

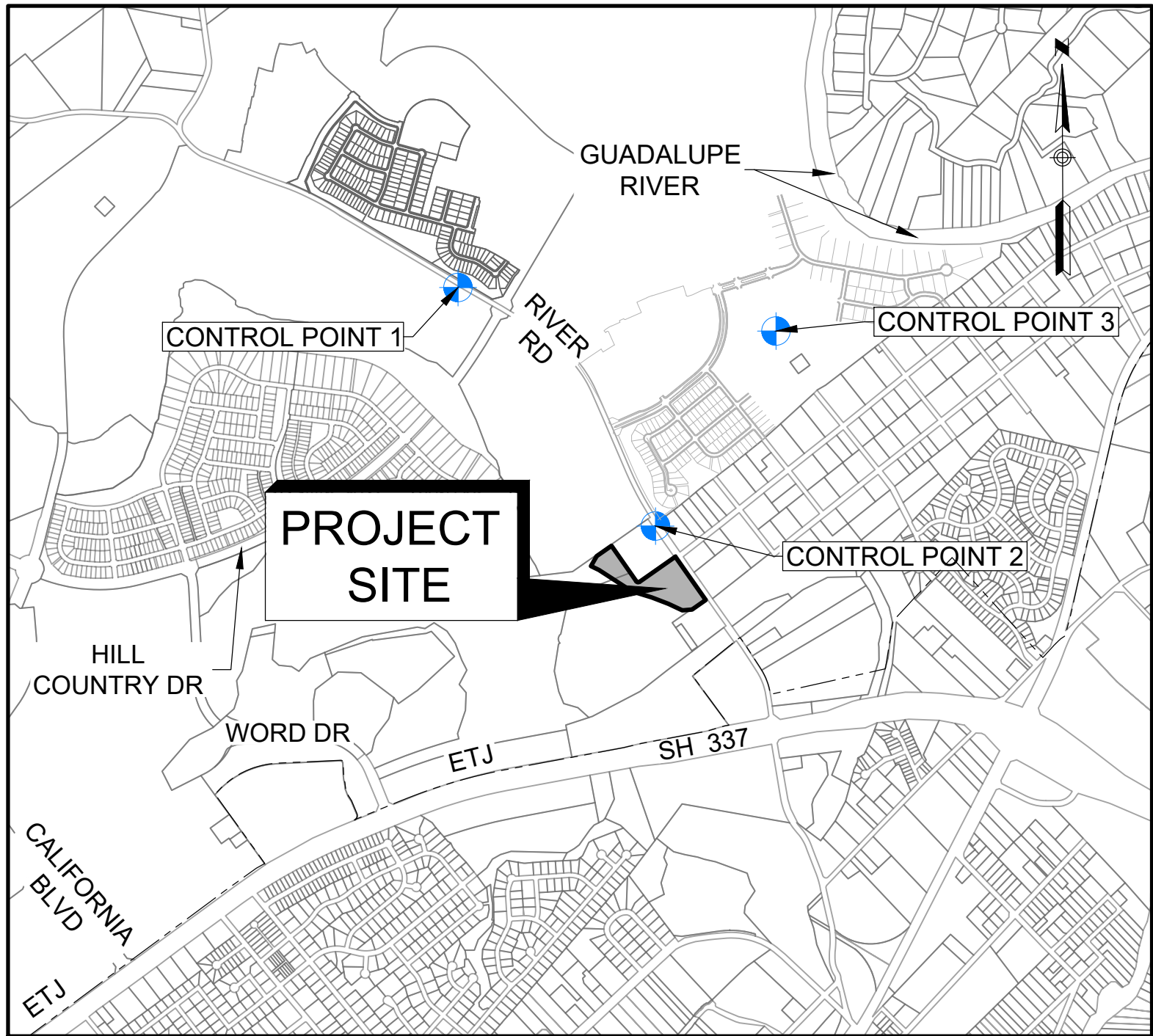
VERAMENDI SUBSTATION

CONSTRUCTION DOCUMENT SET

NEW BRAUNFELS, TEXAS 78132

COMAL COUNTY

TCEQ WPAP #: 13002043
CONB #: PI2025-0030



LOCATION MAP
1" = 1500'

SUBMITTAL DATE: JULY 2025

PROPERTY DESCRIPTION

BEING A 7.626 ACRE (332,192 SQUARE FEET) TRACT OF LAND, LOCATED IN THE J.M. VERAMENDI SURVEY, ABSTRACT NO. 3, SITUATED IN COMAL COUNTY, TEXAS, BEING OUT OF A REMAINDER OF A CALLED 129.969 ACRE TRACT OF LAND CONVEYED TO VERAMENDI PE-DARWIN, LLC, RECORDED IN DOCUMENT NO. 202008025702, IN THE OFFICIAL PUBLIC RECORDS REAL PROPERTY OF COMAL COUNTY, TEXAS (O.P.R.P.C.C.T.), ALSO BEING OUT OF A CALLED 57.95 ACRE TRACT OF LAND CONVEYED TO VERAMENDI PE - DARWIN, LLC, RECORDED IN DOCUMENT NO. 201706024109, O.P.R.P.C.C.T.T.

DEVELOPER: VERAMENDI PE - DARWIN, LLC
2168 OAK RUN PARKWAY, SUITE 101
NEW BRAUNFELS, TEXAS 78132
CONTACT PERSON: GARRETT MECHLER, Co-CEO
TELEPHONE: (830) 643-5633

ENGINEER: LJA ENGINEERING, INC.
9830 COLONNADE BLVD, SUITE 300
SAN ANTONIO, TEXAS 78230
CONTACT PERSON: PRISCILLA FLORES, P.E.
PHONE # (210) 503-2700
LJA.COM

SURVEYOR: LJA SURVEYING
9830 COLONNADE BOULEVARD, SUITE 300
SAN ANTONIO, TEXAS 78230
CONTACT PERSON: GORDON ANDERSON
PHONE # (210) 503-2700

CONTOUR DATA: FIELD SURVEY BY LJA SURVEYING

NOTES:

- PROJECT IS A TYPE 3 DEVELOPMENT.
- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
- IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
- THIS PROJECT IS WITHIN THE EDWARDS AQUIFER JURISDICTIONAL ZONES.
- NO PORTION OF THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO.48091C0435G EFFECTIVE DATE 05/08/2024.
- GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
- FOLLOWING PERMITS ARE REQUIRED PRIOR TO START OF CONSTRUCTION:
 - CITY OF NEW BRAUNFELS PUBLIC INFRASTRUCTURE PERMIT

BENCHMARK INFORMATION:

CONTROL POINT 1: SET $\frac{5}{8}$ " IRON ROD W/ ALUMINUM CAP STAMPED "LJA SURVEYING"
NORTHING: 13820380.9523
EASTING: 2243003.3305
ELEVATION: 738.93'

CONTROL POINT 2: SET $\frac{5}{8}$ " IRON ROD W/ ALUMINUM CAP STAMPED "LJA SURVEYING"
NORTHING: 13817841.2523
EASTING: 2245105.1175
ELEVATION: 708.04'

CONTROL POINT 3: SET $\frac{5}{8}$ " IRON ROD W/ ALUMINUM CAP STAMPED "LJA SURVEYING"
NORTHING: 13819917.9313
EASTING: 2246387.8215
ELEVATION: 736.64'

ALL COORDINATES SHOWN HEREON ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT EPOCH 2010.00) COORDINATES ARE IN SURFACE VALUES, AND MAY BE CONVERTED TO GRID BY MULTIPLYING THE SURFACE ADJUSTMENT FACTOR OF 0.999860020.

ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), GEOID 18.

SURVEY OBSERVATIONS WERE MADE ON THE GROUND USING A COMBINATION OF RTK AND STATIC NETWORKS.

THIS INFORMATION PROVIDED BY LJA SURVEYING.

REVISIONS			
NO.	DESCRIPTION	BY	DATE

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.



SHEET LIST TABLE

Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL NOTES
3	EXISTING DRAINAGE AREA MAP
4	PROPOSED & ULTIMATE DRAINAGE AREA MAP
5	OVERALL GRADING PLAN
6	WATER QUALITY POND 'A'
7	BASIN DETAILS
8	STORMWATER POLLUTION PROTECTION PLAN
9	STORMWATER POLLUTION PREVENTION PLAN DETAILS



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Suite 300
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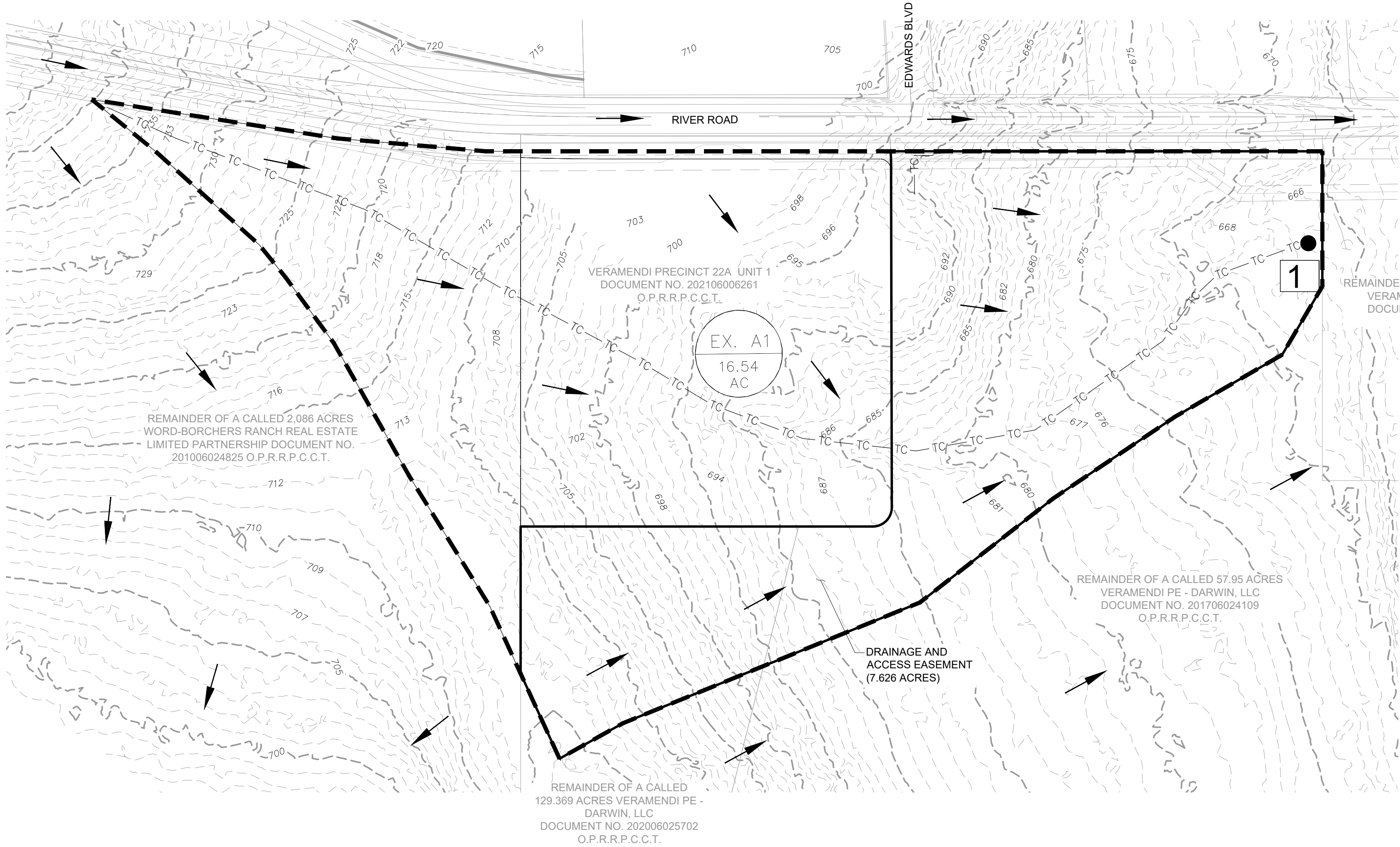
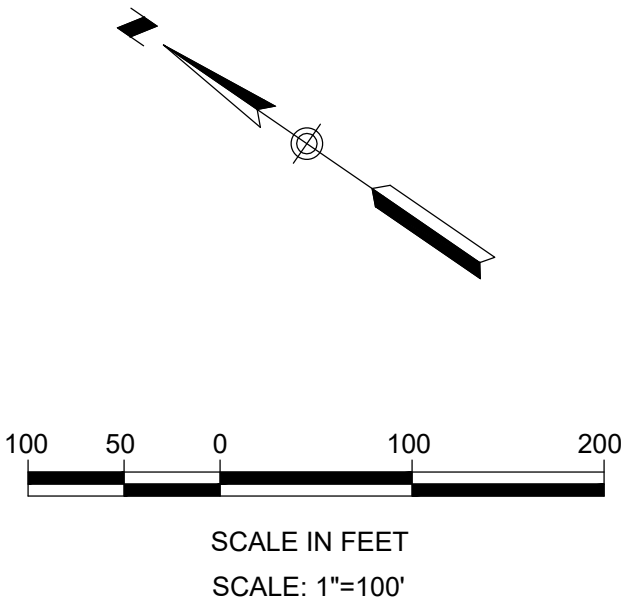
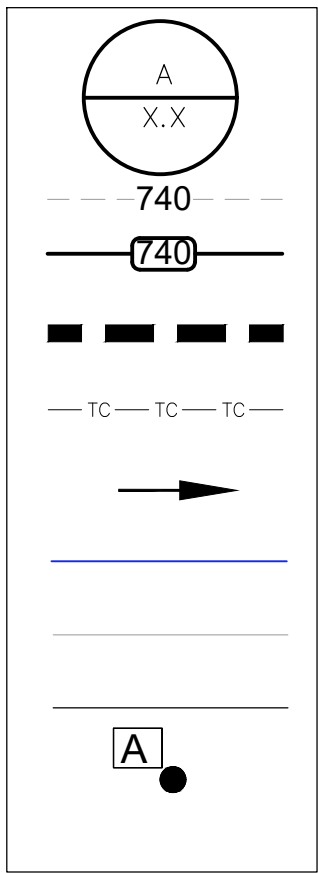
Phone 210.503.2700
LJA.COM
FRN-F-1386

K:\A3856 ASA Properties\0404 Substation WPA\4258 Site Development Plans\DWG-Sheets\Construction Plans\sh_Existing Drainage Area Map.dwg
Last Modified: Jul 29, 2022 11:08:39
Plot Date/Time: Jul 29, 2022 11:01:44

VERAMENDI PE-DARWIN, LLC Atlas14 Existing Time of Concentration Table PA_NB																
Study Point	Drainage Area	Sheet Flow (max length = 150')					Shallow Concentrated Flow					Channel Flow			Total	Total
		n	L _f (ft)	P ₂ (in)	S ₂ %	T _f (min)	Paved/Unpaved	L _{sc} (ft)	S _{sc} %	k	T _{sc} (min)	L _f (ft)	V(ft/sec)	T _{ch} (min)	T _c (min)	Lag(min)
1	EX. A1	0.024	100	4.08	6.0	5.0	Unpaved	760	5.0	16.13	3.5	906	6	2.5	11.0	6.6
		Eq 5.4.1 $T_f = \frac{0.007(nL_f)^{0.8}}{(P_2)^{0.5} S_2^{0.04}}$					Eq 5.4.2 $T_{sc} = \frac{L_{sc}}{3600K S_{sc}^{0.5}}$					Eq 5.4.3 $T_{ch} = \frac{L_{ch}}{3600 \cdot V}$			Eq 5.4 $T_c = T_{sc} + T_{ch}$	

VERAMENDI PE-DARWIN, LLC Atlas14 Existing Q Flow Table PA_NB																	
Study Point	Drainage Area		Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Intensity					Flow				
	Area(s)	A (ac.)	C ₂	C ₁₀	C ₂₅	C ₅₀	C ₁₀₀	I ₂ (in/hr)	I ₁₀ (in/hr)	I ₂₅ (in/hr)	I ₅₀ (in/hr)	I ₁₀₀ (in/hr)	Q ₂ (ft ³ /s)	Q ₁₀ (ft ³ /s)	Q ₂₅ (ft ³ /s)	Q ₅₀ (ft ³ /s)	Q ₁₀₀ (ft ³ /s)
1	EX. A1	16.54	0.29	0.35	0.39	0.42	0.46	4.87	7.23	8.78	9.99	11.26	23.4	41.9	56.6	69.4	85.7
Eq 5.3.1																	
Q=CIA																	

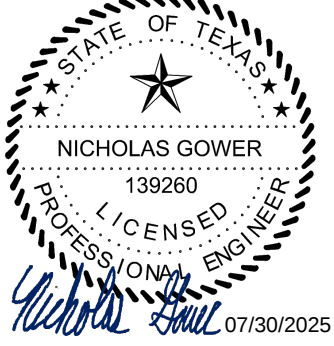
LEGEND



VERAMENDI PE-DARWIN, LLC

EXISTING DRAINAGE AREA MAP

REVISIONS					
NO.	DESCRIPTION	BY	DATE		
DATE:	7/29/2025				
DESIGNED BY:	NG				
DRAWN BY:	NG				
CHECKED BY:	NG				
DRAWING NAME					
SH_Existing Drainage Area Map.dwg					



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TBP# No. F-1306

JOB NUMBER:
SA3856.0404

SHEET NO.

3

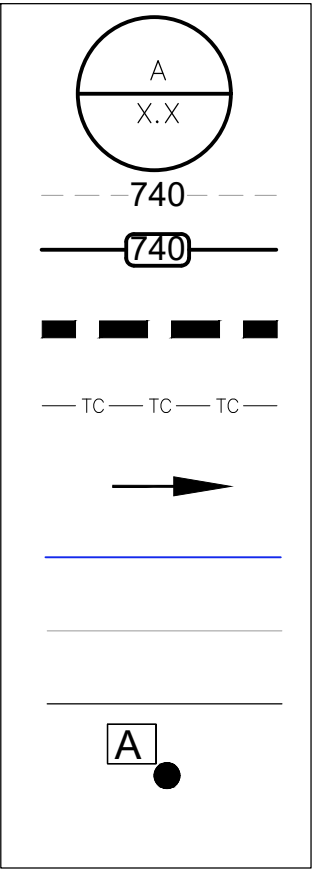
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Last Modified: Jul 29, 2021 13:44
Print Date/Time: Jul 29, 2021 13:51:51

VERAMENDI PE-DARWIN, LLC Atlas14 Ultimate Time of Concentration Table PA_NB																	
Study Point	Drainage Area	Sheet Flow (max length = 150')					Shallow Concentrated Flow					Channel Flow			Total	Total	
		n	L(ft)	P ₂ (in)	S _f %	T _f (min)	Paved/Unpaved	L _{sc} (ft)	S _{sc} %	k	T _{sc} (min)	L(ft)	V(ft/sec)	T _{ch} (min)	T _c (min)	Lag(min)	
1	A1	0.24	100	4.08	6.0	8.1	Unpaved	497	5.2	16.13	2.3	0	6	0.0	12.6	7.6	
2	A2						Paved	584	4.8	20.32	2.2						
2	A1+A2	CARRY OVER FROM A1										12.6	262	6	0.7	13.3	8.0
3	A3	0.016	75	4.08	1.0	5.0	Unpaved	508	4.8	16.13	2.4	0	6	0.0	10.0	6.0	
3	A1-A3	CARRY OVER FROM A1										0.0	262	6	0.7	10.0	6.0
		Eq 5.4.1 $T_f = \frac{0.007(nL_f)^{0.8}}{(P_2)^{0.5} S_f^{0.5}}$					Eq 5.4.2 $T_{sc} = \frac{L_{sc}}{3600 K S_{sc}^{0.5}}$					Eq 5.4.3 $T_{ch} = \frac{L_{ch}}{3600 \cdot V}$			Eq 5.4 $T_c = T_{sc} + T_{ch}$		

VERAMENDI PE-DARWIN, LLC Atlas14 Ultimate Q Flow Table PA_NB																	
Study Point	Drainage Area		Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Intensity					Flow				
	Area(s)	A (ac.)	C ₂	C ₁₀	C ₂₅	C ₅₀	C ₁₀₀	I ₂ (in/hr)	I ₁₀ (in/hr)	I ₂₅ (in/hr)	I ₅₀ (in/hr)	I ₁₀₀ (in/hr)	Q ₂ (ft³/s)	Q ₁₀ (ft³/s)	Q ₂₅ (ft³/s)	Q ₅₀ (ft³/s)	Q ₁₀₀ (ft³/s)
1	A1	11.98	0.53	0.60	0.65	0.69	0.73	4.60	6.82	8.26	9.39	10.58	29.5	49.4	64.3	77.1	92.7
2	A2	2.13	0.43	0.49	0.54	0.57	0.61										
2	A1+A2	14.11	0.52	0.59	0.63	0.67	0.71	4.50	6.65	8.04	9.15	10.30	32.9	55.1	71.8	86.2	103.7
3	A3	2.39	0.44	0.50	0.55	0.58	0.62										
3	A1-A3	16.50	0.51	0.58	0.62	0.66	0.70	5.05	7.50	9.12	10.38	11.70	42.2	71.3	93.4	112.2	135.2
Eq 5.3.1		Q=CIA															

NOTE:
THIS PLAN SET IS ONLY FOR A WATER QUALITY BASIN FOR A FUTURE DEVELOPMENT.
NO IMPERVIOUS COVER IS BEING PROPOSED WITH THIS PLAN SET. PROPOSED DRAINAGE FLOWS WILL MATCH EXISTING FLOWS.

LEGEND



AREA
(BASIN)
ACREAGE

EXISTING CONTOUR

PROPOSED CONTOUR

DRAINAGE AREA LIMITS

TIME OF CONCENTRATION PATH

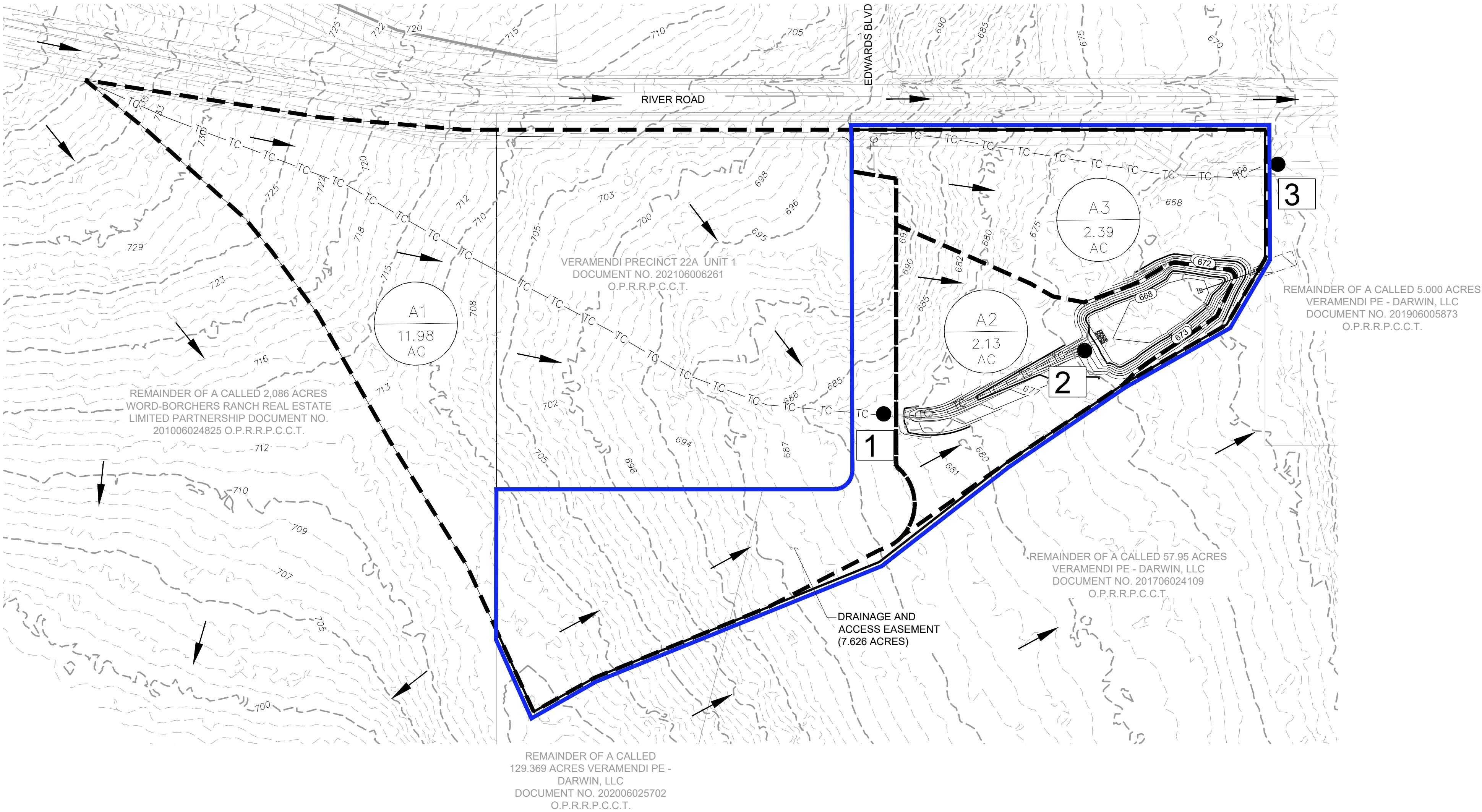
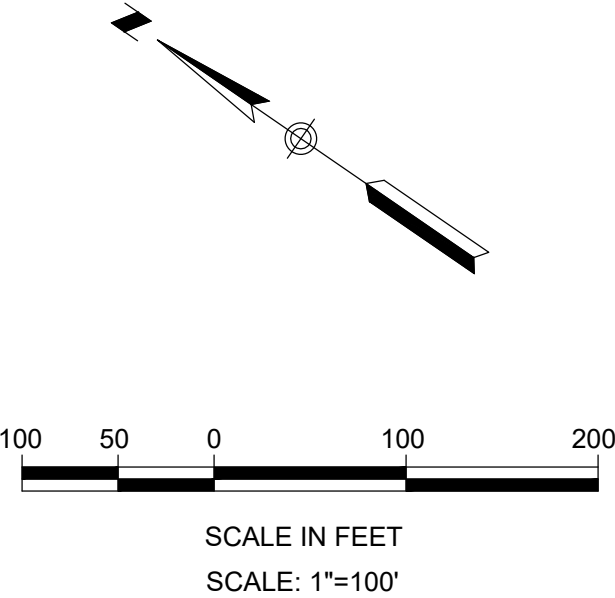
FLOW ARROWS

PROPOSED BOUNDARY

EXISTING LOT LINES

PROPOSED LOT LINES

REFERENCE POINT



VERAMENDI PE-DARWIN, LLC

ULTIMATE DRAINAGE AREA MAP

REVISIONS		NO.	DESCRIPTION	BY	DATE
DATE:	7/29/2025				
DESIGNED BY:	NG				
DRAWN BY:	NG				
CHECKED BY:	NG				
DRAWING NAME: Proposed Drainage Area Map.dwg					
					

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TBP# No. F-1306

JOB NUMBER:
SA3856.0404

SHEET NO.

4

GENERAL SPECIFICATIONS FOR SITE PREPARATION

GENERAL DESCRIPTION

THE ITEM SHALL CONSIST OF ALL CLEARING AND PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

SCARIFYING THE AREA TO BE FILLED

ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND SURFACE SHALL THEN BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"). ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING.

COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO THE ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT THD-TEX-113-E COMPACTION PROCEDURE.

FILL MATERIALS

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH.

DEPTH AND MIXING OF FILL LAYERS

THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THE STIPULATED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTION EQUIPMENT OF THE DEMONSTRATED CAPABILITY. THE MAXIMUM LOOSE DEPTH FOR ANY MATERIAL SHALL NOT EXCEED TWELVE INCHES (12").

ROCK

WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED. NO LARGE ROCKS WILL BE PERMITTED WITHIN EIGHTEEN INCHES (18") OF THE FINISHED GRADE.

COMPACTION OF FILL LAYER

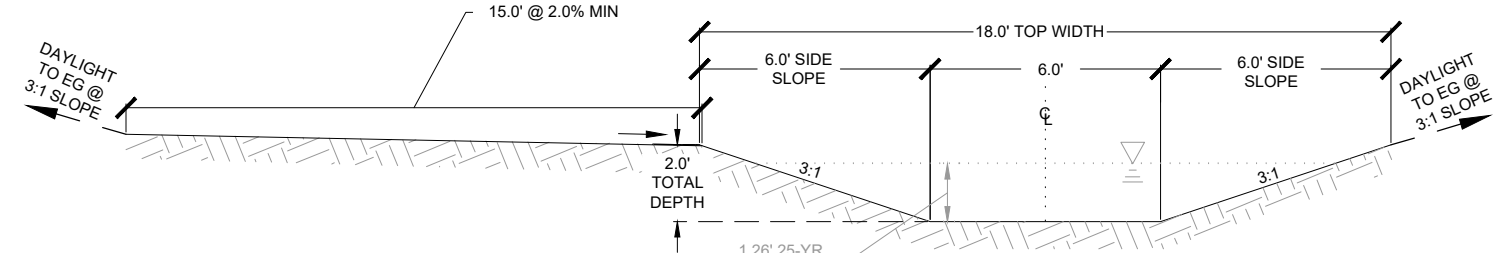
COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

DENSITY TEST

FIELD DENSITY TESTS SHALL BE PERFORMED ON LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE EIGHTEEN INCHES (18"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THE TESTING LAB PERFORMS ALL TEST REQUIRED BY FHA SPECIFICATION.

LOT GRADING

ALL LOT GRADING SHALL BE IN ACCORDANCE WITH H.U.D. - F.H.A. DATA SHEET 79G.

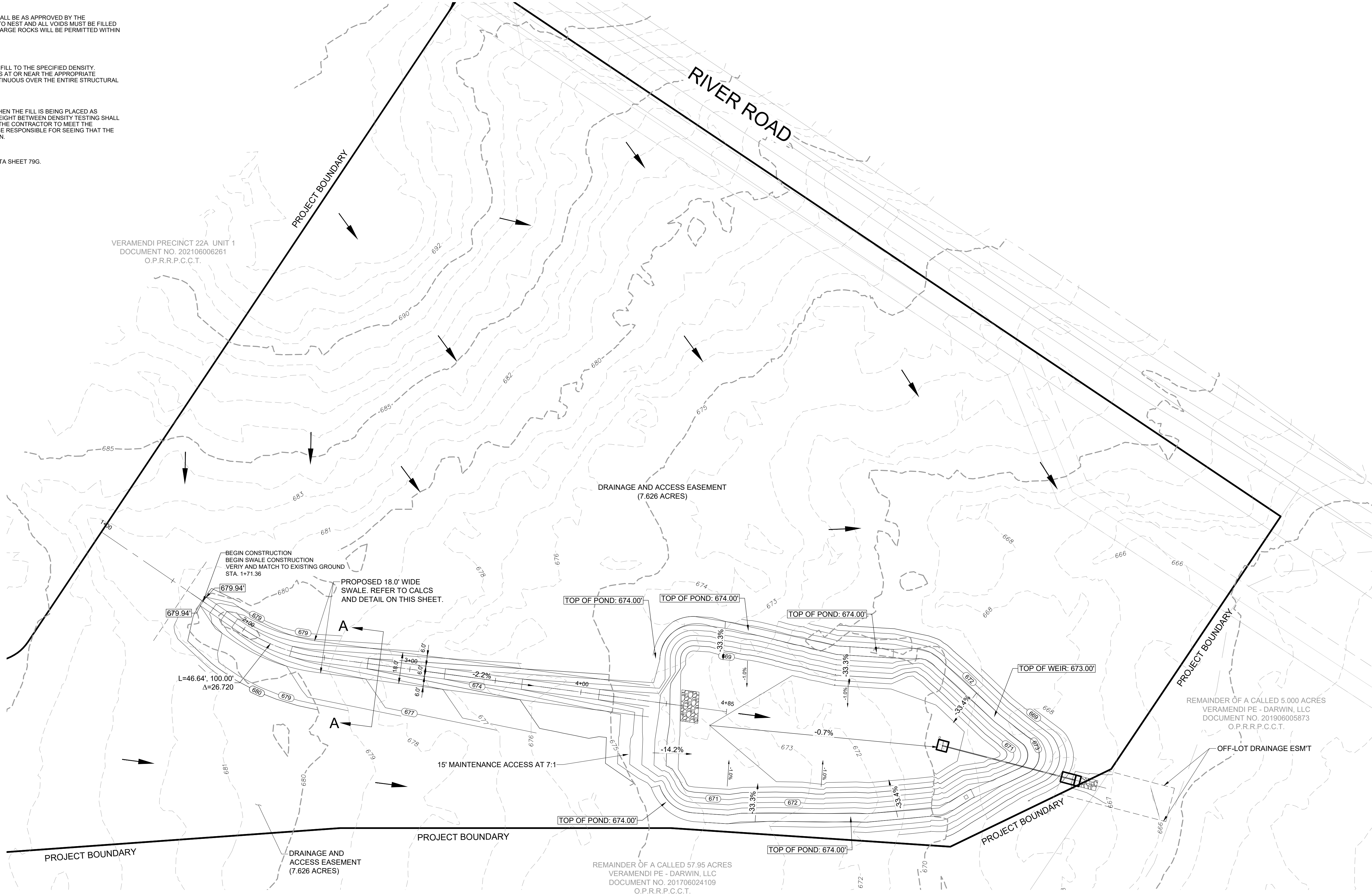
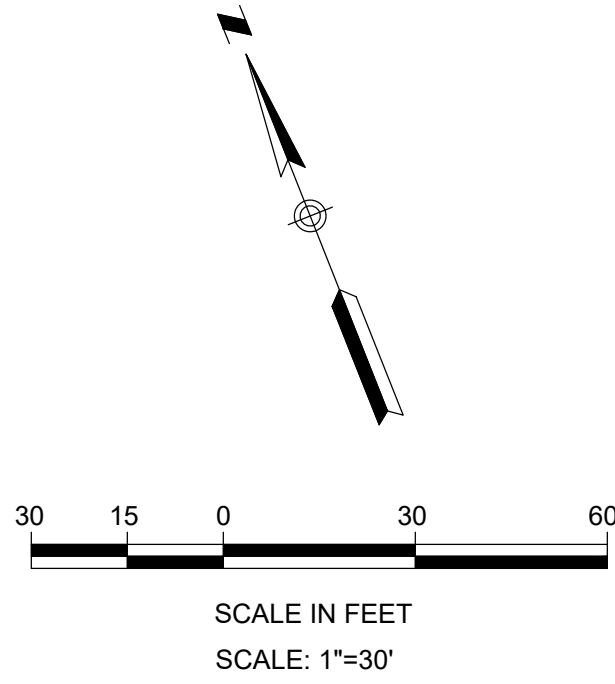


Name	Q100	Q25
BEGIN STA	1+71.36	1+71.36
END STA	4+00.00	4+00.00
Q100 (cfs)	103.70	71.80
h (ft)	2.00'	2.00'
b _w (ft)	6.00'	6.00'
z ('):1 left	3	3
z ('):1 right	3	3
t _w (ft)	18	18
n	0.035	0.035
Slope (%)	2.22%	2.22%
d _s (ft)	1.52'	1.26'
V (fps)	6.46	5.83

NOTE:
Q VALUES ARE BASED ON ULTIMATE CONDITIONS.

LEGEND	
PROPOSED	EXISTING
	TMH
	EX.
	G,E,T,CA
	ESM'T.
	VOL
	PG

CONTOUR
FLOW ARROW
GRASSED DRAIN FLOW
GROUND ELEVATION
MATCH EXISTING GROUND
TOP OF MANHOLE
EXISTING
GAS, ELEC, TELE & CABLE TV ESM'T.
EASEMENT
VOLUME
PAGE



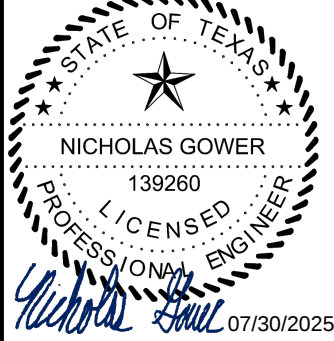
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User: Mofidine Jul 29 2:52 - 13:47
Plot User: Mofidine Jul 29 2:52 - 14:03:14

VERAMENDI PE-DARWIN, LLC

OVERALL GRADING PLAN

REVISIONS		NO.	DESCRIPTION	BY	DATE

DATE:	7/29/2025
DESIGNED BY:	NG
DRAWN BY:	NG
CHECKED BY:	NG
DRAWING NAME:	SA Overall Grading Plan.dwg

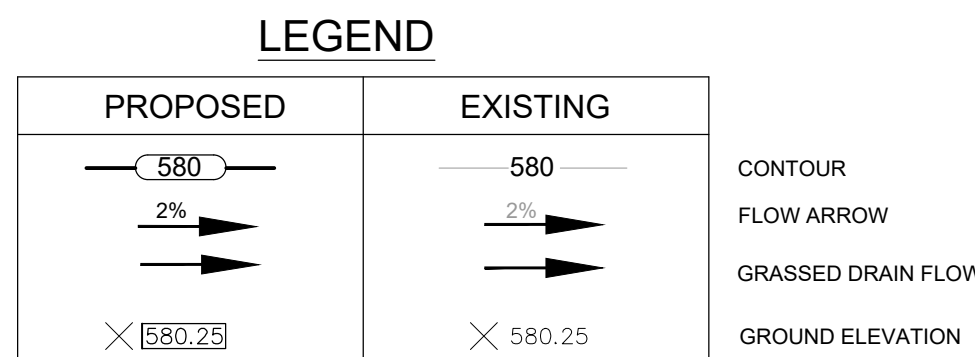
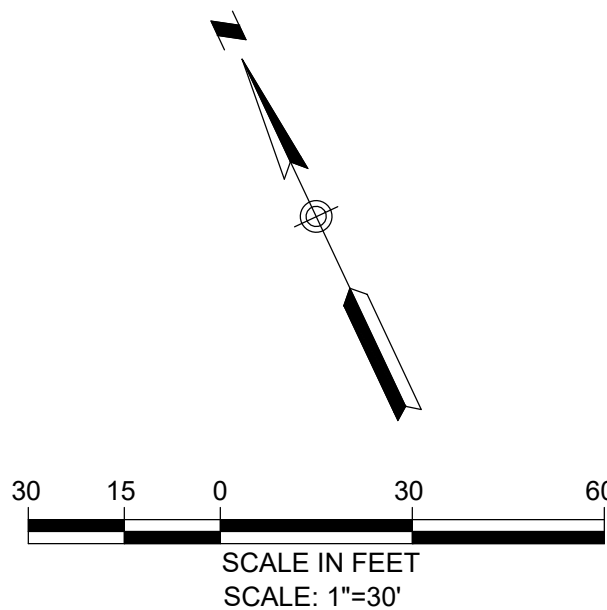


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TBPE No. F-1306

JOB NUMBER:
SA3856.0404

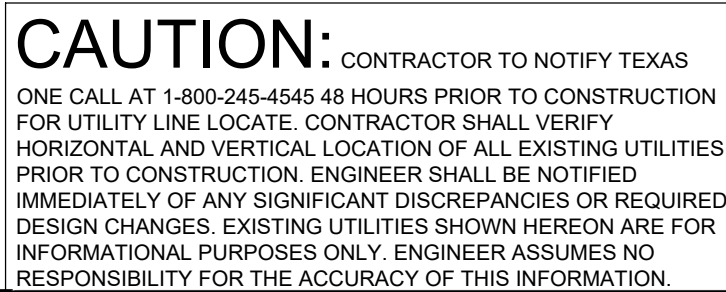
SHEET NO.
5

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF UTILITIES VERTICALLY PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATION FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
2. ALL CONCRETE FOR TxDOT DRAINAGE STRUCTURES SHALL MEET TxDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" CONCRETE AND MEET THE REQUIREMENTS OF THE COMPREHENSIVE SPECIFICATIONS.
3. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
4. CONCRETE SHALL BE CAST ABOUT ALL CURB INLETS AND JUNCTION BOXES PROVIDE FOR POSITIVE DRAINAGE.
5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF NEW ORLEANS WILL ALLOW THE CHANNEL TO BE OPENED.
6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH "D" AS SHOWN IN THE PROFILE.
7. ALL RCP SHALL BE ASHITO M70 CLASS III RCP.
8. ALL SLOPE SHALL BE PERFORMED AT THE CITY OF NEW ORLEANS SITES OF CONSTRUCTION.
9. CONTRACTOR TO PROOF ROLL BOTTOM AND SIDES OF POND TO ENSURE FIRM BOTTOM. IF BOTTOM APPEARS FRACTURED CONTRACTOR TO NOTIFY ENGINEER PRIOR TO PLACEMENT OF SAND BED ON TOPSOIL.
10. THE CONTRACTOR WILL BE RESPONSIBLE FOR MEETING TESTING REQUIREMENTS TO SATISFY CITY OF NEW BRUNSWICK INSPECTIONS. THIS SHALL INCLUDE BUT NOT LIMITED TO PROVIDING NECESSARY WATER AS REQUESTED BY INSPECTOR.
11. THE CONTRACTOR WILL BE RESPONSIBLE FOR POSITIVE DRAINAGE IN BASIN AREA. ALL UNPAVED AREAS SHALL BE GRADED TO A MINIMUM 2% HYDROLOGIC SLOPE IMMEDIATELY AFTER ESTABLISHING FINAL GRADES UNLESS OTHERWISE NOTED.
12. UPON COMPLETION OF THE PROPOSED STORMWATER DETENTION, AND PRIOR TO THE RELEASE OF THE CERTIFICATE OF ACCEPTANCE OR OCCUPANCY BY THE PERMITTING AGENCY, THE DESIGN ENGINEER SHALL REVIEW THE PROJECT AND THE PROPOSED STRUCTURAL CONTROL(S) WAS INSPECTED (INCLUDING DATE AND TIME OF THE INSPECTION) AND CONSTRUCTION IN CONFORMANCE WITH THE APPROVED PLANS.
13. ALL CONCRETE LINING SHALL BE A MINIMUM OF SIX (6) INCHES THICK AND REINFORCED WITH NO. 4 BARS @ 18" ON CENTER. THE TOPS OF THE EARTH EMBANK OR WELDED WIRE FABRIC OF 6" x 6'-WIDE x W/6". THE DEPTH OF ALL TOWEDSNS SHALL BE 36 INCHES UPSTREAM, 24 INCHES DOWNSTREAM, AND 18 INCHES FOR SIDE SLOPES.
14. CONTRACTOR TO FILL AND COMPACT TO 95% DENSITY IN FILL SECTIONS OVER STORM SEWER LINES. 2.0(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION.
15. ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF NEW BRUNSWICK SPECIFICATIONS.
16. ALL BENDS AND FITTINGS SHALL BE PREFABRICATED BY MANUFACTURER. NO FIELD FABRICATION OF FITTINGS IS ALLOWED.



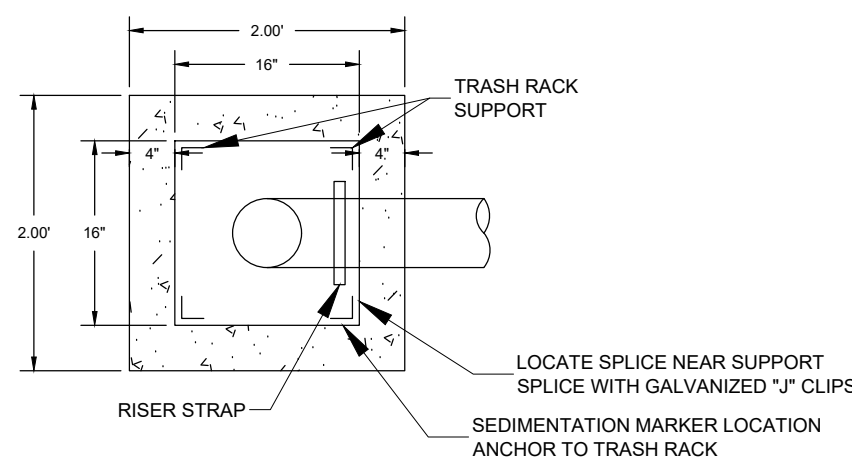
$Q_{CAP} = C \cdot L \cdot H^{3/2}$
 $L = 60'$
 $H = 1.0'$
 $C = 2.6$
 $Q_{CAP} = 2.6 \cdot 60 \cdot 1.0^{3/2}$
 $Q_{CAP} = 156.0 \text{ CFS}$
 $Q_{100} = 103.7 \text{ CFS}$
 $156.0 \text{ CFS} > 103.7 \text{ CFS} = \text{OK}$

Property	Test Method	Unit	Specification
Permeability	ASTM D-2434	cm/sec	1×10^{-6}
Plasticity Index of Clay	ASTM D-423 & D-424	%	Not less than 15
Liquid Limit of Clay	ASTM D-2216	%	Not less than 30
Clay Particles Passing	ASTM D-422	%	Not less than 30
Clay Compaction	ASTM D-2216	%	95% of Standard Proctor Density



LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR



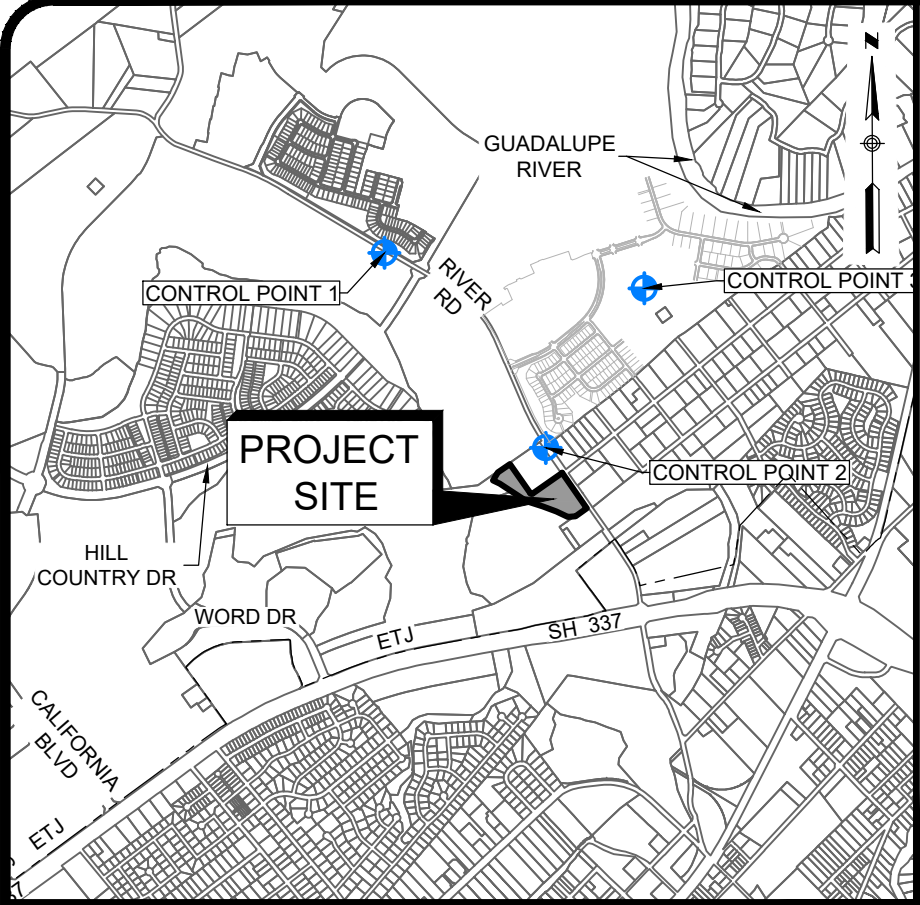


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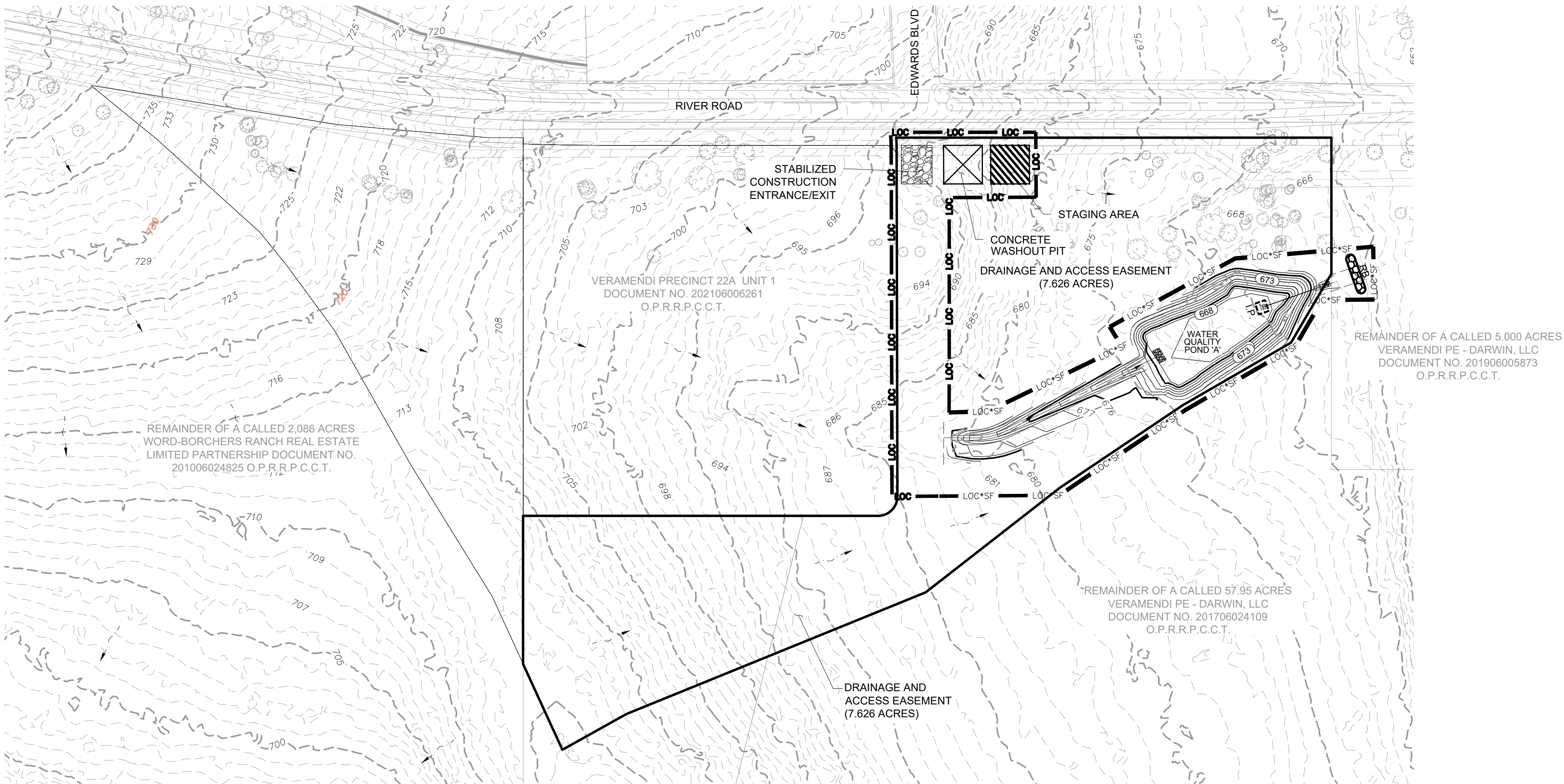


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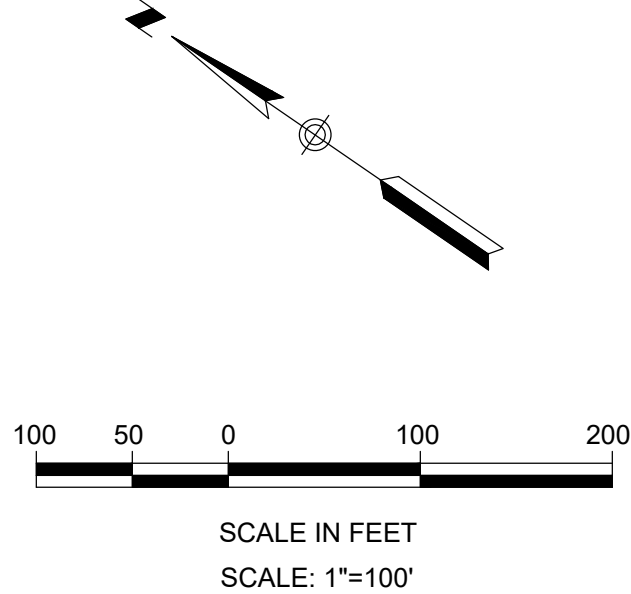
LOCATION MAP
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LEGEND

- GRASSED DRAIN FLOW
- PAVEMENT DRAIN FLOW
- EXISTING CONTOUR
- PROPOSED CONTOUR
- STAGING AREA
- CONCRETE WASHOUT PIT
- STABILIZED CONSTRUCTION EXIT
- TEMPORARY BARRICADE
- SILT FENCE
- LIMITS OF CONSTRUCTION
- ROCK BERM
- INLET PROTECTION
SEE DETAIL SHEET 9



GENERAL NOTES:

- DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
- CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
- STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
- RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
- ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
- FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.
- STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
- AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENTS AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
- BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.
- BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
- UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
- WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS. OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.
- SHADED AREA DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWPP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES. HOUSE CONSTRUCTION ACTIVITIES WILL REQUIRE A SEPARATE STORM WATER POLLUTION PREVENTION PLAN.
- PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT RIGHT-OF-WAY WITH TXDOT.
- NBU WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.
- PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
- ACCESS TO VERAMENDI PRECINCT 19 UNIT 1 WILL BE PROVIDED FROM VERAMENDI WORD PKWAY.

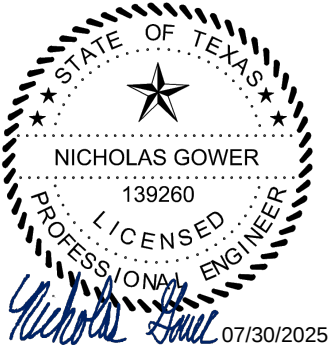
SWPPP MODIFICATIONS

DATE	SIGNATURE	MODIFICATIONS

VERAMENDI PE-DARWIN, LLC

STORMWATER POLLUTION PROTECTION PLAN

REVISIONS	DATE	BY	DESCRIPTION
NO.			
1	7/29/2025	NG	
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3		NG	
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LJA
Phone 210.503.2700
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TBPE No. F-1306

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230

JOB NUMBER:
SA3856.0404

SHEET NO.

8

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Plot Date: 7/29/2023, 11:58:17

SEDIMENTATION AND EROSION CONTROLS

A. SILT FENCE

- FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT², AND BRINELL HARDNESS EXCEEDING 140.
- WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.
- STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1- FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.
- LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ½ ACRE/100 FEET OF FENCE.
- THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
- THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL. REMOVE/ SEDIMENT WHEN BUILDUP REACHES 6 INCHES. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

B. TRIANGULAR SEDIMENT FILTER DIKE

- THE DIKE STRUCTURE SHALL BE CONSTRUCTED OF 6" X 6", 6 GAUGE WELDED WIRE MESH, 18 INCHES PER SIDE, AND WRAPPED WITH GEOTEXTILE FABRIC THE SAME COMPOSITION AS THAT USED FOR SILT FENCES.
- FILTER FABRIC SHOULD LAP OVER ENDS SIX (6) INCHES TO COVER DIKE TO DIKE JUNCTION; EACH JUNCTION SHOULD BE SECURED BY SHOAT RINGS.
- POSITION DIKE PARALLEL TO THE CONTOURS, WITH THE END OF EACH SECTION CLOSELY ABUTTING THE ADJACENT SECTIONS.
- FASTENING - THE FABRIC SKIRT MAY BE TOED- IN WITH 6 INCHES OF COMPACTED MATERIAL, OR 12 INCHES OF THE FABRIC SKIRT SHOULD EXTEND UPHILL AND BE SECURED WITH A MINIMUM OF 3 INCHES OF OPEN GRADED ROCK, OR WITH STAPLES OR NAILS. IF THESE TWO OPTIONS ARE NOT FEASIBLE THE DIKE STRUCTURE MAY BE TRENCHED IN 4 INCHES.
- TRIANGULAR SEDIMENT FILTER DIKES SHOULD BE INSTALLED ACROSS EXPOSED SLOPES DURING CONSTRUCTION WITH ENDS OF THE DIKE TIED INTO EXISTING GRADES TO PREVENT FAILURE AND SHOULD INTERCEPT NO MORE THAN ONE ACRE OF RUNOFF.
- WHEN MOVED TO ALLOW VEHICULAR ACCESS, THE DIKES SHOULD BE REINSTALLED AS SOON AS POSSIBLE, BUT ALWAYS AT THE END OF THE WORKDAY.
- INSPECTION SHOULD BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR. INSPECT AND REALIGN DIKES AS NEEDED TO PREVENT GAPS BETWEEN SECTIONS.
- ACCUMULATED SILT SHOULD BE REMOVED AFTER EACH RAINFALL, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.

C. TEMPORARY CONSTRUCTION ENTRANCE/EXIT

- AGGREGATE SIZE - 4 TO 8 INCHES WASHED, COARSE STONE.
- LENGTH - AT LEAST 50 FEET.
- THICKNESS - MINIMUM 8 INCHES.
- WIDTH - MINIMUM WIDTH SHALL BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
- WASHING - WHEN NECESSARY, IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM 4 INCH DIAMETER WASHED STONE OR COMMERCIAL RACK SHALL BE INSTALLED WHICH DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
- DRAINAGE - IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE 6 TO 8 INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES ACROSS THE FOUNDATION. APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.
- FABRIC - PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.

D. INTERCEPTOR SWALE

- MAXIMUM DEPTH OF FLOW IN THE SWALE SHALL BE 1 FOOT.
- THE MINIMUM BOTTOM WIDTH OF THE SWALE SHALL BE 2 FEET.
- SIDE SLOPES OF THE SWALE SHALL BE 3:1 OR FLATTER.
- MINIMUM DESIGN CHANNEL FREEBOARD SHALL BE 6 INCHES
- SWALES MUST MAINTAIN POSITIVE GRADE TO AN ACCEPTABLE OUTLET.
- INTERCEPTOR SWALES MUST BE STABILIZED IMMEDIATELY UPON EXCAVATION SO AS NOT TO CONTRIBUTE TO THE EROSION PROBLEM THEY ARE ADDRESSING.
- ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS AND OTHER MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.

- ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE DISPOSED OF IN AN APPROPRIATE SPOILS SITE.
- INSPECTION MUST BE MADE AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE TO THE CHANNEL OR TO CLEAR DEBRIS OR OTHER OBSTRUCTIONS SO AS NOT TO DIMINISH FLOW CAPACITY. DAMAGES WHICH RESULT FROM NORMAL CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AT THE END OF EACH WORK DAY.

E. ROCK BERMS

- LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
- BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
- PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM (FIGURE 1-28), TO A HEIGHT NOT LESS THAN 18".
- WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
- BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 8 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.

- REPAIR ANY LOOSE WIRE SHEATHING. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

F. SANDBAG BERMS

- THE BAG LENGTH SHOULD BE 24 TO 30 INCHES, WIDTH SHOULD BE 16 TO 18 INCHES AND THICKNESS SHOULD BE 6 TO 8 INCHES. (3) SANDBAGS SHOULD BE FILLED WITH COARSE GRADE SAND, FREE FROM DELETERIOUS MATERIAL. ALL SAND SHOULD PASS THROUGH A NO. 10 SIEVE. THE FILLED BAG SHOULD HAVE AN APPROXIMATE WEIGHT OF 40 POUNDS.
- THE BERM SHOULD BE A MINIMUM HEIGHT OF 18 INCHES, MEASURED FROM THE TOP OF THE EXISTING GROUND AT THE UPSLOPE TOE TO THE TOP OF THE BERM.
- THE BERM SHOULD BE SIZED AS SHOWN IN THE PLANS BUT SHOULD HAVE A MINIMUM WIDTH OF 48 INCHES MEASURED AT THE BOTTOM OF THE BERM AND 16 INCHES MEASURED AT THE TOP OF THE BERM.
- RUNOFF WATER SHOULD FLOW OVER THE TOPS OF THE SANDBAGS OR THROUGH 4-INCH DIAMETER PVC PIPES EMBEDDED BELOW THE TOP LAYER OF BAGS AS SHOWN.
- SANDBAGS SHOULD BE STACKED IN AT LEAST THREE ROWS ABUTTING EACH OTHER, AND IN STAGGERED ARRANGEMENT.
- THE BASE OF THE BERM SHOULD HAVE AT LEAST 3 SANDBAGS. THESE CAN BE REDUCED TO 2 AND 1 BAG IN THE SECOND AND THIRD ROWS RESPECTIVELY. FOR EACH ADDITIONAL 6 INCHES OF HEIGHT, AN ADDITIONAL SANDBAG MUST BE ADDED TO EACH ROW WIDTH.
- THE SAND BAG BERM SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN. THE SANDBAGS SHOULD BE RESHAPED OR REPLACED AS NEEDED DURING INSPECTION.
- WHEN THE SILT REACHES 6 INCHES, THE ACCUMULATED SILT SHOULD BE REMOVED AND DISPOSED OF AT AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

F. STONE OUTLET SEDIMENT TRAP

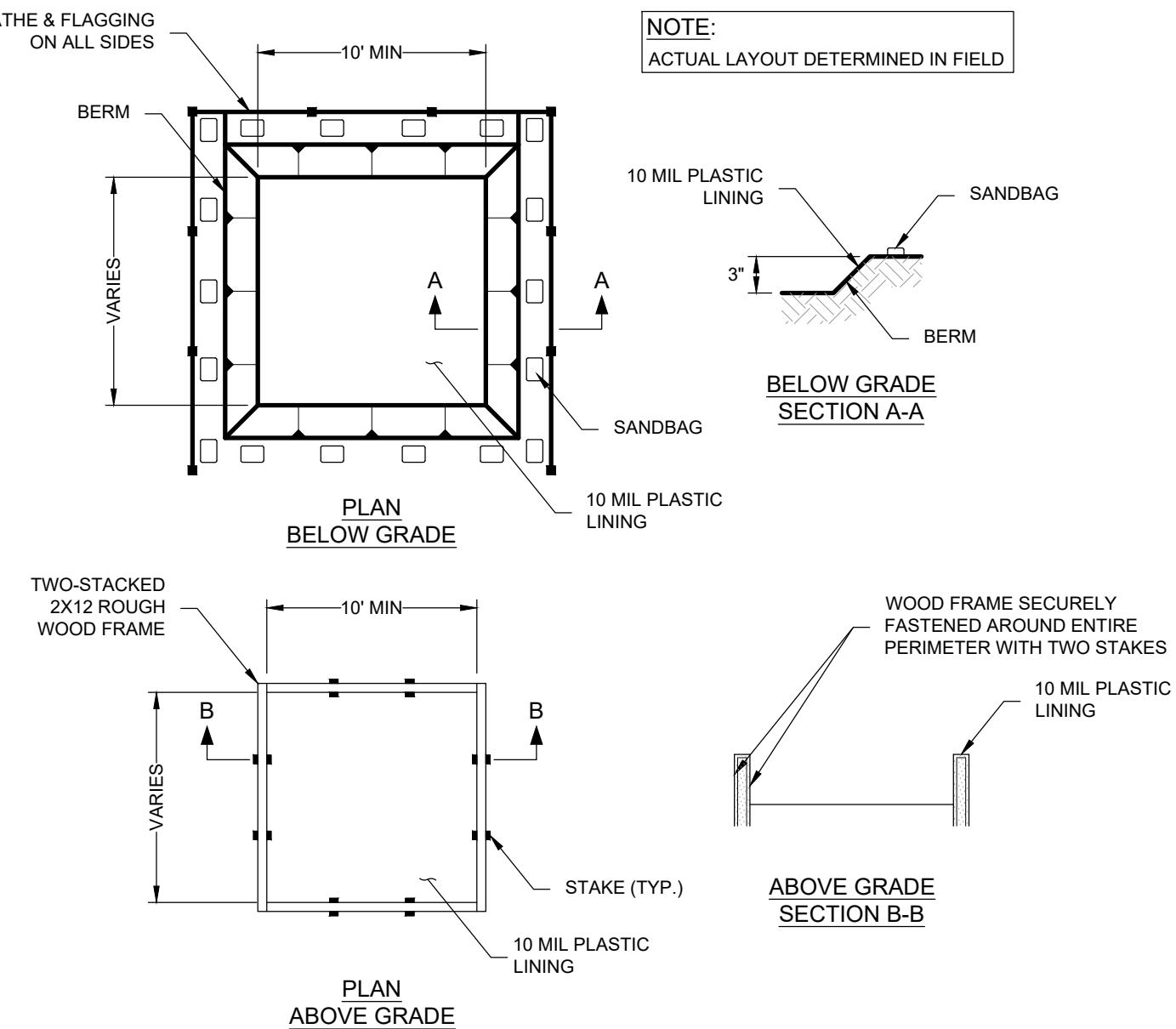
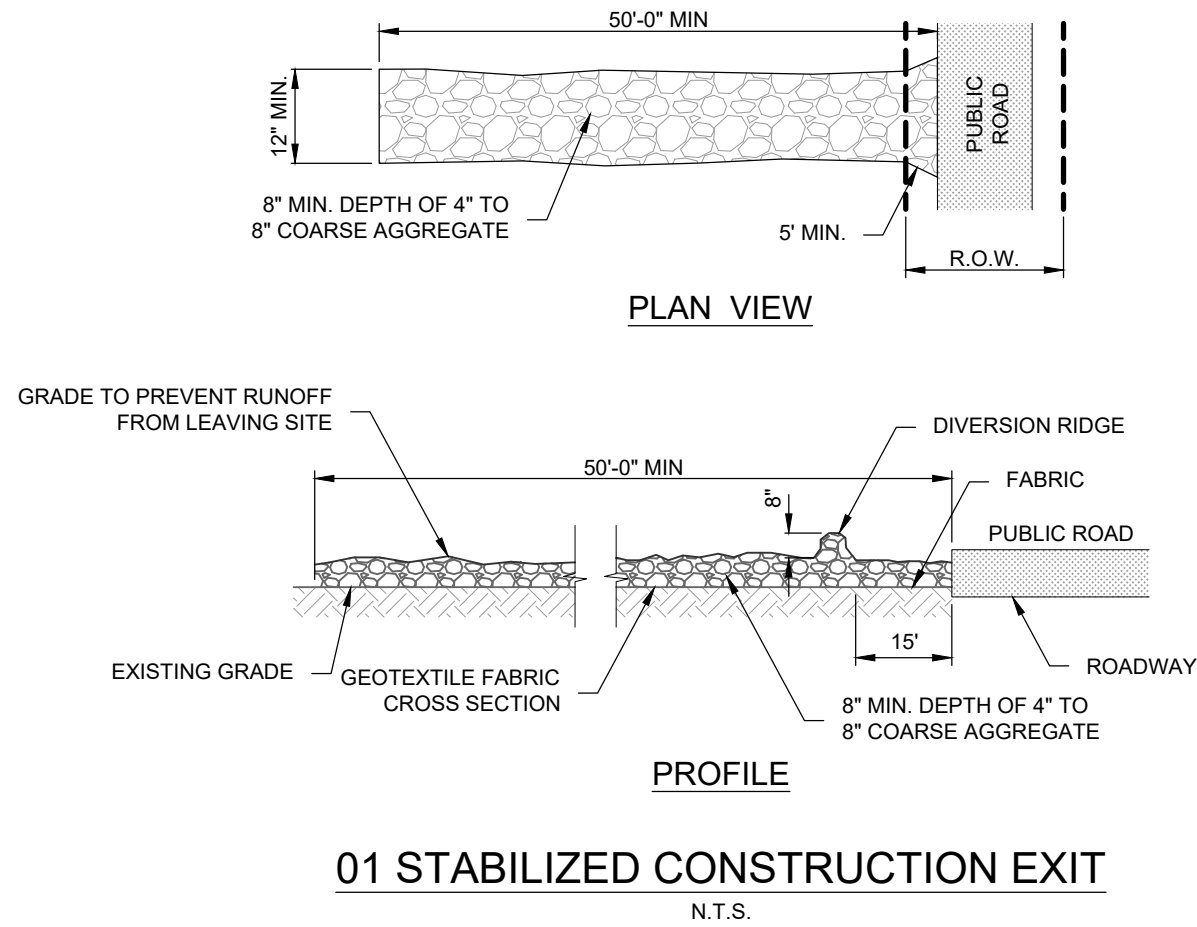
- ALL AGGREGATE SHOULD BE AT LEAST 3 INCHES IN DIAMETER AND SHOULD NOT EXCEED A VOLUME OF 0.5 CUBIC FOOT.
- EARTH EMBANKMENT: PLACE FILL MATERIAL IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH. BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE THE OPTIMUM MOISTURE CONTENT OF THE MATERIAL. COMPACT EACH LAYER TO 95 PERCENT STANDARD PROCTOR DENSITY. DO NOT PLACE MATERIAL ON SURFACES THAT ARE MUDDY OR FROZEN. SIDE SLOPES FOR THE EMBANKMENT ARE TO BE 3:1. THE MINIMUM WIDTH OF THE EMBANKMENT SHOULD BE 3 FEET.
- A GAP IS TO BE LEFT IN THE EMBANKMENT IN THE LOCATION WHERE THE NATURAL CONFLUENCE OF RUNOFF CROSSES THE EMBANKMENT LINE. THE GAP IS TO HAVE A WIDTH IN FEET EQUAL TO 6 TIMES THE DRAINAGE AREA IN ACRES.
- GEOTEXTILE COVERED ROCK CORE: A CORE OF FILTER STONE HAVING A MINIMUM HEIGHT OF 1.5 FEET AND A MINIMUM WIDTH AT THE BASE OF 3 FEET SHOULD BE PLACED ACROSS THE OPENING OF THE EARTH EMBANKMENT AND SHOULD BE COVERED BY GEOTEXTILE FABRIC WHICH SHOULD EXTEND A MINIMUM DISTANCE OF 2 FEET IN EITHER DIRECTION FROM THE BASE OF THE FILTER STONE CORE.
- FILTER STONE EMBANKMENT: FILTER STONE SHOULD BE PLACED OVER THE GEOTEXTILE AND IS TO HAVE A SIDE SLOPE WHICH MATCHES THAT OF THE EARTH EMBANKMENT OF 3:1 AND SHOULD COVER THE GEOTEXTILE/ROCK CORE A MINIMUM OF 6 INCHES WHEN INSTALLATION IS COMPLETE. THE CREST OF THE OUTLET SHOULD BE AT LEAST 1 FOOT BELOW THE TOP OF THE EMBANKMENT.
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE. SEDIMENT SHOULD BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO HALF OF THE DESIGN DEPTH OF THE TRAP.

A. SEDIMENT BASINS

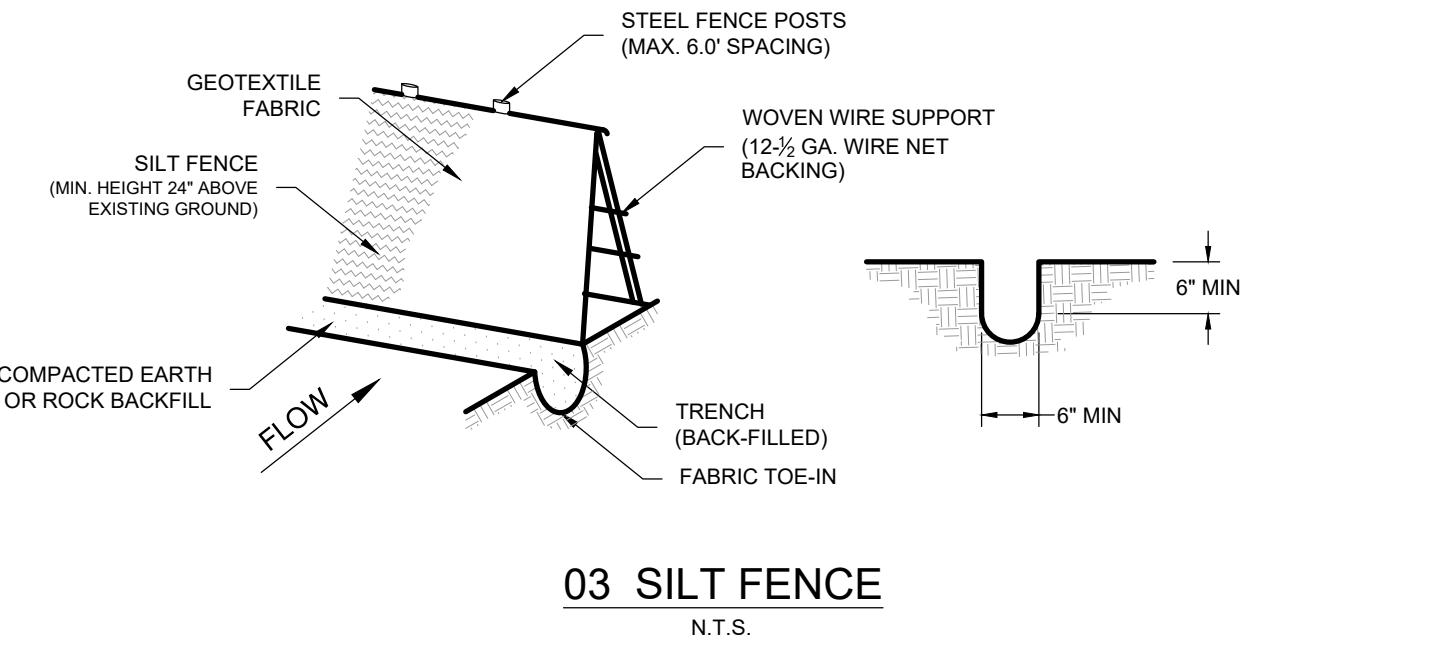
- THE DRAINAGE AREA FOR A SEDIMENT BASIN SHALL BE LESS THAN 100 ACRES.
- THE BASIN SHOULD INCLUDE A PERMANENT STAKE TO INDICATE THE SEDIMENT LEVEL IN THE POOL AND MARKED TO INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME (NOT THE TOP OF THE STAKE). SEDIMENT SHALL BE REMOVED WHEN SEDIMENT REACHES 50% STORAGE CAPACITY.
- PLACE FILL MATERIAL IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH. BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE THE OPTIMUM MOISTURE CONTENT OF THE MATERIAL. COMPACT EACH LAYER TO 95 PERCENT STANDARD PROCTOR DENSITY. DO NOT PLACE MATERIAL ON SURFACES THAT ARE MUDDY OR FROZEN. SIDE SLOPES FOR THE EMBANKMENT SHOULD BE 3:1 (H:V). MINIMUM WIDTH OF THE EMBANKMENT AT THE TOP SHALL BE 8 FEET.
- AN EMERGENCY SPILLWAY SHOULD BE INSTALLED ADJACENT TO THE EMBANKMENT ON UNDISTURBED SOIL AND SHOULD BE SIZED TO CARRY THE FULL AMOUNT OF FLOW GENERATED BY A 10-YEAR, 3-HOUR STORM WITH 1 FOOT OF FREEBOARD LESS THE AMOUNT WHICH CAN BE CARRIED BY THE PRINCIPAL OUTLET CONTROL DEVICE. THE EMERGENCY SPILLWAY SHOULD BE LINED WITH RIPRAP AS SHOULD THE SWALE LEADING FROM THE SPILLWAY TO THE NORMAL WATERCOURSE AT THE BASE OF THE EMBANKMENT.
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR. TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.
- ACCUMULATED SILT SHOULD BE REMOVED AND THE BASIN SHOULD BE RE-GRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT THAT THE CAPACITY OF THE IMPOUNDMENT HAS BEEN REDUCED TO 75% OF ITS ORIGINAL STORAGE CAPACITY.

ADDITIONAL NOTES:

- UPON COMPLETION OF CONSTRUCTION ALL DISTURBED AREAS SHALL BE REVEGETATED TO 70% OF EXISTING CONDITIONS IN ACCORDANCE WITH THE SWPPP AND TPDES REQUIREMENTS.
- THIS SITE IS NOT LOCATED ADJACENT TO ANY SURFACE WATERS.
- THIS SITE WILL NOT HAVE ANY LOCATIONS WHERE STORM WATER DISCHARGES DIRECTLY TO A SURFACE WATER BODY.

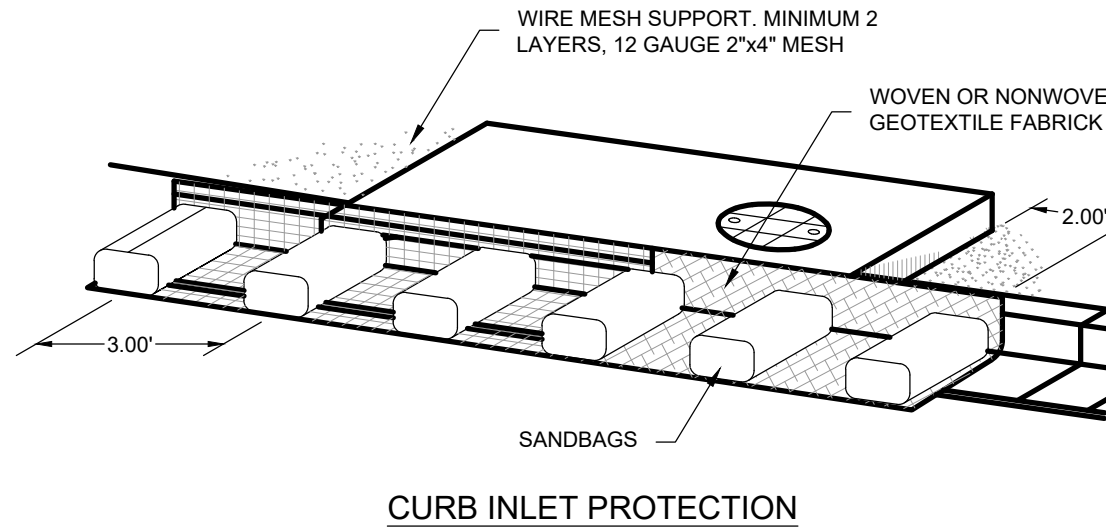
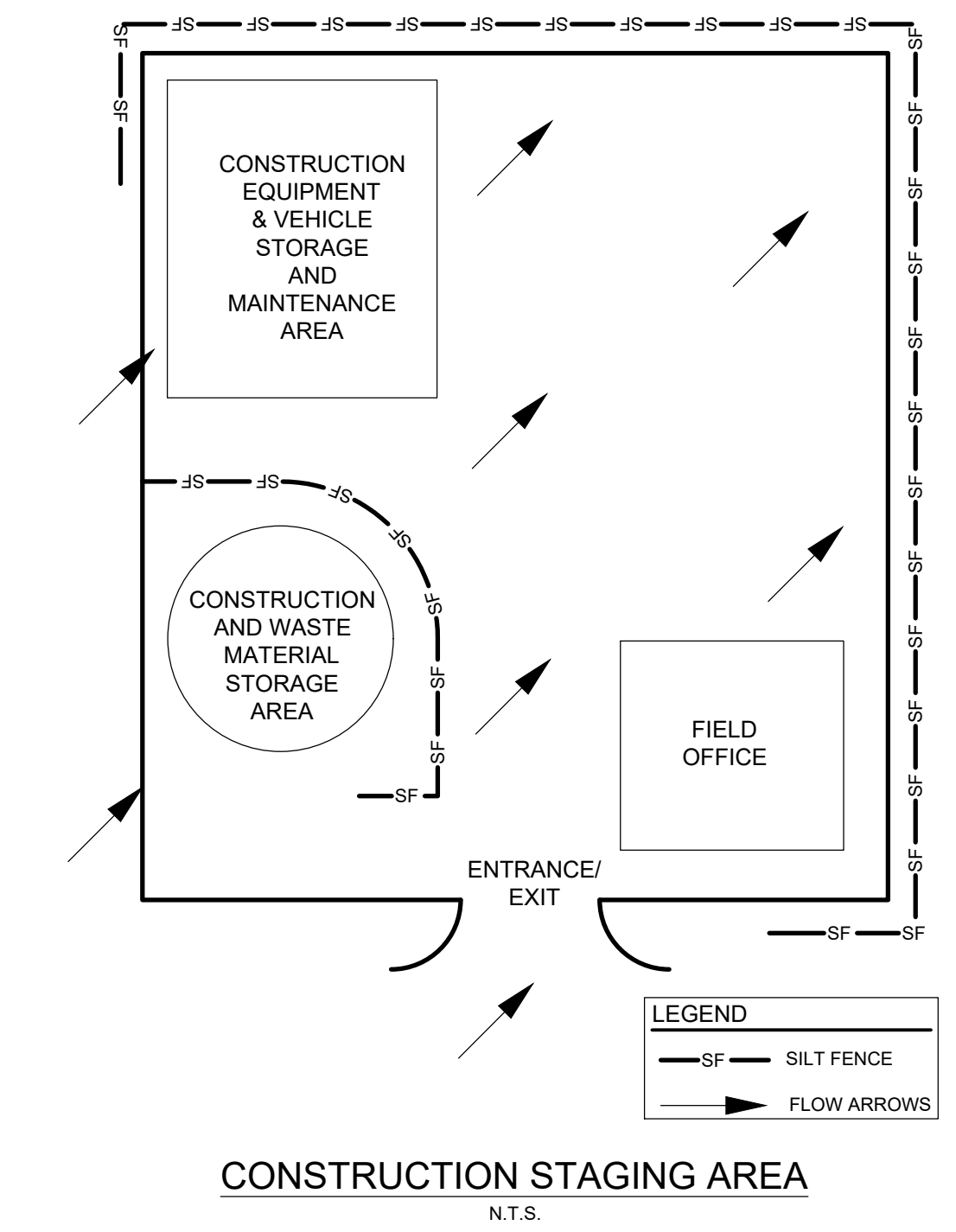


02 CONCRETE WASHOUT AREA
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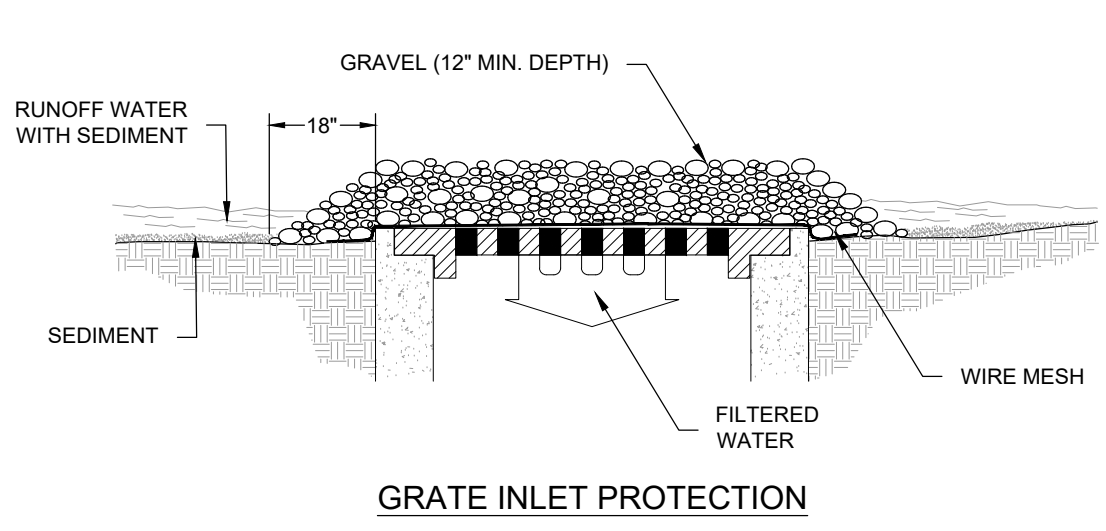


- NOTES:
- USE ONLY OPEN GRADED ROCK 4-8 INCH DIAMETER FOR STREAMFLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
 - THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
 - THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN. AND THE STONE AND/OR FABRIC CORE - WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
 - WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
 - DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
 - WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

05 ROCK BERM
N.T.S.



- NOTES:
- WHEN A SANDBAG IS FILLED WITH MATERIAL, THE OPEN END OF THE SANDBAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CHORD.
 - INLET PROTECTION SHALL BE PLACED OVER THE MOUTH OF THE INLET WITH A 2 FOOT OVERLAP ON EITHER SIDE.
 - THE FABRIC COVER AND SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE.
 - THE SKIRT SHALL BE WEIGHTED WITH ONE 18"x24"x6" SANDBAG EVERY 3 FEET.
 - INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
 - ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF FOUR INCHES, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
 - AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

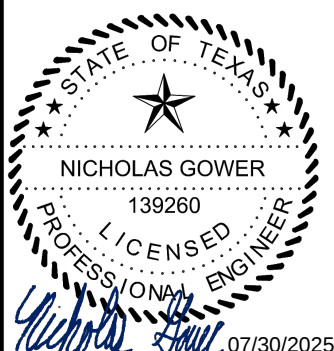


- NOTES:
- WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. WIRE MESH WITH ½ INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED.
 - COARSE AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ABOVE. THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.
 - IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.

04 INLET PROTECTION
N.T.S.

VERAMENDI PE-DARWIN, LLC
STORMWATER POLLUTION PREVENTION PLAN
DETAILS

REVISIONS	DATE	BY	DESCRIPTION
NO.			
1	7/29/2025	NG	
2		NG	
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Job Number: SA3856.0404
SHEET NO.

9