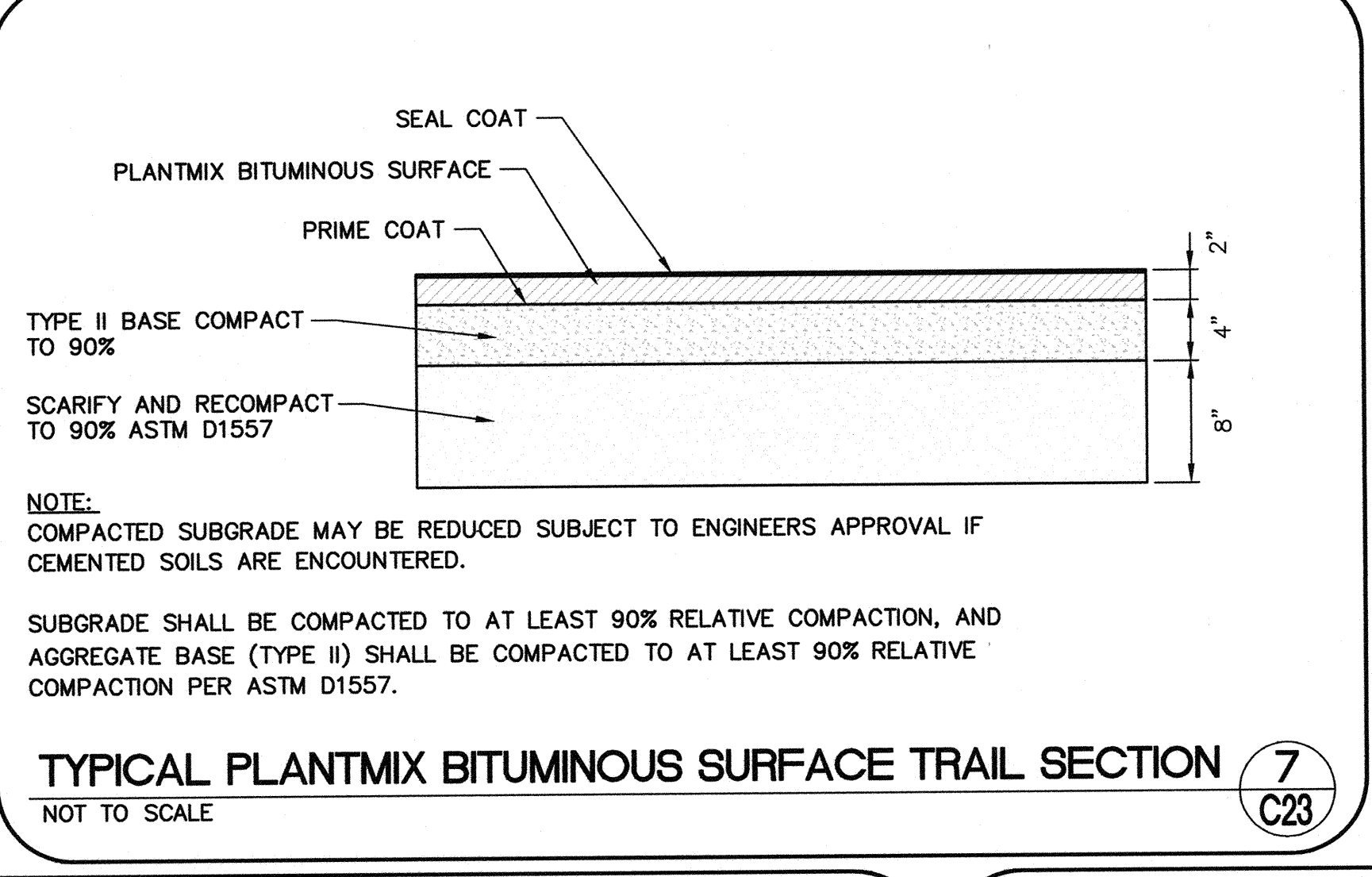
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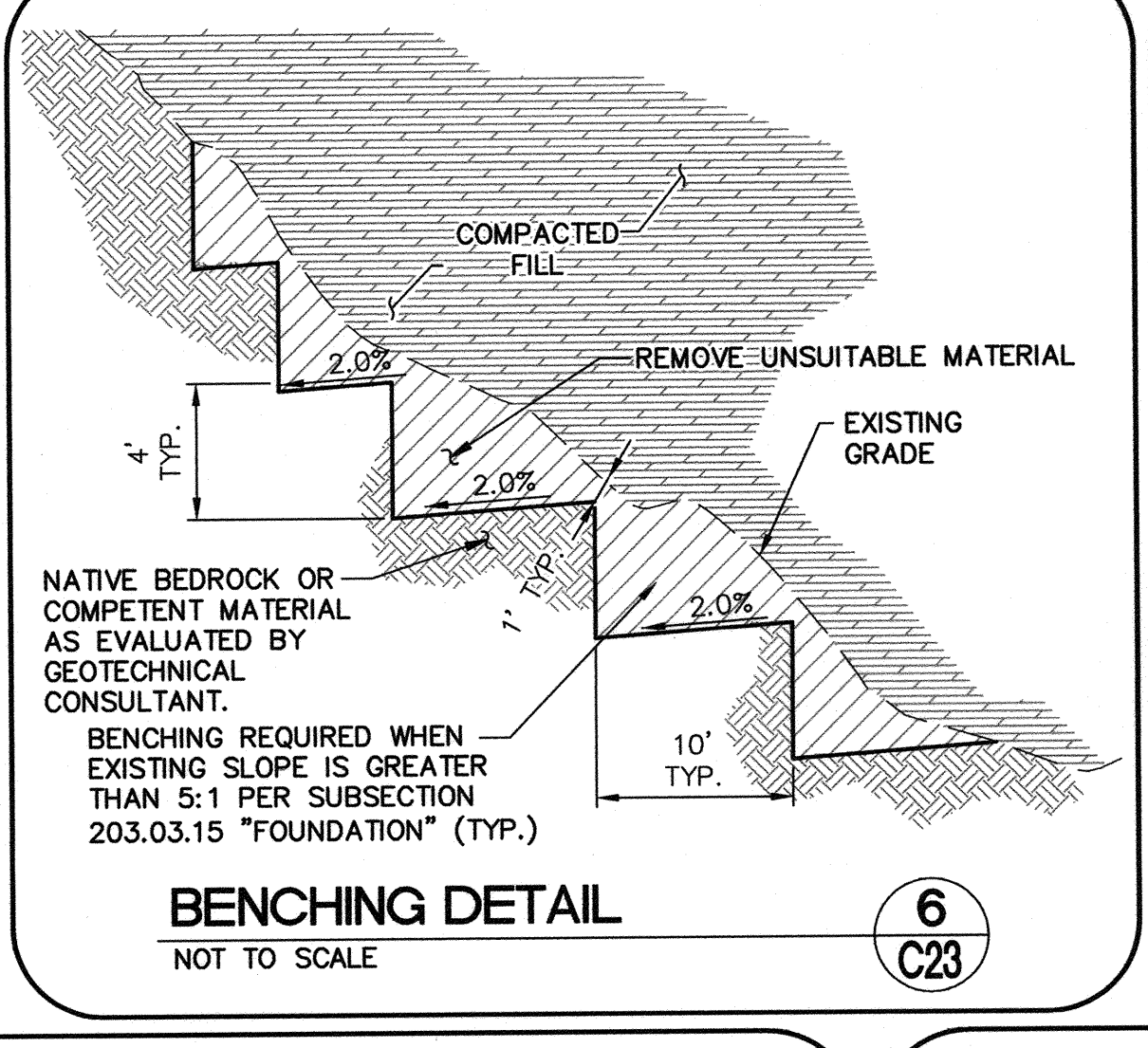
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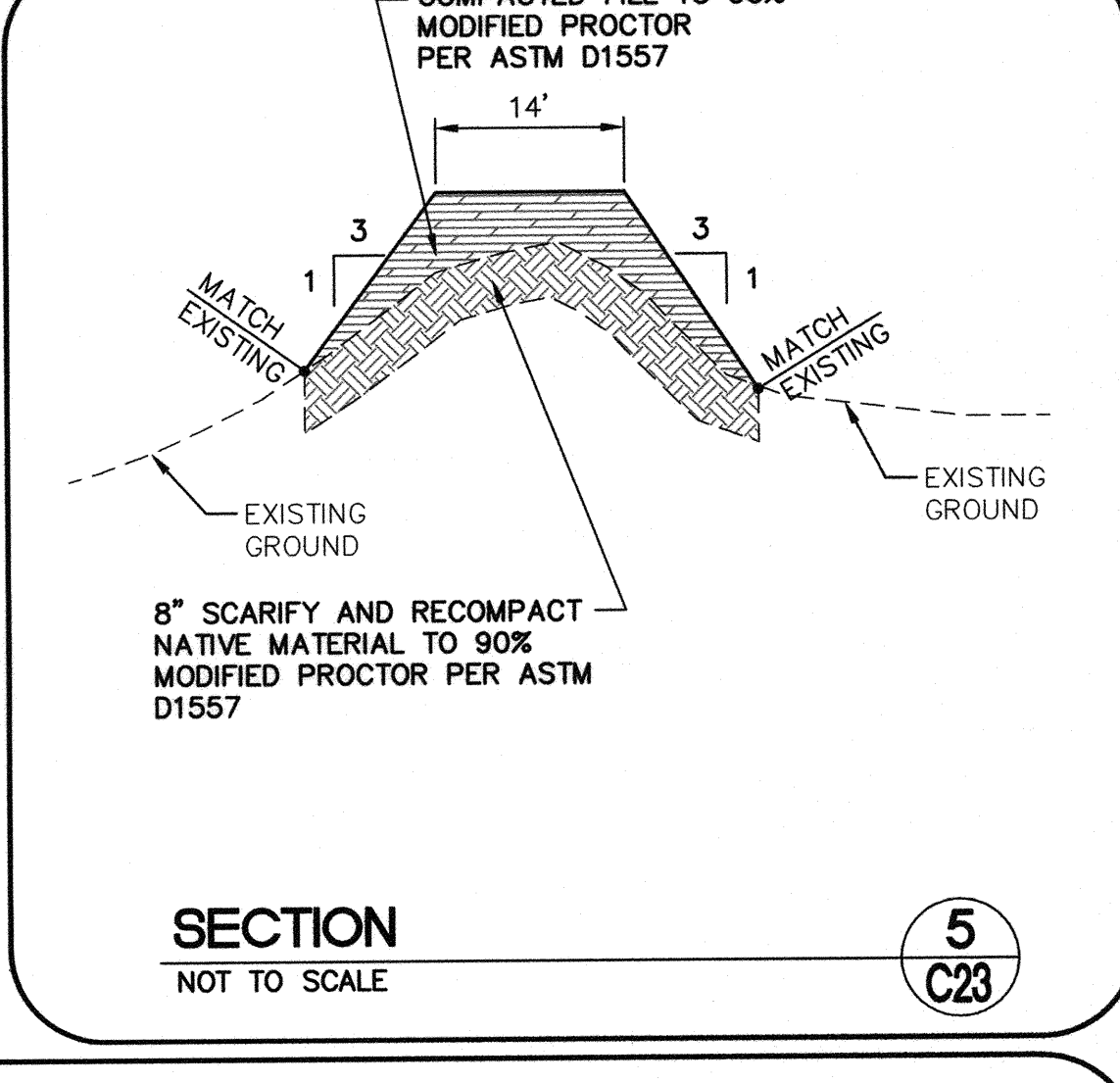
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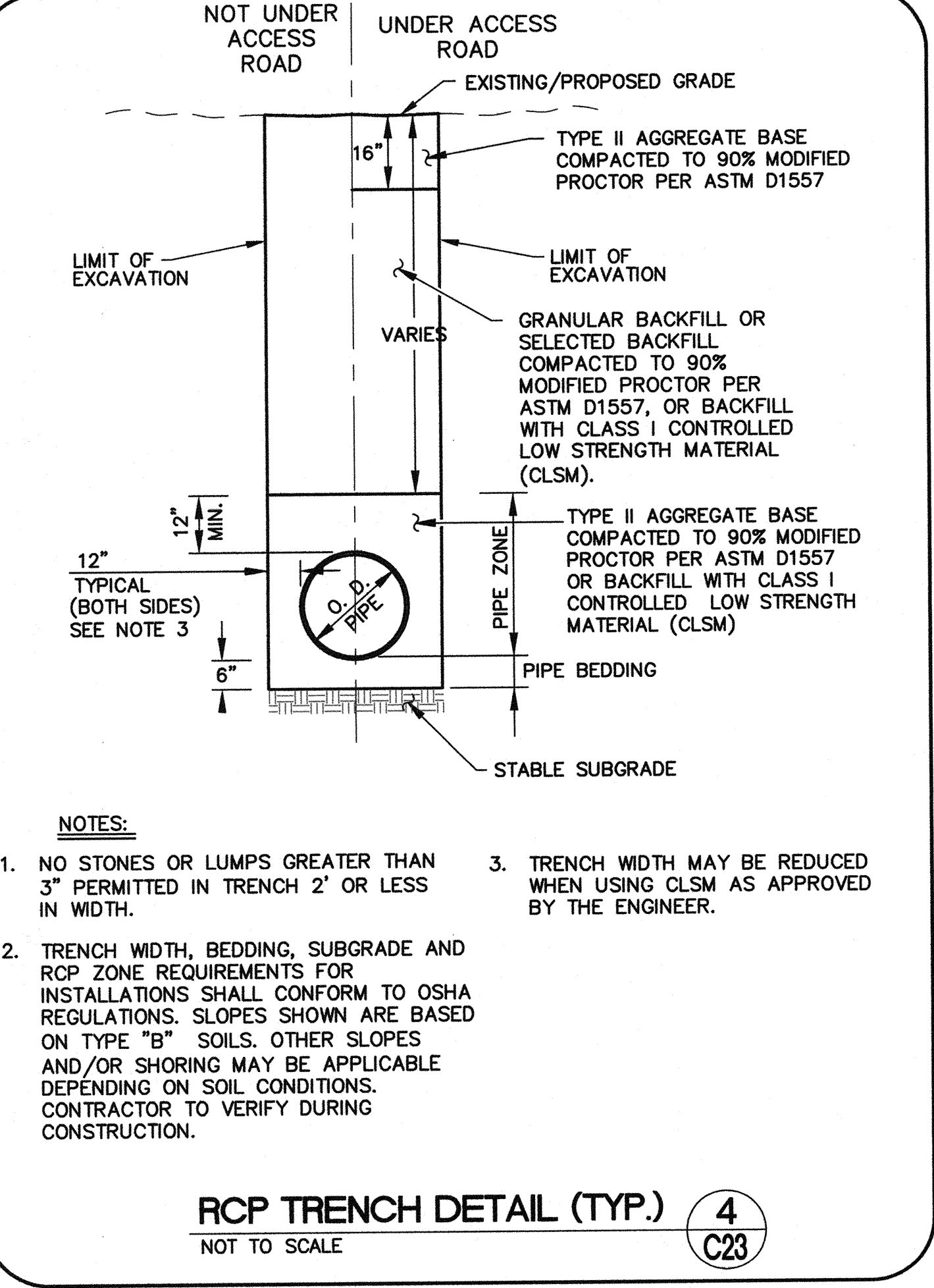
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C23



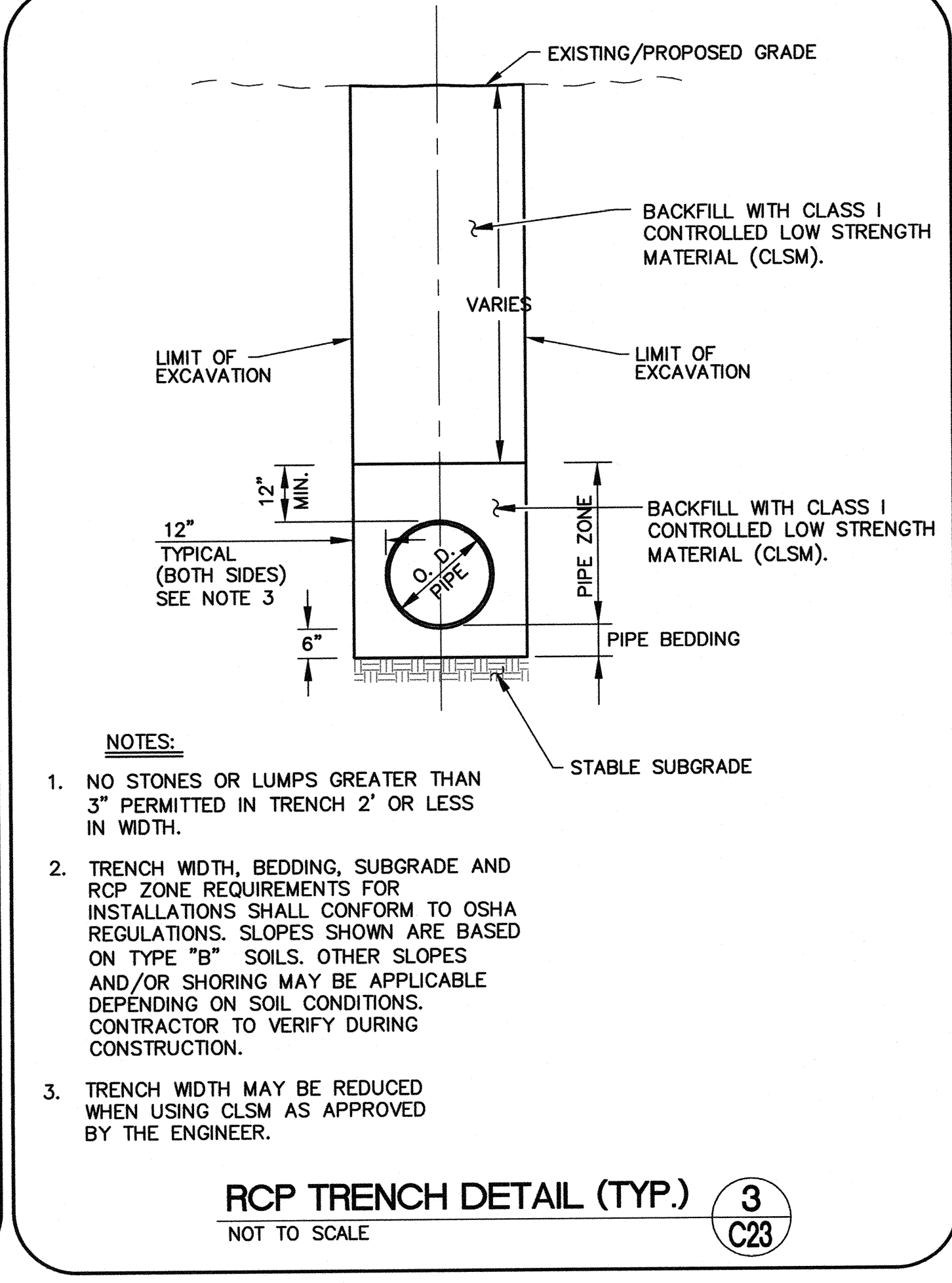
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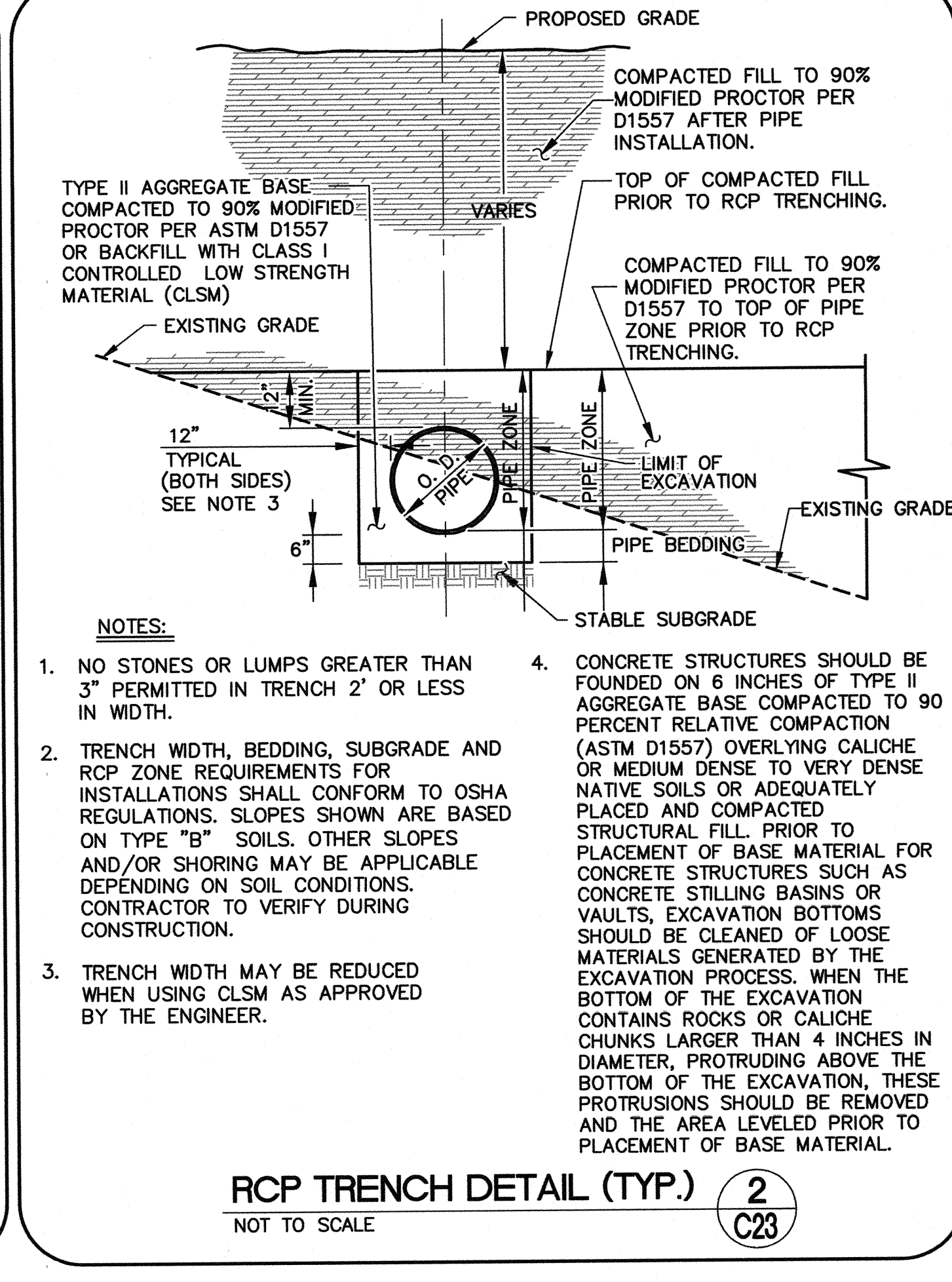
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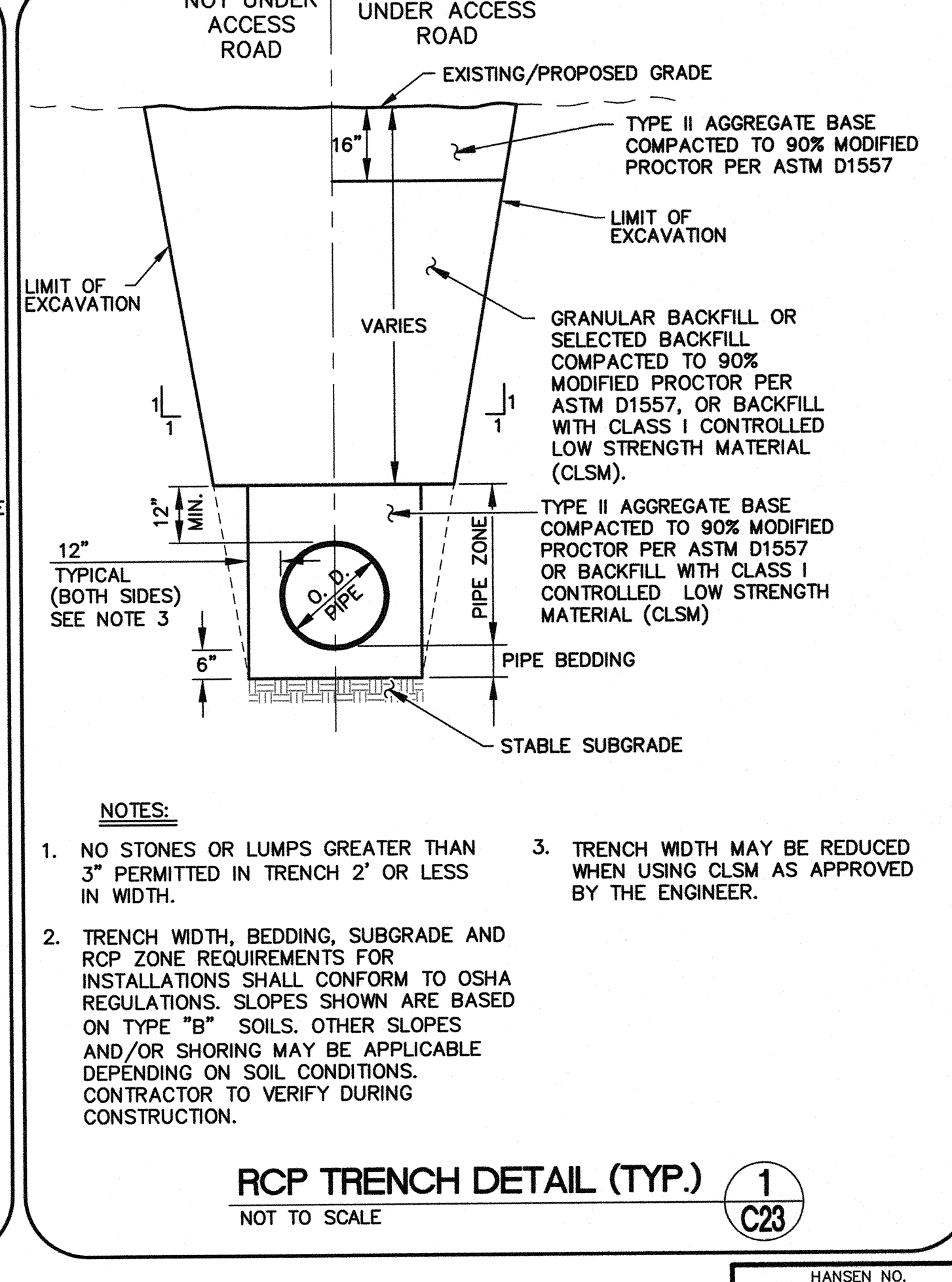
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NOT TO SCALE
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C23



RCP TRENCH DETAIL (TYP.)
NOT TO SCALE
3
C23



RCP TRENCH DETAIL (TYP.)
NOT TO SCALE
2
C23



RCP TRENCH DETAIL (TYP.)
NOT TO SCALE
1
C23

ANGEL PARK DETENTION BASIN

REVISION BY DATE

DEPARTMENT OF PUBLIC WORKS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101
(702) 228-6276

G.C. WALLACE COMPANIES
PLANNERS | SURVEYORS
ENGINEERS | RAINBOW BOULEVARD - LAS VEGAS, NV 89146
T: 702.804.2000 - F: 702.804.2299 - GC.WALLACE.COM

SHEET TYPICAL CROSS SECTIONS

TITLE ANGEL PARK DETENTION BASIN EXPANSION

SCALE: NONE HORIZ NONE VERT

DRAWN BY: [REDACTED] DESIGNED BY: [REDACTED] CHECKED BY: [REDACTED]

PROJECT NO: 412-646

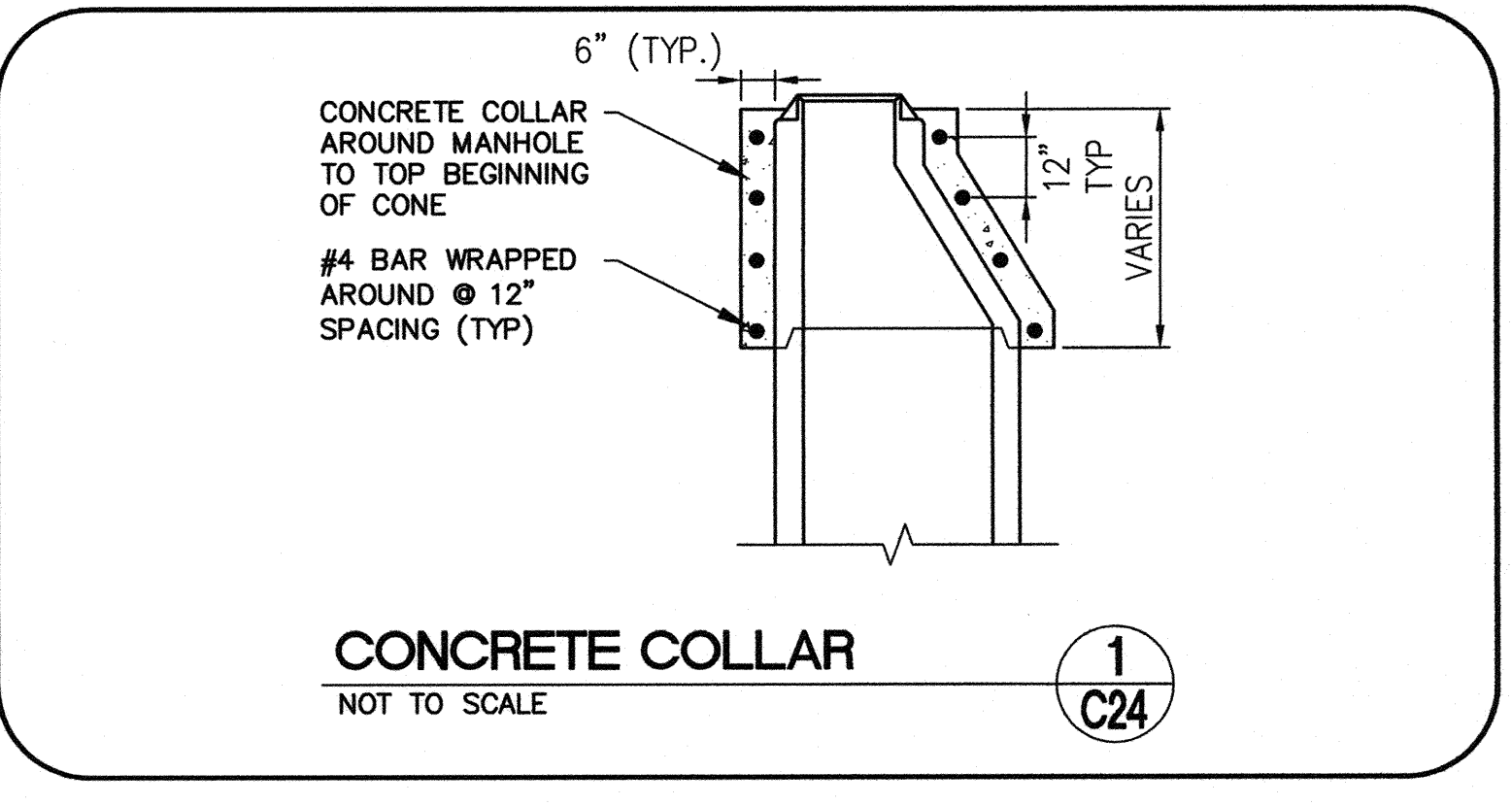
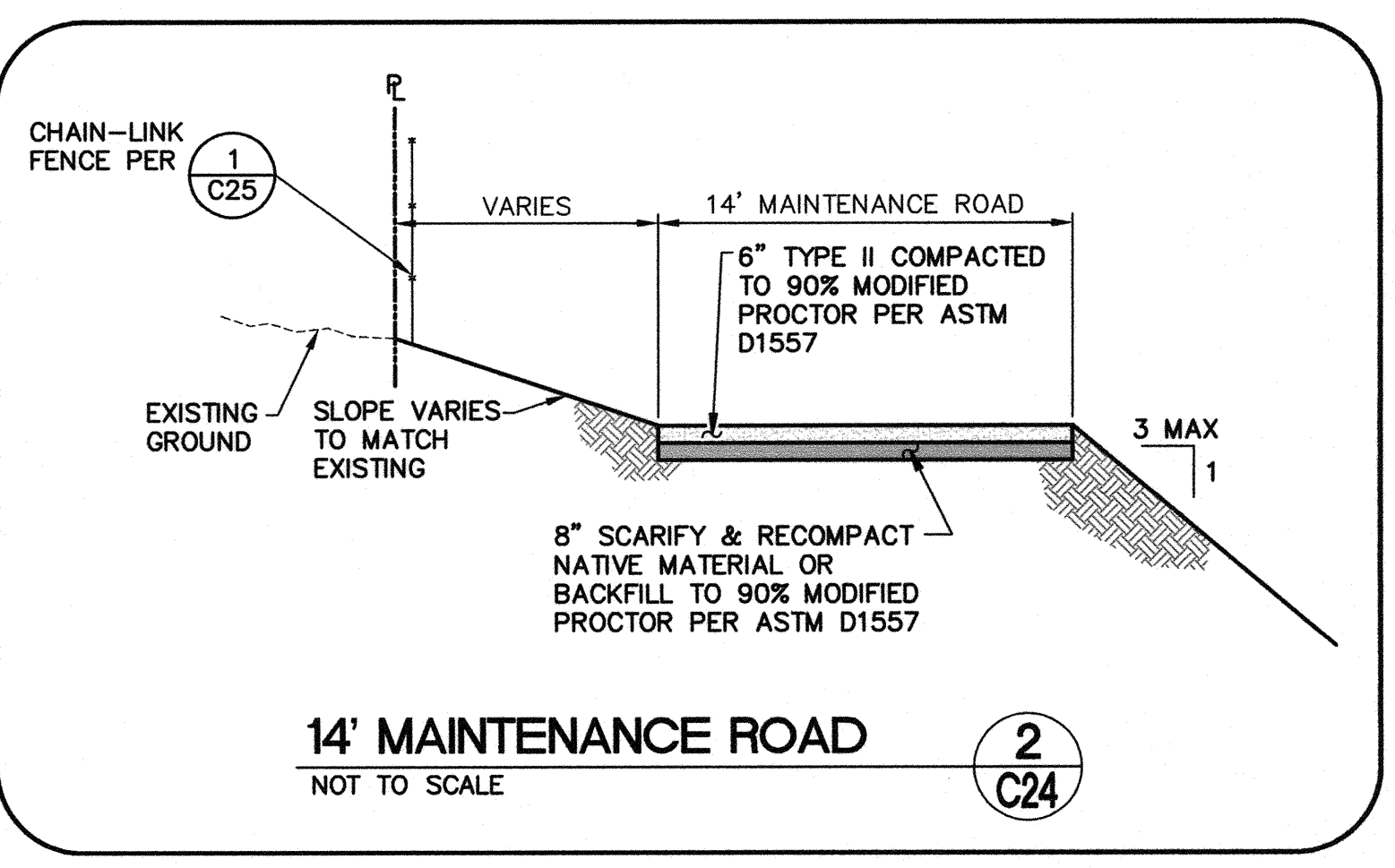
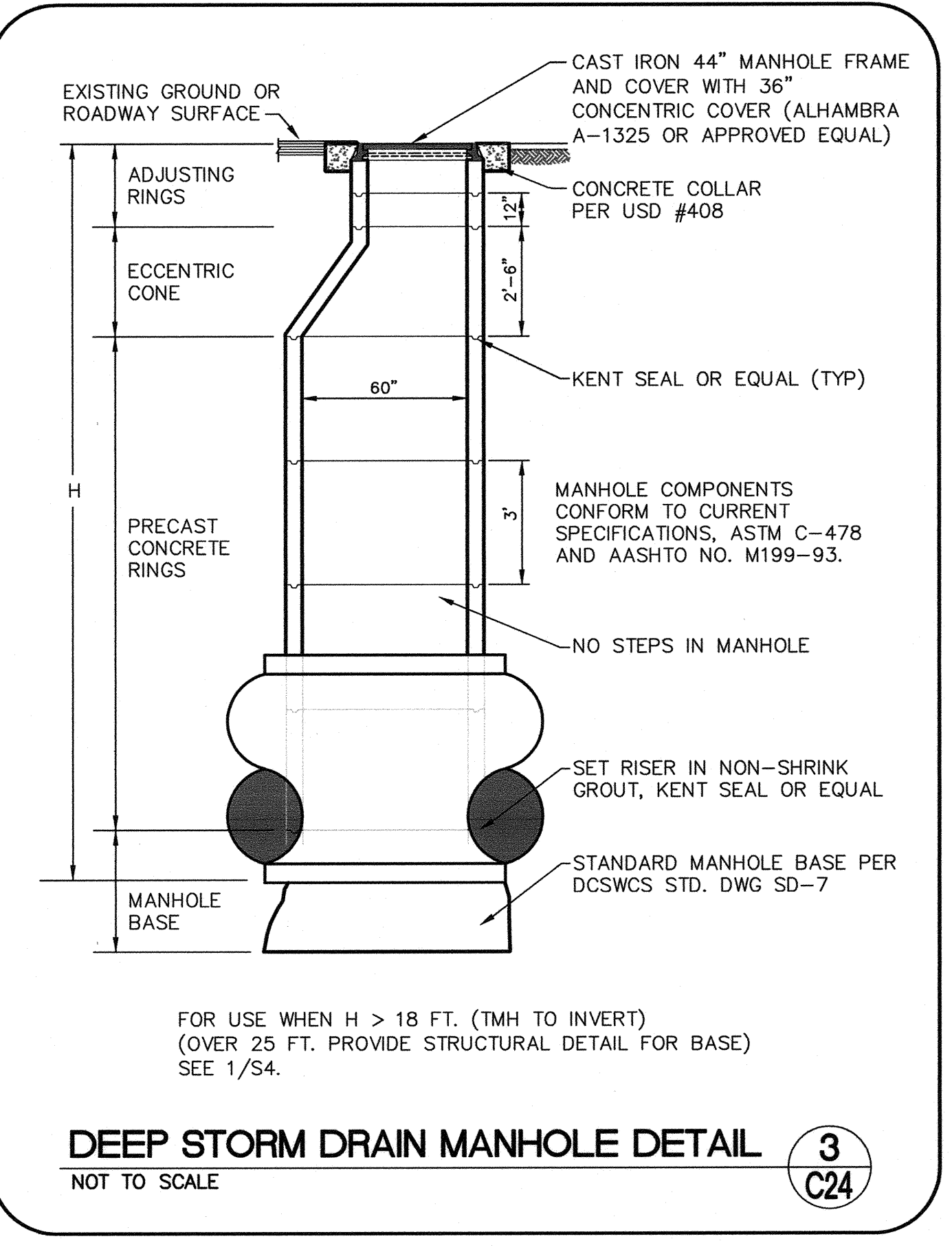
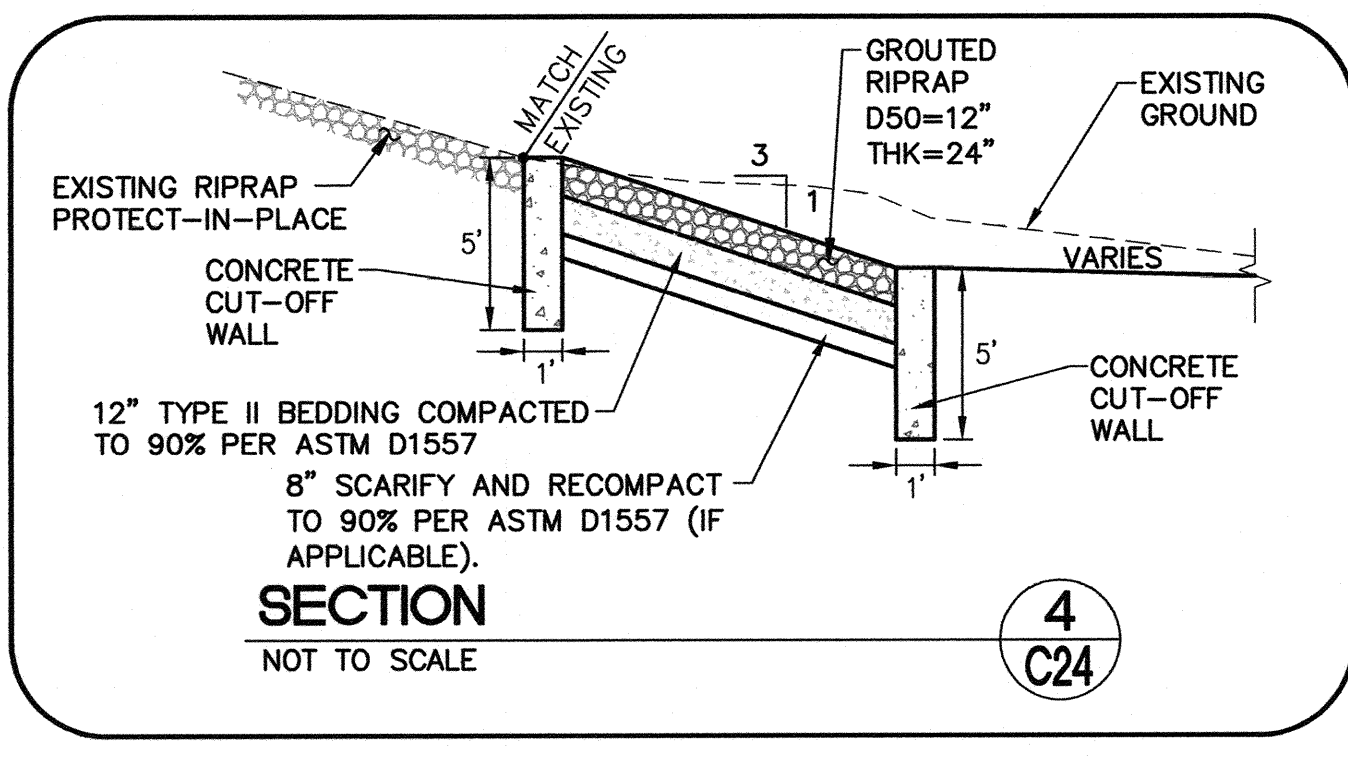
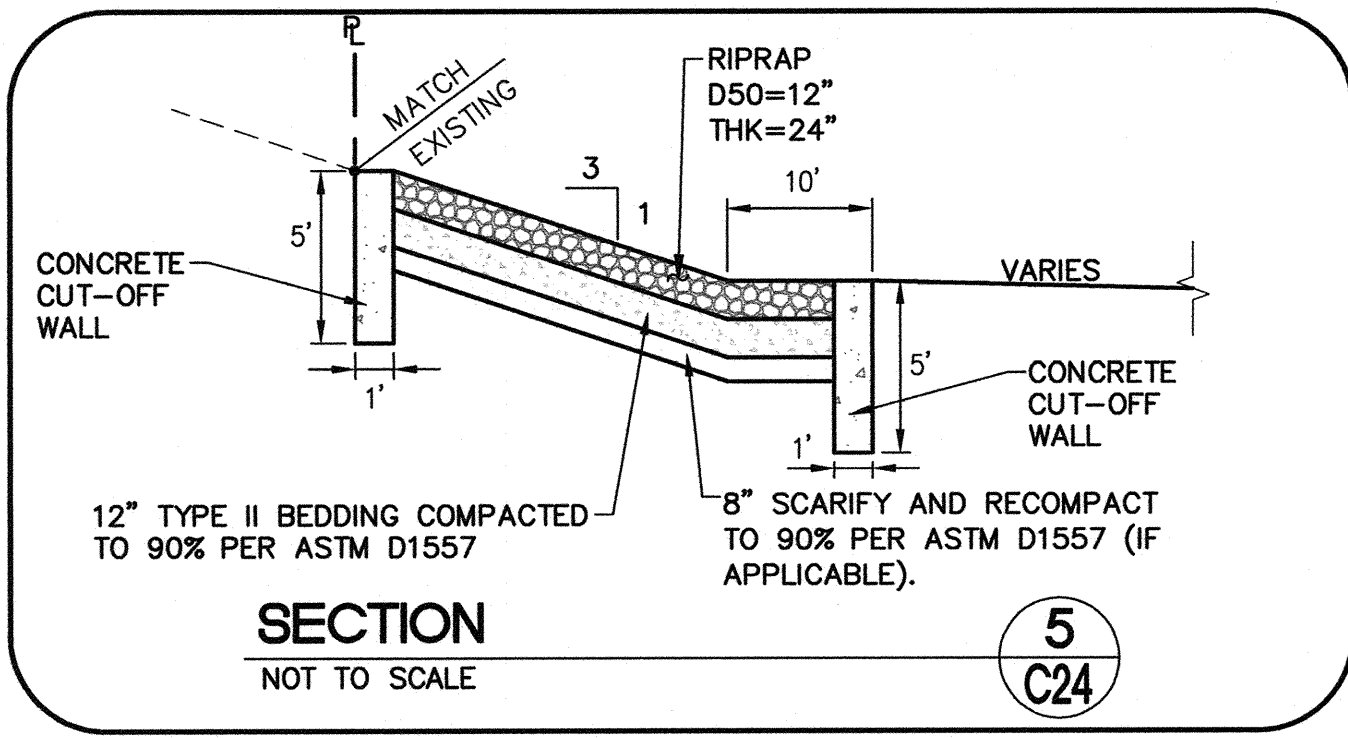
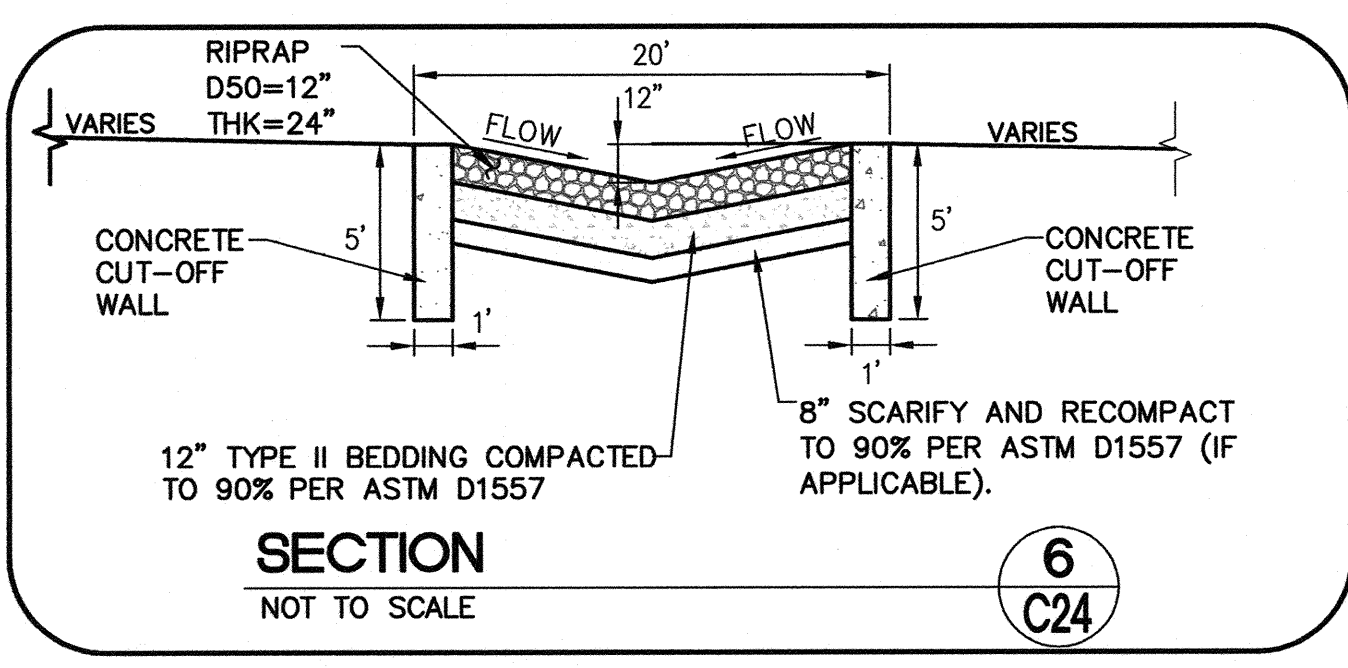
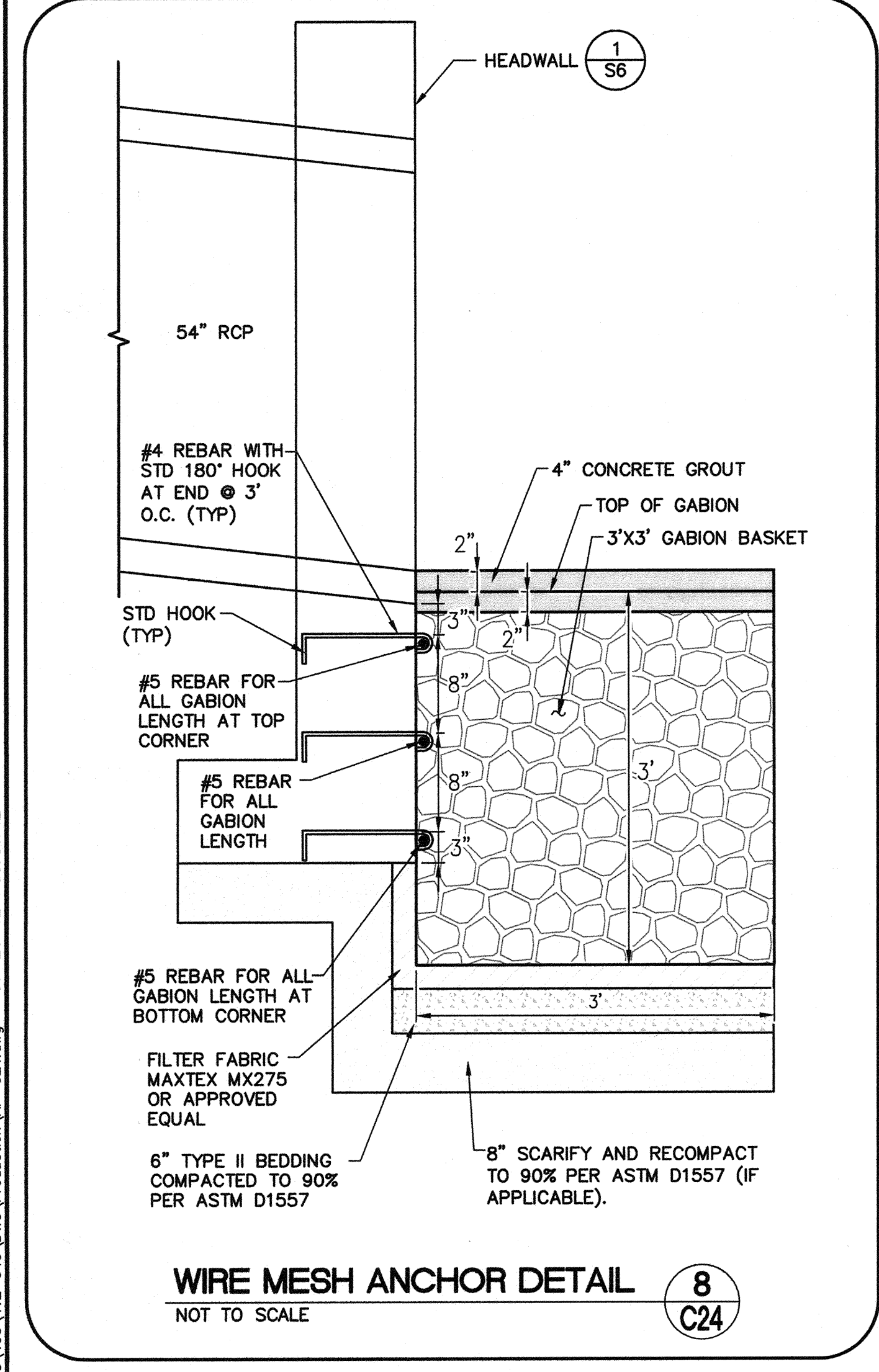
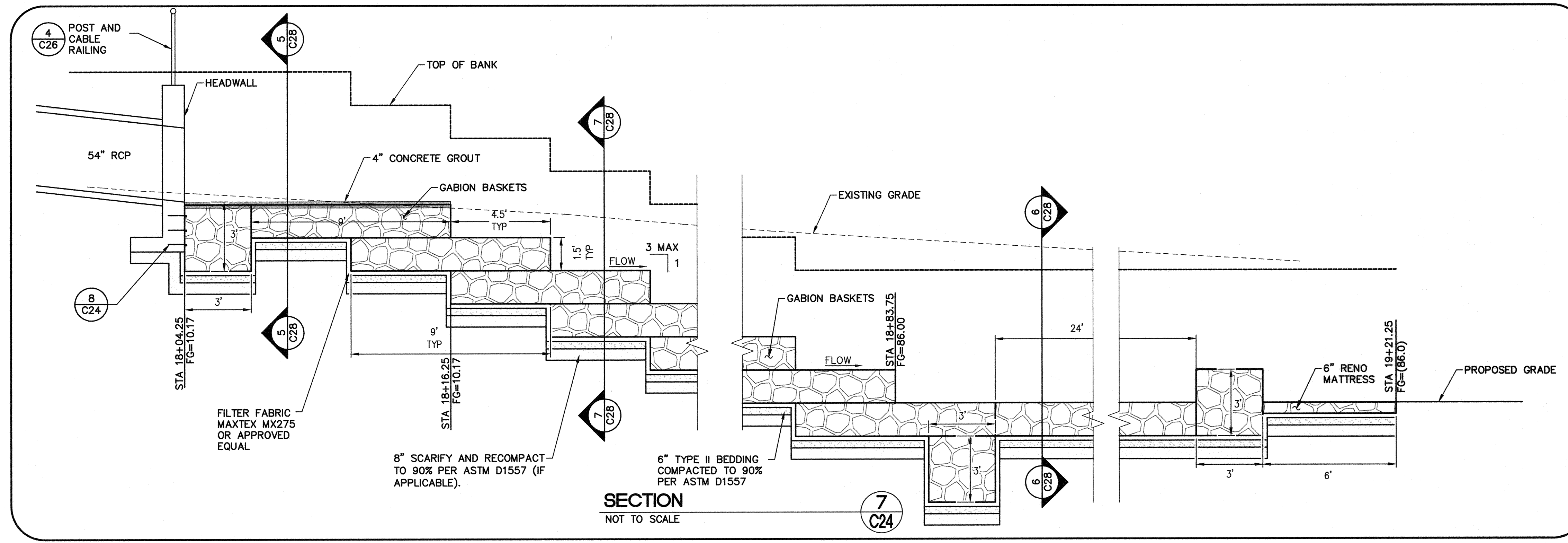
7/30/19

SEAL
GRANT Y. TOKUMI
CIVIL ENGINEER
No. 15517

SHEET C23
47 OF 60 SHEETS
DRAWING NO. 731-49-J

HANSEN NO. 36800

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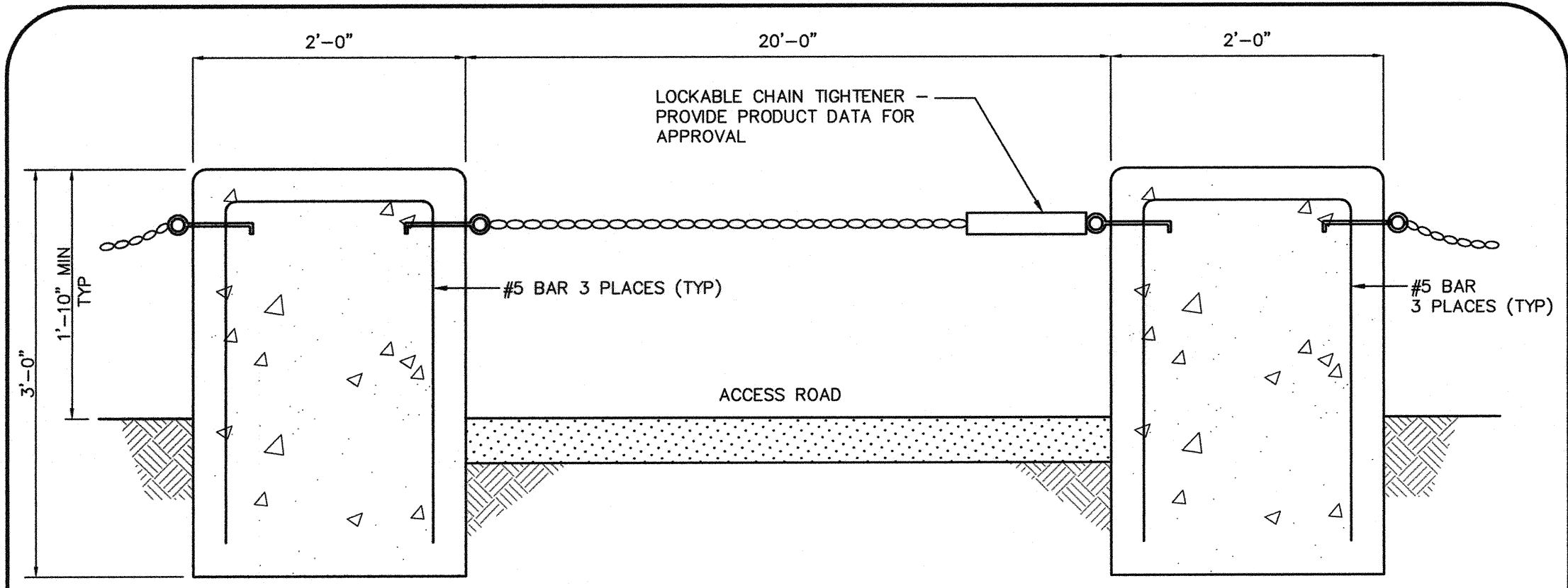


 DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 228-6276		 G. C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 - F: 702.804.2299 - GC-WALLACE.COM	
SHEET C24		TITLE ANGEL PARK DETENTION BASIN EXPANSION	
DRAWN BY: RKB	DESIGNED BY: [Blank]	CHECKED BY: [Blank]	PROJECT NO: 412-646
SCALE: NONE		SCALE: NONE	
HANSEN NO. 36800		DRAWING NO. 731-49-J	

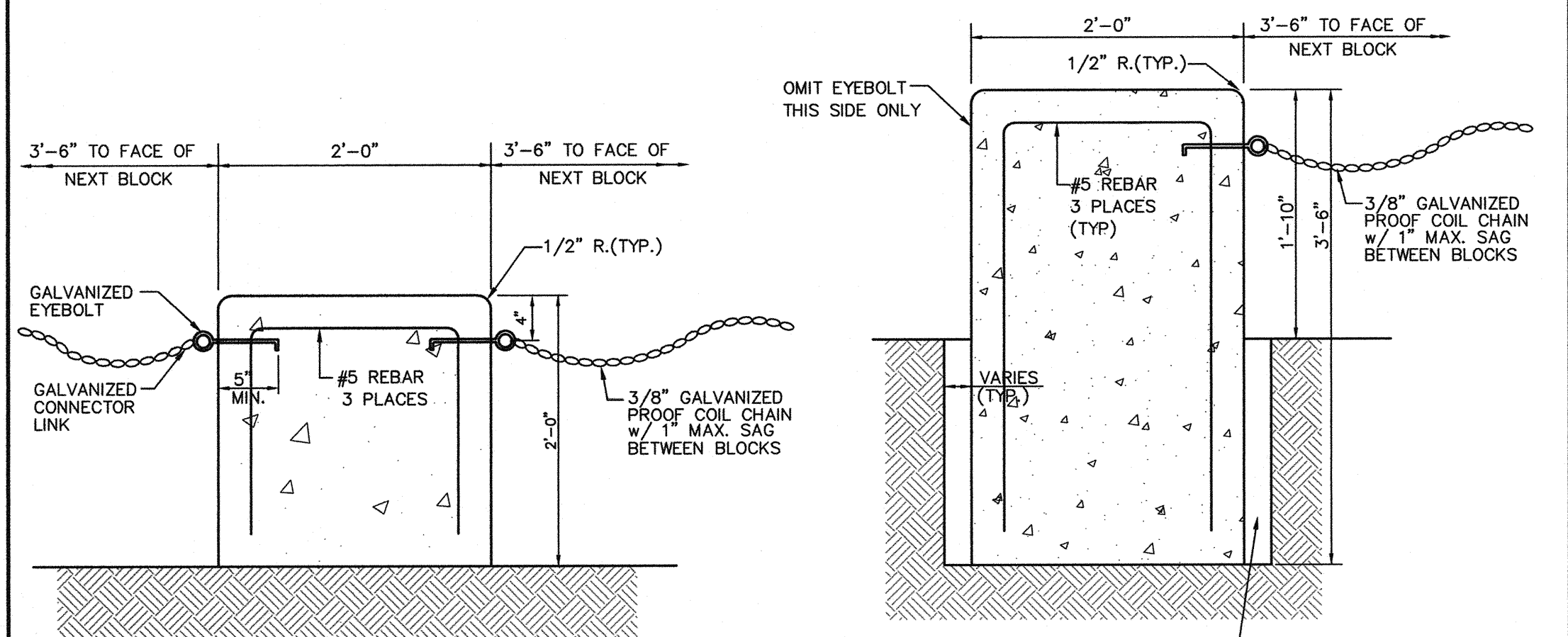
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ANGEL PARK DETENTION BASIN EXPANSION

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ACCESS GATE DETAIL

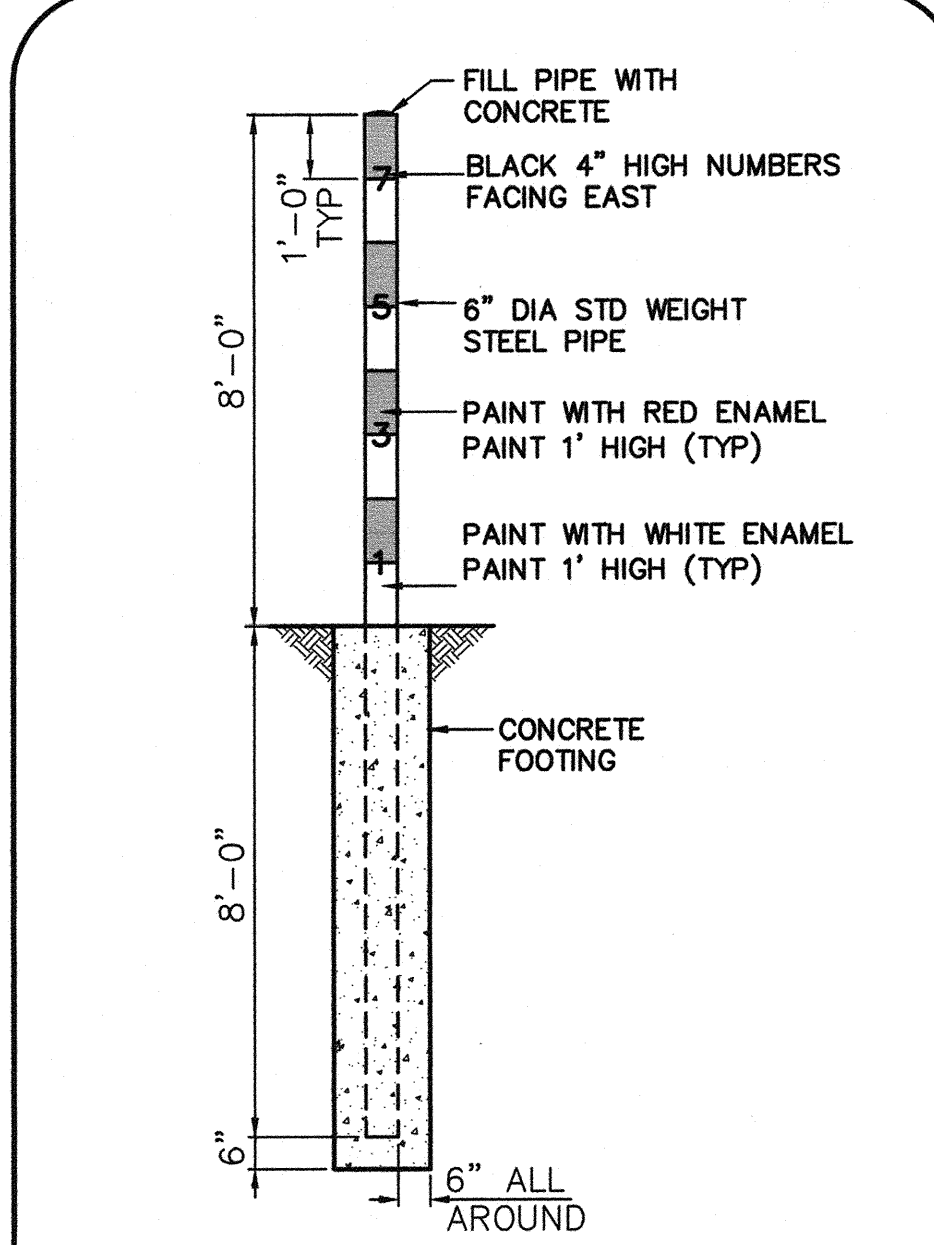


TYPICAL BLOCK DETAIL

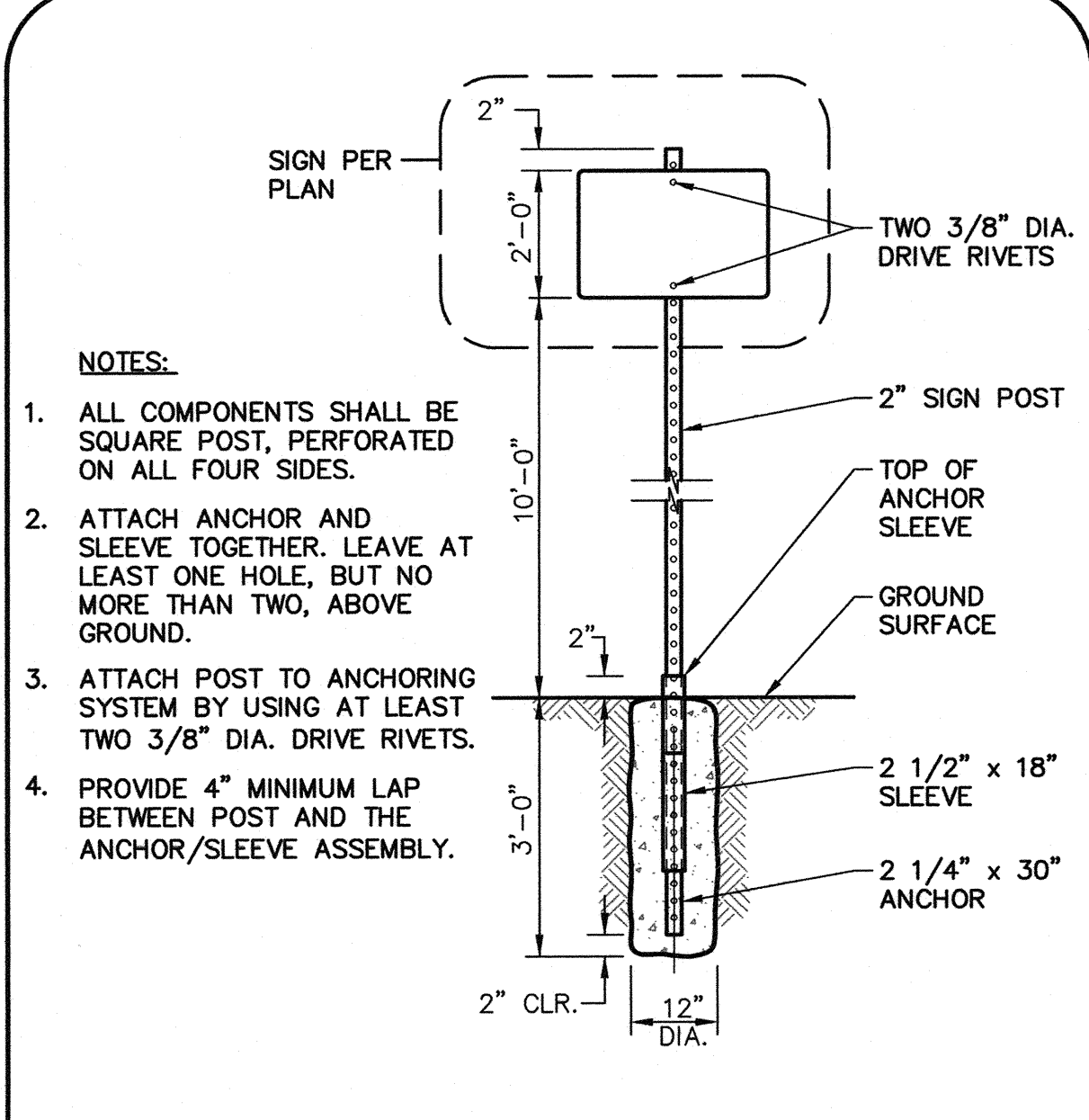
END BLOCK

VEHICLE BARRIER FENCE DETAIL
NOT TO SCALE

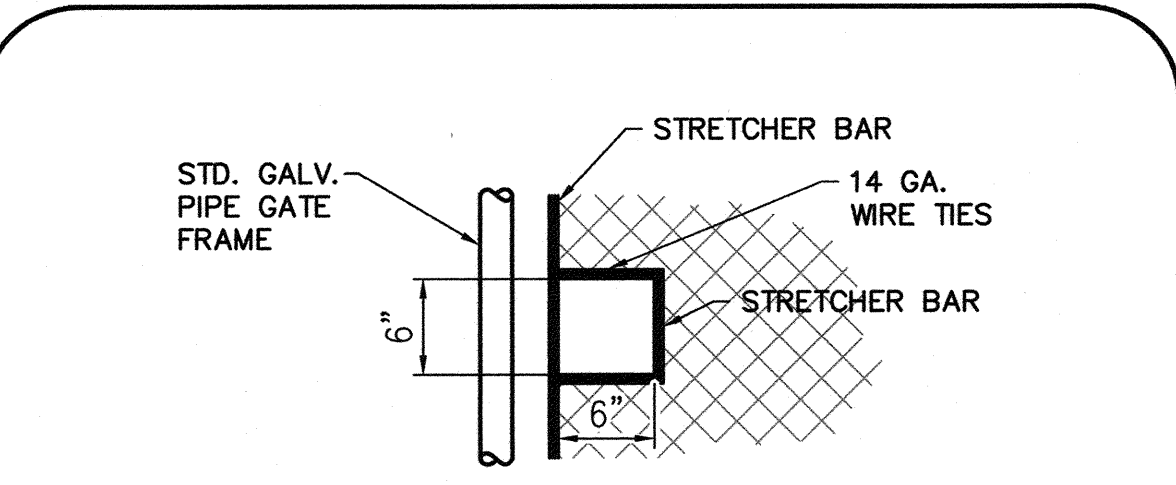
NOTE: QUANTITIES RELATING TO VEHICLE FENCING SHALL BE CALCULATED USING THESE DETAILS AND LINEAL FOOT TOTALS.



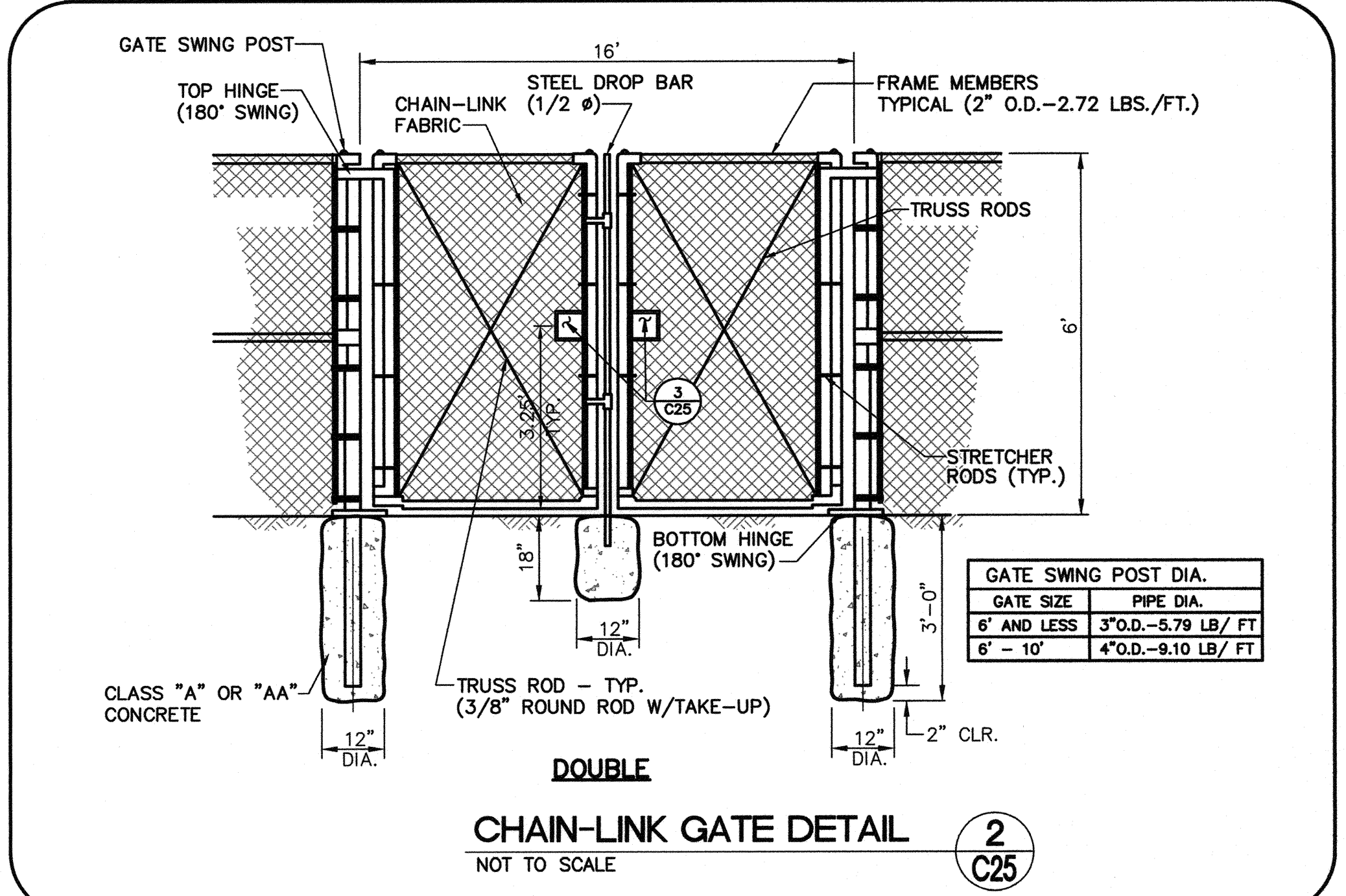
SEDIMENT GAUGE DETAIL
NOT TO SCALE



SIGN POST DETAIL
NOT TO SCALE

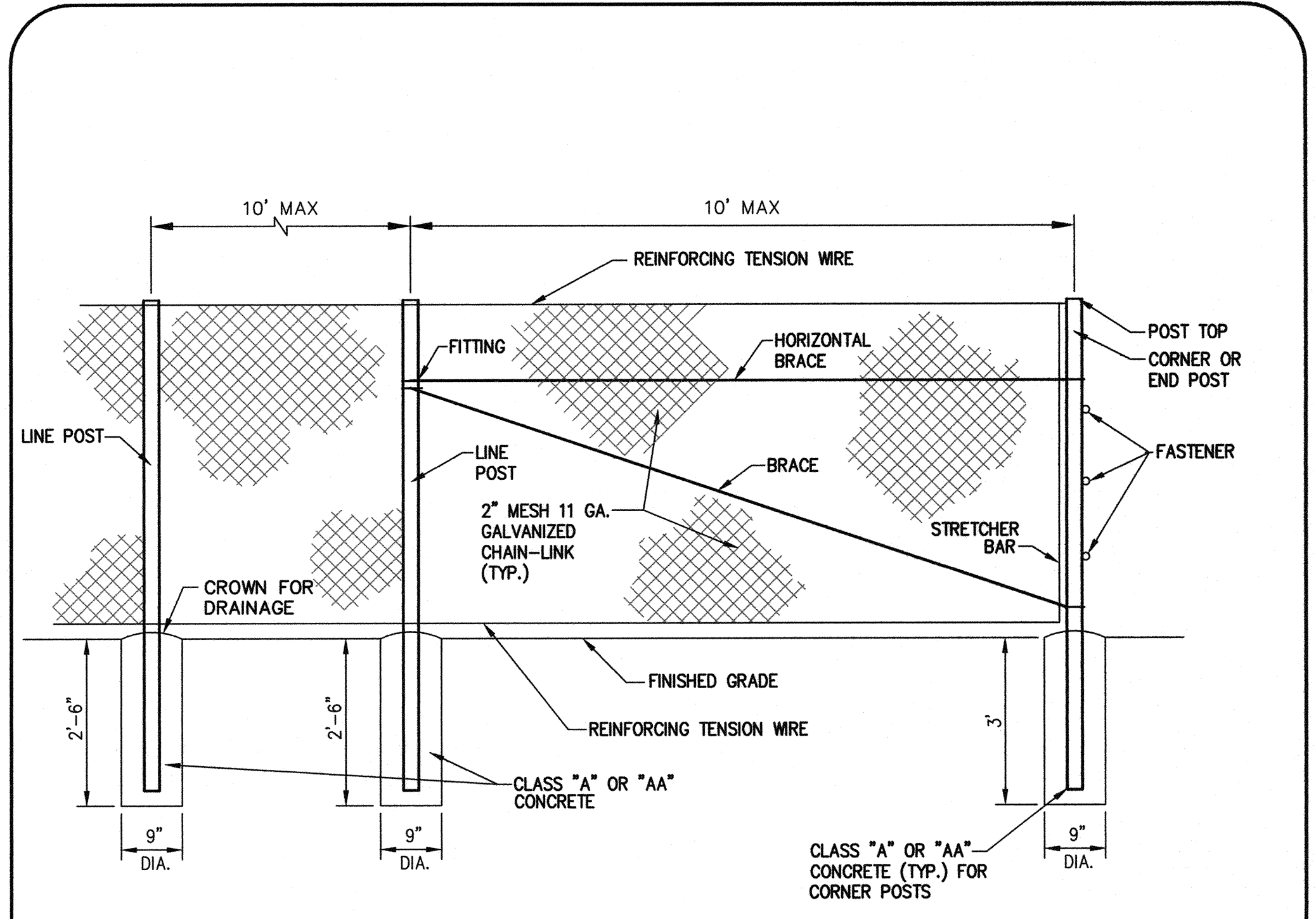


LOCK AND CHAIN CUTOUT DETAIL
NOT TO SCALE



DOUBLE CHAIN-LINK GATE DETAIL
NOT TO SCALE

GATE SWING POST DIA.	
GATE SIZE	PIPE DIA.
6' AND LESS	3" O.D. - 5.79 LB/FT
6' - 10'	4" O.D. - 9.10 LB/FT



CHAIN-LINK FENCE DETAIL
NOT TO SCALE

- NOTES:
- FENCING SHALL BE CHAIN-LINK AND SHALL CONSIST OF GALVANIZED CHAIN-LINK FABRIC ON STEEL POSTS.
 - ALL POST TOPS SHALL BE FITTED WITH SUITABLE FINIALS.
 - BRACES SHALL BE SPACED APPROXIMATELY 12" BELOW TOP OF TERMINAL POSTS AND SHALL EXTEND FROM END, GATE, OR CORNER POSTS TO FIRST ADJACENT LINE POST.
 - ALL FITTINGS SHALL BE HOT DIPPED GALVANIZED MALLEABLE, CAST IRON, OR PRESSED STEEL.
 - TOP AND BOTTOM SELVAGES OF THE FENCE SHALL HAVE A TWISTED AND BARBED FINISH.

LOCATION	MIN. SIZE	MIN. WEIGHT
END, CORNER AND PULL	2.351 O.D.	3.10
LINE	2.00 O.D.	2.72
BRACES	1.63 O.D.	2.27
TOP RAIL	1.63 O.D.	2.27

ANGEL PARK DETENTION BASIN EXPANSION

DEPARTMENT OF PUBLIC WORKS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101
(702) 228-6276

G.C. WALLACE COMPANIES
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1535 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299 GCWALLACE.COM

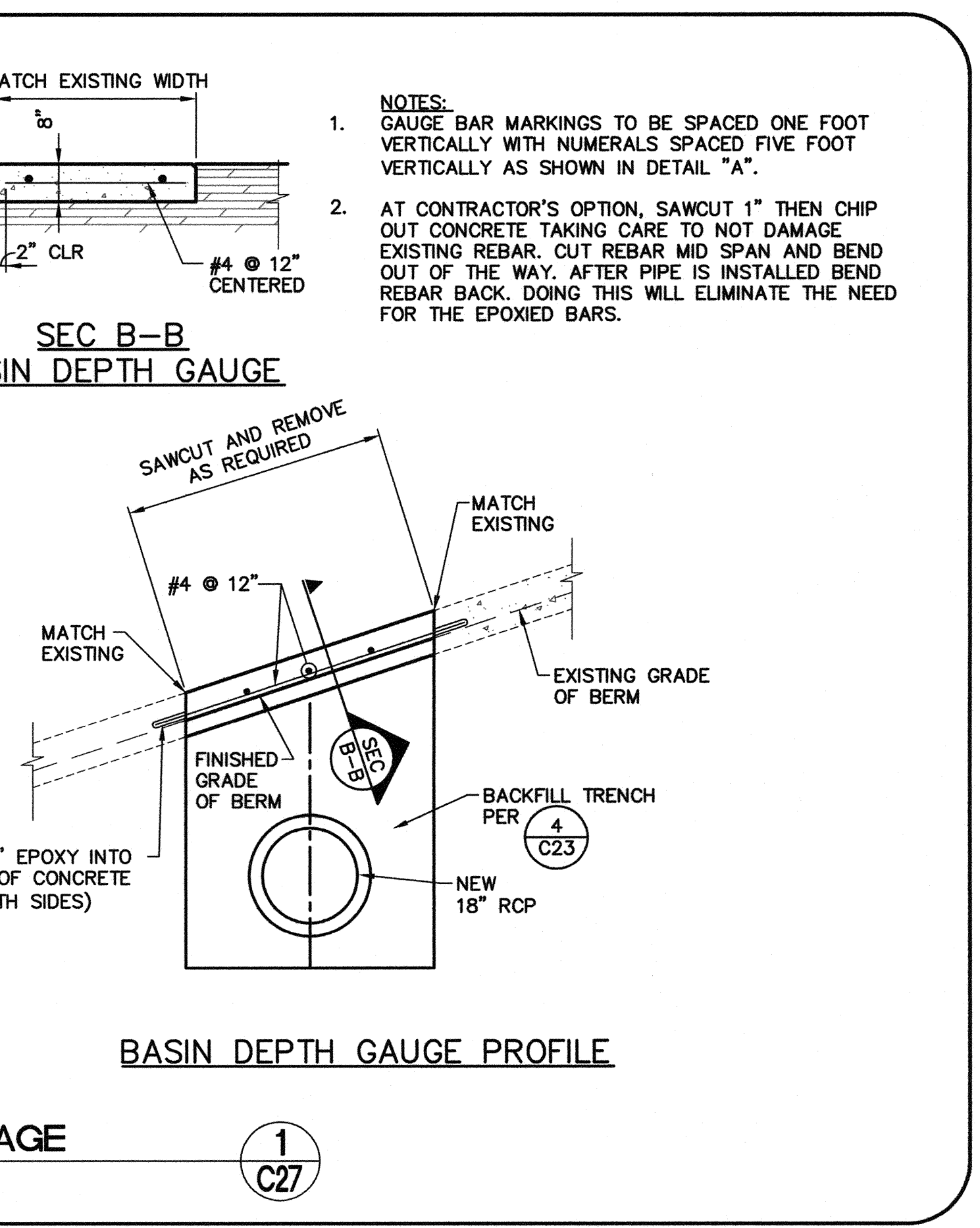
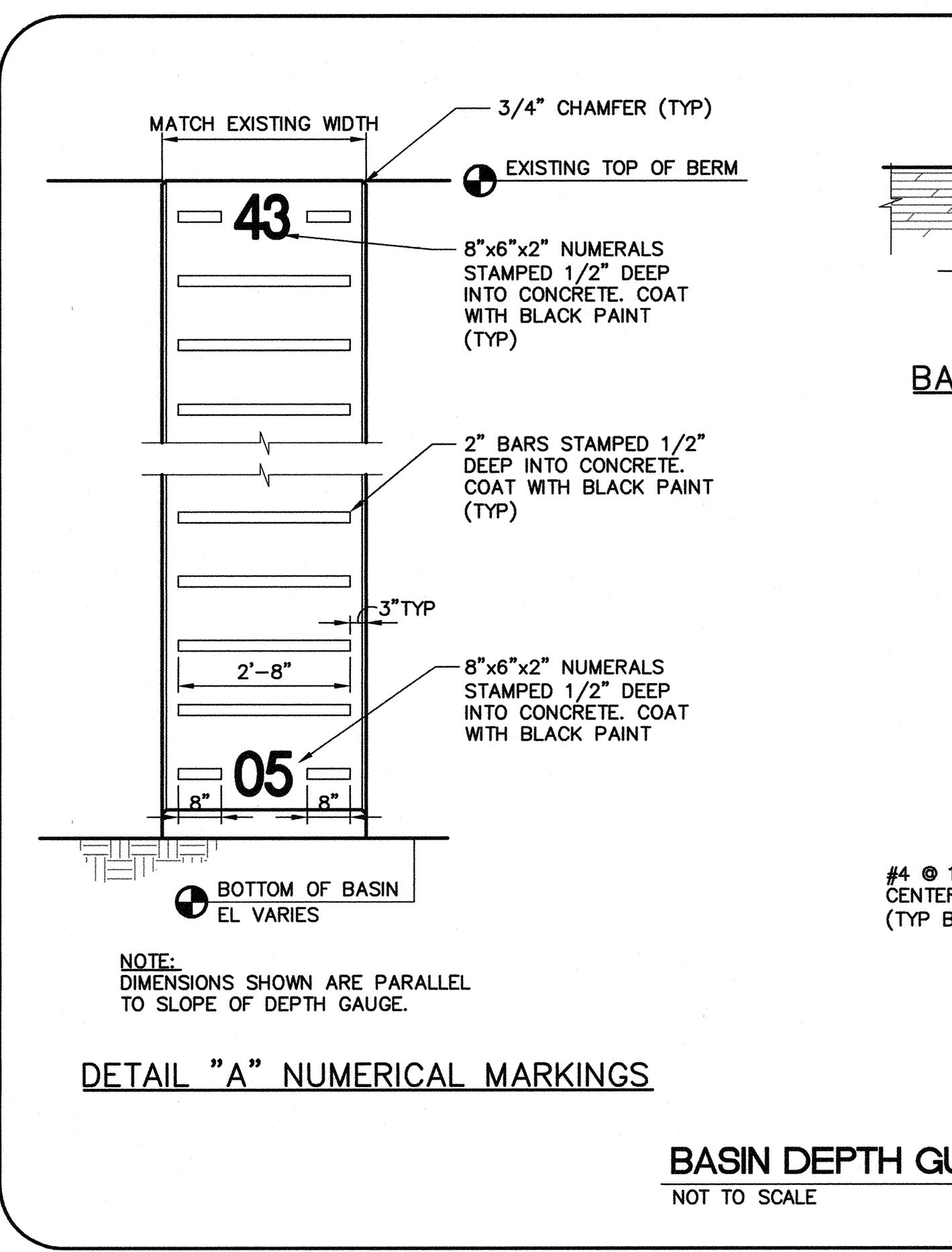
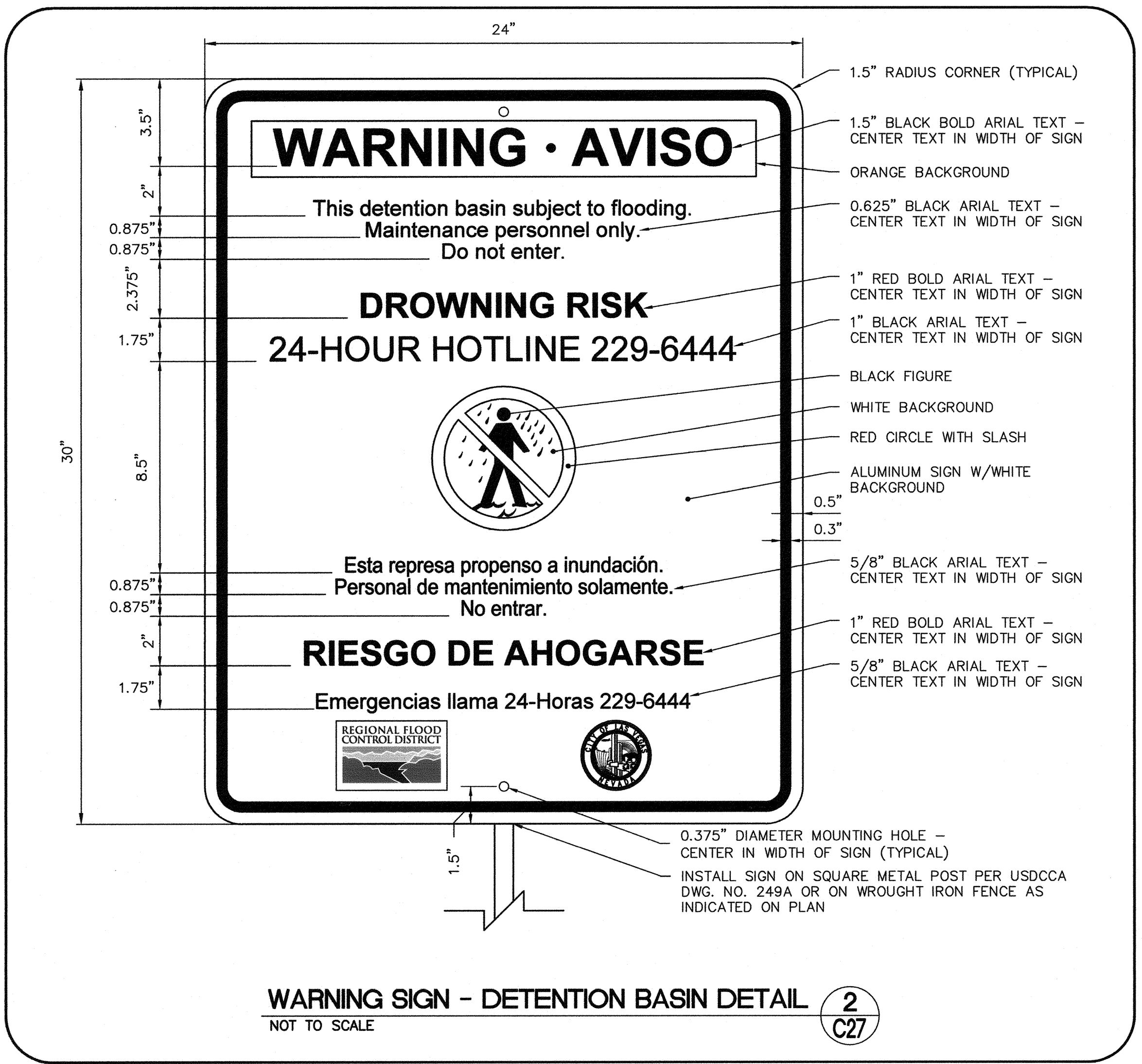
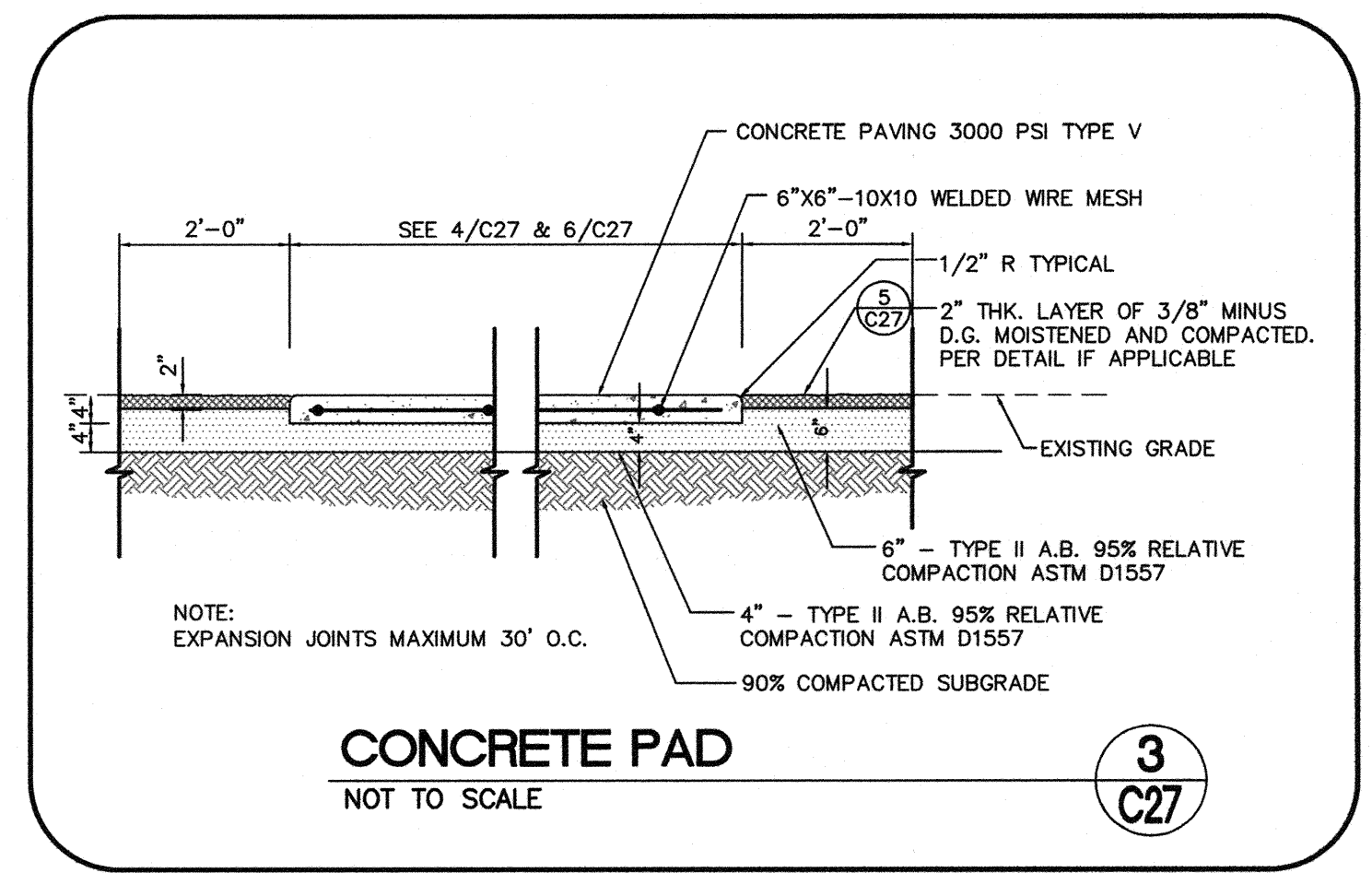
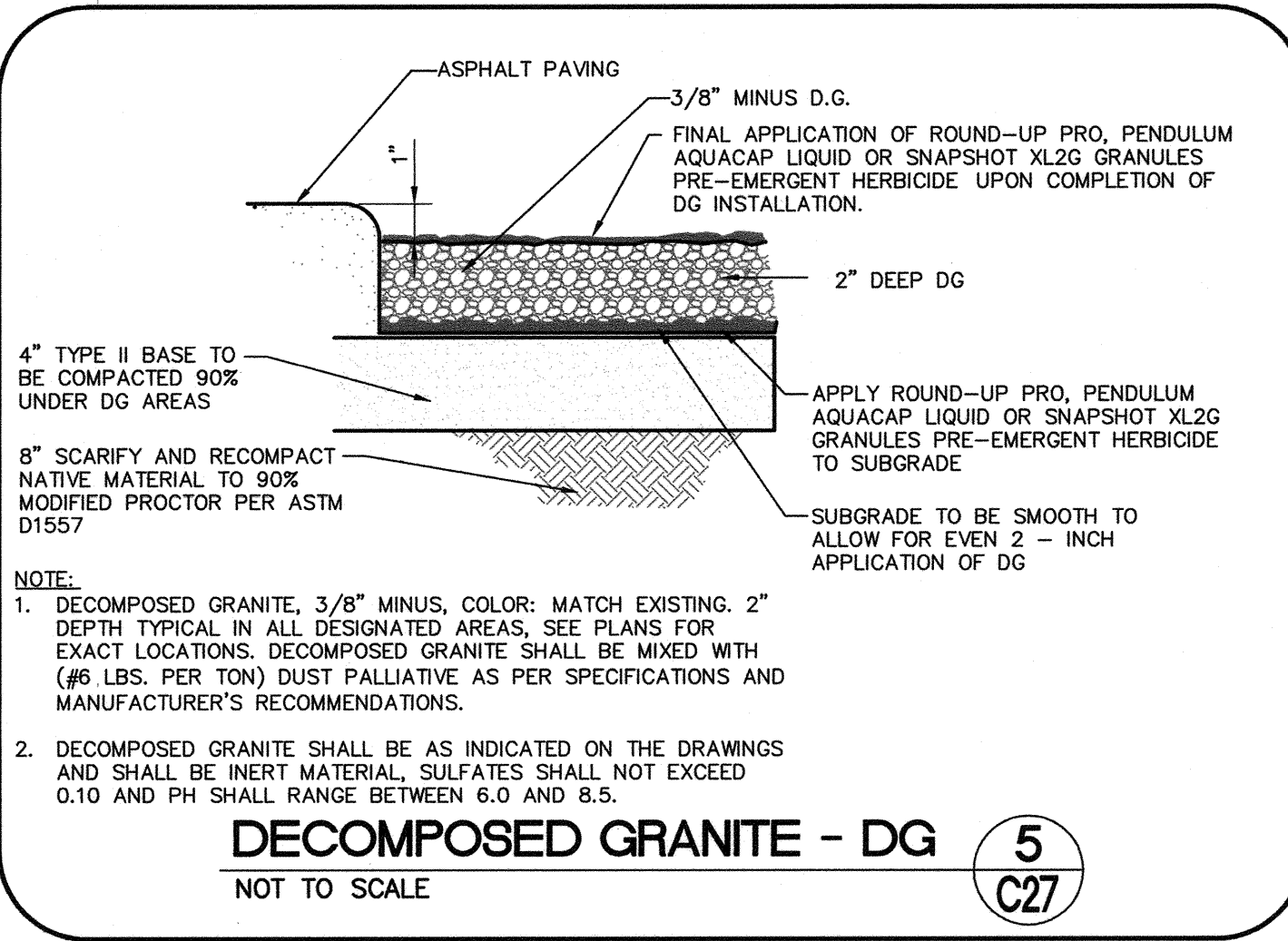
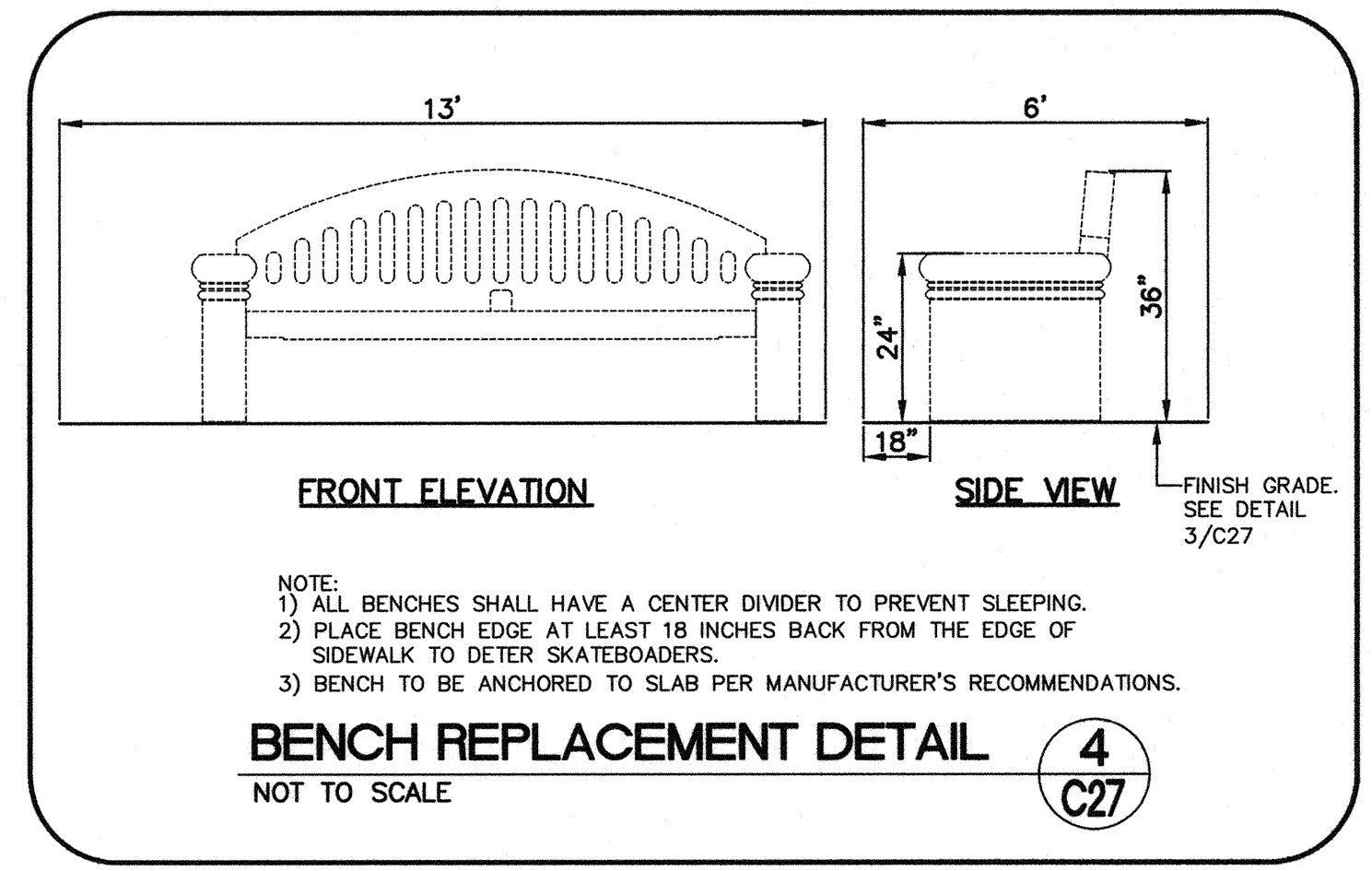
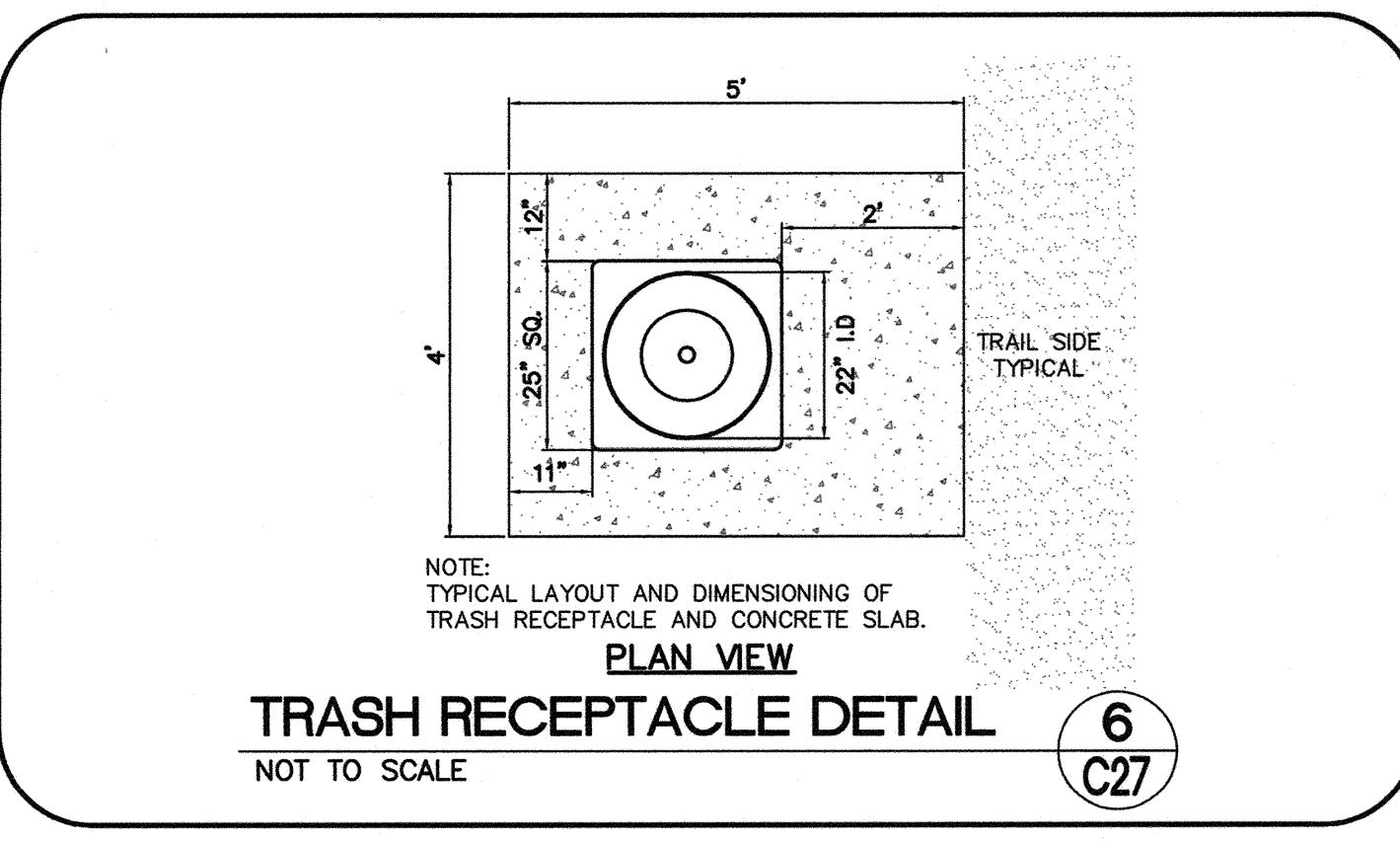
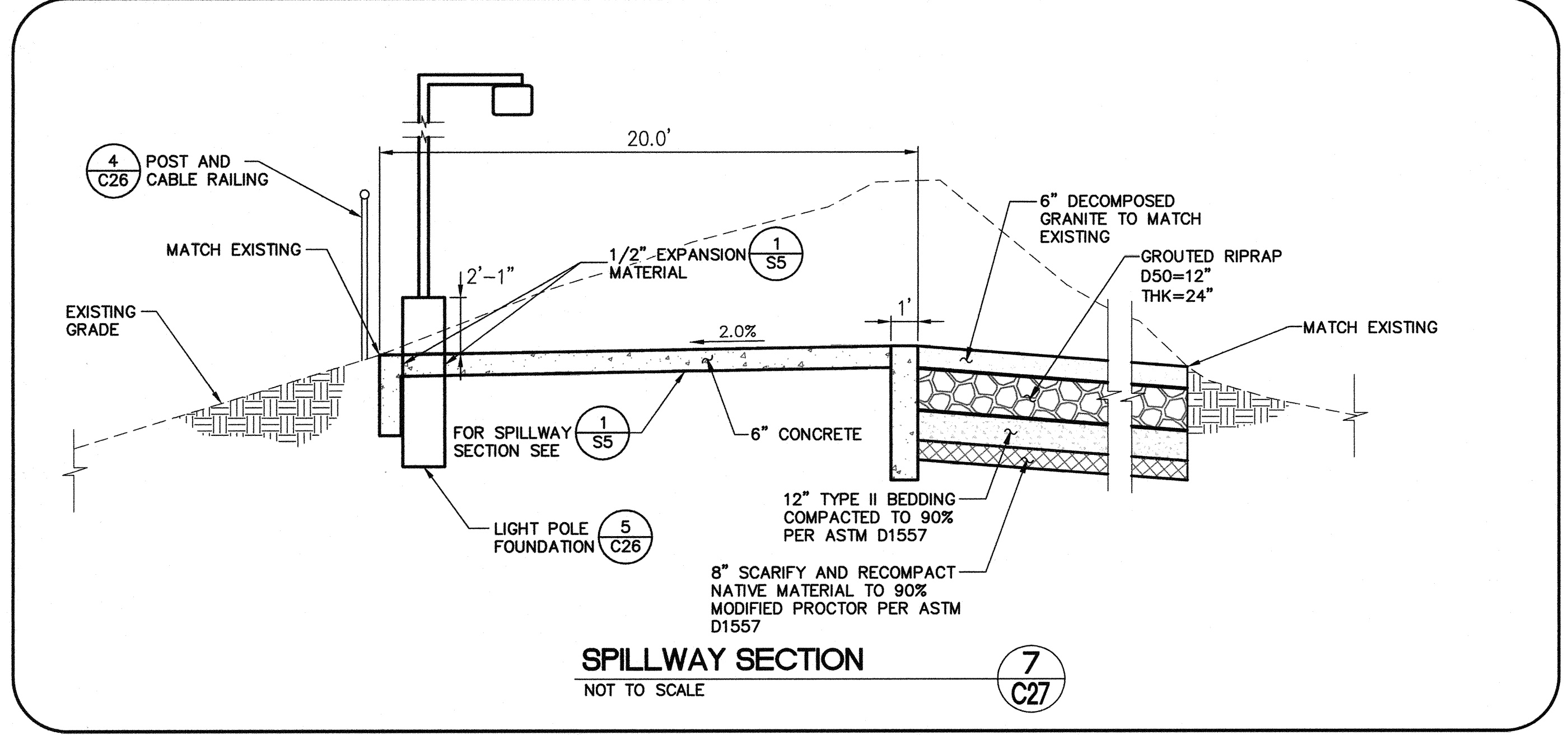
DRAWN BY: RKB
DESIGNED BY:
CHECKED BY:
PROJECT NO: 412-646

SCALE: NONE
HORIZ: NONE
VERT: NONE

SHEET 49 OF 60 SHEETS
DRAWING NO. 731-49-J

HANSEN NO. 36800

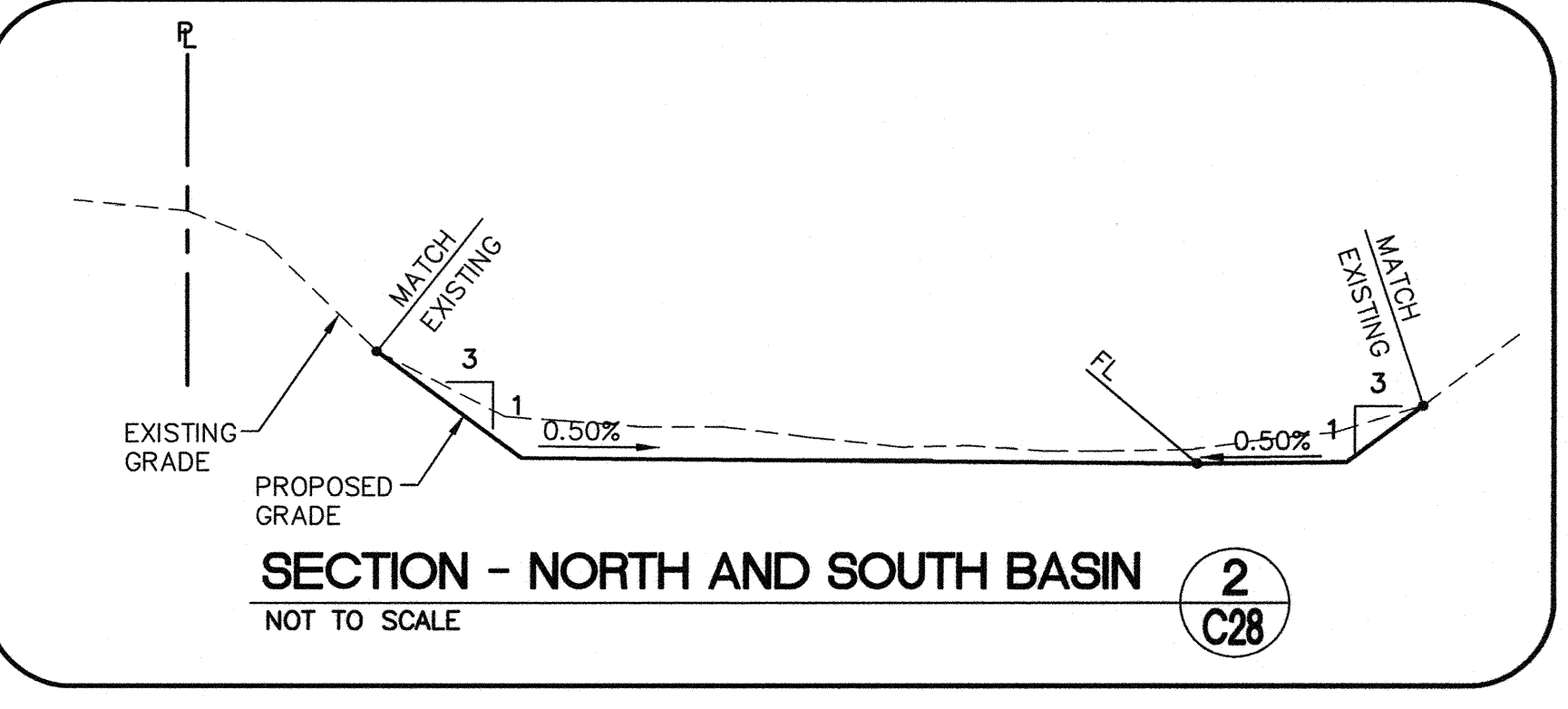
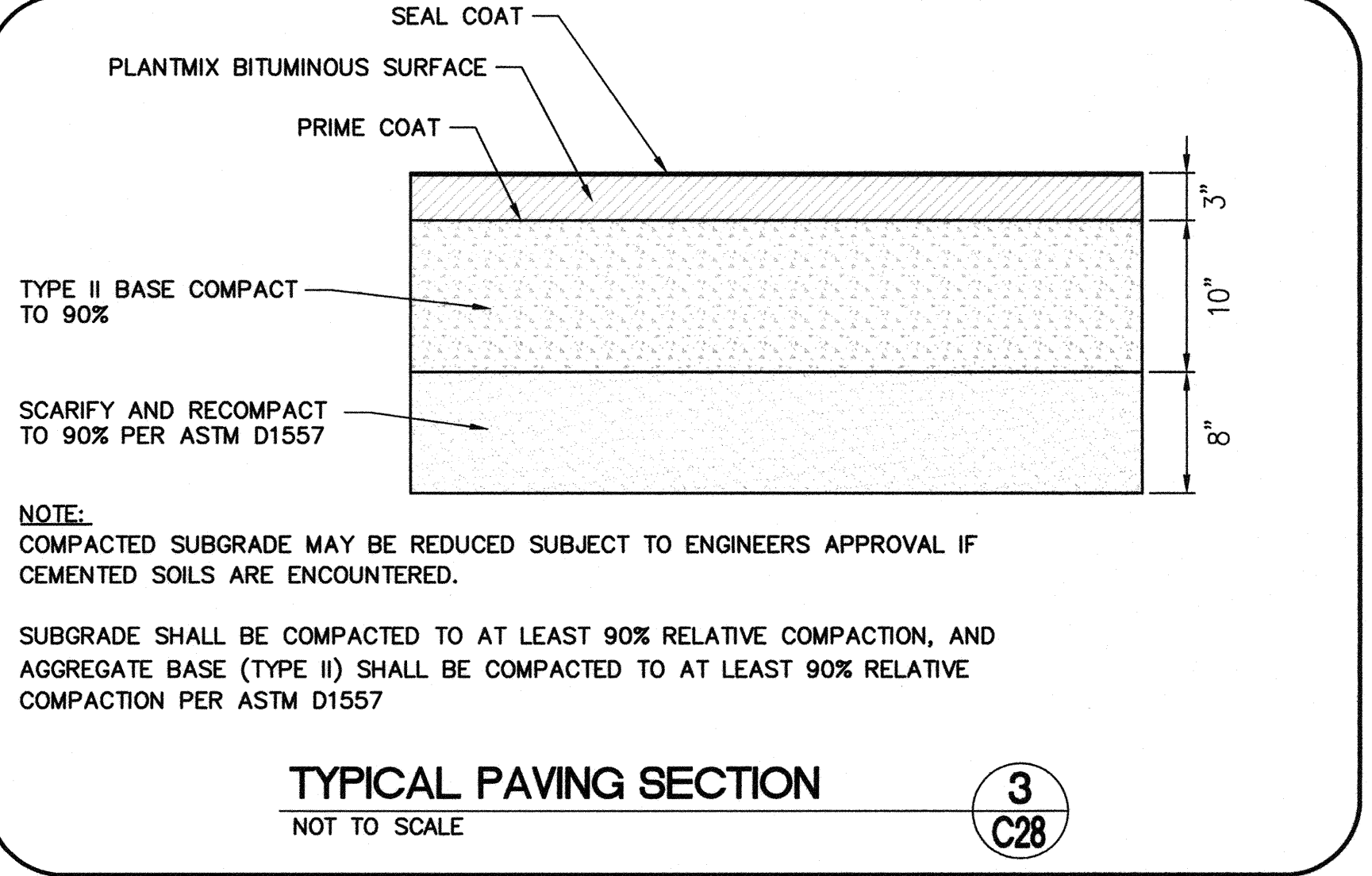
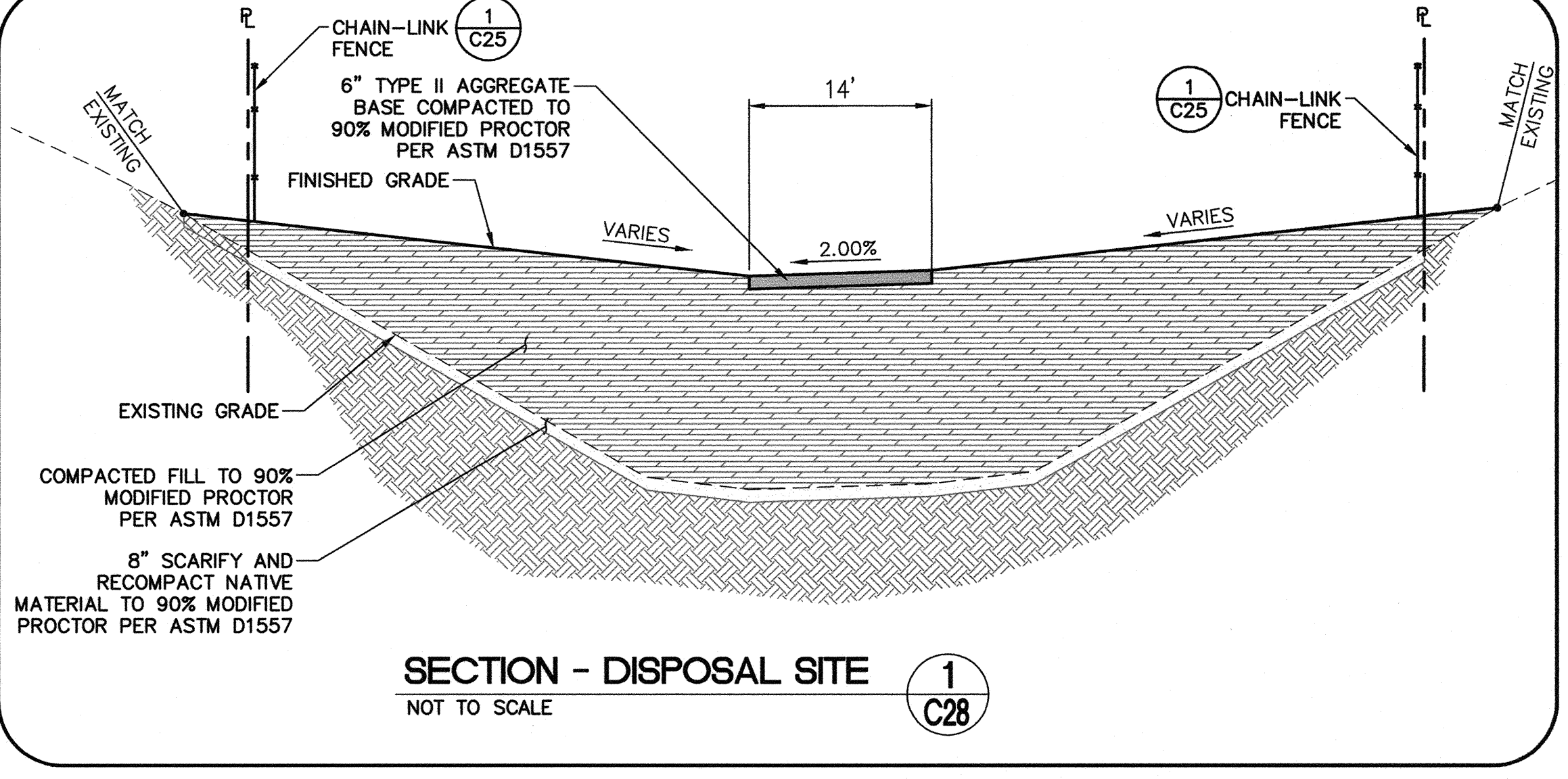
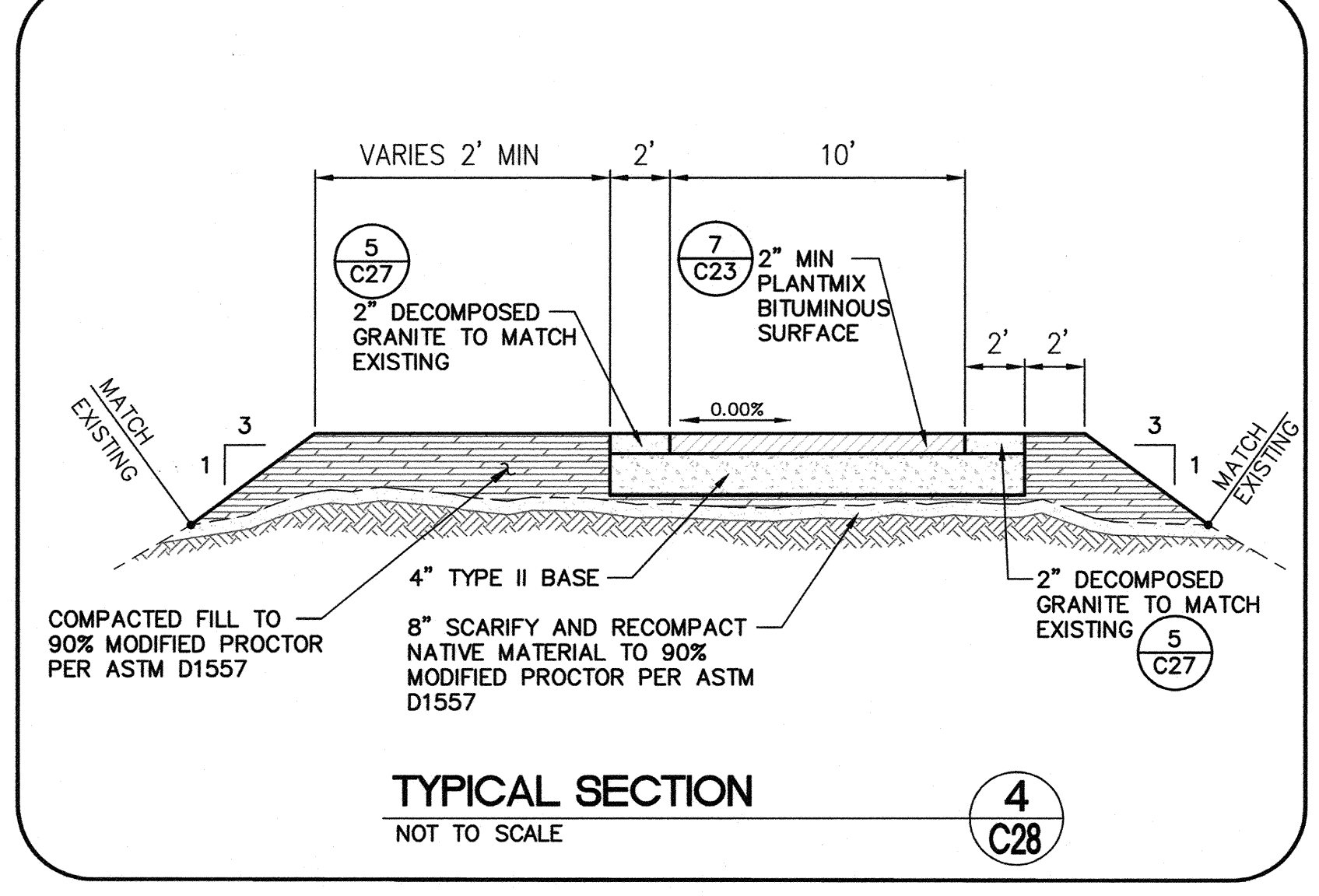
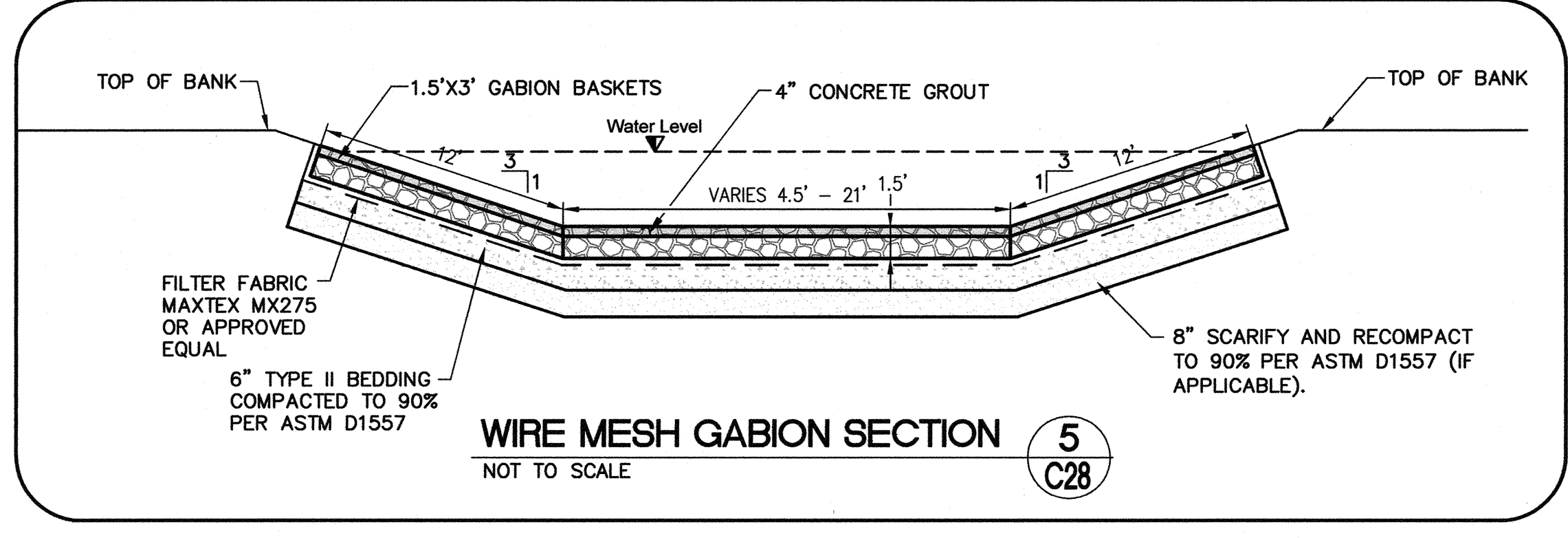
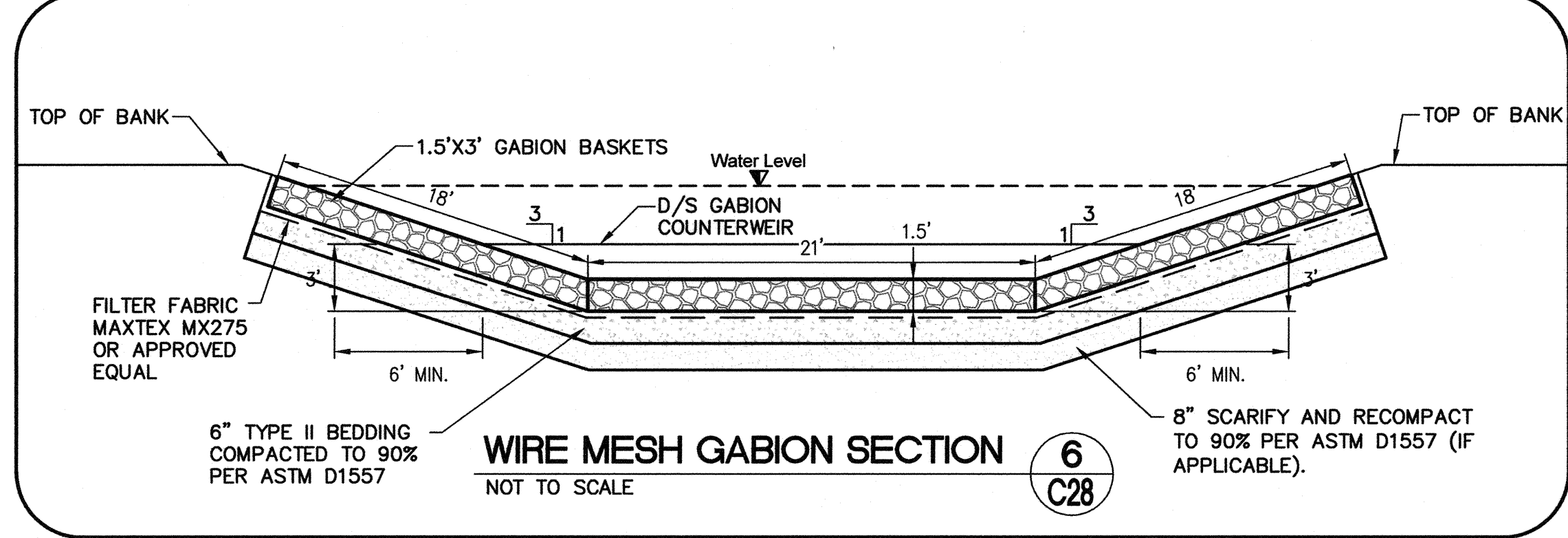
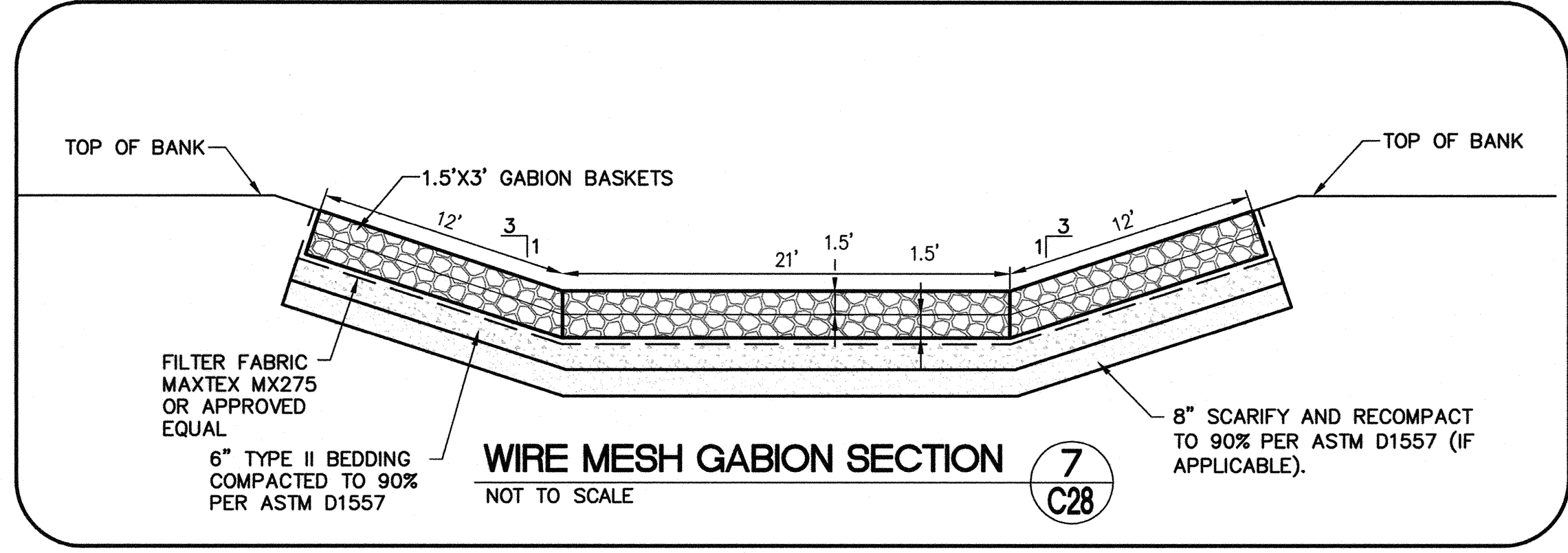
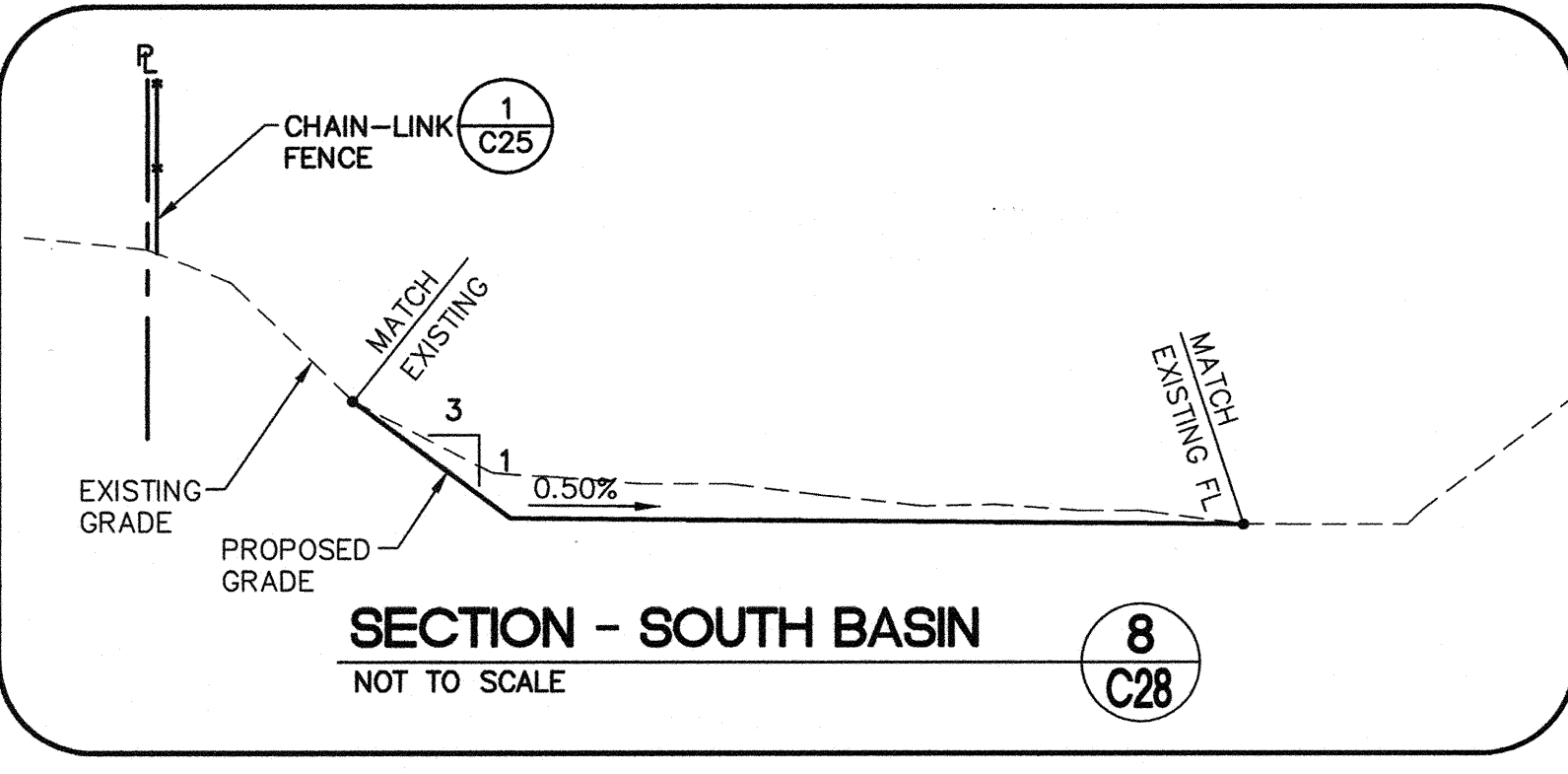
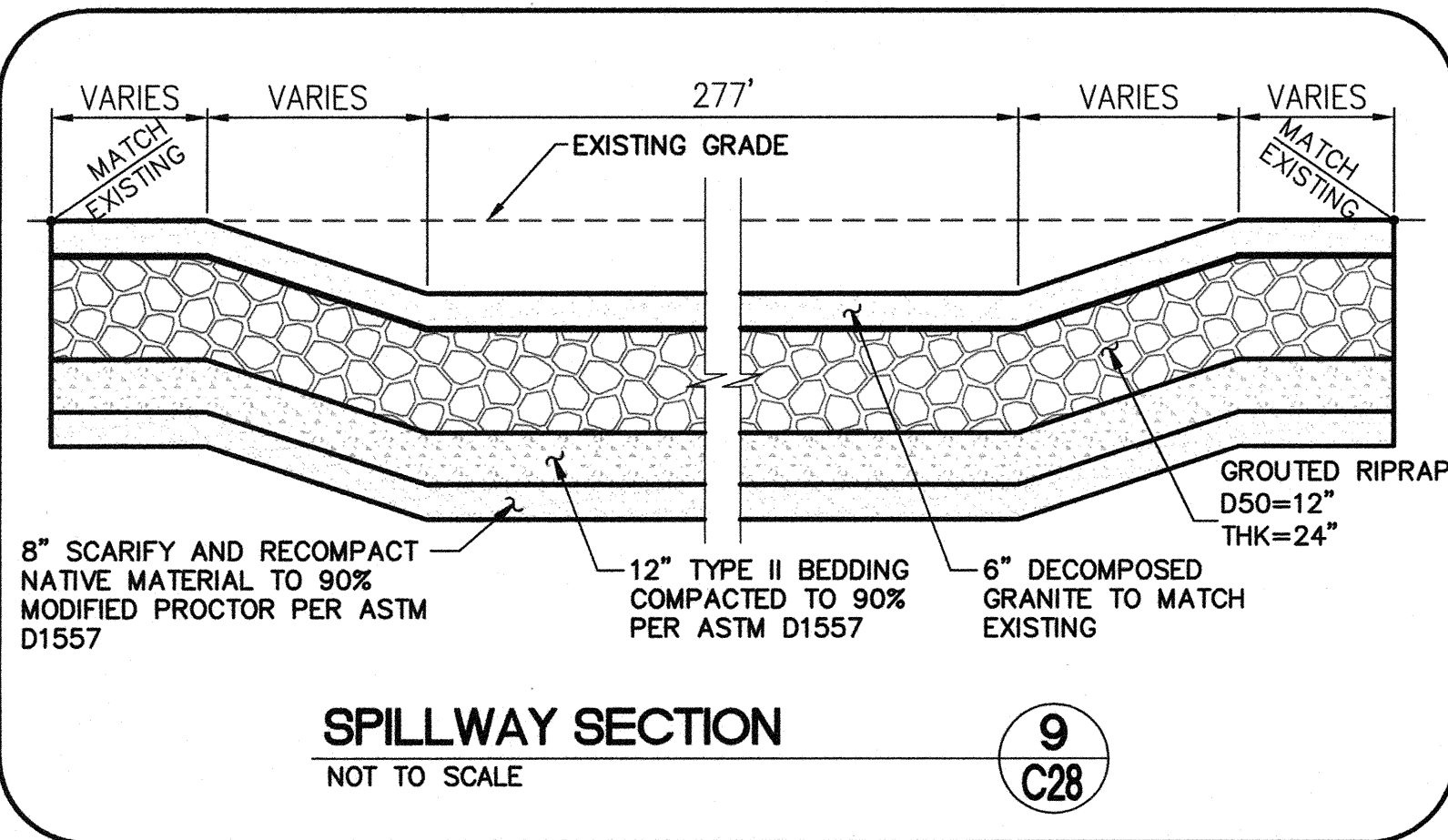
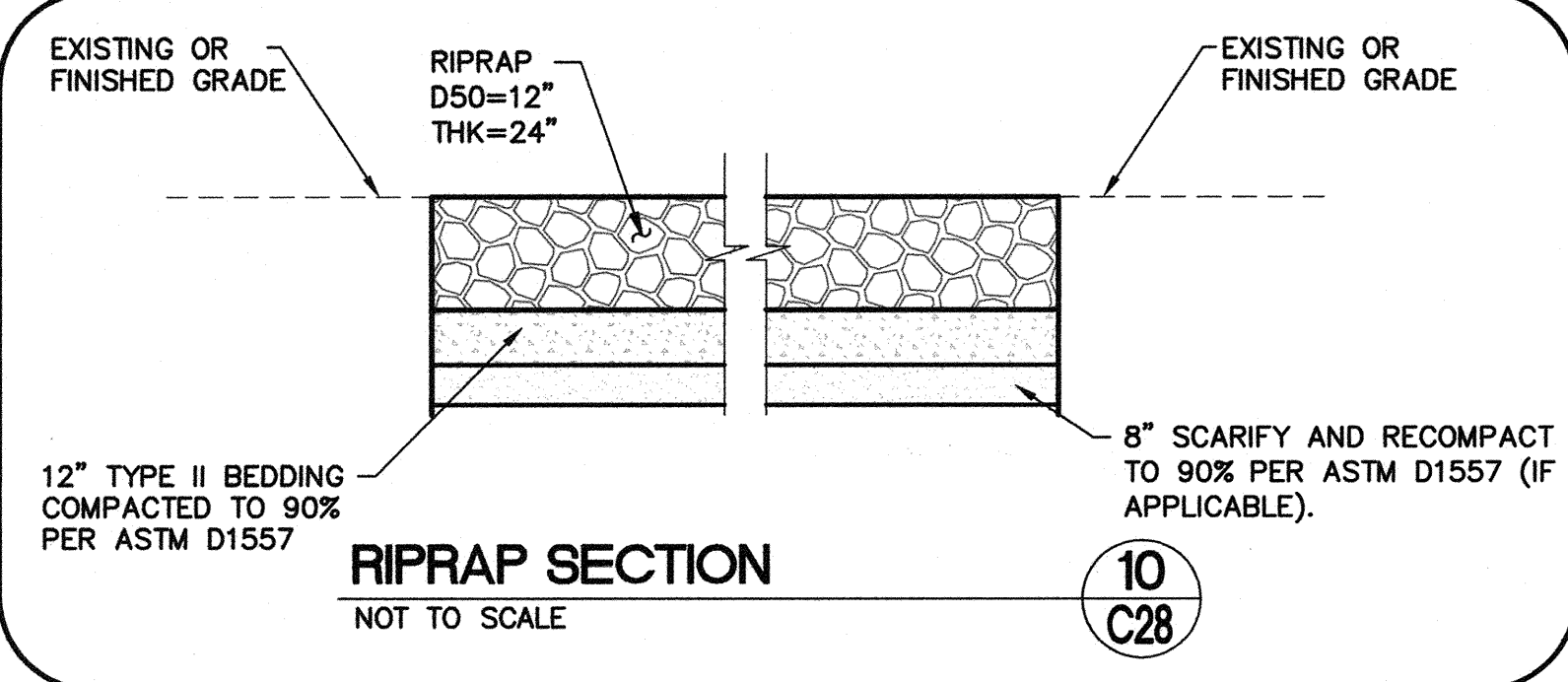
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DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD • LAS VEGAS, NV 89146 T: 702.804.2000 • F: 702.804.2299 • GCWALLACE.COM
SHEET C27 51 OF 60 SHEETS	TITLE ANGEL PARK DETENTION BASIN EXPANSION
DRAWN BY: RKB	DESIGNED BY: RKB
CHECKED BY: RKB	PROJECT NO: 412-646
SCALE: NONE NOTE	SEAL GRANT Y. TOKUMI Exp. 04/29/2011 CIVIL No. 15517
HANSEN NO. 36800	DRAWING NO. 731-49-J

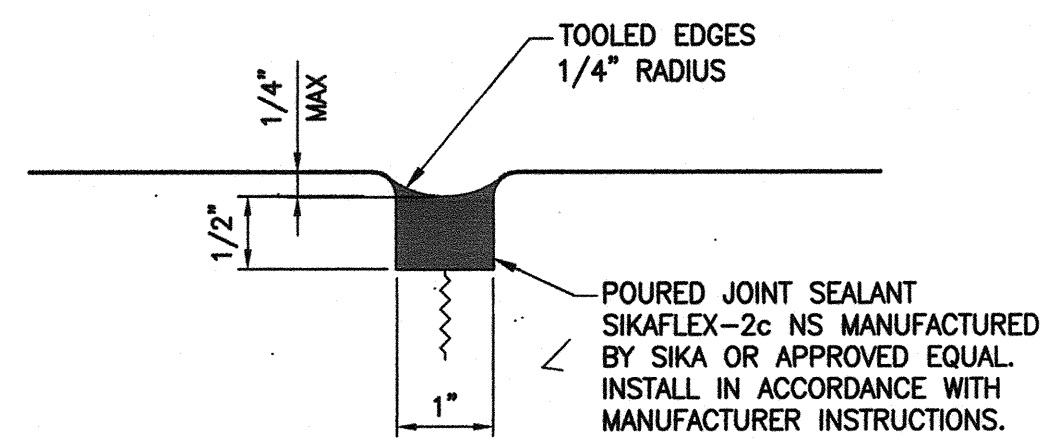
ANGEL PARK DETENTION BASIN EXPANSION

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DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276	G. C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1535 S. RAINBOW BOULEVARD, LAS VEGAS, NV 89146 T: 702.804.2000 F: 702.804.2299 GCWALLACE.COM
SHEET TYPICAL CROSS SECTIONS	TITLE ANGEL PARK DETENTION BASIN EXPANSION
DRAWN BY: RKB/KN DESIGNED BY: CHECKED BY: PROJECT NO: 412-646 SCALE: NONE HRSZ: JEST	SEAL SHEET C28 52 OF 60 SHEETS DRAWING NO. 731-49-J

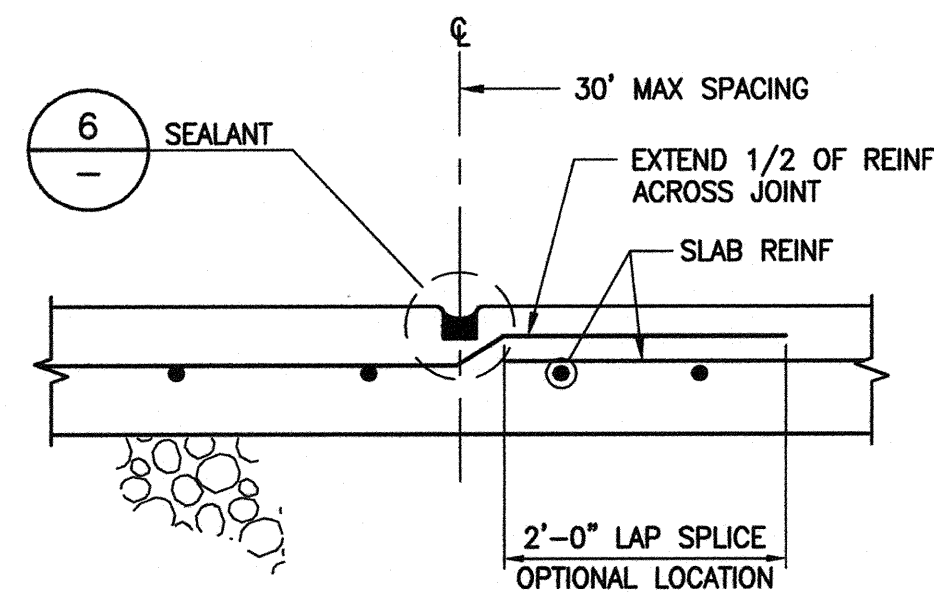
ANGEL PARK DETENTION BASIN EXPANSION



NOTE:
JOINT MUST BE TOOLED, SAW-CUTTING IS NOT ALLOWED.

6 SEALANT DETAIL

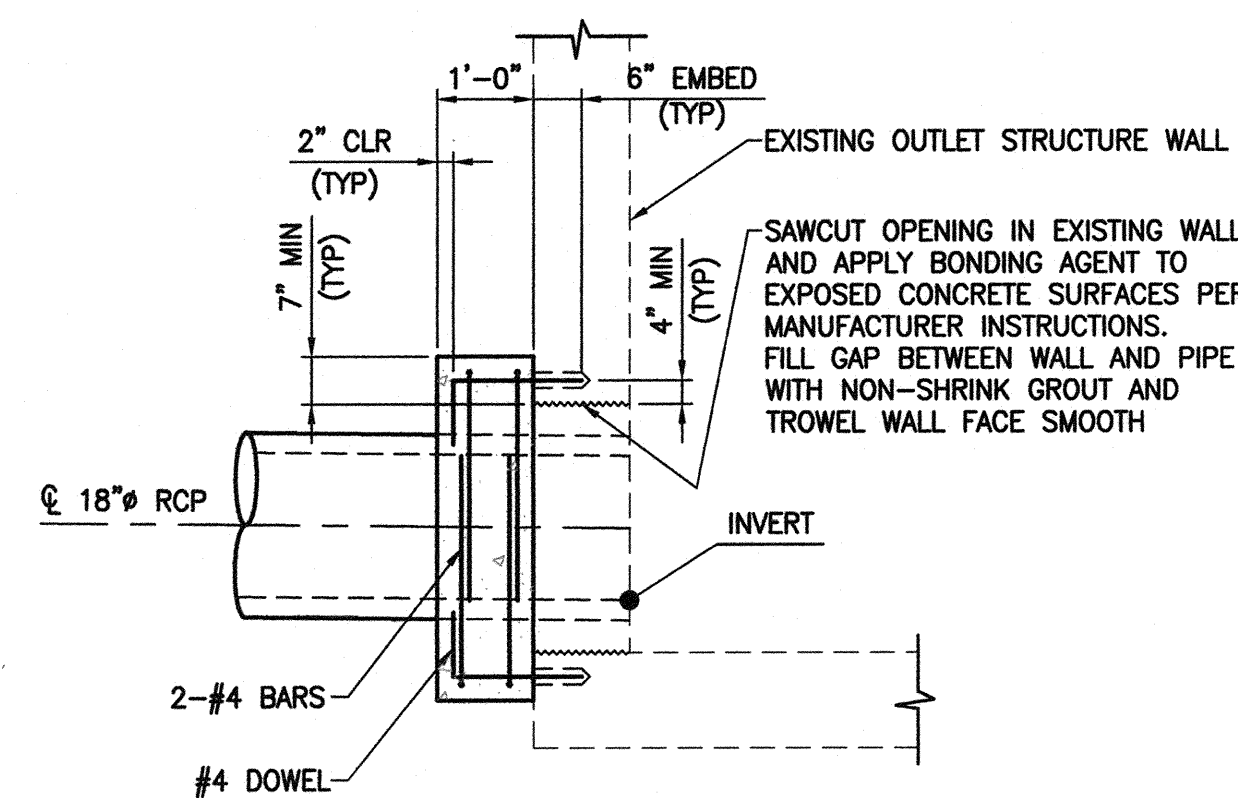
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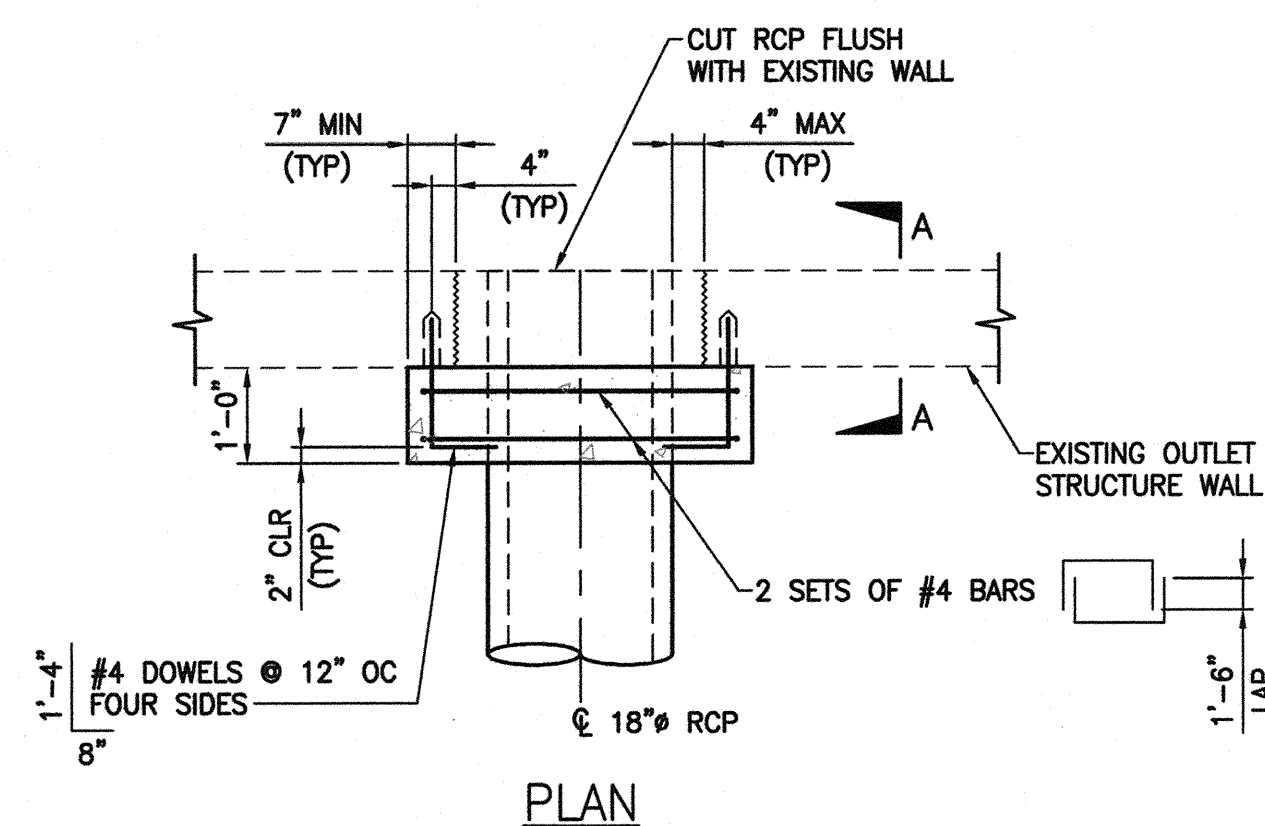
NOTE:
SPRAY GALVANIZE REINFORCING BARS 9\"/>

5 WEAKENED PLANE JOINT

SCALE: NTS

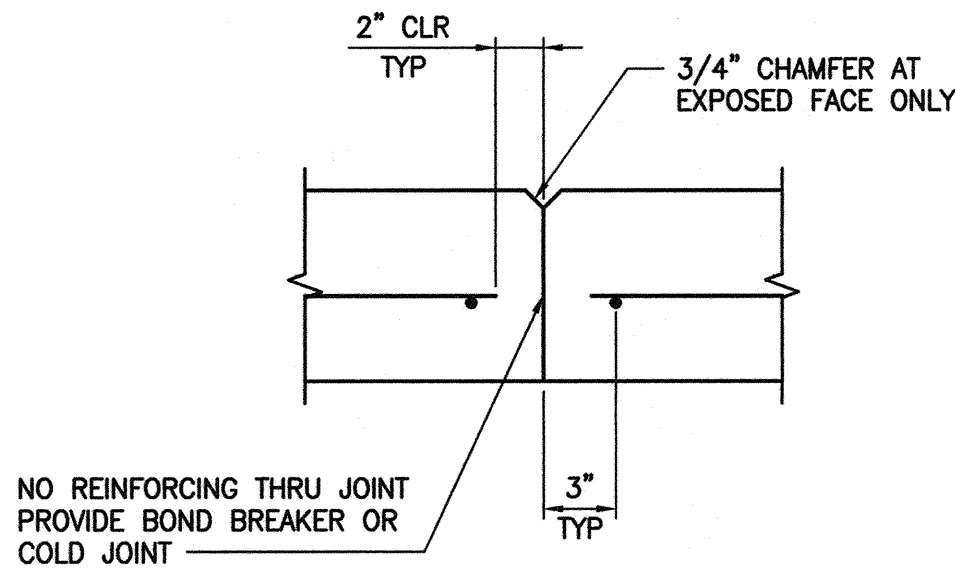


SECTION A-A



4 EXISTING WALL PENETRATION

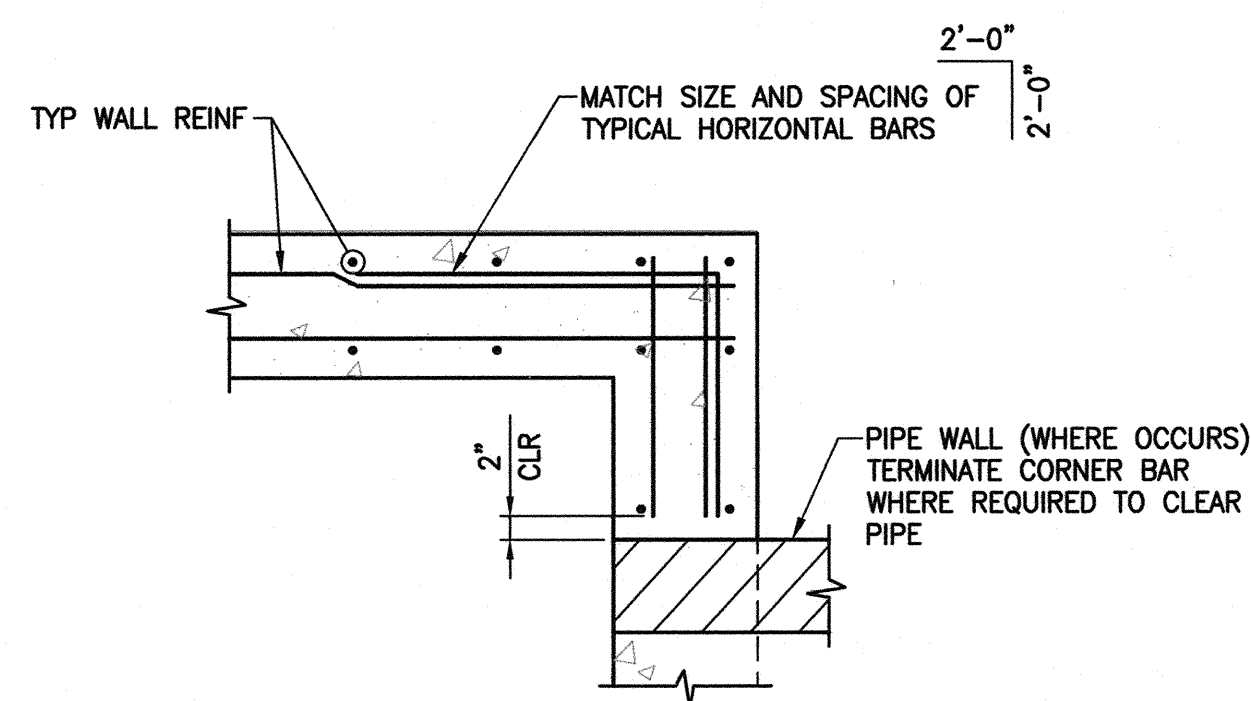
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NO REINFORCING THRU JOINT
PROVIDE BOND BREAKER OR
COLD JOINT

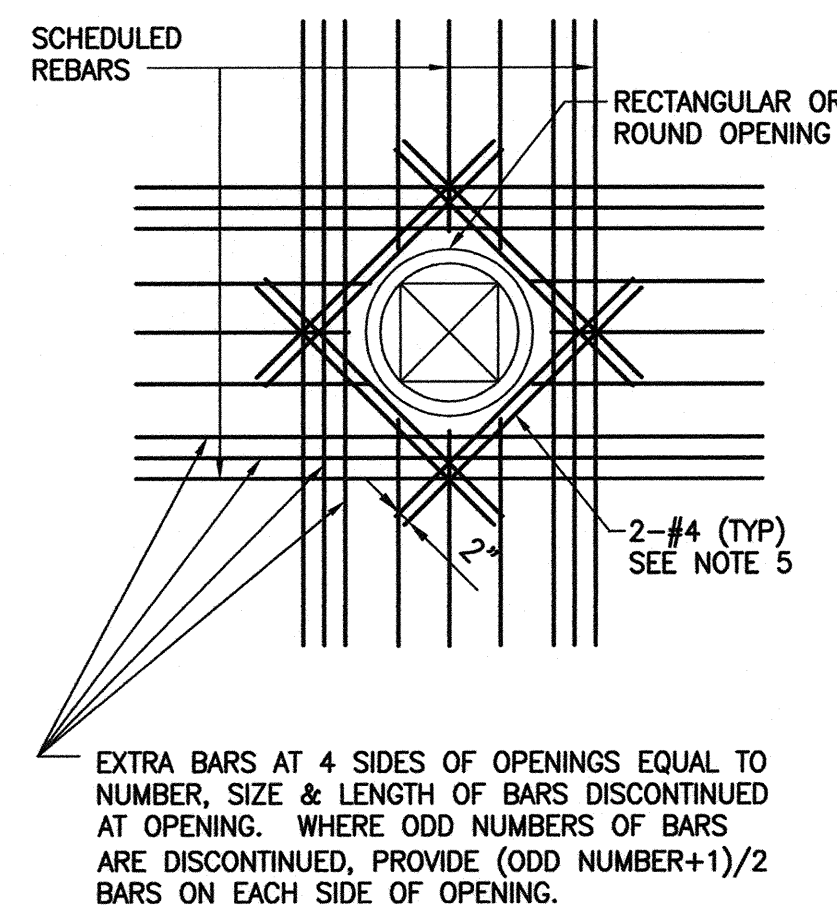
7 WALL CONTRACTION JOINT

SCALE: NTS



3 TYPICAL CORNER DETAIL

SCALE: NTS

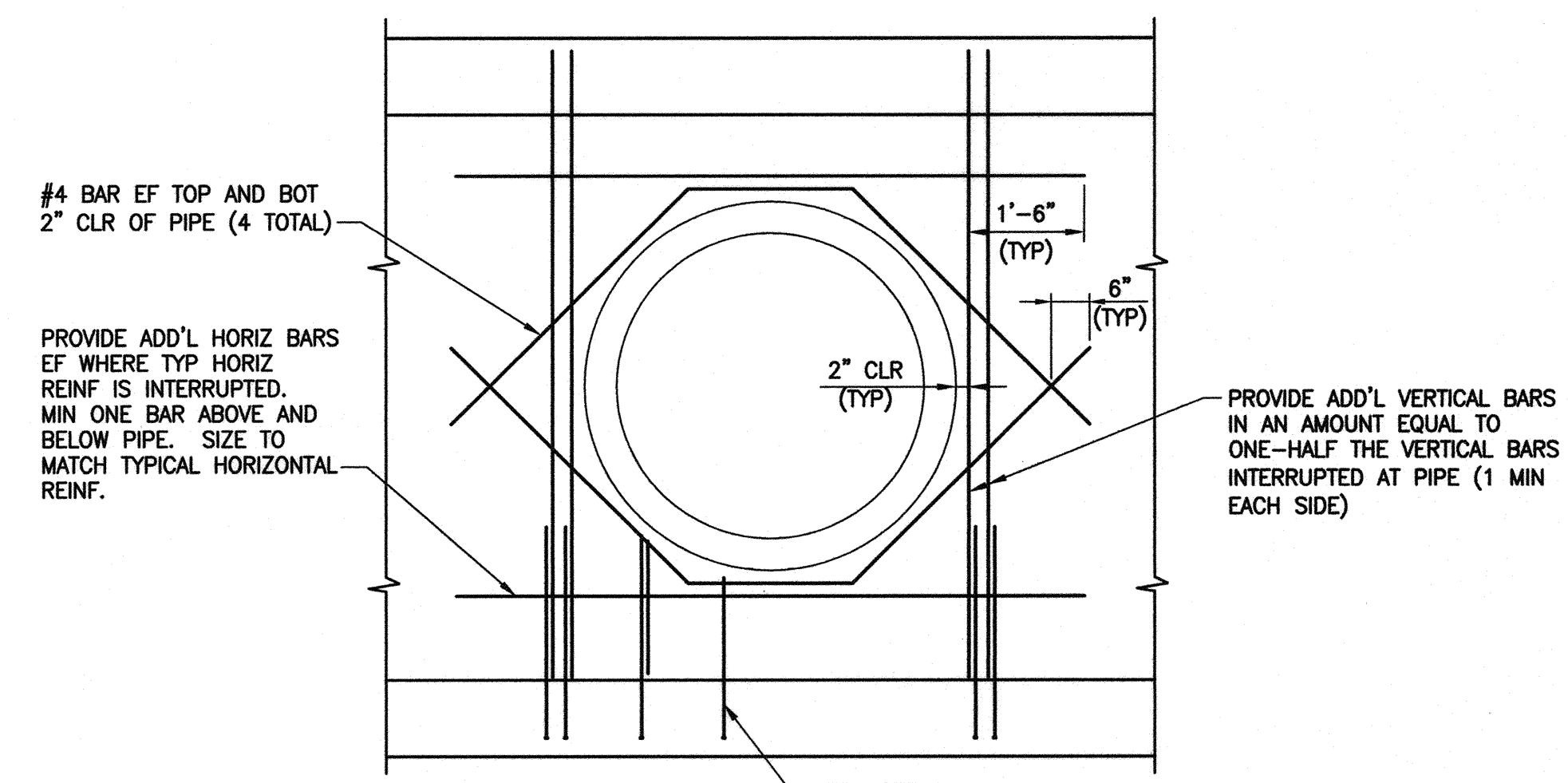


2 WALL OPENING DETAIL

SCALE: NTS

GENERAL STRUCTURAL NOTES

- DESIGN SPECIFICATIONS:** AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 2002". REINFORCED CONCRETE DESIGN BASED ON LOAD FACTOR DESIGN.
- CONSTRUCTION SPECIFICATIONS:** UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA.
- EXISTING UTILITIES:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES WITHIN THE WORK AREA, AND PROVIDING PROTECTION FOR THE VARIOUS UTILITIES AFFECTED PRIOR TO PROCEEDING WITH THE WORK.
- CONCRETE:** CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF $f'_c=4,500$ PSI AND A MAXIMUM WATER TO CEMENT RATIO, BY WEIGHT, OF 0.45. USE TYPE V CEMENT PER ASTM C-150. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4", UNLESS NOTED OTHERWISE.
- REINFORCING STEEL:** ALL REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. DIMENSIONS ARE FROM OUT TO OUT OF BARS. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS NOTED OTHERWISE. HOOKS MAY BE ROTATED OR TILTED AS NECESSARY TO PROVIDE THE PROPER CLEARANCES.
- BEDDING MATERIAL:** BEDDING MATERIAL SHALL BE 6-INCHES OF CLARK COUNTY TYPE II AGGREGATE BASE COMPACTED TO 90% OF THE MAXIMUM DRY DENSITY AS ESTABLISHED BY ASTM TEST METHOD D-1557. EXPOSED NATIVE SOILS IN BOTTOMS OF EXCAVATIONS SHALL BE SCARIFIED TO A DEPTH OF 8-INCHES, MOISTURE-CONDITIONED TO WITHIN 2% OF OPTIMUM MOISTURE CONTENT AND COMPACTED TO 90% PER ASTM D-1557.
- EPOXY:** EPOXY SHALL BE SIMPSON STRONG-TIE "SET-XP EPOXY-TIE ADHESIVE" PER ICC REPORT ESR-2508 OR APPROVED EQUAL. INSTALL IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- STRUCTURAL STEEL:** ALL MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE.
- GALVANIZING:** ALL EXPOSED METAL PARTS SHALL BE GALVANIZED. GALVANIZING DAMAGED BY FABRICATION SHALL RECEIVE TWO COATS OF ZINC RICH PAINT (GALVANOX OR EQUAL).
- INVERTS, SLOPES, BEARINGS, ALIGNMENTS, AND ELEVATIONS SHOWN ARE FOR "REFERENCE ONLY".** INFORMATION ON CIVIL DRAWINGS SHALL GOVERN.
- CONTRACTOR SHALL PROVIDE SLOPE STABILIZATION, SHEETING, BRACING, AND/OR SHORING AS REQUIRED TO PROTECT EXISTING EMBANKMENTS, STRUCTURES, AND UNDERGROUND ITEMS.**



NOTES:

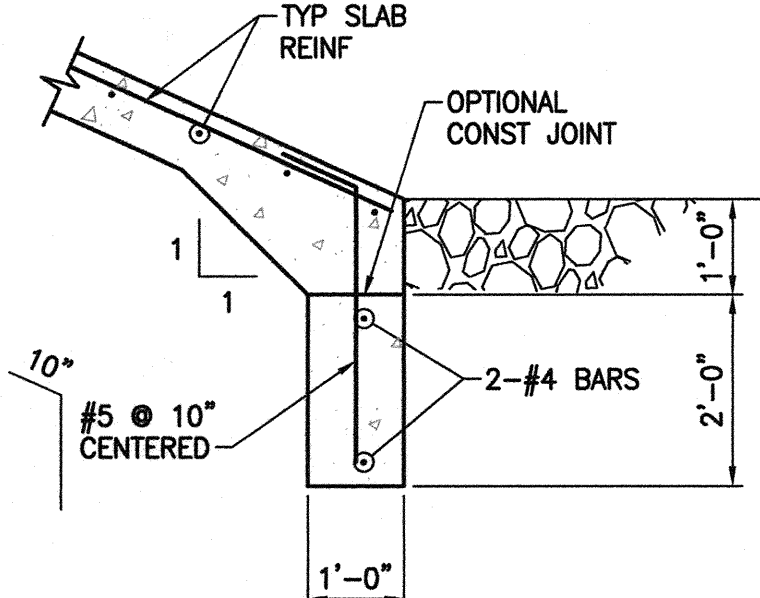
- FIELD CUT TYPICAL WALL REINFORCING 2" CLR OF PIPE.
- WHEN WALL IS LESS THAN 9" THICK REINFORCING DOES NOT NEED TO BE PLACED IN EACH FACE AS STATED ABOVE.
- IF BARS CANNOT EXTEND BEYOND PIPE AS SHOWN, EXTEND AS FAR AS POSSIBLE AND PROVIDE STANDARD HOOK.

1 PIPE PENETRATION DETAIL

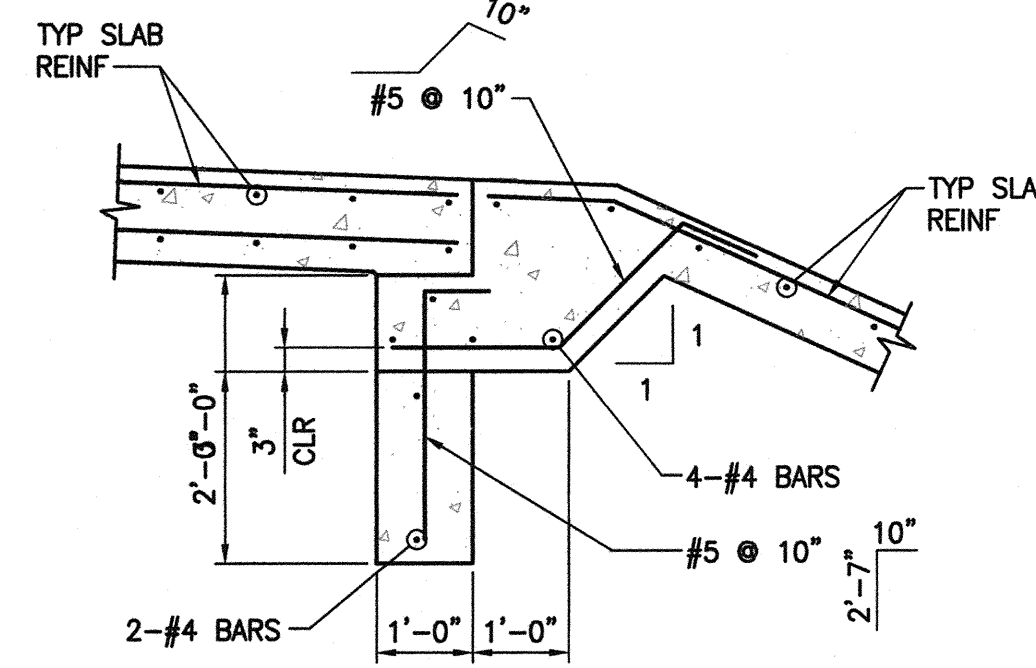
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DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 - F: 702.804.2299 - GC.WALLACE.COM
GENERAL STRUCTURAL NOTES AND DETAILS	ANGEL PARK DETENTION BASIN EXPANSION
SHEET	TITLE
DRAWN BY: NOMAE	DESIGNED BY: EGG
CHECKED BY: EGG	PROJECT NO: 412-646
SCALE: AS SHOWN	
SHEET S1	
53 OF 60 SHEETS	
HANSEN NO. 36800	DRAWING NO. 731-49-J

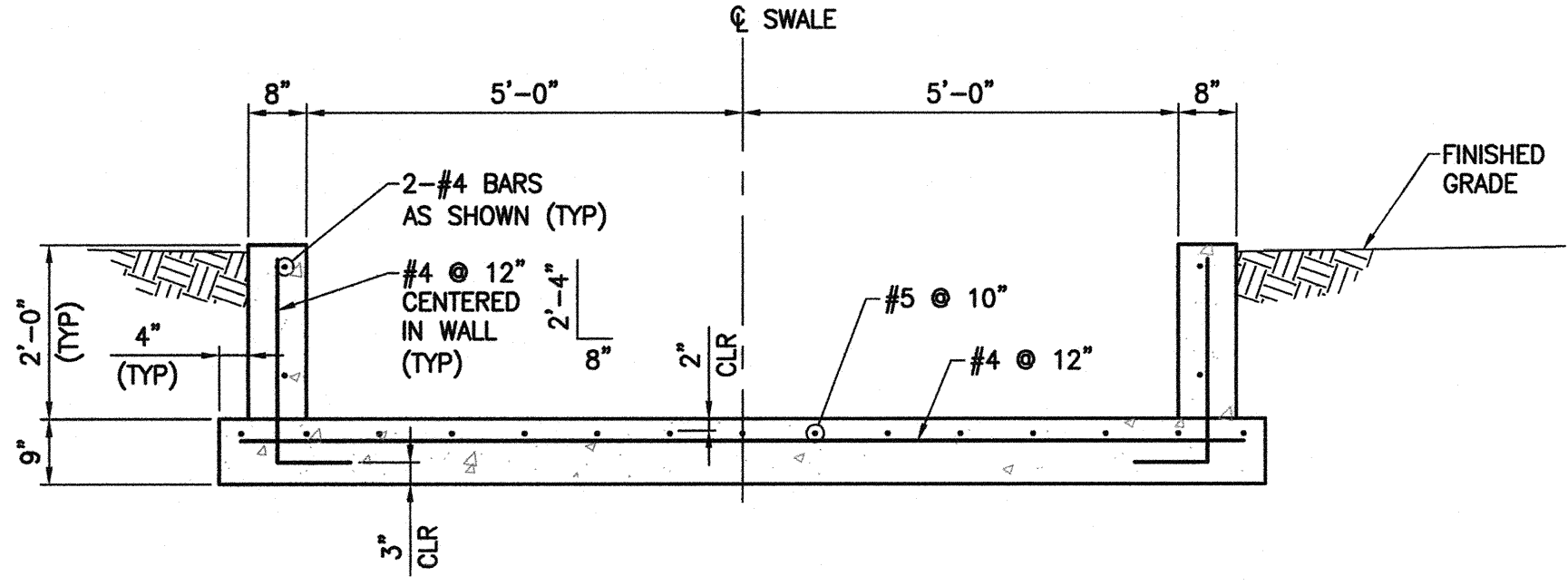
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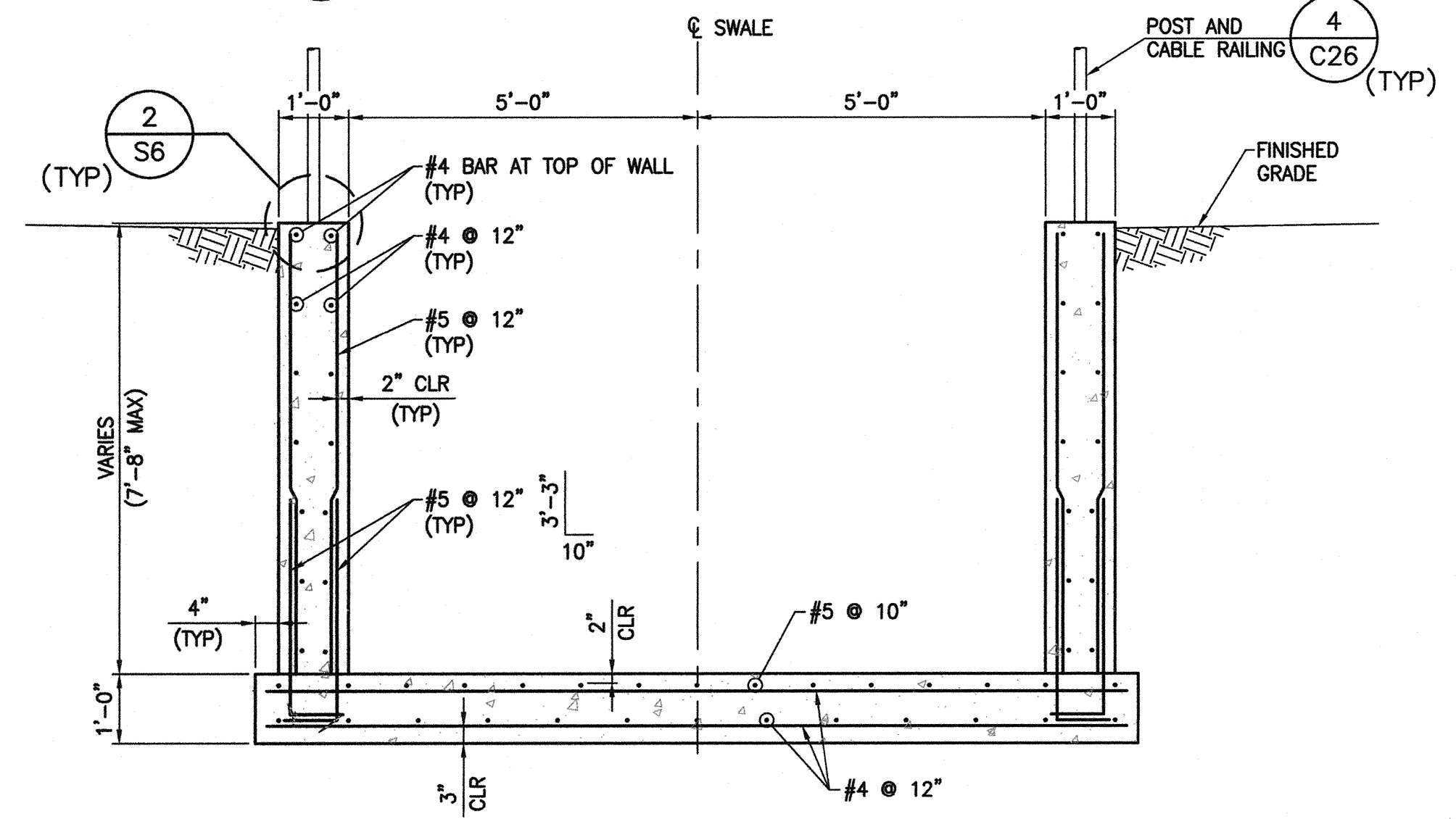
E SECTION
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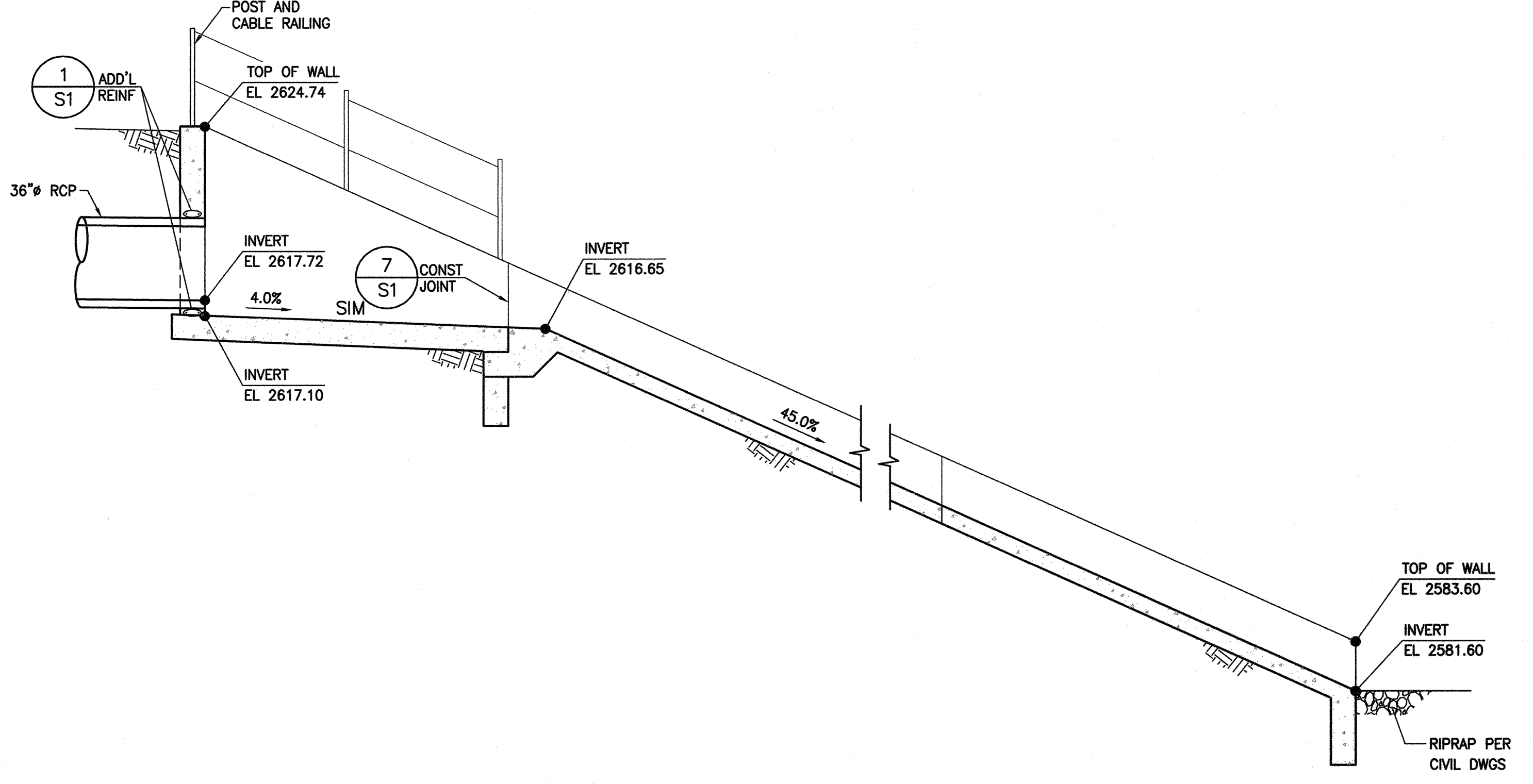
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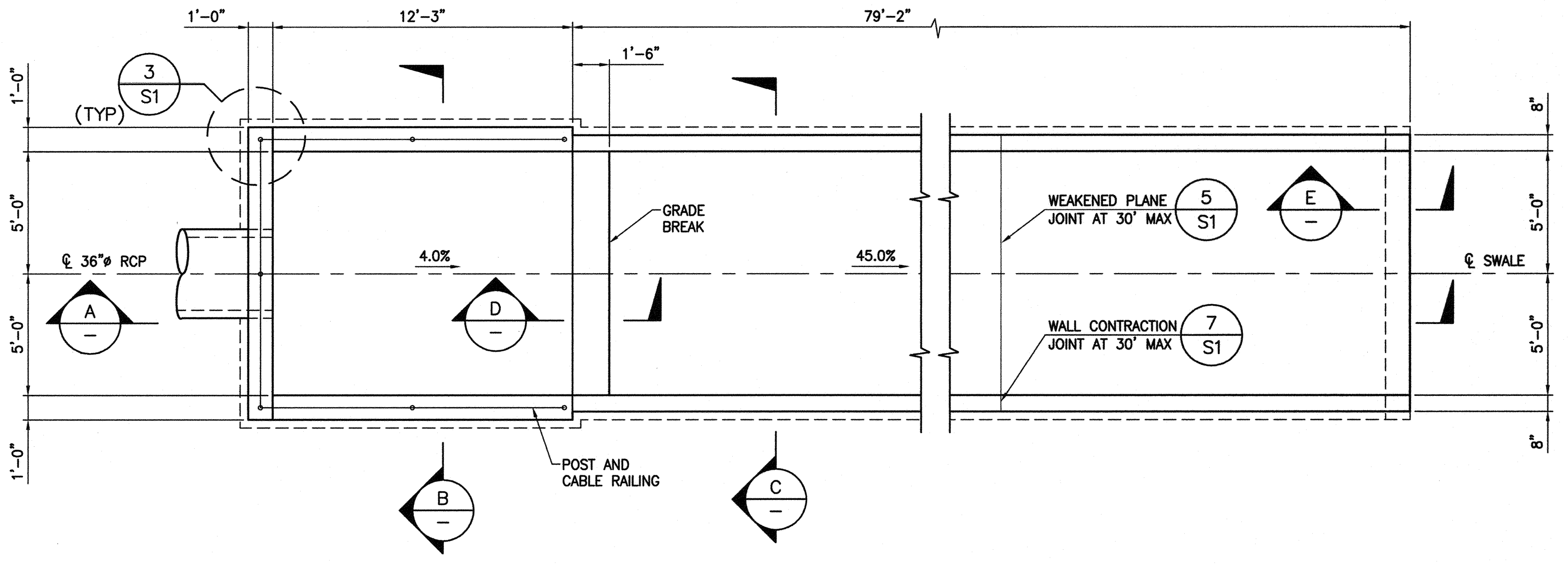
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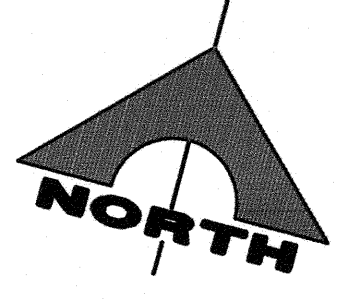
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A SECTION
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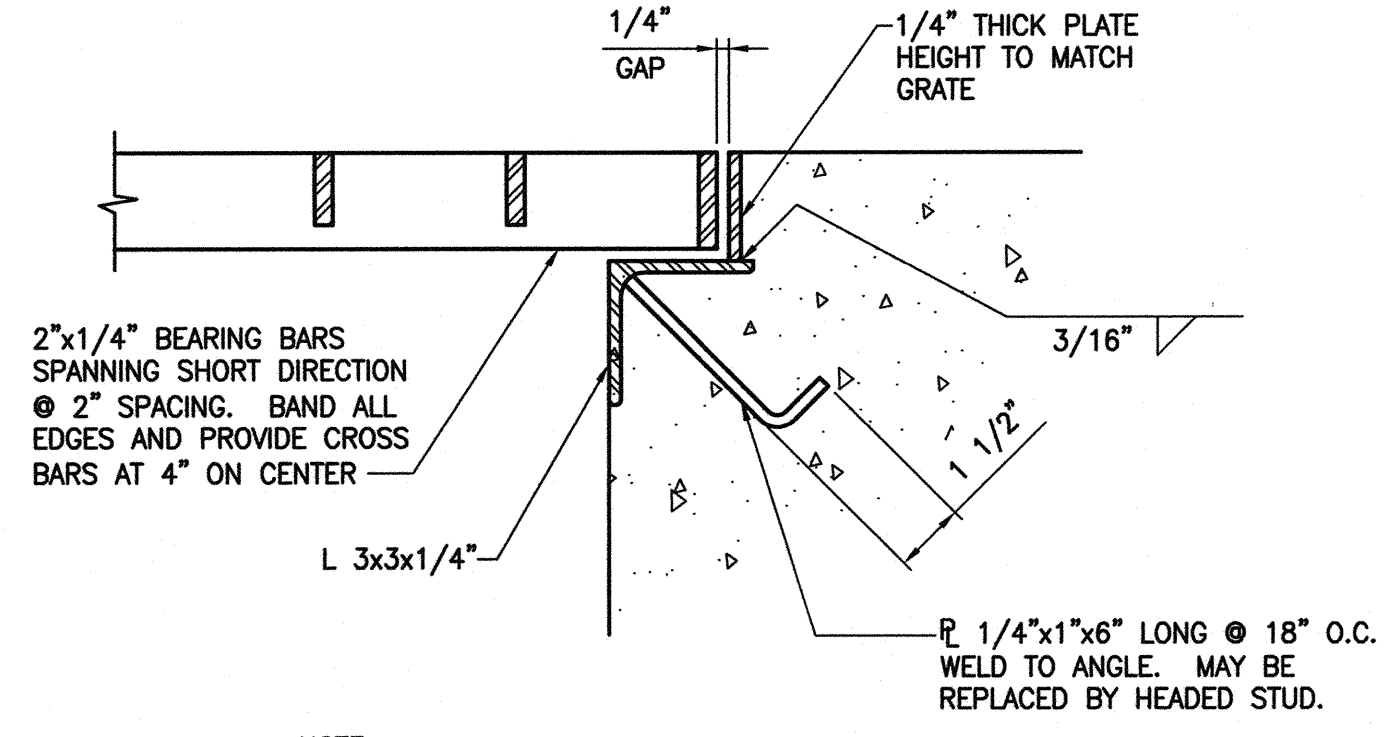


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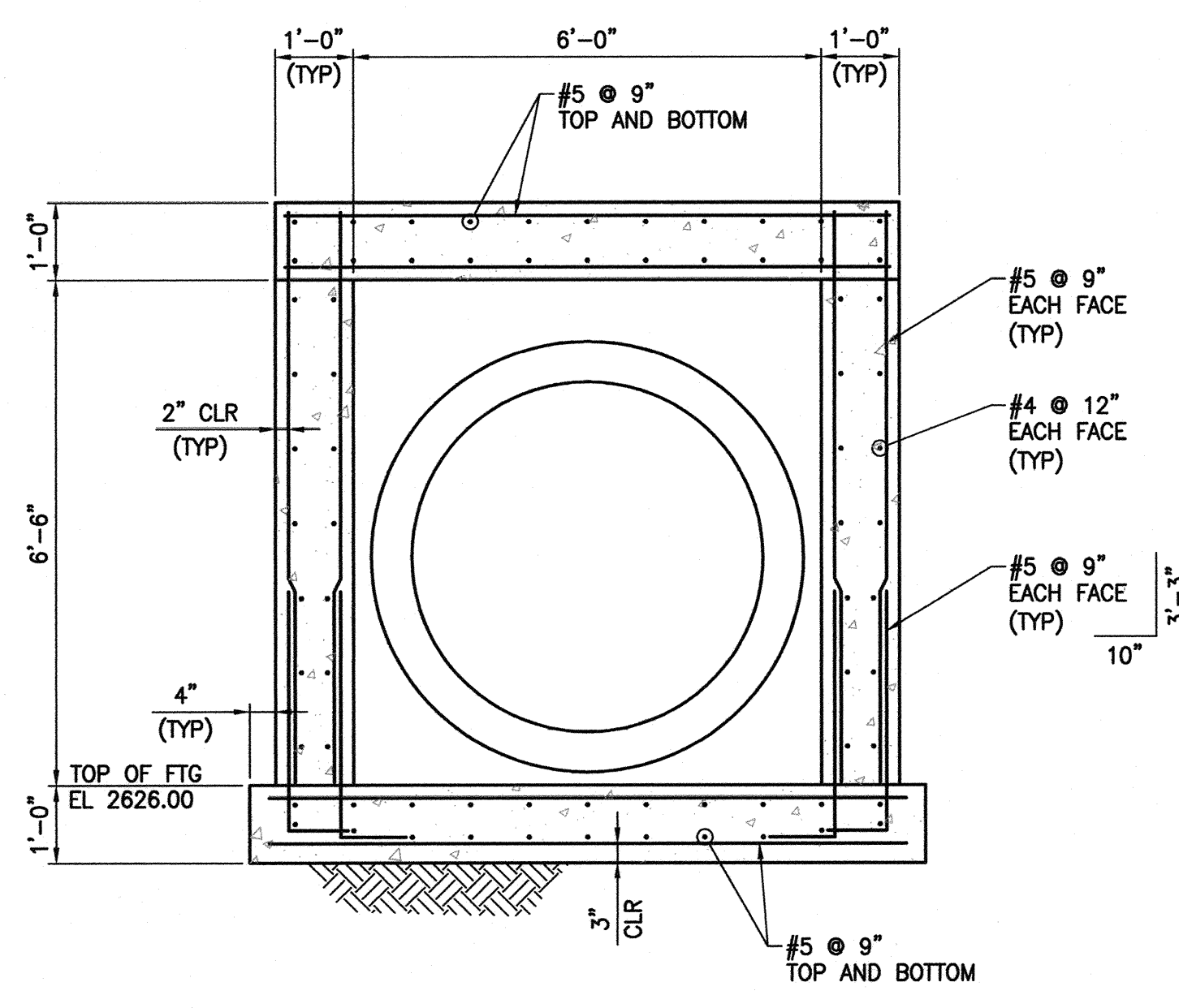


DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101		G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.2000 F: 702.894.2299 GCWALLACE.COM	
HEADWALL STRUCTURE AND U-CHANNEL		ANGEL PARK DETENTION BASIN EXPANSION	
SHEET NO. _____	TITLE _____	DRAWN BY: NOMAE	SCALE: AS SHOWN
DESIGNED BY: _____	CHECKED BY: EGG	PROJECT NO: 412-646	SEAL
HANSEN NO. 36800		SHEET 52 54 OF 60 SHEETS DRAWING NO. 731-49-J	

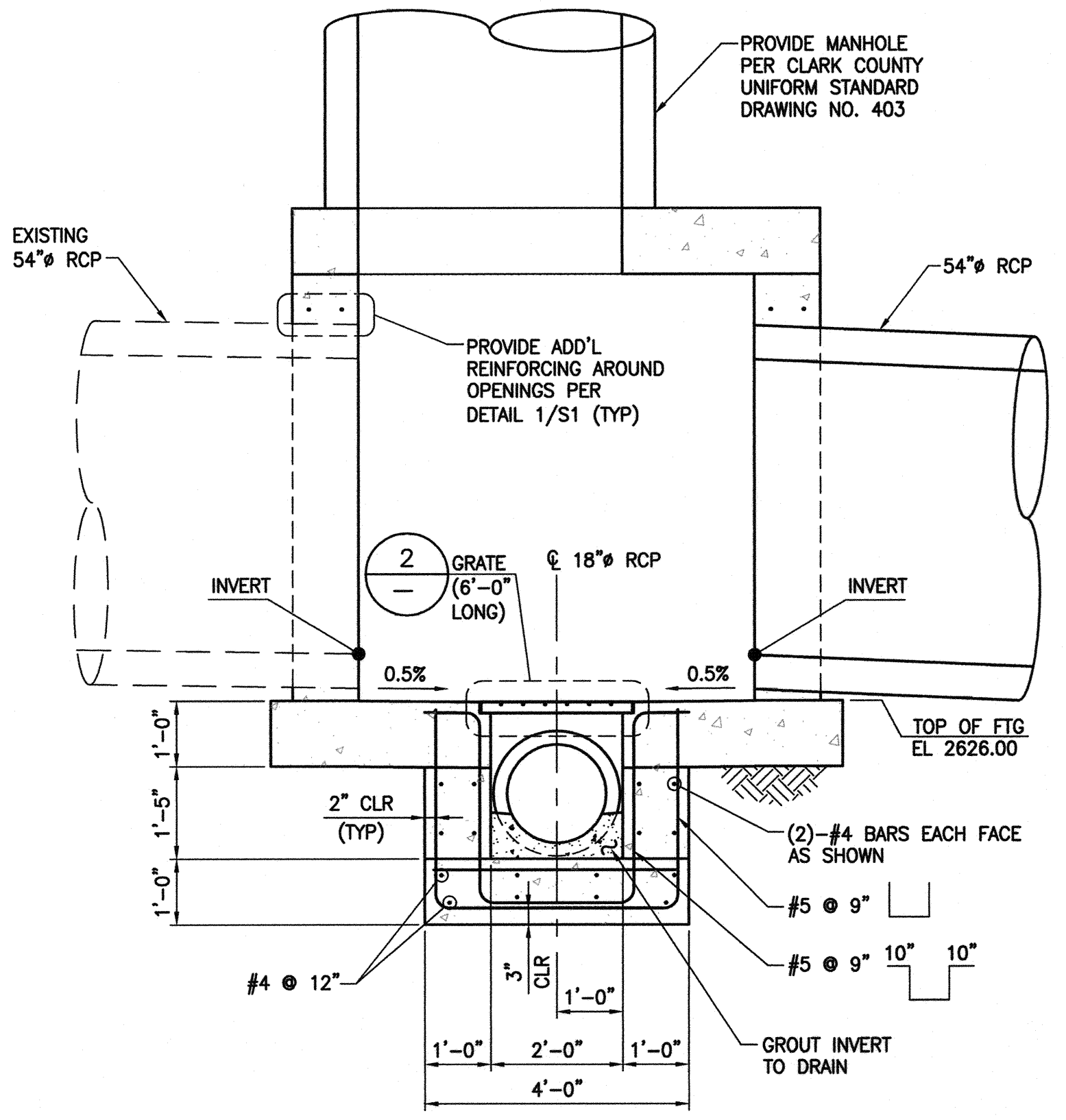
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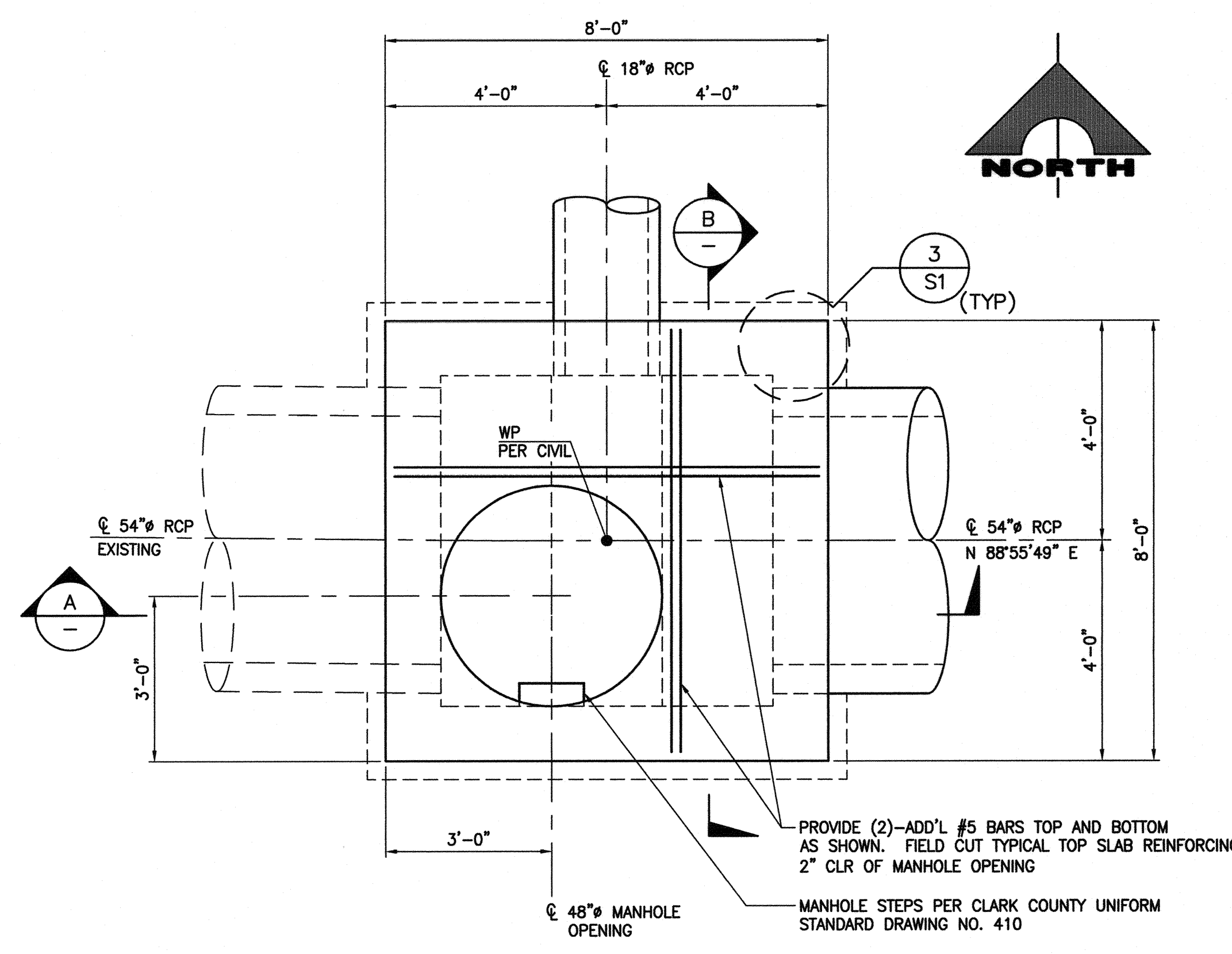
2 DETAIL
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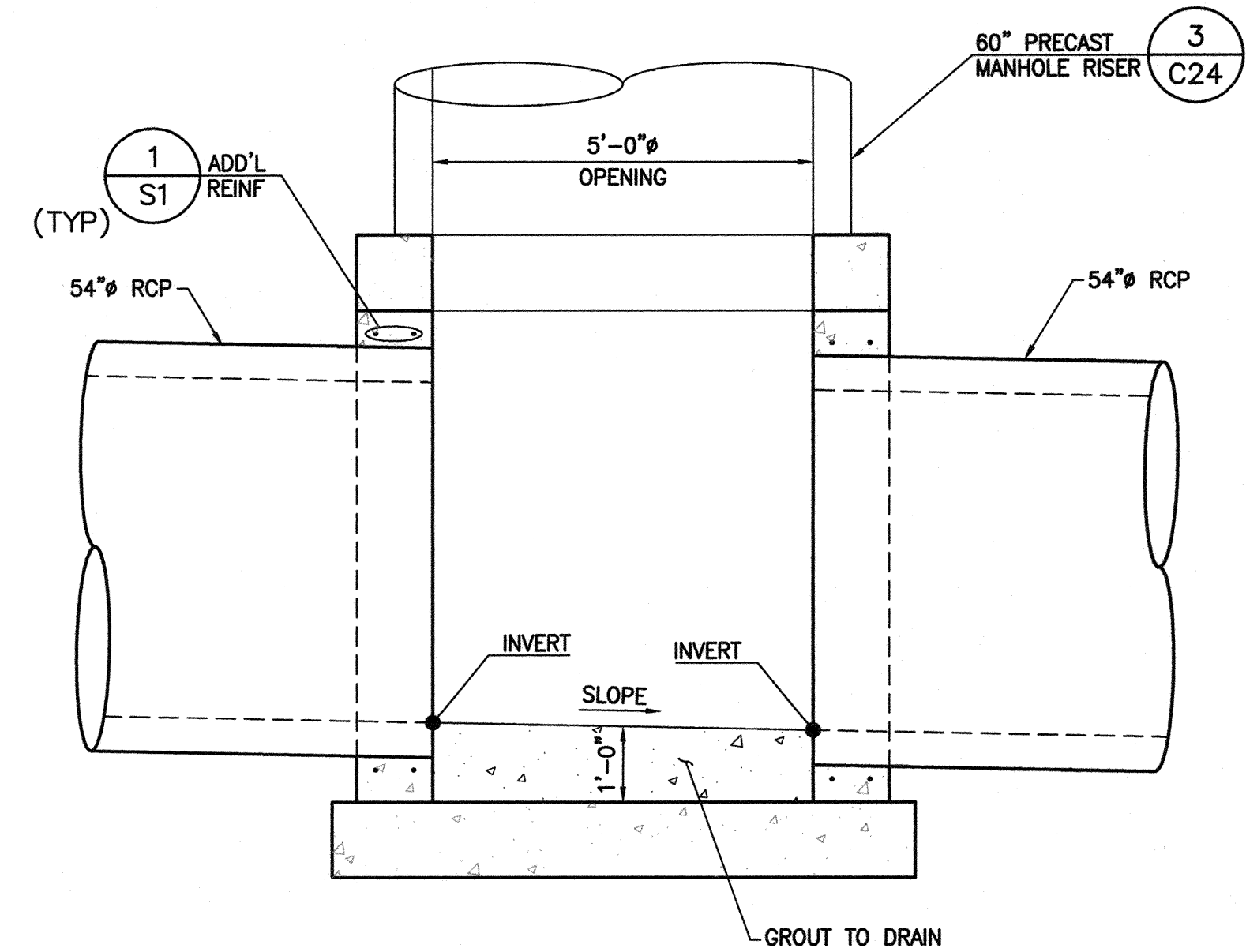


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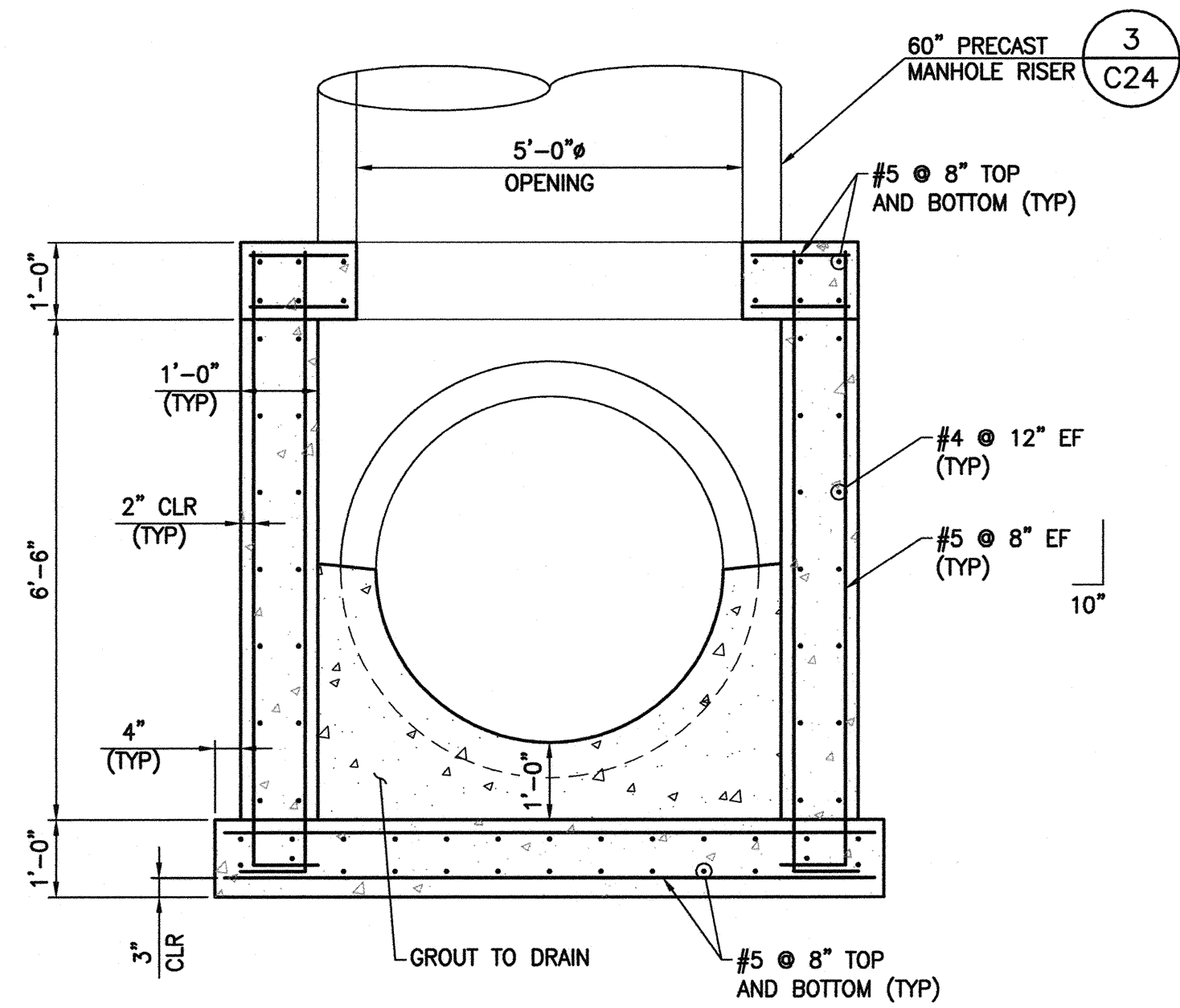


1 PLAN - SDMH #4
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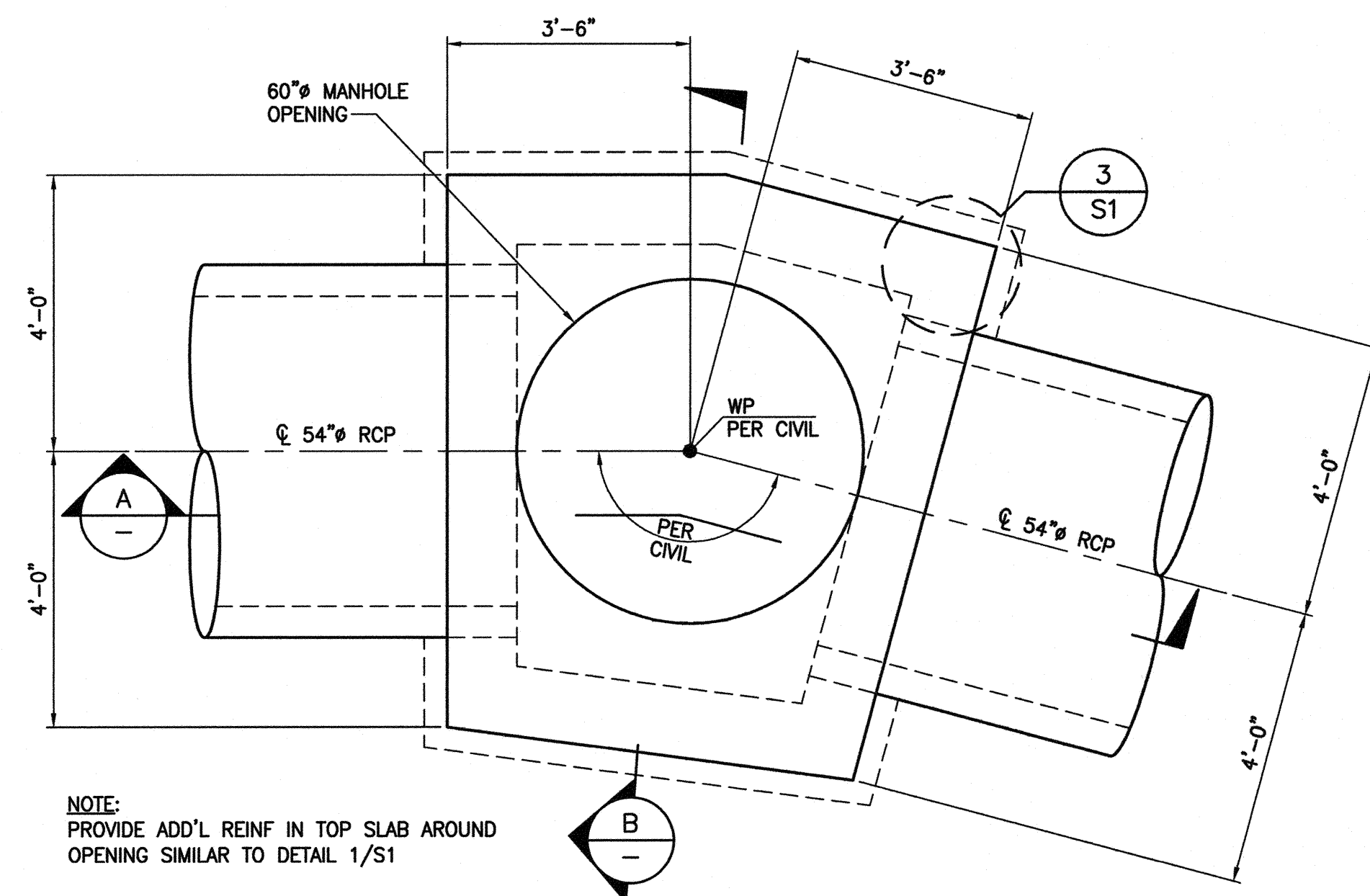
DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276		G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1535 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.2000 - F: 702.894.2299 - GCWALLACE.COM	
JUNCTION STRUCTURE SDMH #4		ANGEL PARK DETENTION BASIN EXPANSION	
DRAWN BY: NOMAE	DESIGNED BY: EGG	CHECKED BY: EGG	PROJECT NO: 412-646
SCALE: AS SHOWN		SCALE: AS SHOWN	
		SHEET S3 55 OF 60 SHEETS	
HANSEN NO. 36800		DRAWING NO. 731-49-J	



A SECTION
SCALE: 1/2" = 1'-0"



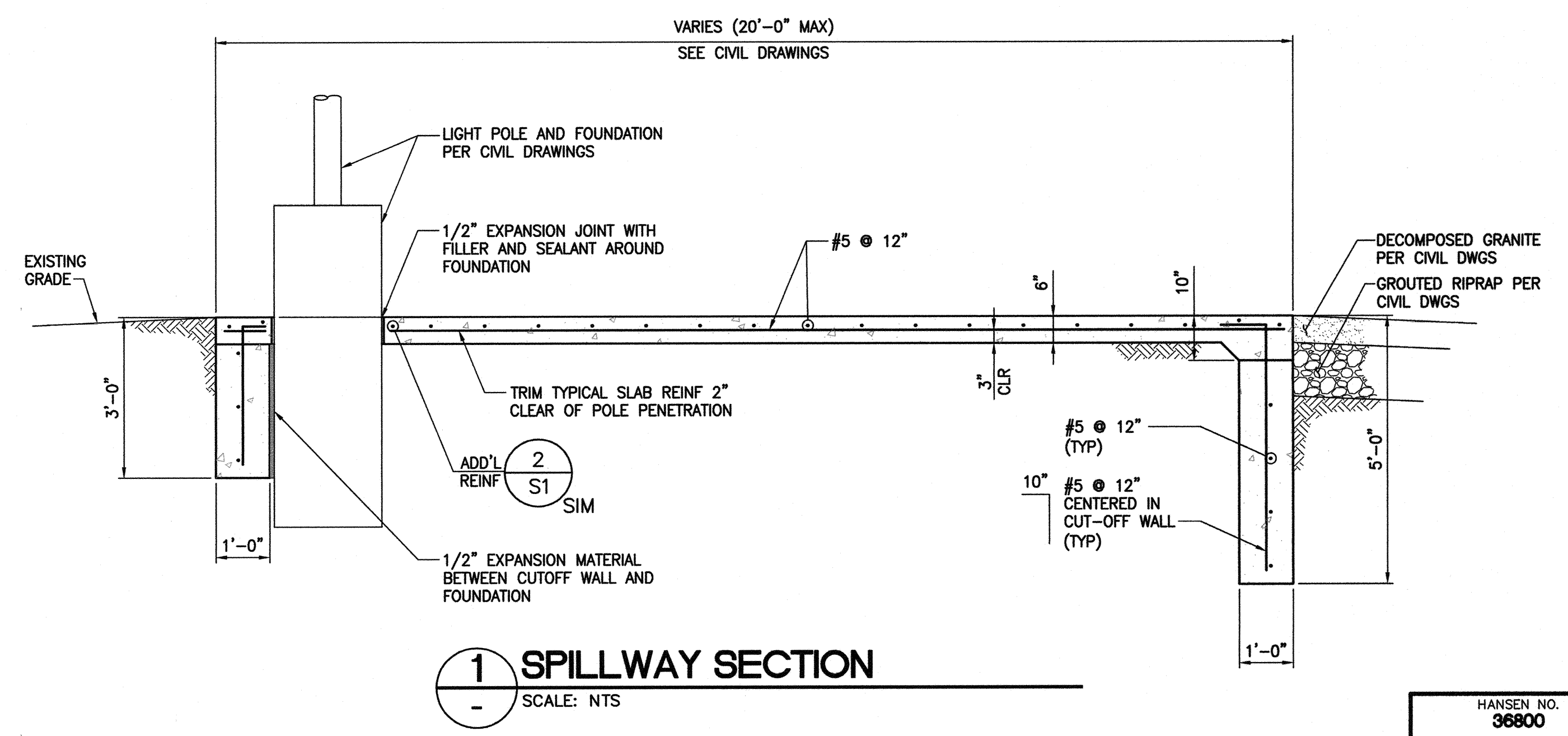
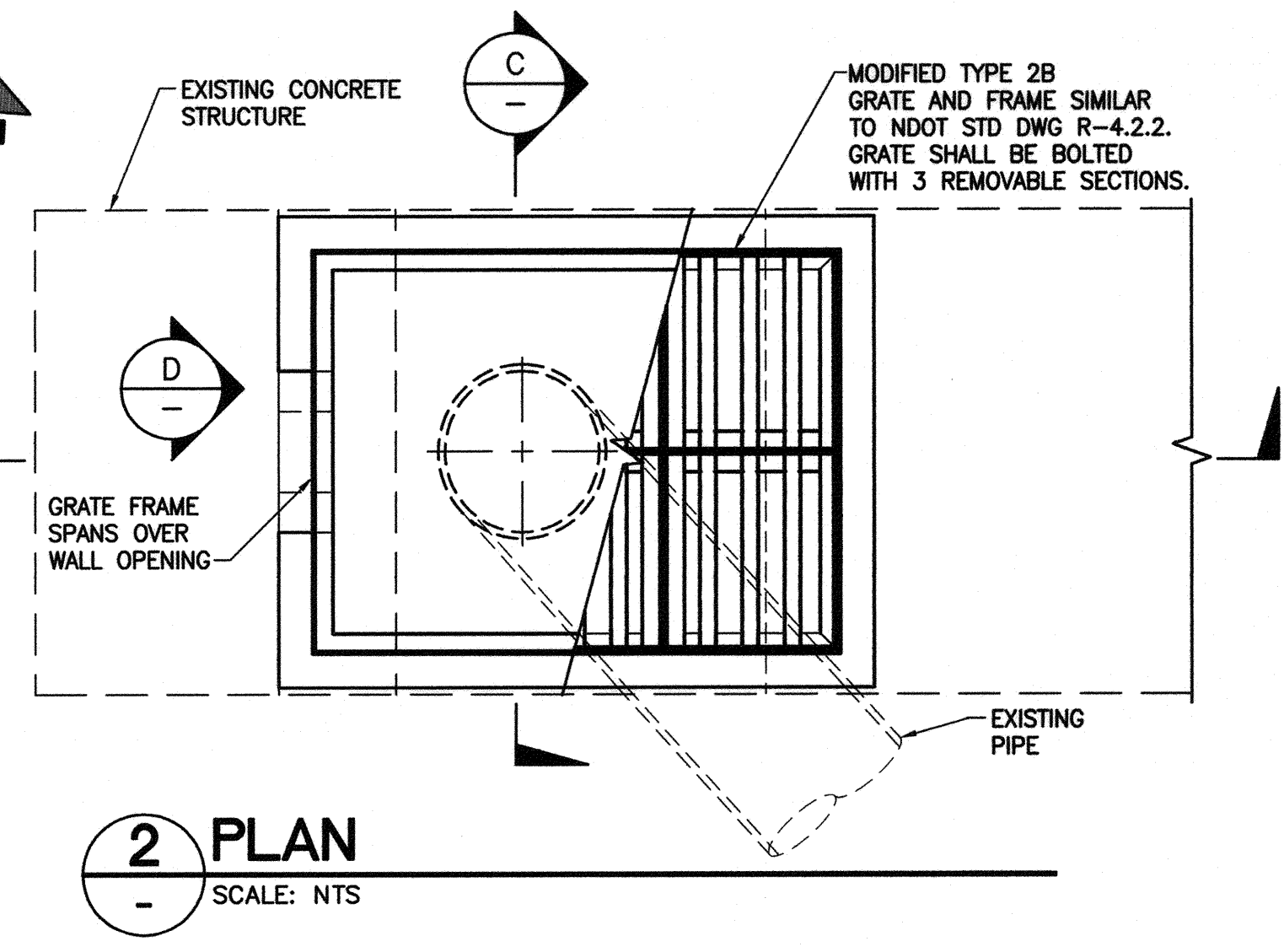
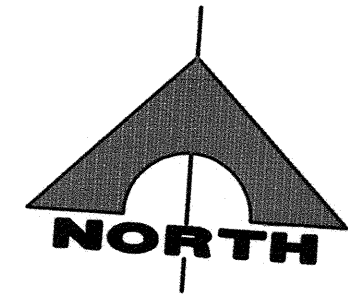
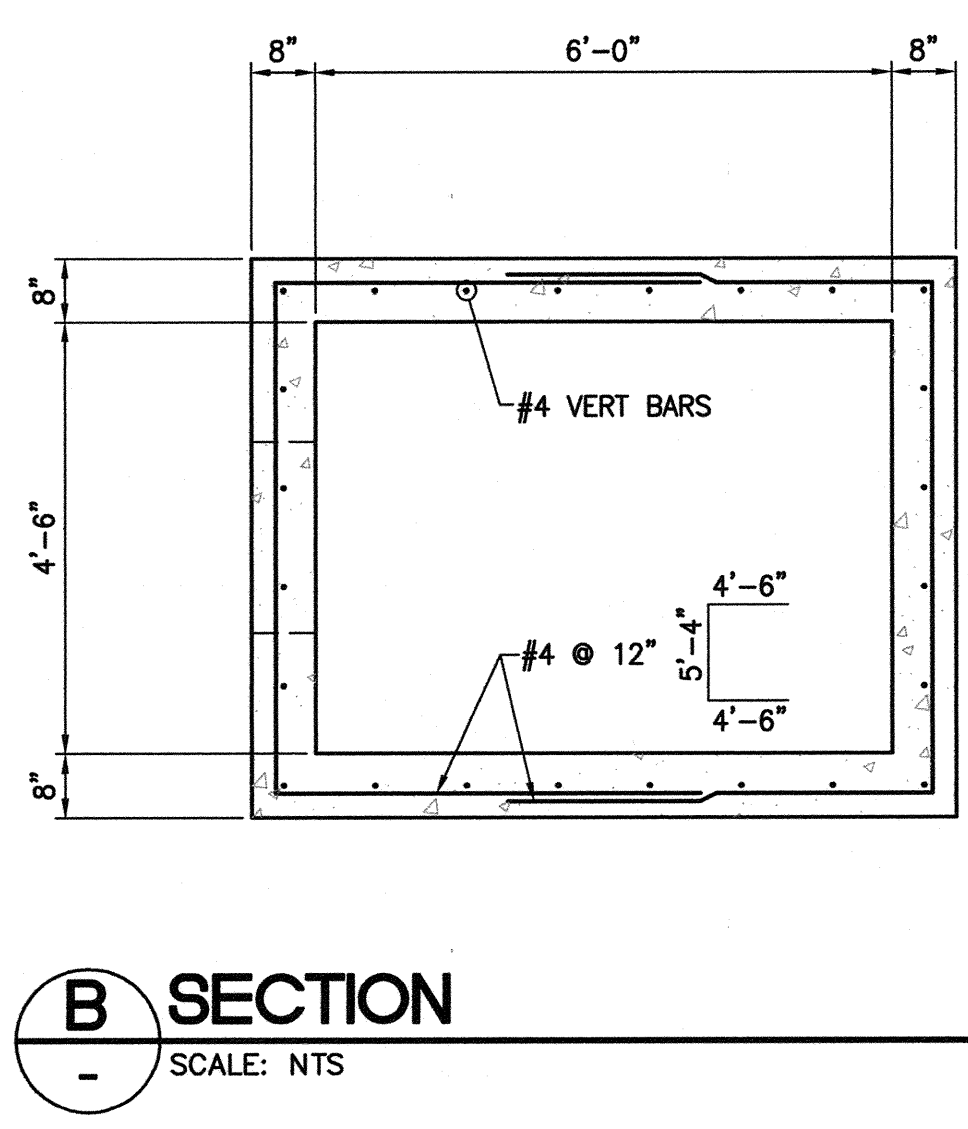
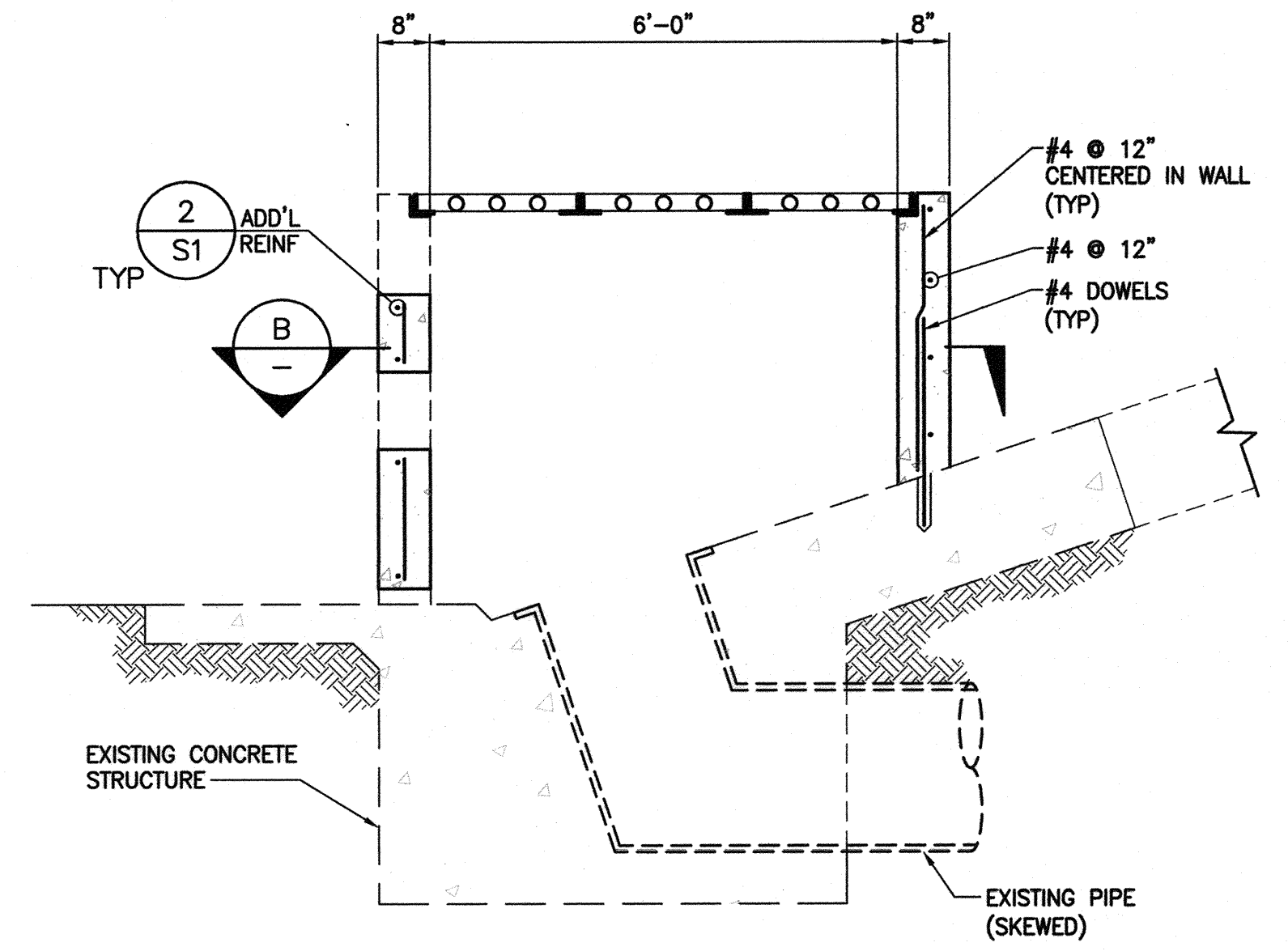
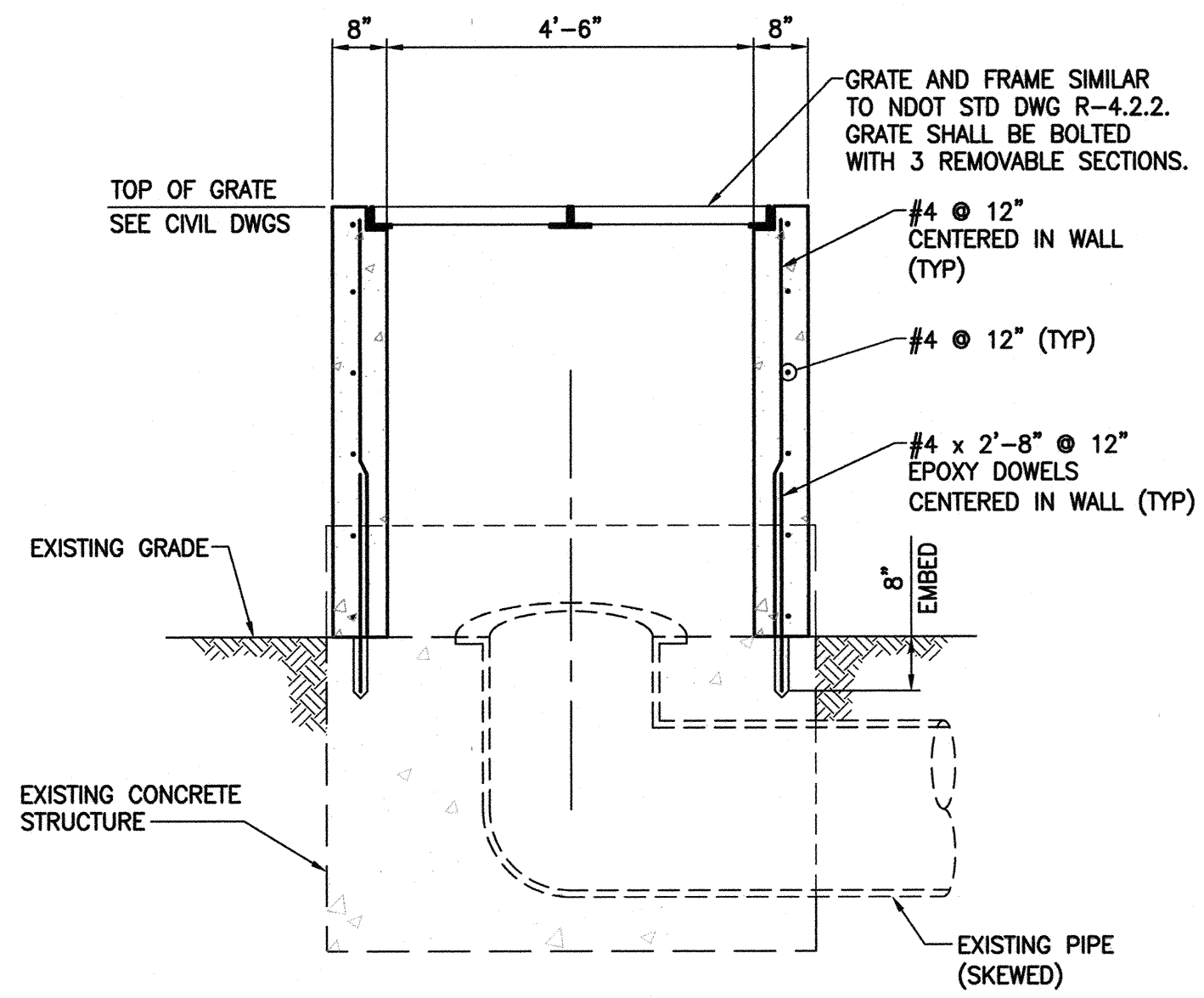
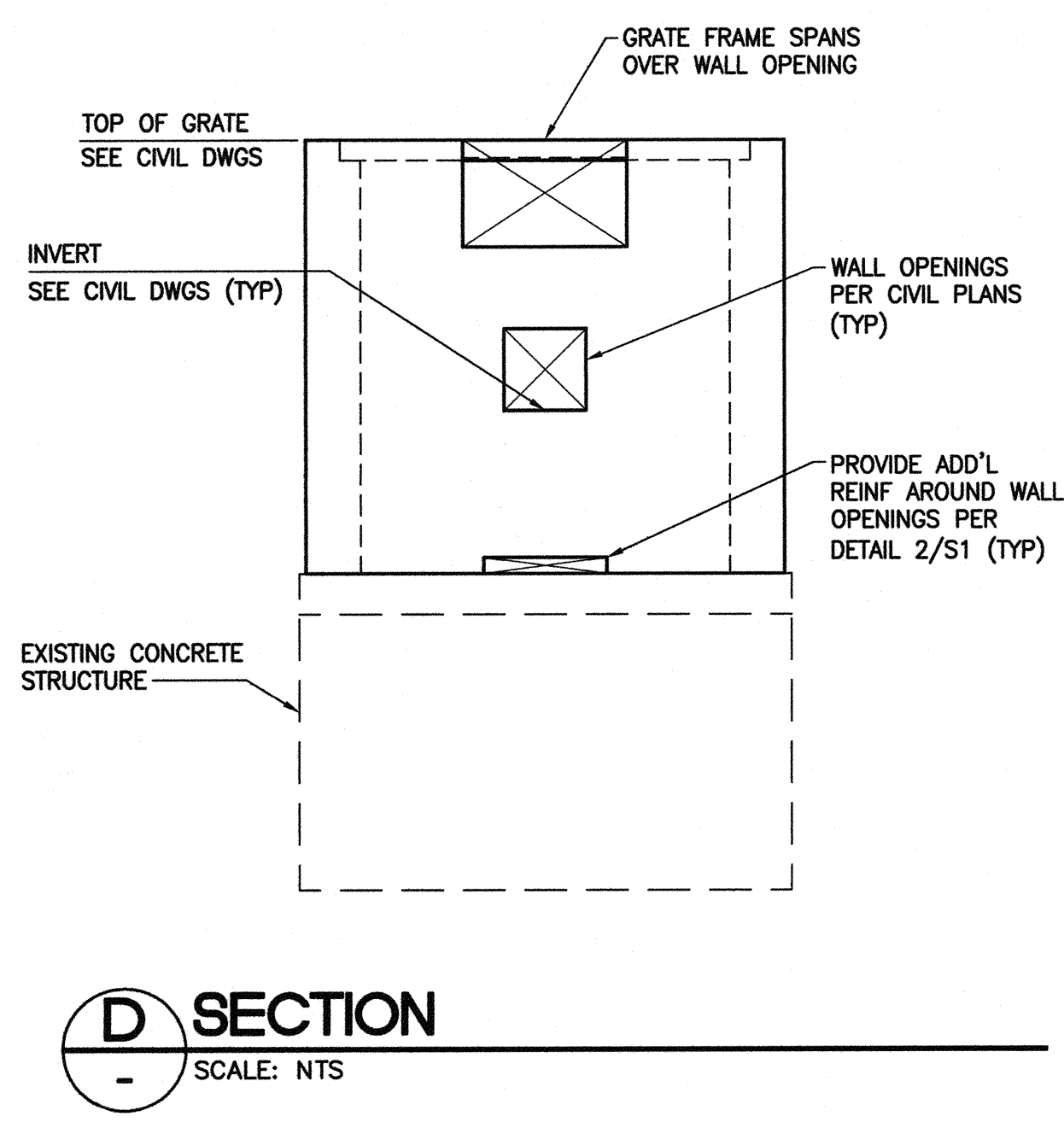
B SECTION
SCALE: 1/2" = 1'-0"



1 54" RCP MANHOLE JUNCTION
SCALE: 1/2" = 1'-0"

DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-6276	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.894.2000 F: 702.894.2299 GCWALLACE.COM	REV	DATE	BY	REVISION
54" RCP MANHOLE JUNCTION STRUCTURE		SHEET			
ANGEL PARK DETENTION BASIN EXPANSION		TITLE			
DRAWN BY: NOMAE	DESIGNED BY: EGG	CHECKED BY: EGG	PROJECT NO: 412-646	SCALE: AS SHOWN	SEAL
HANSEN NO. 36800		SHEET 54 56 OF 60 SHEETS DRAWING NO. 731-49-J			

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REV	DATE	BY	REVISION

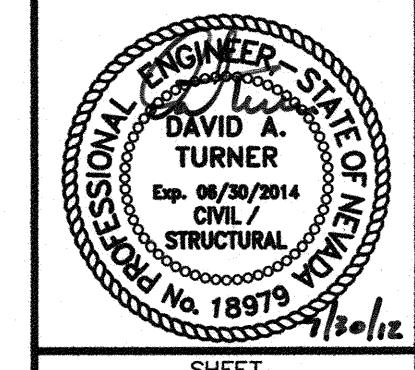
DEPARTMENT OF PUBLIC WORKS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101

SOUTH BASIN WATER QUALITY STANDPIPE

G. C. WALLACE COMPANIES
ENGINEERS | PLANNERS | SURVEYORS
1535 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299 GCWALLACE.COM

ANGEL PARK DETENTION BASIN EXPANSION

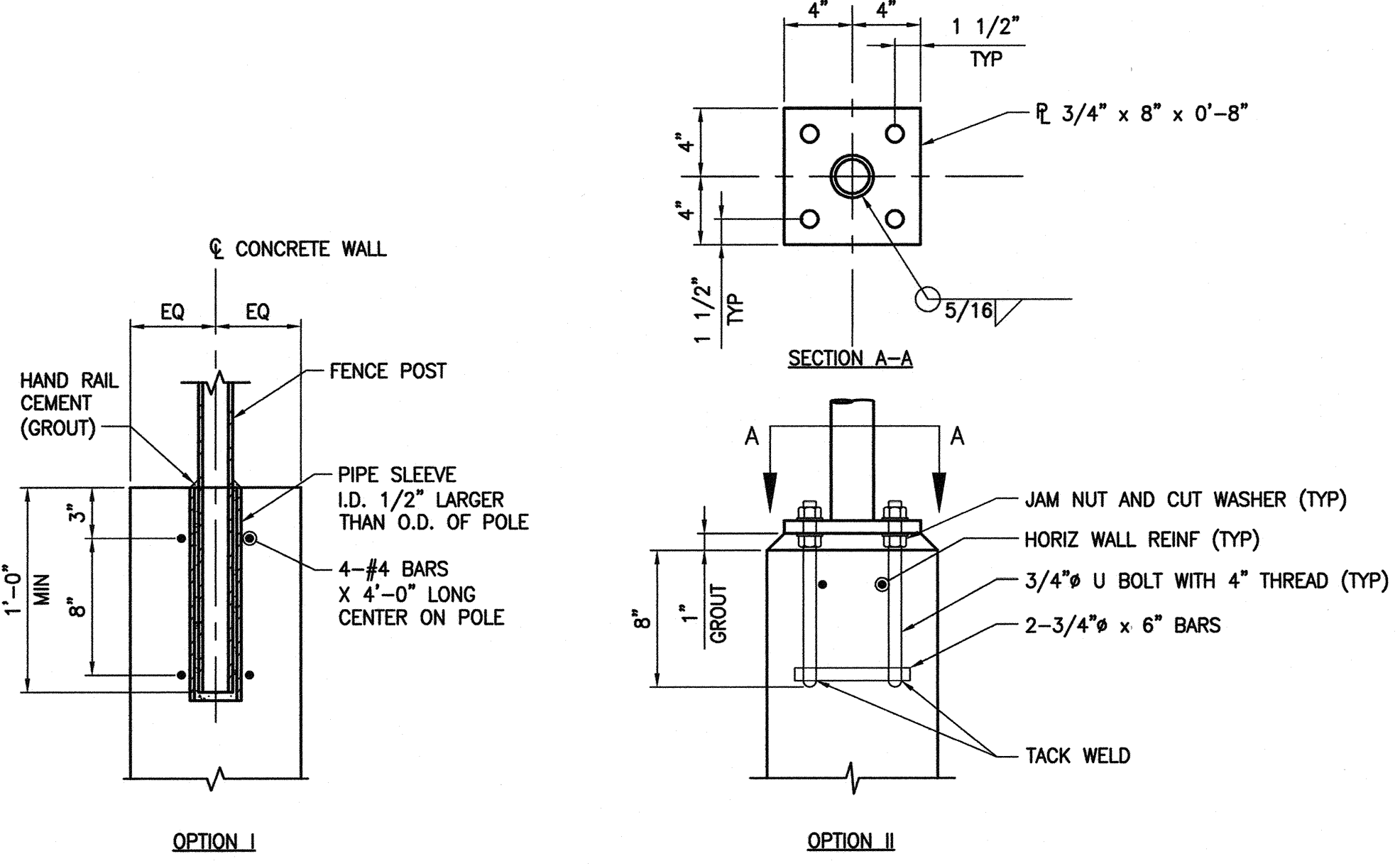
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DRAWN BY: NOMAE
DESIGNED BY: EGG
CHECKED BY: EGG
PROJECT NO: 412-646
SCALE: AS SHOWN



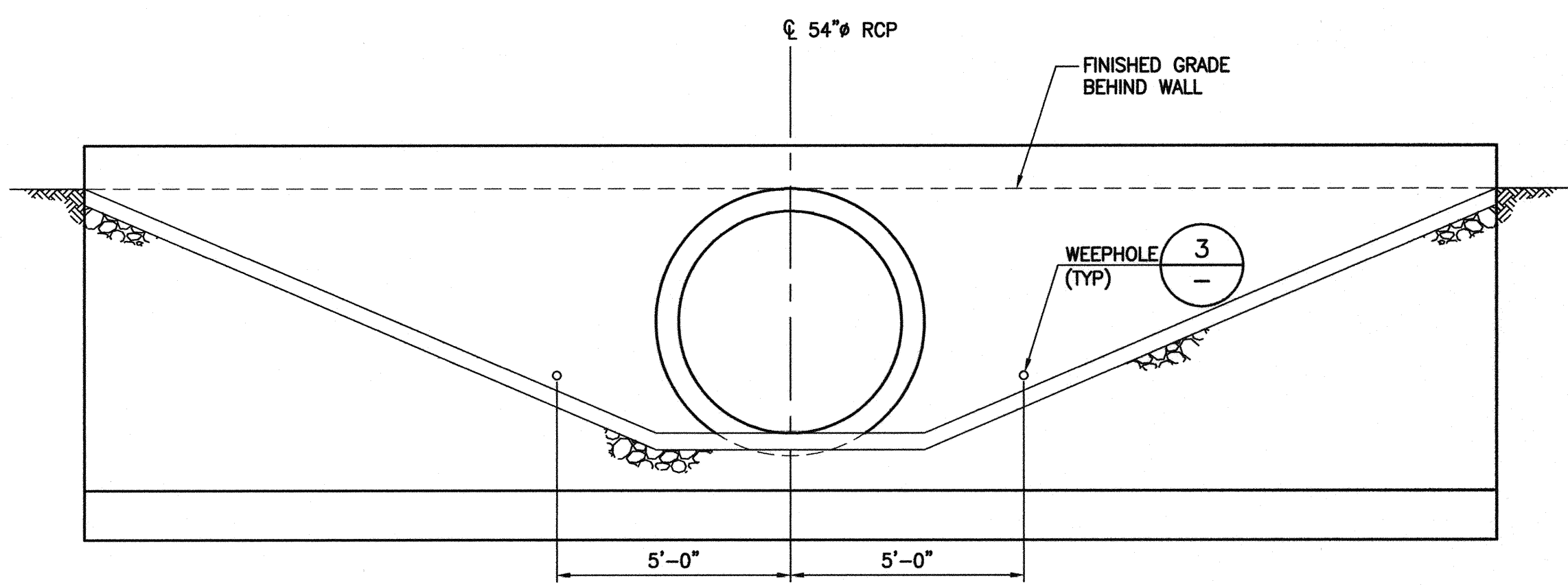
SHEET 55 OF 60 SHEETS
DRAWING NO. 731-49-J

HANSEN NO. 36800

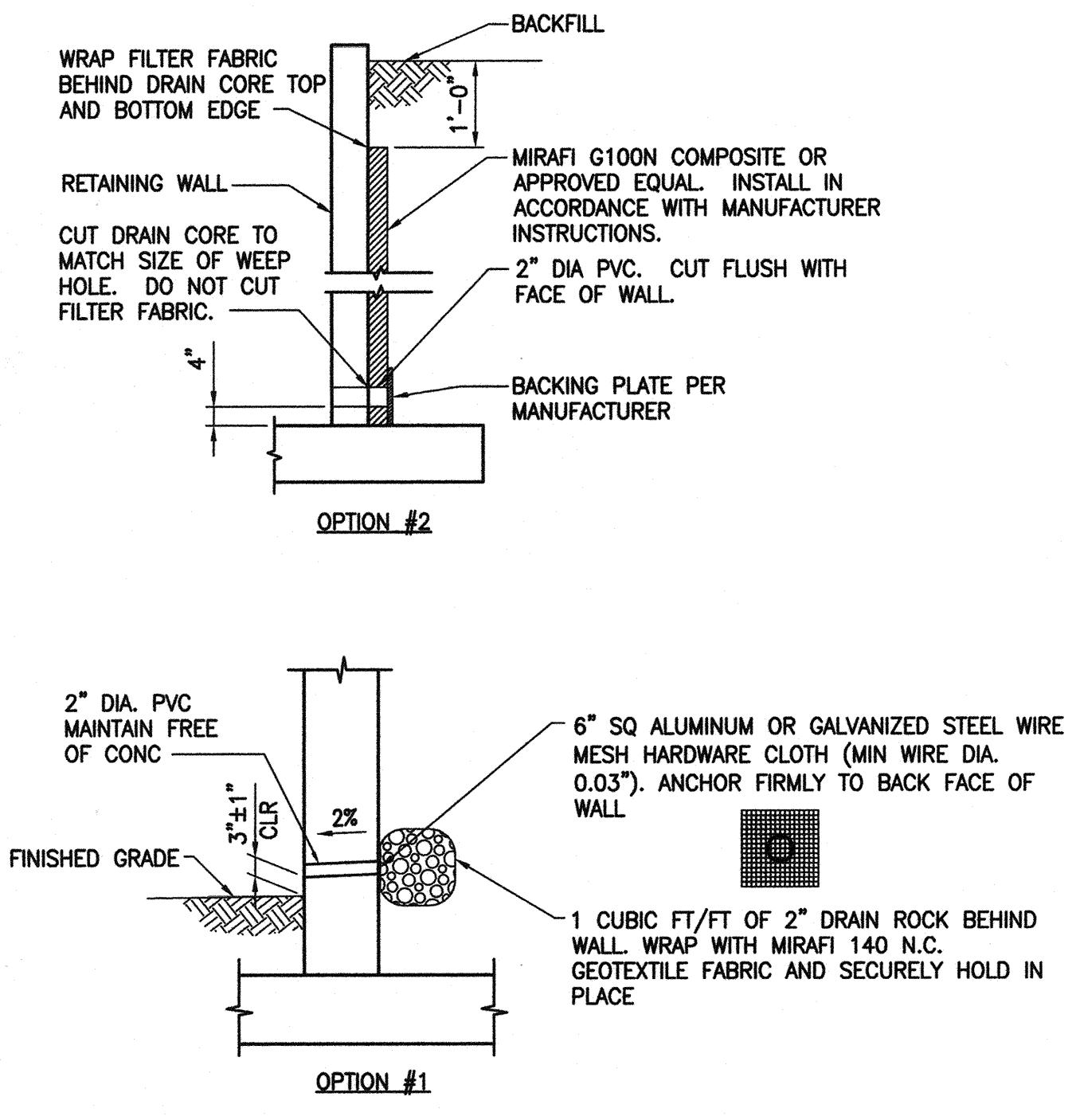
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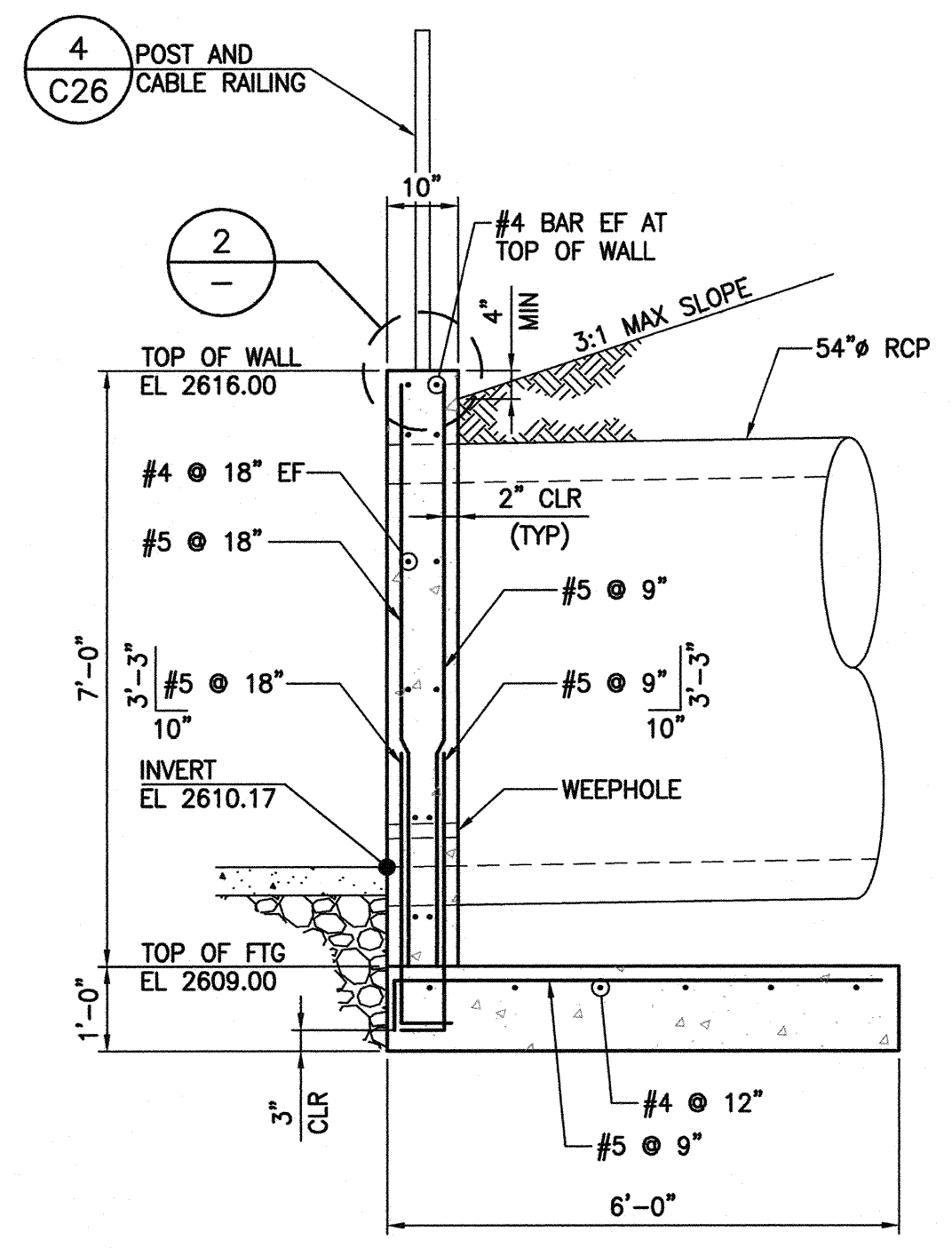
2 POST CONNECTION DETAIL
SCALE: NONE



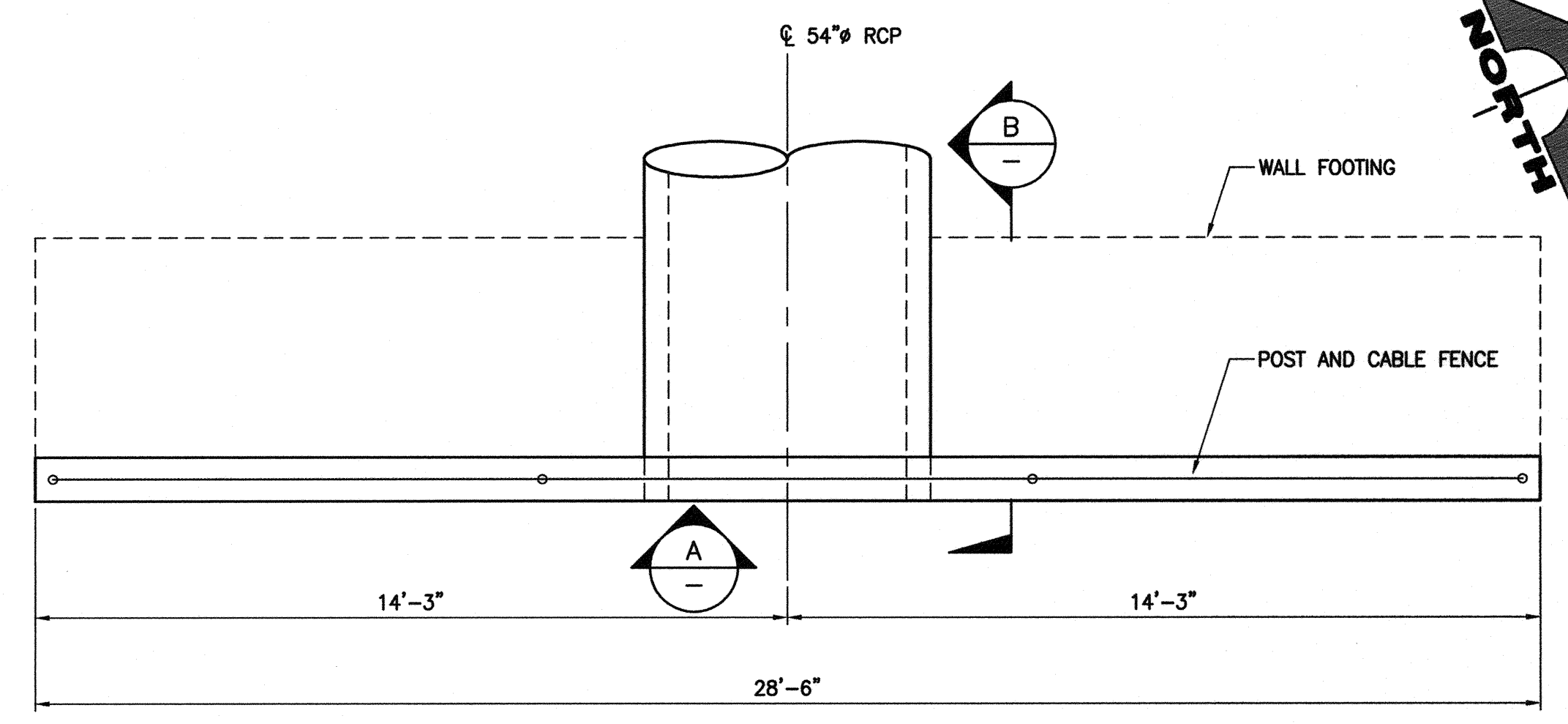
A ELEVATION
SCALE: 3/8"=1'-0"
NOTES:
1. POST AND CABLE FENCE NOT SHOWN.
2. PROVIDE ADDITIONAL REINFORCING AROUND PIPE PENETRATION PER DETAIL 1 S1
3. REFER TO DETAIL 8 C24 FOR GABION ANCHORS.



3 WEEPHOLE DETAIL
SCALE: NONE



B SECTION
SCALE: 1/2"=1'-0"



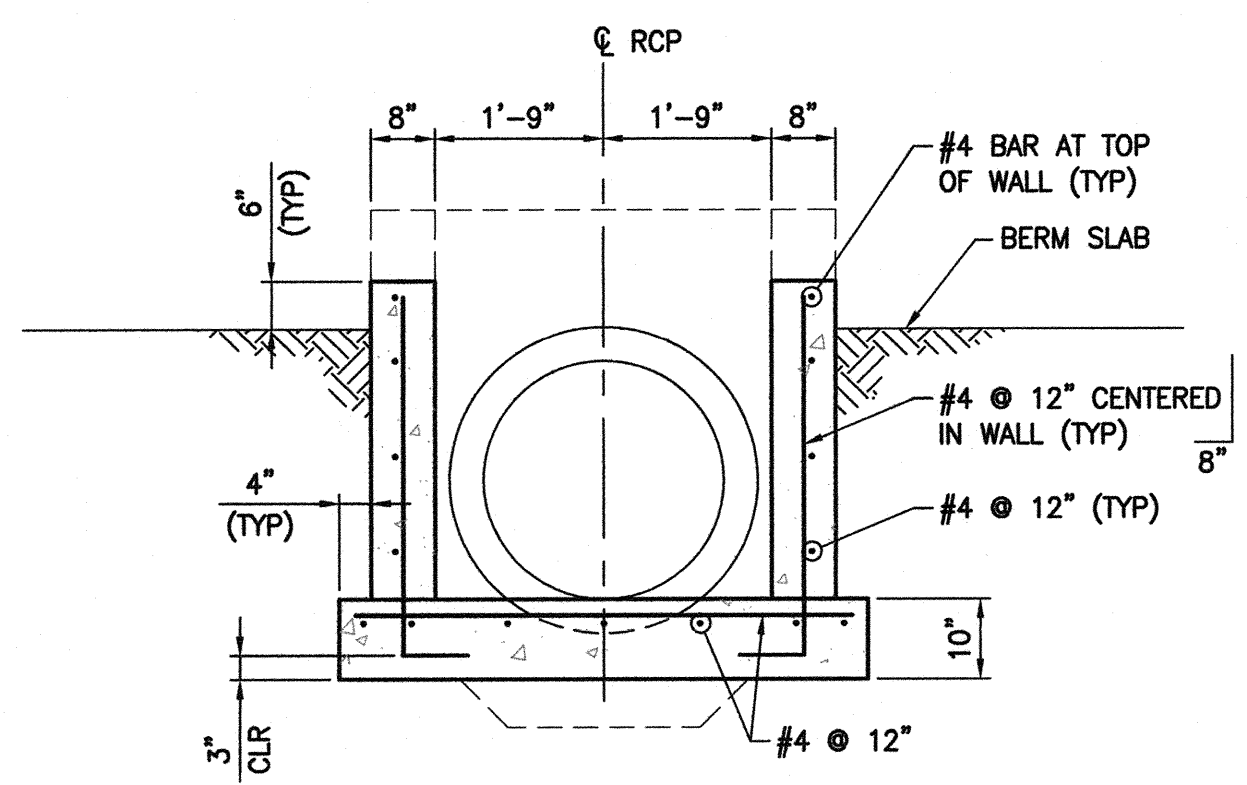
1 PLAN - 54" RCP HEADWALL
SCALE: 3/8"=1'-0"

DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 229-8276	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 - F: 702.804.2299 - GCWALLACE.COM	REV	DATE	BY	REVISION
64" RCP HEADWALL		ANGEL PARK DETENTION BASIN EXPANSION			
DRAWN BY: NOMAE	DESIGNED BY: DAT	CHECKED BY: EGG	PROJECT NO: 412-646	SCALE: AS SHOWN	SEAL
HANSEN NO. 36800		SHEET 56 58 OF 60 SHEETS DRAWING NO. 731-49-J			

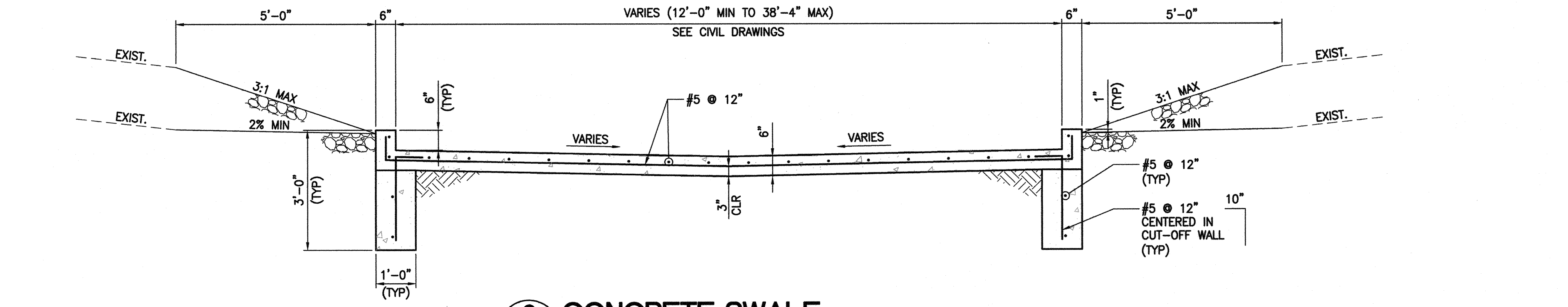
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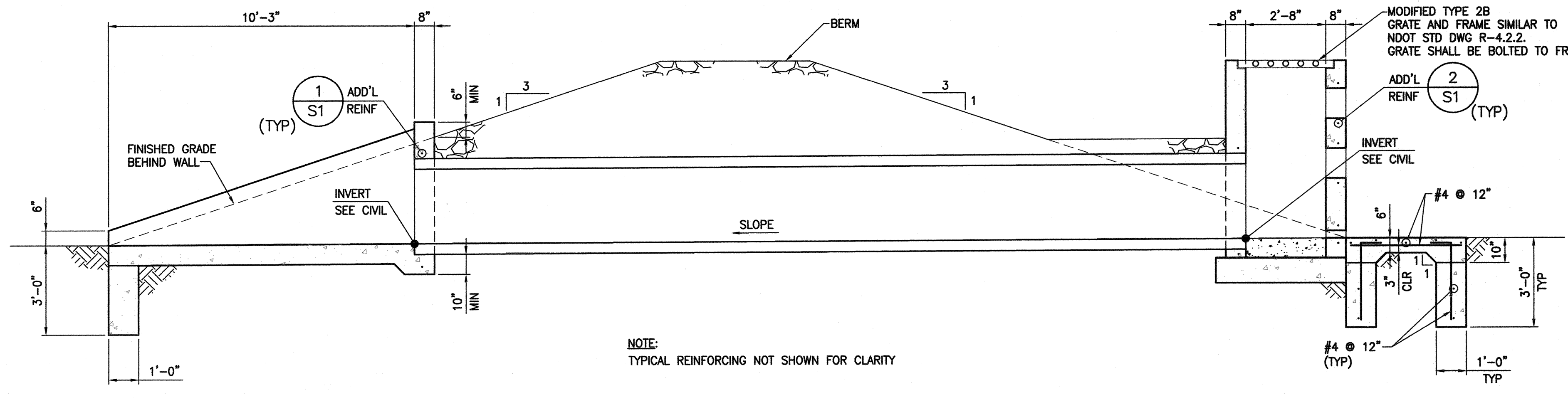
C SECTION
SCALE: 1/2"=1'-0"



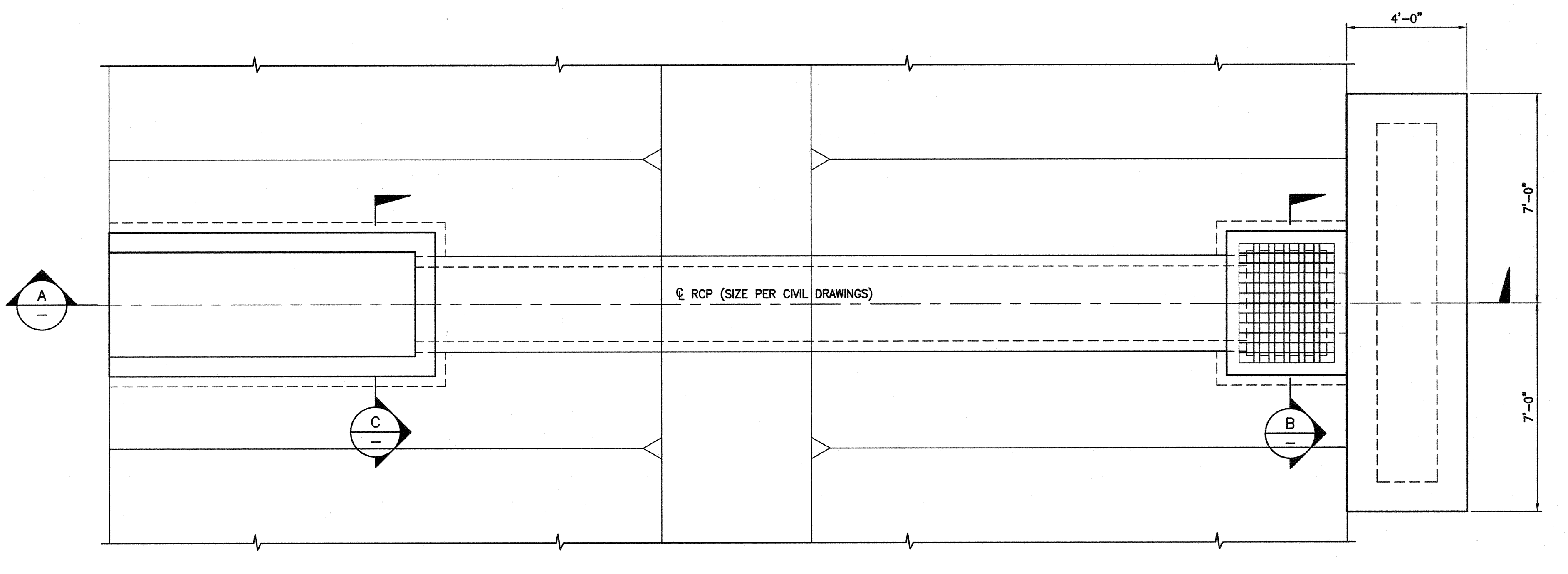
B SECTION
SCALE: 1/2"=1'-0"



2 CONCRETE SWALE
SCALE: 1/2"=1'-0"

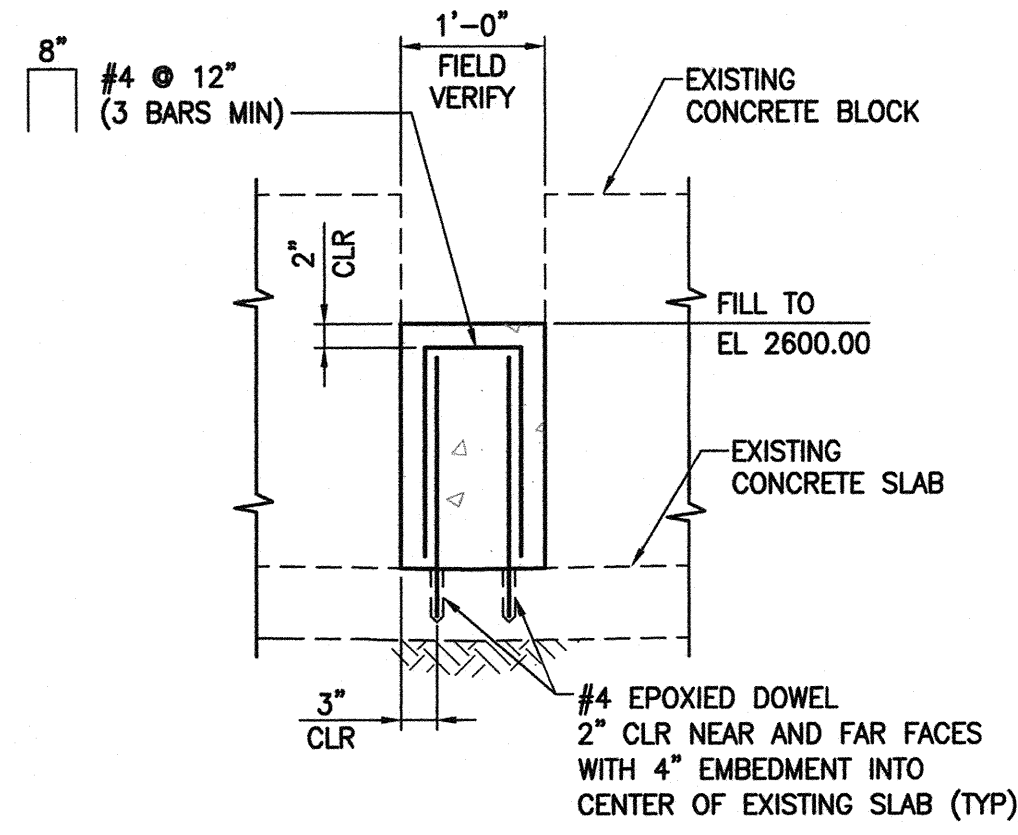


A SECTION
SCALE: 3/8"=1'-0"

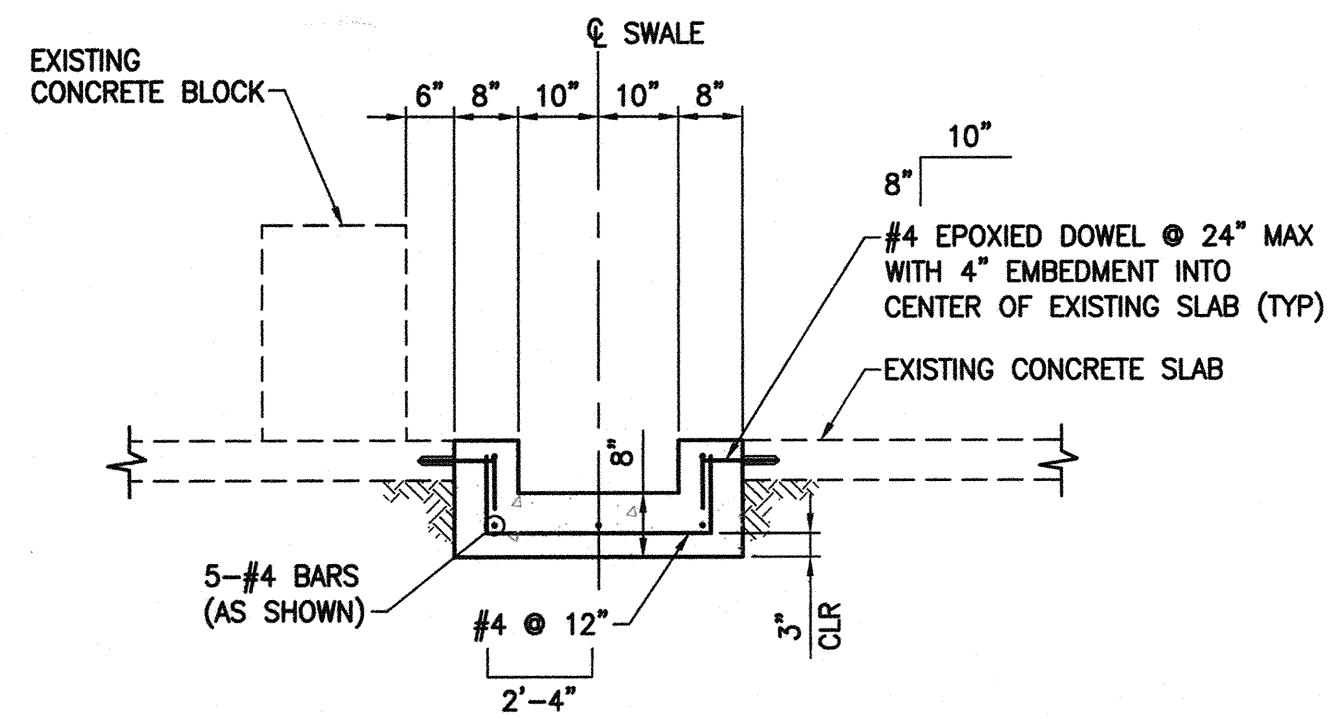


1 PLAN
SCALE: 3/8"=1'-0"

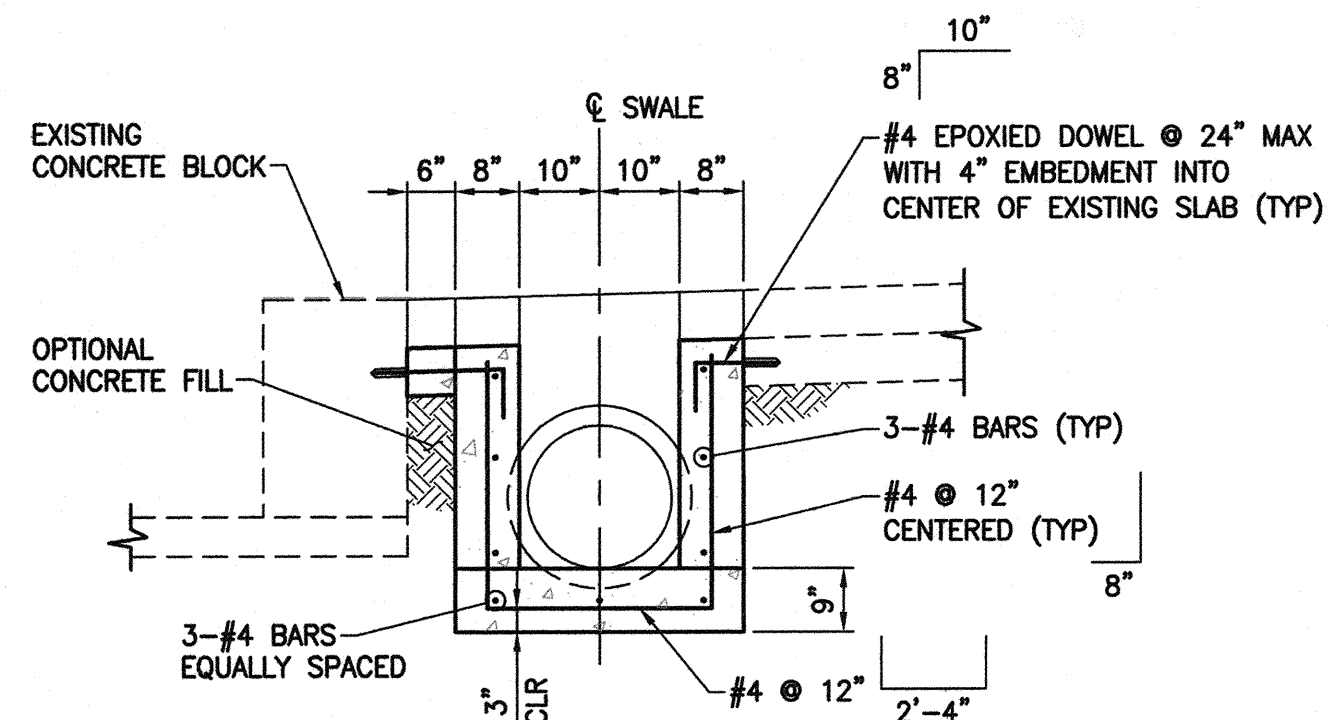
DEPARTMENT OF PUBLIC WORKS 400 STEWART AVENUE LAS VEGAS, NEVADA 89101 (702) 228-6276	G.C. WALLACE COMPANIES ENGINEERS PLANNERS SURVEYORS 1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146 T: 702.804.2000 F: 702.804.2299 - GC.WALLACE.COM
TYPICAL WATER QUALITY STANDPIPE AND OUTFALL	ANGEL PARK DETENTION BASIN EXPANSION
DRAWN BY: NOMAE	DESIGNED BY: DAT
CHECKED BY: EGG	PROJECT NO: 412-646
SCALE: AS SHOWN	SCALE: AS SHOWN
SEAL DAVID A. TURNER Exp. 08/29/2014 CIVIL STRUCTURAL No. 18979	
SHEET 59 OF 60 SHEETS	DRAWING NO. 731-49-J
HANSEN NO. 36800	



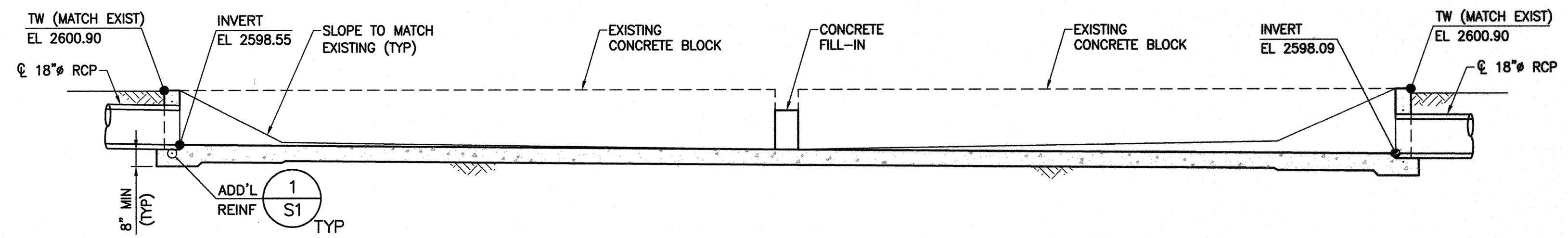
D SECTION
SCALE: 3/4"=1'-0"



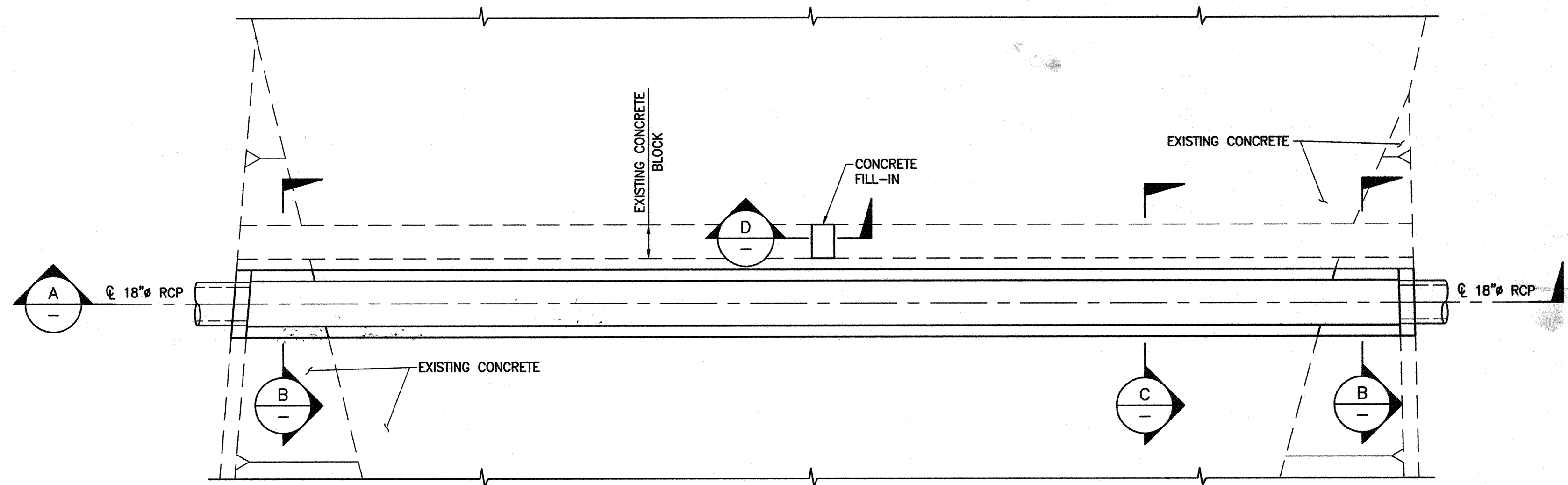
C SECTION
SCALE: 1/2"=1'-0"



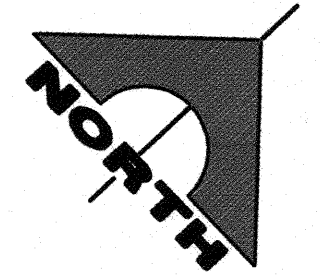
B SECTION
SCALE: 1/2"=1'-0"



A ELEVATION
SCALE: 1/4"=1'-0"



1 PLAN
SCALE: 1/4"=1'-0"



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REV	DATE	BY	REVISION

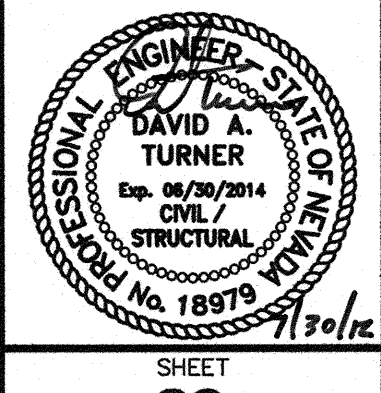
DEPARTMENT OF PUBLIC WORKS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101
(702) 229-6276

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ENGINEERS | PLANNERS | SURVEYORS
1555 S. RAINBOW BOULEVARD - LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299 GCWALLACE.COM

LOW FLOW U-CHANNEL

ANGEL PARK DETENTION BASIN EXPANSION

DRAWN BY: NOMAE
DESIGNED BY: DAT
CHECKED BY: EGG
PROJECT NO: 412-646
SCALE: AS SHOWN



SHEET **S8**
60 OF 60 SHEETS
DRAWING NO. 731-49-J

HANSEN NO. 36800