











-----	PROPERTY LINE
---995---	EXISTING MAJOR CONTOUR
---995---	EXISTING MINOR CONTOUR
---998---	PROPOSED MAJOR CONTOUR
---998---	PROPOSED MINOR CONTOUR

NO SITE CLEARING, GRADING, OR ANY LAND DISTURBANCE ACTIVITIES ARE ALLOWED IN THE LIMITS OF STREAM BUFFER PROTECTION. THE STREAM PROTECTION ZONE SHALL BE CLEARLY MARKED PRIOR TO ANY CONSTRUCTION.

THE GRADING SHOWN FOR THIS SITE IS BASED ON A APPROXIMATION OF THE FINAL DESIGN. THE CONTRACTOR SHALL ENSURE THAT THE SITE DRAINS PROPERLY TO THE EROSION CONTROL MEASURES SHOWN. ITEMS SUCH AS ROAD CROWNS AND DITCHES CAN BE MODIFIED TO ACHIEVE SUCCESSFUL DRAINAGE.

**olsson**



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Missouri State  
Certificate of Authority  
#001592

[illegible]

## GRADING PLAN LAND DISTURBANCE PLANS

LEE'S SUMMIT MIDDLE SCHOOL #4  
SE BAILEY ROAD AND SE COUNTRY LANE

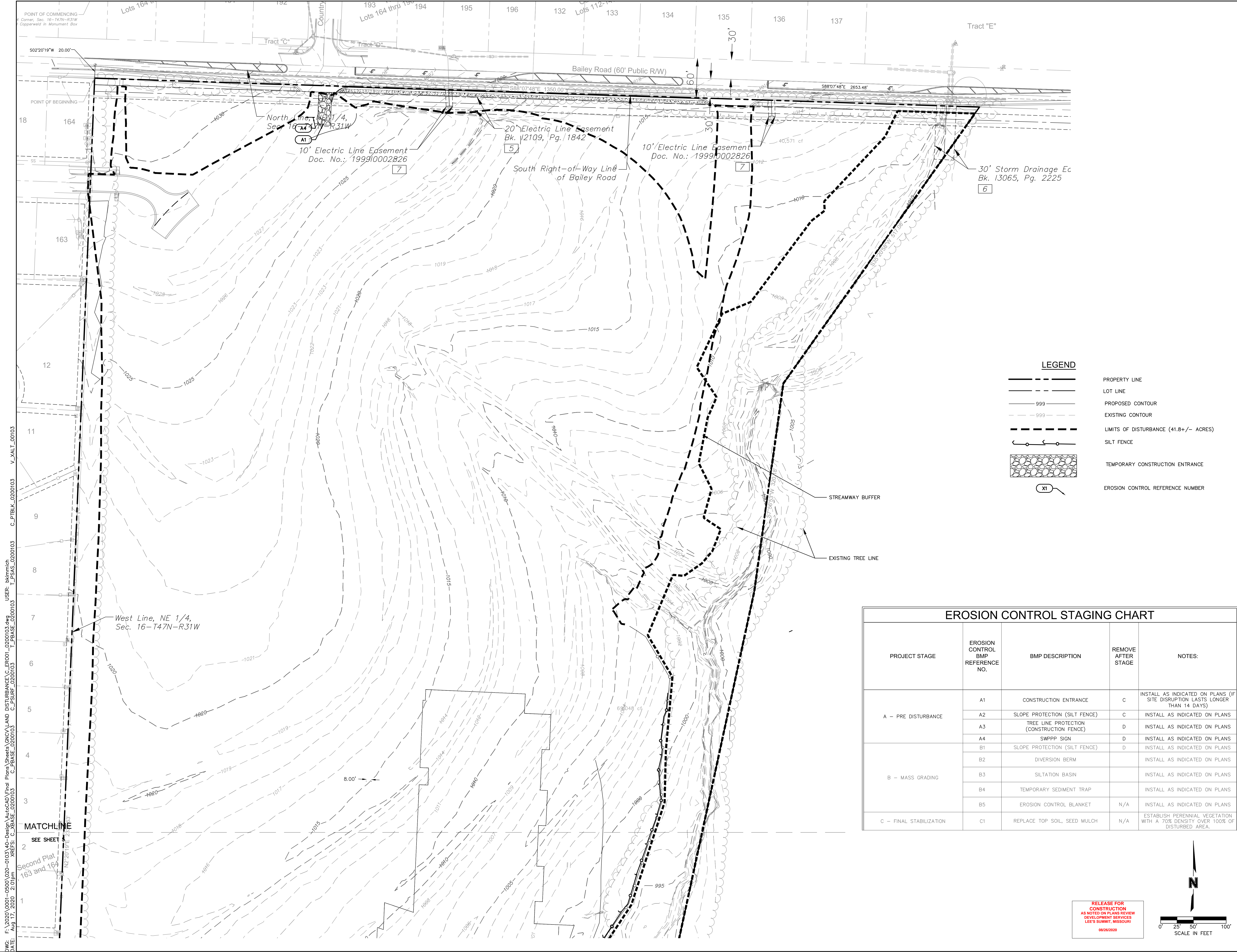
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drawn by: \_\_\_\_\_ RLK  
checked by: \_\_\_\_\_ TR  
approved by: \_\_\_\_\_ TR  
QA/QC by: \_\_\_\_\_ ENG  
project no.: 020-0103  
drawing no.: C GRD01 0200103  
date: 06.10.20

SHEET  
of 14

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\LAND DISTURBANCE\C\_GRD01\_0200103.dwg  
 XREFS: C XBASE 0200103 C PSJURE 0200103 C PSURF 0200103 C PSAS 0200103 C PTBLK 0200103  
 DATE: Aug 17, 2020 2:00pm USER: bklmmich V XALT 00103





DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNV\LAND DISTURBANCE\C-ERO01\_0200103.dwg USER: bkinnich  
DATE: Aug 17, 2020 2:01pm XREFS: C-XBASE\_0200103 C-PSURF\_0200103 C-PPASE\_0200103 T-PPASE\_0200103 T-PPAS\_0200103 C-PTBLK\_0200103 V-XALT\_00103





MATCHLINE  
SEE SHEET 4

EXISTING TREE LINE

STREAMWAY BUFFER

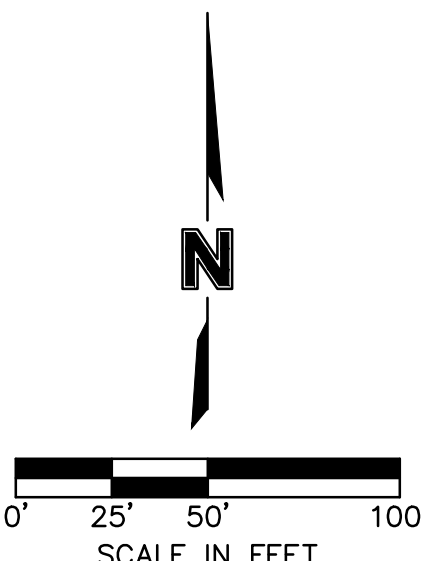
#### LEGEND

- PROPERTY LINE
- LOT LINE
- PROPOSED CONTOUR
- EXISTING CONTOUR
- LIMITS OF DISTURBANCE (41.8+/- ACRES)
- SILT FENCE
- TEMPORARY CONSTRUCTION ENTRANCE
- EROSION CONTROL REFERENCE NUMBER

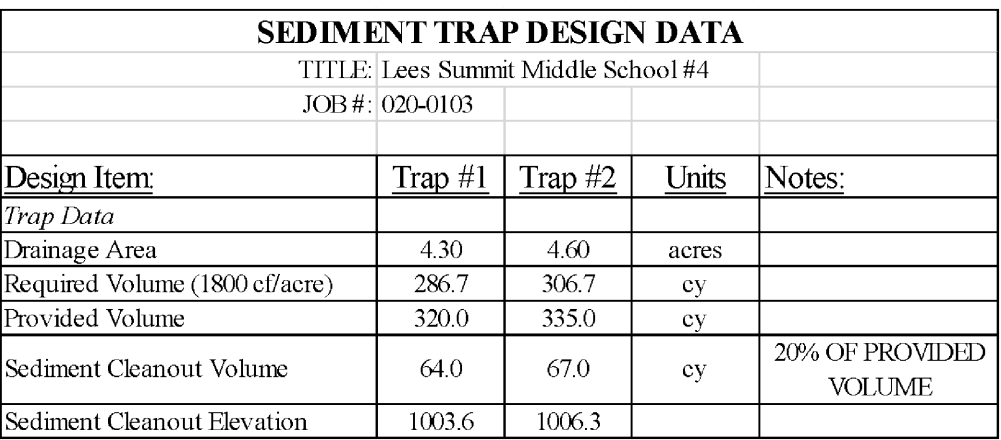
#### EROSION CONTROL STAGING CHART

PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRE DISTURBANCE	A1	CONSTRUCTION ENTRANCE	C	INSTALL AS INDICATED ON PLANS (IF SITE DISRUPTION LASTS LONGER THAN 14 DAYS)
	A2	SLOPE PROTECTION (SILT FENCE)	C	INSTALL AS INDICATED ON PLANS
	A3	TREE LINE PROTECTION (CONSTRUCTION FENCE)	D	INSTALL AS INDICATED ON PLANS
	A4	SWPPP SIGN	D	INSTALL AS INDICATED ON PLANS
B - MASS GRADING	B1	SLOPE PROTECTION (SILT FENCE)	D	INSTALL AS INDICATED ON PLANS
	B2	DIVERSION BERM		INSTALL AS INDICATED ON PLANS
	B3	SILTATION BASIN		INSTALL AS INDICATED ON PLANS
	B4	TEMPORARY SEDIMENT TRAP		INSTALL AS INDICATED ON PLANS
	B5	EROSION CONTROL BLANKET	N/A	INSTALL AS INDICATED ON PLANS
C - FINAL STABILIZATION	C1	REPLACE TOP SOIL, SEED MULCH	N/A	ESTABLISH PERENNIAL VEGETATION WITH A 70% DENSITY OVER 100% OF DISTURBED AREA.

RELEASE FOR  
CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
06/26/2020




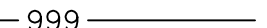









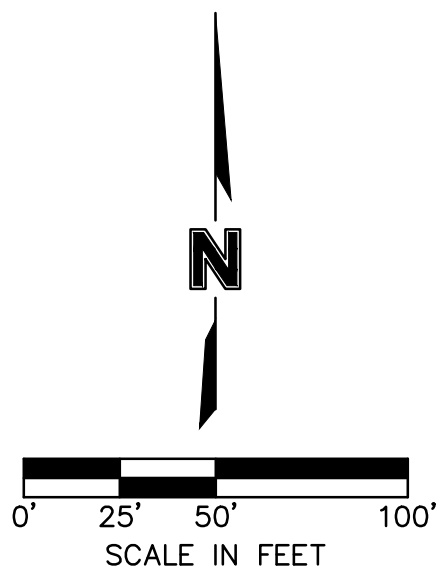


Berm #1	
Drainage Area To Berm:	7.2 Acres
Flow Rate:	14.16 cfs
Slope of Berm:	2.00 %
Water Surface Depth:	12.8 in
Required Depth of Berm:	17.1 in
Provided Depth of Berm:	18 in
Berm #2	
Drainage Area To Berm:	8.7 Acres
Flow Rate:	17.11 cfs
Slope of Berm:	2.50 %
Water Surface Depth:	14.52 in
Required Depth of Berm:	19.3 in
Provided Depth of Berm:	24 in
Berm #3	
Drainage Area To Berm:	2.6 Acres
Flow Rate:	5.11 cfs
Slope of Berm:	1.50 %
Water Surface Depth:	8.4 in
Required Depth of Berm:	11.2 in
Provided Depth of Berm:	15 in
Berm #4	
Drainage Area To Berm:	4.5 Acres
Flow Rate:	8.85 cfs
Slope of Berm:	1.30 %
Water Surface Depth:	11.7 in
Required Depth of Berm:	15.6 in
Provided Depth of Berm:	18 in

**LEGEND**

	PROPERTY LINE
	LOT LINE
	PROPOSED CONTOUR
	EXISTING CONTOUR
	LIMITS OF DISTURBANCE (41.8+/- ACRES)
	SILT FENCE
	TEMPORARY CONSTRUCTION ENTRANCE
	EROSION CONTROL REFERENCE NUMBER
	DIVERSION BERM

EROSION CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A – PRE DISTURBANCE	A1	CONSTRUCTION ENTRANCE	C	INSTALL AS INDICATED ON PLANS (IF SITE DISRUPTION LASTS LONGER THAN 14 DAYS)
	A2	SLOPE PROTECTION (SILT FENCE)	C	INSTALL AS INDICATED ON PLANS
	A3	TREE LINE PROTECTION (CONSTRUCTION FENCE)	D	INSTALL AS INDICATED ON PLANS
	A4	SWPPP SIGN	D	INSTALL AS INDICATED ON PLANS
B – MASS GRADING	B1	SLOPE PROTECTION (SILT FENCE)	D	INSTALL AS INDICATED ON PLANS
	B2	DIVERSION BERM		INSTALL AS INDICATED ON PLANS
	B3	SILTATION BASIN		INSTALL AS INDICATED ON PLANS
	B4	TEMPORARY SEDIMENT TRAP		INSTALL AS INDICATED ON PLANS
	B5	EROSION CONTROL BLANKET	N/A	INSTALL AS INDICATED ON PLANS
C – FINAL STABILIZATION	C1	REPLACE TOP SOIL, SEED MULCH	N/A	ESTABLISH PERENNIAL VEGETATION WITH A 70% DENSITY OVER 100% OF DISTURBED AREA.



**RELEASE FOR  
CONSTRUCTION  
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DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI**








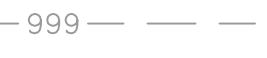

**08/26/2020**



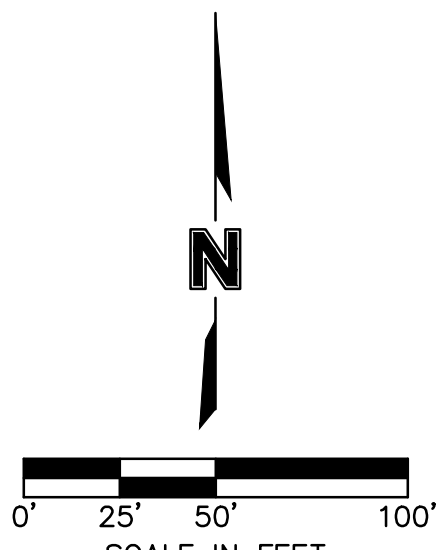


SEDIMENT BASIN & TRAP DESIGN DATA SUMMARY				
TITLE: Lees Summit Middle School #4				
JOB #: 020-0103				
Design Item	Basin 2	Units	Notes:	
<b>Site Data:</b>				
Tributary Drainage Area to Pond:	14.60	Acres		
Disturbed Tributary Drainage Area to Pond:	14.60	Acres		
80% (2 yr) Design Flow:	37.50	cfs		
4% (25 yr) Design Flow:	68.51	cfs		
<b>Pond Data:</b>				
Minimum Sediment Storage Volume:	1957	cu. yd.	134 cy/acre minimum	
Provided Sediment Storage Volume:	3423	cu. yd.	134 cy/acre minimum	
Bottom Elevation:	992.00	Ft.		
Sediment Cleanout Elevation:	994.84	Ft.	Elevation Equal to 50% of Original Design Volume.	
Top of Riser Elevation:	996.50	Ft.	Top of Dry Storage Volume.	
Emergency Spillway Elevation:	999.00	Ft.	at or Above Q-2 elev. 1.0 ft min above principal spillway	
Top of Dam Elevation:	1002.00	Ft.	1.0 ft min above Q-25 elev.	
<b>Basin Shape Data:</b>				
A = Area at Normal Pool	41000.00	SF		
L = Length of Flow Path	240.00	Ft.		
W = Effective Width = A/L	171.00	ft		
Length to Width Ratio = L/W	1.40		If Length to Width Ratio is less than 2, baffles are required	
<b>Principal Spillway Data:</b>				
Riser Pipe Diameter:	48.00	in	15-inch min. Size for 2 year flow minimum	
Jarrell Pipe Diameter:	30	in	15-inch min. Size for 2 year flow minimum	
Concrete Base size for Riser Pipe	11.69	cu. yd.	Size to Prevent Rotation. 1.25 safety factor required.	
			Design to provide specific details and calculations per application to dewater in 48 to 72 hours	
Skimmer Size:	4.00	in		
<b>Emergency Spillway Data:</b>				
Design Width of Spillway:	180.00	Ft.		
Design Depth in Spillway:	0.26	Ft.	Use $Q_{25} = C_b M^{1/3} / (2)$ where $C_b = 2.63$ , b is the Width of Spillway	
Design Velocity in Spillway:	1.38	Ft/sec		
Living Material:	LAND OK	N/A		
	450 TRM			

**LEGEND**

	PROPERTY LINE
	LOT LINE
	PROPOSED CONTOUR
	EXISTING CONTOUR
	GRAVEL FILTER BAGS
	SILT FENCE
	LIMITS OF DISTURBANCE (41.8+/- ACRES)
	TEMPORARY CONSTRUCTION ENTRANCE
	EROSION CONTROL REFERENCE NUMBER

EROSION CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A – PRE DISTURBANCE	A1	CONSTRUCTION ENTRANCE	C	INSTALL AS INDICATED ON PLANS (IF SITE DISRUPTION LASTS LONGER THAN 14 DAYS)
	A2	SLOPE PROTECTION (SILT FENCE)	C	INSTALL AS INDICATED ON PLANS
	A3	TREE LINE PROTECTION (CONSTRUCTION FENCE)	D	INSTALL AS INDICATED ON PLANS
	A4	SWPPP SIGN	D	INSTALL AS INDICATED ON PLANS
B – MASS GRADING	B1	SLOPE PROTECTION (SILT FENCE)	D	INSTALL AS INDICATED ON PLANS
	B2	DIVERSION BERM		INSTALL AS INDICATED ON PLANS
	B3	SILTATION BASIN		INSTALL AS INDICATED ON PLANS
	B4	TEMPORARY SEDIMENT TRAP		INSTALL AS INDICATED ON PLANS
	B5	EROSION CONTROL BLANKET	N/A	INSTALL AS INDICATED ON PLANS
C – FINAL STABILIZATION	C1	REPLACE TOP SOIL, SEED MULCH	N/A	ESTABLISH PERENNIAL VEGETATION WITH A 70% DENSITY OVER 100% OF DISTURBED AREA.



**RELEASE FOR  
CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/26/2020**



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Missouri State  
Certificate of Authority  
#001592

[illegible]

EROSION CONTROL PLAN -MASS GRADING  
LAND DISTURBANCE PLANS

LEE'S SUMMIT MIDDLE SCHOOL #4  
SE BAILEY ROAD AND SE COUNTRY LANE

---

ri

drawn by: \_\_\_\_\_ RLK  
checked by: \_\_\_\_\_ TP  
approved by: \_\_\_\_\_ TP  
QA/QC by: \_\_\_\_\_ ENG  
project no.: \_\_\_\_\_ 020-0103  
drawing no.: C ERO01 0200103  
date: \_\_\_\_\_ 06.10.20





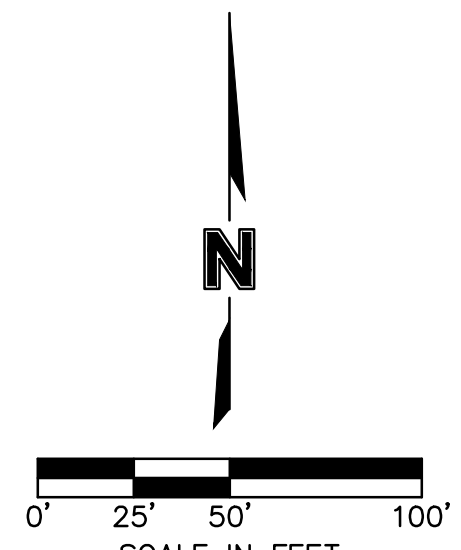
SEDIMENT BASIN & TRAP DESIGN DATA SUMMARY			
TITLE: Lees Summit Middle School #4			
JOB #: 02040103			
Design Item	Basin 1	Units	Notes:
<b>Site Data:</b>			
Tributary Drainage Area to Pond:	12.50	Acres	
Disturbed Tributary Drainage Area to Pond:	12.50	Acres	
50% (2 yr) Design Flow:	29.95	cfs	
4% (25 yr) Design Flow:	51.95	cfs	
<b>Pond Data:</b>			
Minimum Sediment Storage Volume:	1649	cu. yd.	134 cy/acre minimum
Provided Sediment Storage Volume:	2560	cu. yd.	134 cy/acre minimum
Bottom Elevation:	992.00	ft	
Sediment Cleanout Elevation:	994.84	ft	Elevation Equal to 50% of Original Design Volume
Top of Riser Elevation:	996.96	ft	Top of Dry Storage Volume
Emergency Spillway Elevation:	999.00	ft	at or Above Q-2 elev. 1.0 ft min above principal spillway
Top of Dam Elevation:	1002.00	ft	1.0 ft min above Q-25 elev.
<b>Basin Shape Data:</b>			
A = Area at Normal Pool:	1800.00	SF	
L = Length of Flow Path:	185.00	ft	
We = Effective Width = A/L:	171.00	ft	
Length to Width Ratio = L/We:	1.42		If Length to Width Ratio is less than 2, baffles are required
<b>Principal Spillway Data:</b>			
Riser Pipe Diameter:	48.00	in	15-inch min. Size for 2 year flow minimum
Baffle Pipe Diameter:	36	in	15-inch min. Size for 2 year flow minimum
Concrete Base size for Riser Pipe:	6.97	cu. yd.	Size to Prevent Flotation. 1.25 safety factor required.
Skimmer Size:	4.00	in	Designer to provide specific details and calculations per application to dewater in 48 to 72 hours
<b>Emergency Spillway Data:</b>			
Design Width of Spillway:	100.00	ft	Use $Q_{50} = C_b H^{3/2}$ where $C_b = 2.63$ , $h$ is the Width of Spillway
Design Depth in Spillway:	0.26	ft	
Design Velocity in Spillway:	1.56	ft/sec	
Lining Material:	LANDLOK	N/A	
	450 TRM		

**LEGEND**

- PROPERTY LINE
- LOT LINE
- PROPOSED CONTOUR
- EXISTING CONTOUR
- GRAVEL FILTER BAGS
- SILT FENCE
- LIMITS OF DISTURBANCE (41.8+/- ACRES)
- TEMPORARY CONSTRUCTION ENTRANCE
- EROSION CONTROL REFERENCE NUMBER
- TOPSOIL, SEEDING AND MULCHING

EROSION CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRE DISTURBANCE	A1	CONSTRUCTION ENTRANCE	C	INSTALL AS INDICATED ON PLANS (IF SITE DISRUPTION LASTS LONGER THAN 14 DAYS)
	A2	SLOPE PROTECTION (SILT FENCE)	C	INSTALL AS INDICATED ON PLANS
	A3	TREE LINE PROTECTION (CONSTRUCTION FENCE)	D	INSTALL AS INDICATED ON PLANS
	A4	SWPPP SIGN	D	INSTALL AS INDICATED ON PLANS
B - MASS GRADING	B1	SLOPE PROTECTION (SILT FENCE)	D	INSTALL AS INDICATED ON PLANS
	B2	DIVERSION BERM		INSTALL AS INDICATED ON PLANS
	B3	SILTATION BASIN		INSTALL AS INDICATED ON PLANS
	B4	TEMPORARY SEDIMENT TRAP		INSTALL AS INDICATED ON PLANS
C - FINAL STABILIZATION	B5	EROSION CONTROL BLANKET	N/A	INSTALL AS INDICATED ON PLANS
	C1	REPLACE TOP SOIL, SEED MULCH	N/A	ESTABLISH PERENNIAL VEGETATION WITH A 70% DENSITY OVER 100% OF DISTURBED AREA.

RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI 06/26/2020



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#001592

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
01	08/16/2020	REDESIGNER CITY COMMENTS	RUK

EROSION CONTROL PLAN - FINAL STABILIZATION  
LAND DISTURBANCE PLANS  
LEE'S SUMMIT MIDDLE SCHOOL #4  
SE BAILEY ROAD AND SE COUNTRY LANE  
LEE'S SUMMIT, MISSOURI

2020

drawn by: RUK  
checked by: TRP  
approved by: TRP  
date: 02/01/2020  
project no.: 02040103  
drawing no.: C-ERO01-02040103  
date: 06.10.20

SHEET  
8 of 14

7001 West 133rd Street, Suite 200  
Overland Park, KS 66213-4756  
TEL 913.381.1170  
www.olsson.com





- EXISTING TREE LINE

## STREAMWAY BUFFER

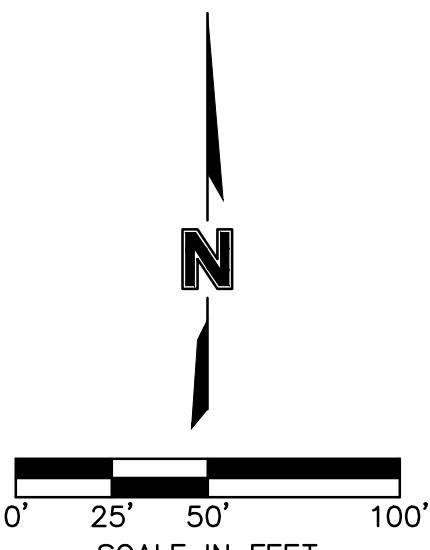
SEDIMENT BASIN & TRAP DESIGN DATA SUMMARY				
TITLE: Lees Summit Middle School #4				
JOB #: 020-0103				
Design Item	Basin 2	Units	Notes:	
<b>Site Data:</b>				
Tributary Drainage Area to Pond:	14.60	Acres		
Disturbed Tributary Drainage Area to Pond:	14.60	Acres		
50% (2 yr) Design Flow:	37.50	cfs		
4% (25 yr) Design Flow:	68.51	cfs		
<b>Pond Data:</b>				
Minimum Sediment Storage Volume:	1957	cu. yd.	134 cy/acre minimum	
Provided Sediment Storage Volume:	3423	cu. yd.	134 cy/acre minimum	
Bottom Elevation:	992.00	ft		
Sediment Channel Elevation:	994.84	ft	Elevation Equal to 50% of Original Design Volume.	
Top of Riser Elevation:	996.00	ft	Top of Dry Storm Elevation	
Emergency Spillway Elevation:	999.00	ft	at or Above Q-2 elev. 1.0 ft min. above principal spillway	
Top of Dam Elevation:	1002.00	ft	1.0 ft min. above Q-25 elev.	
<b>Basin Shape Data:</b>				
A = Area at Normal Pool:	41000.00	SF		
L = Length of Flow Path:	240.00	ft		
W = Effective Width = A/L:	171.10	ft		
Length to Width Ratio = L/W:	1.40		If Length to Width Ratio is less than 2, baffles are required	
<b>Principal Spillway Data:</b>				
Riser Pipe Diameter:	48.00	in	15-inch min. Size for 2 year flow minimum	
Barrel Pipe Diameter:	11.00	in	15-inch min. Size for 2 year flow minimum	
Concrete Base size for Riser Pipe:	30.69	cu. yd.	Size to Prevent flotation, 1.25 safety factor required.	
Skimmer Size:	4.00	in	Designer to provide specific details and calculations per application to wear at 48 to 72 hours	
<b>Emergency Spillway Data:</b>				
Design Width of Spillway:	190.00	ft		
Design Depth of Spillway:	0.26	ft	Use $Q_{25} = C \cdot bH^{3/2}$ where $C = 2.63$ , b is the Width of Spillway	
Design Velocity in Spillway:	1.38	ft/sec	F/5sec	
Lining Material:	LANDFILL OK 450 TRM		N/A	

## LEGEND

- 
- PROPERTY LINE
- LOT LINE
- PROPOSED CONTOUR
- EXISTING CONTOUR
- GRAVEL FILTER BAGS
- SILT FENCE
- LIMITS OF DISTURBANCE (41.8 +/- ACRES)
- TEMPORARY CONSTRUCTION ENTRANCE
- EROSION CONTROL REFERENCE NUMBER
- EROSION CONTROL BLANKET

# EROSION CONTROL STAGING CHART

EROSION CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A – PRE DISTURBANCE	A1	CONSTRUCTION ENTRANCE	C	INSTALL AS INDICATED ON PLANS (IF SITE DISRUPTION LASTS LONGER THAN 14 DAYS)
	A2	SLOPE PROTECTION (SILT FENCE)	C	INSTALL AS INDICATED ON PLANS
	A3	TREE LINE PROTECTION (CONSTRUCTION FENCE)	D	INSTALL AS INDICATED ON PLANS
	A4	SWPPP SIGN	D	INSTALL AS INDICATED ON PLANS
B – MASS GRADING	B1	SLOPE PROTECTION (SILT FENCE)	D	INSTALL AS INDICATED ON PLANS
	B2	DIVERSION BERM		INSTALL AS INDICATED ON PLANS
	B3	SILTATION BASIN		INSTALL AS INDICATED ON PLANS
	B4	TEMPORARY SEDIMENT TRAP		INSTALL AS INDICATED ON PLANS
	B5	EROSION CONTROL BLANKET	N/A	INSTALL AS INDICATED ON PLANS
C – FINAL STABILIZATION	C1	REPLACE TOP SOIL, SEED MULCH	N/A	ESTABLISH PERENNIAL VEGETATION WITH A 70% DENSITY OVER 100% OF DISTURBED AREA.



**RELEASE FOR  
CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI**

**olsson**



Olsson  
Missouri State  
Certificate of Authority  
#001592

[illegible]

## EROSION CONTROL PLAN - FINAL STABILIZATION LAND DISTURBANCE PLANS

LEE'S SUMMIT MIDDLE SCHOOL #4  
SE BAILEY ROAD AND SE COUNTRY LANE

**JURI**

drawn by: \_\_\_\_\_ RLK  
checked by: \_\_\_\_\_ TP  
approved by: \_\_\_\_\_ TP  
QA/QC by: \_\_\_\_\_ ENG  
project no.: \_\_\_\_\_ 020-0103  
drawing no.: **C** EROQ1 0200103  
date: \_\_\_\_\_ 06.10.20

SHEET  
of 14

7301 West 133rd Street, Suite 200  
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TEL 913.381.1170 [www.olsson.com](http://www.olsson.com)

TEL 913.381.1170

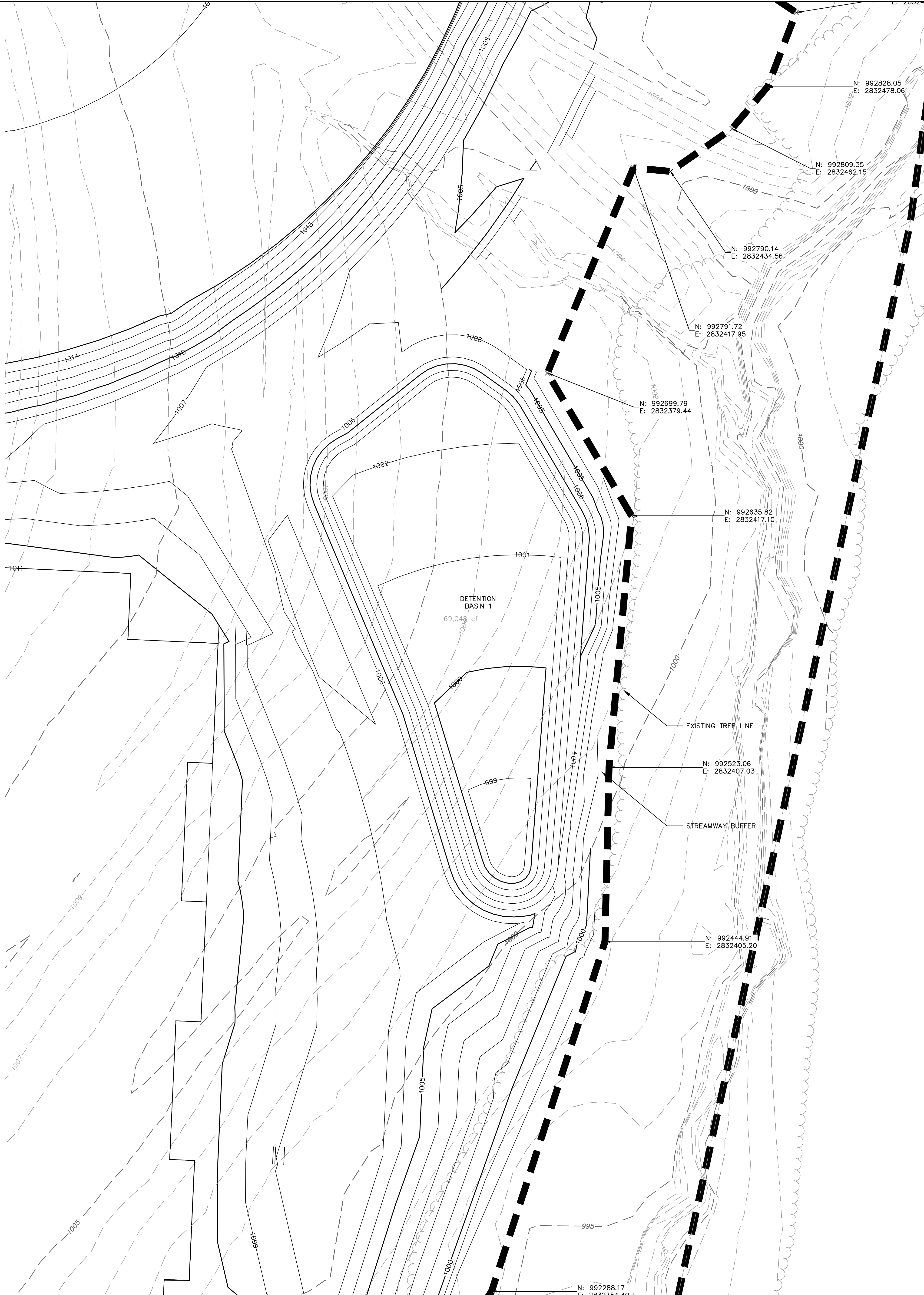
REVISIONS

2020

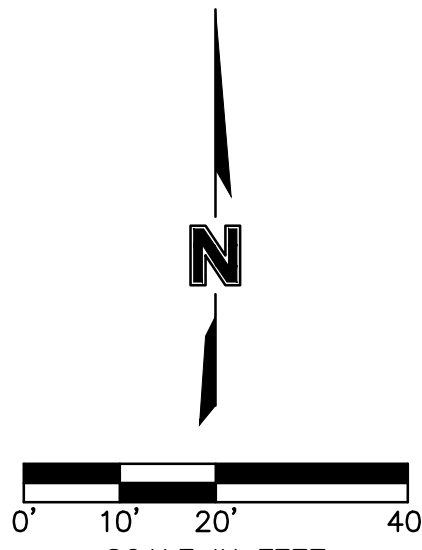
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DATE: Aug 17, 2020 2:02pm XREFS: C:\BASE\_0200103 C:\PSURF\_0200103 C:\PTBLK\_0200103 V\_XALT\_00103



RELEASE FOR  
CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/26/2020



SEDIMENT BASIN & TRAP DESIGN DATA SUMMARY			
TITLE: Lee's Summit Middle School #4			
JOB #: 020-0103			
Design Item	Basin 1	Units	Notes
<i>Site Data:</i>			
Tributary Drainage Area to Pond:	12.30	Acres	
Disturbed Tributary Drainage Area to Pond:	12.30	Acres	
50% (2 yr) Design Flow:	29.95	cfs	
4% (25 yr) Design Flow:	51.95	cfs	
<i>Pond Data:</i>			
Maximum Sediment Storage Volume:	1649	cu. yd.	134 cy/acre minimum
Provided Sediment Storage Volume:	2360	cu. yd.	134 cy/acre minimum
Bottom Elevation:	992.00	ft.	
Sediment Cleanout Elevation:	994.84	ft.	Elevation Equal to 50% of Original Design Volume
Top of Riser Elevation:	996.96	ft.	Top of Dry Storage Volume
Emergency Spillway Elevation:	999.00	ft.	at or Above Q2 elev. 1.0 ft min above principal spillway
Top of Dam Elevation:	1002.00	ft.	1.0 ft min above Q25 elev.
<i>Basin Shape Data:</i>			
A = Area at Normal Pool	18000.00	SF	
L = Length of Flow Path	185.00	ft.	
We = Effective Width = A/L	171.00	ft.	
Length to Width Ratio = L/We	1.42		If Length to Width Ratio is less than 2, baffles are required
<i>Principal Spillway Data:</i>			
Riser Pipe Diameter:	48.00	in.	15-inch min. Size for 2 year flow minimum
Barrell Pipe Diameter:	36	in.	15-inch min. Size for 2 year flow minimum
Concrete Base size for Riser Pipe	6.97	cu. yd.	Size to Prevent Floation. 1.25 safety factor required.
Skimmer Size:	4.00	in.	application to dewater in 48 to 72 hours
<i>Emergency Spillway Data:</i>			
Design Width of Spillway:	100.00	ft.	
Design Depth in Spillway:	0.26	ft.	Use $Q_{25} = C_d b L^2 / 32$ where $C_d = 2.63$ , b is the Width of Spillway
Design Velocity in Spillway:	1.56	ft/sec	
Lining Material:	LANDLOK 450 TRM	N/A	

SILTATION BASIN 1 GRADING DETAIL  
LAND DISTURBANCE PLANS

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SE BAILEY ROAD AND SE COUNTRY LANE

LEE'S SUMMIT, MISSOURI

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checked by: TRP  
approved by: TRP  
GNAC by: ENG  
project no.: 020-0103  
drawing no.: C\_GRD01\_0200103  
date: 06.10.20

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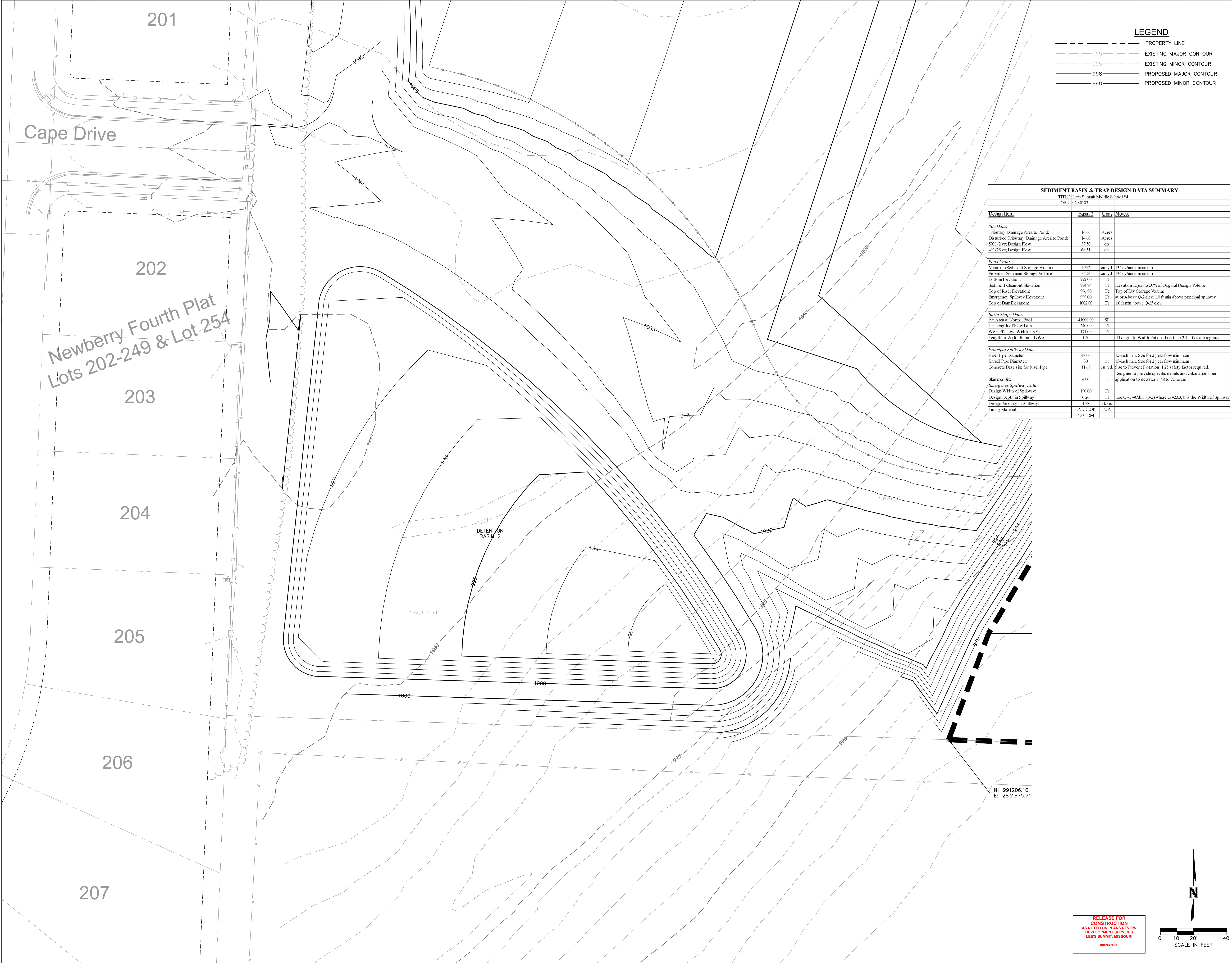
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LEE'S SUMMIT, MISSOURI



DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\LAND DISTURBANCE\C\_GRD01\_0200103.dwg USER: bkmnich  
DATE: Aug 17, 2020 2:02pm XREFS: C:\BASE\_0200103 C:\PSURF\_0200103 C:\PTBLK\_0200103 V\_XALT\_00103



RELEASE FOR  
CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/26/2020

- LEGEND**
- PROPERTY LINE
  - EXISTING MAJOR CONTOUR
  - EXISTING MINOR CONTOUR
  - PROPOSED MAJOR CONTOUR
  - PROPOSED MINOR CONTOUR

SEDIMENT BASIN & TRAP DESIGN DATA SUMMARY			
TITLE: Lees Summit Middle School #4			
JOB # : 020-0103			
Design Item	Basin 2	Units	Notes
<b>Site Data:</b>			
Tributary Drainage Area to Pond:	14.60	Acres	
Disturbed Tributary Drainage Area to Pond:	14.60	Acres	
50% (2 yr) Design Flow:	37.50	cfs	
4% (25 yr) Design Flow:	68.51	cfs	
<b>Pond Data:</b>			
Minimum Sediment Storage Volume:	1957	cu. yd.	134 cy/acre minimum
Provided Sediment Storage Volume:	3423	cu. yd.	134 cy/acre minimum
Bottom Elevation:	992.00	ft	
Sediment Cleanout Elevation:	994.84	ft	Elevation Equal to 50% of Original Design Volume.
Top of Riser Elevation:	996.90	ft	Top of Dry Storage Volume
Emergency Spillway Elevation:	999.00	ft	at or Above Q-2 elev. 1.0 ft min above principal spillway
Top of Dam Elevation:	1002.00	ft	1.0 ft min above Q-25 elev.
<b>Basin Shape Data:</b>			
A= Area at Normal Pool	41000.00	SF	
L= Length of Flow Path	240.00	ft	
We= Effective Width = A/L	171.00	ft	
Length to Width Ratio = L/We	1.40		If Length to Width Ratio is less than 2, baffles are required
<b>Principal Spillway Data:</b>			
Riser Pipe Diameter:	48.00	in	15-inch min. Size for 2 year flow minimum
Barrel Pipe Diameter:	30	in	15-inch min. Size for 2 year flow minimum
Concrete Base size for Riser Pipe	11.69	cu. yd.	Size to Prevent Exfoliation, 1.25 safety factor required.
Sluiceway Size:	4.00	in	Design to provide specific details and calculations per application to dewater in 48 to 72 hours
<b>Emergency Spillway Data:</b>			
Design Width of Spillway:	190.00	ft	
Design Depth in Spillway:	0.26	ft	Use $Q_{25} = CbH^3/32$ where $C_b = 2.63$ , b is the Width of Spillway
Design Velocity in Spillway:	1.38	ft/sec	
Lining Material:	LANDLOK	N/A	
	450 TRM		

SILTATION BASIN 2 GRADING DETAIL  
LAND DISTURBANCE PLANS  
LEE'S SUMMIT MIDDLE SCHOOL #4  
SE BAILEY ROAD AND SE COUNTRY LANE  
LEE'S SUMMIT, MISSOURI

drawn by: RLK  
checked by: TP  
approved by: TP  
QA/QC by: ENG  
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Olsson  
Missouri State  
Certificate of Authority  
#001592

olsson  
7001 West 133rd Street, Suite 200  
Overland Park, KS 66213-4756  
TEL 913.381.1170  
www.olsson.com









**A) INSTALLATION:**

- ## B) TROUBLESHOOTING:

- C) INSPECTION AND MAINTENANCE:**

- |                                    |   |
|------------------------------------|---|
| AMERICAN PUBLIC WORKS ASSOCIATION  |   |
| <b>APWA</b>                        | KANSAS CITY<br>METROPOLITAN CHAPTER           |
| TEMPORARY CONSTRUCTION<br>ENTRANCE | STANDARD DRAWING<br>NUMBER ESC-01<br>ADOPTED: |



**A) SITE PREPARATION:**

- FOUNDATION SOIL. DO NOT RAISE THE PIPE FROM THE FOUNDATION WHEN **D) EMERGENCY SPILLWAY:**

- SOURCE: MODIFIED FROM MDNR, 1998

**D) EMERGENCY SPILLWAY:**

- E) EROSION CONTROL:**

- |  |   |
|--|---|
| <b>AMERICAN PUBLIC WORKS ASSOCIATION</b> |   |
| <b>APWA</b>                              | KANSAS CITY<br>METROPOLITAN CHAPTER           |
| DETENTION/<br>INFILTRATION BASIN         | STANDARD DRAWING<br>NUMBER ESC-35<br>ADOPTED: |




1. THE DIVERSION SHALL BE CONSTRUCTED AT THE TOP OF THE FILL AT THE END OF EACH WORK DAY AS NEEDED.
2. THE DIVERSION SHALL BE LOCATED AT LEAST 2 FEET INSIDE THE TOP EDGE OF THE FILL.
3. THE SUPPORTING RIDGE SHALL BE CONSTRUCTED WITH A UNIFORM HEIGHT ALONG ITS ENTIRE LENGTH. WITHOUT UNIFORM HEIGHT, THE FILL DIVERSION MAY BE SUSCEPTIBLE TO BREACHING.

1. THE DIVERSION SHALL BE INSTALLED AS SOON AS THE RIGHT-OF-WAY HAS BEEN CLEARED AND/OR GRADED.
2. ALL EARTHEN DIVERSIONS SHALL BE MACHINE- OR HAND-COMPACTED IN 8-INCH LIFTS.
3. THE OUTLET OF THE DIVERSION SHALL BE LOCATED IN AN UNDISTURBED AND STABILIZED AREA WHEN AT ALL POSSIBLE. THE FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED OUTLET.
4. EARTHENED DIVERSIONS WHICH WILL NOT BE SUBJECT TO CONSTRUCTION TRAFFIC SHOULD BE STABILIZED IN ACCORDANCE WITH TEMPORARY SEEDING.

1. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE DIVERSION.
2. THE DIVERSION SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS-SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN, FREE OF IRREGULARITIES WHICH WILL IMPEDE FLOW.
3. FILLS SHALL BE COMPACTED AS NEEDED TO PREVENT UNEQUAL SETTLEMENT THAT WOULD CAUSE DAMAGE IN THE COMPLETED DIVERSION. FILL SHALL BE COMPOSED OF SOIL WHICH IS FREE FROM EXCESSIVE ORGANIC DEBRIS, ROCKS, OR OTHER OBJECTIONABLE MATERIALS.
4. ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE DIVERSION.
5. PERMANENT STABILIZATION OF DISTURBED AREAS SHALL BE DONE IN ACCORDANCE WITH SECTION 2151.


**TEMPORARY DIVERSION DIKE NOTES:**

- |   |   |
|---|---|
| AMERICAN PUBLIC WORKS ASSOCIATION   |   |
|  | KANSAS CITY<br>METROPOLITAN CHAPTER           |
| DIVERSIONS  | STANDARD DRAWING<br>NUMBER ESC-29<br>ADOPTED: |



**A) CONSTRUCTION SPECIFICATIONS:**

- B) INSPECTION AND MAINTENANCE:**

- |   |   |
|---|---|
| <b>AMERICAN PUBLIC WORKS ASSOCIATION</b>  |   |
|  | KANSAS CITY<br>METROPOLITAN CHAPTER           |
| TEMPORARY SEDIMENT TRAP   | STANDARD DRAWING<br>NUMBER ESC-33<br>ADOPTED: |

<b>AMERICAN PUBLIC WORKS ASSOCIATION</b>	
<b>APWA</b>	KANSAS CITY METROPOLITAN CHAPTER
TEMPORARY SEDIMENT TRAP	STANDARD DRAWING NUMBER ESC-33 ADOPTED:



