VERAMENDI SUBSTATION

CONSTRUCTION DOCUMENT SET

NEW BRAUNFELS, TEXAS 78132 COMAL COUNTY

TCEQ WPAP #: 13002043 CONB #: PI2025-0030

- 1. PROJECT IS A TYPE 3 DEVELOPMENT.
- 2. 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 RECORD.
- 3. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
- 4. 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
- 6. 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
- FOLLOWING PERMITS ARE REQUIRED PRIOR TO START OF CONSTRUCTION: A. CITY OF NEW BRAUNFELS PUBLIC INFRASTRUCTURE PERMIT

BENCHMARK INFORMATION:

CONTROL POINT 1: SET 5 IRON ROD W/ ALUMINUM CAP STAMPED "LJA SURVEYING" NORTHING: 13820380.9523

EASTING: 2243003.3305 ELEVATION: 738.93'

CONTROL POINT 2: SET 5" IRON ROD W/ ALUMINUM CAP STAMPED "LJA SURVEYING"

NORTHING: 13817841.2523 EASTING: 2245105.1175 ELEVATION: 708.04'

CONTROL POINT 3: SET 5" 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.

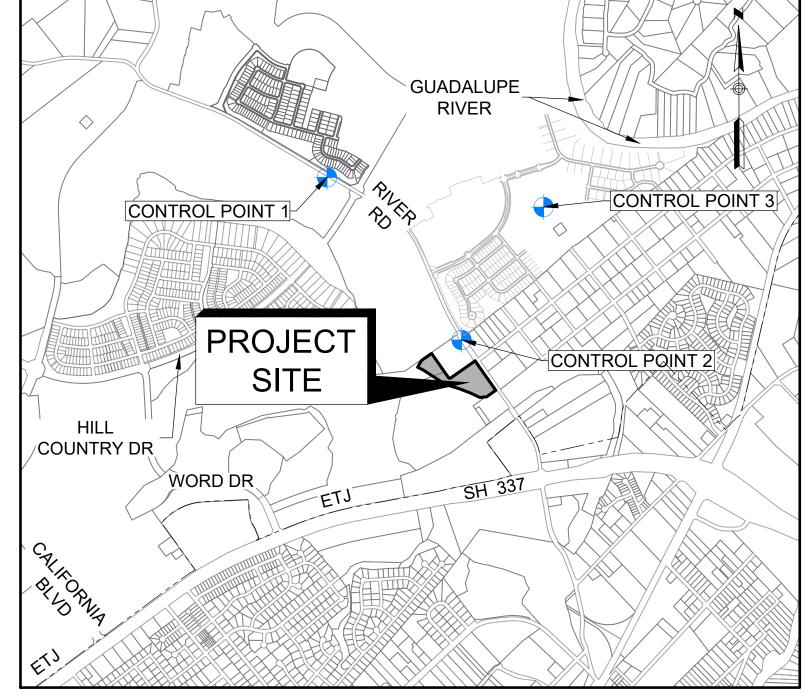
SURVEY OBSERVATIONS WERE MADE ON THE GROUND USING A COMBINATION OF RTK AND STATIC NETWORKS.

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.





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 129.369 ACRE TRACT OF LAND CONVEYED TO VERAMENDI PE-DARWIN, LLC, RECORDED IN DOCUMENT NO. 202006025702, IN THE OFFICIAL PUBLIC RECORDS REAL PROPERTY OF COMAL COUNTY, TEXAS (O.P.R.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.R.P.C.C.T.T.

> <u>DEVELOPER:</u> VERAMENDI PE - DARWIN, LLC 2168 OAK RUN PARKWAY, SUITE 101 NEW BRAUNFELS, TEXAS 78132 CONTACT PERSON: GARRETT MECHLER, Co-CEO

> > TELEPHONE: (830) 643-5633

LJA ENGINEERING, INC.

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

LJA SURVEYING 9830 COLONNADE BOULEVARD, SUITE 300 SAN ANTONIO, TEXAS 78230 CONTACT PERSON: GORDON ANDERSON

CONTOUR DATA: FIELD SURVEY BY LJA SURVEYING

PHONE # (210) 503-2700

NICHOLAS GOWER 139260

San Antonio, Texas 78230

Suite 300

LJA Engineering, Inc.

SHEET LIST TABLE

EXISTING DRAINAGE AREA MAP

OVERALL GRADING PLAN WATER QUALITY POND 'A'

PROPOSED & ULTIMATE DRAINAGE AREA MAF

STORMWATER POLLUTION PROTECTION PLAN

STORMWATER POLLUTION PREVENTION PLAN DETAILS

COVER SHEET

GENERAL NOTES

BASIN DETAILS

Sheet Number

Sheet Title

9830 Colonnade Blvd

Phone 210.503.2700 LJA.COM FRN-F-1386 If construction has not commenced within one-year of City approval for construction inspection, that approval is no longer valid.

The most current editions of the City of San Antonio Standard Specifications and the Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges shall be followed for all construction except as amended by the City of New Braunfels Standard Details

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

Prior to the start of construction, the contractor shall contact the City of New Braunfels to schedule a preconstruction meeting.

For Public Infrastructure Permit or Grading Permit Projects:

- For inspections, you must call before 12:00 p.m., 48 hours prior to your inspection
- Each inspection will be allotted 1 hour unless you request for more time.
- Once your request has been accepted, you will receive a call from the City of New Braunfels Inspector.

For Commercial Permit (CP) Projects:

easement to ensure that it operates as designed.

- All inspections are to be called in at 830-221-4068 or,
- Faxed in at 830-608-2117 or, • E-mailed at <u>inspections@nbtexas.org</u>.

It is the Contractor's responsibility to see that all temporary and permanent traffic control devices are properly installed and maintained in accordance with the plans and latest edition of the Texas Manual on Uniform Traffic Control Devices. If, in the opinion of the engineering representative and the construction inspector, the barricades and signs do not conform to established standards or are incorrectly placed or are insufficient in quantity to protect the general public, the construction inspector shall have the option to stop operations until such time as the conditions are corrected. If the need arises, additional temporary traffic control devices may be ordered by the Engineering representative at the Contractor's expense.

A TxDOT Type II B-B blue reflective raised pavement marker shall be installed in the center of the roadway adjacent to all fire hydrants. In locations where hydrants are situated on corners, blue reflective raised pavement markers shall be installed on both approaches which front the hydrant. The raised pavement marker shall meet TxDOT material, epoxy and adhesive specifications.

CHANNEL MAINTENANCE PLAN

The following are guidelines for the overall maintenance of the channel system and drainage easement

by the designated maintenance entity as defined by the executed drainage agreement. The designated

maintenance entity will be responsible for the operation, maintenance, and repair of the system and

• *Inspections*. The channel should be inspected to assure proper operation at least 4 times

annually. One of these inspections should occur during or immediately following wet weather.

• *Mowing*. The side slopes and bottom of the channel that are covered with grass must be mowed

must be moved at least four times annually to limit vegetation height to 12 inches. More

frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When

mowing is performed, a mulching mower should be used, or grass clippings should be caught

and removed. Vegetation shall be maintained so as to match the intent of the original design of

the channel and preserve the flow conveyance capacity. Any woody vegetation which becomes

which results in disturbance of established grades shall be repaired/re-graded and revegetated.

• Debris, Litter, and Obstruction Removal. Debris and litter may accumulate in the channel and/or

• Erosion Control. The channel side slopes and embankment may periodically suffer from

near the drop structure and outfall and should be removed during regular mowing operations and

inspections or after large rainfall events. Any other obstructions that impede flow as intended by

slumping and erosion. Regrading and re-establishment of vegetation may be required to correct

the problems. Vegetation should be re-established to the original design standards. Inspection of

sediment deposits along the length of the channel should occur during the stated intervals. All

sediment deposits exceeding 12" in depth or which are preventing positive drainage should be

removed from the channel at least once annually. All sediment should be removed and disposed

DRAINAGE MAINTENANCE PLAN

The storm drain pipe shall be checked for accumulation of silt, debris or other obstructions which could

overgrowth and other blockages should be cleared from the pipe discharge point. Erosion at the point of

discharge shall be monitored. If erosion occurs, the addition of rock rubble to disperse the flow should

block flow. When silt deposits have accumulated to the point of reducing the drain capacity then the

pipes can be flushed with a high-pressure water flushing process. Soil accumulations, vegetative

established shall be periodically removed or mulched to ground level. Any removal of brush

regularly to discourage woody growth and control weeds. Grass areas in and around the channel

Groundwater

It shall be the responsibility of the developer, contractor, subcontractors, builders, Geo-technical engineer, and project engineer to immediately notify the Office of the City Engineer and project engineer if the presence of groundwater within the site is evident. Upon notification the project engineer shall respond with plan revisions for the mitigation of the groundwater issue. The City Engineer shall respond within two (2) business days upon receipt of the mitigation plan. All construction activity, impacted by the discovery of groundwater, shall be suspended until the City Engineer grants a written approval of the groundwater mitigation plan.

As per Platting Ordinance Section 118-38m.: When all of the improvements are found to be constructed and completed in accordance with the approved plans and specifications and with the City's standards, and upon receipt of one set of "Record Drawing" plans, and a digital copy of all plans (PDF copy) the City Engineer shall accept such improvements for the City of New Braunfels, subject to the guaranty of material and workmanship provisions in this Section.

Construction Note

Engineer of Record is responsible to ensure that erosion control measures and stormwater control sufficient to mitigate off site impacts are in place at all stages of construction.

Drainage Note

Drainage improvements sufficient to mitigate the impact of construction shall be installed prior to adding impervious cover.

Finished Floor Elevations

The elevation of the lowest floor shall be at least 10 inches above the finished grade of the surrounding ground, which shall be sloped in a fashion so as to direct stormwater away from the structure. Properties adjacent to stormwater conveyance structures must have floor slab elevation or bottom of floor joists a minimum of one foot above the 100-year water flow elevation in the structure. Driveways serving houses on the downhill side of the street shall have a properly sized cross swale preventing runoff from entering the garage.

Proctors shall be sampled from on-site material (on-site is defined as limits of construction for this -plan set) and a copy of the proctor results shall be delivered to the City of New Braunfels Street Inspector prior to any density tests.

All roadway compaction tests shall be the responsibility of the developer's Geotechnical Engineer Flexible base or fill/embankment material shall be placed in uniform layers not to exceed eight inches (8") loose. The required density for the fill/embankment material shall meet the requirements of TxDOT's Specification Item 132. The required density for the flexible base material shall meet the requirements of TxDOT's Specification Item 247. Each layer of material, inclusive of subgrade, shall be compacted as specified and tested for density and moisture in accordance with Test Methods TEX-113-E, TEX-114-E, TEX-115-E. The number and location of required tests shall be determined by the Geotechnical Engineer and approved by the City of New Braunfels Street Inspector. At a minimum, tests shall be taken every 200 LF for each lift. Upon completion of testing, the Geotechnical Engineer will provide the City of New Braunfels Street Inspector with all testing documentation and a certification stating that the placement of flexible

base, and fill material, and subgrade, has been completed in accordance with the plans. Additional density tests may be requested by the City of New Braunfels Inspector.

Item 340

Asphaltic concrete pavement shall be the type of hot mix asphalt as defined in TxDOT's standard specifications for current TxDOT Standard Specifications for Construction of Highways, Street and Bridges.

The City of New Braunfels will not accept the use of Recycled Asphalt Pavement (RAP) or Recycled Asphalt Shingles (RAS) in asphalt mixtures for new roadways. Any debris inclusions within new asphalt pavements will result in asphalt removal and replacement from curb to curb for limits to be determined by the City of New Braunfels.

The asphaltic concrete pavement surface course shall be plant mixed, hot laid type "D" meeting the specification requirements of TxDOT Item 340. The asphaltic concrete pavement sub-surface courses shall be plant mixed, hot laid type "B" meeting the specification requirements of TxDOT Item 340. The mixture shall be designed per the design requirements specified in TxDOT Item 340 and shall be compacted to between 91 and 95 percent of the maximum theoretical density as determined by TxDOT test method TEX-227-F. Place the mixture when the roadway surface temperature is at or above 60°F. Complete all compaction operations before the pavement temperature drops below 160°F. The asphalt cement content by percent of total mixture weight shall fall within a tolerance of ± 0.5 percent from a specific mix design.

<u>Utility Trench Compaction</u> (added to the construction plans on All Utility Plan Sheets).

All utility trench compaction tests within the street pavement/sidewalk section shall be the responsibility of the developer's Geotechnical Engineer. Fill material shall be placed in uniform layers not to exceed twelve inches (12") loose. Determine the maximum lift thickness based on the ability of the compacting operation and equipment used to meet the required density. Each layer of material shall be compacted to a minimum 95% density and tested for density and moisture in accordance with Test Methods TEX-113-E, TEX-114-E, TEX-115-E. The number and location of required tests shall be determined by the Geotechnical Engineer and approved by the City of New Braunfels Street Inspector. At a minimum, tests shall be taken every 200 LF for each lift and every other service line. Upon completion of testing the Geotechnical Engineer shall provide the City of New Braunfels Street Inspector with all testing documentation and a certification stating that the placement of fill material has been completed in accordance with the plans. Additional density tests may be requested by the City of New Braunfels Inspector.

Curb Cut Due to Construction of New Right-Of-Way Construction (Indicate the 2 Options on the construction plans).

1. Sawcut existing street and match to new construction.

2. Sawcut existing curb to tie into existing construction.

Construction Stabilized Entrance Sawcut curb for construction entrance.

General Notes

Stabilized construction area shall be constructed of 3"x5" rock to be placed a minimum length of 25-ft. and maintained so that construction debris does not fall within the city right-of-way. Rightof-way must be cleared from mud, rocks, etc. at all times.

(Notes to Be Placed on All WW Plan & Detail Sheets)

Ensure all driveway approaches are built in general accordance with A.D.A. specifications.

No valves, hydrants, etc. shall be constructed within curbs, sidewalks, or driveways.

Signing and Pavement Marking Plan Notes

The Contractor shall furnish and install all regulatory and warning signs, streets name signs and sign mounts in accordance with approved engineering plans. The City will inspect all signs at final

The Contractor shall install all pavement markings in accordance with approved engineering plans. The Contractor shall notify the City at least twenty-four (24 hours prior to the installation of all sealer and final markings. The City will inspect all markings at final application.

Seeding and Establishment of Vegetation within Earthen Channels, Stormwater Basins and

Seeding for the purpose of establishing vegetation within constructed earthen channels, basins and disturbed areas shall be conducted in accordance with Item 164 (Seeding for Erosion Control of TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges manual. Only seed types and mixes specified for the San Antonio District (District 15 in Tables 1 and 2 under Item 164 shall be utilized. During the Cool Season (Sept 1-Nov 30, Cereal Rye and seed species specified for the San Antonio District in Table 3 may be used. For Cool Season seeding applications, cool season seed mixes shall be used in conjunction with seed mixes for the San Antonio District as specified in Table 1 and 2 under Item 164.

It may be deemed necessary to incorporate topsoil and soil amendments (i.e. compost/ fertilizer into existing soil in order to facilitate vegetation growth. Topsoil, compost and fertilizer additions shall be conducted according to Items 160, 161 and 166 of TxDOT's Standard Specifications manual, respectively.

Areas requiring permanent vegetation (earthen channels, ponds, etc.) are required to meet TxDOT Specifications for Item 160 Topsoil. Testing per Tex-128-E will be required at the

Watering may also be necessary to facilitate and expedite the sprouting and growth of vegetation. Item 168 of TxDOT's Standard Specifications manual shall be adhered to for

If extended drought conditions exist that hinder or prohibit the growth and establishment of vegetation, the contractor/ developer shall provide a plan to the City of New Braunfels describing the measures that will be taken to stabilize earthen drainage infrastructure until a time when growing conditions become more favorable.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER POLLUTION ABATEMENT PLAN

 A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE THE NAME OF THE APPROVED PROJECT

THE ACTIVITY START DATE; AND

ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLITITION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE

3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY, THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANT SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY

WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE

PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST

DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER

ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED. ON-SITE WITH PROPER E&S CONTROLS FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE. THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE

10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS. SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON

11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON

THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND

THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

PRIOR TO INITIATING ANY OF THE FOLLOWING:

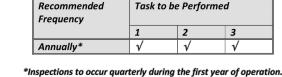
STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES

B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY

WATER POLLUTION ABATEMENT PLAN.

SAN ANTONIO REGIONAL OFFICE 14250 JUDSON ROAD SAN ANTONIO, TEXAS 78233-4480 PHONE (210) 490-3096 FAX (210) 545-4329

INSPECTION AND MAINTENANCE SCHEDULE PERMANENT POLLUTION ABATEMENT MEASURES



Indicates maintenance procedure that applies to this specific site

See description of maintenance task to be performed on the following pages. Frequency of maintenance tasks may vary depending on amount of rainfall and other weather-related conditions but may not be altered without TCEQ approval. Inspection frequency in subsequent years is based on the maintenance plan developed in the first year but must occur annually at a minimum.

A written record will be kept of inspection results and maintenance performed.

<u>Task</u>	No. & Description	Included in this project	
1.	Cleaning	Yes	No
2.	Manual Backflush / Flow Rate Test	Yes	No
~	Fotom - I Displant	v	N

INSPECTION AND MAINTENANCE SCHEDULE – BATCH DETENTION BASIN

. -	Recommended Frequency	Task to be Performed													
)-		1	2	3	4	5	6	7	8	9	10	11	12		
	After Rainfall	4							1			1			
d	Biannually*	√	1	1	1	1	1	1	1	1	√	√	1		

 $\sqrt{Indicates}$ maintenance procedure that applies to this specific site.

See description of maintenance task to be performed on the following pages. Frequency of maintenance tasks may vary depending on amount of rainfall and other weather related conditions but may not be altered without TCEQ approval.

A written record should be kept of inspection results and maintenance performed.

	Task No. & Description	Included in t	<u>his proje</u>
1.	Mowing	Yes	Ne
2.	Litter and Debris Removal	Yes	Ne
3.	Erosion Control	Yes	No
4.	Level Sensor	Yes	Ne
5.	Nuisance Control	Yes	Ne
6.	Structural Repairs and Replacement	Yes	Ne
7.	Discharge Pipe	Yes	Ne
8.	Detention and Drawdown Time	Yes	Ne
9.	Sediment Removal	Yes	Ne
10	. Logic Controller	Yes	Ne
11	. Vegetated Filter Strips	Yes	No
12	. Visually Inspect Security Fencing for Damage or Breach	Yes	Ne
	2. 3. 4. 5. 6. 7. 8. 10	6. Structural Repairs and Replacement7. Discharge Pipe	1. Mowing 2. Litter and Debris Removal 3. Erosion Control 4. Level Sensor 5. Nuisance Control 6. Structural Repairs and Replacement 7. Discharge Pipe 8. Detention and Drawdown Time 9. Sediment Removal 10. Logic Controller 11. Vegetated Filter Strips Yes Yes Yes Yes Yes Yes

PROPOSED CONSTRUCTION SEQUENCE

the original design shall be removed in a timely manner.

- 1. INSTALL TEMPORARY STORMWATER EROSION CONTROL MEASURES IN AFFECTED CONSTRUCTION AREAS AND STABILIZED CONSTRUCTION ENTRANCES/EXITS.
- INSTALL TREE PRESERVATION MEASURES, IF REQUIRED.
- 3. CONSTRUCT DRAINAGE. 4. ESTABLISH SITE STABILIZATION.
- 5. REMOVE ALL TEMPORARY STORMWATER EROSION CONTROL MEASURES.

NOTES:

be accomplished.

of properly.

- 1. SOME ITEMS ABOVE WILL OCCUR SIMULTANEOUSLY OR MAY OCCUR
- OUT OF SEQUENCE INDICATED. 2. ALL SEQUENCES SUBJECT TO CHANGE.
- 3. COORDINATE GPS REQUIREMENTS WITH NBU INSPECTOR

General Notes:

General Notes

- All materials and construction procedures within the scope of the project shall be approved by New Braunfels Utilities and comply with the current "New Braunfels Utilities Water Systems Connection/Construction Policy".
- Contractor shall not proceed with any pipe installation work until they obtain a copy of the plans from the Consultant or Engineer and notify NBU Water Systems Engineering at 830-608-8971 with at least two (2) working days (48 hours) notice. WORK COMPLETED BY THE CONTRACTOR, WHICH HAS NOT RECEIVED A NOTICE TO PROCEED FROM NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE
- EXPENSE OF THE CONTRACTOR. The Developer dedicates the water / wastewater mains upon completion by the Contractor and acceptance by the New Braunfels Utilities Water System. NBU will own and maintain said water / wastewater mains which are located within platted utility easements or public ROW of proposed developments. (As applicable).
- Contractor agrees to assume sole and complete responsibility for job site conditions during the construction of the project, including safety of all persons and property. This requirement shall apply continuously and not be limited to normal working hours. The contractor shall defend, indemnify and hold the owners and the engineer and his employees, partners officers, directors, or consultants harmless from any and all liability, real or alleged, in connection with the performance of the work on this project, excepting from liability arising from sole negligence of the owner or engineer, engineer's directors, officers, employees, or consultants.
- Contractor to contact the engineer-of-record (EOR) for any field changes. Any revisions or changes to the approved construction plans will require
- additional approval by NBU in writing. Contractor and / or contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and
- Contractor shall be responsible for restoring to its original or better condition, any damages done to existing fences, curbs, streets, driveways, landscaping and structures, and existing utilities (not adjusted on plans). Cost of Restorations, if any, shall be the contractor's entire expense.
- excavating near existing trees. Excavation in vicinity of trees shall proceed with caution.
- around trench excavation.
- The Contractor shall avoid cutting roots larger than one inch in diameter when
- Contractor shall procure all permits and licenses, pay all charges, fees and taxes and give all notices necessary and incidental to the due and lawful

Approved 12/9/03; Rev 3/31/11

prosecution of the work.

Appendix/Appendix B

- No extra payment shall be allowed for work called for on the plans but not included on the bid schedule. This incidental work will be required and shall be included under the pay item to which it relates. Contractor is responsible for removal of all waste materials upon project
- completion. The contractor shall not permanently place any waste materials in the 100-year flood plain without first obtaining an approved flood plain development permit. The contractor shall not place any materials on the recharge zone of the
- Edwards aguifer without an approved water pollution abatement plan from the TCEQ 31 TAC 313.4 and 31 TAC 313.9. Barricades and warning signs shall conform to the "Texas manual on uniform traffic control devices" and shall be located to provide maximum protection to the public as well as construction personnel and equipment while providing continuous traffic flow at all times during construction. The contractor is
- responsible for maintaining all devices during construction. Contractor is required to verify project elevations. The term "match existing" shall be understood to signify both horizontal and vertical alignment.
- The location of utilities, either underground or overhead, shown within the right of way are approximate and shall be verified by the contractor before beginning construction operations. OSHA regulations prohibit operations that will bring persons or equipment
- within 10 feet of an energized line. Where workmen and/or equipment have to work close to an energized electrical line, the contractor shall notify the electrical power company involved and make whatever adjustments necessary to ensure the safety of those workmen.
- It shall be the contractor's responsibility to locate utility service lines as required for construction. Contractors shall call the One Call System for water/wastewater location.
- Due to federal regulations Title 49, part 192 (8), Gas companies must maintain access to gas valves at all times. The contractor must protect and work around any gas valves that are in the project area.
- The contractor is fully responsible for the traffic control and will be responsible for furnishing all traffic control devices, and flaggers. The construction methods shall be conducted to provide the least possible interference to traffic so as to permit the continuous movement of the traffic in one direction at all times. The contractor shall clean up and remove from the work area any loose material resulting from contract operations at the end of each workday.
- Prior to ordering materials to be used in construction, contractor shall provide the engineer with four (4) copies of the source, type, gradation, material specification data and / or shop drawings, as applicable, to satisfy the requirements of the following items and all material items referred to in these listed items:

Approved 12/9/03; Rev 3/31/11

a. Water mains and services

Page 1 of 3 Appendix/Appendix B

b. Wastewater mains and services

21. Thrust blocks will not be allowed on the system without special approval. Joints will be restrained with restraining systems approved by NBU and restraint length shall be submitted to NBU at the time of plan submittal. Water jetting the backfill within a street will not be permitted. Wastewater

trenches subject to traffic shall conform to NBU Connection and Construction 23. Where the minimum 9 foot separation distance between wastewater lines and water lines / mains cannot be maintained, the installation of wastewater lines

shall be in strict accordance with 30 TAC 217. 24. Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation safety protection that complies with as a minimum, OSHA Standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA Standards governing the presence and activities of individuals working in and around

trench excavation.

General Notes

Page 2 of 3 Appendix/Appendix B

- <u>Utility Trench Compaction with street R.O.W.</u> a. All utility trench compaction test within the street pavement section shall be the responsibility of the developer's Geo-technical engineer. b. Fill material shall be placed in uniform layers not to exceed twelve inches
- c. Each layer of material shall be compacted as specified and tested for density and moisture in accordance with Text Methods TEX-113-E, TEX-
- 114-E, TEX-115-E. d. The number and location of required tests shall be determined by the Geotechnical Engineer and approved by the City of New Braunfels Street
- e. Upon completion of testing the Geo-technical Engineer shall provide the City of New Braunfels Street inspector with all testing documentation and a certification stating that the placement of fill material has been completed in accordance with the plans.

Approved 12/9/03; Rev 3/31/11

Task No & Description

Page 3 of

13. Recordkeeping for Inspections, Maintenance, and Repairs

THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED

REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. 6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY

SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY

2

SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR

A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT

OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER: . ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL

External Rinsing

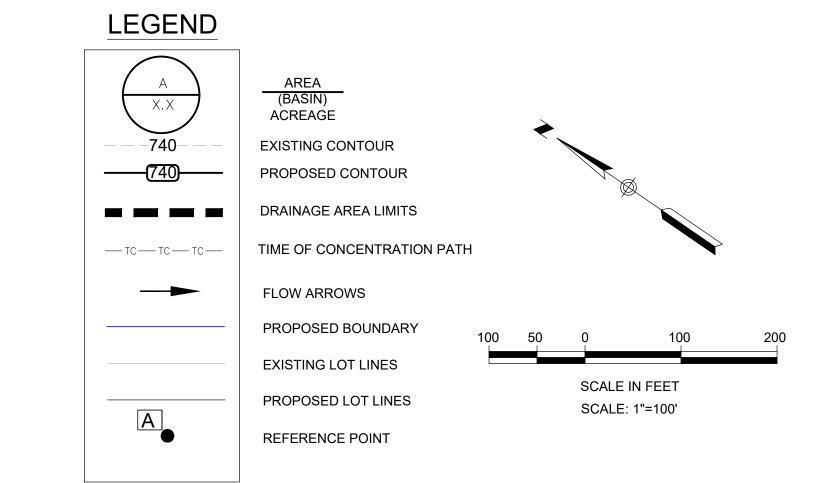
PERMANENT POLLUTION ABATEMENT MEASURES

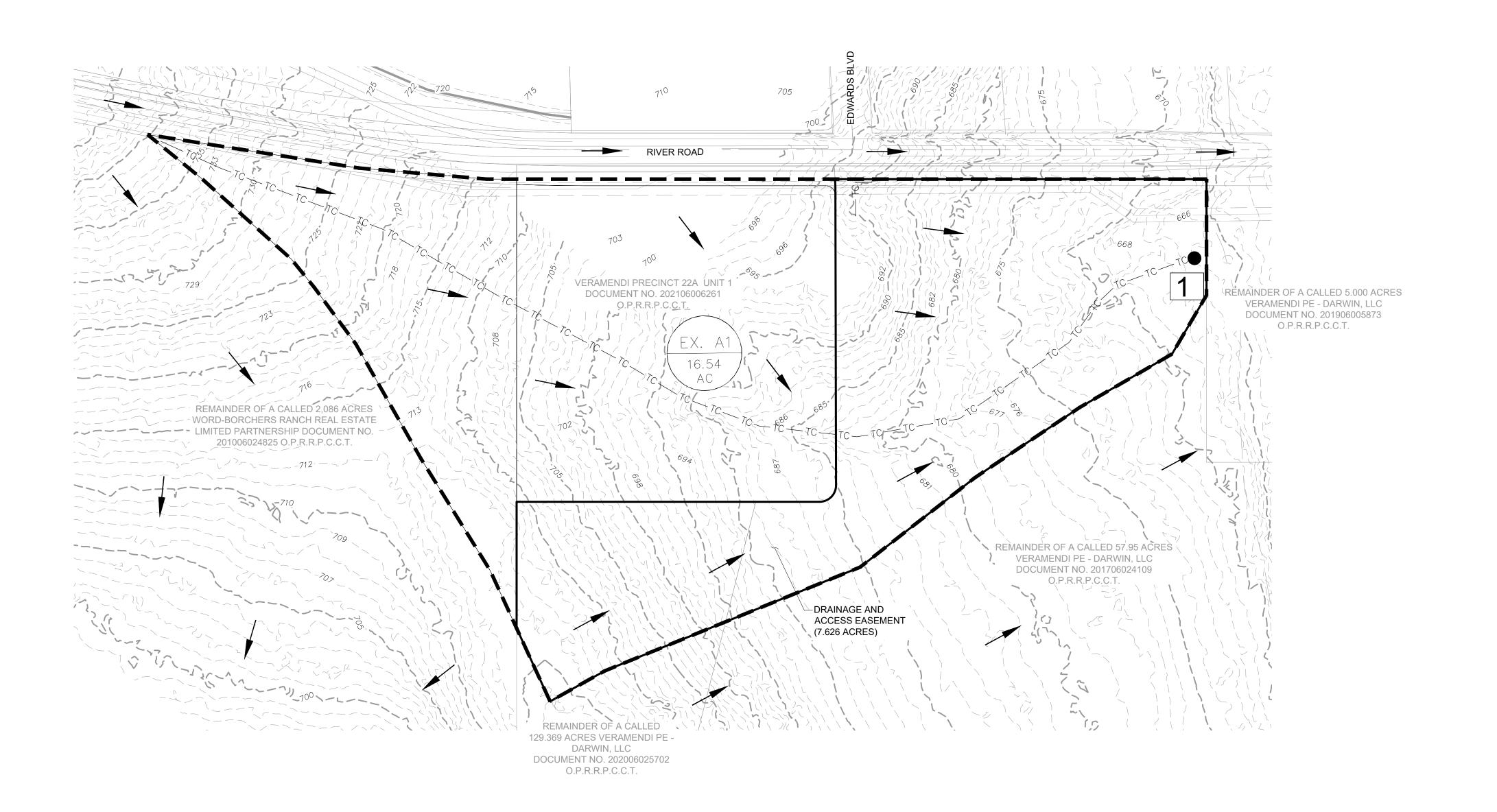
IOB NUMBER: SA3856.0404 SHEET NO.

NICHOLAS GOWER

	VERAMENDI PE-DARWIN, LLC Atlas14 Existing Time of Concentration Table PA_NB															
Study			Sheet Flo	w (max len	gth = 150'))			Channel Hov	Total	Total					
Point	Drainage Area	n	L _t (ft)	P ₂ (in)	S _t %	T _t (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	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					Eq 5.4.2					Eq 5.4.3			Eq 5.4	
		T _t =	$\frac{0.007(nL_{t})^{0.5}S_{t}^{0.4}}{(P_{2})^{0.5}S_{t}^{0.4}}$	0.8			T _{sc} = -	L _{sc} 3600KS _{sc} ^{0.5}				T _{ch} =	L _{ch} 3600 * V	-	$T_t + T_{sc} + T_{ch}$	

	VERAMENDI PE-DARWIN, LLC Atlas14 Existing Q Flow Table PA_NB																
Study	Study Drainage Area			Coefficient Coefficient Coefficient Coefficient Coefficient Intensity							Flow						
Point	Area(s)	A (ac.)	C ₂	C ₁₀	C ₂₅	C ₅₀	C ₁₀₀	l ₂ (in/hr)	l ₁₀ (in/hr)	l ₂₅ (in/hr)	l 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						





| TBPE No. F-1386 | Second Sec

PE-DARWIN,

VERAMENDI

K:\SA3856 ASA Properties\0404 Substation WPAP\426 Site Deve User: jduran Last Modified: Jul. 29, 25 - 08:39

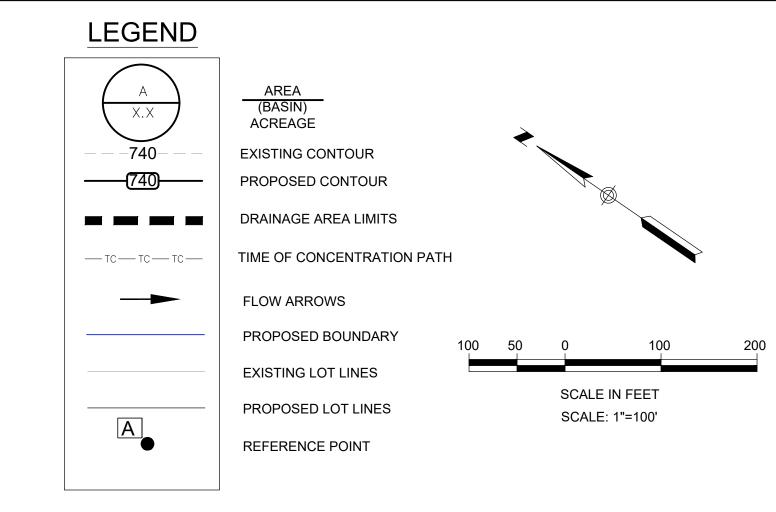
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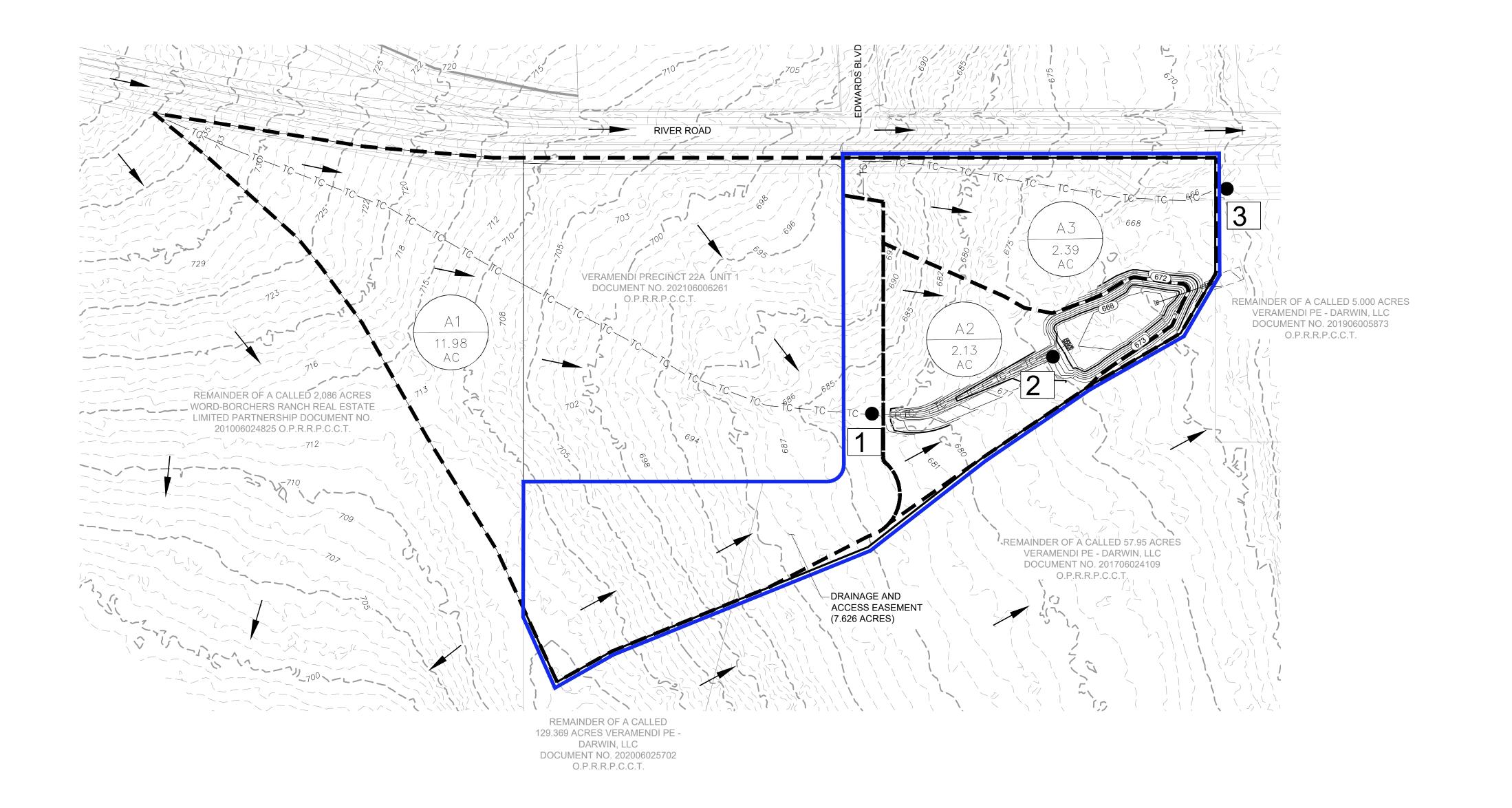
SHEET NO.

VERAMENDI PE-DARWIN, LLC Atlas14 Ultimate Time of Concentration Table PA_NB																
Study			Sheet Flo	w (max len	gth = 150')	1	Shallow Concentrated Flow						Channel Flo	Total	Total	
Point	Drainage Area	n	L _t (ft)	P ₂ (in)	S _t %	T _t (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)
	A1	0.24	100	4.08	6.0	8.1	Unpaved	497	5.2	16.13	2.3	0	6	0.0		
1	Ai	0.24	100	4.00	0.0	0.1	Paved	584	4.8	20.32	2.2				12.6	7.6
2	A2															
2	A1+A2				CA	RRY OVE	R FROM A1					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				CA	RRY OVE	R FROM A1				0.0	262	6	0.7	10.0	6.0
		Eq. 5.4.1					Eq 5.4.2					Eq 5.4.3			Eq 5.4	
		T _t =	$\frac{0.007(nL_t}{(P_2)^{0.5}S_t^{0.2}}$) ^{0.8} F			T _{sc} =	L _{sc} 3600KS _{sc} 0.5	-			T _{ch} =	= L _{ch} 3600 * V	-	$T_t + T_{sc} + T_{ch}$	

Study	Drainage Area		Coefficient	ent Coefficient Coefficient Coefficient Coefficient Intensity									How							
Point	Area(s)	A (ac.)	C ₂	C ₁₀	C ₂₅	C ₅₀	C ₁₀₀	l ₂ (in/hr)	l ₁₀ (in/hr)	l ₂₅ (in/hr)	l ₅₀ (in/hr)	l 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	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			

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.

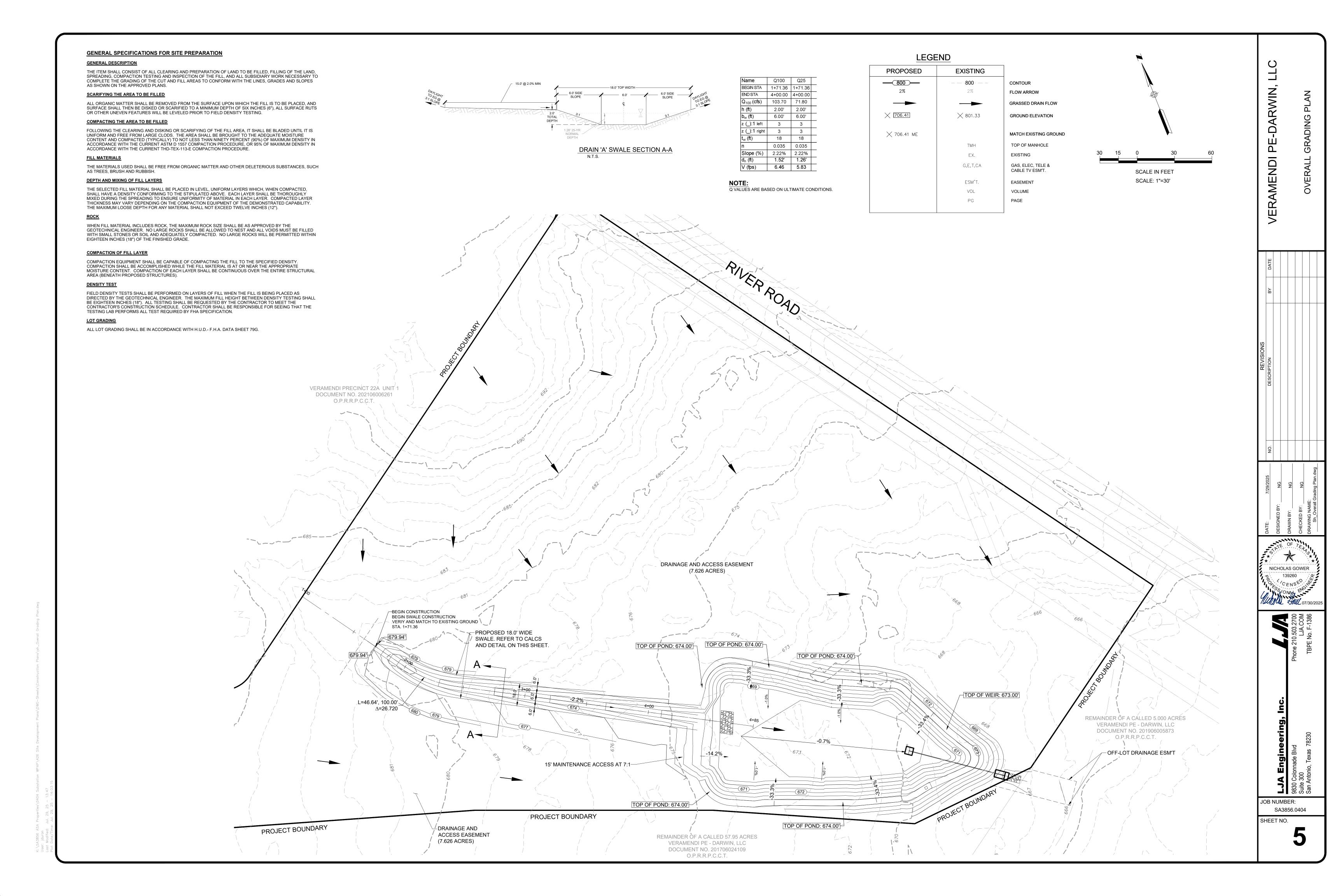




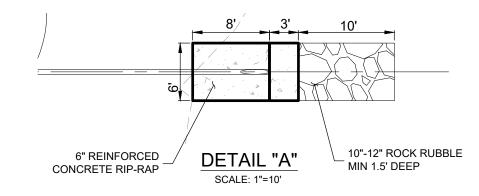
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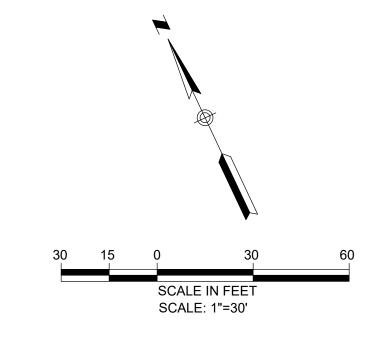
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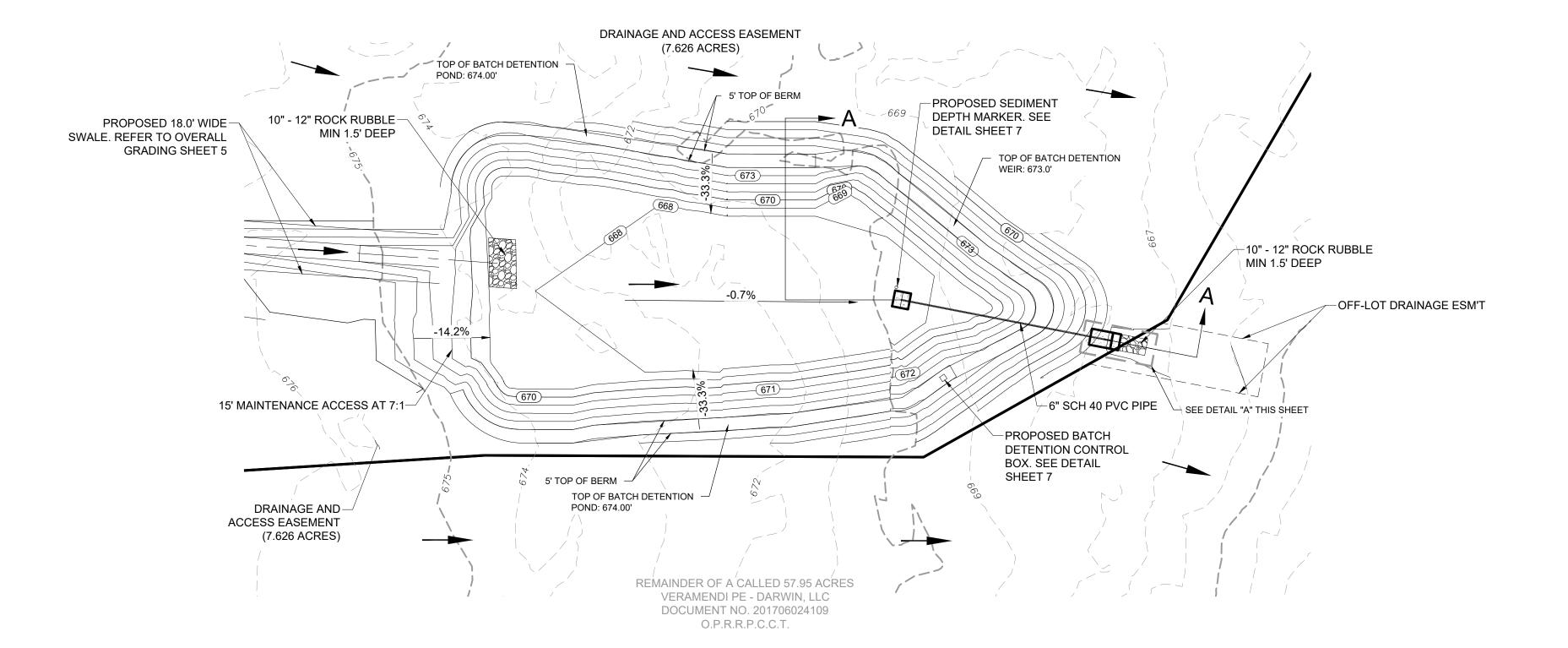
- THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATION FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETER 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 MINIMUM COMPRESIVE STRENGTH OF 3.000 PSI IN 28 DAYS.
- 3. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS. 4. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO 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 BRAUNFELS WILL ACCEPT. 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 AASHTO M170 CLASS III RCP.
- 8. ALL WORK SHALL BE PERFORMED WITHIN SITE LIMITS 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 REQUIRED TO PERFORM TESTING REQUIREMENTS TO SATISFY CITY OF NEW BRAUFNELS 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. 12. ALL DISTURBED AREAS TO BE STABILIZED WITH HYDROMULCH IMMEDIATELY AFTER
- ESTABLISHING FINAL GRADES UNLESS OTHERWISE NOTED. 13. UPON COMPLETION OF THE PROPOSED STORMWATER DETENTION, AND PRIOR TO THE RELEASE OF THE CERTIFICATE OF ACCEPTANCE OR OCCUPANCY BY THE PERMIT CENTER, THE DESIGN ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED STRUCTURAL CONTROL(S) WAS INSPECTED (INCLUDING DATE AND TIME OF THE
- INSPECTION) AND CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS. 14. ALL CONCRETE LINING SHALL BE A MINIMUM OF SIX (6) INCHES THICK AND REINFORCED WITH NO. 4 ROUND BARS @ 18 INCHES ON CENTER EACH WAY OR WELDED WIRE FABRIC OF 6" x 6"-W/D6 x W/D6. THE DEPTH OF ALL TOEDOWNS SHALL BE 36 INCHES UPSTREAM, 24 INCHES DOWNSTREAM, AND 18 INCHES FOR SIDE
- 15. CONTRACTOR TO FILL AND COMPACT TO 95% DENSITY IN FILL SECTIONS OVER STORM
- SEWER LINES. 2.0'(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION. 16. ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF NEW BRAUNFELS
- 17. ALL BENDS AND FITTINGS SHALL BE PREFABRICATED BY MANUFACTURER. NO FIELD FABRICATION OF FITTINGS IS ALLOWED.

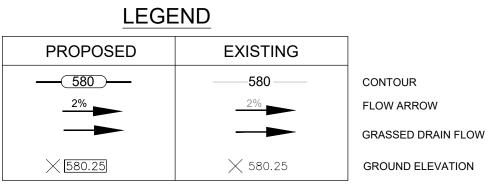




ARWIN,

AMENDI





EMERGENCY OVERFLOW WEIR CALCULATION $Q_{CAP} = C^*L^*H^{3/2}$ H=1.0' C=2.6 Q_{CAP}=2.6*60*1.0^{3/2} Q_{CAP}=156.0 CFS Q₁₀₀=103.7 CFS 156.0 CFS > 103.7 CFS = OK

RISER PIPE, TRASH RACK, SEDIMENT DEPTH MARKER AND FLOAT SWITCH (SEE LOCATE RISER PIPE AT -LOWEST POINT IN BASIN TOP OF BERM (674.00' MIN) WOP OF WEIR=673.00' REFER TO GEOTECHNICAL PIPE TO BE WRAPPED IN -REPORT FOR BERM 5' BERM FILTER FABRIC TO CONSTRUCTION COLLECT SILT ← 6" TOPSOIL WITH BLOCK - 24" TOE DOWN ALL AROUND SOD ALL AROUND TOP OF POND = 674.00' WATER QUALITY STORAGE = 672.00' - 6" REINFORCED CONCRETE RIPRAP OVERFLOW ELEVATION = 673.00' #4 BARS @ 18" O.C.E.W. STACK ROCK/RUBBLE SIDE SLOPE MAX SLOPE: 3:1 NEXT TO PIPE TO PREVENT - MAX SLOPE: 3:1 BUOYANT EFFECTS DURING STORM EVENTS. FLOAT SWITCH SHALL __ 1.0' CLAY LINER ALL REMAIN VISIBLE. AROUND CONTINUE 1% GRADE TO EXISTING GROUND TO ENSURE POSITIVE DRAINAGE **ROCK RUBBLE** MIN 1.5' DEEP NATIVE MATERIAL (SEE -WATERPROOF VALVE GEOTECH REPORT FOR ATTACHED TO THE BATCH DETAILS) DETENTION CONTROL BOX 6" REINFORCED CONCRETE RIPRAP -└─ 36" TOE-DOWN SECTION A-A #4 BARS @ 18" O.C.E.W.

Table 3-6 Clay Liner Specifications (COA, 2004)

Specification ASTM D-2434 Plasticity Index of Clay | ASTM D-423 & D-424 | % Not less than 15 ASTM D-2216 Not less than 30 Liquid Limit of Clay ASTM D-422 Not less than 30 Clay Particles Passing ASTM D-2216 95% of Standard Proctor Clay Compaction Density

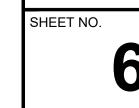
> CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION, ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED BEGINNING WORK AND SHALL BE DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

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



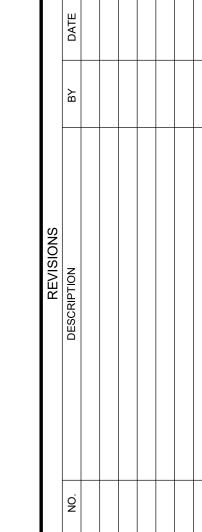


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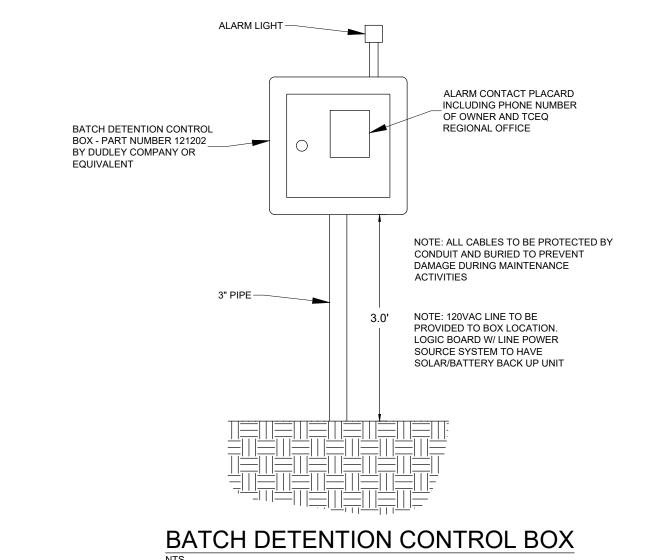


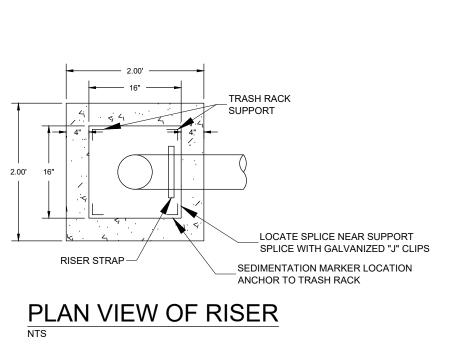


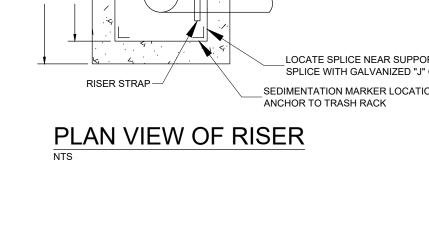
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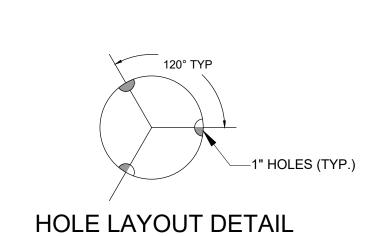
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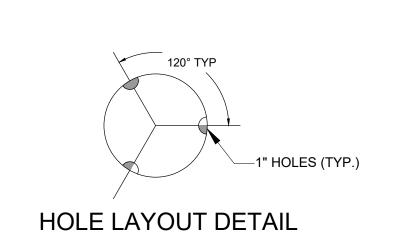
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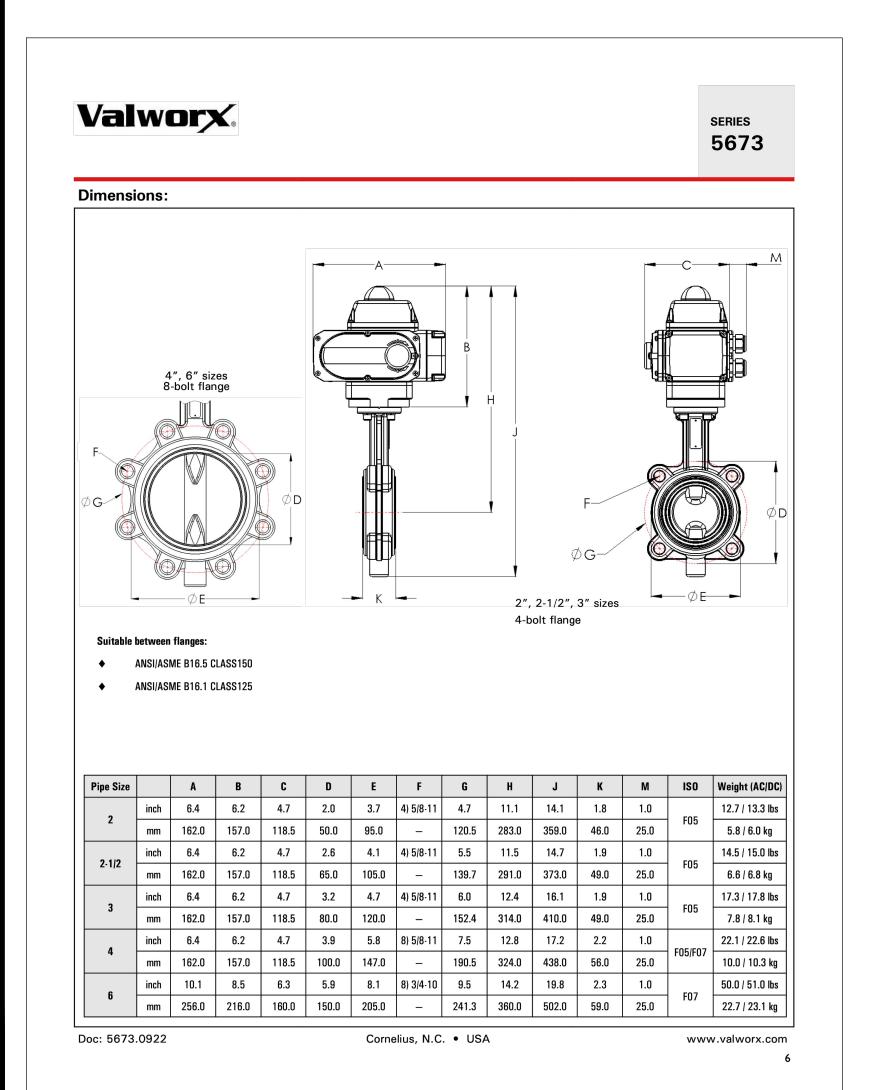












PERFORATED 6" SCH 40

PER ROW, 6 ROWS @ 4"

SOLID REMOVABLE CAP-

GALVANIZED STRAP WITH ANCHOR BOLT

TYPE SE SUSPENDED FLOAT SWITCH BY ANCHOR SCIENTIFIC OR APPROVED EQUAL

> CONNECT TO CONTROLLER

SECTION VIEW OF RISER

FLOAT SENSOR

3" TO 4" GRAVEL

2'x2'x4" CONCRETE PAD-

SURROUNDING PIPE

SPACING BETWEEN ROWS

1.5"x1.5" GALVANIZED ANGLE

-IRON TRASH RACK SUPPORT

REMOVABLE TRASH RACK MADE

FROM GALVANIZED WELDED FABRIC

SET INTO CONC PAD

OPENING SIZE 1"x1"

SEDIMENT MARKER

-6" SCH 40 PVC PIPE

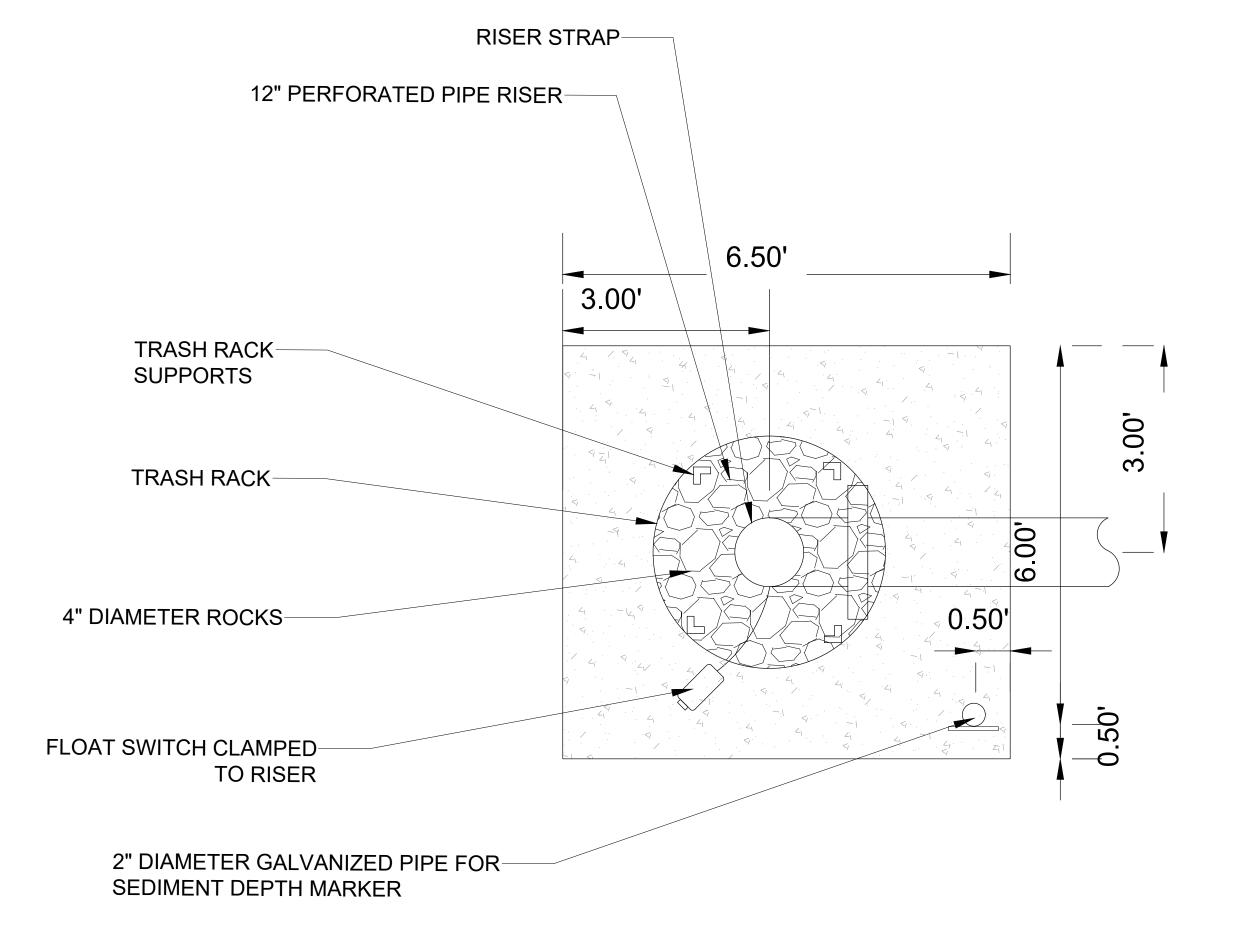
NOTE: FLOAT SWITCH TO HAVE

DIFFERENTIAL OF APPROX. 3.5

A MAX ACTIVATION

ATTACHED TO TRASH RACK

PVC RISER W/ (3)- 1" HOLES



PERFORATED RISER PAD TOP VIEW N.T.S.

1. CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION IN BASINS PER BASIN DETAIL SHEET PRIOR TO SITE CLOSEOUT.

SEDIMENT DEPTH MARKER

- 2. UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S (FILTERSTRIPS AND BASINS) MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
- 3. ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASINS SHALL BE REVEGATATED PRIOR TO COMPLETION.

SEQUENCE OF OPERATION

SEDIMENT MARKER TO BE

BOTTON POND ELEVATION,

AND GREEN BELOW 6".

PLACED ADJACENT TO

POND OUTLET.

SEDIMENT MARKER TO BE

RED PAINT ABOVE

6" MARK

GREEN PAINT

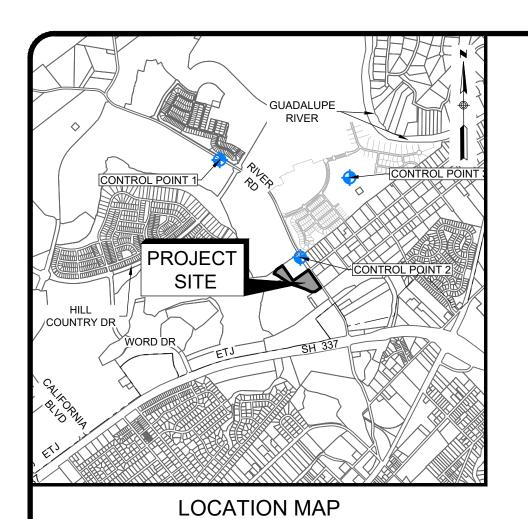
BELOW 6" MARK

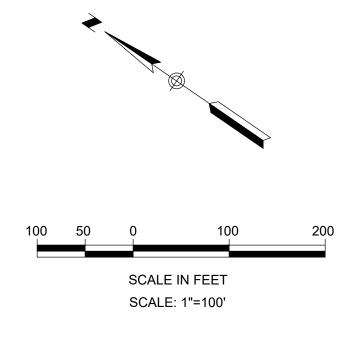
RED COLOR ABOVE 6" OF

- 1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION
- 2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
- 3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 8" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
- 4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROL TO START DETENTION
- 5. DETENTION TIMER #2 TO BE MANUALLY SET TO 19-48 HOURS AND TO BE USER ADJUSTABLE.
- 6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 8" BUTTERFLY VALVE IS TO
- 7. VALVE TO BE ACTUATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.

NOTES TO CONTRACTOR (EACH PHASE OF BASIN CONSTRUCTION)

- 1. CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR
- 2. CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN:
- REINFORCING STEEL FOR BASIN WALL OR RIPRAP LINER HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED AND DRAIN PIPE AND RISER PIPE IS IN
- 3. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.
- 4. UPON SUBSTANTIAL COMPLETION, OR AS REQUESTED BY ENGINEER, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:
- TOP OF BANK/WALL AT EACH CORNER OF BASIN
- TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
- SPLASH PAD/INLET PIPES OVERFLOW WEIRS
- 5. BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR WILL REMOVE ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASINS AND REESTABLISH THEM TO THE PROPER OPERATING CONDITION.





LEGEND

GRASSED DRAIN FLOW PAVEMENT DRAIN FLOW -800 EXISTING CONTOUR -----800 PROPOSED CONTOUR STAGING AREA CONCRETE WASHOUT PIT STABILIZED CONSTRUCTION EXIT

TEMPORARY BARRICADE LIMITS OF CONSTRUCTION **ROCK BERM**

INLET PROTECTION SEE DETAIL SHEET 9

GENERAL NOTES:

- 1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
- 2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
- 3. 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.
- 4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
- 5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
- 6. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.
- 7. 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.
- 8. 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.
- 9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.
- 10. 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.
- 11. 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.
- 12. 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.
- 13. 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 (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES. HOUSE CONSTRUCTION ACTIVITIES WILL REQUIRE A SEPARATE STORM WATER POLLUTION PREVENTION PLAN.
- 14. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT RIGHT-OF-WAY WITH TXDOT.
- 15. 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.
- 16. 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.

SWPPP MODIFICATIONS

MODIFICATIONS

SIGNATURE

DATE

17. ACCESS TO VERAMENDI PRECINCT 19 UNIT 1 WILL BE PROVIDED FROM VERAMENDI WORD PKWAY.

JOB NUMBER:

SA3856.0404 SHEET NO.

RIVER ROAD STABILIZED CONSTRUCTION ENTRANCE/EXIT STAGING AREA CONCRETE WASHOUT PIT DRAINAGE AND ACCESS EASEMENT VERAMENDI PRECINCT 22A UNIT 1 (7.626 ACRES) DOCUMENT NO. 202106006261 O.P.R.R.P.C.C.T. REMAINDER OF A CALLED 5.000 ACRES VERAMENDI PE - DARWIN, LLC DOCUMENT NO. 201906005873 O.P.R.R.P.C.C.T. REMAINDER OF A CALLED 2,086 ACRES WORD-BORCHERS RANCH REAL ESTATE _ - - LIMITED PARTNERSHIP DOCUMENT NO. 201006024825 O.P.R.R.P.C.C.T. REMAINDER OF A CALLED 57.95 ACRES VERAMENDI PE - DARWIN, LLC DOCUMENT NO. 201706024109 O.P.R.R.P.C.C.T. -DRAINAGE AND ACCESS EASEMENT (7.626 ACRES) REMAINDER OF A CALLED

129.369 ACRES VERAMENDI PE -DARWIN, LLC DOCUMENT NO. 202006025702 O.P.R.R.P.C.C.T.

- A. SILT FENCE
- 1. 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 BRINDELL HARDNESS EXCEEDING 140.
- 2. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.
- 3. 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.
- 4. 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 1/4 ACRE/100 FEET OF FENCE.
- 5. 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.
- 6. 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
- 7. 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.
- 8. INSPECT ALL FENDING 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

BACKFILLED WITH COMPACTED MATERIAL

- 1. 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.
- 2. FILTER FABRIC SHOULD LAP OVER ENDS SIX (6) INCHES TO COVER DIKE TO DIKE JUNCTION; EACH JUNCTION SHOULD BE SECURED BY SHOAT RINGS.
- 3. POSITION DIKE PARALLEL TO THE CONTOURS, WITH THE END OF EACH SECTION CLOSELY ABUTTING THE ADJACENT SECTIONS.
- 4. 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.
- 5. 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.
- 6. WHEN MOVED TO ALLOW VEHICULAR ACCESS, THE DIKES SHOULD BE REINSTALLED AS SOON AS POSSIBLE, BUT ALWAYS AT THE END OF THE
- 7. 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
- 8. 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
- 1. AGGREGATE SIZE 4 TO 8 INCHES WASHED, COARSE STONE.
- 2. LENGTH AT LEAST 50 FEET.
- 3. THICKNESS MINIMUM 8 INCHES.
- 4. WIDTH MINIMUM WIDTH SHALL BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
- 5. 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.
- 6. 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
- 7. 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.
- 8. FABRIC PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE 4. STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
- D. <u>INTERCEPTOR SWALE</u>
- 1. MAXIMUM DEPTH OF FLOW IN THE SWALE SHALL BE 1 FOOT.
- 2. THE MINIMUM BOTTOM WIDTH OF THE SWALE SHALL BE 2 FEET.
- 3. SIDE SLOPES OF THE SWALE SHALL BE 3:1 OR FLATTER.
- 4. MINIMUM DESIGN CHANNEL FREEBOARD SHALL BE 6 INCHES
- 5. SWALES MUST MAINTAIN POSITIVE GRADE TO AN ACCEPTABLE OUTLET.
- 6. INTERCEPTOR SWALES MUST BE STABILIZED IMMEDIATELY UPON EXCAVATION SO AS NOT TO CONTRIBUTE TO THE EROSION PROBLEM THEY ARE ADDRESSING
- 7. 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.

- 8. ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE DISPOSED OF IN AN APPROPRIATE SPOILS SITE.
- 9. 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.

- THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH
- 2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
- 3. 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.
- 5. 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
- 6. 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 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
- 8. 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 2. STABILIZED AND ACCUMULATED SILT REMOVED. 3. THIS SITE WILL NOT HAVE ANY LOCATIONS WHERE STORM WATER

- 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.
- 2. 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
- 3. 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.
- 4. RUNOFF WATER SHOULD FLOW OVER THE TOPS OF THE SANDBAGS OR THROUGH 4-INCH DIAMETER PVC PIPES EMBEDDED BELOW THE TOP LAYER
- 5. SANDBAGS SHOULD BE STACKED IN AT LEAST THREE ROWS ABUTTING EACH OTHER, AND IN STAGGERED ARRANGEMENT.
- 6. 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
- THE SAND BAG BERM SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAII THE SANDBAGS SHOULD BE RESHAPED OR REPLACED AS NEEDED DURING
- 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

- 1. ALL AGGREGATE SHOULD BE AT LEAST 3 INCHES IN DIAMETER AND SHOULD NOT EXCEED A VOLUME OF 0.5 CUBIC FOOT.
- 2. 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.
- 3. 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
- 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.
- 5. FILTER STONE EMBANKMENT: FILTER STONE SHOULD BE PLACED OVER THE GEOTEXTILE AND IS TO HAVE A SIDE SLOPE WHICH MATCHES THAT OF THE FARTH EMBANKMENT OF 3:1 AND SHOULD COVER THE GEOTEXTILE/ROCK CORE A MINIMUM OF 6INCHES WHEN INSTALLATION IS COMPLETE. THE CREST OF THE OUTLET SHOULD BE AT LEAST 1 FOOT BELOW THE TOP OF THE
- 6. 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

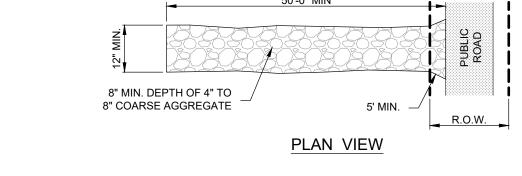
A. SEDIMENT BASINS

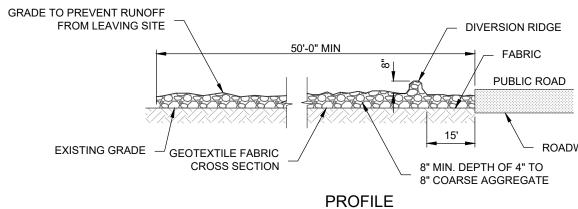
- THE DRAINAGE AREA FOR A SEDIMENT BASIN SHALL BE LESS THAN 100
- THE BASIN SHOULD INCLUDE A PERMANENT STAKE TO INDICATE THE SEDIMENT LEVEL IN THE POOL AND MARKED TO INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME (NOT THE TOP OF THE STAKE). SEDIMENT SHALL BE REMOVED WHEN SEDIMENT REACHES 50% STORAGE CAPACITY.
- LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. 3. PLACE FILL MATERIAL IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH. BEFORE COMPACTION MOISTEN OR AFRATE FACH 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.
 - 4. 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 BYA 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

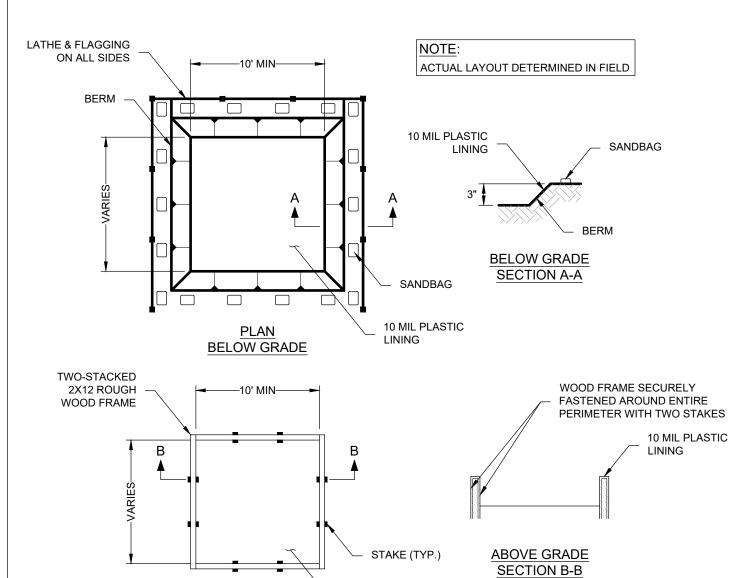
- UPON COMPLETION OF CONSTRUCTION ALL DISTURBED AREAS SHALL BE REVEGETATED TO 70% OF EXISTING CONDITIONS
- IN ACCORDANCE WITH THE SWPPP AND TPDES REQUIREMENTS.
- THIS SITE IS NOT LOCATED ADJACENT TO ANY SURFACE WATERS.

DISCHARGES DIRECTLY TO A SURFACE WATER BODY.





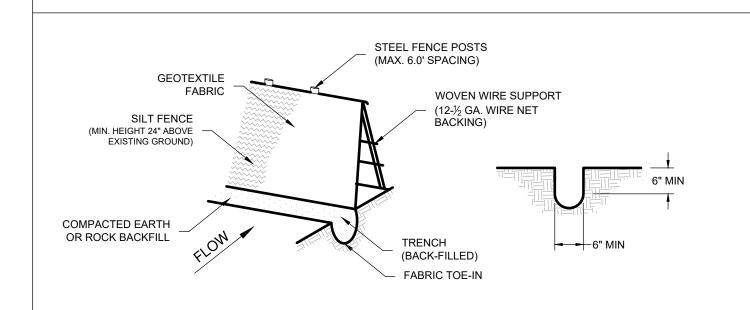
01 STABILIZED CONSTRUCTION EXIT



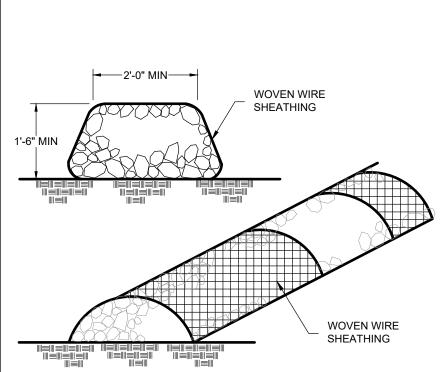
02 CONCRETE WASHOUT AREA

10 MIL PLASTIC

ABOVE GRADE



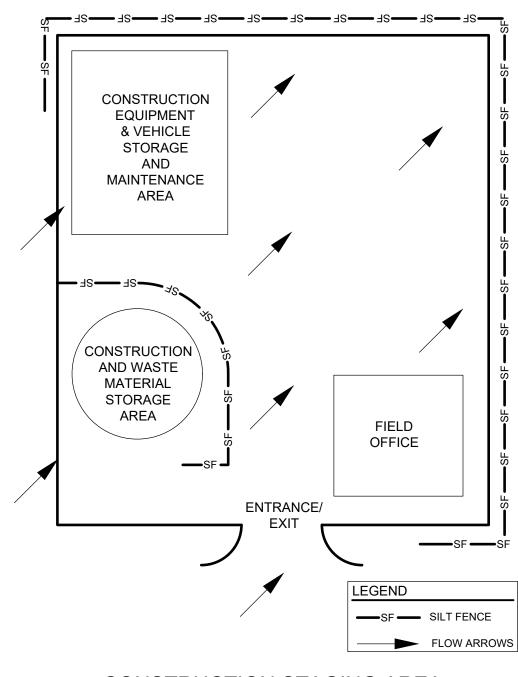
03 SILT FENCE



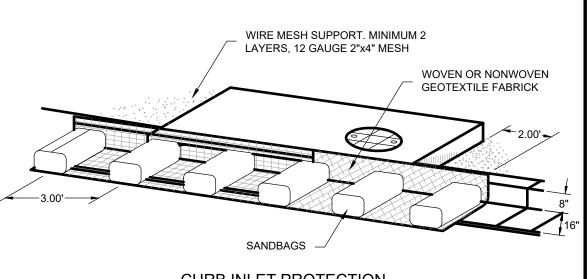
NOTES:

- 1. USE ONLY OPEN GRADED ROCK 4-8 INCH DIAMETER FOR STREAMFLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
- 2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
- 3. 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
- 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.
- 5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
- 6. WHEN THE SITE IS COMPLETELY STABILIZED. THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

05 ROCK BERM



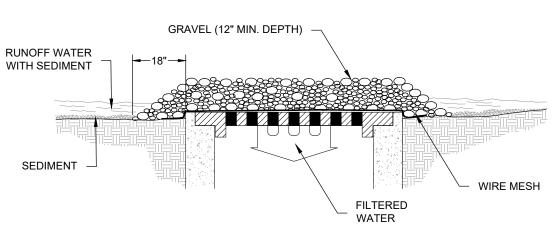
CONSTRUCTION STAGING AREA



CURB INLET PROTECTION

1. WHEN A SANDBAG IS FILLED WITH MATERIAL, THE OPEN END OF THE SANDBAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CHORD.

- 2. INLET PROTECTION SHALL BE PLACED OVER THE MOUTH OF THE INLET WITH A 2 FOOT OVERLAP ON
- 3. THE FABRIC COVER AND SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE.
- 4. THE SKIRT SHALL BE WEIGHTED WITH ONE 18"x24"x6" SANDBAG EVERY 3 FEET.
- 5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- 6. 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.
- 7. 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.



GRATE INLET PROTECTION

NOTES:

- 1. 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.
- 2. 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
- 3. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS IT'S FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.

04 INLET PROTECTION

JOB NUMBER: SA3856.0404 SHEET NO.

NICHOLAS GOWER