DEPARTMENT OF PUBLIC WORKS
Division of Engineering

222 Meigs Street
Sandusky, Ohio 44870
419.627.5829
www.ci.sandusky.oh.us

September 7, 2018

Steve Poggiali, Director
Erie Regional Planning Commission
2900 Columbus Avenue
Sandusky, Ohio 44870

Re: OHIO PUBLIC WORKS COMMISSION, Round 33
City of Sandusky, Thorpe Drive Culvert Replacement Project

Dear Mr. Poggiali,

The City of Sandusky passed resolution 034-18R at the August 27, 2018, City Commission Meeting approving the submittal of the following Ohio Public Works Commission (OPWC), Round 33 application. Enclosed is one original and one copy of the complete-application for the Thorpe Drive Culvert Replacement Project.

Your assistance in processing these applications and forwarding them to the State of Ohio is sincerely appreciated. We are available to walk the project site with interested individuals or answering any questions that could assist with the review process.

Sincerely,

Aaron M. Klein, PE

Director of Public Works

CC: file

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OPWC Round 33
Contents Included with Application

State of Ohio Public Works Commission, Application for Finance Assistance

District 5 Capital Improvements Projects, Questionnaire Round 33 & Scoring Sheet

Supplemental Project Narrative

Engineer's Estimate, Stamped and Signed by Assistant City Engineer, Jane Cullen, P.E.

Project Area Map and Current Culvert & Roadway Photos

Certification of Local Funds Available, Signed by Finance Director, Hank Solowiej, CPA

Resolution 034-18R, Certified by City Commission Clerk, Kelly Kresser, CMC

ODOT Bridge Inspection Information & correspondence(emails) with ODOT

Traffic Counts

City of Sandusky, Water & Sewer Rates

OHIO PUBLIC WORKS FOR YOU

State of Ohio

Public Works Commission

Application for Financial Assistance

IMPORTANT: Please consult "Instructions for Financial Assistance for Capital Infrastructure Projects" for guidance in completion of this form.

Applicant

Applicant: City of Sandusky Subdivision Code: 043-70380

District Number: 5 County: Erie Date: 09/07/2018

Contact: Aaron Klein Phone: (419) 627-5829
(The individual who will be available during business hours and who can best answer or coordinate the response to questions)

Email: aklein@ci.sandusky.oh.us FAX: (419) 627-5933

Project

Project Name: Thorpe Drive Culvert Replacement Project Zip Code: 44870

Subdivision Type (Select one)

- ☐ 1. County
- ☒ 2. City
- ☐ 3. Township
- ☐ 4. Village
- ☐ 5. Water (6119 Water District)

Project Type (Select single largest component by $)

- ☐ 1. Road
- ☒ 2. Bridge/Culvert
- ☐ 3. Water Supply
- ☐ 4. Wastewater
- ☐ 5. Solid Waste
- ☐ 6. Stormwater

Funding Request Summary (Automatically populates from page 2)

Total Project Cost:	325,000 .00
1. Grant:	162,500 .00
2. Loan:	0 .00
3. Loan Assistance/ Credit Enhancement:	0 .00
Funding Requested:	162,500 .00

District Recommendation (To be completed by the District Committee)

Funding Type Requested (Select one)

- ☐ State Capital Improvement Program
- ☐ Local Transportation Improvement Program
- ☐ Revolving Loan Program
- ☐ Small Government Program

District SG Priority: _____

SCIP Loan - Rate: ____ % Term: ____ Yrs Amount: _____ .00

RLP Loan - Rate: ____ % Term: ____ Yrs Amount: _____ .00

Grant: Amount: _____ .00

LTIP: Amount: _____ .00

Loan Assistance / Credit Enhancement: Amount: _____ .00

For OPWC Use Only

STATUS

Project Number: _____

Release Date: _____

OPWC Approval: _____

Grant Amount: _____ .00

Loan Amount: _____ .00

Total Funding: _____ .00

Local Participation: _____ %

OPWC Participation: _____ %

Loan Type: ☐ SCIP ☐ RLP

Date Construction End: _____

Date Maturity: _____

Rate: _____ %

Term: _____ Yrs

1.0 Project Financial Information (All Costs Rounded to Nearest Dollar)

1.1 Project Estimated Costs

Engineering Services			
Preliminary Design:			
Final Design:			
Construction Administration:			
Total Engineering Services:	a.) 0 .00	0 %	
Right of Way:	b.) .00		
Construction:	c.) 295,000 .00		
Materials Purchased Directly:	d.) .00		
Permits, Advertising, Legal:	e.) .00		
Construction Contingencies:	f.) 30,000 .00	10 %	
Total Estimated Costs:	g.) 325,000 .00		

1.2 Project Financial Resources

Local Resources

Local In-Kind or Force Account:	a.) .00	
Local Revenues:	b.) 162,500 .00	
Other Public Revenues:	c.) .00	
ODOT / FHWA PID:	d.) .00	
USDA Rural Development:	e.) .00	
OEPA / OWDA:	f.) .00	
CDBG: ☐ County Entitlement or Community Dev. "Formula" ☐ Department of Development	g.) .00	
Other:	h.) .00	
Subtotal Local Resources:	i.) 162,500 .00	50 %

OPWC Funds (Check all requested and enter Amount)

Grant: 100 % of OPWC Funds	j.) 162,500 .00	
Loan: 0 % of OPWC Funds	k.) .00	
Loan Assistance / Credit Enhancement:	l.) 0 .00	
Subtotal OPWC Funds:	m.) 162,500 .00	50 %
Total Financial Resources:	n.) 325,000 .00	100 %

1.3 Availability of Local Funds

Attach a statement signed by the Chief Financial Officer listed in section 5.2 certifying all local resources required for the project will be available on or before the earliest date listed in the Project Schedule section. The OPWC Agreement will not be released until the local resources are certified. Failure to meet local share may result in termination of the project. Applicant needs to provide written confirmation for funds coming from other funding sources.

2.0 Repair / Replacement or New / Expansion

2.1 Total Portion of Project Repair / Replacement:	325,000 .00	100 %	A Farmland Preservation letter is required for any impact to farmland
2.2 Total Portion of Project New / Expansion:	0 .00	0 %	
2.3 Total Project:	325,000 .00	100 %	

3.0 Project Schedule

3.1 Engineering / Design / Right of Way	Begin Date: 07/11/2017	End Date: 06/01/2018
3.2 Bid Advertisement and Award	Begin Date: 04/10/2019	End Date: 05/14/2019
3.3 Construction	Begin Date: 07/15/2019	End Date: 09/13/2019

Construction cannot begin prior to release of executed Project Agreement and issuance of Notice to Proceed.

Failure to meet project schedule may result in termination of agreement for approved projects. Modification of dates must be requested in writing by project official of record and approved by the Commission once the Project Agreement has been executed.

4.0 Project Information

If the project is multi-jurisdictional, information must be consolidated in this section.

4.1 Useful Life / Cost Estimate / Age of Infrastructure

Project Useful Life: 39 Years Age: 1956 (Year built or year of last major improvement)

Attach Registered Professional Engineer's statement, with seal or stamp and signature confirming the project's useful life indicated above and detailed cost estimate.

4.2 User Information

Road or Bridge: Current ADT 1,399 Year 2018 Projected ADT 1,707 Year 2038

Water / Wastewater: Based on monthly usage of 4,500 gallons per household; attach current ordinances.

Residential Water Rate Current $ 23.41 Proposed $ 23.41

Number of households served: 9,485

Residential Wastewater Rate Current $ 55.06 Proposed $ 55.06

Number of households served: 9,425

Stormwater: Number of households served: 9,425

4.3 Project Description

A: SPECIFIC LOCATION (Supply a written location description that includes the project termini; a map does not replace this requirement.) 500 character limit.

This project is located on the west side of Sandusky on Thorpe Drive, south of Venice Road which is also State Route 6. The resurfacing portion is on Thorpe Drive from the intersection of Venice Road to the intersection of Venice Heights Boulevard. The culvert replacement is located at the Cold Creek crossing of Thorpe Drive. Thorpe Drive and Venice Heights Boulevard are the two entrances to the Venice Heights School which serves approximately 392 students in grades K through 6th grades.

B: PROJECT COMPONENTS (Describe the specific work to be completed; the engineer's estimate does not replace this requirement) 1,000 character limit.

Resurfacing-Thorpe Drive was resurfaced in 1996 with minimal ongoing maintenance. The pavement has developed several areas of failure and alligator cracking. In 2015 Transmap prepared Pavement Condition Index (PCI) rating for all pavement within the City. This section of Thorpe Drive was rated as a 40 in 2015. A PCI rating of 26-50 is rated as poor with the recommendation to mill and resurface. The proposed resurfacing is to mill 3" of existing asphalt and resurface with 3".
Culvert-The culvert is a corrugated metal structure. As a result of the ODOT Municipal Bridge Inspection contract for 2017-2019 the city was notified February 2017 to install weight limit signs on at the culvert crossing to ensure public safety. Field observations concluded the culvert had heavy corrosion. ODOT recommended replacing the structure before it went from a NBIS rating of 3 (serious) to a critical rating of 2. Construction plans have been completed for a replacement concrete box culvert.

C: PHYSICAL DIMENSIONS (Describe the physical dimensions of the existing facility and the proposed facility. Include length, width, quantity and sizes, mgd capacity, etc in detail.) 500 character limit.

Resurfacing-Venice Rd to Venice Heights Blvd-except 57' of pavement over the culvert is complete pavement reconstruction.
Length=898'
Width=varies from 21' to average of 26.7' at bridge
Depth of mill/fill=3"

New Culvert-Type A Concrete
Length=90'
Width=10'
Height=6'

5.0 Project Officials

Changes in Project Officials must be submitted in writing from an officer of record.

5.1 Chief Executive Officer

(Person authorized in legislation to sign project agreements)

Name: Eric Wobser

Title: City Manager

Address: 222 Meigs Street

City: Sandusky State: OH Zip: 44870

Phone: (419) 627-5844

FAX: (419) 627-5825

E-Mail: ewobser@ci.sandusky.oh.us

5.2 Chief Financial Officer

(Can not also serve as CEO)

Name: Hank Solowiej

Title: Finance Director

Address: 22 Meigs Street

City: Sandusky State: OH Zip: 44870

Phone: (419) 627-5776

FAX: (419) 627-5892

E-Mail: hsolowiej@ci.sandusky.oh.us

5.3 Project Manager

Name: Aaron Klein

Title: Director of Public Works

Address: 222 Meigs Street

City: Sandusky State: OH Zip: 44870

Phone: (419) 627-5829

FAX: (419) 627-5933

E-Mail: aklein@ci.sandusky.oh.us

6.0 Attachments / Completeness review

Confirm in the boxes below that each item listed is attached (Check each box)

☑ A certified copy of the legislation by the governing body of the applicant authorizing a designated official to sign and submit this application and execute contracts. This individual should sign under 7.0, Applicant Certification, below.

☑ A certification signed by the applicant's chief financial officer stating the amount of all local share funds required for the project will be available on or before the dates listed in the Project Schedule section. If the application involves a request for loan (RLP or SCIP), a certification signed by the CFO which identifies a specific revenue source for repaying the loan also must be attached. Both certifications can be accomplished in the same letter.

☑ A registered professional engineer's detailed cost estimate and useful life statement, as required in 164-1-13, 164-1-14, and 164-1-16 of the Ohio Administrative Code. Estimates shall contain an engineer's seal or stamp and signature.

☐ A cooperative agreement (if the project involves more than one subdivision or district) which identifies the fiscal and administrative responsibilities of each participant.

☐ Farmland Preservation Review - The Governor's Executive Order 98-IIV, "Ohio Farmland Protection Policy" requires the Commission to establish guidelines on how it will take protection of productive agricultural and grazing land into account in its funding decision making process. Please include a Farm Land Preservation statement for projects that have an impact on farmland.

☐ Capital Improvements Report. CIR Required by O.R.C. Chapter 164.06 on standard form.
Not required per email 9/5/18

☑ Supporting Documentation: Materials such as additional project description, photographs, economic impact (temporary and/or full time jobs likely to be created as a result of the project), accident reports, impact on school zones, and other information to assist your district committee in ranking your project. Be sure to include supplements which may be required by your local District Public Works Integrating Committee.

7.0 Applicant Certification

The undersigned certifies: (1) he/she is legally authorized to request and accept financial assistance from the Ohio Public Works Commission as identified in the attached legislation; (2) to the best of his/her knowledge and belief, all representations that are part of this application are true and correct; (3) all official documents and commitments of the applicant that are part of this application have been duly authorized by the governing body of the applicant; and, (4) should the requested financial assistance be provided, that in the execution of this project, the applicant will comply with all assurances required by Ohio Law, including those involving Buy Ohio and prevailing wages.

Applicant certifies that physical construction on the project as defined in the application has NOT begun, and will not begin until a Project Agreement for this project has been executed with the Ohio Public Works Commission. Action to the contrary will result in termination of the agreement and withdrawal of Ohio Public Works Commission funding from the project.

Eric Wobser, City Manager

Certifying Representative (Printed form, Type or Print Name and Title)

9/6/18

Original Signature / Date Signed

Revised: April 17, 2018

DISTRICT 5
CAPITAL IMPROVEMENT PROJECTS
QUESTIONNAIRE
ROUND 33

Name of Applicant: City of Sandusky
Project Title: Thorpe Drive Culvert Replacement Project

The following questions are to be answered for each application submitted for State Issue II SCIP, LTIP and Loan Projects. Please provide specific information using the best documentation available to you. Justification of your responses to these questions will be required if your project is selected for funding, so please provide correct and accurate responses. **Communities and Townships under 5,000 in population should also complete the Small Government Criteria.**

1. What percentage of the project in repair A=28 %, replacement B=72%, expansion C=__%, and new D=___%? (Use dollar amounts of project to figure percentages and make sure the total equals one hundred(100) percent) A+B=100% C+D=___%

Repair/Replacement =Repair or Replacement of public facilities owned by the government (any subdivision of the state).

New/Expansion = Replacement of privately owned wells, septic systems, private water or wastewater systems, etc.

2. Give the physical condition rating:

Closed or Not Operating: The condition is unusable, dangerous and unsafe. The primary components have failed. The infrastructure is not functioning at all.

Critical: The condition is causing or contributing to a serious non-compliance situation and is threatening the intended design level of service. The infrastructure is functioning at seriously diminished capacity. Imminent failure is anticipated within 18 months. Repair and/or replacement is required to eliminate the critical condition and meet current design standards. **(For Road Projects structural repair items would represent a minimum of 25% of the total Project Cost).**

Poor: The condition is substandard and requires repair/replacement in order to return to the intended level of service and comply with current design standards. Infrastructure contains a major deficiency and is functioning at a diminished capacity.

Fair: The condition is average, not good or poor. The infrastructure is still functioning as originally intended. Minor deficiencies exist requiring repair to continue to function as originally intended and/or to meet current design standards.

width, SSD, etc.).

BRIDGES SUFFICIENCY RATING N/A

Extremely Critical:	0-25, or a General Appraisal rating of 3 or less.
Critical:	27-50, or a General Appraisal rating of 4.
Major:	51-65 or a General Appraisal rating of 5 or 6.
Moderate:	66-80 or a General Appraisal rating of 7.
Minimal:	81-100 or a General Appraisal rating of more than 7.
No Impact:	Bridge on a new roadway.

WASTEWATER TREATMENT PLANTS N/A

Extremely Critical:	Environmental Protection Agency (EPA) orders in the form of a consent decree, findings and orders or court order. Health Department Construction Ban.
Critical:	Improvements ordered by the Environmental Protection Agency (EPA) in the form of NPDES Orders.
Major:	Replace deficient appurtenances. Update existing processes due to EPA recommendations.
Moderate:	Increase capacity to meet current needs or update processes to improve effluent quality.
Minimal:	New/Expansion project to meet a specific development proposal.
No Impact:	New/Expansion to meet future or projected needs.

WATER TREATMENT PLANT N/A

Extremely Critical:	EPA orders in the form of a consent decree, findings and orders or court order.
Critical:	Improvements to meet Environmental Protection Agency (EPA) Safe Drinking Water Regulations and/or NPDES Orders.
Major:	Replace deficient appurtenances. Update existing processes due to EPA recommendations.
Moderate:	Increase capacity to meet current needs or update processes to improve water quality.
Minimal:	New/Expansion project to meet a specific development proposal.
No Impact:	New/Expansion to meet future or projected needs.

SANITARY SEWERS N/A

Extremely Critical:	EPA orders in the form of a consent decree, findings and orders or court order. Health Department Construction Ban.
Critical:	Replace, due to chronic pipe failure, chronic backup or flooding in basements. Improvements ordered by the Environmental Protection Agency (EPA) in the form of NPDES Orders.
Major:	Replace, due to inadequate capacity or infiltration, or due to EPA recommendations.
Moderate:	Rehabilitate to increase capacity to meet current needs or to reduce inflow and infiltration.
Minimal:	New/Expansion project to meet a specific development proposal.
No Impact:	New/Expansion to meet future or projected needs.

SANITARY LIFT STATIONS AND FORCE MAINS N/A

Extremely Critical:	Structurally deficient. Deterioration has already caused a safety/health hazard to the public, or, EPA orders in the form of a consent decree, findings and orders or court order.
Critical:	Inadequate capacity with actual or a high probability of property damage. Improvements ordered by the Environmental Protection Agency (EPA) in the form of NPDES Orders.
Major:	EPA recommendations, or, reduces a probable health and/or safety problem.
Moderate:	Rehabilitate to increase capacity to meet current needs.
Minimal:	New/Expansion to meet a specific development proposal.
No Impact:	New/Expansion to meet future or projected needs.

WATER PUMP STATIONS N/A

Extremely Critical:	Structurally deficient. Deterioration has already caused a safety hazard to the public, or, EPA orders in the form of a consent decree, findings and orders or court order.
Critical:	Inadequate capacity with the inability to maintain pressure required for fire flows.
Major:	Replace due to inadequate capacity or EPA recommendations.
Moderate:	Rehabilitate to increase capacity to meet current needs.

4. Identify the amount of local funds that will be used on the project as a percentage of the total project cost.

A.) Amount of Local Funds = $ $162,500.00

B.) Total Project Cost = $ 325,000.00

RATIO OF LOCAL FUNDS DIVIDED by TOTAL PROJECT COSTS (A□B)= 50 %

Note: Local funds should be considered funds derived from the applicant budget or loans funds to be paid back through local budget, assessments, rates or tax revenues collected by the applicant.

5. Identify the amount of other funding sources to be used on the project, excluding State Issue II or LTIP Funds, as a percentage of the total project cost.

Grants 0 % Gifts 0 %, Contributions 0 %

Other 0 % (explain)_____ , Total 0 %

Note: Grant funds and other revenues not contributed or collected through taxes by the applicant should be considered other funds. The Scope of Work for each Funding Source must be the same.

6. Total Amount of SCIP and Loan Funding Requested- An Applicant can request a grant per the categories below for points as indicated on the Priority Rating Sheet. If the Applicant is including a loan request equal to, but not exceeding 50% of the OPWC funding amounts listed below, there will be no point penalty. If loan funds requested are more than 50%, points as listed in the Priority Rating Sheet will apply.

_____	$500,001 or More
_____	$400,001-$500,000
_____	$325,001-$400,000
_____	$275,001-$325,000
_____	$175,001-$275,000
X	$175,000 or Less

There are times when the District spends all of the grant money and has loan money remaining. When this happens, the district makes a loan offer in the amount of the requested grant to the communities that were not funded. The offers are made in the order of scoring. We need to know if you are not successful in obtaining grant dollars for your project if you would be interested in loan money:

YES X NO_____

(This will only be considered if you are not funded with grant money and there is remaining loan money.) **Please note: if you answer "no" you will not be contacted, only if you answer "yes" will an offer be made in the event that there is loan money remaining.**

7. If the proposed project is funded, will its completion directly result in the creation of permanent full-time equivalent (FTE) jobs (FTE jobs shall be defined as 35 hours/week) ? Yes ___ No X . If yes, how many jobs within eighteen months? __ Will the completed project retain jobs that would otherwise be

cost-effective if regionalized.

•If a water or sewer project is determined to be affordable, the project will be offered a loan rather than a grant. Pay special attention to the **Water & Wastewater Affordability Supplemental and the Small Government Water & Wastewater Affordability Calculation Worksheet. Both are available on the Small Government Program Tab at http://www.pwc.state.oh.us/SmallGovernment.html**

•Should there be more projects that meet the "annual score" than there is funding, the tie breaker is those projects which scored highest under Health & Safety, with the second tie breaker being Condition. If multiple projects have equivalent Health & Safety and Condition scores they are arranged according to the amount of assistance from low to high. Once the funded projects are announced, "contingency protects" may be funded from project under-runs by continuing down the approved project list.

• Supplemental assistance is not provided to projects previously funded by the Commission.

•Applicants have 30 days from receipt of application by OPWC without exception to provide additional documentation to make the application more competitive under the Small Government criteria. Applications will be scored after the 30-day period has expired. The applicants for each District's two (2) contingency projects will have the same 30-day period to submit supplemental information but these applications will not be scored unless necessary to do so. **It is each applicant's responsibility for determining the need for supplemental material. The applicant will not be asked for or notified of missing information unless the Commission has changed the project type and it affects the documentation required. Important information may include, but is not limited to: age of infrastructure, traffic counts or utility users, median income information, user rates ordinances, and the Auditor's Certificate of Estimated Revenues or documentation from the Auditor of State that subdivision is in a state of fiscal emergency.**

If you desire to have your Round 33 project considered for Small Government Funding please download the Small Government Evaluation Criteria applicable to Round 33 by accessing the OPWC Website at http://www.pwc.state.oh.us/Meth.SG.PDF. Please complete the Small Government Evaluation Criteria and attach all required supporting documentation and attach it to the District 5 Questionnaire for Round 32.

11. MANDATORY INFORMATION, DISTRICT 5, DISCRETIONARY RANKING POINTS

List all specific user fees: Amount or
ROAD & BRIDGE PROJECTS: (OHIO REVISED CODE) Percentage

Permissive license fee	4504.02 or 4504.06	$5.00
	4504.15 or 4504.17	$5.00
	4504.16 or 4504.171	$5.00
	4504.172	$5.00
	4504.18	$0
Special property taxes	5555.48	$0
	5555.49	$0

District 5

Capital Improvement Project

Priority Rating Sheet, Round 33

City of Sandusky
Thorpe Drive Culvert Replacement Project

Revised 04/17/18

COUNTY:	
PROJECT:	
EST. COST:	
PROJECT NUMBER	

NO	"A" WEIGHT FACTOR	CRITERIA TO BE CONSIDERED	"B" PRIORITY FACTORS						"A" x "B"	PRIORITY FACTORS						NO
										0	2	4	6	8	10	
1	1	(Repair or Replace) vs. (New or Expansion)	0	2	4	6	8	X	10	0% + Repair or Replacement	20% + Repair or Replacement	40% + Repair or Replacement	60%+ Repair or Replacement	80%+ Repair or Replacement	100%+ Repair or Replacement X	1
2	1.5	Existing Physical Condition: Must submit substantiating documentation and CIR (100% New or Expansion = 0 Points)	0	2	4	6	X	10	12	Excellent	Good	Fair	Poor	Critical X	Closed or Not Operating	2
3	2	Public Health and/or Public Safety Concerns. Submittals without supporting documentation will receive 0 points for this question.	0	2	4	6	8	X	20	No Impact	Minimal	Moderate	Major	Critical	Extremely Critical X	3
4	2	Percentage of Local Share (Local funds are funds derived from the applicant budget or a loan to be paid back through the applicant budget, assessments, rates or tax revenues) *	0	2	4	6	8	X	20	0%+	10%+	20%+	30%+	40%+	50%+ X	4
5	1	OTHER FUNDING SOURCES (Excluding Issue II Funds) (Grants and other revenues not contributed or collected through taxes by the applicant; including Gifts, Contributions, etc. – must submit copy of award or status letter.)	0 X	2	4	6	8	10	0	0%+ X	10%+	20%+	30%+	40%+	50%+	5

NO	"A" WEIGHT FACTOR	CRITERIA TO BE CONSIDERED	"B" PRIORITY FACTORS						"A" x "B"	PRIORITY FACTORS						NO
										-9	-8	0	8	9	10	
										Grant or Loan Only						
6	2	OPWC Grant and Loan Funding Requested; Please refer to Item 6 on Questionnaire for Clarification.	-9	-8	0	8	9	X	20	$500,001 or more	$400,001 to $500,000	$325,001 to $400,000	$275,001 to $325,000	$175,001 to $275,000	$175,000 X or less	6
	2									Grant/Loan Combination						
			-9	-8	0	8	9	X	20	$750,000 or more	$600,001 to $750,000	$487,501 to $600,000	$412,501 to $487,500	$262,501 to $412,500	$262,500 X or less	6

When scoring a project that is only grant or only loan, Please use the chart labeled "Grant or Loan Only". When scoring a grant/loan combination, score the project for the grant in the first chart, then use the second chart labeled "Grant/Loan Combination" to score the total (grant and loan combined). Use the lower of the two as the score.

NO	"A" WEIGHT FACTOR	CRITERIA TO BE CONSIDERED	"B" PRIORITY FACTORS						"A" x "B"	PRIORITY FACTORS						NO
										0	2	4	6	8	10	
7	1	Will the Proposed Project Create Permanent Jobs or retain Jobs that would otherwise be permanently lost (Written Documentation Required)	0 X	2	4	6	8	10	0	0+ Jobs X	7+ Jobs	15 + Jobs	25 + Jobs	50 + Jobs	100 + Jobs	8
8	1	Benefits to Existing Users such as households, (Equivalent dwelling units), traffic Counts, etc.	0	2	4	6	8	X	10	0+	100+	350+	500+	750+	1000+ X	9
9		SUBTOTAL RANKING POINTS (MAX. = 115) for 1-6 for 1-8 = 112 total							112	Other Info: Does this project have a significant impact on productive farmland? YES (NO) Attach impact statement if yes. Is the Applicant ready to proceed to bids after State Approval within 6 months? (YES) NO						
10		COUNTY PRIORITY POINTS (25-20-15)														
11		DISCRETIONARY POINTS (BY DISTRICT ONLY) (MAX.=12)														
12		GRAND TOTAL RANKING POINTS														

* Applicants must certify local share contribution. Specify, all funding sources to be utilized as local share at the time of application submittal.

OPWC Round 33
Thorpe Drive Culvert Replacement Project
Supplemental Narrative

Project Information:

Roadway/Culvert – This project is located on the west side of Sandusky on Thorpe Drive. It is south of Venice Road which is also State Route 6. The length of the project is from the intersection of Venice Road to the intersection of Venice Heights Boulevard. The culvert replacement is located at the Cold Creek crossing of Thorpe Drive. Thorpe Drive and Venice Heights Boulevard are the only access routes to the Venice Heights Elementary School which serves approximately 392 students in grades K through 6th grades.

Thorpe Drive was resurfaced in 1996 with minimal ongoing maintenance. Overtime the pavement has developed several areas of failure and alligator cracking. In 2015 Transmap prepared Pavement Condition Index (PCI) rating for all pavement within the City. This section of Thorpe Drive was rated as a 40 in 2015. A PCI rating of 26-50 is rated as poor with the recommendation to mill and resurface. The proposed resurfacing is to mill 3" of existing asphalt and resurface with 3" from Venice Road to Venice Heights Boulevard.

Thorpe Drive Culvert (ERI-THORP-00.479) is a corrugated metal structural multi plate arch built in approximately 1956. The culvert structure has span length of 8.58 feet with an interior rise of 5.92 feet.

In November of 2017, TranSystems notified the City of Sandusky that they would be working as a subconsultant for Richland Engineering on the ODOT Municipal Bridge Inspection contract for 2017-2019. TranSystems inspected four bridges and the Thorpe Drive Culvert was one of them. TranSystems did a preliminary inspection of the culvert in November of 2017 and a complete inspection in February 2018. Based on the initial inspection, it was noted that the culvert had an overall National Bridge Inspection Standards (NBIS) rating of 3. There is 100% section loss in the corrugated pipe along the water line primarily at each end (20 feet from both ends). The section loss in the ends is much more prevalent and continuous than in the area under the roadway, however, there are still areas of 100% section loss in the sides of the pipe under the roadway. The inspectors did find some deflection in the top of the pipe.

In February 2017, the Local Bridge Program Manager from ODOT, Omar Abu-Hajar, provided the City with the complete bridge inspection reports and direction to expedite installation of weight limit signs to ensure public safety. He also recommended that the City of Sandusky should monitor any change in the culvert shape or any new dips in the roadway after high-water events. This recommendation was made in order to monitor the structural fill due to the concern of the total section loss and the shape change at the culvert's ends. The Local Bridge Program Manager also recommended replacing the existing culvert or slipping with a new slightly smaller culvert inside the existing one. This was

recommended to be completed as soon as possible before the culvert condition goes from a serious 3 to a critical 2. The option of slipping a new slightly smaller culvert was not chosen due to issues with trying to fill areas with grout and also decreasing the hydraulic capacity of the culvert flow. Included with the additional information is a copy of the summary of the bridge load rating and inspection notes. Also included as backup information are the emails from TranSystems and ODOT.

The proposed replacement project for the new culvert involves installing a ninety foot long 10' x 6' precast reinforced concrete box culvert with the replacement of the existing brick/stone headwalls with new concrete headwalls per ODOT standards at each end of the new culvert. This will prevent any loss of structural fill material which has happened in the past. Approximately fifty-seven feet of the asphalt pavement above the replacement culvert will be completely reconstructed. The proposed work involves replacing the existing concrete sidewalk on the west side of the culvert crossing on Thorpe Drive. This sidewalk is currently uneven and needs to be brought back up to ADA compliance. The east side of the culvert crossing area will have new concrete sidewalk installed connecting the current dead-end sections of sidewalk north and south of this area. This will increase the walkability and safety of pedestrian traffic. Along with the sidewalk work, there will be replacement of the existing guardrail with timber railing for pedestrian/bicycle safety.

As mentioned earlier, Thorpe Drive is one of the entrances to the Venice Heights Elementary School. This route is traveled daily by buses and parents taking students to school during the school year. Thorpe Drive is also an entrance point off of Venice Road (State Route 6) for residents living at the Venice Heights Subdivision (137 residences) the Pinewood Condomium Development (104 units) and the multiple unit Venice Apartment Buildings (32 units). It is imperative that this culvert work is completed for future public safety as recommended by the results of the ODOT Municipal Bridge Inspection program. Attached to the OPWC information package is an email dated 22/14/18 from TranSystems, the Thorpe Drive Culvert will be inspected again in November 2018 to monitor and update the section loss and deformation measurements for the City as part of ODOT's Municipal Bridge Inspection contract.

CITY OF SANDUSKY, OHIO

DEPARTMENT OF ENGINEERING and CONSTRUCTION

Thorpe Drive Culvert Replacement Project

LINE NO	ODOT ITEM NO	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL AMOUNT
1	251	PARTIAL DEPTH REPAIR	10.00	CY	$50.00	$500.00
2	253	PAVMENT REPAIR	30.00	CY	$100.00	$3,000.00
3	254	PAVEMENT PLANING 3"	2311.00	SY	$3.50	$8,092.50
4	407	NON-TRACKING TACK COAT (0.05 GAL/SY)	116.00	GAL	$2.65	$307.25
5	407	NON-TRACKING TACK COAT (0.08 GAL/SY)	185.00	GAL	$2.65	$490.25
6	441	ASPHALT CONCRETE PG64-22 SURFACE COURSE TYPE 1 (448) 1 1/4"	81.00	CY	$220.00	$17,820.00
7	441	ASPHALT CONCRETE PG64-22 INTERMEDIATE TYPE 1 (448) 1 3/4"	113.00	CY	$200.00	$22,600.00
8	611	CATCH BASIN ADJUSTED TO GRADE-NEW FRAME & CASTING	1.00	EA	$1,400.00	$1,400.00
9	611	MANHOLE ADJUSTED TO GRADE-NEW FRAME & CASTING-SAN	3.00	EA	$1,400.00	$4,200.00
10	614	MAINTAINING TRAFFIC	1.00	LS	$4,900.00	$4,900.00
11	624	MOBILIZATION	1.00	LS	$8,000.00	$8,000.00
12	638	3 PIECE WATER VALVE ADJUSTED TO GRADE	5.00	EA	$1,200.00	$6,000.00
13	638	MANHOLE ADJUSTED TO GRADE-NEW FRAME & CASTING-WATER	1.00	EA	$1,400.00	$1,400.00
14	642	WHITE AUXILARY-24" STOP BAR, TYPE 1	12.00	LF	$20.00	$240.00
15	642	CROSSWALK LINE, TYPE 1	80.00	LF	$12.00	$960.00
16	642	CENTERLINE 4" DOUBLE SOLID YELLOW LINE, TYPE 1	66.00	LF	$15.00	$990.00
17	832	EROSION CONTROL	100.00	EA	$1.00	$100.00
18	SPECIAL	MISC GIS & ASBUILT INFORMATION	1.00	LS	$2,000.00	$2,000.00
19	SPECIAL	CULVERT REPLACEMENT ESTIMATE-SEE ATTACHED COSTS	1.00	LS	$212,000.00	$212,000.00
					Engineer's Estimate of Construction Cost=	**$295,000.00**
					Construction Contingency (10%)=	**$30,000.00**
					Total Engineer's Estimate of Construction Cost-Resurfacing and Culvert Replacement=	**$325,000.00**

The estimated useful life of the Thorpe Drive Culvert Replacement Project is 39 years.

9/7/18

Estimate Thorpe Drive

Estimated Cost:$209,673.00

Contingency: 0.90%

Estimated Total: $211,560.06 Rounded to $212,000.00

CITY OF SANDUSKY - THORPE DRIVE CULVERT (CONTINGENCY AMOUNT = 0.9% BASED ON ODOT INFLATION CALCULATOR)

Base Date: 07/09/18

Spec Year: 16

Unit System: E

Work Type: ASPHALT

Highway Type: 448 ON 301

Urban/Rural Type: URBAN CLASS

Season: SUMMER

County: ERIE

Latitude of Midpoint: 412627

Longitude of Midpoint: 824551

District: 03

Federal/State Project Number:

Estimate Type: FINAL SUBMISSION

Prepared by JDB on 03/14/18
Checked by JDM on 03/14/18

Line #	Item Number / Description / *Supplemental Description*	Quantity	Units	Unit Price	Extension
Group 0006: ROADWAY					
0005	201E11000 CLEARING AND GRUBBING	1.0	LS	$1,000.00	$1,000.00
0008	202E23001 PAVEMENT REMOVED, AS PER PLAN	173.0	SY	$10.00	$1,730.00
0009	202E30000 WALK REMOVED	532.0	SF	$2.00	$1,064.00
0011	202E32000 CURB REMOVED	107.0	FT	$8.00	$856.00
0012	202E35100 PIPE REMOVED, 24" AND UNDER	26.0	FT	$22.00	$572.00
0014	202E58100 CATCH BASIN REMOVED	2.0	EACH	$300.00	$600.00
0017	204E10000 SUBGRADE COMPACTION	173.0	SY	$2.00	$346.00
0019	517E74000 RAILING, TIMBER	120.0	FT	$20.00	$2,400.00
0022	608E10001 4" CONCRETE WALK, AS PER PLAN	1,443.0	SF	$7.00	$10,101.00
				Total for Group 0006:	$18,669.00
Group 0008: EROSION CONTROL					
0027	601E32210 ROCK CHANNEL PROTECTION, TYPE C WITH AGGREGATE FILTER	35.0	CY	$100.00	$3,500.00
0030	659E98700 SEEDING, MISC.: SEEDING AND MULCHING, CLASS 1	1.0	LS	$2,500.00	$2,500.00
0037	832E30000 EROSION CONTROL	2,000.0	EACH	$1.00	$2,000.00
				Total for Group 0008:	$8,000.00
Group 0010: DRAINAGE					
0045	611E04400 12" CONDUIT, TYPE B 706.02	24.0	FT	$45.00	$1,080.00
0053	611E07400 18" CONDUIT, TYPE B 706.02	11.0	FT	$70.00	$770.00
0064	611E98690 CATCH BASIN, MISC.: SANDUSKY STANDARD CATCH BASIN, TYPE 1	2.0	EACH	$2,000.00	$4,000.00
				Total for Group 0010:	$5,850.00
Group 0012: PAVEMENT					

Line #	Item Number / Description / *Supplemental Description*	Quantity	Units	Unit Price	Extension
0071	254E01000 PAVEMENT PLANING, ASPHALT CONCRETE 0"-1.25"	132.0	SY	$10.00	$1,320.00
0072	301E46000 ASPHALT CONCRETE BASE, PG64-22	29.0	CY	$200.00	$5,800.00
0074	304E20000 AGGREGATE BASE LIMESTONE	29.0	CY	$70.00	$2,030.00
0075	407E20000 NON-TRACKING TACK COAT	28.0	GAL	$2.50	$70.00
0078	441E50000 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	11.0	CY	$300.00	$3,300.00
0079	441E50300 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	9.0	CY	$300.00	$2,700.00
0088	609E26000 CURB, TYPE 6	112.0	FT	$20.00	$2,240.00

Total for Group 0012:$17,460.00

Group 0013: TRAFFIC CONTROL

0142	630E84900 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	2.0	EACH	$15.00	$30.00
0143	630E86002 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	2.0	EACH	$15.00	$30.00

Total for Group 0013:$60.00

Group 0015: MOT

0116	614E12420 DETOUR SIGNING	1.0	LS	$1,000.00	$1,000.00

Total for Group 0015:$1,000.00

Group 0016: MISC

0126	614E11000 MAINTAINING TRAFFIC	1.0	LS	$2,000.00	$2,000.00
0128	623E10000 CONSTRUCTION LAYOUT STAKES AND SURVEYING	1.0	LS	$2,000.00	$2,000.00
0129	624E10000 MOBILIZATION	1.0	LS	$4,000.00	$4,000.00

Total for Group 0016:$8,000.00

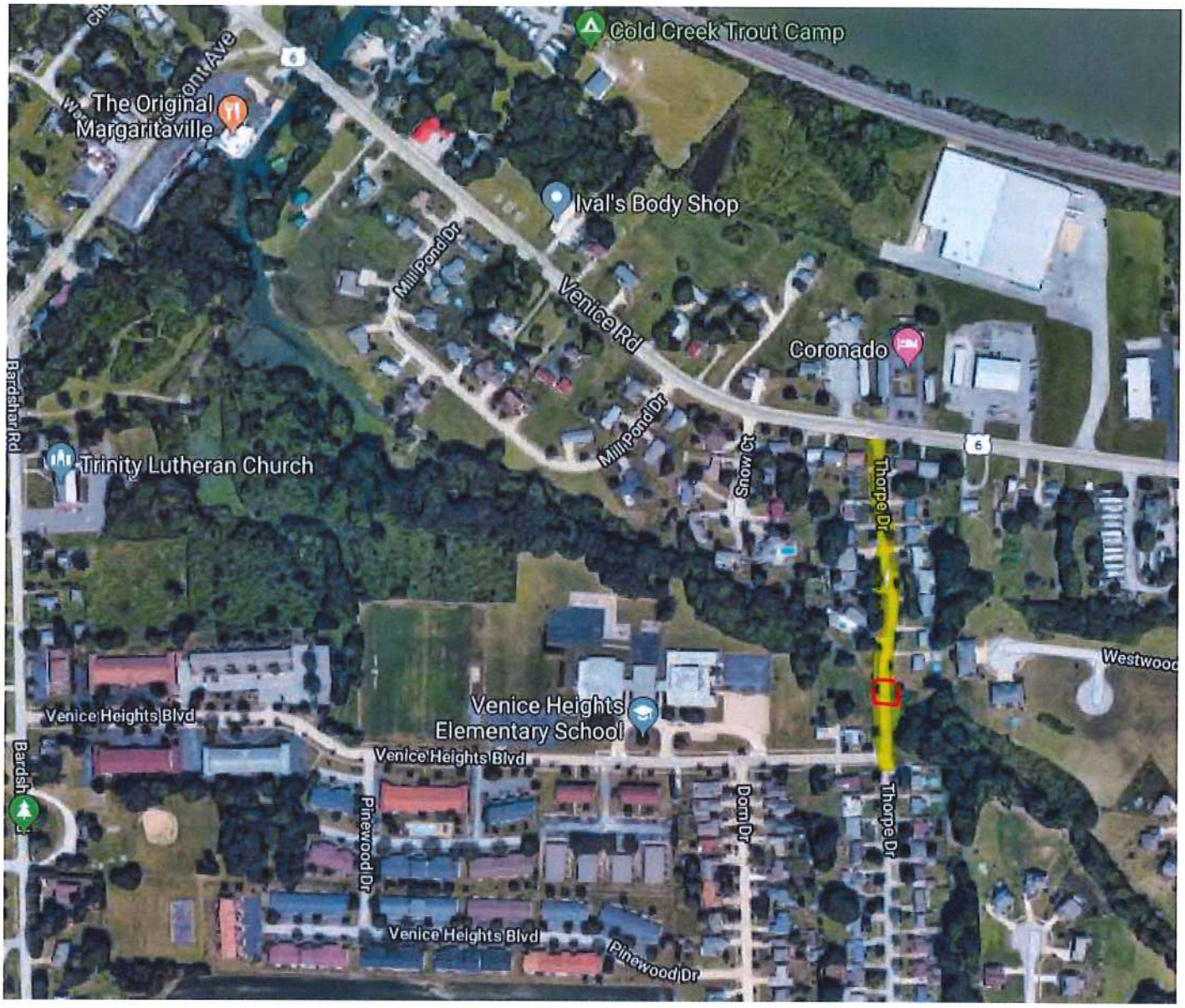
Group 0017: 10' X 6' BOX CULVERT

0130	202E11001 STRUCTURE REMOVED, AS PER PLAN	1.0	LS	$5,000.00	$5,000.00

Line #	Item Number / Description / *Supplemental Description*	Quantity	Units	Unit Price	Extension
0131	503E11100 COFFERDAMS AND EXCAVATION BRACING	1.0	LS	$1,000.00	$1,000.00
0132	503E21300 UNCLASSIFIED EXCAVATION	1.0	LS	$5,000.00	$5,000.00
0133	509E10000 EPOXY COATED REINFORCING STEEL	4,900.0	LB	$1.60	$7,840.00
0134	511E46010 CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	15.0	CY	$1,000.00	$15,000.00
0135	511E46510 CLASS QC1 CONCRETE, FOOTING	43.0	CY	$600.00	$25,800.00
0136	511E46610 CLASS QC1 CONCRETE, HEADWALL	1.6	CY	$1,000.00	$1,600.00
0137	512E10100 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	61.0	SY	$24.00	$1,464.00
0138	512E33000 TYPE 2 WATERPROOFING	290.0	SY	$17.00	$4,930.00
0139	518E21230 POROUS BACKFILL WITH FILTER FABRIC	1.0	LS	$2,500.00	$2,500.00
0140	611E95201 10' X 6' CONDUIT, TYPE A, 706.05, AS PER PLAN	90.0	FT	$850.00	$76,500.00
0141	611E97300 CONDUIT, MISC.: MAINTENANCE OF SANITARY SEWER FLOWS	1.0	LS	$4,000.00	$4,000.00

Total for Group 0017:$150,634.00

Thorpe Drive Vicinity Map



Culvert location & pavement reconstruction

Resurfacing limits

Thorpe Drive - looking south from Venice Road

Thorpe Drive - looking south at culvert

Thorpe Drive– looking north at Venice Heights Blvd intersection

Thorpe Drive Culvert at Cold Creek-west side viewing towards the east

Inside of Culvert looking east

Inside of Culvert looking at eastern end section

Southeast section of culvert

New Load Limit signs

CHIEF FINANCIAL OFFICER'S CERTIFICATION OF LOCAL FUNDS AVAILABLE

August 30, 2018

I, Finance Director of the City of Sandusky, hereby certify that City of Sandusky has $162,500 available in Sewer Funds to be used to pay for the local share portion of the Thorpe Drive Culvert Replacement Project when it will be required.

Hank S. Solowiej, CPA
Finance Director

CERTIFICATION

I, Kelly L. Kresser, Clerk of the City Commission of the City of Sandusky, Ohio, do hereby certify that the attached is a true and correct copy of **Resolution 034-18R** adopted at a regular meeting of the Commission of the City of Sandusky, Erie County, Ohio, which was held on August 27, 2018.

Given under my hand and seal this 29th day of August, 2018

Kelly L. Kresser, CMC
Clerk of the City Commission
City of Sandusky, Ohio

RESOLUTION NO. 034-18R

A RESOLUTION AUTHORIZING THE SUBMISSION OF AN APPLICATION BY THE CITY MANAGER FOR FINANCIAL ASSISTANCE AND TO ENTER INTO A PROJECT AGREEMENT WITH THE OHIO PUBLIC WORKS COMMISSION IN ORDER TO PARTICIPATE IN THE OHIO PUBLIC WORKS COMMISSION'S STATE CAPITAL IMPROVEMENT AND/OR LOCAL TRANSPORTATION IMPROVEMENT PROGRAMS AUTHORIZED BY CHAPTER 164 (AID TO LOCAL GOVERNMENT IMPROVEMENTS) OF THE OHIO REVISED CODE FOR THE THORPE DRIVE CULVERT REPLACEMENT PROJECT; AND DECLARING THAT THIS RESOLUTION TAKE IMMEDIATE EFFECT IN ACCORDANCE WITH SECTION 14 OF THE CITY CHARTER.

WHEREAS, the existing culvert on Thorpe Drive between Venice Road and Venice Heights Boulevard is a corrugated metal multi plate arch structure originally installed in 1956 and in February of 2017 the Ohio Department of Transportation (ODOT) completed a Bridge Load Summary Report for this structure and due to the heavy corrosion noted in the culvert pipe, ODOT recommended installing weight limit signs for the bridge, which was completed in February by the City's Street Department, and in addition recommended replacing the culvert with a new concrete box culvert or slipping a new smaller culvert inside the existing one; and

WHEREAS, the proposed Thorpe Drive Culvert Replacement Project involves the complete replacement of the Thorpe Drive culvert and includes replacing the existing sidewalk on the west side of Thorpe Drive and installing new sidewalk on the east side where currently there is a gap in the sidewalk, resurfacing Thorpe Drive from Venice Road to Venice Heights Boulevard, and complete pavement reconstruction over the new culvert on Thorpe Drive; and

WHEREAS, this City Commission approved an agreement for professional design services with K.E. McCartney & Associates, Inc., of Mansfield, Ohio, for the Thorpe Drive Culvert Replacement Project by Ordinance No. 17-137, pass on July 10, 2017; and

WHEREAS, the estimated cost for the Thorpe Drive Culvert Replacement Project is $325,000.00 and the City is requesting funds in the amount of $162,500.00, which is 50% of the estimated project cost; and

WHEREAS, a certified copy of the legislation approving the project is required by the governing body of the applicant; and

WHEREAS, this Resolution should be passed as an emergency measure under suspension of the rules in accordance with Section 14 of the City Charter in order for the grant application and Resolution to be submitted to the Ohio Public Works Committee by the deadline of September 7, 2018; and

WHEREAS, in that it is deemed necessary in order to provide for the immediate preservation of the public peace, property, health, and safety of the City of Sandusky, Ohio, and its citizens, and to provide for the efficient daily operation of the Municipal Departments, including the Department of Public Works, of the City of Sandusky, Ohio, the City Commission of the City of Sandusky, Ohio, finds that an emergency exists regarding the aforesaid, and that it is advisable that this Resolution be declared an emergency measure which will take immediate effect in accordance with Section 14 of the City Charter; and NOW, THEREFORE,

BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF SANDUSKY, OHIO, THAT:

Section 1. This City Commission hereby approves the submission of an application for financial assistance with the Ohio Public Work's Commission's State Capital Improvement and/or Local Transportation Improvement Programs as provided in Chapter 164 of the Ohio Revised Code for the Thorpe Drive Culvert Replacement Project, authorizes and directs the City Manager to file the application for assistance and authorizes and directs the City Manager and/or Finance Director to provide any necessary information and assurances and to execute appropriate project agreements if assistance is awarded by the Ohio Public Works Commission.

Section 2. If any section, phrase, sentence, or portion of this Resolution is for any reason held invalid or unconstitutional by any Court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.

Section 3. This City Commission finds and determines that all formal actions of this City Commission concerning and relating to the passage of this Resolution were taken in an open meeting of this City Commission and that all deliberations of this City Commission and of any of its committees that resulted in those formal actions were in meetings open to the public in compliance with the law.

Section 4. That for the reasons set forth in the preamble hereto, this Resolution is hereby declared to be an emergency measure which shall take immediate effect in accordance with Section 14 of the City Charter after its adoption and due authentication by the President and the Clerk of the City Commission of the City of Sandusky, Ohio.

DENNIS E. MURRAY, JR.
PRESIDENT OF THE CITY COMMISSION

ATTEST:
KELLY L. KRESSER
CLERK OF THE CITY COMMISSION

Passed: August 27, 2018

BRIDGE LOAD RATING SUMMARY REPORT
OFFICE OF STRUCTURAL ENGINEERING
OHIO DEPARTMENT OF TRANSPORTATION

SFN	BRIDGE NUMBER	DISTRICT
2261000	ERI-THORP-00.479	4 (City of Sandusky)

ORIGINAL CONSTRUCTION YEAR	REHABILITATION YEAR	OVERALL STRUCTURE LENGTH	FEATURE INTERSECTION
1956		12 ft	Cold Creek

SPECIAL ASSUMPTIONS & COMMENTS	Source of the load rating is from the field measurements done on 2/13/2017 combined with partial plan provided by the City. The culvert is corrugated metal structural multi plate arch. Span Length = 8.583feet. Rise = 5.92 ft. Skew = 35 degrees. Corrugations are 6"x2". Measured Fill over the culvert = 2.33 (+/-). Plate Thickness = 0.140 inch (Gauge 10). Top Radius = 4.33 ft. Assumed Original Design Loading = HS20. Field observations concluded that the culvert has heavy corrosion with about 10% remaining for the portion under the roadway (assumed). Through corrosion at the outter sideds of the culvert at inlet & outlet, but vehicular traffic over these ends. Recommend for the City to monitor during and after each high water events to ensure strucutral fill remains in place.

	PLEASE SELECT ON RIGHT, WHERE APPROPRIATE, BY USING THE DROP DOWN ARROW BUTTON
LOAD RATING PURPOSE:	1 - Initial Load Rating
LOAD RATING SOFTWARE:	6 - In-House Program/Spreadsheet
RATING SOURCE:	2 - Field measured information for load rating analysis
RATING METHOD:	8 - Load & Resistance Factor Rating (LRFR) reported by rating factor (RF)
ORIGINAL DESIGN LOADING:	5 - HS20

STRUCTURE RATING SUMMARY

OHIO LEGAL

Loading Type	GVW (Tons)	Rating Factor - RF		Legal Weight (Tons)
		Inv.	Oper.	
HL93 Loading		0.390	0.506	
Ohio - 2F1	15		0.741	11.12
Ohio - 3F1	23		0.833	19.16
Ohio - 4F1	27		0.964	26.03
Ohio - 5C1	40		0.833	33.32

SPECIALIZED HAULING VEHICLES (SHV)

Loading Type	GVW (Tons)	Rating Factor - RF	Legal Weight (Tons)
		Oper.	
NRL	40	N/A	
SU4	27	0.833	22.49
SU5	31	0.833	25.82
SU6	34.75	0.833	28.95
SU7	38.75	0.833	32.28

EMERGENCY VEHICLES

EV2	28.75		NA	
EV3	43		NA	

Overall Posting Rating	75%
BRIDGE POSTING REQUIRED BY RATING	LOAD POSTING IS RECOMMENDED

Sign Posting Recommendation:

WEIGHT LIMIT	
AXLES	
2	11 T
3	19 T
4	22 T
5	26 T
6+	29 T

AGENCY/FIRM	ODOT - Office of Structural Engineering	REPORT DATE:	2/14/2017

RATED BY	PE #	PHONE NUMBER	EMAIL
Omar Abu-Hajar	57465	614-387-1257	omar.abu-hajar@dot.ohio.gov

REVIEWED BY	PE #	PHONE NUMBER	EMAIL

SFN: 2261000 BRIDGE NUMBER: ERI-THORP-00.479

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION FIELD REPORT

Structure File Number: 2261000 Inventory Bridge Number: ERI MR585 00.479 Bridge Type: 3 - STEEL/9 - CULVERT/5 - FILLED

Sufficiency Rating: 69.4 Date Built: 07/01/1956

District: 03 Place Code (FIPS): SANDUSKY THORPE DRIVE over COLD CREEK Type of Service on: HIGHWAY

APPROACH ITEMS

	condition state				cr
	QTY.	1	2	3	4	TR
c1. Approach Wearing Surface (EA)	2					3
c2. Approach Slabs (SF)						
c3. Relief Joint (LF)						
c4. Embankment (EA) d	4					2
c5. Guardrail (EA)						

N36. Safety Features: Tr, Gr, Tm — 36)B N 36)C N 36)D N

c6. Approach Summary (9-0) 4

DECK ITEMS

	condition state				cr
	QTY.	1	2	3	4	TR
c7.1 Floor/Slab (SF)						
c7.2 Edge of Floor/Slab (LF)						
c8. Wearing Surface (SF)						
c9. Curb/Sidewalk/Walkway (LF)						
c10. Median (LF)						
c11. Railing (LF)						
N36. Safety Features: Rail	36)A 0					
c12. Drainage (EA) d						
c13. Expansion Joint (LF) d	0.0					
N58. Deck Summary					(9-0)	N

SUPERSTRUCTURE ITEMS

	condition state				cr
	QTY.	1	2	3	4	TR
c14. Alignment (EA) d						
c15.1 Beams/Girders (LF)						
c15.2 Slab (SF)						
c16. Diaphragm/X-Frames (EA)						
c17. Stringers (LF)						
c18. Floorbeams (LF)						
c19. Truss Verticals (EA)						
c20. Truss Diagonals (EA)						
c21. Truss Upper Chord (EA)						
c22. Truss Lower Chord (EA)						
c23. Truss Gusset Plate (EA) d						
c24. Lateral Bracing (EA)						
c25. Sway Bracing (EA)						
c26. Bearing Devices (EA) d						
c27. Arch (LF)						
c28. Arch Column/Hanger (EA)						
c29. Arch Spandrel Walls (LF)						
c30. Prot. Coating System (LF) d						
c31. Pins/Hangers/Hinges (EA) d						
c32. Fatigue (LF) d						
N59. Superstructure Summary					(9-0)	N

SUBSTRUCTURE ITEMS

	condition state				cr
	QTY.	1	2	3	4	TR
c33. Abutment Walls (LF)						
c34. Abutment Caps (LF)						
c35. Abut. Columns/Bents (EA)						
c36. Pier Walls (LF)						
c37. Pier Caps (LF)						
c38. Pier Columns/Bents (EA)						
c39. Backwalls (LF)						
c40. Wingwalls (EA)						
c42. Scour (EA) d						
c43. Slope Protection (EA) d						
N60. Substructure Summary					(9-0)	N

CULVERT ITEMS

	condition state				cr
	QTY.	1	2	3	4	TR
c44. General (LF)	78.0					3
c45. Alignment (LF) d	78.0					2
c46. Shape (LF) d	78.0					3
c47. Seams (LF) d	0.0					2
c48. Headwall/Endwall (LF)	2					3
c49. Scour (LF) d	2					2
c50. Abutments (LF)						
N62. Culvert Summary					(9-0)	3

CHANNEL ITEMS

	condition state				cr
	QTY.	1	2	3	4	TR
c51. Alignment (LF) d	200.0					1
c52. Protection (LF) d	200.0					1
c53. Hydraulic Opening (EA) d	1.0					2
c54. Navigation Lights (EA) d						
N61. Channel Summary					(9-0)	6

SIGN/UTILITY ITEMS

	condition state				cr
	QTY.	1	2	3	4	TR
c55. Signs (EA) d						
c56. Sign Supports (EA) d						
c57. Utilities (LF) d						
General Appraisal					(9-0)	3
N41. Operating Status						B

Inspector Name Abu-Hajar, Omar

Inspection Date/Type 02/13/2017 Routine

PE Number 57465

Reviewer Name Abu-Hajar, Omar

Review Date 02/14/2017

PE Number 57465

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION FIELD REPORT

Structure File Number: 2261000 Inventory Bridge Number: ERI MR585 00.479 Bridge Type: 3 - STEEL/9 - CULVERT/5 - FILLED

Sufficiency Rating: 69.4 Date Built: 07/01/1956

District: 03 Place Code (FIPS): SANDUSKY THORPE DRIVE over COLD CREEK Type of Service on: HIGHWAY

Key: "Qty" = Quantity for Element Level inspection; "(LF)" = Linear Feet; "(SF)" = Square Feet; "(EA)" = Each or count; "CR" = 1-4 Condition Rating or average of worst span unless Summary item 9-0, then the average of entire bridge influenced by the bold boxes; "TR" = Transition Rating or weighted average of condition states; "d" = dedicated or specific chart and guidance, all others use Material specific chart/guidance; "c" = condition prefix; "N" = NBIS rating

Inspection Procedures

Comments

APPROACH

c1. Approach Wearing Surface

Many longitudinal and diagonal cracks allowing water to seep through to the embankment.

c4. Embankment

some settlements throughout the site due to water seepage through the cracks in the pavement.

CULVERT

c44. General

Heavy corrosion and section loss through out the culvert. More sever at inlet & outlet ends with 100% section loss at the normal water line. The inner portion of the culvert has heavy corrosion with 10% remaining. Refer to pictures.

c46. Shape

Due to sever corrosion at ends, the culvert top is defected out of shape. Refer to pictures.

c48. Headwall/Endwall

Stone headwalls are missing mortar with big gaps to allow rushing high water to get into the structural backfill.

c49. Scour

The inlet has scour with poured concrete in place to stabilize further damage.

Preliminary Assessment of Culvert

Jane Cullen

From: pjanamasi@transystems.com
Sent: Friday, January 12, 2018 4:32 PM
To: Aaron Klein
Cc: Jane Cullen
Subject: RE: 2017 Municipal Bridge Inspection Task
Attachments: R012.JPG; R015.JPG

Aaron,

I apologize for the delay in responding. We are going to complete a full inspection of the Thorpe Drive culvert in the next 2 weeks. As we discussed back in November, we took a look at the culvert on the same day we inspected the Perkins Ave and Monroe Street structures. Based on our initial look at the culvert, I tend to agree with the assessment of the previous inspectors in giving the structure an overall NBIS rating of 3. There is 100% section loss in the corrugated pipe along the water line primarily at each end (approximately 20' from each end). The section loss in the ends is much more prevalent and continuous than in the area under the roadway, however, there are still areas of 100% section loss in the sides of the pipe under the roadway. We did not find a great deal of deflection in the top of the pipe.

I will speak to our senior bridge engineer, Nabil Farrah, and show him the results of our initial inspection as well as the load rating data that ODOT provided and get his opinion on the structure. In my experience, CMP type structures typically do not experience catastrophic failures due to section loss in the pipes. The design/performance of these structures is based on the soil-structure interaction as opposed to the strength of the structure itself (as in a prestressed AASHTO girder bridge or steel girders, etc.). I'd like to complete our full inspection here in January and review the data with Nabil to get his thoughts as well then I believe we can come up with a recommendation for you.

I hope this information helps. Attached are a couple of photos showing the 100% section loss in the sides of the pipe.

Thanks
Pete

From: Aaron Klein [mailto:aklein@ci.sandusky.oh.us]
Sent: Thursday, January 11, 2018 4:40 PM
To: CL-Pete Anamasi
Cc: Jane Cullen
Subject: RE: 2017 Municipal Bridge Inspection Task

Could we get your opinion on the condition of the Thorpe Drive culvert?

Aaron Klein, P.E.
Director, Public Works

419-627-5829

From: pjanamasi@transystems.com [mailto:pjanamasi@transystems.com]
Sent: Wednesday, November 15, 2017 10:55 AM
To: Aaron Klein <aklein@ci.sandusky.oh.us>
Cc: Jane Cullen <jcullen@ci.sandusky.oh.us>; Jeffrey Keefe <jkeefe@ci.sandusky.oh.us>; Megan Stookey

<mstookey@ci.sandusky.oh.us>; Elisabeth Sowecke <esowecke@ci.sandusky.oh.us>
Subject: RE: 2017 Municipal Bridge Inspection Task

Aaron,

The 2 bridges we are inspecting on Friday are as follows:

SFN 2266318 – Perkins Avenue Cutoff over Mills Creek
SFN 2266415 - Monroe Street over Mills Creek

The Perkins Ave bridge is a typical routine inspection. The Monroe Street bridge is an element level inspection which will take us a bit longer because we have to gather a bunch of measurements to develop quantities for ODOT's SMS system.

The remaining 2 structures to be inspected in February are:

SFN 2261000 – Thorpe Drive over Cold Creek
SFN 2261003 – Cold Creek Blvd over Cold Creek

Both of the February inspections are typical routine level inspections.

If there are particular concerns about any of these 4 structures that you would like us to focus on, please let me know and we'll take care of it during the inspections. Not that I anticipate it but if we find any structural or safety issues, I will notify you from the field since I will be the team leader in charge of the inspections this week.

Thanks
Pete

From: Aaron Klein [mailto:aklein@ci.sandusky.oh.us]
Sent: Tuesday, November 14, 2017 5:10 PM
To: CL-Pete Anamasi
Cc: Jane Cullen; Jeffrey Keefe; Megan Stookey; Elisabeth Sowecke
Subject: RE: 2017 Municipal Bridge Inspection Task

Pete,

Thank you very much for the information. Can you tell me which two you will be in town for?

Aaron Klein, P.E.
Director, Public Works

419-627-5829

From: pjanamasi@transystems.com [mailto:pjanamasi@transystems.com]
Sent: Tuesday, November 14, 2017 4:37 PM
To: Aaron Klein <aklein@ci.sandusky.oh.us>
Subject: 2017 Municipal Bridge Inspection Task

Aaron,

TranSystems is a subconsultant to Richland Engineering on the ODOT Municipal Bridge Inspection contract for 2017-2019. There are a total of 4 bridges in Sandusky that need to be inspected as part of this contract. Two of the structures are due in November and the remaining 2 are due in February, 2018. My plan is to complete the inspection of the 2

Final Inspection Comments

Jane Cullen

From: pjanamasi@transystems.com
Sent: Wednesday, February 14, 2018 1:42 PM
To: Aaron Klein
Cc: Jane Cullen; ACBiehl@transystems.com
Subject: RE: 2017 Municipal Bridge Inspection Task
Attachments: R019.jpg

Aaron,

My inspection team completed the full inspection of the Thorpe Drive culvert on January 19th. As I indicated in my email from January 12th, there is 100% section loss in the corrugated pipe along the water line. During the inspection on the 19th, the water level was a bit lower than during our initial site visit back in November. My team found what we believe is additional evidence of water leakage and/or infiltration through the edges of the pipe into the stream. As you can see in the attached photo, there was a layer of ice along essentially 100% of the pipe that was located approximately 2" above the water level. As part of their inspection, my team took hand measurements of the span and rise in multiple locations to measure the deformation in the structure. We determined that the deformation was less than 2% throughout the length of the structure based on our hand measurements. There was little evidence of depressed areas in the pavement over the top of the structure.

The concern we have is with the evidence of infiltration along the sides of the bottom plate of the culvert throughout the length of the structure. There is no accurate method available to predict how quickly the structure will continue to deteriorate which will lead to additional loss of fill due to infiltration that may lead to loss of backfill around the culvert and settlement of the pavement. TranSystems recommends would be to increasing the frequency of inspections for the structure until such time as you can have it replaced or repaired. Per our discussions with ODOT and Richland Engineering (prime consultant on this contract), we will be able to add this structure to the November inspections instead of keeping them in January. That means we'll be able to get back out there in November, 2018 to complete another inspection of the structure and we can monitor/update the section loss and deformation measurements for you.

Alternatively, since the culvert still maintains its original shape, the deterioration of the bottom plates can be slowed or stopped by placing a concrete bottom in the culvert. According to the ODOT Bridge Maintenance Manual, if done correctly this type of repair can prolong the life of the structure by up to 20 years as long as the structure does not become out of shape due to other corrosion issue. These structures are also prone to corrosion in the top plates caused by road salts migrating through the embankment, especially under the shoulder areas of the roadway or through the existing catch basins along the curbs.

Please let me know if you have any questions or need additional information. I would be happy to discuss this with you further to provide additional details.

Thanks
Pete

From: Aaron Klein [mailto:aklein@ci.sandusky.oh.us]
Sent: Monday, February 12, 2018 8:29 AM
To: CL-Pete Anamasi
Cc: Jane Cullen
Subject: RE: 2017 Municipal Bridge Inspection Task

Emailed 2/21/17

JOURNAL ENTRY

ORDER NUMBER: 1076 Subject: LOAD LIMIT

PURSUANT TO THE AUTHORITY VESTED IN THE CITY MANAGER BY SECTION 305.01 OF THE CODE OF ORDINANCES OF THE CITY OF SANDUSKY, THE FOLLOWING REGULATION(S) ARE HEREBY ADOPTED BY ME:

LOAD LIMIT ON THORPE DRIVE-CULVERT OVER COLD CREEK

No vehicle in excess of the following axle and weight limits shall be allowed on the Thorpe Drive culvert between Venice Road and Venice Heights Boulevard. See attached ODOT Bridge load rating summary report and signage. AXLES-2 TON-11, AXLES-3 TON-19, AXLES-4 TON-22, AXLES-5 TON-26 AND AXLES 6+ TON-29.

Street(s):

Thorpe Drive

CITY MANAGER

Eric Wobser

Dated:

02-21-17

Note:

Per Omar Abu-Hajar, P.E. Local Bridge Program Manager-ODOT Department of Transporation email 2/14/17

see attached email

Dated:

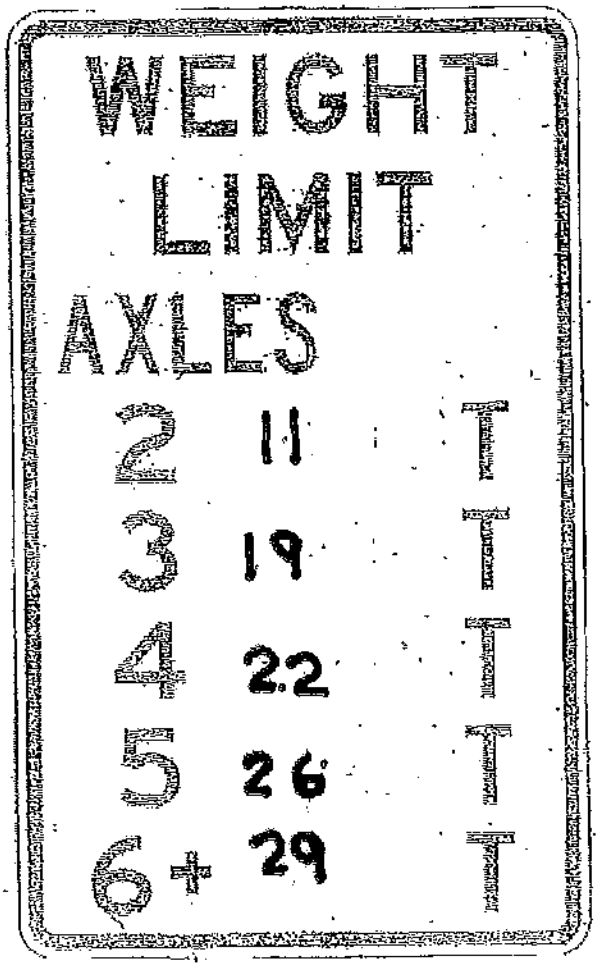
2/21/17

Effective:

2/21/17

SFN: 226100

Appendix H Thorpe Drive



New Bridge Load Posting Sign
(for small roads)

Jane Cullen

From: Aaron Klein
Sent: Tuesday, February 14, 2017 3:08 PM
To: Jane Cullen
Cc: Scott Kromer
Subject: FW: 2261000 (Thorpe Drove over Cold Creek)
Attachments: 2261000_BR100(EV).pdf; 2261000_BR100(EV).xlsx; 2261000_CMP_LRFR_modified_minimum_cover_SHV.xlsx; 2261000_Field Report.pdf; 2261000_Posting_Sign.pdf

Jane, I think we are going to need a journal entry for the load rating sign. Should we notify SPD too?

Scott, we will need to post Thorpe Drive culvert.

Aaron Klein, P.E.
Director, Public Works

From: Omar.Abu-Hajar@dot.ohio.gov [mailto:Omar.Abu-Hajar@dot.ohio.gov]
Sent: Tuesday, February 14, 2017 11:40 AM
To: Aaron Klein <aklein@ci.sandusky.oh.us>
Subject: SFN: 2261000 (Thorpe Drove over Cold Creek)

Aaron,

For your file, provided in the attachments are the results of the newly added structure in SMS. Please expedite the installation of the weight limits posting sign to ensure public safety, and email me a couple of pictures of these signs at the site to document the implementation. Additional, City of Sandusky should monitor any change in the culvert shape or any new dips in the roadway after high-water events. Keeping the structural fill in place is a concern considering the total section loss and the shape change at culvert's ends. Please feel free to call me if you would like to discuss the condition further.

The pictures can be viewed online using SMS.

Regards,

Omar Abu-Hajar, P.E.
Local Bridge Program Manager
Ohio Department of Transportation
3rd Floor - Mail Stop 5180
1980 West Broad Street
Columbus, Ohio 43223
omar.abu-hajar@dot.ohio.gov
Tel: 614-387-1257
Fax: 614-887-4047

North Bound
East side of Road

South Bound
West side of Road

Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: SANDUSKY
Street: THORPE (NORTH OF VENICE HEIGHTS)

A study of vehicle traffic was conducted with HI-STAR unit number 4551. The study was done in the NB lane at THORPE (NORTH OF VENICE HEIGHTS) in SANDUSKY, OH in ERIE county. The study began on Aug/28/2018 at 02:00:00 PM and concluded on Aug/30/2018 at 02:00:00 PM, lasting a total of 48.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 1418 vehicles passed through the location with a peak volume of 40 on Aug/28/2018 at [17:15-17:30] and a minimum volume of 0 on Aug/28/2018 at [21:15-21:30]. The AADT count for this study was 709.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 20 - 25 MPH range or lower. The average speed for all classifed vehicles was 25 MPH with 0.00% vehicles exceeding the posted speed of 55 MPH. The HI-STAR found 0.00 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 20MPH and the 85th percentile was 29.33 MPH.

< to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to >					
1	10	156	687	386	114	25	12	6	0	1	0	0	0	0					

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin.
Problem with the battery detected. Try discharging and fully charging it
Most of the vehicles classified during the study were Passenger Vehicles. The number of Passenger Vehicles in the study was 971 which represents 69 percent of the total classified vehicles. The number of Vans & Pickups in the study was 376 which represents 27 percent of the total classified vehicles. The number of Busses & Trucks in the study was 26 which represents 2 percent of the total classified vehicles. The number of Tractor Tailers in the study was 25 which represents 2 percent of the total classified vehicles.

< to 17	18 to 23	24 to 27	28 to 31	32 to 37	38 to 43	44 to 61	62 to >												
971	376	17	9	17	3	4	1												

CHART 2

HEADWAY

During the peak traffic period, on Aug/28/2018 at [17:15-17:30] the average headway between vehicles was 21.951 seconds. During the slowest traffic period, on Aug/28/2018 at [21:15-21:30] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 76.00 and 123.00 degrees F.

Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: SANDUSKY
Street: THORPE (NORTH OF VENICE HEIGHTS)

A study of vehicle traffic was conducted with HI-STAR unit number 4558. The study was done in the SB lane at THORPE (NORTH OF VENICE HEIGHTS) in SANDUSKY, OH in ERIE county. The study began on Aug/28/2018 at 02:00:00 PM and concluded on Aug/30/2018 at 02:00:00 PM, lasting a total of 48.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 1379 vehicles passed through the location with a peak volume of 44 on Aug/28/2018 at [17:00-17:15] and a minimum volume of 0 on Aug/28/2018 at [23:00-23:15]. The AADT count for this study was 690.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 20 - 25 MPH range or lower. The average speed for all classifed vehicles was 25 MPH with 13.62% vehicles exceeding the posted speed of 25 MPH. The HI-STAR found 0.07 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 20MPH and the 85th percentile was 29.72 MPH.

< to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to >					
8	28	180	614	337	128	27	18	4	2	4	0	0	0	1					

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin.
Problem with the battery detected. Try discharging and fully charging it
Most of the vehicles classified during the study were Passenger Vehicles. The number of Passenger Vehicles in the study was 872 which represents 65 percent of the total classified vehicles. The number of Vans & Pickups in the study was 423 which represents 31 percent of the total classified vehicles. The number of Busses & Trucks in the study was 28 which represents 2 percent of the total classified vehicles. The number of Tractor Tailers in the study was 28 which represents 2 percent of the total classified vehicles.

< to 17	18 to 23	24 to 27	28 to 31	32 to 37	38 to 43	44 to 61	62 to >												
872	423	20	8	12	5	10	1												

CHART 2

HEADWAY

During the peak traffic period, on Aug/28/2018 at [17:00-17:15] the average headway between vehicles was 20 seconds. During the slowest traffic period, on Aug/28/2018 at [23:00-23:15] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 76.00 and 123.00 degrees F.

Sewer

933.25 RATES.

Each user connected to the City system shall pay charges equal to the sum of subsections (a) and (b) hereof according to the size of the water meter in subsection (a) hereof and quantity of wastewater in subsection (b) hereof.

MONTHLY

(a) Meter charge - (minimum) inside City users only: includes 100 cubic feet of use monthly:

Step 1: Effective April 1, 2015

Meter size	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
5/8"	2.57	1.22	4.96	8.75
3/4"	3.86	1.22	4.96	10.04
1'	6.43	1.22	4.96	12.61
1-1/2"	12.85	1.22	4.96	19.03
2"	20.56	1.22	4.96	26.74
3"	38.55	1.22	4.96	44.73
4"	64.25	1.22	4.96	70.43
6"	128.50	1.22	4.96	134.68
8"	205.60	1.22	4.96	211.78
10"	295.55	1.22	4.96	301.73
12"	552.55	1.22	4.96	558.73

Gravity Flume	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
3"	192.75	1.22	4.96	198.93
6"	706.75	1.22	4.96	712.93
9"	1,580.55	1.22	4.96	1,586.73
12"	2,878.40	1.22	4.96	2,884.58

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet. The Storm Water charge will be $3.00 per property.

Step 2: Effective January 1, 2016

Meter size	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
5/8"	3.48	1.26	6.20	10.94
3/4"	5.22	1.26	6.20	12.68
1'	8.70	1.26	6.20	16.16
1-1/2"	17.40	1.26	6.20	24.86
2"	27.84	1.26	6.20	35.30
3"	52.20	1.26	6.20	59.66
4"	87.00	1.26	6.20	94.46
6"	174.00	1.26	6.20	181.46
8"	278.40	1.26	6.20	285.86
10"	400.20	1.26	6.20	407.66
12"	748.20	1.26	6.20	755.66
Gravity Flume	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
3"	261.00	1.26	6.20	268.46
6"	957.00	1.26	6.20	964.46
9"	2,140.20	1.26	6.20	2,147.66
12"	3,897.60	1.26	6.20	3,905.06

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet. The Storm Water charge will be $3.00 per property.

Step 3: Effective January 1, 2017

Meter size	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
5/8"	4.62	1.30	7.75	13.67
3/4"	6.93	1.30	7.75	15.98
1'	11.55	1.30	7.75	20.60
1-1/2"	23.10	1.30	7.75	32.15

2"	36.96	1.30	7.75	46.01
3"	69.30	1.30	7.75	78.35
4"	115.50	1.30	7.75	124.55
6"	231.00	1.30	7.75	240.05
8"	369.60	1.30	7.75	378.65
10"	531.30	1.30	7.75	540.35
12"	993.30	1.30	7.75	1,002.35

Gravity Flume	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
3"	346.50	1.30	7.75	355.55
6"	1,270.50	1.30	7.75	1,279.55
9"	2,841.30	1.30	7.75	2,850.35
12"	5,174.40	1.30	7.75	5,183.45

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet.
The Storm Water charge will be $3.00 per property.
Step 4: Effective January 1, 2018

Meter size	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
5/8"	4.88	1.34	8.14	14.36
3/4"	7.32	1.34	8.14	16.80
1'	12.20	1.34	8.14	21.68
1-1/2"	24.40	1.34	8.14	33.88
2"	39.04	1.34	8.14	48.52
3"	73.20	1.34	8.14	82.68
4"	122.00	1.34	8.14	131.48
6"	244.00	1.34	8.14	253.48
8"	390.40	1.34	8.14	399.88
10"	561.20	1.34	8.14	570.68
12"	1,049.20	1.34	8.14	1,058.68

Gravity Flume	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
3"	366.00	1.34	8.14	375.48
6"	1,342.00	1.34	8.14	1,351.48
9"	3,001.20	1.34	8.14	3,010.68
12"	5,465.60	1.34	8.14	5,475.08

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet. The Storm Water charge will be $3.00 per property.
Step 5: Effective January 1, 2019

Meter size	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
5/8"	5.02	1.38	8.39	14.79
3/4"	7.53	1.38	8.39	17.30
1'	12.55	1.38	8.39	22.32
1-1/2"	25.10	1.38	8.39	34.87
2"	40.16	1.38	8.39	49.93
3"	75.30	1.38	8.39	85.07
4"	125.50	1.38	8.39	135.27
6"	251.00	1.38	8.39	260.77
8"	401.60	1.38	8.39	411.37
10"	577.30	1.38	8.39	587.07
12"	1,079.30	1.38	8.39	1,089.07
Gravity Flume	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month

3"	376.50	1.38	8.39	386.27
6"	1,380.50	1.38	8.39	1,390.27
9"	3,087.30	1.38	8.39	3,097.07
12"	5,622.40	1.38	8.39	5,632.17

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet. The Storm Water charge will be $3.00 per property.

Step 6: Effective January 1, 2020

Meter size	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
5/8"	5.17	1.42	8.64	15.23
3/4"	7.76	1.42	8.64	17.82
1'	12.93	1.42	8.64	22.99
1-1/2"	25.85	1.42	8.64	35.91
2"	41.36	1.42	8.64	51.42
3"	77.55	1.42	8.64	87.61
4"	129.25	1.42	8.64	139.31
6"	258.50	1.42	8.64	268.56
8"	413.60	1.42	8.64	423.66
10"	594.55	1.42	8.64	604.61
12"	1,111.55	1.42	8.64	1,121.61
Gravity Flume	**Capital Charge**	**Billing Charge**	**Commodity Charge**	**Monthly Charge**
	$/Month	$/Month	$/Month	$/Month
3"	387.75	1.42	8.64	397.81
6"	1,421.75	1.42	8.64	1,431.81
9"	3,179.55	1.42	8.64	3,189.61
12"	5,790.40	1.42	8.64	5,800.46

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet.

The Storm Water charge will be $4.00 per property.

Step 7: Effective January 1,2021

Meter size	Capital Charge	Billing Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month	$/Month
5/8"	5.33	1.46	8.90	15.69
3/4"	8.00	1.46	8.90	18.36
1'	13.33	1.46	8.90	23.69
1-1/2"	26.65	1.46	8.90	37.01
2"	42.64	1.46	8.90	53.00
3"	79.95	1.46	8.90	90.31
4"	133.25	1.46	8.90	143.61
6"	266.50	1.46	8.90	276.86
8"	426.40	1.46	8.90	436.76
10"	612.95	1.46	8.90	623.31
12"	1,145.95	1.46	8.90	1,156.31
Gravity Flume	**Capital Charge**	**Billing Charge**	**Commodity Charge**	**Monthly Charge**
	$/Month	$/Month	$/Month	$/Month
3"	399.75	1.46	8.90	410.11
6"	1,465.75	1.46	8.90	1,476.11
9"	3,277.95	1.46	8.90	3,288.31
12"	5,969.60	1.46	8.90	5,979.96

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet.

The Storm Water charge will be $4.00 per Equivalent Residential Unit.

(Ord. 17-215. Passed 11-27-17.)

Water

939.13 CITY RATES.

The rates which shall be charged for municipal water service within the corporate limits furnished by the City shall be as follows:

(a) All consumers shall be monthly customers and the charges to them for water service shall be payable monthly.

(b) Consumers shall be billed monthly and shall be charged rates as follows:

(1) First 100 cubic feet: minimum charge.

(2) All over 100 cubic feet: Rate associated with each step.

(c) The minimum rates which shall be charged for water service shall be as follows:

Step 1: Effective April 1, 2015

Meter size	Billing & Capital Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month
5/8"	2.75	2.38	5.13
3/4"	2.75	2.38	5.13
1"	2.75	2.38	5.13
1-1/2"	2.75	2.38	5.13
2"	2.75	2.38	5.13
3"	2.75	2.38	5.13
4"	2.75	2.38	5.13
6"	2.75	2.38	5.13
8"	2.75	2.38	5.13
10"	2.75	2.38	5.13
12"	2.75	2.38	5.13
16"	2.75	2.38	5.13

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet.

Step 2: Effective January 1, 2016

Meter size	Billing & Capital Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month
5/8"	3.44	2.97	6.41
3/4"	3.44	2.97	6.41
1"	3.44	2.97	6.41
1-1/2"	3.44	2.97	6.41
2"	3.44	2.97	6.41
3"	3.44	2.97	6.41
4"	3.44	2.97	6.41
6"	3.44	2.97	6.41
8"	3.44	2.97	6.41
10"	3.44	2.97	6.41
12"	3.44	2.97	6.41
16"	3.44	2.97	6.41

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet.

Step 3: Effective January 1, 2017

Meter size	Billing & Capital Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month
5/8"	3.67	3.18	6.85
3/4"	3.67	3.18	6.85
1"	3.67	3.18	6.85
1-1/2"	3.67	3.18	6.85
2"	3.67	3.18	6.85
3"	3.67	3.18	6.85
4"	3.67	3.18	6.85
6"	3.67	3.18	6.85
8"	3.67	3.18	6.85
10"	3.67	3.18	6.85
12"	3.67	3.18	6.85
16"	3.67	3.18	6.85

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet.

Step 4: Effective January 1, 2018

Meter size	Billing & Capital Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month
5/8"	3.79	3.27	7.06
3/4"	3.79	3.27	7.06
1"	3.79	3.27	7.06
1-1/2"	3.79	3.27	7.06
2"	3.79	3.27	7.06
3"	3.79	3.27	7.06
4"	3.79	3.27	7.06
6"	3.79	3.27	7.06
8"	3.79	3.27	7.06
10"	3.79	3.27	7.06
12"	3.79	3.27	7.06
16"	3.79	3.27	7.06

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet.

Step 5: Effective January 1, 2019

Meter size	Billing & Capital Charge	Commodity Charge	Monthly Charge
	$/Month	$/Month	$/Month
5/8"	3.90	3.37	7.27
3/4"	3.90	3.37	7.27

1"	3.90	3.37	7.27
1-1/2"	3.90	3.37	7.27
2"	3.90	3.37	7.27
3"	3.90	3.37	7.27
4"	3.90	3.37	7.27
6"	3.90	3.37	7.27
8"	3.90	3.37	7.27
10"	3.90	3.37	7.27
12"	3.90	3.37	7.27
16"	3.90	3.37	7.27

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet.

Step 6: Effective January 1, 2020

Meter size	**Billing & Capital Charge**	**Commodity Charge**	**Monthly Charge**
	$/Month	$/Month	$/Month
5/8"	4.02	3.47	7.49
3/4"	4.02	3.47	7.49
1"	4.02	3.47	7.49
1-1/2"	4.02	3.47	7.49
2"	4.02	3.47	7.49
3"	4.02	3.47	7.49
4"	4.02	3.47	7.49
6"	4.02	3.47	7.49
8"	4.02	3.47	7.49
10"	4.02	3.47	7.49
12"	4.02	3.47	7.49
16"	4.02	3.47	7.49

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet.

Step 7: Effective January 1, 2021

Meter size	**Billing & Capital Charge**	**Commodity Charge**	**Monthly Charge**
	$/Month	$/Month	$/Month
5/8"	4.14	3.58	7.72
3/4"	4.14	3.58	7.72
1"	4.14	3.58	7.72
1-1/2"	4.14	3.58	7.72
2"	4.14	3.58	7.72
3"	4.14	3.58	7.72
4"	4.14	3.58	7.72
6"	4.14	3.58	7.72
8"	4.14	3.58	7.72
10"	4.14	3.58	7.72
12"	4.14	3.58	7.72

16"	4.14	3.58	7.72

All over 100 cubic feet shall pay the commodity charge above, per 100 cubic feet.
(Ord. 15-141. Passed 10-13-15.)