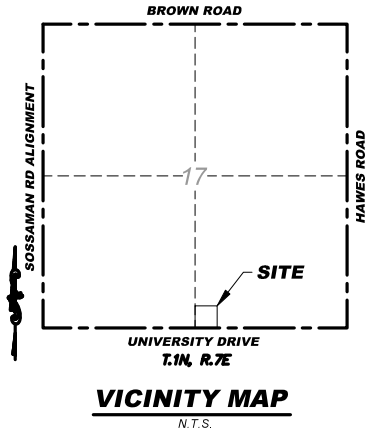


IMPROVEMENT PLAN FOR  
DCS UNIVERSITY DRIVE  
8008 EAST UNIVERSITY DRIVE MESA, ARIZONA  
A PORTION SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 1 NORTH, RANGE 7 EAST OF THE  
GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA



CITY OF MESA - WATER, WASTEWATER AND STORM  
DRAIN GENERAL NOTES

- MATERIALS AND INSTALLATION OF WATER AND SEWER MAINS, WATER METERS AND SERVICE LINE CONNECTIONS SHALL CONFORM TO CURRENT CITY DETAILS, MESA AMENDMENTS TO MAG SPECIFICATIONS, AND THE APPROVED PRODUCTS LIST. SEE BELOW FOR APPROVED PRODUCT LISTS FOR WATER AND WASTEWATER.  
HTTPS://WWW.MESA.AZ.GOV/BUSINESS/ENGINEERING/MESA-STANDARD-DETAILS-SPECIFICATIONS
- IN ACCORDANCE WITH ARIZONA ADMINISTRATIVE CODE (A.A.C) R18-4-213, ALL MATERIALS WHICH MAY COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NATIONAL SANITATION FOUNDATION (NSF) STANDARDS 60, 61, AND 372 AND SHALL BE LEAD-FREE AS DEFINED IN A.A.C. R18-5-504 AND R18-4-101.
- THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY FITTINGS AND ADAPTERS REQUIRED TO CONNECT DIFFERENT TYPES OF WATER MAIN MATERIALS.
- PER MESA AMENDMENTS 610.4.2 ALL MINOR VERTICAL OR HORIZONTAL DEFLECTIONS SHALL BE BY PIPE JOINT DEFLECTION UNLESS OTHERWISE NOTED. PIPE JOINT DEFLECTION SHALL NOT EXCEED 3 DEGREES OR 2/3 OF PIPE MANUFACTURER'S RECOMMENDATIONS WHICHEVER IS LESS.
- PER MAG AND MESA AMENDMENTS 610.11 ALL WATER LINE TESTS SHALL BE COMPLETED SO THAT NO EXISTING LINES, EXISTING VALVES, OR NEWLY INSTALLED VALVES WHICH ARE CONNECTED TO THE OPERATING WATER SYSTEM ARE INCLUDED IN THE TESTS. ALLOWABLE TIMEFRAMES SHOULD FOLLOW MESA AMENDMENTS TO MAG AND MUST BE COORDINATED WITH THE CITY INSPECTOR. FOR A DAYTIME TIE-IN, THE CONTRACTOR SHALL COMPLETE ALL WORK NECESSARY TO RESTORE UTILITY SERVICE AND FULLY OPEN THE TIE-IN AREA TO TRAFFIC WITHIN THE TIME ALLOWED.
- WATER LINE FLUSHING, PRESSURE TESTING, AND DISINFECTION SHALL BE COMPLETED PER MAG SPECIFICATION SECTION 611, MESA AMENDMENTS TO MAG SPECIFICATION SECTION 611, AND ANWA C651 (CURRENT VERSION).
- SOURCE WATER UTILIZED FOR FILLING, FLUSHING AND TESTING SHALL BE OBTAINED FROM A HYDRANT METER ORDERED THROUGH PERMIT SERVICES AND SET BY CITY OF MESA WATER RESOURCES STAFF. IT IS PROHIBITED TO OPEN A VALVE TO THE EXISTING WATER SYSTEM TO FILL A NEWLY CONSTRUCTED OR REPAIRED PIPELINE AS OUTLINED IN THE MESA AMENDMENTS TO MAG SECTION 610.11 AND 611.
- WATER METERS, METER BOXES, LIDS, ETC. IN CONFLICT WITH NEW CONSTRUCTION SHALL BE RELOCATED PER CITY OF MESA STANDARD DETAIL M-49 BY THE CONTRACTOR. THE RELOCATION SHALL INCLUDE ALL MATERIALS NECESSARY TO RECONNECT THE METER TO THE CITY DISTRIBUTION SYSTEM. SERVICE LINE EXTENSIONS, IF APPROVED IN WRITING BY MESA WATER RESOURCES DEPARTMENT, SHALL CONFORM TO MESA STANDARD DETAIL M-49. WHEN SERVICE LINE EXTENSIONS ARE APPROVED PER MESA STANDARD DETAIL M-49, SERVICE LINE COUPLINGS SHALL NOT BE PLACED UNDER ROADWAY SURFACES, CONCRETE GUTTERS, CURB AND GUTTER, OR CONCRETE DRIVEWAYS.
- VALVES SHALL BE INSTALLED WITH VALVE BOX AND COVER PER MAG STD DETAILS 391-1, TYPE C WITH A DEEP-SKIRTED LID (4-INCHES MINIMUM) AS NOTED IN THE APPROVED PRODUCTS LIST.
- ALL WATER LINE ABANDONMENT CUT AND PLUGS FOR ACTIVE LINES SHALL CONFORM TO THE FOLLOWING:  
A. 12" AND SMALLER DIAMETER PER MESA STANDARD DETAIL M-50.  
B. 16" DIAMETER PER M.A.G. STANDARD DETAIL 390, TYPE B.  
C. GREATER THAN 16" DIAMETER, AS DESIGNED PER PLAN.
- LIME-TREATED AGGREGATE BASE COURSE (ABC) MATERIAL, RECLAIMED CONCRETE MATERIAL (RCM), AND RECLAIMED ASPHALT PAVEMENT (RAP) MATERIALS ARE PROHIBITED FOR USE IN THE PIPE EMBEDMENT ZONE (BEDDING, HAUNCHING, INITIAL BACKFILL) FOR WATERLINE CONSTRUCTION PER MESA AMENDMENTS 601.4.2.
- PER MESA AMENDMENTS 610.11, APPLICATIONS TO THE CITY OF MESA ENGINEERING INSPECTOR AND REVIEWED AND APPROVED BY THE WATER RESOURCES DEPARTMENT FOR WATER SYSTEM SHUTDOWN FOR THE PURPOSES OF CONSTRUCTION-RELATED ACTIVITIES SHALL BE MADE A MINIMUM OF FIVE (5) BUSINESS DAYS PRIOR TO THE SCHEDULED SHUTDOWN DATE. THE REQUEST SHALL INCLUDE PRIMARY AND SECONDARY VALVE NUMBERS, WHETHER A TEST SHUTDOWN IS REQUESTED, AND THE DATE AND DURATION OF THE REQUESTED SHUTDOWN. PER MAG 610.11, THE CITY OF MESA DOES NOT GUARANTEE A COMPLETE SHUTDOWN.

CITY OF MESA - WATER, WASTEWATER AND STORM  
DRAIN GENERAL NOTES (CONT'D)

- REQUIRED BACKFLOW PREVENTION ASSEMBLIES SHALL INCLUDE MANUFACTURERS AND MODELS DESIGNATED IN THE CURRENT "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES" AS PUBLISHED BY THE FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH, UNIVERSITY OF SOUTHERN CALIFORNIA.
- BACKFLOW PREVENTION ASSEMBLIES SHALL BE TESTED AND APPROVED BY A CERTIFIED TECHNICIAN DESIGNATED IN THE CURRENT CITY OF MESA "LIST OF APPROVED INSPECTORS" PRIOR TO THE REQUEST FOR FINAL INSPECTION.
- ALL WATER METERS ARE TO BE SUPPLIED BY THE CITY OF MESA. CHARGES FOR INSTALLING NEW SERVICES AND METERS WILL BE IN ACCORDANCE WITH THE CURRENT UTILITY SERVICE FEE SCHEDULE. METERS TWO INCHES OR LESS WILL BE DELIVERED AND INSTALLED BY CITY FORCES. METERS LARGER THAN TWO INCHES WILL BE DELIVERED BY THE CITY AND INSTALLED BY THE CONTRACTOR AND REQUIRE SCHEDULING AND INSPECTIONS WITH CITY FORCES. CONTACT THE DEVELOPMENT SERVICES DEPARTMENT AT 480-644-4273 FOR THE SPECIFIC PROCEDURE. SEE M-27.01 FOR MORE INFORMATION.
- FOR PROJECTS INVOLVING PUBLIC WATER MAINS WITH DIAMETERS 20" AND LARGER, THE FOLLOWING SHALL APPLY:  
A. PROCUREMENT OF PIPES AND APPURTENANCES SHALL NOTE COMMENCE UNTIL SHOP DRAWINGS AND PRODUCT DATA SUBMITTALS HAVE BEEN REVIEWED AND ACCEPTED IN WRITING BY THE CITY OF MESA WATER RESOURCES DEPARTMENT.  
B. SUBMITTALS AND SHOP DRAWINGS SHALL INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:  
I. PIPE AND FITTINGS  
II. PIPE APPURTENANCES (ISOLATION VALVES, AIR RELEASE VALVES, HYDRANTS, ETC)  
III. CORROSION MONITORING AND PROTECTION SYSTEMS (WHERE APPLICABLE)  
IV. FABRICATION/LAY DRAWINGS (FOR C200 STEEL OR C303 CONCRETE CYLINDER PIPE)  
V. VALID WELDER'S CERTIFICATIONS (FOR C200 OR C303 CONCRETE CYLINDER PIPE)  
C. ALL FIELD WELDS SHALL BE MADE AVAILABLE FOR INSPECTION BY THE CITY OR THE CITY'S REPRESENTATIVE PRIOR TO GROUTING.  
D. ADDITIONAL REQUIREMENTS FOR C200 STEEL AND C303 CONCRETE CYLINDER PIPE WITH DIAMETERS 30" AND LARGER ARE AS FOLLOWS:  
I. EACH PIPE SECTION SHALL BE MADE AVAILABLE FOR VISUAL AND SOUNDING INSPECTIONS BY CITY STAFF OR THE CITY'S REPRESENTATIVE PRIOR TO INSTALLATION. PIPES FAILING INSPECTIONS SHALL BE REPAIRED OR REPLACED AS DETERMINED BY THE CITY.  
II. INSTALLED PIPE SHALL BE MADE AVAILABLE FOR INTERNAL VISUAL AND SOUNDING INSPECTIONS BY CITY STAFF OR THE CITY'S REPRESENTATIVE PRIOR TO FILLING. PIPES FAILING INSPECTIONS SHALL BE REPAIRED OR REPLACED AS DETERMINED BY THE CITY.
- WHEN GROUTING OR CASTING CONCRETE AROUND PVC SEWER PIPE SUCH AS AT MANHOLE OR VAULT PENETRATIONS, THE CONTRACTOR SHALL INSTALL WATER STOPS PER MESA AMENDMENTS TO MAG SPECIFICATION 625 AND MANUFACTURERS RECOMMENDATIONS.
- SEWER BUILDING CONNECTION LATERALS SHALL BE INSTALLED PER MAG STANDARD DETAIL 440. LATERAL WYES SHALL BE INSTALLED AT NO GREATER THAN A 45 DEGREE ANGLE FROM HORIZONTAL. SEWER LATERAL SLOPES SHALL BE AS INDICATED ON MAG STANDARD DETAIL 440 AND IN NO CIRCUMSTANCE SHALL SEWER LATERAL SLOPES EXCEED 7/8" PER FOOT FOR 6" LATERALS AND 1-1/2" PER FOOT FOR 4" LATERALS. FITTINGS SHALL BE INSTALLED WITH NO ANGULAR JOINT DEFLECTION AND ALL CONNECTIONS SHALL BE GASKETED OR SEALED PER MAG SPECIFICATIONS.
- SEWER MANHOLE BASES, BENCHES, SHELVES, AND CHANNELS SHALL BE CONSTRUCTED PER MAG STANDARD DETAIL 420. EACH INLET PIPE SHALL HAVE A DESIGNATED, FORMED CHANNEL AND BENCHING. THE DIMENSIONS OF CHANNELS, SHELF SLOPE, AND MINIMUM INLET PIPE ANGLES SHALL BE CONSTRUCTED PER MAG STANDARD DETAIL 420-3.
- PER MESA DESIGN STANDARDS, SEWER MANHOLES SHALL BE CONSTRUCTED PER MAG STANDARD DETAILS 420-1, TYPE 'A' TOP; AND 423-2 EXCEPT THAT:  
A. MANHOLE SHAFT DIAMETERS SHALL BE 5 FEET.  
B. MANHOLE RINGS AND COVERS SHALL HAVE 30-INCH DIAMETERS.  
C. STEPS SHALL NOT BE INCLUDED.

PROJECT INFORMATION

PROJECT DESCRIPTION:  
THE PROJECT CONSISTS OF THE CONSTRUCTION OF A NEW OFFICE BUILDING WITH ALL REQUIRED GRADING & DRAINAGE, UTILITY AND PAVING IMPROVEMENTS.

ADDRESS:  
8008 EAST UNIVERSITY DRIVE  
MESA, ARIZONA 85207

APN: 218-08-100B AND 218-08-100A

ZONING: NC

TOTAL AREA: 131,322 SF (3,014 AC)  
DISTURBED AREA: 111,775 SF (2,566 AC)

SURVEY NOTES

- THE SURVEY FOR THIS PROJECT WAS PERFORMED BY:  
OUTER LIMITS LAND SURVEYING  
PO BOX 71957  
PHOENIX, ARIZONA 85050  
PH: 602-486-1154  
CONTACT: BRIAN SERAN, R.L.S.
  - THE BASIS OF BEARINGS FOR THIS PROJECT IS THE MONUMENT LINE OF UNIVERSITY DRIVE, ALSO BEING THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 17, USING A BEARING OF NORTH 90°00'00" WEST AS SHOWN ON MESA VERDE MEADOWS, PER BOOK 311 OF MAPS, PAGE 22, MCR.
  - THE BASIS OF ELEVATION FOR THIS PROJECT IS A FOUND TAG LOCATED ON THE TOP OF THE NORTH CURB OF ADOBE STREET AT SOSSAMAN ROAD ALIGNMENT, BEING NORTH OF THE CENTER OF SECTION 18, T1N, R7E OF THE G&SRM, MARICOPA COUNTY, ARIZONA HAVING AN ELEVATION OF 1497.23, NAVD88.
- BENCHMARK**
- THE BENCHMARK USED FOR THIS SURVEY IS A FOUND TAG LOCATED ON THE TOP OF THE NORTH CURB OF ADOBE STREET AT SOSSAMAN ROAD ALIGNMENT, BEING NORTH OF THE CENTER OF SECTION 18, T1N, R7E OF THE G&SRM, MARICOPA COUNTY, ARIZONA HAVING AN ELEVATION OF 1497.23, NAVD88.

LEGAL DESCRIPTION

PARCEL ONE:  
TRACT "A" MESA VERDE MEADOWS, A SUBDIVISION RECORDED IN BOOK 311 OF MAPS, PAGE 12 AND CERTIFICATE OF CORRECTION RECORDED IN 87-457616, RECORDS OF MARICOPA COUNTY, ARIZONA;  
EXCEPT THE WEST 180.01 FEET THEREOF  
PARCEL TWO:  
THE WEST 180.01 FEET OF "A" MESA VERDE MEADOWS, ACCORDING TO THE PLAT OF RECORD IN THE OFFICE OF THE COUNTY RECORDER OF MARICOPA COUNTY, ARIZONA, IN BOOK 311 OF MAPS, PAGE 12, AND AFFIDAVIT OF CORRECTION RECORDED IN DOCUMENT NO. 87-457616

FLOODPLAIN INFORMATION

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP PANEL NUMBER 04013C2295L, DATED OCTOBER 16, 2013 THE PARCEL IS LOCATED IN THE ZONE X (SHADED) AREA, WHICH IS DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.

DRAINAGE STATEMENT

-SITE IS NOT IN A SPECIAL FLOOD HAZARD AREA  
-OFFSITE FLOWS DO NOT AFFECT THIS SITE  
-RETENTION PROVIDED IS 100-YR, 2-HR VIA AN UNDERGROUND RETENTION  
-EXTREME STORM OUTFALL FOR THE SITE IS AT THE SOUTHWEST PROJECT CORNER AT THE ELEVATION OF 1491.80.  
-FREE FROM INUNDATION FROM THE 100-YR, 2-HR STORM EVENT.

PROJECT RETENTION

REQUIRED RETENTION (100-YEAR, 2-HOUR)  
VOLUME [CF] = Cw x (P [IN] / 12) x AREA [SF]

V = 0.85 x (2.2/12) x 131,354  
V = 20,614 CF

PROVIDED:  
PROVIDED STORMTECH CHAMBERS:  
• (80) STORMTECH MC-7200 CHAMBERS, 267.3 CF PER CHAMBER, INCLUDING STONE VOID VOLUME SURROUNDING THE CHAMBER.  
• (8) STORMTECH MC-7200 END CAPS, 115.3 CF PER CAP.  
• INSTALLED WITH 12" COVER STONE AND 9" BASE STONE  
(STONE SHALL HAVE 30% VOID RATIO)  
TOTAL INSTALLED VOLUME = 22,306 CF  
TOTAL PROVIDED VOLUME = 22,306 CF

EARTHWORK QUANTITIES

PROJECT EARTHWORK (UNADJUSTED)(APPROXIMATE):

TOTAL CUT 6,855 CY  
TOTAL FILL 1,230 CY  
COMPOSITE 5,625 CY (C)

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CALCULATE HIS OWN EARTHWORK QUANTITIES AND SUBMIT HIS BID THEREON. EARTHWORK QUANTITIES SHOWN HEREON ARE ESTIMATED FOR PERMITTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING OR PAYMENT QUANTITIES.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR DATE

REGISTRATION NUMBER

UTILITY COMPANY CONFLICT

THESE PLANS HAVE BEEN SUBMITTED TO THE FOLLOWING UTILITY COMPANIES AND THE WORK CONTAINED IN THESE PLANS HAS BEEN APPROVED BY THESE COMPANIES WITHIN THEIR AREA OF INTEREST.

SALT RIVER PROJECT	SRP SHAREPOINT PORTAL	09-09-2025
	COMPANY REPRESENTATIVE CONTACTED	DATE
CENTURYLINK	relocations@lumen.com	09-09-2025
	COMPANY REPRESENTATIVE CONTACTED	DATE
SOUTHWEST GAS CO.	cozcoastreviews@swgas.com	09-09-2025
	COMPANY REPRESENTATIVE CONTACTED	DATE
COX CABLE T.V.	constructionsupport@cox.com	09-09-2025
	COMPANY REPRESENTATIVE CONTACTED	DATE

APPROVAL

APPROVAL FOR:  
THE CITY OF MESA

PLANNING & DEVELOPMENT DEPARTMENT DATE

OWNER/DEVELOPER

INNOVATIVE DESIGN DEVELOPMENT GROUP, LLC  
4400 EAST BROADWAY BOULEVARD, #300  
TUSCON, ARIZONA 85711  
PH: 520-647-3662  
ATTN: DAVE WILLIAMSON

CIVIL ENGINEER

RICK  
2401 WEST PEORIA AVENUE, #120  
PHOENIX, ARIZONA 85029  
PH: 602-957-3350  
ATTN: JEFF HUNT, PE

ARCHITECT

BRAMIC DESIGN GROUP PLLC  
10820 EAST CALLE LINDA VISTA  
TUSCON, ARIZONA 85748  
PH: 520-401-9183  
ATTN: GENE GOLDSTEIN

UTILITIES

WATER: CITY OF MESA  
SEWER: CITY OF MESA  
ELECTRIC: SALT RIVER PROJECT  
GAS: SOUTHWEST GAS  
TELEPHONE: CENTURYLINK  
CABLE: COX COMMUNICATIONS

SHEET INDEX

- COVER SHEET
- NOTES
4. GRADING & DRAINAGE PLAN
- ON-SITE UTILITY PLAN
- 6-8. DETAILS
- CROSS SECTIONS
- STORMDRAIN DETAILS
- SWPPP
- SWPPP DETAILS

SEAL:

2401 W PEORIA AVE, SUITE 120  
PHOENIX, AZ 85029

602-957-3350  
rickengineering.com



DCS UNIVERSITY DRIVE

8008 EAST UNIVERSITY DRIVE  
MESA, ARIZONA 85207  
CITY OF MESA

CONSTRUCTION DOCUMENTS PREPARED FOR:



DRAWING NO.  
C1  
SHEET NO. 1 OF 12

COVER

PROJECT NO:

10/22/2025  
DRAWN/DESIGNED BY:

CN

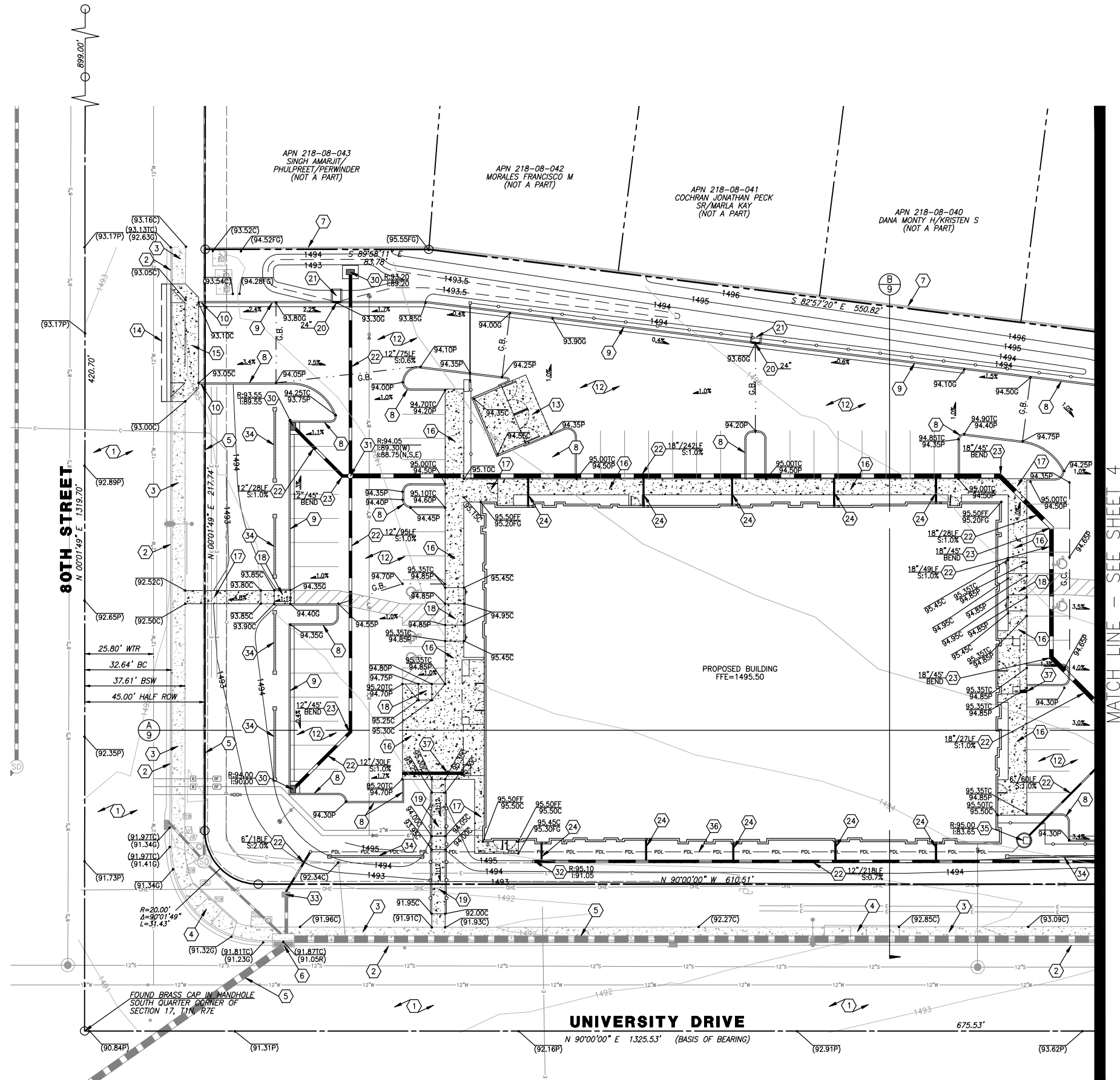
JH

NO. BY DATE REVISION









# KEYNOTES


- EXISTING ASPHALT PAVEMENT TO REMAIN.
- EXISTING CURB TO REMAIN.
- EXISTING CONCRETE SIDEWALK TO REMAIN.
- EXISTING ACCESSIBLE RAMP TO REMAIN.
- EXISTING STORM DRAIN PIPE TO REMAIN.
- EXISTING STORM DRAIN INLET TO REMAIN.
- EXISTING MASONRY SCREEN WALL TO REMAIN.
- NEW 6" VERTICAL CURB PER MAG DETAIL 222, TYPE 'A'.
- NEW 6" VERTICAL CURB AND GUTTER PER MAG DETAIL 220, TYPE 'A'.
- NEW CONCRETE VERTICAL CURB TERMINATION PER MAG DETAIL 222.
- NEW 36" CONCRETE VALLEY GUTTER PER DETAIL A, SHEET 6.
- NEW 3" AC PAVEMENT OVER 6" ABC PER DETAIL B, SHEET 6.
- NEW TRASH ENCLOSURE AND CONCRETE APRON. REFER TO ARCHITECTURAL PLANS FOR DETAILS AND DETAIL C, SHEET 6 FOR PAVEMENT SECTION DETAIL.
- SAWCUT A MINIMUM 24" INTO THE EXISTING PAVEMENT, AT FULL DEPTH. REMOVE EXISTING ASPHALT, TACK, JOIN AND REPLACE PAVEMENT IN KIND.
- NEW DRIVEWAY PER CITY OF MESA DETAIL M-40.01.
- NEW MODIFIED CONCRETE SIDEWALK PER DETAIL D, SHEET 6. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL FINISH AND SCORING DETAILS.
- NEW CONCRETE SIDEWALK PER MAG DETAIL 230. MAXIMUM CROSS SLOPE = 1.8%, MAXIMUM RUNNING SLOPE = 4.8% PER ICC A117.1, CHAPTER 4, ACCESSIBLE ROUTES.
- NEW 6" CONCRETE ACCESS RAMP PER IBC CHAPTER 11 AND ICC A117.1, SECTION 405, RAMPS. PROVIDE TRACTION SURFACE CONSISTING OF 1/4"x1/4" TOOLED GROOVES, 1" O.C. REFER TO DETAIL E, SHEET 6.
- NEW CONCRETE ACCESS RAMP PER IBC CHAPTER 11 AND ICC A117.1, SECTION 405, RAMPS MAXIMUM CROSS SLOPE = 1.8%, MAXIMUM RAMP SLOPE = 1:12. REFER TO ARCHITECTURAL PLANS FOR HANDRAIL DETAILS.
- NEW CURB OPENING PER DETAIL F, SHEET 6. WIDTH INDICATED PER PLAN.
- NEW CONCRETE SPILLWAY PER DETAIL G, SHEET 6.
- NEW HDPE STORM DRAIN PIPE WITH MANNING  $n=0.012$  AND WATER TIGHT JOINTS. SIZE, LENGTH, AND SLOPE INDICATED PER PLAN. REFER TO STORM DRAIN NOTES, SHEET 2.
- NEW HDPE STORM DRAIN FITTING. TYPE AND SIZE INDICATED PER PLAN. REFER TO STORM DRAIN NOTES, SHEET 2.
- NEW ROOF DRAIN LATERAL PIPE ASSEMBLY PER DETAIL H, SHEET 6. CONNECTION TO ROOF DRAIN OUTLET PER PLUMBING PLAN. CONTRACTOR SHALL VERIFY LOCATION AND INVERT PRIOR TO CONSTRUCTION.
- NEW STORMTECH MC-7200 STORM WATER RETENTION CHAMBERS. REFER TO DETAIL, SHEET 10. TOTAL CHAMBERS = 80 EA. TOTAL VOLUME = 22,306 CF. TOP ELEV = 1490.00. BOT ELEV = 1485.00.
- NEW 30" DIAMETER NYLOPLAST DRAINAGE BASIN WITH SOLID COVER AND 24" SUMP. REFER TO BASIN DETAIL, SHEET 7 AND SUMP DETAIL, SHEET 10.
- NEW 24" INLET MANIFOLD PER STORMTECH DETAIL SHEET 10.
- NEW 6" PERFORATED UNDERDRAIN PIPE PER STORMTECH DETAIL, SHEET 10.
- NEW INSPECTION PORT PER STORMTECH DETAIL, SHEET 10.
- NEW 24" DIAMETER NYLOPLAST DRAINAGE BASIN AND 2'x3' STEEL BAR GRATE. REFER TO SHEET 7 FOR DETAIL.
- NEW 24" DIAMETER NYLOPLAST DRAIN BASIN WITH SOLID COVER. REFER TO SHEET 7 FOR DETAIL.
- NEW 12" NYLOPLAST INLINE DRAIN. REFER TO SHEET 7 FOR DETAIL.
- CORE AND CONNECT TO EXISTING CONCRETE CATCH BASIN. GROUT ANNUAL SPACES. CONTRACTOR TO VERIFY LOCATION AND INVERT PRIOR TO CONSTRUCTION.
- NEW SCREEN WALL. REFER TO ARCHITECTURAL PLAN FOR DETAILS.
- NEW BLEED OFF PUMP WET WELL. REFER TO SHEET 8 FOR DETAIL. RIM AND INVERT PER PLAN.
- NEW 3" PVC PUMP DISCHARGE LINE. MINIMUM BURIAL DEPTH 18".
- NEW 12" SIDEWALK SCUPPER AND MCNICHOLS GRATE AT ROOF DRAIN DOWNSPOUT PER DETAIL I, SHEET 6. CONTRACTOR TO VERIFY LOCATION OF PRIMARY ROOF DRAIN PRIOR TO CONSTRUCTION.



NO.	BY	DATE	REVISION



602-957-3350  
rickengineering.com

**RICK**  
ENGINEERING

2401 W PEORIA AVE, SUITE 120  
PHOENIX, AZ 85029

SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO  
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

PROJECT NO: 7408  
DATE: 10/22/2025

DRAWN/DESIGNED BY: JH  
CHECKED BY: CN

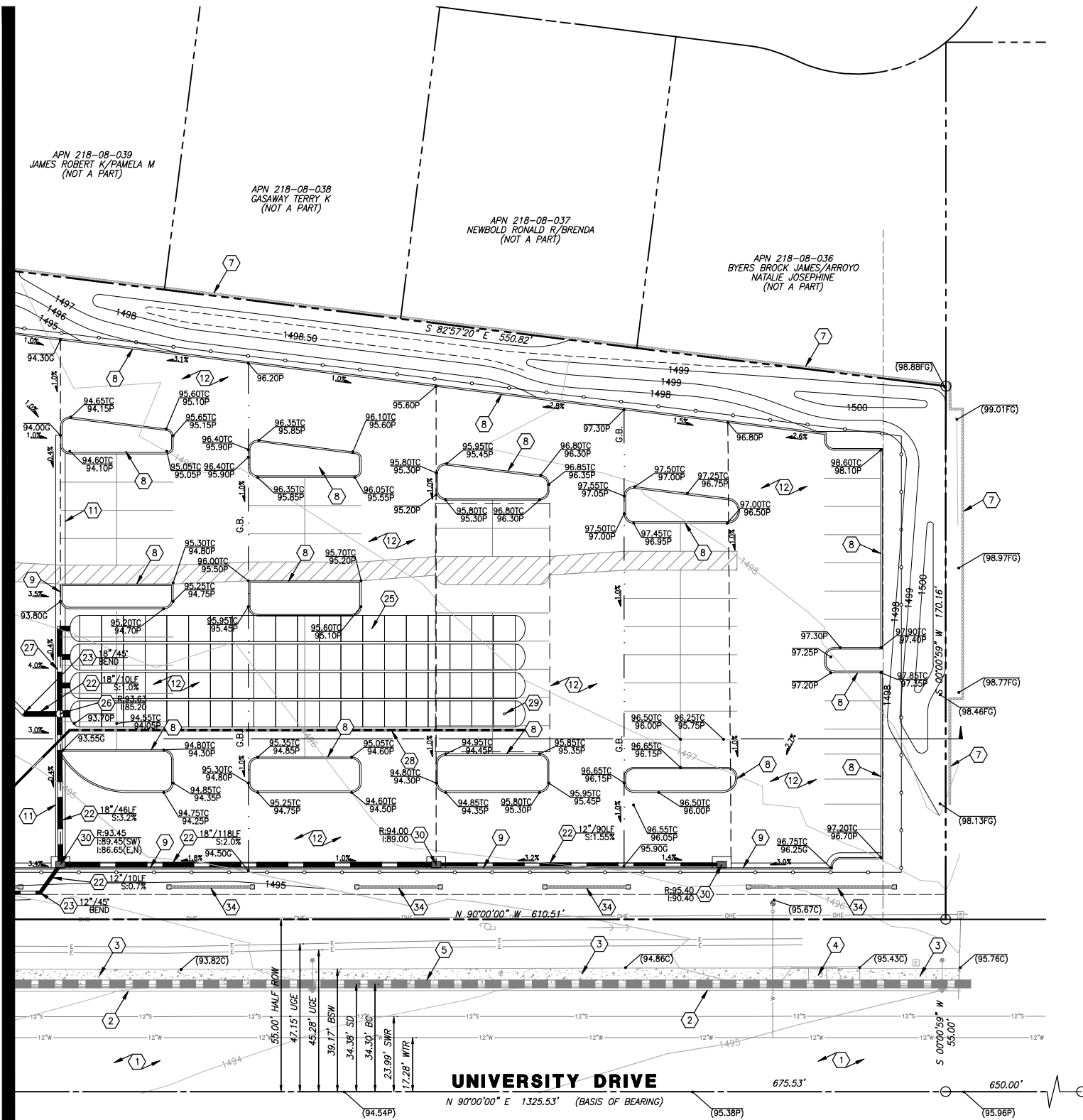
CONSTRUCTION DOCUMENTS PREPARED FOR:  
**DCS UNIVERSITY DRIVE**  
8008 EAST UNIVERSITY DRIVE  
MESA, ARIZONA 85207  
CITY OF MESA

## GRADING & DRAINAGE PLAN



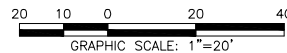


MATCH LINE - SEE SHEET 3



# KEYNOTES

- EXISTING ASPHALT PAVEMENT TO REMAIN.
- EXISTING CURB TO REMAIN.
- EXISTING CONCRETE SIDEWALK TO REMAIN.
- EXISTING ACCESSIBLE RAMP TO REMAIN.
- EXISTING STORM DRAIN PIPE TO REMAIN.
- EXISTING STORM DRAIN INLET TO REMAIN.
- EXISTING MASONRY SCREEN WALL TO REMAIN.
- NEW 6\"/>
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- NEW CONCRETE VERTICAL CURB TERMINATION PER MAG DETAIL 222.
- NEW 36\"/>
- NEW 3\"/>
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- NEW CONCRETE SIDEWALK PER MAG DETAIL 230. MAXIMUM CROSS SLOPE = 1.8%, MAXIMUM RUNNING SLOPE = 4.8% PER ICC A117.1, CHAPTER 4, ACCESSIBLE ROUTES.
- NEW 6\"/>
- NEW CONCRETE ACCESS RAMP PER IBC CHAPTER 11 AND ICC A117.1, SECTION 405, RAMPS MAXIMUM CROSS SLOPE = 1.8%, MAXIMUM RAMP SLOPE = 1:12. REFER TO ARCHITECTURAL PLANS FOR HANDRAIL DETAILS.
- NEW CURB OPENING PER DETAIL F, SHEET 6. WIDTH INDICATED PER PLAN.
- NEW CONCRETE SPILLWAY PER DETAIL G, SHEET 6.
- NEW HDPE STORM DRAIN PIPE WITH MANNING n=0.012 AND WATER TIGHT JOINTS. SIZE, LENGTH, AND SLOPE INDICATED PER PLAN. REFER TO STORM DRAIN NOTES, SHEET 2.
- NEW HDPE STORM DRAIN FITTING. TYPE AND SIZE INDICATED PER PLAN. REFER TO STORM DRAIN NOTES, SHEET 2.
- NEW ROOF DRAIN LATERAL PIPE ASSEMBLY PER DETAIL H, SHEET 6. CONNECTION TO ROOF DRAIN OUTLET PER PLUMBING PLAN. CONTRACTOR SHALL VERIFY LOCATION AND INVERT PRIOR TO CONSTRUCTION.
- NEW STORMTECH MC-7200 STORM WATER RETENTION CHAMBERS. REFER TO DETAIL, SHEET 10. TOTAL CHAMBERS = 80 EA. TOTAL VOLUME = 22,306 CF. TOP ELEV = 1490.00. BOT ELEV = 1485.00.
- NEW 30\"/>
- NEW 24\"/>
- NEW 6\"/>
- NEW INSPECTION PORT PER STORMTECH DETAIL, SHEET 10.
- NEW 24\"/>
- NEW 24\"/>
- NEW 12\"/>
- CORE AND CONNECT TO EXISTING CONCRETE CATCH BASIN. GROUT ANNULAR SPACES. CONTRACTOR TO VERIFY LOCATION AND INVERT PRIOR TO CONSTRUCTION.
- NEW SCREEN WALL. REFER TO ARCHITECTURAL PLAN FOR DETAILS.
- NEW BLEED OFF PUMP WET WELL. REFER TO SHEET 8 FOR DETAIL. RIM AND INVERT PER PLAN.
- NEW 3\"/>
- NEW 12\"/>



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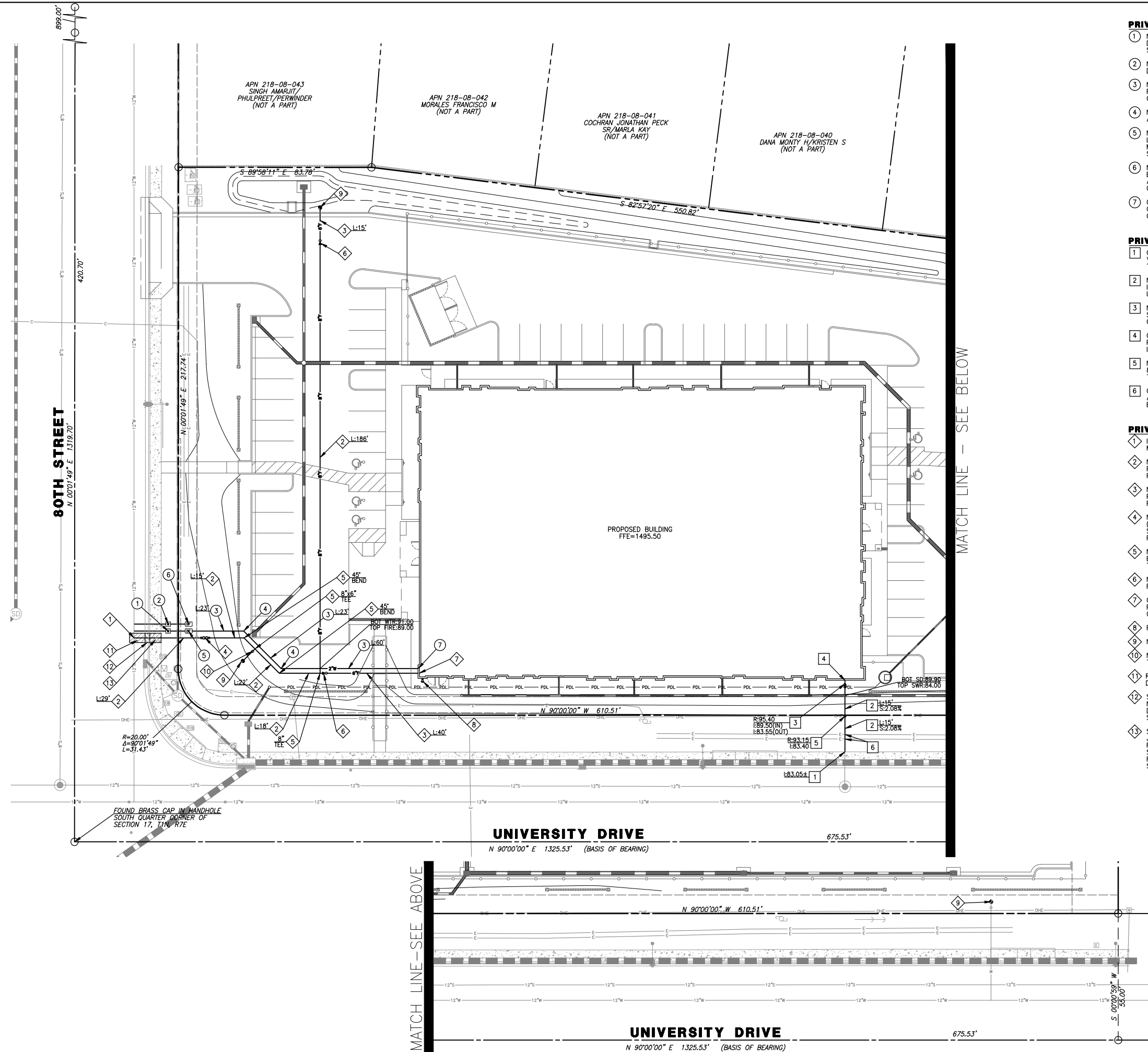
DRAWING NO.  
**GD2**  
SHEET NO. 4 OF 12

GRADING & DRAINAGE PLAN

CONSTRUCTION DOCUMENTS PREPARED FOR:

PROJECT NO: 7408  
DRAWN/DESIGNED BY: JH  
CHECKED BY: JH  
DATE: 10/22/2025





- PRIVATE WATER KEYNOTES**
- 1 NEW 2" WATER SERVICE AND METER PER CITY OF MESA DETAIL M-29.01. CONNECT TO FOR DOMESTIC WATER SERVICE.
  - 2 NEW 1" WATER SERVICE AND METER PER CITY OF MESA DETAIL M-29.01. CONNECT TO FOR IRRIGATION SERVICE.
  - 3 NEW 2" PVC (SCHEDULE 80) WATER LINE, ALL PIPE AND FITTINGS SHALL BE NSF-61 COMPLIANT. 3' MINIMUM COVER.
  - 4 NEW 2" PVC (SCHEDULE 80) 45° BEND FITTING. ALL PIPE AND FITTINGS SHALL BE NSF-61 COMPLIANT.
  - 5 NEW 2" NSF-61 COMPLIANT BACKFLOW PREVENTER IN LOCKABLE STEEL ENCLOSURE. INSTALL PER CITY OF MESA DETAIL M-31.03 AND MANUFACTURER SPECIFICATIONS.
  - 6 NEW 1" BACKFLOW PREVENTER IN LOCKABLE STEEL ENCLOSURE. INSTALL PER CITY OF MESA DETAIL M-31.03 AND MANUFACTURER SPECIFICATIONS. VERIFY TYPE AND CONTINUATION PER LANDSCAPE IRRIGATION PLAN.
  - 7 CONNECT TO BUILDING PER PLUMBING PLANS. CONTRACTOR TO VERIFY SIZE AND LOCATION PRIOR TO CONSTRUCTION.

- PRIVATE SEWER KEYNOTES**
- 1 CONNECT TO EXISTING 6" SEWER STUB. CONTRACTOR TO VERIFY SIZE, LOCATION, INVERT, AND CONDITION PRIOR TO CONSTRUCTION.
  - 2 NEW 6" PVC SDR-35 SEWER. LENGTH AND SLOPE INDICATED ON PLAN. INSTALL TRACER WIRE PER GENERAL UTILITY NOTE 15, SHEET 2.
  - 3 NEW TWO-WAY DROP SEWER CLEAN OUT PER DETAIL I, SHEET 8. RIM AND INVERT INDICATED ON PLAN. CONTRACTOR TO ADJUST RIM TO FINAL GRADE.
  - 4 CONNECT TO BUILDING SANITARY SEWER PER PLUMBING PLANS. CONTRACTOR TO VERIFY TIE-IN LOCATION AND INVERT PRIOR TO CONSTRUCTION.
  - 5 NEW ONE-WAY SEWER CLEAN OUT PER DETAIL J, SHEET 8. RIM AND INVERT INDICATED ON PLAN. CONTRACTOR TO ADJUST RIM TO FINAL GRADE.
  - 6 CAUTION, BURIED UTILITY. CONTRACTOR SHALL POTHOLE ALL UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

- PRIVATE FIRE LINE KEYNOTES**
- 1 INSTALL 12"x8" TAPPING SLEEVE PER MAG DETAIL 340 AND MAG SPECIFICATION 630.
  - 2 NEW 8" DUCTILE IRON PIPE (PRESSURE CLASS 350). POLYWRAP PER MAG SECTION 610. LENGTH INDICATED PER PLAN. MINIMUM BURIAL DEPTH SHALL BE 36".
  - 3 NEW 6" DUCTILE IRON PIPE (PRESSURE CLASS 350). POLYWRAP PER MAG SECTION 610. LENGTH INDICATED PER PLAN. MINIMUM BURIAL DEPTH SHALL BE 36".
  - 4 NEW 8" ZURN-WILKINS MODEL 450 BACKFLOW PREVENTER (OR APPROVED EQUAL). INSTALL PER MANUFACTURER SPECIFICATIONS AND INSTALL SUPERVISION ELECTRONICS PER FIRE SPRINKLER PLANS.
  - 5 NEW DUCTILE IRON FITTING (350 PSI RATING) WITH THRUST BLOCKS PER MAG DETAIL 350 AND NFPA 24, CHAPTER 10. TYPE/ ANGLE INDICATED ON PLAN.
  - 6 NEW 8"x6" DUCTILE IRON PIPE REDUCER FITTING (350 PSI RATING) AND 6" VALVE PER MAG DETAIL 391-1. TYPE 'A'.
  - 7 CONNECT TO BUILDING FIRE RISER PER FIRE SUPPRESSION PLANS. VERIFY SIZE AND LOCATION PRIOR TO CONSTRUCTION.
  - 8 FIRE DEPARTMENT CONNECTION (FDC) PER SEPARATE PLAN.
  - 9 NEW FIRE HYDRANT PER MAG DETAIL 360-1 AND 360-3.
  - 10 NEW VALVE, BOX, AND COVER PER MAG DETAIL 391-1, TYPE 'A'.
  - 11 REMOVE AND REPLACE TRENCH CUT PAVEMENT PER MAG DETAIL 200-1, "1-TOP" AND MAG SPECIFICATION 336.
  - 12 SAWCUT AND REMOVE EXISTING CURB AND GUTTER TO NEAREST JOINT. REPLACE CURB AND GUTTER PER MAG DETAIL 220, TYPE 'A'. REPLACE MINIMUM ONE FULL SECTION.
  - 13 SAW CUT AND REMOVE EXISTING SIDEWALK TO NEAREST JOINT. REPLACE SIDEWALK PER MAG DETAIL DETAIL 230. REPLACE MINIMUM ONE FULL SECTION. CONSTRUCT SIDEWALK TO ACCOMMODATE ACCESS PER ADA STANDARDS FOR ACCESSIBLE DESIGN. BACKFILL TRENCH BELOW SIDEWALK WITH ONE-HALF (1/2) SACK SLURRY.

CONSTRUCTION DOCUMENTS PREPARED FOR:  
**DCS UNIVERSITY DRIVE**  
8008 EAST UNIVERSITY DRIVE  
MESA, ARIZONA 85207  
CITY OF MESA

**ONSITE UTILITY PLAN**

602-957-3350  
rickengineering.com

**RICK**

2401 W PEORIA AVE, SUITE 120  
PHOENIX, AZ 85029

SEAL:  
JEFFREY P. HUNT  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF ARIZONA  
No. 53640  
Exp. 12/31/2025

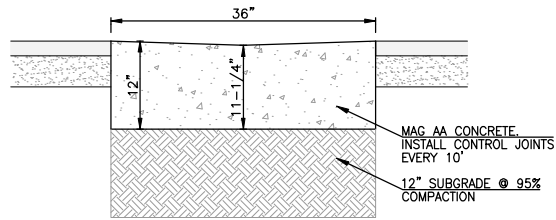
PROJECT NO: 7408  
DATE: 10/22/2025

DESIGNED BY: JH  
CHECKED BY: JH

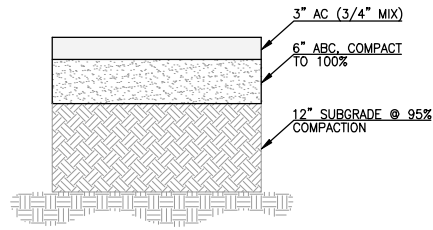
Contact Arizona 811 at least two full working days before you begin excavation  
**ARIZONA 811**  
Call 811 or click Arizona811.com

DRAWING NO. **UT1**  
SHEET NO. 5 OF 12

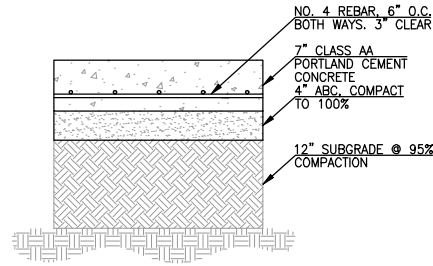




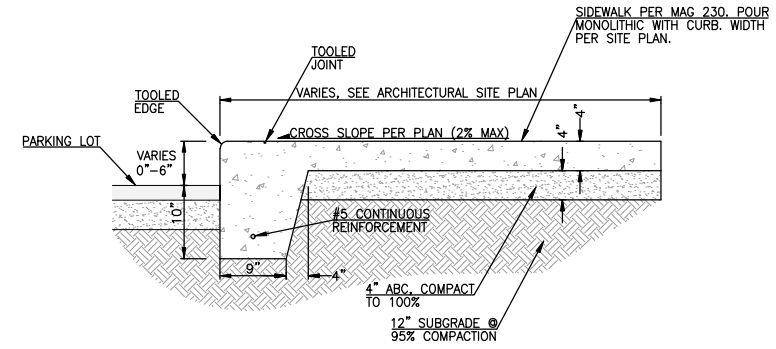
A VALLEY GUTTER  
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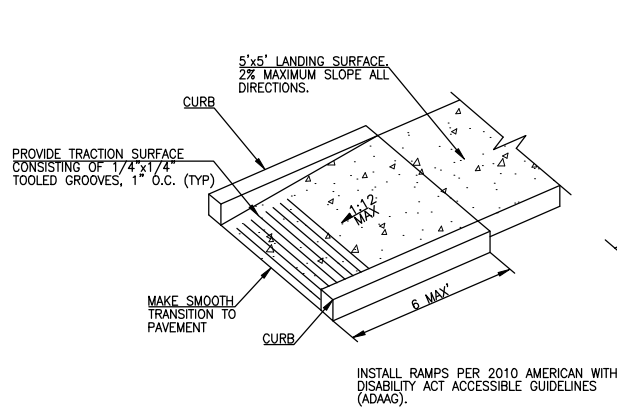
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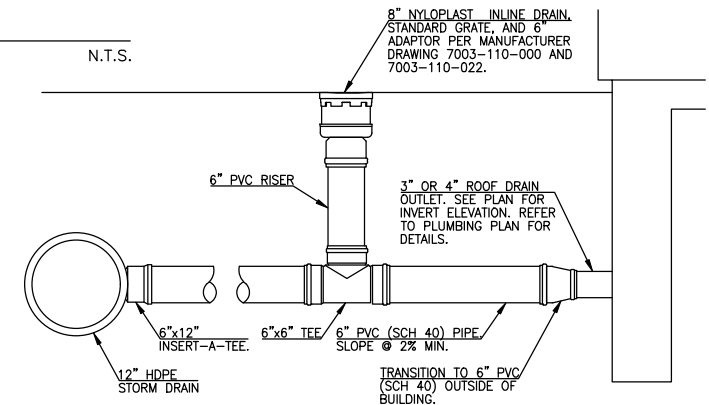
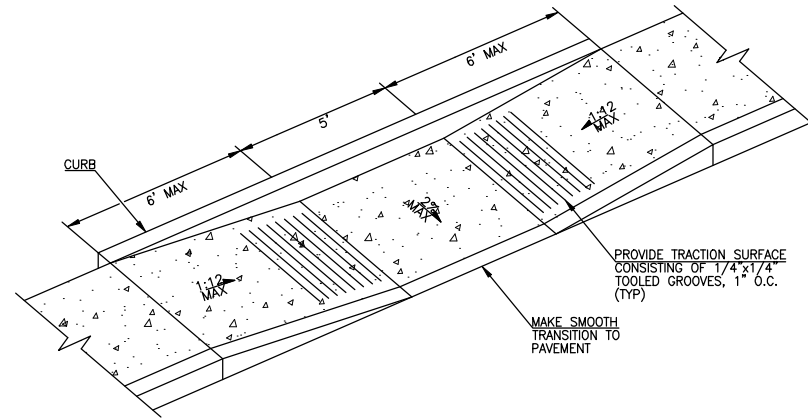
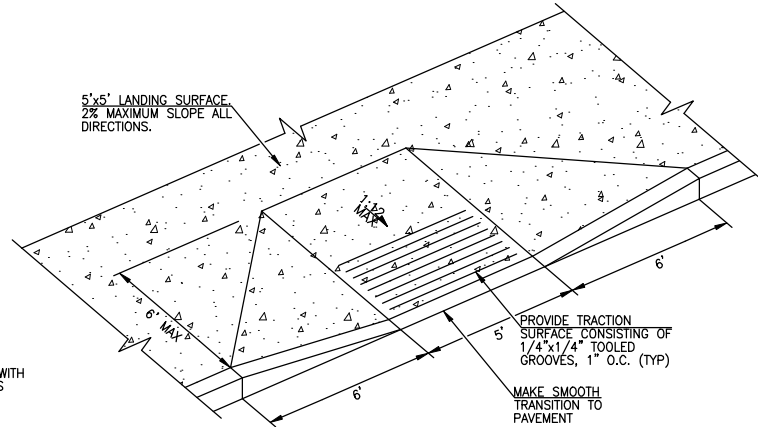
C PAVEMENT SECTION  
REINFORCED SCALE: 1"=1'



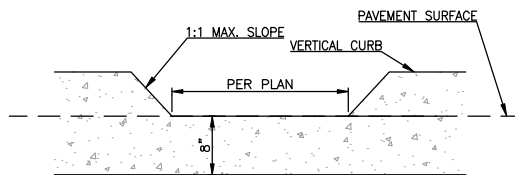
D MODIFIED CONCRETE SIDEWALK  
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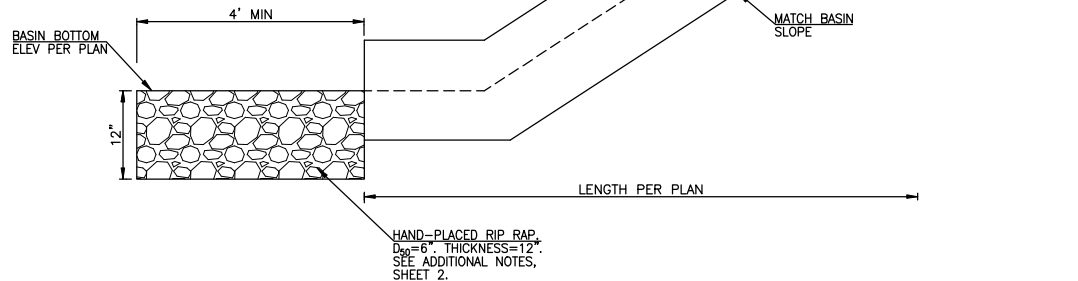
E ACCESSIBLE RAMPS



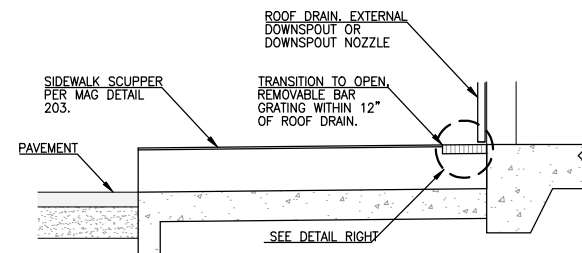
H ROOF DRAIN LATERAL DETAIL  
N.T.S.



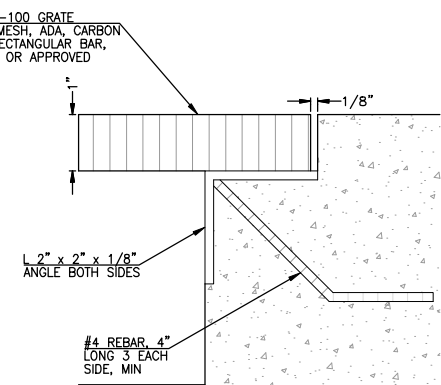
F CURB OPENING  
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G CONCRETE SPILLWAY

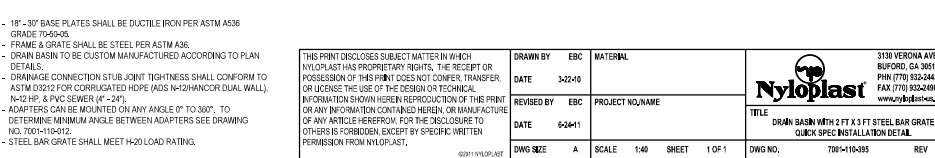
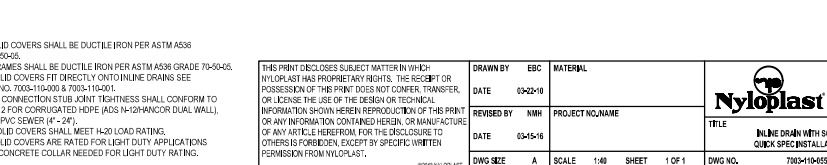
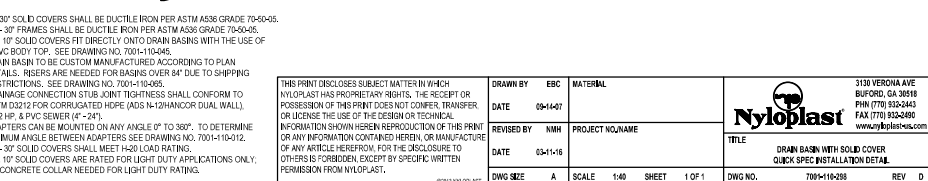


I McNichols BAR GRATE/TRANSITION TO SIDEWALK SCUPPER  
SCALE: NTS

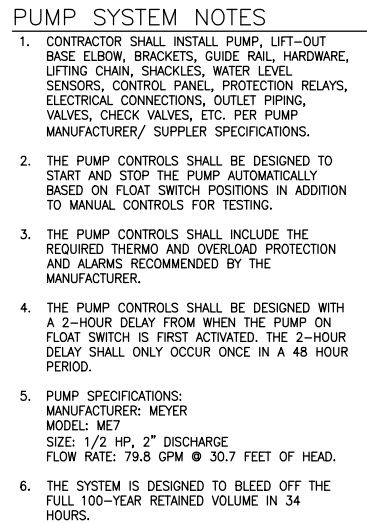


53640 JEFFREY P. HUNT REGISTERED PROFESSIONAL ENGINEER STATE OF ARIZONA EXPIRATION DATE 12/31/2025	2401 W PEORIA AVE, SUITE 120 PHOENIX, AZ 85029 602-957-3350 rickengineering.com	CONSTRUCTION DOCUMENTS PREPARED FOR: DCS UNIVERSITY DRIVE 8008 EAST UNIVERSITY DRIVE MESA, ARIZONA 85207 CITY OF MESA	DATE: 10/22/2025 DRAWN/DESIGNED BY: JH CHECKED BY: JH PROJECT NO: 7408 CN
RICK			DETAILS
Contact Arizona 811 at least two full working days before you begin excavation Call 811 or click Arizona811.com			DRAWING NO. D1 SHEET NO. 6 OF 12









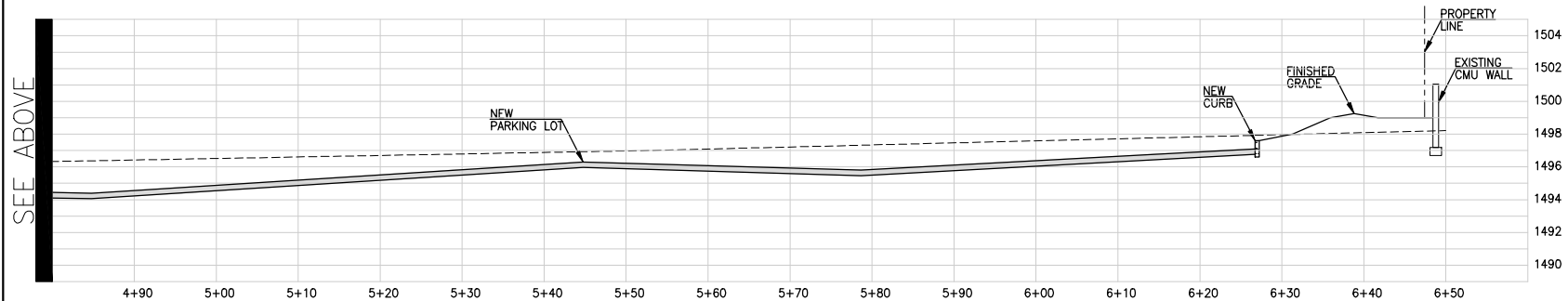
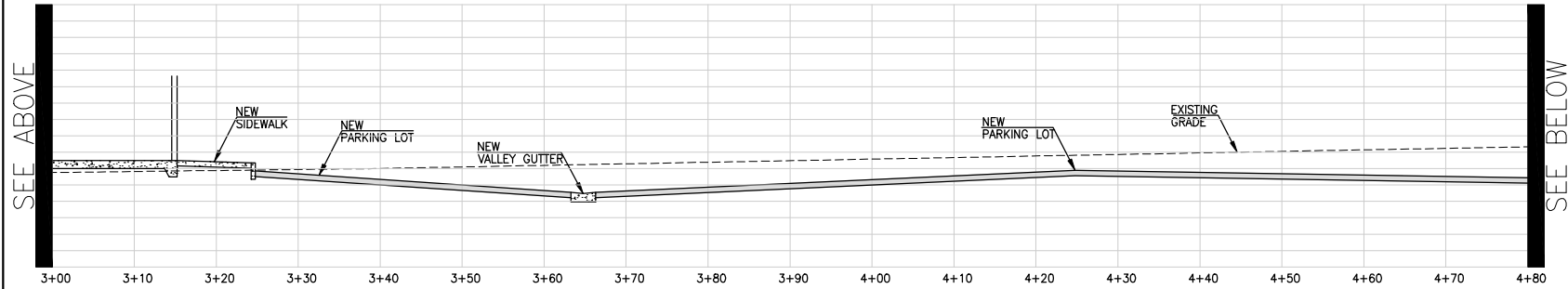
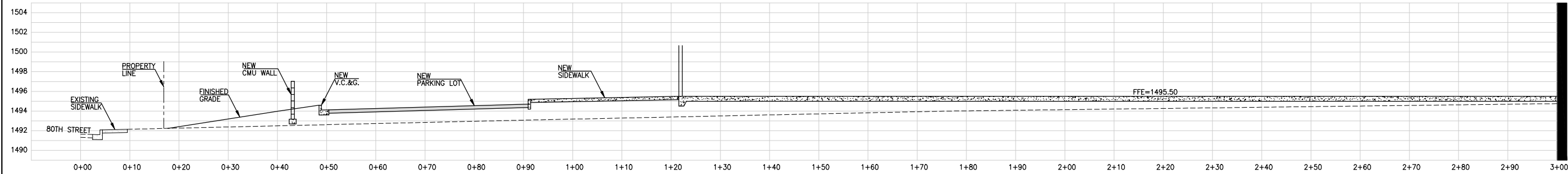


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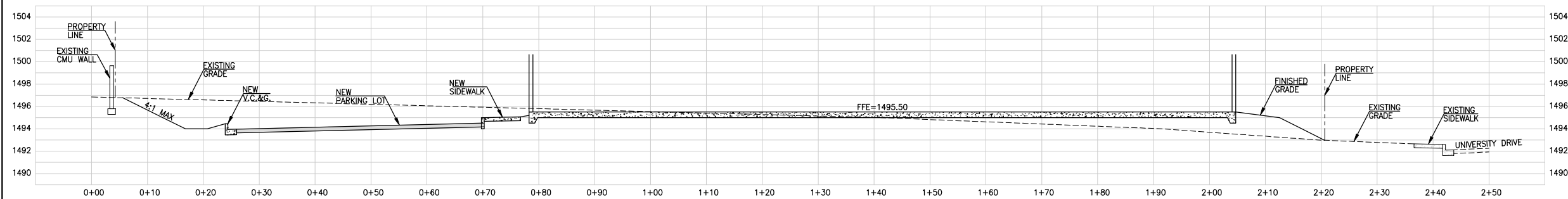


CONSTRUCTION DOCUMENTS PREPARED FOR:		SEAL:	
DCS UNIVERSITY DRIVE 8008 EAST UNIVERSITY DRIVE MESA, ARIZONA 85207  CITY OF MESA			
<b>DETAILS</b>			
 <b>RICK</b> ENGINEERING		602-957-3350 <a href="http://rickengineering.com">rickengineering.com</a>  SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER	
PROJECT NO:		CN	
DATE:		JH	
DRAWN/DESIGNED BY:		7408	
CHECKED BY:		10/22/2025	
REVISION		NO. BY DATE	





SECTION A-A  
HORZ: 1"=10'  
VERT: 1"=5'



SECTION B-B  
HORZ: 1"=10'  
VERT: 1"=5'

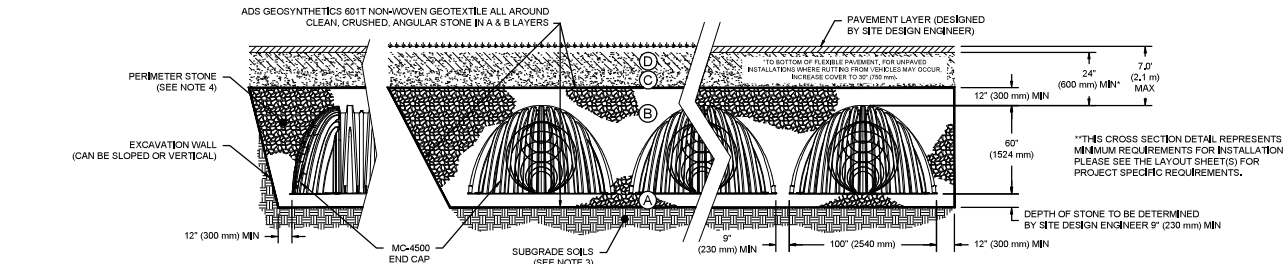
CONSTRUCTION DOCUMENTS PREPARED FOR:		DCS UNIVERSITY DRIVE 8008 EAST UNIVERSITY DRIVE MESA, ARIZONA 85207 CITY OF MESA	
PROJECT NO:		CROSS SECTIONS	
DATE:		10/22/2025	
DRAWN/DESIGNED BY:		CN	
CHECKED BY:		JH	
602-957-3350 rickengineering.com		2401 W PEORIA AVE, SUITE 120 PHOENIX, AZ 85029	
SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER		53640 JEFFREY P. HUNT 10-2025	
RICK		SEAL:	
NO.		BY	
DATE		REVISION	



## ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

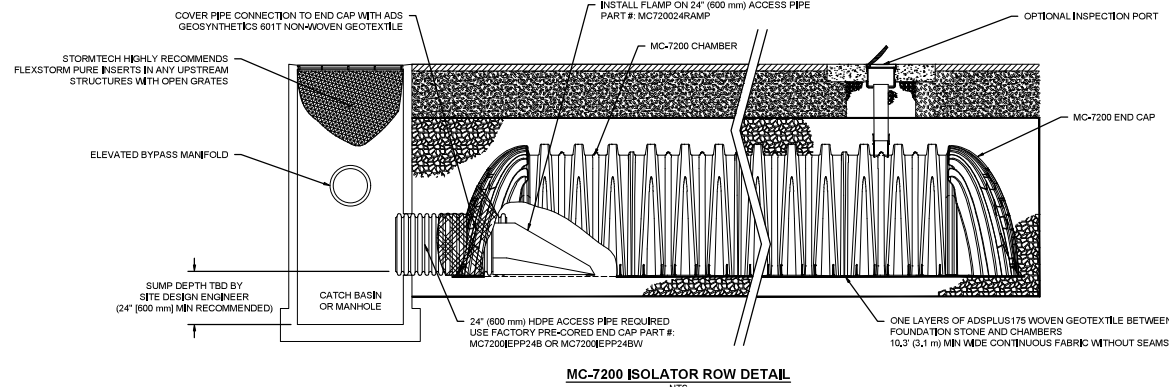
MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS, PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'C' LAYER.	AASHTO M145 <sup>1</sup> A-1, A-2-1, A-3 OR AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX. LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 <sup>1</sup> 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 <sup>1</sup> 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
  - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
  - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT, FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
  - ONCE LAYER 'C' IS PLACED, ANY SOIL MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



### NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16h, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
- MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
  - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
  - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
  - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN<sup>2</sup>IN, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

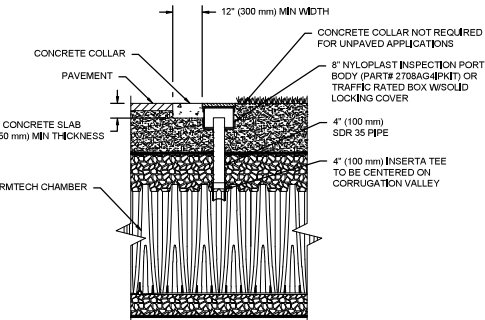


### INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
- A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
- A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
- A.3. USING A FLASHLIGHT AND STAIN ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
- A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
- A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
- B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
- B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
- B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

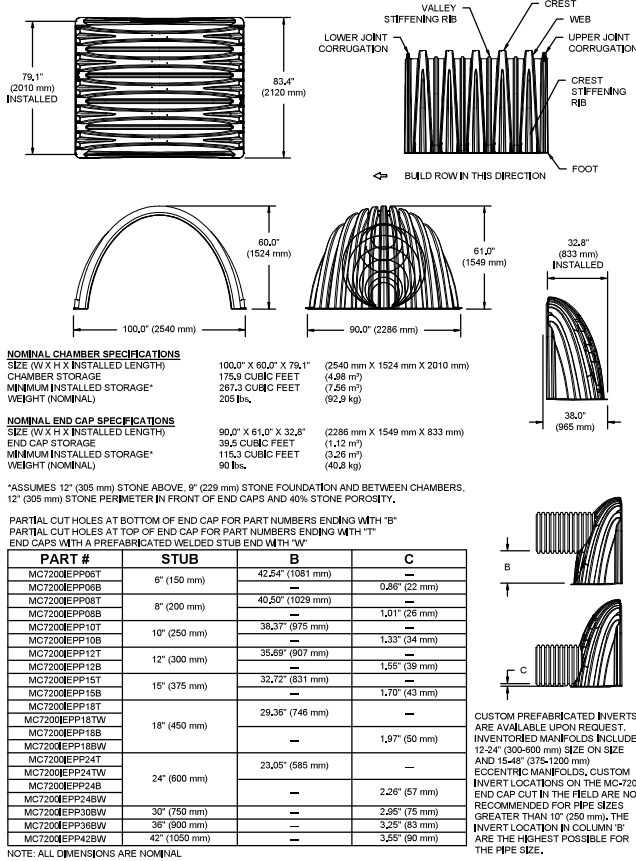
### NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION, ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

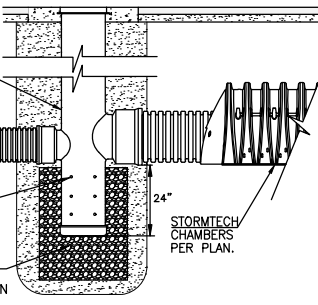
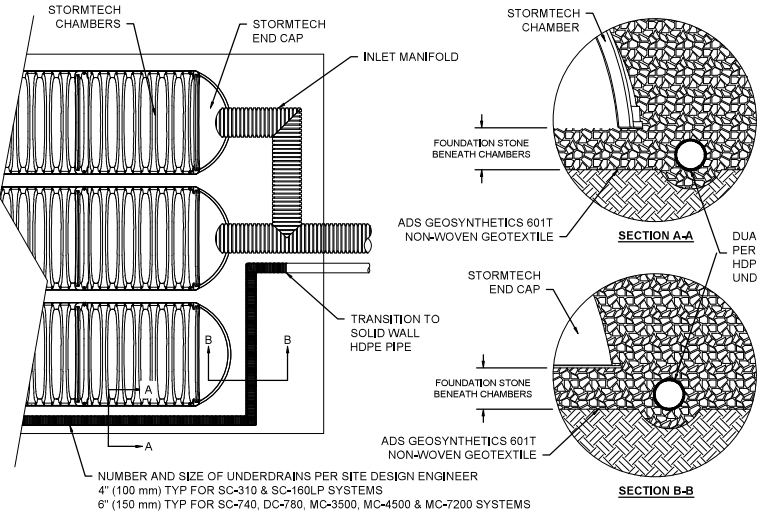


NOTE:  
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

REV	DATE	DESCRIPTION
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3	10/20/2025	ISSUED FOR CONSTRUCTION
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82	10/20/2025	ISSUED FOR CONSTRUCTION
83	10/20/2025	ISSUED FOR CONSTRUCTION
84	10/20/2025	ISSUED FOR CONSTRUCTION
85	10/20/2025	ISSUED FOR CONSTRUCTION
86	10/20/2025	ISSUED FOR CONSTRUCTION
87	10/20/2025	ISSUED FOR CONSTRUCTION
88	10/20/2025	ISSUED FOR CONSTRUCTION
89	10/20/2025	ISSUED FOR CONSTRUCTION
90	10/20/2025	ISSUED FOR CONSTRUCTION
91	10/20/2025	ISSUED FOR CONSTRUCTION
92	10/20/2025	ISSUED FOR CONSTRUCTION
93	10/20/2025	ISSUED FOR CONSTRUCTION
94	10/20/2025	ISSUED FOR CONSTRUCTION
95	10/20/2025	ISSUED FOR CONSTRUCTION
96	10/20/2025	ISSUED FOR CONSTRUCTION
97	10/20/2025	ISSUED FOR CONSTRUCTION
98	10/20/2025	ISSUED FOR CONSTRUCTION
99	10/20/2025	ISSUED FOR CONSTRUCTION
100	10/20/2025	ISSUED FOR CONSTRUCTION



### UNDERDRAIN DETAIL



### STORM WATER CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-7200, OR APPROVED EQUAL.
- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
  - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY ASHTO FOR THERMOPLASTIC PIPE.
  - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
  - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

### NOTES FOR THE BIDDING AND INSTALLATION

- STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
  - STONESHOTTER LOCATED OFF THE CHAMBER BED.
  - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
  - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.
- TO MINIMIZE SCOUR POTENTIAL, THE CONTRACTOR SHALL INSTALL A MINIMUM OF 15 FEET OF WOVEN SOIL PROTECTION FABRIC AT EACH INLET ROW.

### NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
  - THE USE OF CONSTRUCTION EQUIPMENT OVER MC-7200 CHAMBERS IS LIMITED:
    - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
    - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
    - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
  - FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.
- CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

SEAL:

2401 W PEORIA AVE, SUITE 120  
PHOENIX, AZ 85029

602-957-3350  
rickengineering.com

CONSTRUCTION DOCUMENTS PREPARED FOR:  
DCS UNIVERSITY DRIVE  
8008 EAST UNIVERSITY DRIVE  
MESA, ARIZONA 85207  
CITY OF MESA

GRADING DETAILS

PROJECT NO: 7408  
DRAWN/DESIGNED BY: JH  
CHECKED BY: JH  
DATE: 10/22/2025

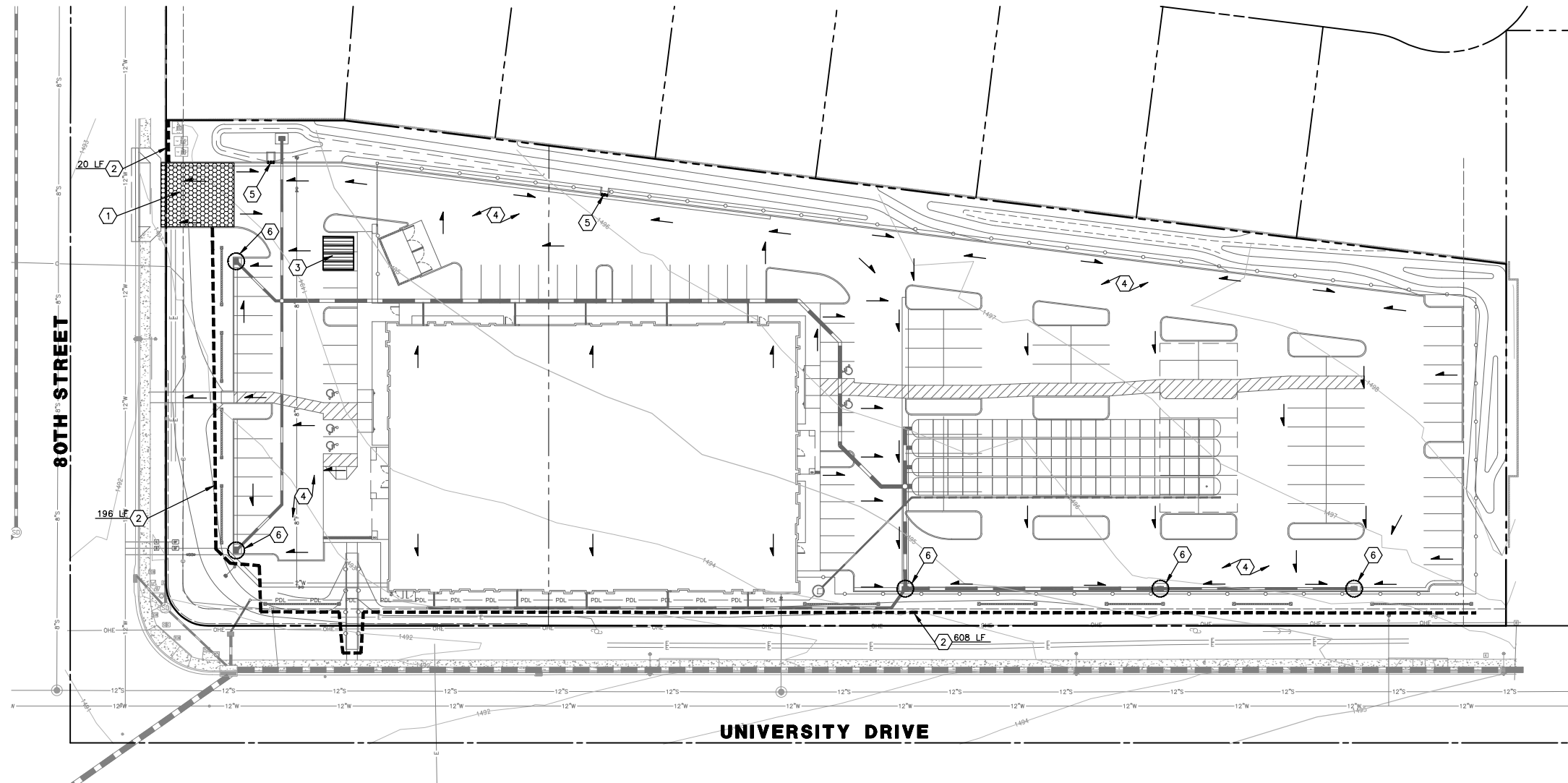
NO. BY DATE REVISION

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Call Arizona 811 at least two full working days before you begin excavation  
Call 811 or click Arizona811.com

DRAWING NO. D4  
SHEET NO. 10 OF 12





#### KEYNOTES

- 1 STABILIZED CONSTRUCTION ENTRANCE PER FLOOD CONTROL DISTRICT OF MARICOPA COUNTY EROSION CONTROL MANUAL BMP EC-5.
- 2 SILT FENCE PER FLOOD CONTROL DISTRICT OF MARICOPA COUNTY EROSION CONTROL MANUAL BMP SPC-5.
- 3 DESIGNATED WASH DOWN AREA PER FLOOD CONTROL DISTRICT OF MARICOPA COUNTY EROSION CONTROL MANUAL BMP GH-4.
- 4 DUST CONTROL MEASURES PER FLOOD CONTROL DISTRICT OF MARICOPA COUNTY EROSION CONTROL MANUAL BMP EC-7 UNTIL STABILIZED.
- 5 FOAM OR FIBER ROLL BARRIER CURB INLET PROTECTION PER FLOOD CONTROL DISTRICT OF MARICOPA COUNTY EROSION CONTROL MANUAL BMP SPC-7 AND MANUFACTURER RECOMMENDATIONS.
- 6 STORM DRAIN INLET PROTECTION VIA GRAVEL BAG FILTER PER FLOOD CONTROL DISTRICT OF MARICOPA COUNTY EROSION CONTROL MANUAL BMP SPC-7, UNTIL STABILIZED.

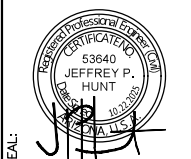
#### BMPs LEGEND

- SILT FENCE PER BMP SPC-5
- CURB INLET PROTECTION PER SPC-7
- STORM DRAIN INLET PROTECTION PER BMP SPC-7
- ▨ DESIGNATED WASH DOWN AREA PER BMP GH-4
- ▨ STABILIZED CONSTRUCTION ENTRANCE PER BMP EC-5
- FLOW ARROW
- TEMPORARY BARRICADE PER MAG DETAIL 130

#### SWPPP GENERAL NOTES

AREA  
TOTAL AREA: 131,322 SF (3.014 AC)  
DISTURBED AREA: 111,775 SF (2.566 AC)  
GENERAL CONTRACTOR TO BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING SITE BMPs THROUGH DURATION OF CONSTRUCTION.  
REFER TO FCD BMPs GH-1, GH-2, GH-3 AND GH-6. PLACEMENT IS DETERMINED ON-SITE AND MOVED AS NEEDED.

| NO. | BY | DATE | REVISION |
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|     |    |      |          |
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SEAL:

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2401 W PEDRIA AVE, SUITE 120  
PHOENIX, AZ 85029

SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO  
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

PROJECT NO: 7408  
DATE: 10/22/2025  
DRAWN/DESIGNED BY: CN  
CHECKED BY: JH

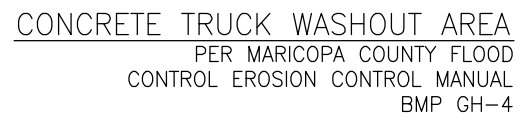
CONSTRUCTION DOCUMENTS PREPARED FOR:

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CITY OF MESA

**STORM WATER POLLUTION PREVENTION PLAN**

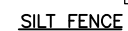
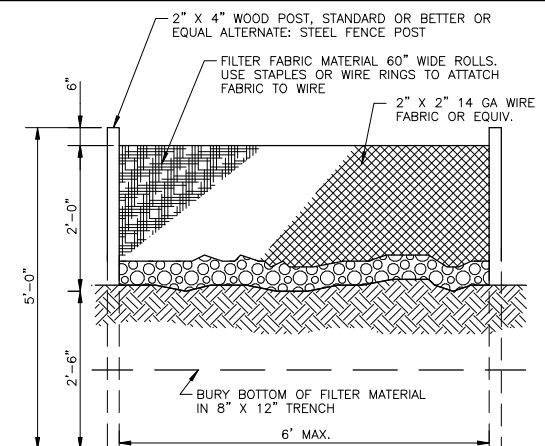
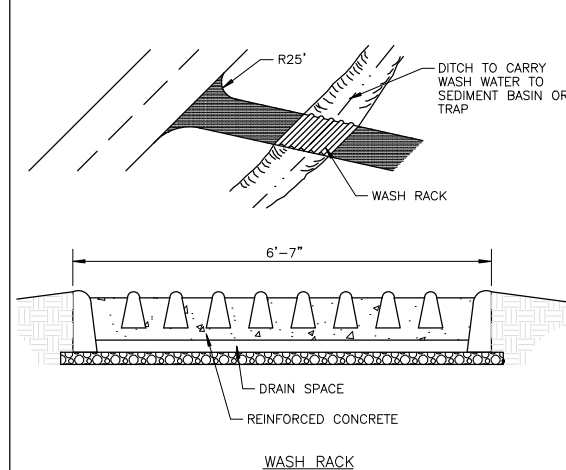
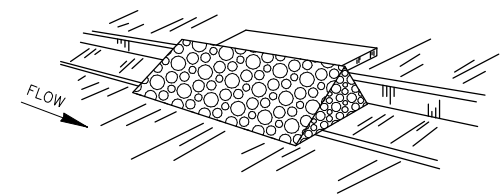
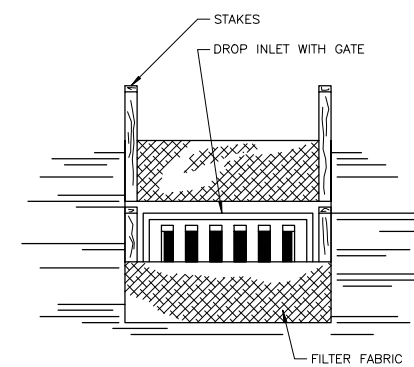






| Types      | Functional Mechanism  | Advantages  | Limitations  | Ideal Soil Characteristics | Relative Cost Comparison (Average Life Expectancy)          | Environmental Considerations  |
|------------|---|---|--|----------------------------|---|---|
| Freshwater | Moisture wets particles, thereby increasing their mass and binding them together. | Usually readily available, low material cost, and easy to apply | Frequent light applications may be necessary during hot dry weather and can be labor intensive. Over application may result in loss of traction, erosion, or points of road failure. | None                       | Low initial cost, high longterm maintenance cost (0 months) | Minimal environmental hazard, if applied excessively, may result in erosion and sediment runoff. Supply may be limited in some areas and depending on the source, may require a water right permit. |

DUST CONTROL MEASURES  
PER MARICOPA COUNTY FLOOD  
CONTROL EROSION CONTROL MANUAL  
BMP EC-7

[illegible]

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Contact Arizona 811 at least two full working days before you begin excavation

**ARIZONA 811**

Call 811 or click [Arizona811.com](http://Arizona811.com)

DRAWING NO.  
**D5**  
SHEET NO. 12 OF 12