

GRADING AND DRAINAGE PLAN

LOT 21 FIREROCK PARCEL J2

9619 NORTH FOUR PEAKS WAY

FOUNTAIN HILLS, ARIZONA 85268

GRADING AND DRAINAGE NOTES

- CERTIFICATION OF FINISH FLOORS OR BUILDING PADS IS THE RESPONSIBILITY OF THE DEVELOPER, BUILDER, OWNER AND SHALL BE SUBMITTED PRIOR TO A REQUEST FOR CERTIFICATION OF OCCUPANCY OR FINAL INSPECTION.
- AN APPROVED GRADING AND DRAINAGE PLAN SHALL BE ON THE JOB SITE AT ALL TIMES. DEVIATIONS FROM THE PLAN MUST BE PRECEDED BY AN APPROVED PLAN REVISION.
- ALL DRAINAGE PROTECTIVE DEVICES SUCH AS SWALES, PIPES, PROTECTIVE BERMS OR OTHER MEASURES DESIGNED TO PROTECT BUILDINGS OR PROPERTY FROM STORM RUNOFF MUST BE COMPLETED PRIOR TO ANY STRUCTURE BEING BUILT.
- SOIL COMPACTION TEST RESULTS MUST BE SUBMITTED TO THE TOWN ENGINEER'S OFFICE FOR BUILDING PADS THAT HAVE TWO (2) OR MORE FEET OF FILL MATERIAL INDICATED. THIS INFORMATION SHALL BE SUPPLIED PRIOR TO POURING FOUNDATIONS. MINIMUM 95% COMPACTION PER ASTM D698.
- PREPARATION OF GROUND: THE AREA OVER WHICH FILLS ARE TO BE MADE SHALL BE CLEARED OF ALL TRASH, TEES, STUMPS, DEBRIS OR OTHER MATERIOAL NOT SUITABLE AS A FOUNDATION FOR FILL.
- LOCATIONS OF ALL UTILITIES SHOWN ON THIS PLAN ARE BASED ON INFORMATION SUPPLIED TO THE ENGINEER BY THE APPROPRIATE UTILITY COMPANIES. NO GUARANTEE ON LOCATIONS OR ACCURACY IS IMPLIED OR GIVEN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT BLUE STAKE AT 263-1100 AND ANY OTHER INVOLVED AGENCIES TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.
- RETAINING WALLS SHALL BE BACKFILLED WITH 2" TO 3" STONE WITH 1" DRAINS AT 6" ON CENTER.
- DISTURBED AREAS SHALL BE REPLANTED WITH DESERT PLANTS OR DROUGHT-RESISTANT PLANTS. EXISTING VEGETATION SHALL BE RELOCATED IF DISTURBED BY CONSTRUCTION.
- SWALES SHALL BE LINED WITH 4" MINIMUM ROCK AND BE A MINIMUM OF 14" DEEP AFTER FINISH LANDSCAPING.
- ALL EXPOSED RETAINING WALLS AND FENCES SHALL BE FINISHED WITH PAINTED STUCCO.
- OWNER AND CONTRACTOR IS RESPONSIBLE FOR ALL BUILDING HEIGHTS ABOVE NATURAL GRADE TO COMPLY WITH FOUNTAIN HILLS AND HOME OWNERS ASSOCIATION REQUIREMENTS.
- ALL DRAINAGE SWALES SHALL BE MAINTAINED BY OWNER TO BE FREE OF TRASH, SILT, VEGETATION, AND DEBRIS.
- DROPS OF 30" OR MORE IN ACCESSIBLE AREAS SHALL BE PROTECTED BY A 36" MINIMUM HEIGHT GUARD RAIL (G.R.)
- CONTRACTOR SHALL VERIFY PROPERTY LINE LOCATIONS PRIOR TO PROCEEDING WITH WORK.
- FINISH GRADE SHALL SLOPE AWAY FROM RESIDENCE AT 5% FOR A MINIMUM DISTANCE OF 10' TO AN APPROVED WATER DISPOSAL AREA.
- ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING ARE NOT A PART OF THIS SITE PLAN.
- SWIMMING POOLS, SPAS, FENCES, AND SITE WALLS REQUIRE SEPARATE PERMITS.
- MITIGATION OF EXPANSIVE SOIL IS NOT A PART OF THIS PLAN. SEE HOUSE PLANS FOR REQUIREMENTS.
- FOUNDATIONS SHALL BEAR ON NATIVE SOIL OR COMPACTED FILL WITH MINIMUM 95% COMPACTION PER ASTM D698.
- CONTRACTOR SHALL PROVIDE 1" MINIMUM WATER SERVICE.

ENGINEER'S NOTES

IF A DISCREPANCY EXISTS BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS, IF A DETAIL IS UNCLEAR IN ITS INTERPRETATION, OR IF AN UNFORESEEN SITE CONDITION ARISES, THE ENGINEER MUST BE CONTACTED IMMEDIATELY TO DETERMINE THE APPROPRIATE COURSE OF ACTION. ANY INSTRUCTIONS PROVIDED SHALL BE DOCUMENTED IN WRITING AND DISTRIBUTED TO ALL RELEVANT PARTIES TO ENSURE COMPLIANCE AND PROPER EXECUTION.

THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SAFETY PRECAUTIONS, OR PROGRAMS EMPLOYED IN CONNECTION WITH THE WORK. FURTHERMORE, THE ENGINEER SHALL NOT BE LIABLE FOR THE CONTRACTOR'S FAILURE TO EXECUTE THE WORK IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS AND DOCUMENTS. THE CONTRACTOR RETAINS SOLE RESPONSIBILITY FOR ENSURING COMPLIANCE WITH ALL APPLICABLE STANDARDS AND REQUIREMENTS.

THE OWNER IS RESPONSIBLE FOR ENSURING THE ACCURATE LAYOUT OF IMPROVEMENTS IN ACCORDANCE WITH SETBACK REQUIREMENTS AND PROPERTY LINE LOCATIONS. DIMENSIONAL RELATIONSHIPS TO THE STRUCTURE ARE APPROXIMATE AND INTENDED FOR ILLUSTRATIVE PURPOSES ONLY, AND SHOULD NOT BE RELIED UPON FOR PRECISE MEASUREMENTS OR CONSTRUCTION PLACEMENT.

GENERAL

ALL GRADING MUST COMPLY WITH THE STANDARDS OUTLINED IN THE 2018 INTERNATIONAL BUILDING CODE (IBC)

DRAINAGE

- THE GROUND IMMEDIATELY ADJACENT TO THE FOUNDATION MUST SLOPE AWAY FROM THE BUILDING AT A MINIMUM 5% GRADE FOR AT LEAST 10 FEET. MEASURED PERPENDICULAR TO THE WALL FACE. ALTERNATIVELY, AN APPROVED METHOD OF DIVERTING WATER AWAY FROM THE FOUNDATION MAY BE USED, IN ACCORDANCE WITH SECTION 1803.3 OF THE INTERNATIONAL BUILDING CODE (IBC).
- THE OWNER IS RESPONSIBLE FOR KEEPING ALL DRAINAGE PATHS FREE FROM OBSTRUCTIONS, SUCH AS DEBRIS AND SILT, TO ENSURE PROPER WATER FLOW.
- THE OWNER MUST MAINTAIN ALL DRAINAGE STRUCTURES, INCLUDING WALL OPENINGS, CATCH BASINS, CULVERTS, CHANNELS, AND OTHER DRAINAGE-RELATED FEATURES, TO PREVENT BLOCKAGES**
- THE OWNER AND CONTRACTORS MUST ENSURE THAT ALL DRAINAGE PATHS REMAIN NATURAL OR AS DESIGNED THROUGHOUT CONSTRUCTION.
- AFTER CONSTRUCTION, THE OWNER MUST CONTINUE MAINTAINING ALL DRAINAGE PATHS IN THEIR NATURAL OR DESIGNED STATE.
- DRAINAGE OPENINGS OF 8" X 16" (128 SQUARE INCHES) MUST BE PROVIDED AT EVERY OTHER BLOCK, AS SPECIFIED IN THE PLAN.
- WALL OPENINGS MUST REMAIN UNOBSTRUCTED AND MUST NOT BE COVERED WITH SCREENS, MESH, ROCK, OR ANY OTHER MATERIAL THAT COULD IMPEDE WATER FLOW

EROSION PROTECTION & DUST CONTROL

- THE OWNER OR CONTRACTOR MUST INSTALL AND MAINTAIN LANDSCAPING ON SLOPES AND DISTURBED AREAS TO PREVENT EROSION DURING CONSTRUCTION.
- AT ROOF SCUPPERS AND EXTERIOR WALL OPENINGS, 2" SQUARE BY 8" THICK RIPRAP MUST BE PROVIDED TO PREVENT EROSION.
- 8" THICK RIPRAP SHOULD BE PLACED BENEATH THE ROOFLINE TO MINIMIZE SOIL EROSION AND MAINTAIN GROUND STABILITY.
- PROVIDE 5" THICK RIP-RAP WITH GEOTEXTILE FABRIC DRAINAGE SWALES AS NEEDED
- DUST MUST BE MANAGED BY WATERING, FOLLOWING REGULATIONS SET BY THE AIR POLLUTION CONTROL DISTRICT OF MARICOPA COUNTY. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING NECESSARY PERMITS

FILL MATERIAL

- ALL FILL MATERIALS MUST BE INORGANIC SOILS, FREE FROM VEGETATION, DEBRIS, ORGANIC CONTAMINANTS, AND FRAGMENTS LARGER THAN 6 INCHES.
- A GEOTECHNICAL REPORT CONDUCTED BY RITTER ENGINEERING, PRJ G21-0177, DATED JUNE 28, 2021, SHOULD BE USED TO GUIDE SITE PREPARATION, BEARING CAPACITY VALUES, FRICTION VALUES, AND COMPACTION REQUIREMENTS.
- WHERE EXCAVATION IS TO OCCUR THE TOP FOUR (4) INCHES OF EXCAVATED NATIVE SOIL SHALL REMAIN ON THE SITE AND SHALL BE REUSED IN A MANNER THAT TAKES ADVANTAGE OF THE NATURAL SOIL SEED BANK IT CONTAINS.

UTILITIES

- EXCAVATION NOTIFICATION: THE CONTRACTOR MUST CONTACT BLUESTAKE AT LEAST 48 HOURS BEFORE STARTING ANY EXCAVATION.**
- THE CONTRACTOR MUST LOCATE ALL STRUCTURES, PIPELINES, AND CONDUITS (WHETHER SHOWN ON PLANS OR NOT) BEFORE CONSTRUCTION AND TAKE PRECAUTIONS TO AVOID DAMAGE. THE ENGINEERING TEAM OR DEVELOPER DOES NOT GUARANTEE THE ACCURACY OF UNDERGROUND**
- THE CONTRACTOR MUST VERIFY THE LOCATION AND ELEVATION OF ALL UTILITY CONNECTIONS.**
- ANY UTILITY CROSSING THE WASH MUST BE PLACED IN SLURRY AND BURIED AT A DEPTH OF 3 FEET.**

LEGAL DESCRIPTION

LEGAL DESCRIPTION: (FROM DOC. # 2024-0200810, M.C.R.)

LOT 21, OF FIREROCK PARCEL J-2, ACCORDING TO BOOK 520 OF MAPS, PAGE 35, RECORDS OF MARICOPA COUNTY, ARIZONA.

PROJECT DESCRIPTIONS

THE PROJECT WILL CONSIST OF THE FOLLOWING :

- NEW RESIDENTIAL STRUCTURE
- GRADING FOR NEW RESIDENTIAL STRUCTURE
- RETAINING WALLS & SITE WALLS
- STORM DRAINS AND DRAINAGE SWALE
- PAVERS

BASIS OF BEARINGS

S 73° 33' 26" E, ALONG A PORTION OF THE MONUMENTED NORTHERLY LINE OF LOT 21, PER BOOK 520, PAGE 35, M.C.R., AS SHOWN HEREON.

EXTERIOR LIGHT NOTES

PER TOWN OF FOUNTAIN HILLS ZONING ORDINANCE CHAPTER 8
ALL OUTDOOR LIGHTS WILL CONSIST OF PARTIALLY SHIELDED FIXTURE OF 2250 WATTS OR LESS PER FIXTURE AND SHALL NOT EXCEED 3000K (CORRELATED COLOR TEMPERATURE)

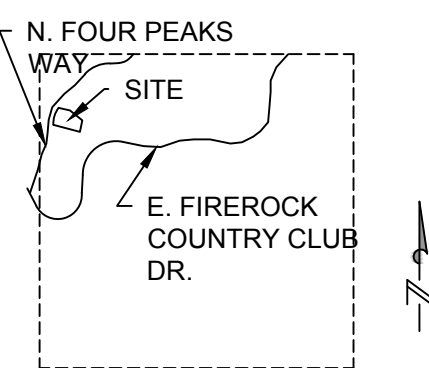
ENGINEER'S CERTIFICATION

THE LOWEST FINISHED FLOOR ELEVATION(S) AND/OR FLOOD PROOFING ELEVATION(S) FOR THE HOUSE ON THIS PLAN ARE SUFFICIENTLY HIGH TO PROVIDE PROTECTION FROM FLOODING CAUSED BY A ONE-HUNDRED YEAR STORM

NATIVE PLANTS

NATIVE PLANTS WAS CONDUCTED BY A SALVAGE COMPANY, SEE LANDSCAPE PLAN FOR DETAILS

VICINITY MAP



HOA NOTES

- All mechanical equipment, pool equipment, and screen walls shall be located within the Building Envelope.
- Electric Meters, Gas Meters, Landscape Controls, CATV Equipment Boxes, Telephone Equipment Boxes and Water services shall be fully screened from a street, common area or neighboring homestead so that the design of the home with a masonry or stone wall.
- All perimeter windows and doors must be recessed from the perimeter walls a minimum of 3 5/8" (three and five eighths" inches) measured from the finish of the wall where the recess occurs to the glass or door. Thickness of window trim will not be applicable to recess depth.
- Antennae or satellite dishes must be screened to the extent practicable when viewed from a street, common area, golf course, or neighboring homesteads. If locations are not provided prior to installation of antennae or satellite dish, homeowner or builder must submit an application to the COA for approval.
- All changes to the approved Plans and Elevations that involve the exterior design, materials, and colors must be submitted and processed through the COA. Submit changes two weeks prior to the meeting to avoid a delay in construction.

ENGINEER'S CERTIFICATION

THE LOWEST FINISHED FLOOR ELEVATION(S) AND/OR FLOOD PROOFING ELEVATION(S) FOR THE HOUSE ON THIS PLAN ARE SUFFICIENTLY HIGH TO PROVIDE PROTECTION FROM FLOODING CAUSED BY A ONE-HUNDRED YEAR STORM

FLOOD INSURANCE RATE MAP INFORMATION

COMMUNITY NUMBER:	PANEL NUMBER:	SUFFIX:	DATE OF FIRM (REVISION DATE):	FIRM ZONE:	BASE FLOOD ELEVATION (IN AO ZONE, USE DEPTH):
04013C	1803 OF 4425 10/16/2013	L	OCTOBER 16, 2013	X	N/A

PROJECT DATA

SITE ADDRESS:
9619 NORTH FOUR PEAKS WAY
FOUNTAIN HILLS, ARIZONA 85268

PARCEL ZONING:
R1-35H PUD Z97-46

ASSESSOR PARCEL NUMBER:
176-11-183

NET LOT AREA:
31,449 SF± (0.722 ACRES ±)

LAND DISTURBANCE DATA

TOTAL DISTURBANCE
15,400 SF

ALLOWABLE DISTURBANCE
18,700 SF

LOT COVERAGE
25% MAX

SHEET INDEX

C-1 TITLE SHEET
C-2 OVERALL SITE PLAN
C-3 GRADING & DRAINAGE PLAN
C-4 CROSS SECTIONS AND DETAILS
C-5 DETAILS
C-6 CUT FILL ANALYSIS

WALL DATA

LINEAR FOOTAGE OF SITE RETAINING WALLS: 326 FT
LINEAR FOOTAGE OF RETAINING WALLS BENEATH TRELLIS ROOF: 218 FT

OWNER/DEVELOPER

HORIZON ESTATES LLC
7377 DOUBLETREE RANCH RD
STE A-170
SCOTTSDALE AZ USA 85258

ARCHITECTURAL DESIGNER

BUILD DESIGN AND CONSTRUCTION
MANAGEMENT LLC
CONTACT: DAVID SCARLE
602-501-8904
DS@JUSSARASCARLE.COM

SURVEY

TOPOGRAPHICAL CONTOURS, BOUNDARIES, EASEMENTS, AND PLANT LOCATION ARE BASED UPON SURVEY CONDUCTED BY

GLOBAL LAND SURVEYING, LLC.
PO BOX 2132
PEORIA, ARIZONA 85380
DATED SEPTEMBER 29, 2024 PROJECT #2406003
(623) 330-6835
glsurveyaz@gmail.com

ENGINEER

TERRA DYNAMIC ENGINEERING, LLC.
3241 EAST SHEA BLVD, STE 1 #455
PHOENIX, ARIZONA 85028
CONTACT: ROBERTO ORLANDO, P.E.
(602) 482-1603
robert@terradynamic.us

SOILS ENGINEER

RITTER ENGINEERING
9034 WEST BIG OAK STREET
PEORIA, ARIZONA 85383
CONTACT: KEITH E. RITTER
(623) 999-3150

BENCHMARK

POINT ID 4180
POINT NAME 32407-1
DESCRIPTION: FD 1" IP 2.6" UP W/ 2 1/2" GLO BC STAMPED. *T2N R6E S29 S28 S32 S33 1919' NOTE- POINT SET IN CONC
ELEVATION = 1,676.442' (NAVD 88)
LATITUDE 33° 34' 04.45474" N
LONGITUDE 111° 45' 10.02872" W

PROVIDED BY THE MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION

SITE BENCHMARK

SITE BENCHMARK BEING A FOUND REBAR WITH AFFIXED CAP "AZLS 59124" AT AN ANGLE POINT OF THE NORTHERLY LINE OF THE SUBJECT PROPERTY, HAVING AN ELEVATION OF 1823.08' (NAVD88 DATUM)

REQUIRED SPECIAL INSPECTION :

SOIL COMPACTION ENGINEERED FILL MATERIAL
PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING ITEMS

- COMPACTION TESTING FOR OPTIMUM MOISTURE AND DENSITY

FOUNDATION CONSTRUCTION
PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING ITEMS

- INSPECTION OF REINFORCEMENT PLACEMENT BEFORE CONCRETE POUR
- VERIFICATION OF ANCHOR BOLTS AND EMBEDMENTS FOR STRUCTURAL CONNECTIONS.
- CONCRETE STRENGTH TESTING USING CYLINDER SAMPLES

CONCRETE CONSTRUCTION
PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING :

- SIZE AND LOCATION OF STRUCTURAL REINFORCEMENT
- CONCRETE PRIOR TO PLACEMENT, STRENGTH & SLUMP
- CONCRETE JOINTS

MASONRY CONSTRUCTION
PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING ITEMS

- REINFORCEMENT PLACEMENT BEFORE GROUT OR CONCRETE POUR.
- VERIFICATION OF GROUT MIX AND CONSOLIDATION TO ENSURE STRUCTURAL INTEGRITY.
- INSPECTION OF ANCHOR BOLTS AND EMBEDMENTS FOR STRUCTURAL CONNECTIONS.
- GROUT SPACE IS CLEAN PRIOR TO GROUTING
- SIZE AND LOCATION OF STRUCTURAL ELEMENTS
- MORTAR PRIOR TO CONSTRUCTION
- CONSTRUCTION OF MORTAR JOINTS

ANCHOR BOLTS
PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING ITEMS

- VERIFICATION OF ANCHOR TYPE, MATERIAL, SIZE, AND LENGTH BEFORE INSTALLATION.
- INSPECTION OF DRILLING METHOD AND HOLE PREPARATION TO ENSURE PROPER EMBEDMENT.
- CONFIRMATION OF INSTALLATION PROCEDURES FOR MECHANICAL AND ADHESIVE ANCHORS.



REVISED DATES:

12/29/2025 T.O.F.

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TITLE SHEET

PROJECT:

LOT 21 FIREROCK PARCEL J2
9619 NORTH FOUR PEAKS WAY
FOUNTAIN HILLS, ARIZONA 85268

TERRA DYNAMIC ENGINEERING, LLC
3241 East Shea Blvd, Suite 1 - #455
Phoenix, Arizona 85028
(602) 482-1603
robert@terradynamic.us



SUBMITTAL DATE
AUGUST 21, 2025

JOB NUMBER:
25-002

CHECKED BY:
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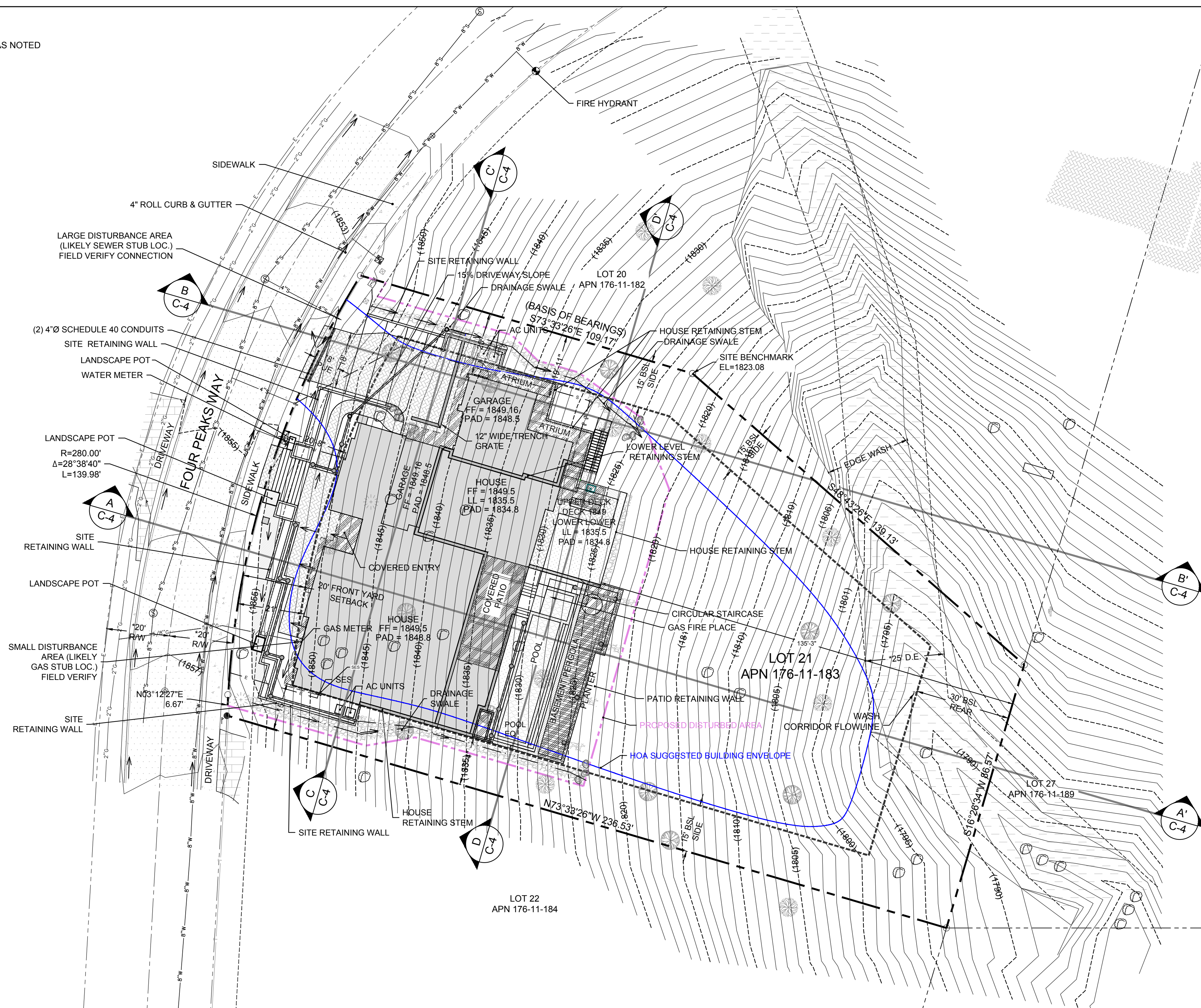
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RO

SCALE:
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SHEET NUMBER:

C-1

	FOUND 1/2" CAPPED REBAR AZLS 16098 OR AS NOTED	
	FOUND BRASS CAP FLUSH	
	ELECTRIC TRANSFORMER	
	TELECOM. PEDESTAL	
	WATER METER	
	WATER BLUESTAKE	
	GAS BLUESTAKE	
	SANITARY SEWER MANHOLE	
	SEWER BLUESTAKE	
	BOUNDARY LINE	
	CENTER LINE	
	RIGHT OF WAY	
	PARCEL LINE	
	BLOCK WALL	
R/W	RIGHT-OF-WAY	
M.C.R.	MARICOPA COUNTY RECORDS	(2)
APN	ASSESSOR PARCEL NUMBER	
	APPROXIMATE UNDERGROUND WATER LINE	
	APPROXIMATE UNDERGROUND SEWER LINE	
	APPROXIMATE UNDERGROUND GAS LINE	
	NEW WATERLINE	
	NEW SEWERLINE	
R/W	RIGHT OF WAY	
P.U.E.	PUBLIC UTILITY EASEMENT	
B.S.L.	BUILDING SETBACK LINE	
CMU	CONCRETE MASONRY UNIT	
M.C.R.	MARICOPA COUNTY REORDER	
M.C.A.	MARICOPA COUNTY ASSESSOR	
RAIL	TOP OF RAIL/GUARD RAIL	
TW	TOP OF WALL	
TRW	TOP OF RETAINING WALL	RET
BW	BOTTOM OF EXPOSED WALL	
TF	TOP OF FOUNDATION	LA
	SEWER CLEAN OUT	
	EXISTING CONTOURS	
	PROPOSED FINISHED CONTOURS	
	RIP-RAP	
	PROPOSED HOUSE AND UNDER ROOF	SMALL. G
	CONCRETE SPOT ELEVATION	
	FLOW DIRECTION	



	CACTUS
	PALO VERDE TREE
	SAGUARO CACTUS
	TREE (UNKNOWN TYPE)



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(602) 482-1001



REVISSED DATES

12/29/2025 T.O.F

OVERALL SITE PLAN

PROJECT:

LOT 21 FIREROCK PARCEL J2

9619 NORTH FOUR PEAKS WAY
FOUNTAIN HILLS ARIZONA 85268

9619 NORTH FOUR PEAKS WAY
EQUINTAIN HILLS ARIZONA 85268

THESE DRAWINGS ARE AN INSTRUMENT OF SERVICE AND THE PROPERTY OF TERRA DYNAMIC ENGINEERING. ANY REPRODUCTION OF THESE DRAWINGS, OR ANY PORTION HEREIN WITHOUT WRITTEN PERMISSION FROM TERRA DYNAMIC ENGINEERING IS PROHIBITED BY LAW. THE ENGINEER ASSUMES NO RESPONSIBILITY OR LIABILITY OF WORK IN PLACE DEVIATING FROM THE INFORMATION AND INTENT OF THESE DRAWINGS. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES CONCERNING THE INFORMATION HEREIN. THE ENGINEER ASSUMES NO RESPONSIBILITY OR LIABILITY OF WORK IN PLACE DEVIATING FROM THE INFORMATION AND INTENT OF THESE DRAWINGS. DO NOT SCALE DRAWINGS.

SUBMITTAL DATE
AUGUST 21, 2025

JOB NUMBER:
25-002

CHECKED BY:

DRAWN BY:
RO

SCALE:
1"=20'

SHEET NUMBER:

C-2

LEGEND

- FOUND 1/2" CAPPED REBAR AZLS 16098 OR AS NOTED
- ⊙ FOUND BRASS CAP FLUSH
- ⊠ ELECTRIC TRANSFORMER
- ⊡ TELECOM. PEDESTAL
- ⊞ WATER METER
- ⊟ WATER BLUESTAKE
- ⊠ GAS BLUESTAKE
- ⊞ SANITARY SEWER MANHOLE
- ⊟ SEWER BLUESTAKE

- BOUNDARY LINE
- CENTER LINE
- RIGHT OF WAY
- PARCEL LINE
- BLOCK WALL
- RIGHT-OF-WAY
- M.C.R. MARICOPA COUNTY RECORDS
- APN ASSESSOR PARCEL NUMBER
- APPROXIMATE UNDERGROUND WATER LINE
- APPROXIMATE UNDERGROUND SEWER LINE
- APPROXIMATE UNDERGROUND GAS LINE
- NEW WATERLINE
- NEW SEWERLINE

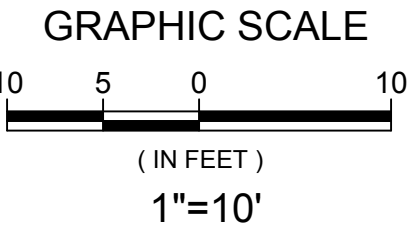
- R/W RIGHT OF WAY
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- CMU CONCRETE MASONRY UNIT
- M.C.R. MARICOPA COUNTY RECORDER
- M.C.A. MARICOPA COUNTY ASSESSOR
- RAIL TOP OF RAIL/GUARD RAIL
- TW TOP OF WALL
- TRW TOP OF RETAINING WALL
- BW BOTTOM OF EXPOSED WALL
- TF TOP OF FOUNDATION
- SEWER CLEAN OUT
- EXISTING CONTOURS
- PROPOSED FINISHED CONTOURS

- RIP-RAP
- PROPOSED HOUSE AND UNDER ROOF
- CONCRETE SPOT ELEVATION
- FLOW DIRECTION



KEY NOTES

- 1 PROVIDE 1"Ø METER WITH 1-1/2" SERVICE LINE. VERIFY SIZE WITH FIRE SPRINKLER REQUIREMENTS PER EPOOR STD DTL 342-2
- 2 VERIFY SEWER SERVICE LATERAL. COORDINATE WITH FOUNTAIN HILLS SEWER DISTRICT (480) 837-9444. PROVIDE SEWER CLEANOUT. CONTRACTOR TO CONTACT FHSD PRIOR TO CONSTRUCTION TO VERIFY EXACT LOCATION OF SEWER SERVICE LATERAL
- 3 PROVIDE NEW SEWER CLEANOUT
- 4 NEW GAS METER. SERVICE TO BE FIELD VERIFIED WITH UTILITY COMPANY
- 5 400 AMP SES SERVICE. TO BE FIELD VERIFIED WITH UTILITY COMPANY. SEE ELECTRICAL SHEETS
- 6 TELEPHONE SERVICE TO BE FIELD VERIFIED WITH UTILITY
- 7 A/C UNITS. ALL EQUIPMENT SHALL BE SCREEN BY A WALL THAT IS A MINIMUM 12" HIGHER THAN THE EQUIPMENT THAT IS SCREENING.
- 8 HOUSE RETAINING WALL/EXTENDED STEM/LOWER PATIO RETAINING WALL. SEE STRUCTURAL DETAILS. NOTE: RETAINING STEM SHOULD BE A MINIMUM OF 12 INCHES HIGHER THAN FINISH ADJACENT EXTERIOR GRADE. WATERPROOF WALL PER IBC AND PROVIDE A 4"Ø PERFORATED PIPE WITH 1" WASH ROCK AND FABRIC FILTER BEHIND ALL RETAINING WALL, DRAIN TO DAYLIGHT
- 9 SITE RETAINING WALL. SEE DETAIL 3.4, 8/6/C-4. WATERPROOF WALL PER IBC AND PROVIDE A 4"Ø PERFORATED PIPE WITH 1" WASH ROCK AND FABRIC FILTER BEHIND ALL RETAINING WALL, DRAIN TO DAYLIGHT
- 10 SITE RETAINING WALL AT DRIVEWAY. SEE DETAIL 5 & 6/C-4 AND A&B/C-1. WATERPROOF WALL PER IBC AND PROVIDE A 4"Ø PERFORATED PIPE WITH 1" WASH ROCK AND FABRIC FILTER BEHIND ALL RETAINING WALL, DRAIN TO DAYLIGHT
- 11 36" GUARD RAIL. PER SECTION 1015 IBC, SEE ARCHITECTURAL SET
- 12 GATE. WITH SELF CLOSING SELF LATCH, PROVIDE A 3" OPENING BETWEEN GATE AND GRADE. SEE ARCHITECTURAL SET
- 13 DRAINAGE SWALE WITH TERMINATION. WITH 8" THICK NATIVE STONE, D₅₀=4" RIP-RAP. SEE NOTES ON DETAIL 8/C-3 & 7/C-4
- 14 DRAINAGE TRENCH DRIVEWAY. WITH SLOT GRATE DRAIN (OWNER SELECT). DRAIN TO DAYLIGHT AT NORTH END. SEE DETAIL 6/C-3. GRATE = 1849. INVERT = 1847 (FLOWLINE AT NORTH END). INVERT = 1843 (PIPE OUTLET AT NORTH WALL)
- 15 8"Ø HDPE DRAIN PIPE. SLOPE AT A MIN 2% SLOPE WITH RIP-RAP AT OUTLET SEE DETAIL 6 & 8/C-4
- 16 NYLOPLAST 12" DOME GRATE AND DRAIN WITH ELBOWS AND TEES AS NEEDED. DRAIN TO DAYLIGHT WITH 4"Ø PIPE. WITH A MINIMUM 2% SLOPE. SEE DETAIL 6 & 8/C-4. (USE 6"Ø PIPE WHEN USED IN SERIES)
- 17 8"Ø HDPE DRAIN PIPE. SLOPE AT A MIN 2% SLOPE, WITH RIP-RAP AT OUTLET SEE DETAIL 8/C-3, 6 & 8/C-4. INVERT = 1842 (PIPE OUTLET AT NORTH WALL). INVERT = 1845.5 (PIPE OUTLET AT SOUTH WALL, EAST END)
- 18 NEW POOL AND SPA BY OTHER AND THROUGH SEPARATE PERMIT
- 19 NEW POOL AND SPA EQUIPMENT WITH CARTRIDGE FILTER SYSTEM ON BACKWASH BY OTHER AND THROUGH SEPARATE PERMIT
- 20 ABOVE GROUND PLANTER. SEE ARCHITECTURAL PLANS
- 21 INTERLOCKING CONCRETE PAVER DRIVEWAY SEE DETAIL B/C-2 OR EQUAL TO SUPPORT AN 83,000 LBS FOR FIRE DEPARTMENT ACCESS. DESIGN DRIVEWAY SLOPE IS 8%. AT DRIVEWAY ENTRANCE, GRADE TO MATCH EXISTING PAVEMENT



HOUSE RETAINING STEM

HOUSE RETAINING STEM OR HIGH STEM SEE ARCHITECTURAL DRAWINGS SHEET STRUCTURAL SHEETS. HOUSE STEM WALL SHOULD BE A MINIMUM 1.0' ABOVE FINISHED ADJACENT TO HIGHEST GRADE (TYPICAL) THE RETAINING WALL OF THE HOUSE MUST BE WATER PROOFED IN ACCORDANCE WITH CHAPTER 1807 OF THE 2018 INTERNATIONAL BUILDING CODE.

ROOF RUNOFF

PROPER ROOF DRAINAGE SYSTEMS, SUCH AS GUTTERS OR RAIN DISPERSAL DEVICES, SHOULD BE INSTALLED ALONG THE ENTIRE ROOF PERIMETER TO EFFECTIVELY MANAGE WATER RUNOFF. ROOF RUNOFF MUST BE DIRECTED AT LEAST 5 FEET AWAY FROM ANY PERIMETER WALLS OR COLUMN FOOTINGS TO PREVENT STRUCTURAL ISSUES. ADDITIONALLY, RIPRAP SHOULD BE PLACED BENEATH THE ROOFLINE TO MINIMIZE SOIL EROSION AND MAINTAIN GROUND STABILITY.



REVISED DATES:

12/29/2025 T.O.F.

GRADING AND DRAINAGE PLAN

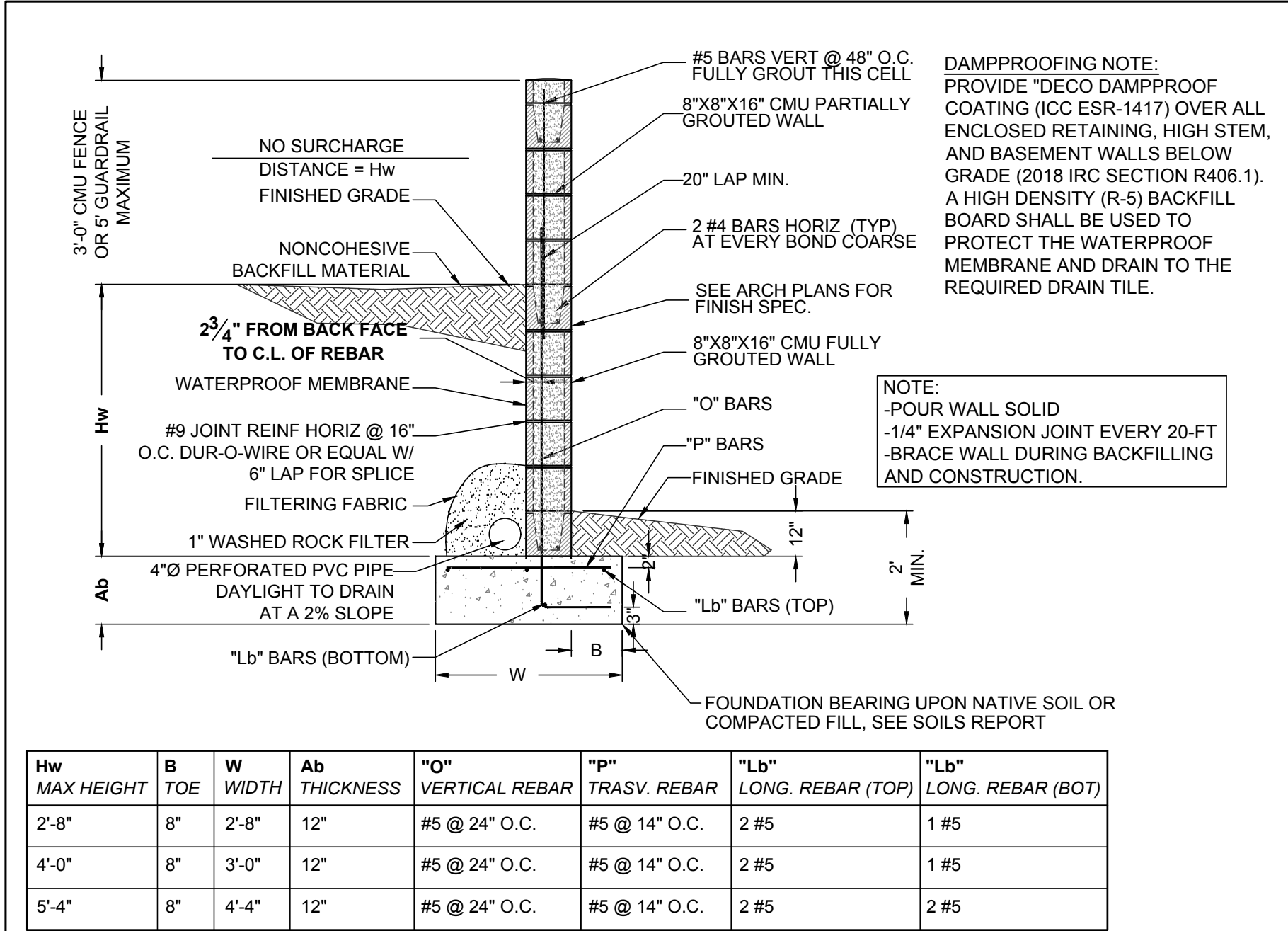
TERRA DYNAMIC
ENGINEERING, LLC
3241 East Shea Blvd, Suite 1 - #455
Phoenix, Arizona 85028
(602) 482-1603
robert@terradynamic.us



SUBMITTAL DATE
AUGUST 21, 2025
JOB NUMBER:
25-002
CHECKED BY:
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DRAWN BY:
RO
SCALE:
1"=10'
SHEET NUMBER:

C-3

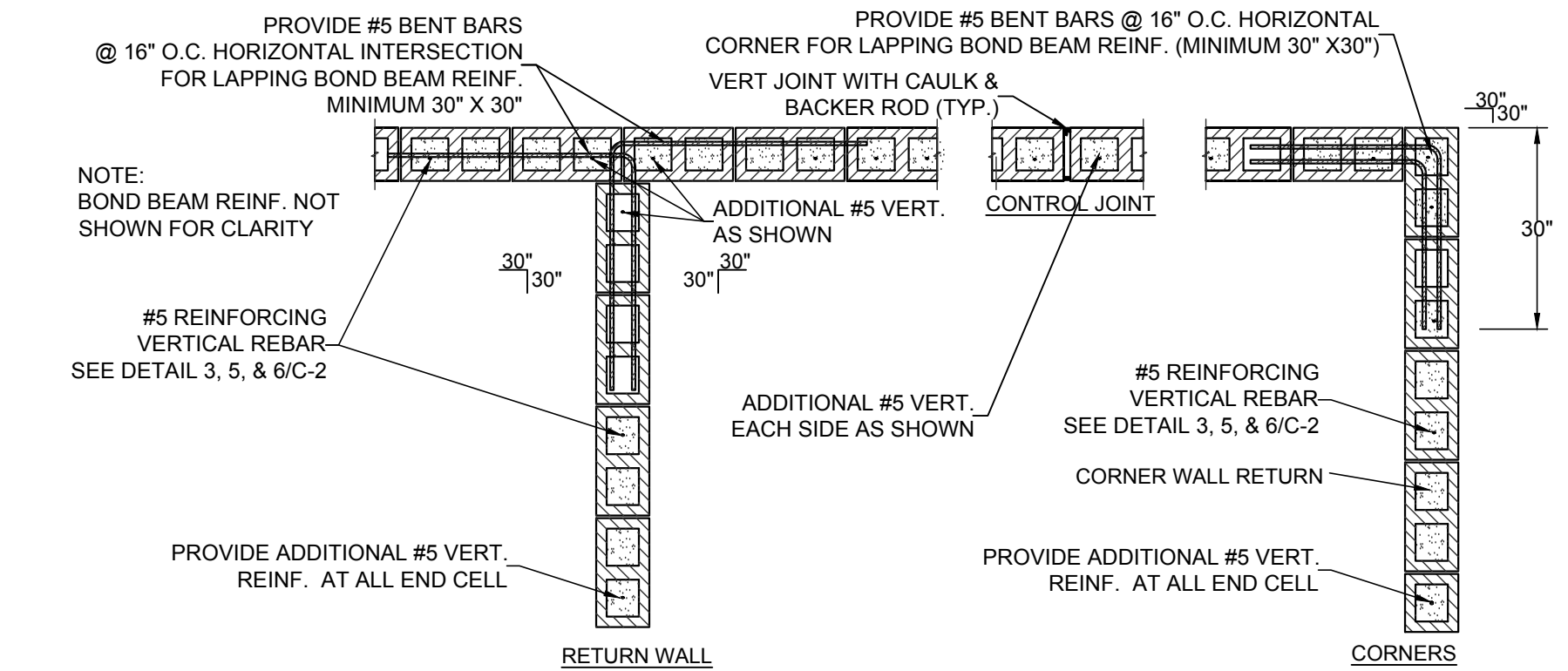
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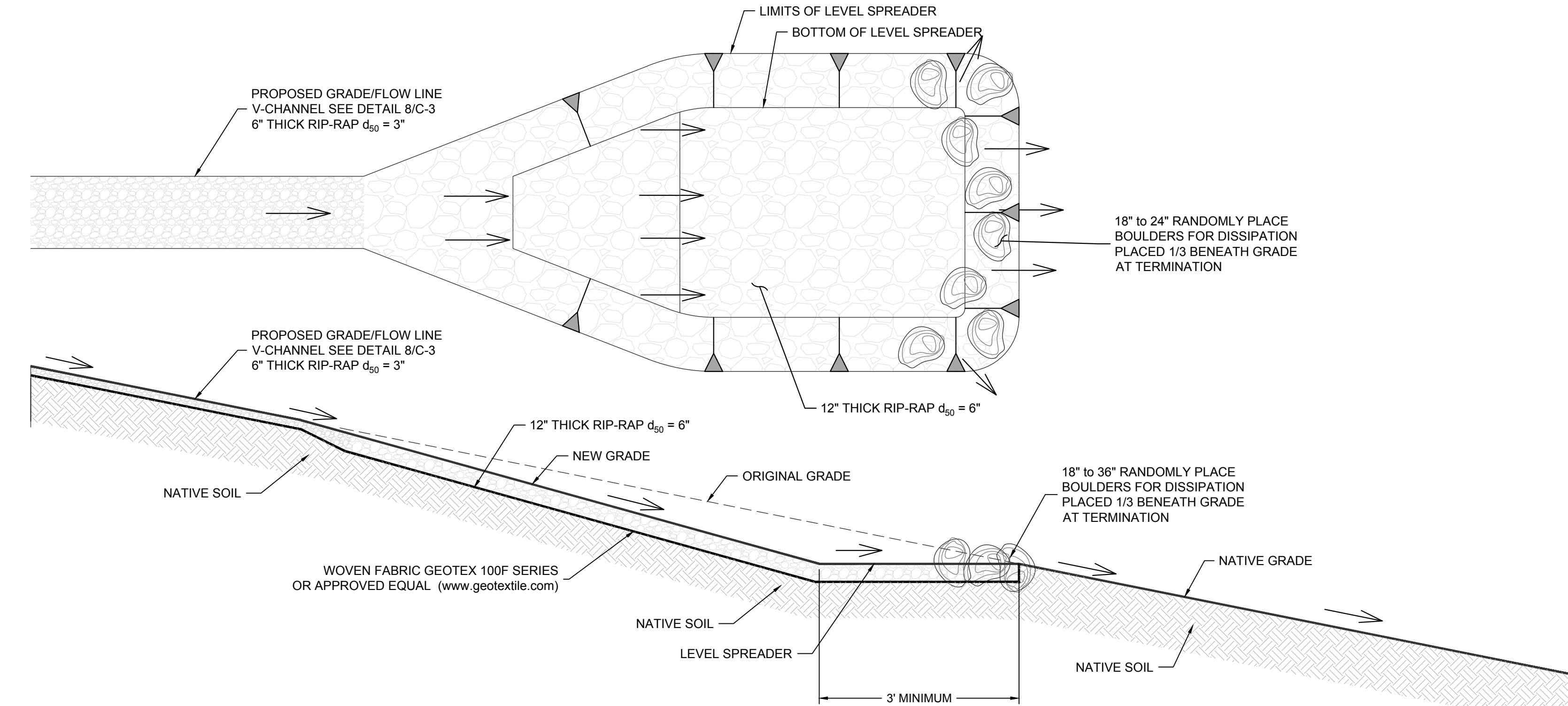
NOTE:
FOOTING BEARING UPON NATIVE MATERIAL OR ENGINEERED FILL. GEOTECHNICAL INVESTIGATION CONDUCTED BY RITTER ENGINEERING, PRJ G21-0177, DATED JUNE 28, 2021, SHOULD BE USED FOR ALL SITE PREPARATION, BEARING CAPACITIES VALUES, FRICTION VALUES, AND COMPACTION REQUIREMENTS.

- 2"Ø PVC PIPE FOR DRAINAGE PLACED @ 8" O.C. CAN BE USED ALONG THE FRONT RETAINING WALL IN LIEU OF THE 4"Ø PERFORATED PIPE.

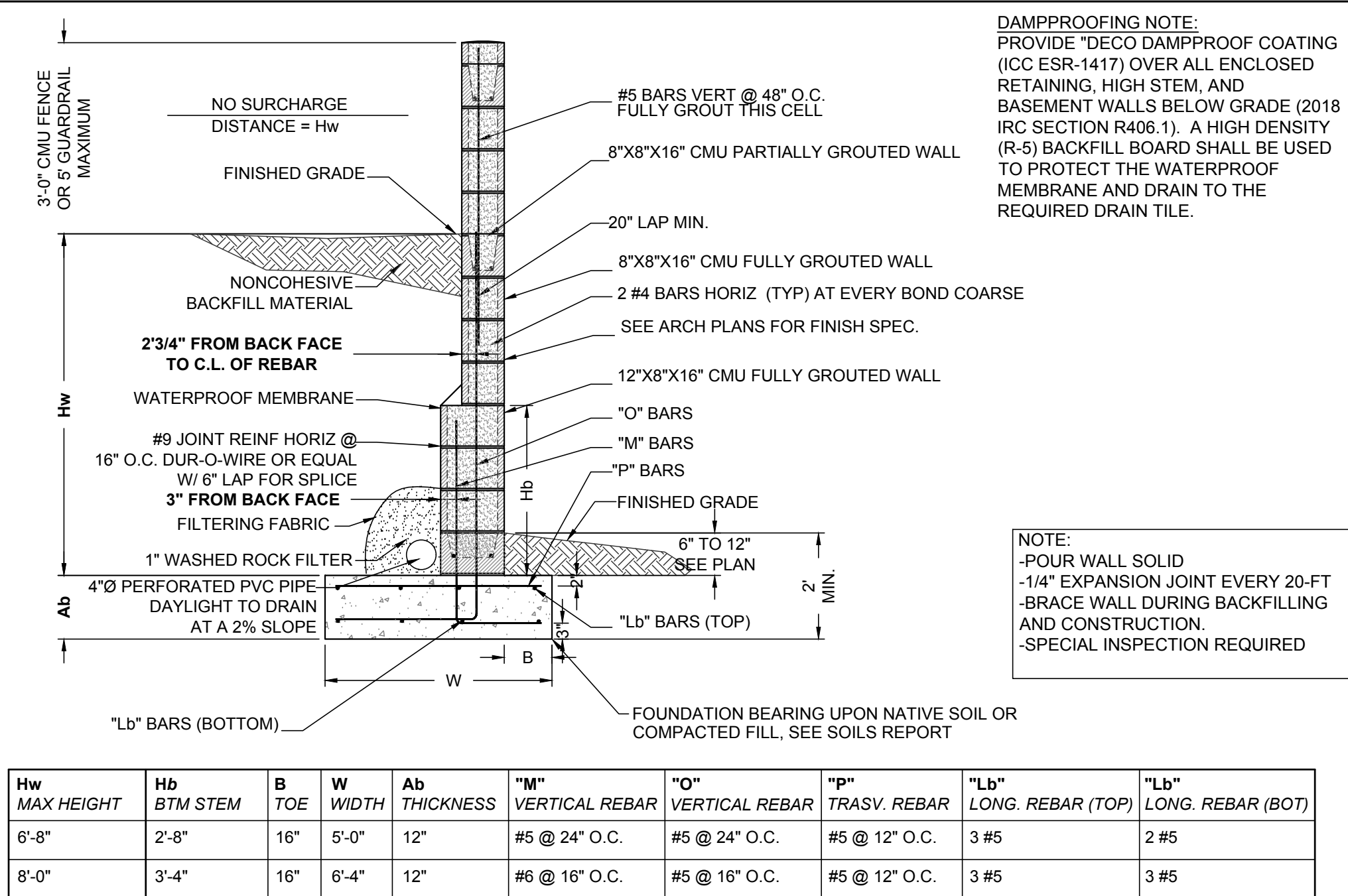
1 CMU SITE RETAINING WALL UP TO 5'-4" SCALE NTS



4 HORIZONTAL LAPPING REBAR TIES AT RETURN WALLS (PLAN VIEW) SCALE NTS



7 DRAINAGE SWALE TERMINATION SCALE NTS



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- 2"Ø PVC PIPE FOR DRAINAGE PLACED @ 8" O.C. CAN BE USED ALONG THE FRONT RETAINING WALL IN LIEU OF THE 4"Ø PERFORATED PIPE.
- PROVIDE A MINIMUM OF 30" LAP ON ALL VERTICAL REBAR

2 CMU SITE RETAINING WALL UP TO 8'-0" SCALE NTS

CMU WALL NOTES

2018 INTERNATIONAL BUILDING CODE & GEOTECHNICAL INVESTIGATION CONDUCTED BY RITTER ENGINEERING, PRJ G21-0177, DATED JUNE 28, 2021

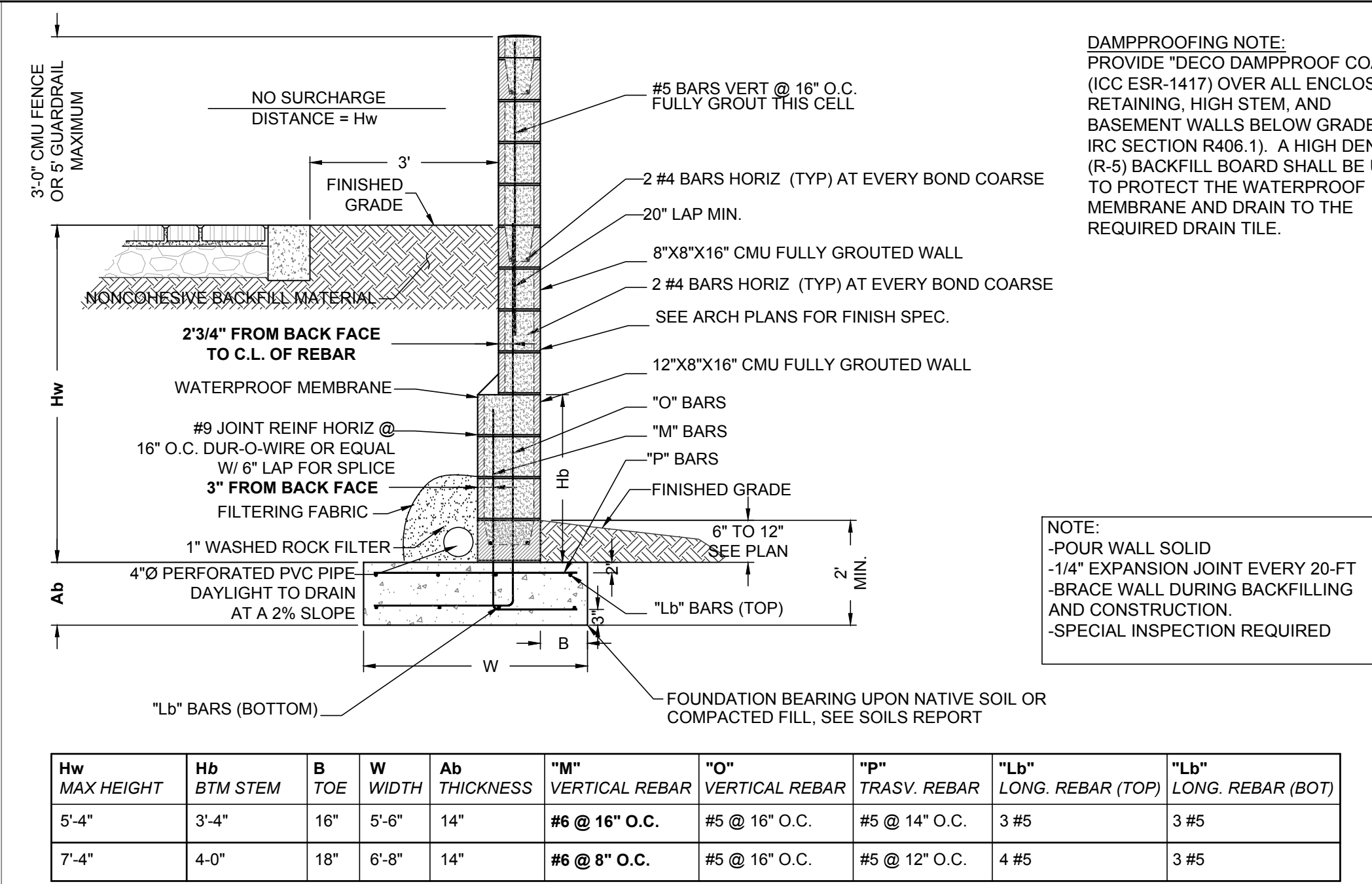
DESIGN ACTIVE PRESSURE: 35 PSF/FT
DESIGN PASSIVE PRESSURE: 373 PSF/FT
SOIL BEARING PRESSURE: 2,000 PSF CONTROL COMPACTED FILL OR NATIVE
FRICTION COEFFICIENT: 0.5 (FOOTING/SOIL) IN CONJUNCTION WITH PASSIVE PRESSURE

MATERIAL
CONCRETE MASONRY UNITS: F'M=1,500 PSI ASTM C90 GRADE N-1
MORTAR: F'M=1,800 PSI, CEMENT LIME TYPE S, PER IBC 2103.3
PORTLAND CEMENT: TYPE V
GROUT: F'G=2,000 PSI, PER IBC 2103.4
CONCRETE: F'C=2,500 PSI 3" TO 5" SLUMP
NOTE: MORTAR, GROUT, AND CONCRETE WITH 28-DAY COMPRESSIVE STRENGTH
REINFORCING STEEL: FY=60,000 PSI A-615, GRADE 60

- NOTES
- MASONRY BONDING:** INSTALL MASONRY UNITS IN A RUNNING BOND PATTERN, ENSURING THAT CORNER INTERSECTIONS MAINTAIN A STANDARD BOND BY OVERLAPPING UNITS.
 - GROUTING LIFT LIMITS:** GROUT LIFTS MUST NOT EXCEED 4'-0" WITHOUT CLEAN-OUT PROVISIONS.
 - GROUTING AGAINST EARTH:** ALL WALLS IN DIRECT CONTACT WITH SOIL MUST BE FULLY GROUTED TO ENSURE STRUCTURAL INTEGRITY.
 - EXPANSION & CONTROL JOINTS:** INSTALL 1/4" EXPANSION AND CONTROL JOINTS AT 20-FOOT INTERVALS, ENSURING PROPER SEALING TO ACCOMMODATE MOVEMENT.
 - VERTICAL REINFORCEMENT TIES:** SECURE VERTICAL REINFORCING BARS AT BOTH ENDS AND AT A MAXIMUM VERTICAL SPACING OF 4'-0" USING SINGLE WIRE LOOP TIES.
 - REINFORCEMENT LAP LENGTHS:** MINIMUM LAP LENGTH FOR REINFORCEMENT BARS SHALL BE 40 x DB (BAR DIAMETER) IN BOTH HORIZONTAL AND VERTICAL DIRECTIONS.

- PRE-GROUTING CLEANING:** PRIOR TO GROUTING, ENSURE THE GROUT SPACE IS FREE FROM:
 - MORTAR PROJECTIONS EXCEEDING 1/2 INCH
 - MORTAR DROPPINGS OR FOREIGN DEBRIS
 - THE GROUT MUST BE PLACED TO COMPLETELY FILL DESIGNATED SPACES, ENSURING CONTAINMENT WITHIN SPECIFIED AREAS.
- GROUT MIXING & PLACEMENT:** CONTROL GROUT MATERIAL COMPOSITION AND WATER CONTENT TO ACHIEVE SUFFICIENT FLUIDITY FOR PLACEMENT WHILE PREVENTING SEGREGATION. THOROUGH MIXING IS REQUIRED.
- CONTINUOUS GROUTING PROCESS:** EACH WALL SECTION MUST BE FULLY GROUTED WITHIN A SINGLE DAY WITHOUT INTERRUPTIONS EXCEEDING ONE HOUR.
- CONSTRUCTION JOINTS BETWEEN POURS:**
 - FORM HORIZONTAL CONSTRUCTION JOINTS BY ALIGNING ALL C.M.U. COURSES AT THE SAME ELEVATION
 - STOP GROUT POURS A MINIMUM OF 1/2 INCH BELOW MASONRY BOND BEAMS.
- GROUTING INTEGRITY & MASONRY PROTECTION:** PREVENT SEGREGATION OF GROUT MATERIALS AND DAMAGE TO MASONRY DURING PLACEMENT OPERATIONS.
- GROUT CONSOLIDATION:**
 - USE MECHANICAL VIBRATION DURING PLACEMENT TO ENSURE PROPER GROUT SPACE FILLING BEFORE PLASTICITY IS LOST.
 - FOR POURS EXCEEDING 12 INCHES, GROUT MUST BE RECONSOLIDATED BY VIBRATION, PUDDLING, OR RODDING WITH A SMOOTH BAR.
- GROUT HANDLING PRECAUTIONS:**
 - GROUT SHALL NOT BE PUMPED OR HANDLED USING ALUMINUM EQUIPMENT, UNLESS IT IS DEMONSTRATED THAT SUCH EQUIPMENT WILL NOT COMPROMISE GROUT STRENGTH.
- RETAINING WALL STABILITY:** DURING BACKFILL OPERATIONS, PROPERLY BRACE RETAINING WALLS. RESTRICT HEAVY EQUIPMENT OPERATIONS WITHIN 10 FEET OF THE RETAINING WALL.

5 CMU WALL NOTES SCALE NTS

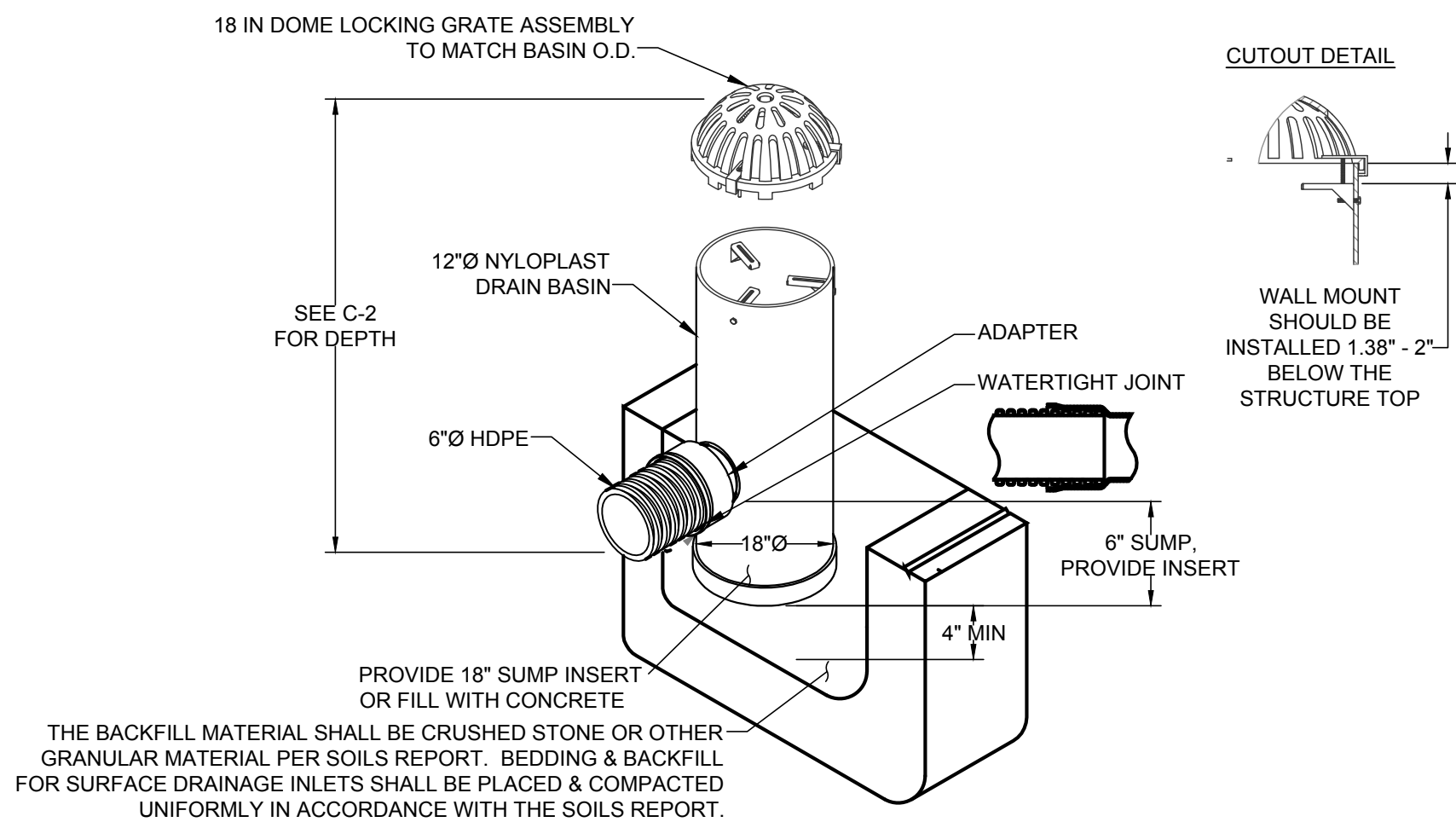


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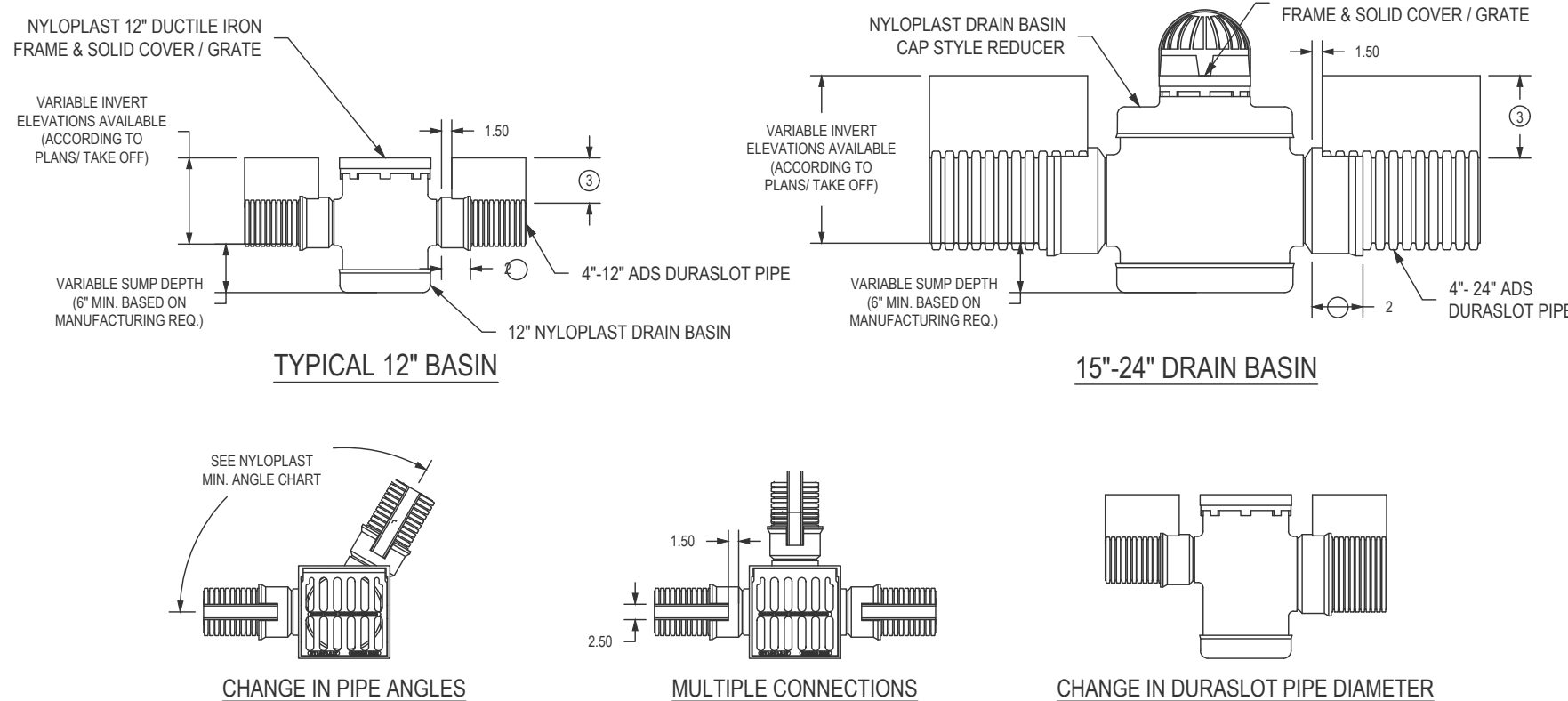
3 DRIVEWAY RETAINING WALL UP TO 8'-0" SCALE NTS

NYLOPLAST DRAIN BASIN WITH DOME GRATE



6 12"Ø CATCH BASIN SCALE NTS

NYLOPLAST DRAIN BASIN STANDARD DETAIL FOR 4" - 24" DURASLOT PIPE



NYLOPLAST 12" CASTINGS			
GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
STANDARD	METLS 4-20	1299105	7001-110-201
SOLID COVER	METLS 4-20	1299106	7001-110-204

- NYLOPLAST 12" FRAMES & SOLID COVERS/GRATES SHALL CONFORM TO ASTM A 536 GRADE 70-50-05 FOR DUCTILE IRON.
- ADAPTERS FOR DURASLOT CONNECTION RANGE BETWEEN 4"-24". SEE DRAWINGS NO. 7001-110-275 FOR ADS N-12 BELL INFORMATION.
- SLOT HEIGHT VARIES DEPENDING ON DESIGN CRITERIA. SLOT HEIGHT CAN RANGE FROM 2.5" TO 36". 15" - 24" BASINS WILL REQUIRE SLOTS TALLER THAN STANDARD 2.5" - 6" SLOTS.
- ENCASE ADAPTER IN CONCRETE TO SEAL CONNECTION BETWEEN ADS DURASLOT PIPE AND NYLOPLAST TEE BODY.
- RECTANGULAR SLOTS ARE TO BE CUT INTO BELL ON NYLOPLAST TEE DURING THE MANUFACTURING PROCESS TO ALLOW PIPE AND TEE TO FIT PROPERLY.
- 18" AND 24" REDUCERS ARE A CUSTOM PART. 15" X 12" CONE STYLE REDUCER IS TYPICAL BUT REQUIRES TOP TO BE TRIMMED. BASINS WITH REDUCERS WILL REQUIRE CUSTOM SLOT HEIGHTS.
- DIMENSIONS ARE FOR REFERENCE ONLY. ACTUAL DIMENSIONS MAY VARY. DIMENSIONS ARE IN INCHES.

USES FOR DURASLOT BASINS		15" - 24" BASIN REDUCER OPTIONS	
10" x 12" CONE STYLE REDUCER	18" x 12" PULLED REDUCER	24" x 12" PULLED REDUCER	
6.40	9.30	9.54	6.21
1.50	1.50	1.50	1.50
2.50	2.50	2.50	2.50
4.00	4.00	4.00	4.00
6.00	6.00	6.00	6.00
8.00	8.00	8.00	8.00
10.00	10.00	10.00	10.00
12.00	12.00	12.00	12.00
14.00	14.00	14.00	14.00
16.00	16.00	16.00	16.00
18.00	18.00	18.00	18.00
20.00	20.00	20.00	20.00
22.00	22.00	22.00	22.00
24.00	24.00	24.00	24.00
26.00	26.00	26.00	26.00
28.00	28.00	28.00	28.00
30.00	30.00	30.00	30.00
32.00	32.00	32.00	32.00
34.00	34.00	34.00	34.00
36.00	36.00	36.00	36.00

NYLOPLAST 12" CASTINGS		15" - 24" BASIN REDUCER OPTIONS	
10" x 12" CONE STYLE REDUCER	18" x 12" PULLED REDUCER	24" x 12" PULLED REDUCER	
6.40	9.30	9.54	6.21
1.50	1.50	1.50	1.50
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6.00	6.00	6.00	6.00
8.00	8.00	8.00	8.00
10.00	10.00	10.00	10.00
12.00	12.00	12.00	12.00
14.00	14.00	14.00	14.00
16.00	16.00	16.00	16.00
18.00	18.00	18.00	18.00
20.00	20.00	20.00	20.00
22.00	22.00	22.00	22.00
24.00	24.00	24.00	24.00
26.00	26.00	26.00	26.00
28.00	28.00	28.00	28.00
30.00	30.00	30.00	30.00
32.00	32.00	32.00	32.00
34.00	34.00	34.00	34.00
36.00	36.00	36.00	36.00

8 CATCH BASIN CONNECTIONS SCALE NTS



REVISED DATES:

12/29/2025 T.O.F.

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PROJECT:
LOT 21 FIREROCK PARCEL J2
9619 NORTH FOUR PEAKS WAY
FOUNTAIN HILLS, ARIZONA 85268

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SEE DETAIL

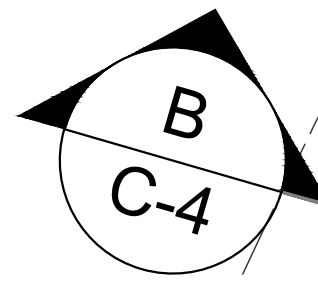
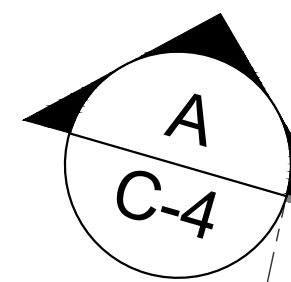
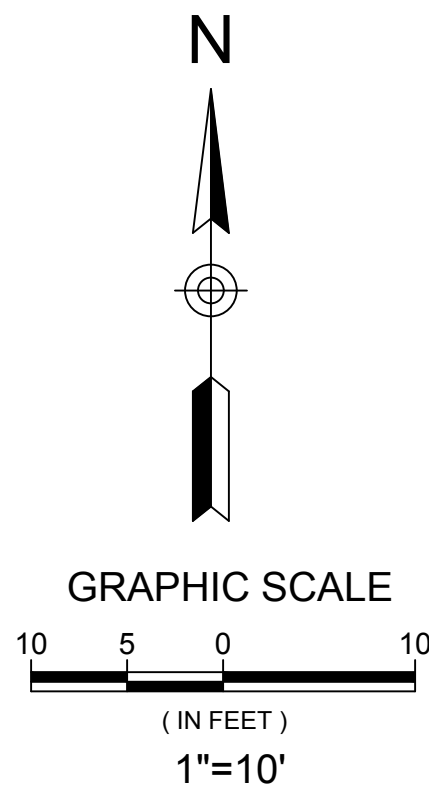
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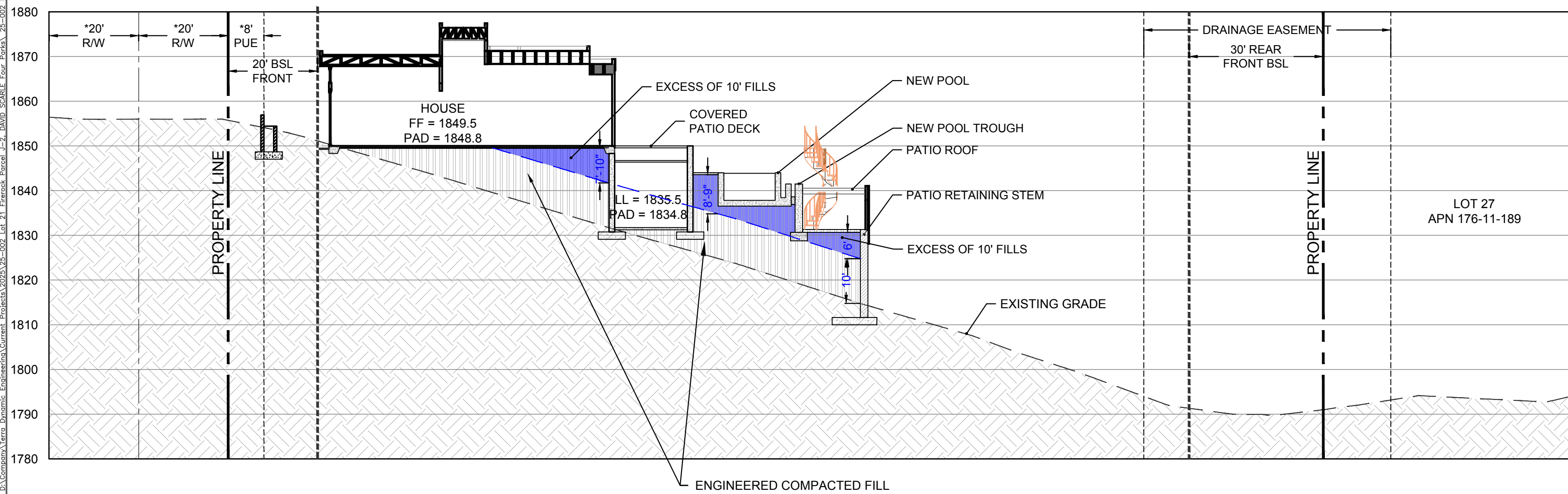
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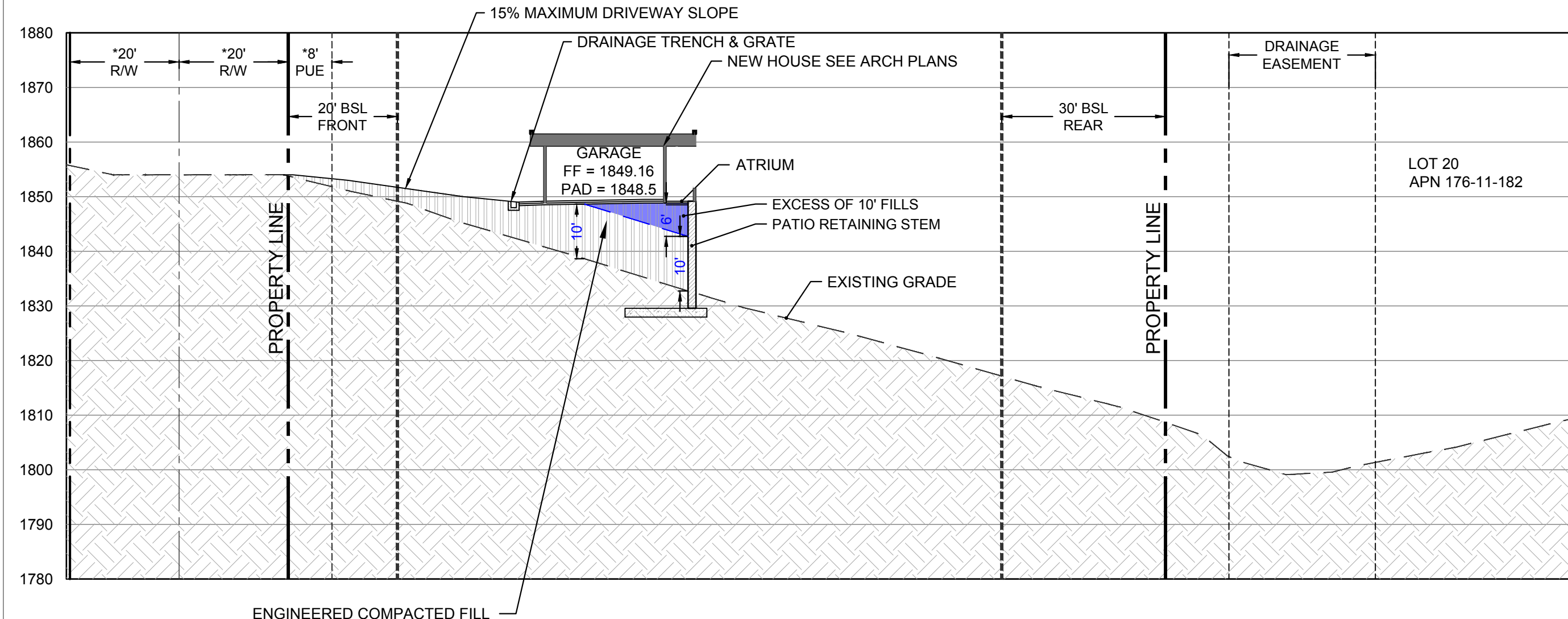
FOUR PEAKS WAY

NEW HOUSE SEE ARCH PLANS



A SECTION A-A'

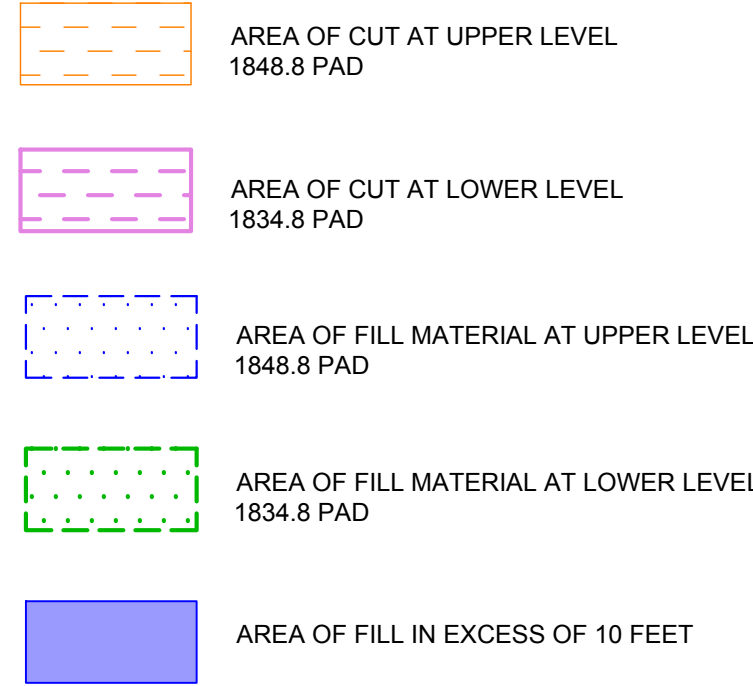
SCALE
1"=20'



B SECTION B-B'

SCALE
1"=20'

CUT/FILL ANALYSIS



4
SUBMITTAL DATE AUGUST 21, 2025
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SCALE: SEE DETAIL
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C-6

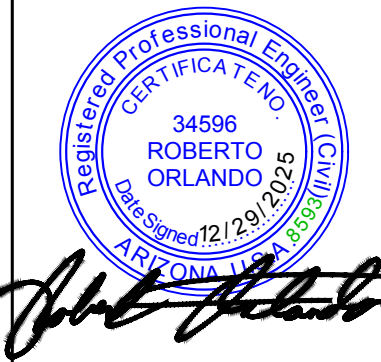
6/6

CUT FILL ANALYSIS

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LOT 21 FIREROCK PARCEL J2
9619 NORTH FOUR PEAKS WAY
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