NAPA VALLEY POND

CONSTRUCTION PLANS

TRACT N, NAPA VALLEY 2ND PLAT

PART OF THE NW SECTION 36. TOWNSHIP 47, RANGE 32

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

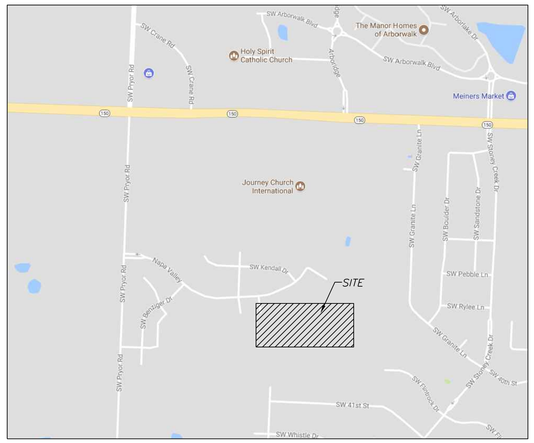
CONSTRUCTION AND DESIGN NOTES:

GENERAL NOTES:

1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2 ~ ALL REQUIRED EASEMENTS WITHIN THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR ON THE FINAL PLAT.
3 ~ ANY REQUIRED EASEMENT LOCATED OUTSIDE OF THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR BY SEPARATE INSTRUMENT PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
4 ~ THE CONTRACTOR SHALL NOTIFY THE CITY OF LEE'S SUMMIT PUBLIC WORKS INSPECTION AT 816.969.1800 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
5 ~ THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH THE IMPROVEMENTS PROPOSED BY THESE PLANS AND SITE CONDITIONS.
6 ~ THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND OBTAIN THE APPROPRIATE BLASTING PERMITS FOR A REQUIRED BLASTING. IF BLASTING IS ALLOWED, ALL BLASTING SHALL CONFORM TO STATE REGULATIONS AND LOCAL ORDINANCES.

NOTE :

ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.



VICINITY MAP – NOT TO SCALE

UTILITY COMPANIES:

THE FOLLOWING LIST OF UTILITY COMPANIES IS PROVIDED FOR INFORMATION ONLY. WE DO NOT OFFER ANY GUARANTEE OR WARRANTY THAT THIS LIST IS COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION AND VERIFYING THE ACTUAL LOCATION OF EACH UTILITY LINE. THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH PROPOSED IMPROVEMENTS.

KCP&L ~ 298-1196
MISSOURI GAS ENERGY ~ 756-5261
SOUTHWESTERN BELL TELEPHONE ~ 761-5011
COMCAST CABLE ~ 795-1100
WILLIAMS PIPELINE ~ 422-6300
CITY OF LEE'S SUMMIT PUBLIC WORKS ~ 969-1800
CITY OF LEE'S SUMMIT PUBLIC WORKS INSPECTIONS ~ 969-1800
CITY OF LEE'S SUMMIT WATER UTILITIES ~ 969-1900
MISSOURI ONE CALL (DIG RITE) ~ 1-800-344-7483

INDEX OF SHEETS:

PROPERTY DESCRIPTION:

All that part of Tract N, Napa Valley 2nd Plat, as recorded in the Office of the Recorder, Jackson County, Missouri. Recorded as Document Number 2016E0116406

LEGEND:

B/L – BUILDING SET-BACK
C/A – COMMON AREA
D/E – DRAINAGE EASEMENT
FND. – FOUND
L/E – LANDSCAPE EASEMENT
L.N.A. – LIMITS OF NO ACCESS
R/W – RIGHT OF WAY
SAN – SANITARY SEWER LINE
S/W – SIDEWALK
U/E – UTILITY EASEMENT
W – WATER LINE
ST – STORM SEWER LINE

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PROJECT HAS BEEN DESIGNED AND THESE PLANS PREPARED IN ACCORDANCE WITH THE CURRENT DESIGN CRITERIA OF THE CITY OF LEE'S SUMMIT, MISSOURI AND THE STATE OF MISSOURI. I FURTHER CERTIFY THAT THESE PLANS WERE DESIGNED IN ACCORDANCE TO AASHTO STANDARDS.

CITY OF LEE'S SUMMIT, MISSOURI

APPROVED: DATE: _____

BY: _____
CITY ENGINEER

"AS-BUILT"

900.10
~~900.00~~ Indicates data replaced with "As-Built" information. All other data is as designed and has not been field verified.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley Pond
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: October 24, 2017

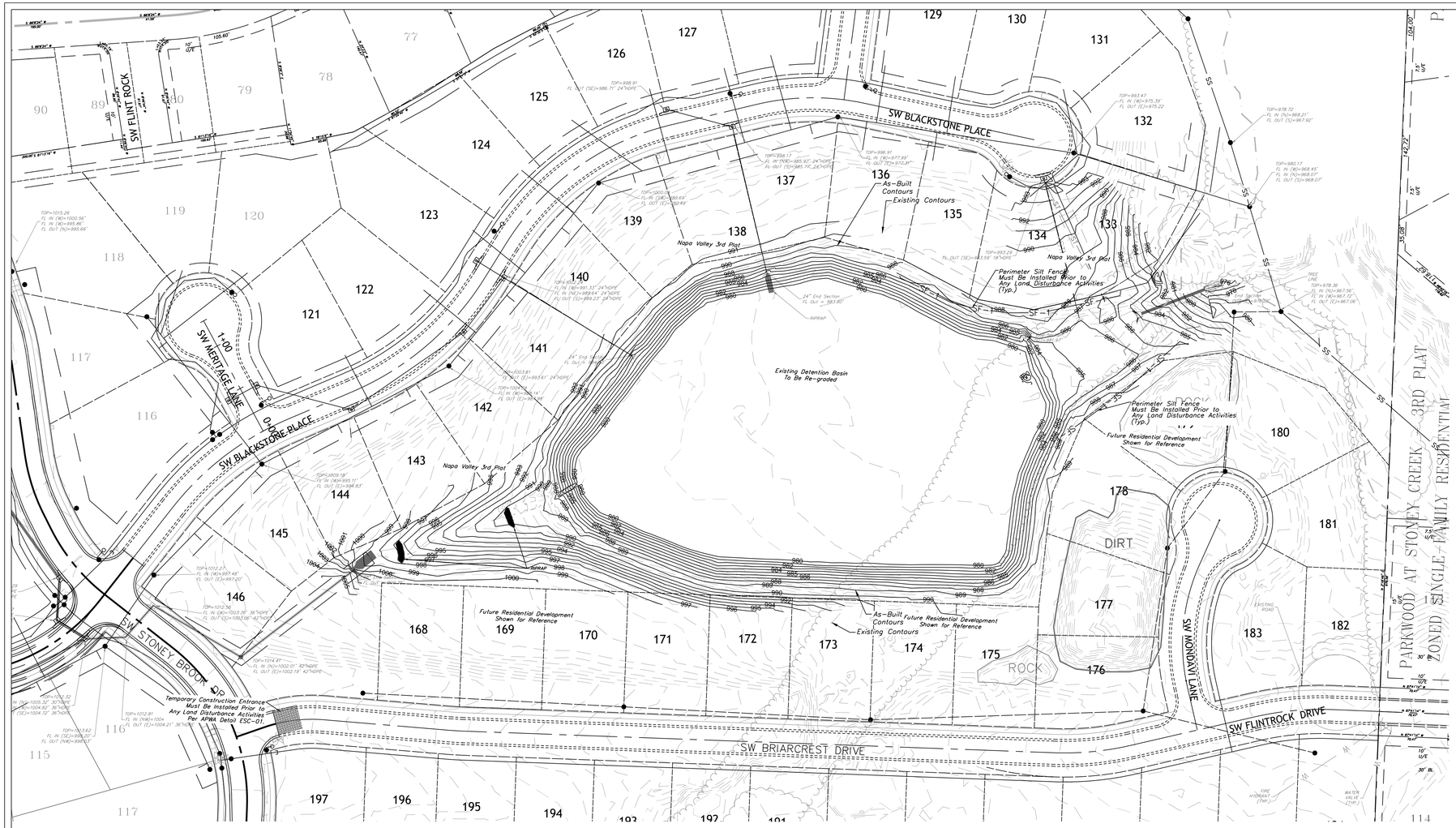
Cover Sheet
Construction Plans for:
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
2/9/2021 As-Built
3/10/2021 As-Built

C.001



North

0 25' 50' 100'

PRE CLEARING PLAN

SCALE: 1" = 50'

SILT FENCE PROTECTION TO BE MAINTAINED BY CONTRACTOR

LEGEND

Phase 1 Silt Fence	SF-1 SF-1
Phase 2 Silt Fence	SF-2 SF-2
Existing Water Line	X-W/M

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

NOTES: The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

MAINTENANCE:

TO MAINTAIN THE EROSION AND SEDIMENT CONTROLS, THE FOLLOWING PROCEDURES WILL BE PERFORMED:

SEDIMENT CAPTURE DEVICES: *SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC FENCES, WHEN THE DEPTH OF ACCUMULATED SEDIMENT REACHES ABOUT ONE-THIRD THE HEIGHT OF THE STRUCTURE.*

STORM SEWER INLETS: *ANY SEDIMENT IN THE STORM SEWER INLETS WILL BE REMOVED AND DISPOSED OF PROPERLY.*

TEMPORARY CONTROLS: *ALL TEMPORARY CONTROLS WILL BE REMOVED AFTER THE DISTURBED AREAS HAVE BEEN STABILIZED.*

INSPECTION PROCEDURES:

INSPECTIONS WILL BE DONE BY THE RESPONSIBLE PERSON(S) AT LEAST ONCE EVERY WEEK AND WITHIN 24 HOURS EACH STORM EVENT PRODUCING ANY AMOUNT OF RAINFALL. AREAS THAT HAVE BEEN RESEEDED WILL BE INSPECTED REGULARLY AFTER SEED GERMINATION TO ENSURE COMPLETE COVERAGE OF EXPOSED AREAS. DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED SHALL HAVE ALL POLLUTION CONTROL MEASURES INSPECTED FOR PROPER INSTALLATION, OPERATION AND MAINTENANCE. LOCATIONS WHERE STORM WATER LEAVES THE SITE SHALL BE INSPECTED FOR EVIDENCE OF EROSION OR SEDIMENT DEPOSITION. ANY DEFICIENCIES SHALL BE NOTED IN A REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE INSPECTION. THE PERMITTEE SHALL PROMPTLY NOTIFY THE SITE CONTRACTORS RESPONSIBLE FOR OPERATION AND MAINTENANCE OF POLLUTION CONTROL DEVICES OF DEFICIENCIES.

IF THE EXISTING GROUND COVER IS NATURAL GRASS. DISTURBED AREAS SHALL BE TEMPORARILY SEEDED WITH WHEAT/RYE AT A RATE OF 1.5 POUNDS PER 1000 SQUARE FEET. PERMANENT SEEDING SHALL CONSIST OF 90% IN THREE EQUAL PARTS OF THIN BLADE, TURF-TYPE, TALL FESCUE AND 10% BLUEGRASS SEED AT A RATE OF 10 POUNDS PER 1000 SQUARE FEET. BOTH TEMPORARY AND PERMANENT SEEDED AREAS SHALL BE MULCHED AND WATERED TO MAINTAIN THE PROPER MOISTURE LEVEL OF THE SOIL TO ESTABLISH GRASS. NEW GRASS SHALL BE WATERED AND MAINTAINED UNTIL IT REACHES A HEIGHT OF 3 INCHES. ANY BARE AREAS SHALL BE RESEEDED.

ALL EROSION CONTROL DEVICES SHALL BE REMOVED BY GENERAL CONTRACTOR AFTER SITE STABILIZATION IS COMPLETE AND APPROVED BY ENGINEER.

THE DEVELOPER WILL DESIGNATE A QUALIFIED PERSON OR PERSONS TO PERFORM THE FOLLOWING INSPECTIONS:

STABILIZATION MEASURES: *DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION WILL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. AFTER A PORTION OF THE SITE IS FINALLY STABILIZED, INSPECTIONS WILL BE CONDUCTED AT LEAST ONCE EVERY MONTH THROUGHOUT THE LIFE OF THE PROJECT. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION MEASURES.*

STRUCTURAL CONTROLS: *FILTER FABRIC FENCES AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN WILL BE INSPECTED REGULARLY FOR PROPER POSITIONING, ANCHORING, AND EFFECTIVENESS IN TRAPPING SEDIMENTS. SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION MEASURES.*

DISCHARGE POINTS: *DISCHARGE POINTS OR LOCATIONS WILL BE INSPECTED TO DETERMINE WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT AMOUNTS OF POLLUTANTS FROM ENTERING RECEIVING WATERS.*

CONSTRUCTION ENTRANCE: *LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE WILL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.*

A LOG OF EACH INSPECTION SHALL BE KEPT. THE INSPECTION REPORT IS TO INCLUDE THE FOLLOWING MINIMUM INFORMATION: INSPECTOR'S NAME, DATE OF INSPECTION, OBSERVATIONS RELATIVE TO THE EFFECTIVENESS OF THE POLLUTION CONTROL DEVICES, ACTIONS TAKEN OR NECESSARY TO CORRECT DEFICIENCIES, AND LISTING OF AREAS WHERE LAND DISTURBANCE OPERATIONS HAVE PERMANENTLY OR TEMPORARILY STOPPED. THE INSPECTION REPORT SHALL BE SIGNED BY THE PERMITTEE OR BY THE PERSON PERFORMING THE INSPECTION IF DULY AUTHORIZED TO DO SO.

EROSION CONTROL DESCRIPTION:

1.) SILT FENCE SHALL BE PLACE AT THE PERIMETER OF THE GRADING AND AT INTERMEDIATE AREAS THROUGHOUT THE SITE AS SHOWN ON THE PLAN. INLET SEDIMENT TRAPS SHALL BE PLACED SURROUNDING ALL STORM INLETS

2.) INSTALL TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN ON PLAN

EROSION CONTROL PROCEDURE:

1.) SILT FENCE AND TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE PERIMETER OF THE GRADED AREAS PRIOR TO BEGINNING OF CLEARING OR DEMOLITION OPERATIONS. THE CONTRACTOR SHALL INSTALL SILT FENCE AS SHOWN ON PLANS AS GRADING PROGRESSES.

TEMPORARY CONSTRUCTION ENTRANCE NOTES:

A.) INSTALLATION

1.) AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC STREETS. IF POSSIBLE, LOCATE WHERE PERMANENT ROADS WILL EVENTUALLY BE CONSTRUCTED

2.) REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE AND CROWN FOR POSITIVE DRAINAGE.

3.) IF SLOPE TOWARDS THE PUBIC ROAD EXCEED 2% CONSTRUCT A 6 TO 8 INCH HIGH RIDGE WITH 3H : 1V SIDE SLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE EDGE OF THE PUBLIC ROAD TO DIVERT RUNOFF AWAY FROM IT.

4.) INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES ALONG PUBLIC ROADS

5.) PLACE STONE TO DIMENSIONS AND GRADES AS SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPED FOR DRAINAGE

6.) DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE

7.) IF WET CONDITIONS ARE ANTICIPATED PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY

B.) TROUBLESHOOTING

1.) CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL IF ANY OF THE FOLLOWING OCCUR:

-INADEQUATE RUNOFF CONTROLS TO THE EXTENT THAT SEDIMENT WASHES ONTO PUBLIC ROADS

- INSTALL DIVERSIONS OR OTHER RUNOFF CONTROL MEASURES

-SMALL STONE, THIN PAD, OR ABSENCE OF GEOTEXTILE FABRIC RESULTS IN RUTS AND MUDDY CONDITIONS AS STONE IS PRESSED INTO SOIL - INCREASE STONE SIZE OR PAD THICKNESS OR ADD GEOTEXTILE FABRIC

-PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC - EXTEND PAD BEYOND THE MINIMUM 50 FOOT LENGTH AS NECESSARY

C.) INSPECTION AND MAINTENANCE

1.) INSPECT STONE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER ANY RAIN EVENT

2.) RESHAPE PAD AS NEEDED FOR PROPER DRAINAGE AND RUNOFF CONTROL

3.) TOP DRESS WITH CLEAN 2 AND 3 INCH STONE AS NEEDED

4.) IMMEDIATELY REMOVE MUD OR SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADWAY. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY

5.) REMOVE ALL TEMPORARY ROAD MATERIALS FROM AREAS WHERE PERMANENT VEGETATION WILL BE ESTABLISHED

"AS-BUILT"

900.10

~~900.00~~ Indicates data replaced with "As-Built" information. All other data is as designed and has not been field verified.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley Pond
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: October 24, 2017

ESC PHASE 1 PLAN
Construction Plans for :
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
2/9/2021 As-Built
3/10/2021 As-Built

C.050

INACTIVE AREA STABELIZATION PLAN

SCALE: 1" = 20'

North

0 10' 20' 40'

SILT FENCE PROTECTION
TO BE MAINTAINED BY CONTRACTOR

LEGEND

- Phase 1 Silt Fence — SF-1 — SF-1
- Phase 2 Silt Fence — SF-2 — SF-2
- Proposed Storm Line — S — S — S
- Existing Storm Line — X-STM-

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

NOTES: The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

"AS-BUILT"

900.10
~~900.00~~ Indicates data replaced with "As-Built" information. All other data is as designed and has not been field verified.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley Pond
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: October 24, 2017

ESC PHASE 2 PLAN
Construction Plans for:
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
2/9/2021 As-Built
3/10/2021 As-Built

C.051

North

0 10' 20' 40'

FINAL RESTORATION PLAN

SCALE: 1" = 20'

SF-1

SILT FENCE PROTECTION TO BE MAINTAINED BY CONTRACTOR

LEGEND

PHASE 1 SILT FENCE —SF-1—SF-1—

PHASE 2 SILT FENCE —SF-2—SF-2—

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

NOTES:

1) *The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.*
2) *Per Unified Ordinance Section 14.090.B.2. All portions of the site not covered with paving or buildings shall be landscaped. Open areas not covered with other materials shall be covered with sod. Ground cover shall be utilized on all slopes in excess of 3:1 slope.*

SEED AND MULCH NOTES:

Seeding shall be done before the proposed seedbed becomes eroded, crusted over, or dried out and shall not be done when the ground is frozen, or covered with snow. The seed shall comply with the requirements of the Missouri Seed Law and the Federal Seed Act. Also, it shall contain no seed of any plant on the Federal Noxious Weed List. Other weed seeds shall not exceed one percent by weight of mix

Seed and Fertilizer Rate:
Mix I – Rye Grass / Blue Grass --------- 100 lbs. per Acre
Mix II – Tall Fescue / Blue Grass ------- 195 lbs. per Acre
Lime ----------2000 lbs per Acre (50 lbs. per 1000 sq. ft.)
Fertilizer ----------800 to 1200 lbs per Acre (25 lbs per 1000 sq. ft.)

During the dates December 15th through May 31 ALL lime fertilizer, seed and mulch shall be applied to finished slopes of disturbed areas. During the months of June, July, October and November 1st through December 15th, lime fertilizer, seed and mulch shall be applied at the following rates:
Lime – 100% of specified quantity
Fertilizer – 75% of the specified quantity
Seed – 50% of the specified quantity
Mulch – 100% of the specified quantity

Mulch shall be Vegetative type, cereal straw from stalks of oats, rye, or barley, or approved equal. The straw shall be free of prohibited weed seed and relatively free of all other noxious and undesirable seed. Mulch shall be applied at the rate of 2 tons per acre, (70 to 90 lbs per 1000 sq. ft.). Mulch shall be embedded by a mulch anchoring tool or disk type roller having flat serrated disks spaced not more than 10 inches apart and cleaning scrapers shall be provided

"AS-BUILT"

900.10
~~900.00~~ Indicates data replaced with "As-Built" information. All other data is as designed and has not been field verified.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley Pond
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: October 24, 2017

ESC Phase 3 Plan
Construction Plans for:
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
2/9/2021 As-Built
3/10/2021 As-Built

C.052

Construction Notes

1. *Existing Detention Pond was constructed and approved as part of the Napa Valley 2nd and 3rd Plat Construction Plans.*
2. *The storage capacity of the detention facility atop the Permanent Pool is the same volume as designed originally*

North

0 25' 50' 100'

SITE PLAN

SCALE: 1" = 50'

SW BLACKSTONE PLACE
SW FLINT ROCK
SW MERITAGE LANE
SW STONEY BROOK DR.
SW BRIARCREST DRIVE
SW FLINTROCK DRIVE
SW MONDAVI LANE
PARKWOOD AT STONEY CREEK 3RD PLAT
SE CORNER, NW-1/4 SECTION 36-47-32

Napa Valley 3rd Plat

As-Built Contours

Proposed Contours

987.00

989.00

980.00

Water Permanent Pool
Elev: ~~983.00~~ 982.42
Surface Area 2.72 Acres

Basin Slope above Permanent Pool
Side Slopes 3:1 Max

Basin Slope below Permanent Pool
Side Slopes 2:1 Max

Existing Detention Basin to be converted to a Retention Basin
Top of Storage Elev: ~~988.50~~ 987.92
100 Year Emergency Spillway ~~986.50~~ 986.26
Permanent Pool Elev: ~~983.00~~ 982.42

Remove Existing Rock Check Dams

New Outlet Control Structure and Piping See Details this Set

Existing Outlet Structure and Piping to be Removed

Tract N
Napa Valley 2nd Plat

Future Napa Valley Subdivision Shown for Reference Only

ROCK

DIRT

"AS-BUILT"

900.10
~~900.00~~ Indicates data replaced with "As-Built" information. All other data is as designed and has not been field verified.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley Pond
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: October 24, 2017

SITE PLAN
Construction Plans for:
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

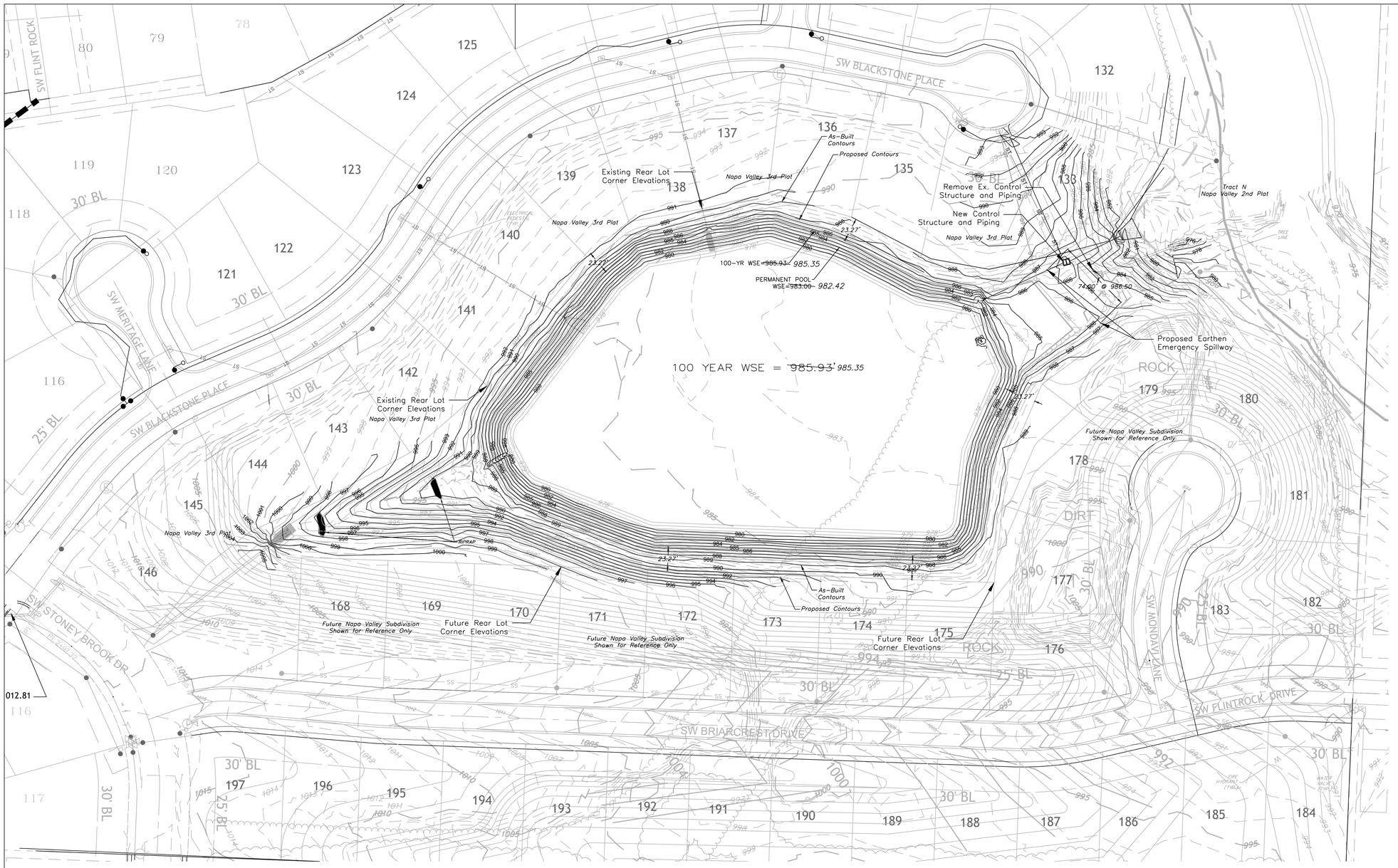
Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

2/9/2021 As-Built

3/10/2021 As-Built

C.100



North

0 25' 50' 100'

GRADING PLAN

SCALE: 1" = 50'

Notes

1. Contractor is responsible for verifying all existing utility locations prior to excavation
2. There are no known natural or artificial water storage detention areas, or wetlands in the area designated for construction
3. No part of the project lies within the 100 year flood plain
4. All erosion and sediment control measures need to be implemented prior to construction
5. Additional erosion control may be required by the City Engineer, Design Engineer or Owner at any time problematic areas are noted in the field or existing measures are found to be ineffective
6. Soil Stabilization of disturbed areas shall be completed within 14 days of construction inactivity
7. Contractor responsible for all density testing of roadway subgrade and granular base.
8. Contractor responsible to provide Engineering Solutions an Asbuilt topographic survey of the site to verify grades.

Estimated Cut / Fill Quantities

Pond Area	2.89 Acres
Cut Volume (Unadjusted)	44,489 c.y.
Fill Volume (Unadjusted)	940 c.y.
Net Export Required	43,549 c.y. (Unadjusted)

"AS-BUILT"

900.10

~~900.00~~ Indicates data replaced with "As-Built" information. All other data is as designed and has not been field verified.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley Pond
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO

Issue Date: October 24, 2017

GRADING PLAN
Construction Plans for:
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

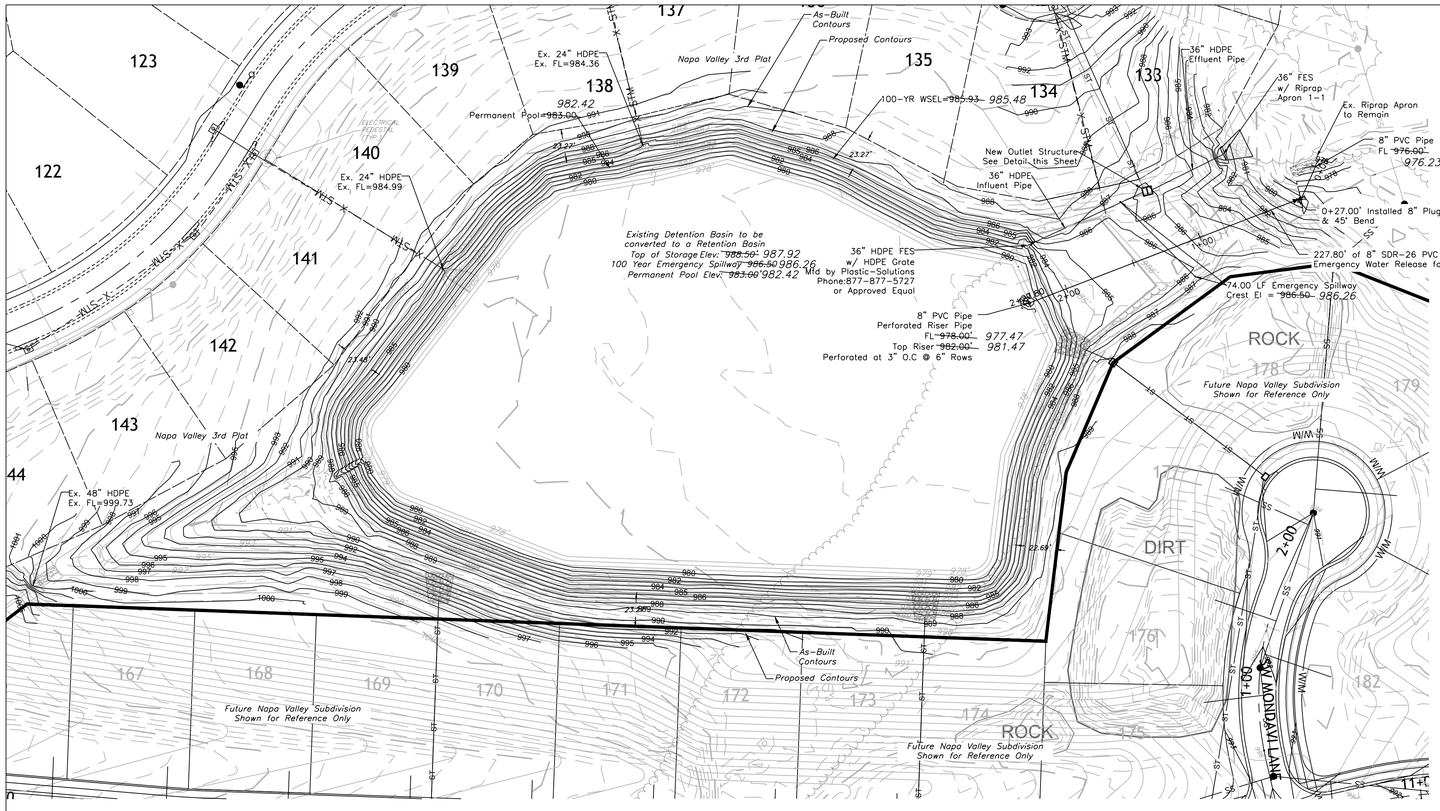
Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

2/9/2021 As-Built

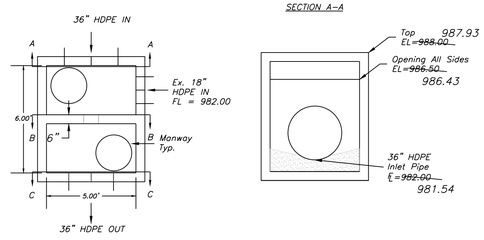
3/10/2021 As-Built

C.200



RETENTION PLAN

SCALE: 1" = 50'



OUTLET STRUCTURE – BASIN E

¼" = 1'-0"

Field End Section #		1-1	
Q =	50.57	cfs	
D =	3	ft	
Tw =	1.2	ft	
g =	32.2	ft/s^2	
D_{50} =	8.54	inches	
S =	0.0156	ft/ft	
n =	0.01		
Qcap =	108.14	ft^3/s	
Q/Qcap =	0.47		
d/D =	0.48		
d =	1.44	ft	
Central <	87.71	deg	
Aseg =	2.63	ft^2	
V =	19.21	ft/s	
Fr =	2.82		
Flow =	Supercritical		
D' =	2.22	ft	
yn =	1.44	ft	
D_{50} =	12.76	inches	

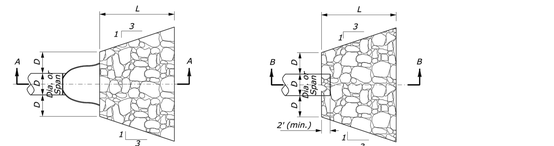
D_{50} = riprap size, m(ft)
Q = design discharge, m^3/s (ft^3/s)
D = culvert diameter (circular), m(ft)
Tw = tailwater depth, m(ft), if unknown use 0.4*D
g = acceleration due to gravity, 9.81 m/s^2 (32.2 ft/s^2)
Subcritical Flow

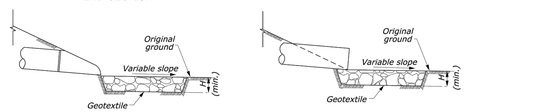
S = pipe slope, m/m(ft/ft)
n = manning's roughness coefficient, unitless
Qcap = full pipe capacity, m^3/s(ft^3/s)
Q/Qcap = design discharge/full pipe capacity, unitless
d/D = water depth/pipe diameter, unitless
d = depth of flow, m(ft)
lookup, degrees
lookup * pipe area, m^2(ft^2)
V = velocity of flow segment, m^2/s(ft^2/s)
Fr > 1 Supercritical, Fr = 1 Critical, Fr < 1 Subcritical
If flow is Supercritical adjust culvert diameter

D' = culvert diameter adjustment, m(ft)
yn = normal (supercritcal) depth in culvert, m(ft)
See Riprap Apron Schedule for Size

RipRap Apron	Area (ac.)	Q100 (cfs)	Dia. (ft)	RipRap Apron Class	D_{50} (in)	Length (ft)	Depth (in)	Width (ft)	Slope (%)
1-1	30.61	46.78	3	4	14	18	31	21	1.56

STANDARD RIPRAP APRON DETAIL



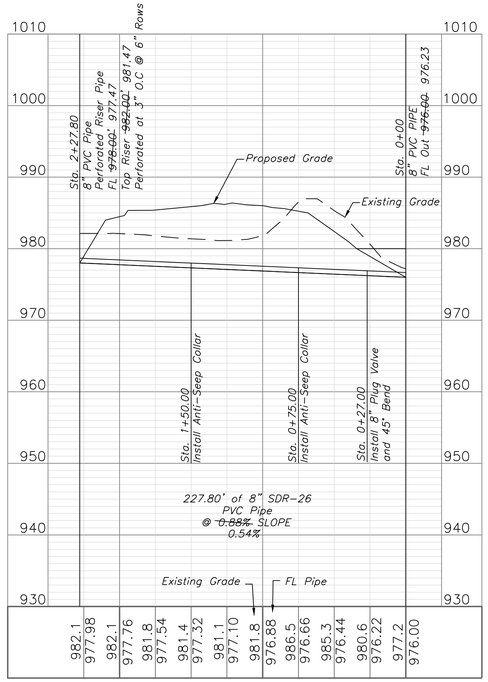


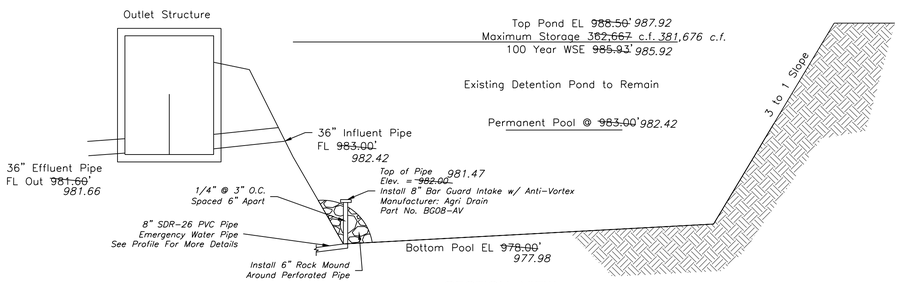
NOTES:
1. ALL RIPRAP APRONS SHALL CONFORM TO THE STANDARD CONFIGURATION SHOWN IN THE STANDARD DETAIL ABOVE UNLESS OTHERWISE NOTED. PLAN VIEW DIMENSIONS SHOWN SHALL BE MET OR EXCEEDED INCLUDING AREAS OF LONGITUDINAL AND/OR TRANSVERSE SLOPE.
2. DIMENSIONS FOR EACH RIPRAP APRON AND ASSOCIATED RIPRAP ARE DETAILED IN THE TABLE ABOVE.
3. WIDTH REFERS TO DIMENSION OPPOSITE PIPE AND DEPTH IS DIMENSION H.
4. GEOTEXTILE SHALL BE "GEI WORKS 4 OUNCE" NON-WOVEN FILTER FABRIC DESIGNED FOR FILTRATION, STABILIZATION AND SEPARATION WRAPPED CONTINUOUSLY ALONG THE SIDEWALLS AND BOTTOM OF THE PREPARED AREA OR SLOPE.
   - WATER FLOW = 120 GPM/SF
   - GRAB STRENGTH (MIN) = 400 N
   - PUNCTURE STRENGTH (MIN) = 178 N
   - TRAPEZOIDAL TEAR (MIN) = 133 N
   - ELONGATION (MIN) = 15%

"AS-BUILT"

900.10
~~900.00~~ Indicates data replaced with "As-Built" information. All other data is as designed and has not been field verified.

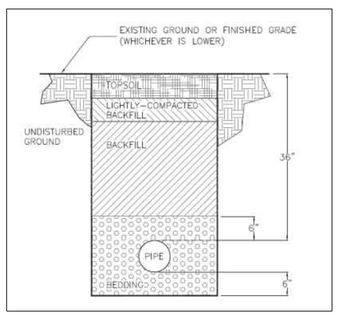
EMERGENCY WATER PIPE





SECTION VIEW

N.T.S.



TRENCHING NOTES: (8" EMERGENCY WATER PIPE & 36" HDPE INFLUENT PIPE)
LOW PERMEABILITY BEDDING AND BACKFILL SHALL BE PLACED ALONG PIPE. TWO ANTI-SEEP COLLARS SHALL BE PLACED ALONG THE PIPE AT 1/3RD POINTS. ANTI-SEEP COLLARS SHALL BE CONCRETE, 6" THICK FORMED AROUND THE PIPE WITH #3 REBAR SPACED 15" HORIZONTALLY AND VERTICALLY. OVERALL SQUARE COLLAR DIMENSION SHALL BE 36" + PIPE DIA. EXAMPLE A 12" PIPE SHALL HAVE COLLAR DIMENSIONS OF 48" SQUARE. A MINIMUM 12" OF EARTHEN BACKFILL SHALL BE PROVIDED ABOVE COLLARS REGARDLESS OF COLLAR DIMENSION, MODIFY COLLAR AS REQUIRED.

0 25' 50' 100'

0 5' 10' 20'

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley Pond
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: October 24, 2017

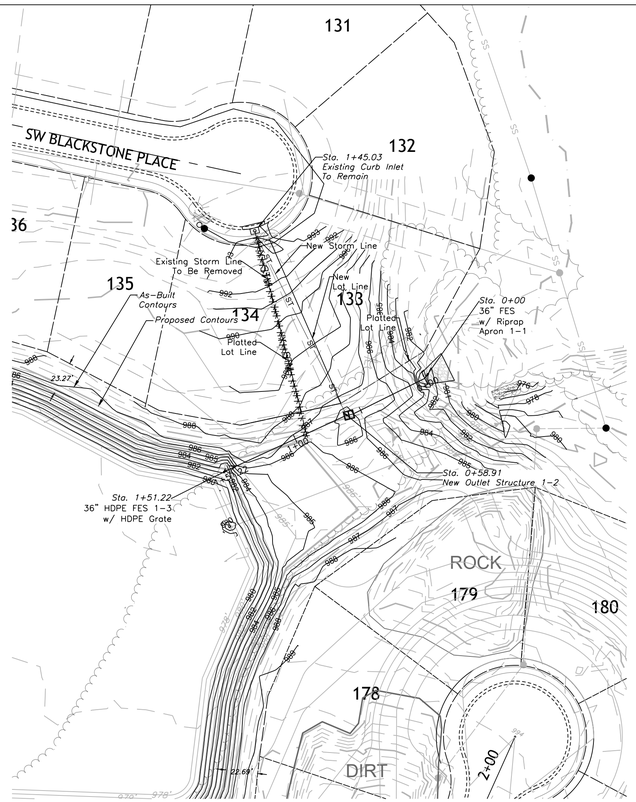
RETENTION PLAN
Construction Plans for:
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
2/9/2021 As-Built
3/10/2021 As-Built

C.300



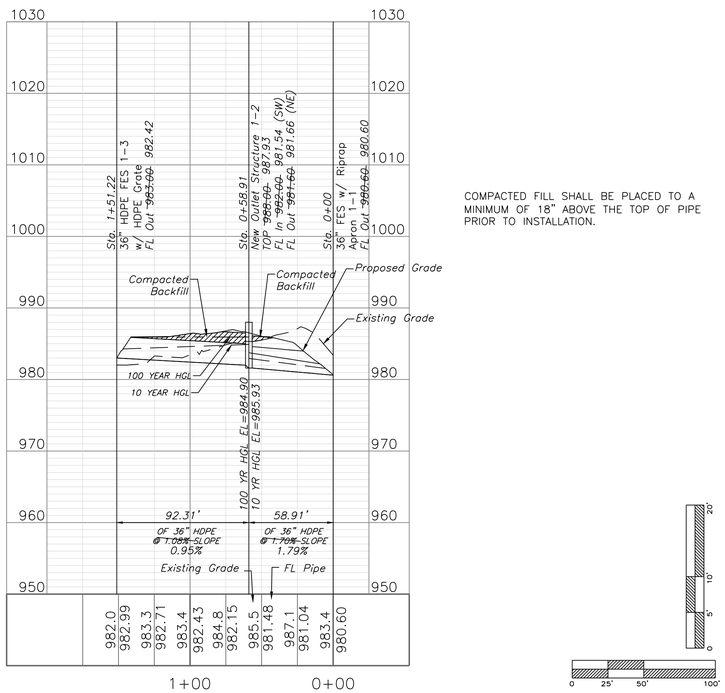
North

0 25' 50' 100'

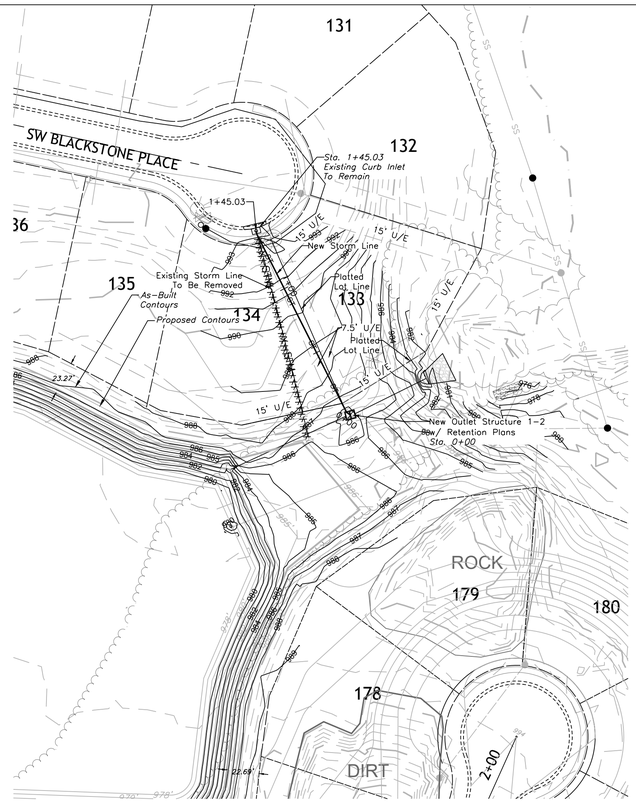
PLAN AND PROFILE

SCALE: 1" = 50'

STORM LINE 1



COMPACTED FILL SHALL BE PLACED TO A MINIMUM OF 18" ABOVE THE TOP OF PIPE PRIOR TO INSTALLATION.



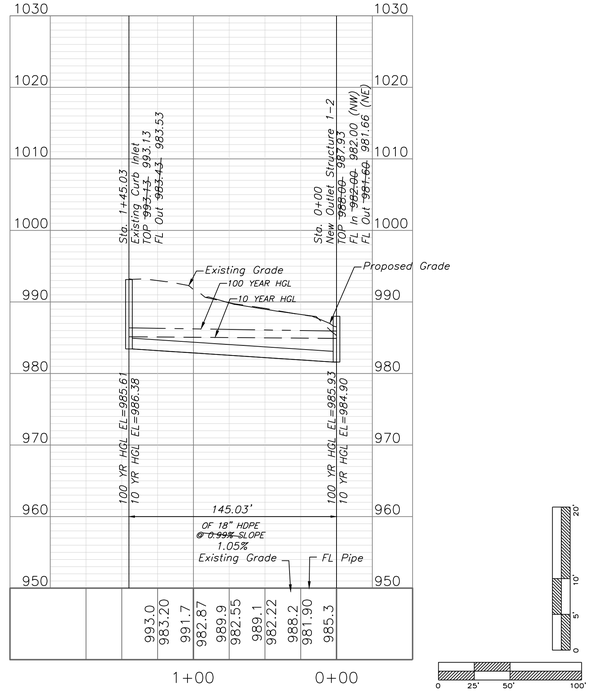
North

0 25' 50' 100'

PLAN AND PROFILE

SCALE: 1" = 50'

STORM LINE 2



"AS-BUILT"

900.10

~~900.00~~ Indicates data replaced with "As-Built" information. All other data is as designed and has not been field verified.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley Pond
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO

Issue Date: October 24, 2017

PLAN AND PROFILE
Construction Plans for:
Tract N, Napa Valley 2nd Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER 2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

2/9/2021 As-Built

3/10/2021 As-Built