VILLAGE OF MARVIN ASSET INVENTORY AND CONDITION SURVEY 2025

- Drainage Inlets
- Maintenance Pipe (Open Both Ends)
- Non-NBIS Pipe (>48” and <20’ Roadway Span)

Inlets

Condition Inspection Criteria:

Damages and Failures: The drop-down menu includes the following: Yes, No, or N/A.

- **Structure Failure** – Any condition that needs **IMMEDIATE ATTENTION.** IE Significant structural damage or any condition posing a risk to the safety of the traveling public (Grate missing/broken, 100% blocked, or apron damage)
- **Grate/Lid Failure** – Cracked, damaged, broken, or bent grate or lid such that it would need to be repaired/replaced or repositioned. This includes lids and grates that have fallen into the box.
- **Grate/Lid Missing** – Is there a grate or lid missing?
- **Blocked Failure**– Inlet opening is blocked by 50% or more due to sediment, foreign objects, debris, or vegetation. Do not count grass clippings which would likely clear out during next rain event.
- **Apron Failure** – Structural damage or settling to the concrete apron surrounding a drop inlet which would affect performance or allow for erosion to occur.
- **Cracking/Joint Failure** – Cracks greater than 1” wide or Joints with sealant missing that are greater than 1” wide.
- **Erosion Failure** – “Wash outs” around inlet box or apron which are greater than 3” deep.

Inlets
Condition Inspection Criteria:

Damages and Failures:

• **Box Failure**–Inlet box damage such that it allows water infiltration other than as designed or structural defect affecting proper function of the inlet.

•**Invert Blocked Failure**–If any of the invert(s) (pipes leading into or out of the drainage structure) are blocked 50% or more.

•**Recommended Action**–Select the appropriate action needed to address any inlet failures or concerns.

- Replace
- Repair
- Clean
- No Action(default value)

VOM_ID	RouteId	InletType	Depth	BoxType	StructFail	GrateLidFail	GrateLidMi	BlockFail	ApronFail	CrackFail	ErosionFail	BoxFail	InvertFail	RecommAction	AssessIni	AssessCom	Estimated Cost
VOM-IN-1	40003328090	Curb and Grate	< 5 Feet	Masonry	No	No	No	No	No	No	No	No	Yes	Clean	RB		$1,500.00
VOM-IN-2	40003328090	Curb and Grate	< 5 Feet	Masonry	No	No	No	Yes	No	No	No	No	Yes	Clean	RB		$1,500.00
VOM-IN-25	40003328090	Curb and Grate	Unknown	Masonry	No	No	No	No	No	No	No	No	No	Clean	RB	Silt bag in box is full blocking for water to get in to box	$500.00
VOM-IN-151	40002983090	Curb and Grate	< 5 Feet	Masonry	No	No	No	No	No	No	No	No	Yes	Clean	MW		$1,500.00
VOM-IN-180	40003281090	Curb and Grate	< 5 Feet	Masonry	No	No	No	No	No	No	No	No	Yes	Clean	RB		$1,500.00
VOM-IN-185	40003281090	Curb and Grate	< 5 Feet	Masonry	No	No	No	No	No	No	No	No	Yes	Clean	RB		$1,500.00
VOM-IN-527	40003192090	Curb and Grate	Unknown	Masonry	No	No	No	No	No	No	No	No	Yes	Clean	MW		$1,500.00
VOM-IN-816		Curb and Grate	< 5 Feet	Masonry	No	No	No	No	No	No	No	No	Yes	Clean	MW		$1,500.00
VOM-IN-817		Curb and Grate	< 5 Feet	Masonry	Yes	No	No	No	No	No	No	No	Yes	Clean	MW		$1,500.00
VOM-IN-875		Curb and Grate	< 5 Feet	Masonry	Yes	No	No	No	No	No	No	No	Yes	Clean	MW	100% blocked	$1,500.00
VOM-IN-881		Curb and Grate	< 5 Feet	Concrete	No	No	No	No	No	No	No	No	Yes	Clean	MW	50% blocked	$1,500.00
VOM-IN-10	40003329090	Curb and Grate	>= 5 Feet	Masonry	No	No	No	No	No	No	Yes	No	No	Repair	RB	Undermining behind hood erosion C.B (Dangerous for Pedestrians)	$3,000.00
VOM-IN-26	40003332090	Curb and Grate	< 5 Feet	Masonry	No	No	No	No	No	No	Yes	No	No	Repair	RB	Sidewalk over pipe at box is undermining due to erosion	$3,000.00
VOM-IN-117	40002982090	Curb and Grate	>= 5 Feet	Concrete	No	No	No	No	No	No	Yes	No	No	Repair	MW		$3,000.00
VOM-IN-174	40003281090	Curb and Grate	< 5 Feet	Masonry	No	No	No	No	No	No	Yes	No	No	Repair	RB	Erosion behind hood grate	$3,000.00
VOM-IN-277	40001307090	Drop	< 5 Feet	Concrete	No	No	No	No	No	No	Yes	No	No	Repair	MW		$3,000.00
VOM-IN-502	40003815090	Curb and Grate	< 5 Feet	Masonry	No	No	No	No	No	No	No	No	No	Repair	RB	Pavement erosion at flow line	$3,000.00
VOM-IN-539	40003183090	Curb and Grate	< 5 Feet	Masonry	No	No	No	No	No	No	Yes	No	No	Repair	MW		$3,000.00
VOM-IN-642	40003641090	Curb and Grate	< 5 Feet	Concrete	No	No	No	No	Yes	No	No	No	No	Repair	RB	Pavement in front of grate needs repair	$2,500.00
VOM-IN-657		Drop	< 5 Feet	Masonry	No	No	No	No	No	No	Yes	No	No	Repair	MW	Erosion on outer edge of box. Box is 15' off roadway. Could not get photo due to fencing & covered by evergreen	$3,000.00
VOM-IN-947		Drop	> 5 Feet	Concrete	No	No	No	No	No	No	No	Yes	No	Repair	MW		$5,000.00
																	$47,000.00

Maintenance Pipe- less than or equal to 48”in diameter

Condition Inspection Criteria:

Damages and Failures:

• **Structure Failure** – Any condition that needs IMMEDIATE **ATTENTION**, IE pipe is not functioning due to severe structural damage or poses risk to traveling public.

• **Percent Blocked** – Select what percent of the pipe is blocked from the drop-down menu. (do not include the buried portion of the pipe). The menu includes the following options: 0, 25, 50, 75, and 100 percent.

• **Blockage Location – **Only fill out if % Blocked is anything other than 0**** Is the blockage within the pipe (could be inlet, outlet, or elsewhere) or is it located outside the pipe (IE dammed up on inlet side or blocked up tail ditch on outlet end. If blockage is half inside and outside or it is both blocked on the outside and separately on the inside, mark “Inside”

• Inside

• Outside

• N/A-default

• **Erosion Failure** – Scour or eroded area at inlet or outlet that is wider or longer than 1.5 X the pipe diameter and greater than 6” deep OR any erosion within the unpaved shoulder due to pipe separation, joint damage, corrosion, Etc. Can include erosion around or behind headwalls. Often erosion failure occurs when joint failure exists.

• **Cracking Failure** – Damage to concrete, plastic or terracotta pipe due to cracking or breaking **that extends a minimum of 6” past the end of the pipe**. Would not apply for CMP pipe.

• **Joint Failure** – Damage due to joint separation, often visible or indicated by presence of “hole” or divot” in shoulder or road directly above drainage structure. Dirt buildup may have occurred in pipe at joint failure location as well. Look inside the pipe to verify as well. Often one will encounter erosion at the joint failure.

Maintenance Pipe- less than or equal to 48”in diameter Condition Inspection Criteria:

Damages and Failures:

• **Crushed Failure** – Pipe (only CMP, Steel & Plastic) that has been crushed or distorted on either the inlet or outlet such that it reduces the effective pipe cross-sectional area by 50% or more.

• **Metal Section Loss Failure**–Corrosion of metal pipe(CMP/Steel)such that section loss has occurred.

•**Pavement Failure**–Damage to the road which results in cracking or tearing or significant settlement caused by pipe damage, joint separation, corrosion, or other failure of the drainage feature.

•**Recommended Action**–Select the appropriate action needed to address any pipe failures or concerns.

•Replace

•Repair

•Clean

•No Action(default value)

PipeId	PipeType	DrainageSy	PipeSize	BrlCount	InHeadwall	OutHeadwal	Skew	LengthFeet	StructFail	LocIssue	PctBlocked	BlockLoc	ErosionFail	CrackFail	JointFail	CrushFail	MetalFail	PaveFail	RecommAction	Assessini	AssessComments	Estimated Cost
MP-090-05849	Concrete	Both Ends Open	12	1	None	Riprap	No	33.93	No	1	75	1	No	No	No	No	No	No	Clean	MW		$1,500.00
MP-090-05850	Concrete	Both Ends Open	12	1	None	None	No	55.36	No	1	75	2	No	No	No	No	No	No	Clean	MW		$1,500.00
MP-090-05854	Concrete	Both Ends Open	18	1	None	None	Yes	82.22	Yes	1	100	1	No	No	No	No	No	No	Clean	MW		$1,500.00
MP-090-06207	Concrete	Both Ends Open	18	1	3	3		204.59	No	1	75	1	No	No	No	No	No	No	Clean	MW		$1,500.00
MP-090-06285	Concrete	Both Ends Open	18	1	Riprap	Riprap	No	139.77	No	1	75	2	No	No	No	No	No	No	Clean	MW		$1,500.00
MP-090-01341	CMP	1	15	1	None	None	No	73.77	No	1	75	1	No	No	No	Yes	No	No	Repair	MW	Wingard Rd. NCDOT responsible for this one.	N/A
MP-090-02571	Concrete	Both Ends Open	18	1	None	None	No	44.87	No	1	75	1	Yes	No	No	No	No	Yes	Repair	MW	New Town Rd at SCL Line. DOT responsible unless VOM takes over maintenance.	N/A
MP-090-02940	CMP	Both Ends Open	36	1	Riprap	Riprap	Yes	73.24	No	1	0	0	No	No	No	No	Yes	No	Repair	MW		$2,000.00
MP-090-02941	CMP	Both Ends Open	24	1	1	Riprap	No	53.89	No	1	0	0	No	No	No	No	Yes	No	Repair	MW		$2,000.00
MP-090-05846	Concrete	Both Ends Open	30	2	None	None	No	70.37	No	1	0	0	No	No	Yes	No	No	No	Repair	MW		$5,000.00
MP-090-05847	Concrete	Both Ends Open	18	1	None	None	No	45.34	No	1	75	1	Yes	No	No	No	No	No	Repair	MW		$3,000.00
MP-090-05853	Concrete	Both Ends Open	12	1	None	None	Yes	47.46	No	1	75	1	No	No	Yes	No	No	No	Repair	MW		$5,000.00
MP-090-05856	Concrete	Both Ends Open	30	1	None	None	Yes	56.65	No	1	0	0	No	No	Yes	No	No	No	Repair	MW		$5,000.00
MP-090-05866	CMP	Both Ends Open	18	1	None	None	No	52.05	Yes	Outlet not Found	100	1	No	No	No	Yes	No	No	Repair	MW		$2,500.00
MP-090-06208	Concrete	Both Ends Open	24	1	Riprap	None	Yes	57.30	No	1	0	0	Yes	No	No	No	No	No	Repair	MW	DOT responsible for this one. On Marvin School Road	N/A
MP-VOM-00001	CMP	Both Ends Open	18	1	Masonry	Masonry		42.20	No	1	75	1	No	No	No	Yes	No	No	Repair	MW		$2,500.00
MP-090-05861	CMP	Both Ends Open	24	1	None	None	No	47.85	No	1	0	0	No	No	No	No	Yes	No	Replace	MW		$20,000.00
																						$54,500.00

Non-NBIS Pipe Non-NBIS pipes are pipes that are larger than 48” in diameter and less than 20’ road length (Span)

Condition Inspection Criteria:

Damages and Failures:

- **Structure Failure** – Any condition that needs **IMMEDIATE ATTENTION**, pipe is not functioning due to severe structural damage or poses risk to traveling public.
- **External Obstruction Failure** – Record percentage of hydraulic opening blocked by external obstruction of vegetation, drift, or dam, obstructing water flow into the pipe. Values range from 0 to 100 percent.
- **Internal Obstruction Failure** – **Estimated** percentage of interior of hydraulic opening blocked (debris or sediment inside of the pipe) if observed from either outlet or inlet end with spotlight. Ex. If 60” pipe has 15” of sediment, it’s 25% blocked. Values range from 0 to 100 percent.
- **Sediment Depth (Barrels 1-6)** – Record the maximum depth of sediment in the pipes. The depth is measured in inches and the values range from 0 to 100. Measure at either the inlet or outlet end and record greatest measurement for each barrel.
- **Inlet Scour Length Inches** – If present, measure and record the length of scour beneath the bottom side of the pipe in inches. This length is measured from the end of the pipe or headwall going underneath and heading in the direction of the outlet, parallel to the drainage feature.
- **Inlet Scour Depth Inches** – If present, measure and record the maximum depth of scour beneath the bottom side of the pipe in inches. Note, this is not perch. This is a space created due to erosion of soil underneath the end of the inlet side of the pipe or underneath the headwall.

Non-NBIS Pipe

Condition Inspection Criteria:

Damages and Failures:

• **Outlet Scour Length Inches** – If present, measure and record the depth of scour beneath the bottom side of the pipe in inches. This length is measured from the end of the pipe or headwall going underneath and heading in the direction of the inlet, parallel to the drainage feature.
• **Outlet Scour Depth Inches** - If present, measure and record the maximum depth of scour beneath the bottom side of the pipe in inches. Note, this is not perch. This is a space created due to erosion of soil underneath the end of the inlet side of the pipe or underneath the headwall.
• **Outlet Perch Inches** – Perch is the height at which a pipe sticks out above the ground. This is not to be confused with scour depth, perch is by design, not erosion like scour is. Measure and record the vertical distance from the invert (inside bottom of pipe) of the drainage structure to the ground if a distance exists.
Headwall Damage – Structural damage to headwall, typically due to erosion from runoff will be recorded as good, fair, or poor.
• Good: no problems noted (Default value)
• Fair: minor cracking other than hairline, spalling or slight rotation of the wall that does not affect structural integrity
• Poor: extensive cracking or spalling. Rotation of the headwall that could cause loss of fill or failure.
• N/A: select if no headwall exists
• **Distortion**– Record if any pipe distortion or crushed portion of pipe is observed from visual inspection from outlet or inlet end with spotlight. (Typically Round or Pipe Arch CMP).
• **Cracking** – Any observed damage inside concrete structure (not including headwall) due to cracking greater than hairline.
• **Spalling**– Any observed damage inside concrete structure (not including headwall) due to spalling.

Non-NBIS Pipe

Condition Inspection Criteria:

Damages and Failures:

- **Joint Damage** – Observed damage due to joint separation will be recorded as good, fair, or poor.
- Good: no problems noted (default value)
- Fair: minor issues noted such as minor joint separation
- Poor: joint is separated allowing fill infiltration or water exfiltration.
- N/A: select if pipe does not have any joints to assess (CMP or plastic, for example)
- **Corrosion** – Any significant corrosion of metal pipes or arches observed such that section loss has occurred. Do not include surface rust.
- **Roadway Settlement** – Significant settlement of the roadway due to joint separation, corrosion, or other failure of the drainage feature.
- Good: no noticeable failure (default value)
- Fair: failure initiated, small indention
- Poor: failure requires attention, disrupts use of roadway
- **Shoulder Damage** – Any failure of the unpaved shoulder or front slope, such as erosion or sink hole, within the ROW due to pipe damage, joint separation, corrosion, or erosion.
- Good: no noticeable failure (default value)
- Fair: failure initiated, small indention, washouts or erosion causing bare spots or loss of vegetation
- Poor: failure requires attention, disrupts the driver, poses risk to driver safety or compromises road subgrade
- N/A: select if no unpaved shoulder exists (IE paved shoulder 10’ wide or greater or curb and gutter exists at location)

Non-NBIS Pipe

Condition Inspection Criteria:

Damages and Failures:

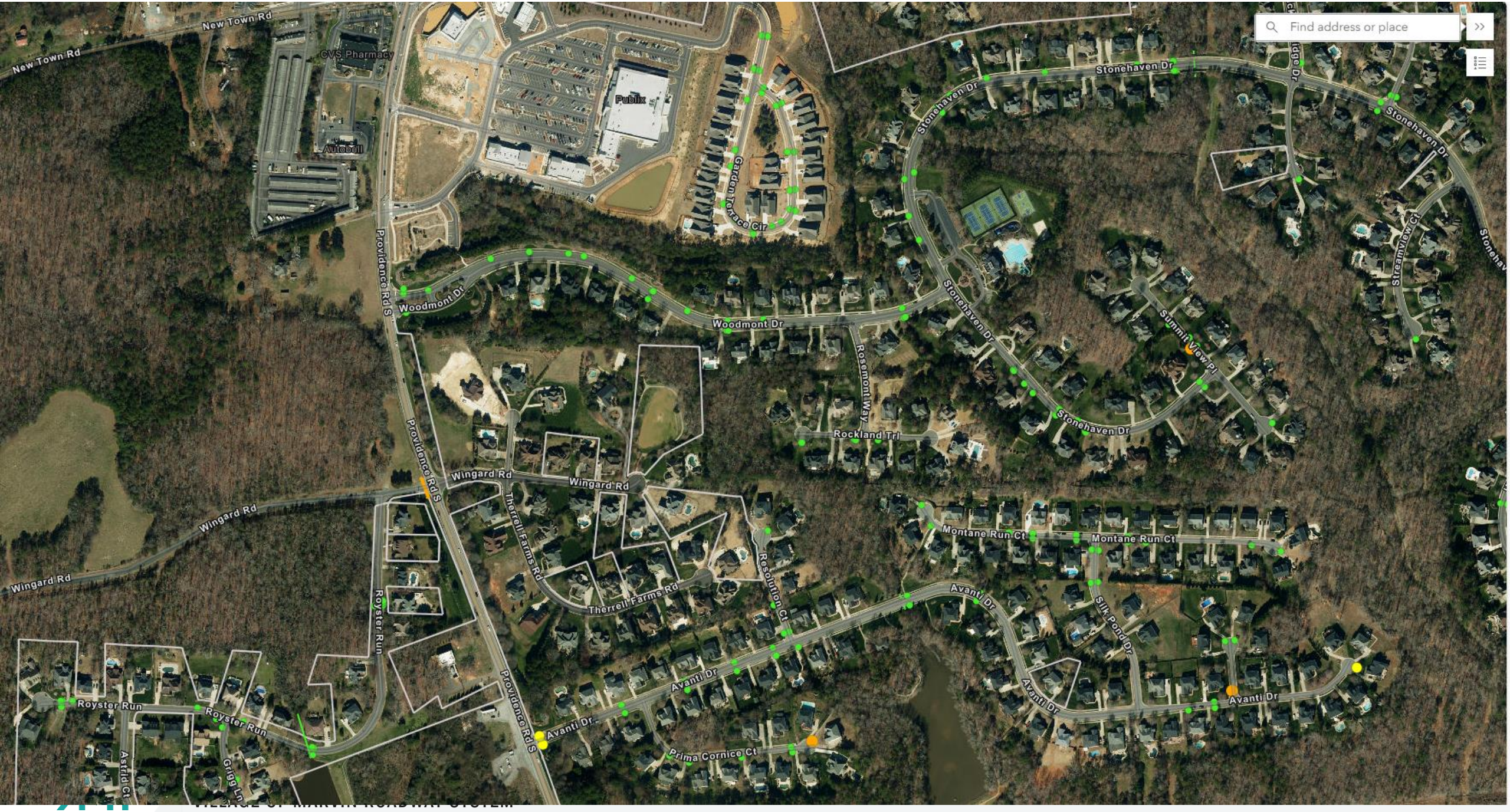
- **Recommended Action** –Select the appropriate action needed to address any pipe failures or concerns.
- Replace
- Repair
- Clean
- No Action (default value)

Assessment Status:

- **Pipe Accessibility** – Is the inlet and outlet of the pipe or box accessible for a proper inspection? Check Yes or No accordingly. "Yes" is the default value. If "No", fill out location issue field also.
- **Location Issue** – If either the inlet or outlet could not be located or accessed, note the reason from the drop-down menu.
- None (default value): Were able to inspect both ends of the pipe/culvert
- Inlet Not Found: Could not locate the inlet side of the structure
- Outlet Not Found: Could not locate the outlet side of the structure.
- Inlet Not Accessible: Could not get to the inlet end of the structure (high water, extreme terrain restrictions, unsafe conditions, fencing)
- Outlet Not Accessible: Could not get to the outlet end of the structure (high water, extreme terrain restrictions, unsafe conditions, fencing)

PipeId	PipeMateri	PipeShape	BrlWidth	BrlHeight	BrlCount	InHdwallTy	OutHdwallT	LengthFeet	SkewNumber	sedDepth1	inletScour(Length)	inletSco_1(Depth)	outletScou(Length)	outletSc_1(Depth)	outletPerc	headwallDa	distortion	cracking	spalling	jointDamag	corrosion	roadSettle	recommActi	pipeAccess	assessIni	assessComm	Estimated Cost
BP-VOM-0002	Corrugated Steel	Circular	60	60	1	None	None	80.60000000000	0	0	0	0	15	13	13	NA	No	No	No	No	Yes	Good	Repair	Yes	MW	Oak Brook Drive; Spin Cast Repair	$72,000.00
BP-VOM-0007	Asphalt Coated Corrugated Steel	Circular	60	60	1	None	None	53.30000000000	0	3	0	0	0	0	0	NA	No	No	No	No	Yes	Good	Repair	Yes	MW	Woodland Forest Drive; Spin Cast Repair	$55,000.00

Spincast


Find address or place
New Town Rd
CVS Pharmacy
Publix
Autobell
Garden Terrace Cir
Stonehaven Dr
Woodmont Dr
Providence Rd S
Rosemont Way
Summit View Pl
Rockland Trl
Wingard Rd
Therrell Farms Rd
Resolution Ct
Montane Run Ct
Avanti Dr
Silk Pond Dr
Royster Run
Prima Cornice Ct
Astrid Ct
Grigg Ln