THE CITY OF MIDDLETON

SUPPLEMENT TO THE

IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION

Revised November 9, 2023

Adopted November 15, **2023**

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Jason Van Gilder, P.E.
Public Works Director

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INTRODUCTION

The City of Middleton has adopted the most current edition of the Idaho Standards for Public Works Construction (ISPWC). Prior to any work or construction being accepted by the City for use by the public, the work must be completed in conformance with the ISPWC. The City has also developed construction standards in conjunction with the current edition of the ISPWC.

City standards include acceptable materials, construction practices, and other specific requirements which may not be covered under the ISPWC standards or may be supplemental to the ISPWC.

The intent of the Middleton Supplement to the ISPWC is not to conflict with the ISPWC but rather to supplement and specify construction methods, materials, sizes, and practices specific to the City of Middleton.

300 TRENCHING

1. General:

All materials, construction, testing, and inspection shall be in accordance with the current ISPWC. Final construction plans and specifications shall be submitted to the City for review and approval prior to construction.

2. Local Cut Back requirement:

A local cut back of not less than 12" shall be required for all trenches within hard surfaces areas as shown on ISPWC Standard Drawing No. SD-301. The dimension shall be measured from the outside edge of the disturbed area at the time of the final surface restoration.

The cut back shall be a neatline saw cut parallel to the trenchline unless otherwise approved by the City.

400 WATER

1. General:

All materials, construction, testing, and inspection shall be in accordance with the current ISPWC. Final construction plans and specifications shall be submitted to the City for review and approval prior to construction.

2. Fire Flow requirements:

The water distribution system is required to draft the following minimum fire flows for new development in the City:

Residential zones: 1500 gpm[1] for 2 hour duration

Other zones: Determined on an individual basis per International Fire Code

The City Engineer shall review the existing water system, operating conditions, the layout of the water infrastructure proposed for the development, and then make recommendations to the City as to the water main line size (minimum 8-inches), any additional water source needed, and/or water storage requirements.

3. Fire Hydrants:

A) Spacing:

(1) Hydrant spacing shall be a maximum of 500 feet in the residential zone and shall be reviewed and approved by City Engineer and Middleton Rural Fire District.

(2) Hydrant spacing in zones other than residential shall be determined on a case-by-case basis.

(3) All water mains installed on cul-de-sacs or similar dead-end streets shall have a hydrant located at the end of the water line.

B) Materials:

All fire hydrants shall be a "compression type" and shall conform to the latest edition of ANSI/AWWA C 502 Specifications. Hydrants shall have a 5 foot setting; minimum 5-1/4 inch diameter valve opening; 150 psi working pressure; one 4-1/2 inch diameter National Standard Thread pumper nozzle (equipped with a Red Head Aluminum Storz Coupling, stainless-steel external spring-loaded lock); and two 2-1/2 inch diameter National Standard Thread fire hose nozzles. The valve

A) _____

[1]58.01.08 Idaho Rules for Public Drinking Water Systems 552.01.b.i. Any public water system shall be capable of providing sufficient water during maximum day demand conditions, including fire flow where provided, to maintain a minimum pressure of twenty (20) psi throughout the distribution system, at ground level, as measured at the service connection or along the property line adjacent to the consumer's premises.

operator shall open left (counterclockwise) and be so indicated on the top casting. The hydrant shall be equipped with a breakaway traffic flange just above the ground level, a drain that automatically opens when the hydrant is closed, a 6-inch diameter supply pipe, an oil reservoir, a weather shield and nut, and a bronze-to-bronze seat and ring. Manufacturer shall be Mueller or Waterous, no exceptions, and painted with two coats of fire safety color red hydrant enamel.

(1) Storz fittings shall have a stainless-steel external spring-loaded lock.

4. Flushing Hydrants, Blow Offs, and Sampling Stations

(1) Flushing hydrants or blow-offs shall be 4" if permanent, 2" if temporary, and manufactured by Kupferle or City approved equivalent. Post hydrants are not allowed.

(2) Sample stations to be cold weather type and free draining. Kupferle Ecclipse Model #88 or City approved equivalent.

5. Water Pipe, Fittings and Valves:

A) Materials: All water pipe, fittings, and valves shall be in accordance with current edition of the ISPWC. Water pipe, fittings and valves shall meet the following:

(1) Water Pipe:

(a) Class 52 cement-lined ductile iron pipe meeting ANSI/AWWA C151 for diameters of 6" to 64";

(b) AWWA C900 – 07 PVC DR 18 pipe.

(2) Fittings: Ductile iron compact fitting ANSI/AWWA C153.

(3) Valves:

(a) Ductile iron valves ANSI/AWWA C509 or C515 – Mueller or American Flow brand only.

(b) Tracer wire at all valves shall be located on the outside of the valve box and pass between the valve box and the slip top. The wire is not allowed to come into the valve box from the bottom. The Developer shall test for

continuity after installation. Test to be observed by the City.

(c) Domestic manufactured valves are required to be installed unless specifically approved by the City. Water valves manufactured by Clow are not acceptable for installation in the City's water system.

(d) Valves that are connected to the City main lines become City property. Valves shall only be operated by City personnel.

(e) Valve stem nuts shall be no deeper than 3 feet below finished grade. In cases where valves are deeper, an extension rod assembly with a rock guard shall be installed on the operating nut.

(f) Concrete valve marker posts shall be furnished and installed for each gate valve located outside of the paved street. Marker posts shall be painted white with black lettering indicating the valve type, size, and distance from marker.

B) Testing***:*** The Developer shall test water mains for pressure and absence of bacteria prior to permitting the water mains to be open to the City distribution system. City personnel shall be present during all water main testing. Failure to have City personnel present for testing is sufficient reason for requirement to re-test. Developer's engineer shall coordinate and observe testing and provide certification of testing and testing results to the City.

(1) Pressure Testing**:** Water mains shall be pressure tested according to the specifications set forth in the current edition of the ISPWC. Exceptions to the ISPWC are as follows:

(a) If pressure during testing drops five (5) psi or more, the test is considered to have failed even if leakage is below allowable.

(b) All valves shall be exposed prior to any testing and verified by the City to be open or closed.

(c) The result of the test reported to the City shall be gallons of leakage.

(2) Trench Compaction Testing: Developer shall test trench compaction and

testing shall be by an independent materials testing laboratory, once every 300 feet of trench with a minimum of two test locations.

(3) Each hydrant shall be sampled for absence of bacteria or as otherwise approved by the City.

C) Location*:* All water line locations will be approved by the City. In cases where water pipe crosses a non-potable water line, IDAPA 58.01.08.542.07 shall be strictly observed.

D) Size**:** Water main sizes shall be the following except when otherwise recommended by the City Engineer for fire flows or other system conditions.

(1) Minimum size is 8" in diameter.

(2) 12" diameter lines shall be placed when water mains are placed on or adjacent to section line roads or quarter section line roads or as required in the Facility Plan.

E) Valve configuration shall be as follows:

(1) Tees shall have a valve on each branch.

(2) Crosses shall have valves on all legs.

F) Cover**:** Water mains shall have a minimum of 42" cover and a maximum cover of 60". Cover greater than 60" may be allowed where obstructions occur but must be specifically approved by the City.

G) Dead-end Water Mains:

(1) Dead end mains are to be avoided whenever possible and only permitted when phased development is approved.

(2) Dead-end water mains to be extended shall terminate with a valve followed by at least 10 feet of water line with an end cap and thrust block.

(3) Dead end water mains shall have a fire hydrant or blow off within 10 feet of the termination of the main unless otherwise permitted by the City.

H) Contractors working in the City are not to open, close, or tamper with any valve.

The contractor shall notify the City when a valve needs to be opened or closed.

6. Water Services:

A) Service Lines: Service lines shall be polyethylene (SDR9) copper tube size (cts) from water meter to water main with minimum three-quarter inch (3/4") diameter for single service and a minimum of one and one half inch (1 ½") diameter for double services. No splices in service line.

B) Fittings: All fittings, connections, compression connections, bushings, adapters, setters, and any miscellaneous materials are to be manufactured by Mueller or Ford. Galvanized or yellow brass fittings are prohibited.

C) Double Water Meter Branch: The double water meter branch connection shall be used for double services. The double water meter branch shall be a compression fitting (to service line) by MIP (male iron pipe).

D) Service Saddle**:** Saddles for water mains shall be ROMAC single stainless steel strap for water main less than 12" in diameter and ROMAC double stainless steel strap for water main greater than or equal to 12" diameter. Saddle shall be FIP (female iron pipe) thread connection.

E) Corporation Stop**:** Corporation stops shall be three-quarter inch (3/4") for a single service line and one and one-half inch (1 ½") for a double service line. Corporation stop is required at all main-line connections. Corporation stop shall be set so the valve is accessible from the side. Corporation stop shall be MIP (to saddle) by compression connection (to service line).

F) Curb Stop: Curb stops shall be ball valve type or City approved equivalent. Curb stop shall be FIP by FIP. A curb stop is required at the base of the meter setter on the water main side.

G) Meter Setter Connection: Meter setter connection shall be multi-purpose thread (to meter yoke) by MIP.

H) Meter Setter: Meter setters shall be a minimum 21" Mueller #B-2404-2 or Ford VBHC72-21W-11-33-NL, five-eighths inch by three-quarter inch (5/8" x 3/4") and

have a dual vertical check valve. Connections shall be multi-purpose thread. Meter setter shall be centered in the meter vault.

I) Customer Connection: A meter setter connection (multi-purpose thread by compression connection) and a five foot (5') section of service line pipe shall be extended on the customer side of the meter vault with a temporary plug. A water-tight plug is required in high ground water areas.

J) Meter Vaults:

(1) Single Meters: Meter vaults shall be made of 18" smooth interior corrugated HDPE pipe, ADS N-12 Dual Wall Pipe or SaniTite HP Dual Wall Pipe. Use Nicor 12.50 Type LCX water lid-Nicor Read Right lid 12.50 top, 11.25 bottom, 0.50 top thickness, worm gear, threaded for two (2) Zenner adapters and including one (1) Zenner thread in adapters. NICOR Part # 12.5PWBLKMIDtdZ2-TypeLCX. Lid ring will be Tyler type 6150 or D&L L2240.

(2) Double Meters: Meter vaults shall be made of 24" smooth interior corrugated HDPE pipe, ADS N-12 Dual Wall Pipe or SaniTite HP Dual Wall Pipe. Use Nicor 12.50 Type LCX water lid-Nicor Read Right lid 12.50 top, 11.25 bottom, 0.50 top thickness, worm gear, threaded for two (2) Zenner adapters and including two (2) Zenner thread in adapters. NICOR Part # 12.5PWBLKMIDtdZ2-TypeLCX. Lid ring will be a Sigma MB63CF2 or D&L L-2242 installed on a D&L 20x24 L-2334-R1 Adapter Ring.

K) Location: Water services shall be located outside of right of way with the center of the can approximately 24 inches behind the property line unless otherwise approved by the City. The elevation of the meter lid shall be 0.2 ft above back of sidewalk.

L) Where water service is in concrete slab area or driveway, a 20-in Nicor meter box ring, Nicor part #21.75RINGBLK, and 16-in Nicor water lid, Nicor part # 16.25PWBLKMIDtdZ2 worm gear, threaded and equipped with two (2) Zenner threaded adapters.

M) The developer or property owner shall provide and install all materials for water services except the water meter. Water meter will be provided and installed by the City.

N) City public works does not inspect the service line past the meter service.

500 SANITARY SEWER:

1. General:

A) All materials, construction, testing, and inspection shall be in accordance with the current edition of the ISPWC.

2. Sanitary Sewer Pipe:

A) Materials: Sewer pipe shall be ASTM 3034 SDR 35 PVC pipe or City approved equivalent. Trench backfill shall be Type A backfill according to the specifications set forth in the current edition of the ISPWC.

B) Testing: Sanitary sewer mains shall be pressure tested and grade tested by the Developer prior to the sewer main being accepted by the City. City personnel shall be present during sewer main testing. Failure to have City personnel present during all testing is sufficient reason for requirement to retest. Developer's engineer shall provide certification of testing and testing results to the City.

(1) Pressure Testing: Sanitary sewer mains shall be pressure tested according to the specifications set forth in the current edition of the ISPWC.

(2) Visual Test: The Developer shall provide CCTV (closed caption television) of all sections of sewer mains to the City. All visible leaks shall be repaired, even if the leakage is below allowable limits. All repairs shall be made and shall be inspected by the City prior to backfilling. In no case shall pavement be placed without the CCTV approved by the City.

(3) Standing Water: If standing water is observed due to grade defects, the following table shows the allowable standing water depth in relationship to slope of the pipe.

Pipe Slope (ft/ft)	Allowable Standing Water Depth (in)
G < 0.001	≤ 5/8
0.001 ≤ G < 0.003	≤ 1/2
0.003 ≤ G < 0.005	≤ 3/8
0.005 ≤ G < 0.007	≤ 1/4
0.007 ≤ G < 0.009	≤ 1/8
G > 0.009	No standing water

(4) Trench Compaction Testing: Trench compaction testing by the Developer shall be by an independent testing laboratory and once every 300 feet, with a minimum of two test locations. Testing and retesting shall be in accordance with the specifications set forth in the current edition of the ISPWC.

3. Manholes

A) Testing*:* The Developer shall test sanitary sewer manholes prior to the sewer manhole being accepted into the collection system. Testing shall be in accordance with the current edition of the ISPWC. City personnel shall be present during testing. Failure to have City personnel present during all testing is sufficient reason for requirement to retest. Developer's engineer shall provide certification of testing and testing results to the City.

B) Grade rings: In conformance with ISPWC. The grade rings shall not exceed 12 inches in height. "Whirligig" is acceptable for installation.

C) Manholes 20 feet deep or greater shall be 60 inch with 30 inch ring and cover.

D) Drop manholes not allowed except in special circumstances where other sewer options are not workable.

E) External sealing system: All manholes shall be water tight. An external sealing system shall be required to be installed on the outside of the manhole at the barrel joints in addition to the joint sealing system specified in the current edition of the ISPWC. The external sealing system shall be Infi-Shield manufactured by Sealing Systems Inc., EZ Exterior Joint Wrap, or City approved equivalent.

F) Connection into an existing manhole or construction of a drop manhole or special

manhole shall not be accepted without full time inspection by City staff or the City Engineer.

G) Manholes to be grouted. Connection of sewer lines to manholes shall be grouted after the vacuum test is successfully completed.

H) Standard manhole cover and frame per ISPWC SD-507 only.

I) Manhole concrete collars shall be installed without allowing concrete to enter the sewer system. Any concrete entering the sewer system shall be promptly removed.

4. Pressure Sewer Pipes:

A) Materials: All pressure sewer pipe shall be in accordance with the current edition of the ISPWC. Pressure sewer pipe shall be the following:

(1) Class 52 cement-lined ductile iron pipe with a fused calcium aluminate cement mortar lining (H_2Sewer Safe) as manufactured by Griffin Pipe Products meeting ANSI/AWWA standards.

(2) AWWA C900 PVC DR 18 or AWWA C909 PVC DR 18.

B) Testing: Testing by the Developer shall be in accordance with current edition of the ISPWC. Sanitary sewer pressure mains shall be tested prior to such sewer main being accepted by the City. City personnel shall be present during testing. Failure to have City personnel present during all testing is sufficient reason for requirement to retest. Developer's engineer shall observe testing and provide certification of testing and testing results to the City. Trench compaction testing shall be completed by an independent testing laboratory and once every 300 feet with a minimum of two test locations.

C) Locating Wire Boxes: Shall be in accordance current edition of the ISPWC. Locating wire boxes shall be installed on pressure sewer mains at a maximum spacing of 1000 feet and/or at every angle.

D) Cover: Pressure sewer mains shall have a minimum of 42" cover and a maximum cover of 60". Cover greater than 60" may be allowed where obstructions occur but must be approved by the City.

5. Sewer Services:

A) Connection to Mains: Service wyes or tees shall be used on new main installations. Saddles are not acceptable. All sewer services discharge to the sewer main. If a service is approved to discharge to a manhole, the service flow direction shall be pointed downstream and at an angle of less than 45 degrees to the direction of flow. Inserta-tee are allowable only in cases specifically and individually approved by Public Works.

B) Service lines shall be installed at least 18" apart at the main and at least 6 feet from a manhole.

C) Sewer service installations per SD-511 Type C are not allowed unless specifically approved by the City.

D) Service Markers**:** In addition to requirements set forth in the current edition of the ISPWC, sewer services shall be marked with a green, steel, 6 ft Tee post (instead of 2x4) and a 3" permanent wet set stamp in the concrete sidewalk.

505 SANITARY SEWER LIFT STATIONS

1. General:

All materials, construction, testing, and inspection shall be in accordance with the current ISPWC. Final construction plans and specifications shall be submitted to the City for review and approval prior to construction.

2. City Review and Acceptance:

A) Sanitary sewer lift stations shall be designed and sealed by a professional engineer. Design documents shall include:

(1) Site layout and mechanical components.

(2) Electrical, instrumentation, and control.

(3) Discharge force main along with verification of adequate capacity in the downstream gravity conveyance system.

B) The City shall approve the sanitary sewer lift station design documents, selected mechanical and electrical components, and construction materials to be used in the lift station prior to final plat approval.

C) Provide the City with a complete operation and maintenance manual for the lift station prior to final walkthrough.

D) Provide training in operations and maintenance for the City's staff prior to final walkthrough.

E) All lift stations shall be duplex or triplex type and National Electrical Manufacturers Association (NEMA) rated as applicable.

3. Wet Well:

A) Wet wells shall have a minimum diameter of six feet (6') and made of precast concrete or City approved equivalent.

B) Wet well volume requirements shall be determined using "The Ten States Standards" and the appropriate design parameters and ultimate service area as defined by the City.

C) Wet well shall have a watertight outer coating and inner coating, coating shall be Raven or City approved equivalent.

D) Wet well shall have an access cover for the pumps. The cover shall be one size larger than required by the pumps, but not less than 36" x 48". The access hatch shall be aluminum and traffic rated and lockable.

E) The hatch shall be equipped with a hinged safety grate system providing a permanent means of fall protection under the access doors. The grate shall be equipped with a stainless steel automatic hold open device that securely locks the panel in the full open position.

F) Wet well vents shall be no less than four inches (4") in diameter and be covered with a screen and capped.

G) Wet wells shall be configured to reduce turbulence in wet well. The pipe shall be drop pipe or shall be properly placed to mitigate turbulence.

H) Wet wells shall be equipped with a duplex or triplex pump system with a surface bypass pumping port.

I) Wet well shall have two additional stainless steel hooks for floats.

J) Wet well piping shall be painted green. (Submittal to be approved by City)

4. Valve Vault:

A) A valve vault is required.

B) Vault shall meet DEQ and City of Middleton requirements.

C) Valve vault shall have a floor drain to drain accumulated water back to the wet well.

D) The minimum valve vault depth shall be 78 inches.

E) Access cover in valve vault shall have dimensions not less than 36”x 48” and the opening location approved by the City. The access cover shall be made of aluminum and be lockable. The cover shall be traffic-rated.

5. Pumps:

A) As a minimum, the station shall be sized for a duplex pumping system and a spare pump shall be furnished. Three pumps total – two for service, one for spare.

B) Pumps shall be designed for a minimum solids handling capacity of three inches (3”).

C) Impeller shall be a non-clog or grinder type impeller with adjustable wear plate as determined by the City of Middleton. Pumps shall be ABS or City approved equivalent.

D) Stainless steel guide rails with a minimum diameter of two inches (2”).

E) Stainless steel lifting cable shall be 5/16” diameter and shall have a stainless steel clevis hook at the connection to the pump. The steel lifting cable shall be equipped with 1 foot diameter stainless steel ring (D ring or approved other) at no more than 15 foot intervals measured up from the pump. At the ring and clevis, the lifting cable shall be connected by a 1-foot loop - each side. Submit shop drawing for

City review and approval.

F) Stainless steel anchor bolts.

G) Stainless steel bolt packs with full face gaskets inside the wet well.

H) Explosion proof pumps, wiring and J-boxes.

I) Pipe and cam lock fitting to allow for bypass pumping.

J) Variable frequency drives with harmonic filters shall be installed for pumps five horsepower (5 hp) and larger.

K) All pumps shall be soft start pumps.

L) Pump controls to be pressure transducer based and have redundant float installation.

M) Digital amperage gauges are required for each pump.

6. Station Piping and Valves:

A) Piping into and out of the lift station and valve vault shall be ductile iron for a minimum of 10 feet.

B) Valves shall be resilient ball valves or resilient swing check valves. Manufacturer to be approved by City of Middleton. Isolation valves shall be one-quarter (1/4) turn resilient wedge plug valves, Mueller or City approved equivalent.

C) Piping and valving shall be designed so there is positive drainage into the wetwell.

D) Piping shall be Class 52 cement-lined ductile iron pipe with a fused calcium aluminate cement mortar lining (H_2Sewer Safe) as manufactured by Griffin Pipe Products meeting ANSI/AWWA standards.

7. Site Requirements:

A) A yard light with motion detector.

B) Site surfacing shall be four inch (4”) base of three-quarter inch (3/4”) gravel compacted to ninety-five percent (95%).

C) Site may be required to install buffering landscaping.

D) A fire hydrant within 50 feet and on the same side of the lift station building.

E) Provide a domestic water service to the site with a 1-½ meter, suitable backflow prevention device, and a frost-free hydrant shall be located adjacent to the wet well.

F) Control building shall be provided meeting the following minimum requirements:

(1) Pre-manufactured or built in place construction; a concrete foundation with 2 ft stem wall.

(2) Minimum interior dimension of twelve feet by twelve feet (12'x12').

(3) Exterior and interior paint color shall be Benjamin Moor Puritan Gray HC-169 with trim color Duxbury Gray HC-163.

(4) An interior door light and an exterior motion light.

(5) Adjustable and on/off interior heating

(6) SCADA System antenna mounting supports.

(7) Supports and mounts for the control system of the lift station.

(8) Exterior walls shall be rock, brick or other fascia to four feet above grade to prevent staining and degradation of the building exterior walls.

G) Lift station slab shall be four inch (4") thick continuous fiber-mesh reinforced concrete slab.

H) A streetlight shall be provided adjacent to the access road to the lift station, as required and as applicable.

I) Access shall be surfaced with four inches (4") of three-quarter inch (3/4") gravel 15 feet wide.

J) A concrete post with stainless steel embedded socket shall be provided for use as a safety harness anchor attachment point shall be provided immediately adjacent to the wetwell.

K) Yard shall be fenced using six foot (6') chain-link with privacy slats and topped with three strands of taught barbed wire as approved by the City. Two access gates shall be provided, one (1) three foot (3') wide personnel gate and one (1) fourteen

foot wide (14') vehicle gate, at locations approved by the City.

8. Controls:

A) Control panel shall have a dead front enclosure.

B) Submerged transducers with a sounding tube and suited for sewage, supported with removable stainless steel cable system.

C) Two floats. One float for emergency high level and one float for pump low level shutoff.

D) Programmable pump controller with the capability for the user to adjust level control set points.

E) Provide a GFCI outlet and ethernet port within the panel.

F) Hand, off, and auto switches provided for each pump.

G) Flow meters for each pump with flow display continuous.

H) Accessible junction box above-ground with removable seal located on all cables entering the wet wells.

I) 500 watt heater with thermostat in panel.

J) High level / low level alarm light with manual reset.

K) Outside alarm beacon illuminated when high level alarms occur.

L) Underwriters Laboratory (UL) listed control panel matching pump.

M) Manufacture with full electronic read-out and gasketed cover on outer door.

N) Laminated schematic on inside of front door with panel serial number.

O) Night light for panel repair at site.

P) Lift station shall be remote radio and City SCADA system control compatible.

Q) The system shall monitor utility power status and alarm with a wired I/O connection to the SCADA system if the system should fail.

R) Seal fail indication on each pump.

9. Back-up Generator and Automatic Transfer Switch:

A) A back-up generator shall be provided and installed for all sanitary sewer lift stations to be dedicated to the City.

B) For lift stations not owned or operated by the City, it is acceptable to provide a gas powered by-pass pump with the appropriate plumbing for a complete system.

10. Spares Parts:

A) Five (5) each spare fuses of each size.

B) One (1) each spare relay of each size.

C) One (1) each spare transducer and controller with cable.

D) One (1) each spare pump matching exactly the pumps installed in the lift station

11. Local Service & Warranty:

A) Five (5) year pro-rated warranty on pumps and one (1) year on control panel. Local factory authorized warranty repair facility within 50 miles of station location.

600 STORM WATER MANAGEMENT

1. General:

A) All materials, construction, testing, and inspection shall be in accordance with the current edition of the ISPWC. A plan for storm water management must be approved by the City. All stormwater is to be treated and managed on-site. In certain site-specific cases, the City may approve discharge into canals or drains (or other) at pre-development levels. If storm water is to be discharged off site, it must be treated to quality and standards identified prior to project development, and as required by the jurisdiction of the receiving water. Permission from the jurisdiction receiving the treated pre-development flow must be documented and any required permits must be in place (Idaho Pollutant Discharge Elimination System (IPDES), license agreement, or other) prior to City approval. Review and approval of offsite storm water discharge at pre-development flow rate will be made on a case-by-case

basis. In no case will stormwater from public rights of way be discharged offsite. Illicit discharge of storm water is prohibited by the City, Idaho Department of Environmental Quality (IDEQ), and the Environmental Protection Agency (EPA).

(1) Calculations shall use the rational method.

(a) C values shall be as follows:

(i) With frontages greater than or equal to 65-feet, C=0.60

(ii) With frontages less than 65-feet, C=0.75

(iii) 0.95 for all portions within the right-of-way.

(iv) A composite C value shall be calculated for each catchment and/or sub-catchment. Catchments shall include at least half the residential lot depth unless site grading can justify otherwise.

(b) The storm intensity shall be 1.15 inches-per-hour. This correlates to a 100-year, 1-hour storm.

2. Best Management Practices:

A) Retention basins are required for management of stormwater from public rights of way. Other BMPs may be approved in special circumstances and on a case-by-case basis where site specific conditions preclude the use of retention basins. Stormwater from non-public contributing areas may utilize other management BMPs to be approved by the City. All developments shall use the appropriate "Best Management Practice" (BMP) mitigation measures as defined in the "Catalog of Storm Water Best Management Practices for Idaho Cities and Counties" by Idaho Division of Environmental Quality (IDEQ).

B) Design and construction of BMP and other means of water quality improvements must meet all requirements of the storm water discharge permit for the development (if any) and must be approved by the City Engineer.

C) Alternative stormwater treatment methods may be evaluated and approved on a case-by-case basis. Alternative methods shall be requested with a submittal including a narrative and supporting engineering data that would aid in the review

process. Each design submittal will be reviewed based on the specific merits of the design and other factors such as treatment utilized, proximity to water bodies, multi-functional use, and comprehensive stormwater design.

D) Ponds or other open water surfaces may be incorporated into a stormwater treatment facility only if privately owned, maintained, and managed to meet all applicable IPDES MS4 requirements and Idaho's surface water standards.

(1) The owner shall publicly record an Operations and Maintenance (O&M) manual for all such stormwater facilities. The O&M manual shall include requirements for documenting monitoring and testing results. The O&M manual and all record keeping documentation shall be readily available to the City upon request.

E) Service roads along with easements for public access shall be provided to all privately owned stormwater facilities.

F) Storm drain facilities to be tested by the developer and functionality verified by the City. Contact the City for testing protocol for storm drain facilities. Developer's engineer shall provide certification of testing and testing results to the City.

3. Collection Piping and Catch Basins:

A) Materials: All storm sewer pipe and catch basins shall be in accordance with current edition of the ISPWC. Storm sewer pipe and catch basins shall be City approved equivalent or the following:

(1) All storm sewer pipe shall be at least ASTM 3034 SDR 35 PVC pipe.

(2) ADS N-12 by Hancor, C900 or City approved equivalent.

(1) Trench shall include nonmetallic tape identifying the storm sewer pipe.

(3) Minimum size of storm sewer pipe shall be 12-inches.

(4) Catch basins shall be Type IV for rolled curb and Type 1 for vertical curb. Catch basins shall have a one (1) foot sump.

(5) Pipes carrying irrigation or drain water shall not be galvanized metal unless

provided with an interior polymer coating suitable to prohibit corrosion.

B) Testing***:*** The Developer shall test the storm sewer system prior to acceptance by the City, including street crossings and manholes. City personnel shall be present during storm sewer main testing. Failure to have City personnel present during all testing is sufficient reason for requirement to retest. Developer's engineer shall provide certification of testing and testing results to the City. Testing shall be in accordance with current edition of the ISPWC. Trench compaction testing shall be by an independent testing laboratory and once every 300 feet of trench with a minimum of two test locations.

C) If storm sewer collection pipe discharges into natural drains, sloughs, or canals, the following shall be installed:

(1) A corrugated metal pipe shall be placed at the end of the pipe with a minimum of ten feet (10') of bury into the bank.

(2) Wingwall or other concrete structure to protect the outfall pipe. To be approved by City Engineer during construction plan review.

(3) Riprap of proper size shall be place around the drain pipe. Riprap size shall be approved by City Engineer during construction plan review.

(4) A heavy-duty, flap gate valve or rubber duckbill check valve shall be placed at the end of the discharge pipe. Waterman or City approved equivalent.

D) Storm sewer manhole spacing shall be maximum 400 feet.

E) Retention and detention basins shall be designed according to Best Management Practices and the ISPWC.

F) The storm sewer system shall be designed to be free draining. There shall be no standing water in storm sewer pipes after construction is complete. All water shall dissipate from detention facilities within 24 hours.

4. Swale Management

A) Linear infiltration and/or or retention facilities parallel to roadways (roadside swales) are prohibited as a stormwater infiltration facility. This does not include

borrow ditches for collector and arterial roads.

B) Existing roadside swales are engineered to collect stormwater runoff from the streets, provide filtration and treatment, then hold the water until it dissipates by percolation into the area soils. Each component of the swale is specifically designed to facilitate the treatment and disposal of stormwater. Preserving swale geometry and constructed components (sandy bottom, etc. for drainage) is a requirement for proper function and maintenance.

C) Where roadside swales exist in the City, they function as the primary component of the stormwater management and disposal system. Swales are a component of the City of Middleton's stormwater system and are monitored by the City according to the City's IPDES permit (Idaho Pollutant Discharge Elimination System) issued by the IDEQ. Modifications to swales shall be designed by a licensed engineer and conform to the City's current stormwater requirements.

D) Homeowners typically enjoy the use of the swale area in front of their homes and like to control its appearance, including ground-cover, frequency of irrigation and mowing, and turf health. For this reason, the City allows homeowners to assume the operation and maintenance of the swale area fronting their properties, provided the swales are appropriately maintained to continue their primary function of stormwater management.

E) The following list of protocols shall be observed when maintaining a swale:

(1) The sand window in the bottom of the swale should be open and free of grass, weeds, trash, and cobble. The sand window should be raked at least two (2) times per year to loosen the top sand layer, remove any collected debris, and make sure the sand is in a condition to filter stormwater.

(2) Sediment, trash, or cobble collecting on the sand window shall be removed by the homeowner as soon as possible.

(3) Driveways shall not be enlarged beyond the width identified in the stormwater drainage report nor shall modifications be made to otherwise reduce the footprint of the swale area available for infiltration.

(4) The swale should be fully grassed in the side slope area down to, but not over, the sand filter.

(5) The grass on side slopes should be irrigated only as needed to preserve the turf health. Overwatering is prohibited.

(6) The grass on the side slopes should be mowed at least every two (2) weeks and the grass clippings collected and disposed. Do not mulch the swale side areas.

(7) Runoff into the swale from excess irrigation water or water polluted from activities such as car washing, is prohibited.

900 PRESSURIZED IRRIGATION

1. General:

A) All materials, construction, testing, and inspection shall be in accordance with the current edition of the ISPWC. **No cross connection between City water system and pressure irrigation water shall occur.**

2. Irrigation Mains:

A) Testing**:** The Developer shall test pressure irrigation mains in accordance with the current edition of the ISPWC. Trench compaction testing by an independent laboratory shall be once every 300 feet of trench in the rights of way with a minimum of two test locations. Developer's engineer shall provide certification of testing and testing results to the City.

B) A valve shall be installed adjacent to and outside of the road right of way, each side, where an irrigation line crosses a public street.

3. Irrigation Services:

A) Valve Box: All irrigation services shall have a fiberglass valve box installed level and straight with the surrounding ground surface.

B) Corp Stop Valve: A Corp Stop Valve shall be installed at the main service saddle when service line material is PVC.

C) Irrigation Service: In addition to the valve box, the service shall include a 200 psi gate valve (or equivalent) and provide one (1) hose bib for residential irrigation use after the gate valve. Each service line shall be a minimum of one inch (1") in diameter.

D) Pressure Irrigation Design: All irrigation shares shall be used for the development.

E) Service Pressure: The design of the irrigation system shall be to provide every residential building lot a service with a minimum pressure of 25 psi.

F) Service Flow: The design of the irrigation system shall be to provide every lot with a minimum of six gallons per minute (6 gpm) flow. The design can allow for alternating irrigation schedules. (one miners inch = 9 gpm = 1 share)

G) City water shall not be used for pressure testing or temporary irrigation.

H) Pressure irrigation pumping station shall have an improved dedicated access to the station.

4. Nuisance Water

A) With the availability irrigation water, overwatering of landscape is a common problem in the City of Middleton. Irrigation runoff from overwatering flows to the street and into the stormwater system where it impacts roadway safety; diminishes the roadway service life; increases maintenance responsibilities; saturates the stormwater system; creates mud and ponding in borrow ditches, swales and low spots; and decreases the capacity and function of the irrigation system. Nuisance flows from overwatering are also a source of pollutants to the storm drain system. It is the responsibility of property owners, HOA's, and businesses to adjust their water use and irrigation system operations as needed to maintain landscaping, conserve water, and PREVENT irrigation water from flowing to the public street and stormwater system.

1000 Construction Stormwater

1. Permitting Requirements

A) In compliance with the City of Middleton Storm Water Management Program requirements, as contained in IPDES Permit No IDS-028100, the City of Middleton will limit and reduce, to the maximum extent practicable, the discharge of pollutants from construction sites in the City of Middleton through its authority to issue building permits, occupancy permits, or otherwise authorize construction. Discharge of sediment laden stormwater onto City streets or into the City municipal separate stormwater sewer system (MS4) is prohibited without specific and written approval by the City.

B) Any applicant or application for development in the City of Middleton which will disturb one or more acres of land (1 acre = 43,560 square feet), or will disturb less than one acre of land but is part of a common plan or development or sale (as defined in Appendix A of NPDES CGP) that will ultimately disturb one or more acres of land; or has been designated by EPA as needing permit coverage under 40 CFR 112.26(a)(1)(v) or 40 CFR 122.26(b)(15)(ii) shall obtain coverage for all stormwater discharges from the site under the Idaho Pollutant Discharge Elimination System (IPDES) Construction General Permit (CSP) for Stormwater Discharges from Construction Activities. Coverage shall be obtained with the filing of a Notice of Intent (NOI) to seek coverage with IDEQ and will be required to prepare a Stormwater Pollution Prevention Plan (SWPPP). Copies of the SWPPP and NOI must be furnished to the City prior to any land disturbing activities.

C) Any applicant/application for development in the City of Middleton which disturbs less than one acre or otherwise does not require filing a SWPP and NOI, shall submit to the City an Erosion and Sediment Control (ESC) Plan.

(1) The ESC plan must be prepared and signed by a Plan Designer. The plan shall describe the proposed construction activity or land disturbing activity and the proposed BMPs to be employed to prevent and control any impact to storm

water quality during and after construction.

(2) The ESC plan shall identify BMPs, as applicable to the site, for control of sediment, flow conveyance, tracking, non-stormwater management, waste management, final site stabilization, protection of adjoining property, and maintenance, inspection, and repair of controls. Provisions for material containment and pollution spill prevention must also be included. The ESC plan preparation and elements should follow the industry accepted standards.

(3) The ESC plan shall be submitted in conjunction with a building permit application, development application, or application to work in the public right of way.

D) The SWPPP (or ESC plan for properties not required to complete a SWPPP) shall be available at the project site at all times. The SWPPP or ESC plan shall designate the qualified person responsible for conducting site and dewatering inspections, identify personnel responsible for ensuring the permit's requirements are implemented, and contain all site inspection records.

E) The current SWPPP (or ESC plan for properties not required to complete a SWPPP) shall be kept at the site or at an easily accessible location so that it can be made available at the time of an on-site inspection or upon request by the City. If an on-site location is unavailable to keep the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance of your construction site. The posted information shall include contact information for the qualified person responsible for ensuring the permit's requirements are implemented.

1100 STREETS

1. General:

A) All materials, construction, testing, and inspection shall be in accordance with the current edition of the ISPWC, City of Middleton Supplemental Construction Standards, and the Highway Standards and Development Procedures for the

Association of Canyon County Highway Districts.

2. Rights of Way at Intersections:

A) The rights of way at section line and quarter section line road intersections shall be configured to dedicate a triangle of area to be used for intersection control improvements. The triangle shall be formed by measuring from the intersection at the edges of the rights of way, 150 feet along each right of way, then connecting the two points with a line. Please see diagram, Appendix B.

3. Widths:

A) Rights of Way Widths

(1) All section-line and quarter section-line roads shall be 100 ft (50 ft each side) minimum right of way width.

(2) Roads listed below shall have the following right-of-way widths:

Arterials and Collectors	*Half-Road Width*	*Total Road Width*
Emmett Road	50 feet	100 feet
Hartley Lane	50 feet	100 feet
Cemetery Road	50 feet	100 feet
Middleton Road	50 feet	100 feet
Duff Lane	50 feet	100 feet
Lansing Lane	50 feet	100 feet
Kingsbury Road	50 feet	100 feet
Blessinger Road	50 feet	100 feet
Can-Ada Road	50 feet	100 feet
9th Street	50 feet	100 feet
Willis Road	50 feet	100 feet
Meadow Park Street	50 feet	100 feet
Purple Sage Road	50 feet	100 feet
Cornell Street	50 feet	100 feet
River Street	50 feet	100 feet

Landruff Lane	50 feet	100 feet
Canyon Road	50 feet	100 feet
Freezout Road	50 feet	100 feet
El Paso Road	50 feet	100 feet
Lincoln Road	50 feet	100 feet
Peel Street	50 feet	100 feet
KCID Road	50 feet	100 feet
Wood Avenue	50 feet	100 feet
Bass Lane	40 feet	80 feet

The City may approve reduced right-of-way along section and quarter-section line roads if sidewalks are detached and in an easement outside of street right-of-way. All other roads in the City are considered local roads and shall have a half-road right-of-way width of twenty-five (25) feet and a total right-of-way width of fifty (50) feet.

B) Improved Section: All improved sections classified as local roads shall have widths from back-of-curb to back-of-curb of thirty-eight (38) feet. Developments that submit improved sections different from the standard may be evaluated and approved on a case-by-case basis.

(1) Collector and arterial roadways are to be cut back to centerline and improved for the full half section unless specifically approved by the City.

C) Streets within the City of Middleton shall be designed and constructed in accordance with the Stormwater requirements of Division 600.

D) There shall be no new utility poles, transmission structures, or substations located within sixty (60) feet of the centerline of section line and quarter section line roads or within the site triangle unless individually and specifically approved by the City in a license agreement.

4. Private Lane:

A) A private lane may be constructed to access up to four (4) single-family residences. Private lanes will be reviewed on a case-by-case basis and specifically approved by

the City. Private lanes will not be allowed to access more than four (4) single-family residences.

5. Street Section Properties:

A) Materials: All streets shall be constructed in accordance with the current edition of the ISPWC and this Middleton Supplement to the ISPWC.

(1) Structural sections to conform with urban road section standard drawings in Appendix B.

(2) Asphalt: Plant mix design shall be submitted two weeks prior to asphalt placement and shall meet the requirements of a Class III mix or better.

B) Testing. The Developer shall test the roadway materials and placement according to the requirements of the ISPWC.

(1) Testing shall be by an independent testing laboratory and completed once every 300 linear feet with a minimum of two tests.

(2) Asphalt: Density tests shall be performed by an independent testing laboratory and once every 8,000 square feet with a minimum of two tests. Core samples verifying thickness of asphalt shall be provided to the City.

6. Curb & Gutter:

A) Materials**:** All curb & gutter shall be constructed in accordance with the current edition of the ISPWC and shall have a minimum 28 day compressive strength of 4000 psi. ***Fiber mesh shall be included in all concrete construction***. The Developer shall provide concrete testing per the ISPWC.

B) Expansion Joints:

(1) Shall be required in non-extruded curb and gutter at the beginning and end of all points of curvature.

(2) Shall be required at all joints between new concrete and existing concrete.

C) Type of Curb:

(1) Residential streets interior to subdivisions: Standard 3" rolled curb and gutter.

(2) Exterior streets and Collector streets: Standard 6” vertical curb and gutter.

D) Valley Gutters: Valley gutters shall be a minimum of 10” thick and 4'-0” wide with #4 rebar longitudinal at 12” on center and #4 rebar on both ends and in the middle. Valley gutter base shall be a minimum of 6” thick of three-quarter inch (3/4”) crushed aggregate gravel placed as specified in Section 802 ISPWC.

E) Base for curb, gutter and sidewalk is required to be tested every 300 lf.

7. Sidewalks:

A) Materials: All sidewalks are concrete and shall have a minimum 28 day compressive strength of 4000 psi. Fiber mesh shall be included in ALL concrete at not less than 1.5 lbs of fiber mesh per cubic yard of concrete. The Developer shall provide concrete testing per the ISPWC**.**

B) Sidewalks shall be completely within street right-of-way or completely within an easement outside of street right-of-way, and shall not be partly in right-of-way and partly in an easement.

C) Width:

(1) Sidewalks along both sides of local roads shall be minimum of five feet (5’). Sidewalks, trails or pathways along both sides of section and quarter-section line roads shall be eight feet (8’) wide. Other pathways shall be ten feet (10’) wide.

D) Trees may only be planted in public rights of way with a license agreement.

(1) No trees are allowed to be planted in the forty foot (40’) sight triangle.

(2) No vegetation, fences, berms or other obstruction taller than three feet are allowed within the sight triangle or that will obscure roadway signs.

(3) Tree planting of any type is prohibited within ten feet (10’) of any seepage bed, sand filter facility, roadside swale, municipal structure, piping system, fire hydrant or utility box.

(4) Class I, Class II, and Class III trees (listed in Appendix A) may be planted a

minimum of five feet (5') away from sidewalk. All other trees not listed shall be planted at least fifteen (15') feet behind the back of the sidewalk.

(5) All trees planted in the landscape strip between the detached sidewalk and the curb or within 15' of any pathway or sidewalk shall have a root barrier approved by the City of Middleton Public Works Department. Root Barrier to be linear only, 24" deep root barrier panel, made of polyethylene plastic with ultraviolet inhibitors, 0.085" think min., 24" deep min., extended 10' min either side of the tree.

E) Bore or channeling under a sidewalk is not allowed for any reason including water service, sewer service or irrigation system installation. Sleeves may be installed with approval from the City.

F) Base for curb, gutter, and sidewalk is required to be tested every 300 lf on each street side.

8. Vertical Alignment

A) Any variation from grade which causes localized ponding will not be allowable.

B) Minimum Slope: Minimum slope of curb and gutter, measured parallel to the street centerline, shall be at least 0.40%.

C) Vertical grade change of 1.5% or greater requires a vertical curve.

9. Miscellaneous:

A) Street Cuts or Closures: The City shall be notified in writing at least two (2) City business days before any street cuts or street closures for utility or street work.

B) Vandalized Concrete: Any concrete vandalized during construction shall be repaired to new condition or replaced solely at the contractor's expense.

C) Prior to pouring valley gutter, curb, gutter, and sidewalk a representative for the City shall approve compaction test results of the subbase material.

D) No trees or bush shall be planted in the public right of way or in the utility easement running parallel and adjacent to the public right-of-way.

E) A box is required on each side of the right-of-way for gravity irrigation crossings.

F) The minimum Level of Service for intersection operation in the City of Middleton is Level C.

G) If a street is cut and repaired (for any reason) prior to being dedicated to the City the street will be chip sealed by the developer as a condition of acceptance.

H) Whenever the existing use of a parcel, building, or structure changes to a new use or an increase in intensity of the use, frontage improvements for the road(s) bordering the parcel will be required unless specifically waived by City Council.

10. Street Lights

A) Street lights shall be installed at intersections, cul-de-sacs, at a maximum of 400 foot intervals, or as sufficient to support safety for all users, including pedestrians and non-motorized users.

B) Lighting layouts shall be submitted to the City Engineer for review and approval. Street lights are required to be furnished and installed per ISPWC Section 1102.

C) Street lights shall be LED model Lumark Prevail PRV-C40 or equivalent unit with the City Engineer's approval. Color temperature shall be 3000k. Units shall have a photocontrol device for "dusk-to-dawn" operation mounted on top of each unit. Photometric distribution shall be Type III unless an alternate type is approved by the City Engineer.

D) Decorative street light posts shall be Niland Company El Paso Plaza – 18 Series in hand brushed green finish or City approved equivalent.

11. Street Signs.

A) Posts shall be type E-1 as shown in SD-1 130 of the ISPWC with 14 gauge wall thickness. Street signs shall be in conformance with Manual on Uniform Traffic Control Devices and shall be a nine-inch (9") blank, six-inch (6") all capital lettering, no border, with retro-reflective, high intensity background, with the street type superscript (upper right). Submit a shop drawing to the City for approval. Speed limit signs shall be installed by the developer - 20 mph for subdivision roads.

12. Fiber Optics.

A) The City requires a fiber-optic based network be available in subdivisions so each roof top has access to fiber-speeds and fiber-volumes for data transfer. Fiber speeds/volume shall be delivered to each roof top, a blank conduit installed in joint trench or co-located in the front 10 foot utility easement.

B) Developer shall install conduit and boxes for fiber optics in all local collector, collector and arterial street rights-of-way on or abutting the property being developed and to-and-through the project limits. Conduit shall be two (2) PVC 2 ½ inch conduit with brackets every 5 feet or less and locate wire. Pipe shall be Schedule 40, 24" bury (min) and sand bedded and installed in the rights of way. Conduit shall be installed with a fiberglass locate stake at every terminus and junction box or pull box at every intersection and bends of 90° and greater. Junction box(es) to be telecom vault (Larken or approved equal) 350 gallon, with cast iron ring and telecom lid. A conduit placement plan shall be submitted to the City for review. The plan shall detail the location, size and number of conduit and may be included or shown on utility plan sheets.

13. Traffic Impact Analysis.

A) Middleton City Code Title 10 Section 5-4-3 enacted in Ordinance No. 659 requires all subdivisions with more than 25 residential lots provide a traffic impact analysis. A traffic impact analysis may also be required by the City on a case by case basis. The traffic impact analysis shall consider at least the following:

(1) Obtain new AM and PM peak hour turning movement counts at study intersections identified by the City of Middleton.

(2) Coordinate with COMPASS to determine the most current background traffic forecasts.

(3) Estimate site traffic.

(4) Evaluate study intersections operations and recommend improvements to mitigate the AM and PM peak hour traffic impacts for the following traffic conditions:

(a) Existing traffic

(b) Horizon year (5 years beyond build out year) background traffic

(c) Horizon year (5 years beyond build out year) site plus background traffic

(5) Assess the need for exclusive turn lanes and intersection control at study intersections and the proposed site access intersections for all traffic conditions described above. The City may include additional conditions to be evaluated.

(6) Evaluate traffic operations at the proposed site access intersections.

(7) Estimate the site traffic portion and percentage of the total entering traffic for each study intersection.

(8) Summarize the results.

14. Monuments Disturbed by Construction Activities.

A) Idaho Code 55-1613 shall be observed in the City of Middleton. IC 55-1613 partially reads:

> All monuments, accessories to corners, benchmarks and points set in control surveys that are lost or disturbed by construction shall be reestablished and remonumented, at the expense of the agency or person causing their loss or disturbance, at their original location or by setting of a witness corner or reference point or a replacement benchmark or control point, by or under the direction of a professional land surveyor.

15. Driveways:

A) Individual driveway approaches onto public roads are established at building permits issuance, per the site plan submitted. If the approved driveway needs modified, or an additional driveway or driving strips are requested, an application for an approach permit application is required to be submitted to the City. Upon receipt of the application, the City will evaluate the request to ensure site distance, lot coverage, impacts to stormwater facilities, and other applicable items. The presence of roadside swales used for stormwater management may preclude the modification of the swale without an engineered design of the proposed

modification.

B) On collector roads, residential driveways shall be restricted to a maximum width of 20-feet. These driveways may be constructed as curb cut type driveways.

C) Driveway Design Requirements on Local Roads

(1) The width of the driveway at the building face shall match the width of the garage. Driveway width at the roadway in excess of 20' shall be designed and constructed to meet City requirements for stormwater and traffic layout.

(2) Gravel driveway, where approved, are to be paved at least 30-feet into the site from the edge of pavement of the adjacent road.

(3) If a driveway taking access to a public road is to be gated, the gate or keypad (whichever is closer to the road) shall be located a minimum of 50 feet from the adjacent road so the accessing vehicle is fully out of the traffic lane. An on-site turnaround shall be provided.

16. Access

A) Local Roads

(1) Residences having a three (3) car garage shall have a driveway width at least equal to the three (3) car garage at the building face that extends from the garage to the abutting public street.

(2) The primary function of a local road is to serve adjacent property. Adjacent property will usually have unrestricted access to the road, except near intersections, and Average Daily Traffic will be less than 2,000. Direct lot access to local roads from adjacent property is permissible.

B) Driveway Spacing Near Intersections. Driveways on local roads shall be located a minimum of 75 feet (measured centerline of road to centerline driveway) from the nearest road intersection. This is not applicable for single family dwelling units with lot sizes less than 75 feet in width.

C) Successive Driveways Away from Intersections. There is no minimum spacing requirements for access points along a local road, but the City does encourage

shared access points where appropriate.

D) Roads Other than Local

(1) With the exception of collector roads located approximately one-half mile from adjacent arterial intersections, all new access, public or private, collector, local collector, section-line or quarter-section line road, will be restricted to right-in/right-out access. The right-in /right-out access will include construction of a median type, to be approved by the city. Access onto arterial is prohibited.

(2) Direct access from roads other than local roads is permitted only when reasonable access cannot be obtained otherwise, as determined at the sole discretion of the city.

(3) Additional access is not permitted upon the splitting or dividing of parcels of lands or contiguous parcels under the same ownership. The City may approve shared access or cross access may be permitted internally from the existing access.

(4) Access near intersections is restricted and must be a minimum of 660 feet from the intersection and outside the functional area of the intersection in cases where the functional area may extend beyond the minimum distance.

17. Parking Lot Dimensional Standards:

A) See attached drawing entitled *OFF STREET PARKING AND LOADING DIMENSIONS OF PARKING SPACES AND AISLES* dated April 7, 2021.

2100 PROJECT INSPECTION:

1. Preconstruction Meeting.

A) The all necessary approvals, including but not limited to City of Middleton, highway district, Idaho Transportation Department (ITD), IDEQ NPDES Construction Stormwater Coverage; shall be in place prior to scheduling a preconstruction meeting.

B) Joint trench design is required to be furnished to the City 48 hours in advance of the preconstruction meeting and a construction schedule developed at the preconstruction meeting.

2. On Site Inspection:

A) The developers licensed engineer must supervise or conduct construction observation and inspection for all construction. See "Project Log" at paragraph 1.E below.

B) The City shall be informed of the inspector's name, office location, phone number, and emergency telephone numbers if different from the developers licensed engineer.

C) No water, sewer, street, or drainage construction shall take place without inspection.

D) Periodic inspection shall be conducted by the City and/or the City Engineer, at no charge to the Developer, as detailed below

(1) Water System

(a) Connection to existing main

(b) Thrust block installation (to be batched concrete).

(c) Potable and non-potable line crossings

(d) Verify bedding, finder wire, valve configuration and metallic tape placement.

(e) Service installation. City to verify materials and installation on first services installed.

(2) Sewer System

(a) Connect to existing main or manhole.

(b) Verify pipe bedding .

(c) Manhole EZ Wrap

(d) Drop manhole or special manhole construction.

(e) Verify with contractor top cone placement for 12-inch grade rings.

(3) Fiber Optics Conduit

(a) Verify placement generally per plan

(4) Pressurized Irrigation

(a) Valves each side of right of way crossings

(b) Verify bedding and depth in right-of-way

(5) Streets

(a) Subgrade

(6) Storm drain installation. Seepage beds/swales to free draining or other to be determined (TBD).

(7) Sidewalk and valley gutter – top of base course

(8) Fiber mesh in concrete

(9) Rebar in valley gutter

(10) Valley gutter 10 inches deep

(11) Placement of road base

(12) Paving

(13) Concrete collars. Include verification concrete did not enter the sewer system.

E) Project Log: The on-site project inspector shall keep a written and photographic log detailing the daily activities of the project. The written and photographic log shall consist of the following (minimum):

(1) Written: A written description of the daily activities including materials used and construction completed. Notes should also include day, time, weather conditions, and any activity out of the ordinary.

(2) Photographic: Inspector shall keep a photographic journal detailing connections to **existing City utilities, pipe intersections (thrust blocks),**

valves, and manhole connections. Photos to be identified by stations or other location as represented on the plans and date.

F) Prior to any work within the City right-of-way, a permit to work in the public right of way shall be obtained from the City.

G) The City is required to inspect or observe the following. The developer's engineer is responsible for contacting the City to observe:

(1) Water main pressure test per ISPWC

(2) Sewer main pressure test per ISPWC

(3) Sewer main CCTV and mandrel test per ISPWC

(4) Sewer manhole vacuum test per ISPWC

(5) Stormwater mainline pressure test per ISPWC

(6) Pressure irrigation system pressure test per ISPWC

(7) Subgrade inspection after water, sewer, and joint trench and prior to hauling sub-base material.

(8) Stormwater facilities installation, i.e. – seepage beds or swales.

(9) Water bacteria testing (two tests – at least 24 hours apart).

(10) Water system continuity test

(11) Irrigation pump station functional

3. Project Completion Packet:

A) The project completion packet consists of the items below compiled in a packet and submitted to the City. At the completion of construction, before the release of any security posted with the City, and before the City issues occupancy permits or signs the final plat, the City shall receive:

(1) A copy of the inspection log;

(2) A copy of the photographic journal including thrust blocks as installed

(3) Three (3) copies of legible Record Drawings and a digital copy of the record

drawings in CADD as specified by the City

(4) A digital copy of the final plat including the installed location of the water mains, valves, sanitary sewer mains, manholes, cleanouts, and storm sewer infrastructure including mains, inlets, containment areas and O/S boxes. Digital copy shall be in CADD and state plane coordinates or as requested by the City;

(5) All test reports shall be certified and stamped by the developer's licensed Engineer.

(6) All testing per ISPWC and Middleton Supplemental to be complete and added to the completion packet including water tests, pressure irrigation, compaction, etc. A graphic or plan sheet correlating the location of every project compaction test shall be included.

(7) Irrigation as-built drawings shall be supplied to the city and the homeowner's association.

(8) Certification from the irrigation and/or drainage district that all work is complete and accepted by the district.

4. Final Inspection:

A) The Developer's project engineer shall do the initial final inspection.

B) After the project engineer completes the walkthrough, he/she will submit a statement certifying a final walkthrough has been completed by him/her and the project has been constructed in accordance with the ISPWC, City of Middleton Supplemental Specifications, is in conformance with the record drawing submitted, and certify to the City that the project is ready for final inspection. The City will then schedule a final inspection.

C) The project completion packet shall be filed with the City and deemed complete prior to request for final inspection.

D) Final project inspection shall be by the City Engineer or a representative of the City Engineer.

E) Final inspections shall be requested by the developer's engineer and scheduled with the City Engineer at least two (2) City working days in advance.

F) Punch List:

(1) The City Engineer will develop a “punch-list” of items.

(2) When all items contained on the City's punchlist are completed and confirmed completed by the City, the City will issue a certificate of completion at which time the warranty period will start. Please see Appendix B for certificate of completion.

G) A one-year warranty walkthrough will be performed by the City. A list of any infrastructure found to be defective, failing, or damaged will be provided to the developer. Repairs to items identified in the warranty walkthrough shall be verified complete by the City in 45 days or less.

APPENDIX A – Miscellaneous Drawings, Checklists, Applications, and Requirements

City of Middleton
Pre-Construction Submittal Checklist

General Submittal Category	Submittal Sub-Category	Yes	No	NA
Water	Fire Hydrants			
	Flushing Hydrants			
	Blow-Offs			
	Pipe			
	Pipe Fittings			
	Pipe Valves and Boxes			
	Locating Wire			
	Service Lines			
	Service Saddles			
	Corporation Stops			
	Curb Stops			
	Meter Setter and Appurtenances			
	Meter Lids (single knockout)			
	Meter Vaults			
Gravity Sanitary Sewer	Pipe			
	MH Base, Section, and Cone			
	MH Ring and Cover			
	MH Boot			
	MH Joint Sealant Between Barrels and Cone (mastic, gasket, or conseal)			
	MH Joint Sealant Exterior Sealant(Vulkem 116)			
	Manhole Joint Exterior Wrap (EZ Wrap)			
	Marking Tape			
Pressure Sanitary Sewer	Pipe			
	Fittings			
	Locating Wire			
	Clean-Out			
Sewer Services	Service Line			
	Service Connection (tee or wye)			
Stormwater	BMPs			
	Pipe			
	MH Base, Section, and Cone			

General Submittal Category	Submittal Sub-Category	Yes	No	NA
	MH Ring and Cover			
	MH Boot			
	MH Joint Sealant Between Barrels and Cone (mastic, gasket, or conseal)			
	MH Joint Sealant Exterior Sealant (Vulkem 116)			
	Manhole Joint Exterior Wrap (EZ Wrap)			
	Geotextiles			
	Sand and Grease Trap			
	Catch basins			
Pressure Irrigation System	Irrigation Design			
	Pipe and Fittings			
	Service Pipe and Fittings			
	Valve Box			
	Irrigation Entity Approval Letter			
Street	Concrete Mix (fiber)			
	Asphalt Mix			
	Base Materials - 3/4”			
	Subbase Materials – Pit run			
	Thermoplastics			
	Street Lights (LED)			
	Fiber Optic			
	Street Signs and Posts			

City of Middleton
Post-Construction Submittal Checklist

General Submittal Category	Submittal Sub-Category	Complete		
		Yes	No	NA
Water	Pressure Test			
	Bacteria Test			
	Continuity Test			
	Thrust Blocks Documentation			
	Trench Compaction Test			
Gravity Sanitary Sewer	TV Inspection (CD and Notes)			
	Air Test			
	Manhole Test			
	Trench Compaction Test			
Pressure Sanitary Sewer Pipe	Pressure Test			
	Continuity Test			
	Trench Compaction Test			
Sewer Services	Air Test (part of Gravity Sewer)			
Stormwater	TV Inspection (CD and Notes)			
	Air Test			
	Manhole Test			
	Trench Compaction Test			
Pressure Irrigation System	Pressure Test per ISPWC			
Street	Subgrade Compaction Test			
	Sub-base and Base Compaction Test			
	Curb Compaction Test			
	Sidewalk Compaction			

General Submittal Category	Submittal Sub-Category	Complete		
		Yes	No	NA
	Test			
	Construction Notes/Logs			
	Construction Photos			
	Concrete Testing per ISPWC			
	Asphalt testing and cores			
Additional Documents	As-Built Drawings in CADD(3 copies)			
	Pressure Irrigation As-Built Drawings			
	Digital Plat			

City of Middleton
Certificate of Completion

DATE OF ISSUANCE:

Project:

Development Owner:

Design Engineer:

The Work to which this Certificate applies has been received by a representative of the City of Middleton and Work, except as noted below, is hereby declared to be complete in accordance with the requirements set forth by the City and the City Engineer:

ITEMS REMAINING TO BE COMPLETED:

DATE OF COMPLETION: _____

The City of Middleton recognizes this project as complete. All warranties, except those pertaining to the items remaining to be completed listed above, shall start as of the above date of completion.

ACCEPTANCE OF THIS CERTIFICATE OF COMPLETION:

City Engineer: Civil Dynamics PC

By: _____

Name: _____

Title: _____

Date: _____

City of Middleton Public Works:

By: _____

Name: _____

Title: _____

Date: _____

City of Middleton
Supplemental Drawings

NOTES:

(A) ALL PRODUCTS AS LISTED.

(B) NO GALVANIZED PIPE OR YELLOW BRASS FITTINGS TO BE USED.

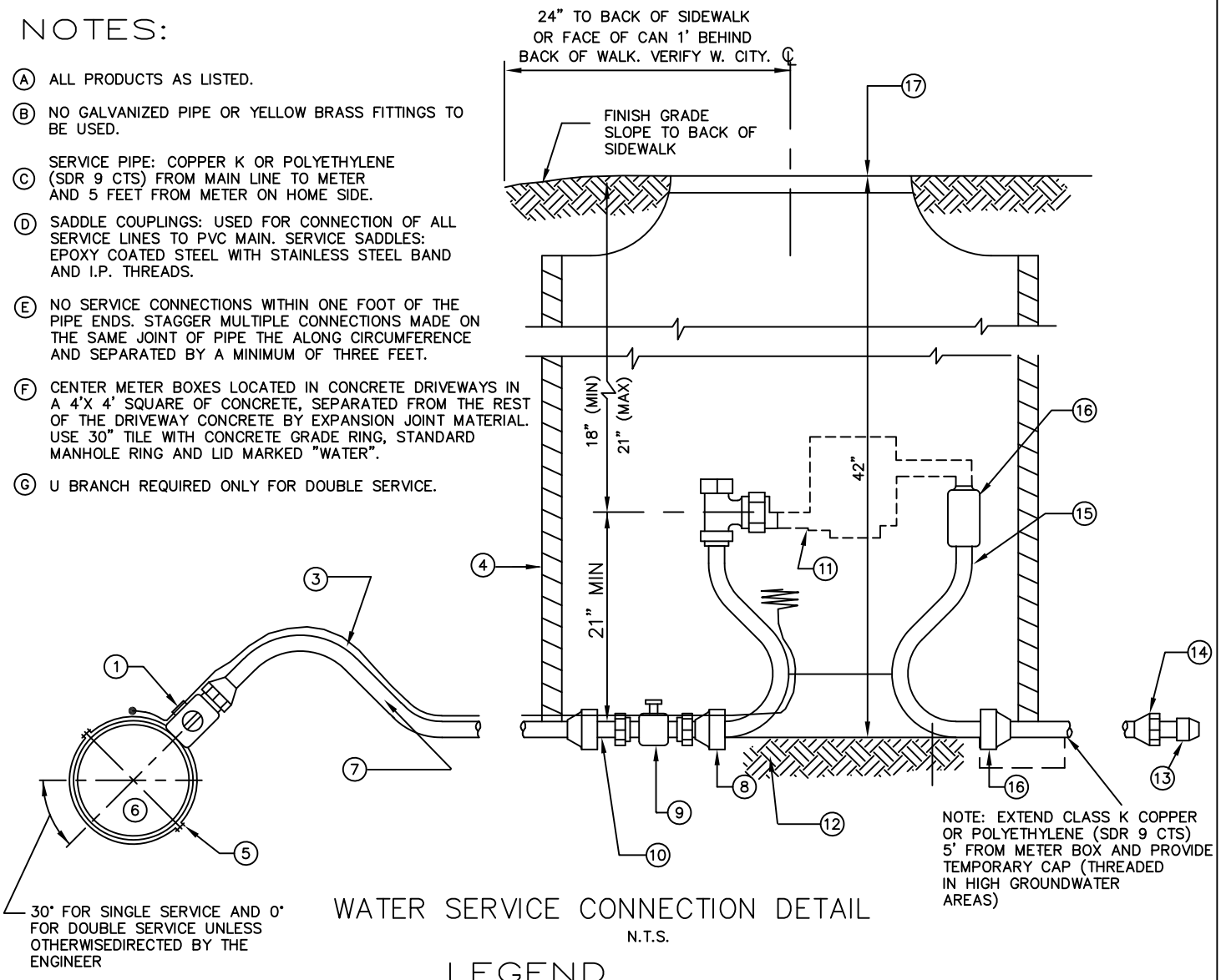
(C) SERVICE PIPE: COPPER K OR POLYETHYLENE (SDR 9 CTS) FROM MAIN LINE TO METER AND 5 FEET FROM METER ON HOME SIDE.

(D) SADDLE COUPLINGS: USED FOR CONNECTION OF ALL SERVICE LINES TO PVC MAIN. SERVICE SADDLES: EPOXY COATED STEEL WITH STAINLESS STEEL BAND AND I.P. THREADS.

(E) NO SERVICE CONNECTIONS WITHIN ONE FOOT OF THE PIPE ENDS. STAGGER MULTIPLE CONNECTIONS MADE ON THE SAME JOINT OF PIPE THE ALONG CIRCUMFERENCE AND SEPARATED BY A MINIMUM OF THREE FEET.

(F) CENTER METER BOXES LOCATED IN CONCRETE DRIVEWAYS IN A 4'X 4' SQUARE OF CONCRETE, SEPARATED FROM THE REST OF THE DRIVEWAY CONCRETE BY EXPANSION JOINT MATERIAL. USE 30" TILE WITH CONCRETE GRADE RING, STANDARD MANHOLE RING AND LID MARKED "WATER".

(G) U BRANCH REQUIRED ONLY FOR DOUBLE SERVICE.



WATER SERVICE CONNECTION DETAIL

N.T.S.

LEGEND

(1) CORPORATION STOP SHALL BE THREE-QUARTER INCH (3/4") FOR A SINGLE SERVICE LINE AND ONE AND ONE-HALF INCH (1 1/2") FOR A DOUBLE SERVICE LINE. SHALL BE M.I.P. (TO SADDLE) BY COMPRESSION CONNECTION (TO SERVICE LINE).

(2) NOT USED.

(3) NO. 12 COPPER FINDER WIRE. SEE ISPWC SD-514 FOR SPLICING.

(4) 18" DIA. X 42" DEEP METER BOX FOR SINGLE. 24" DIA. X 42" DEEP METER BOX FOR DOUBLE. (NOTCH FOR SERVICE LINES).

(5) SERVICE SADDLE: ROMAC (SINGLE STAINLESS STEEL STRAP) FOR WATER MAIN LESS THAN 12" IN DIAMETER OR ROMAC (DOUBLE STAINLESS STEEL STRAP) FOR WATER MAIN GREATER THAN 12" IN DIAMETER. SHALL BE F.I.P. THREAD CONNECTION.

(6) WATER MAIN.

(7) POLYETHYLENE (SDR 9 CTS) OR CLASS K COPPER PIPE: 3/4" MIN. FOR SINGLE SERVICE AND 1 1/2" FOR DOUBLE SERVICE. NO SPLICE IN SERVICE LINE.

(8) METER YOKE END CONNECTION: MUTLI-PURPOSE THREAD (TO METER YOKE) BY M.I.P.

(9) CURB STOP SHALL BE BALL VALVE TYPE. SHALL BE F.I.P. BY F.I.P.

(10) U-BRANCH: COMPRESSION FITTING (TO SERVICE LINE) BY M.I.P.

(11) WATER METER FURNISHED AND INSTALLED BY CITY OF MIDDLETON.

(12) FIRM UNDISTURBED EARTH. (SET ON 2" X 22" DIAMETER PRECAST CONCRETE BLOCK IF OVER EXCAVATION OCCURS).

(13) COPPER CAP.

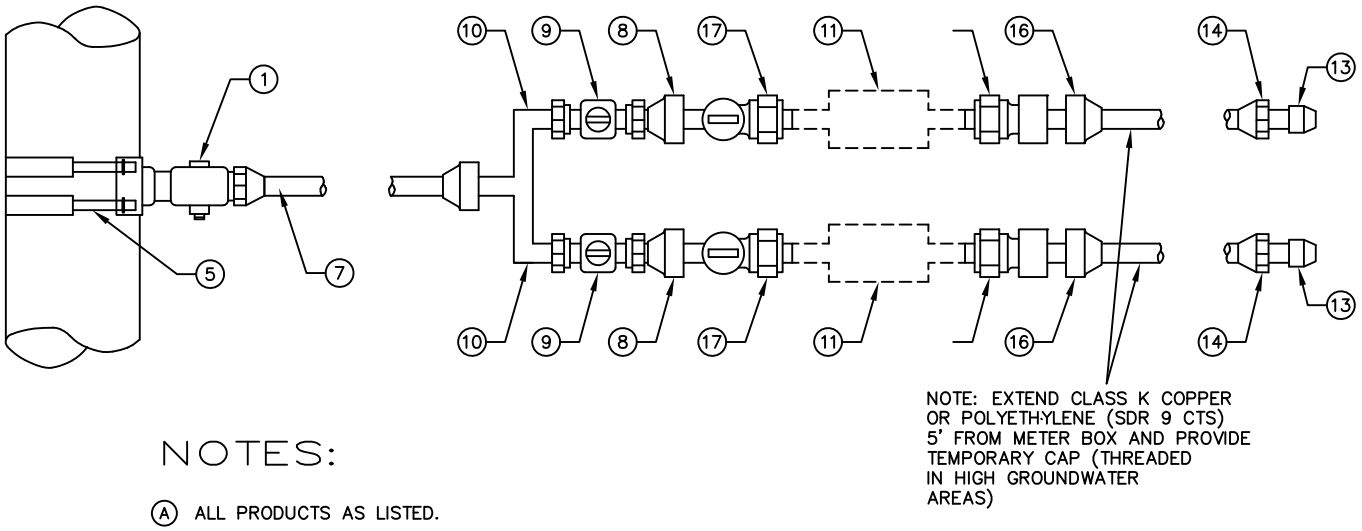
(14) SERVICE FITTING: BRASS 3/4" COMPRESSION CONNECTION BY M.I.P.

(15) METER SETTER: 21" MINIMUM MUELLER B-2404-2N WITH 5/8" X 3/4" WITH LOCK WING MUELLER 300 ANGLE BALL VALVE.

(16) METER YOKE END CONNECTION: MULTI-PURPOSE THREAD BY COMPRESSION CONNECTION.

(17) LID COVERS NICOR 12.50 TYPE LCX WATER LID-NICOR READ RIGHT LID 12.50 TOP, 11.25 BOTTOM, 0.50 TOP THICKNESS, WORM GEAR, THREADED FOR TWO (2) ZENNER ADAPTERS AND INCLUDING TWO (2) ZENNER ADAPTERS. PART # 12.5PWBLKWATTDZ2-TYPE LCX. LID RING WILL BE TYLER TYPE 615, 45016303121.

W-1-1	CITY OF MIDDLETON SUPPLEMENTAL STANDARDS MODIFIED WATER SERVICE CONNECTION DETAIL	REVISION DATE: 3/6/23



NOTES:

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(E) NO SERVICE CONNECTIONS WITHIN ONE FOOT OF THE PIPE ENDS. STAGGER MULTIPLE CONNECTIONS MADE ON THE SAME JOINT OF PIPE THE ALONG CIRCUMFERENCE AND SEPARATED BY A MINIMUM OF THREE FEET.

(F) CENTER METER BOXES LOCATED IN CONCRETE DRIVEWAYS IN A 4'X 4' SQUARE OF CONCRETE, SEPARATED FROM THE REST OF THE DRIVEWAY CONCRETE BY EXPANSION JOINT MATERIAL. USE 30" TILE WITH CONCRETE GRADE RING, STANDARD MANHOLE RING AND LID MARKED "WATER".

(G) U BRANCH REQUIRED ONLY FOR DOUBLE SERVICE

WATER SERVICE CONNECTION DETAIL

N.T.S.

LEGEND

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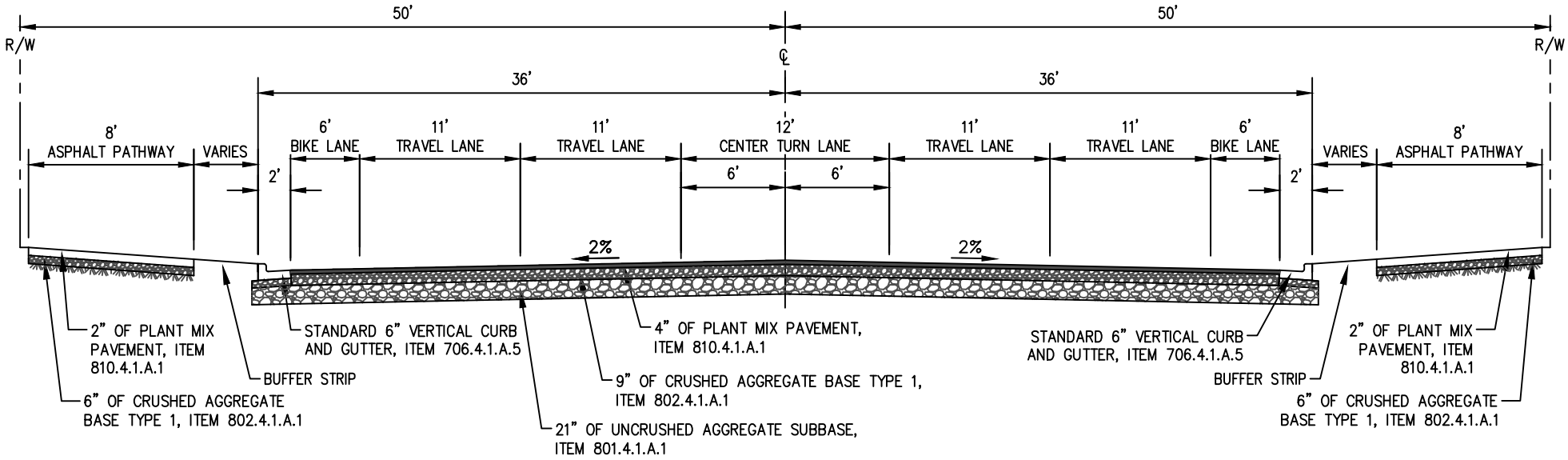
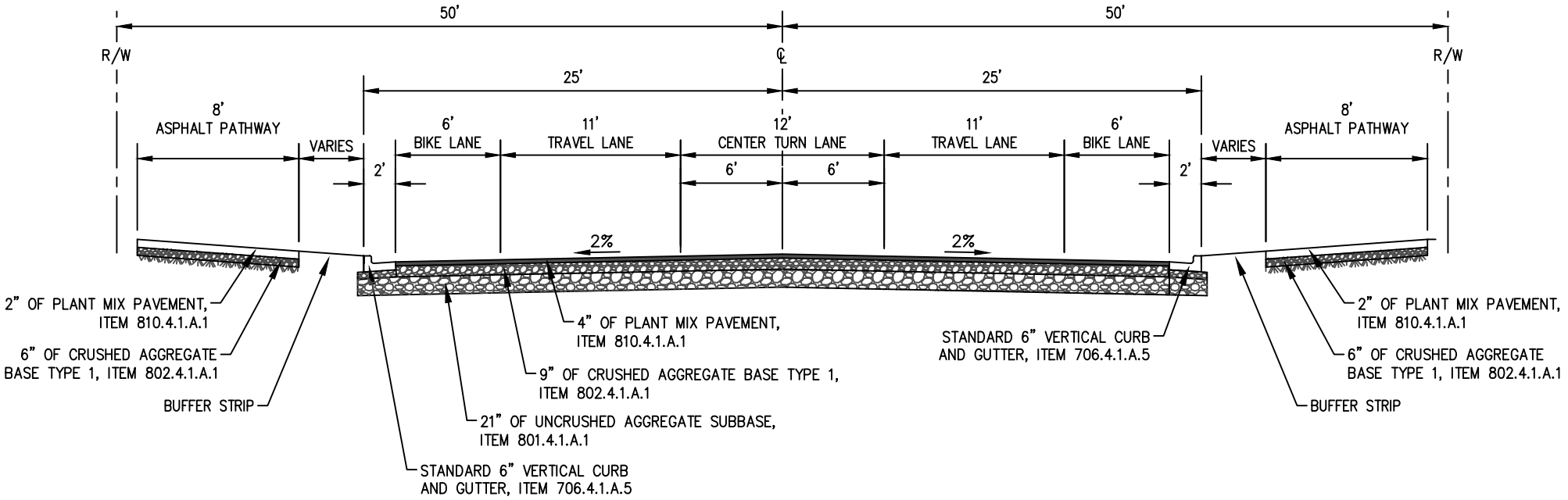
W-1-2	CITY OF MIDDLETON SUPPLEMENTAL STANDARDS MODIFIED WATER SERVICE CONNECTION DETAIL REVISION DATE: 3/6/23



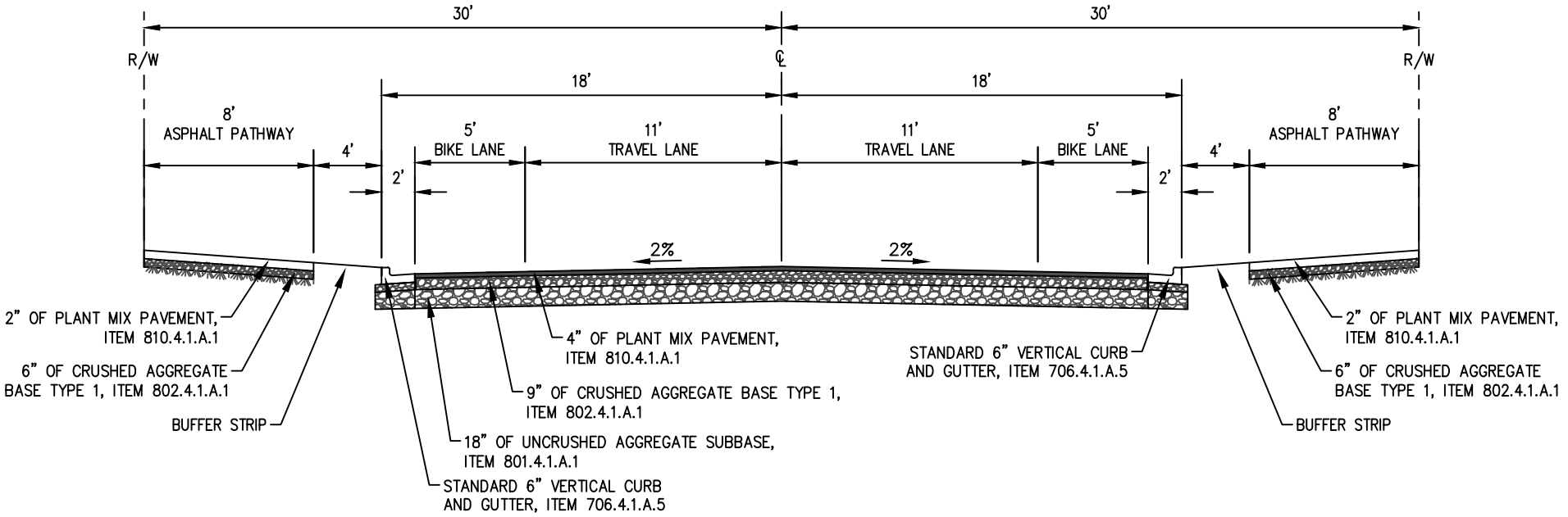
City of Middleton
Five-Lane Urban Roadway Typical Section - 50' Half Width ROW

NOT TO SCALE



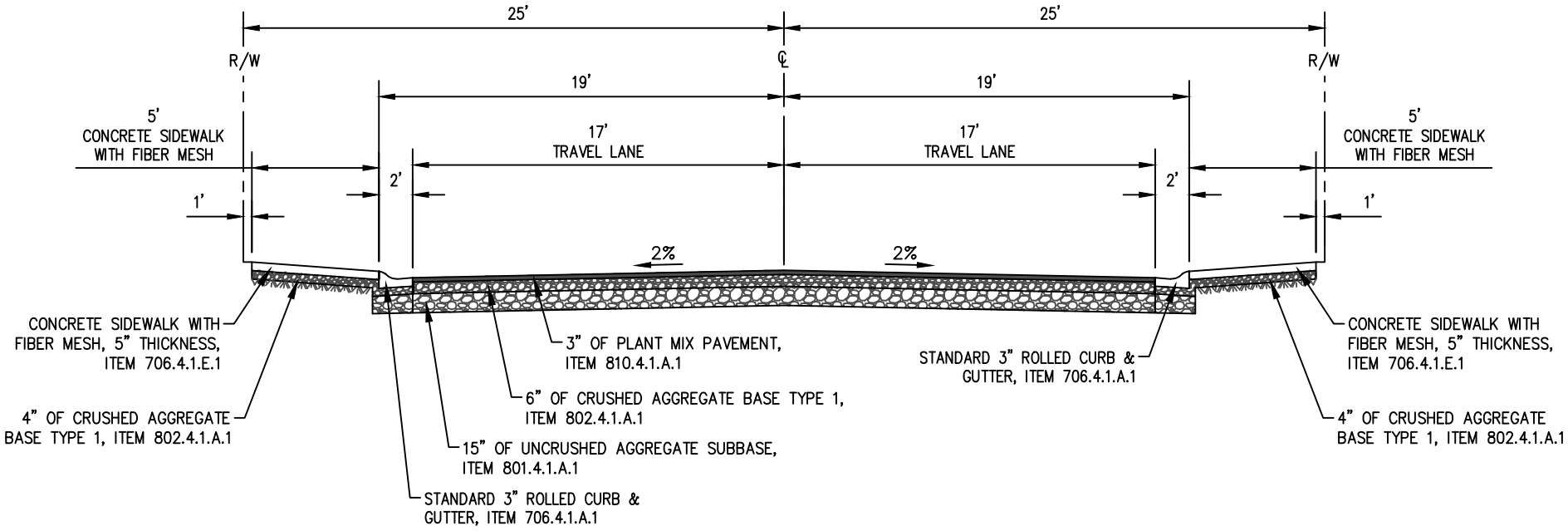
City of Middleton
Three-Lane Urban Roadway Typical Section - 50' Half Width ROW

NOT TO SCALE



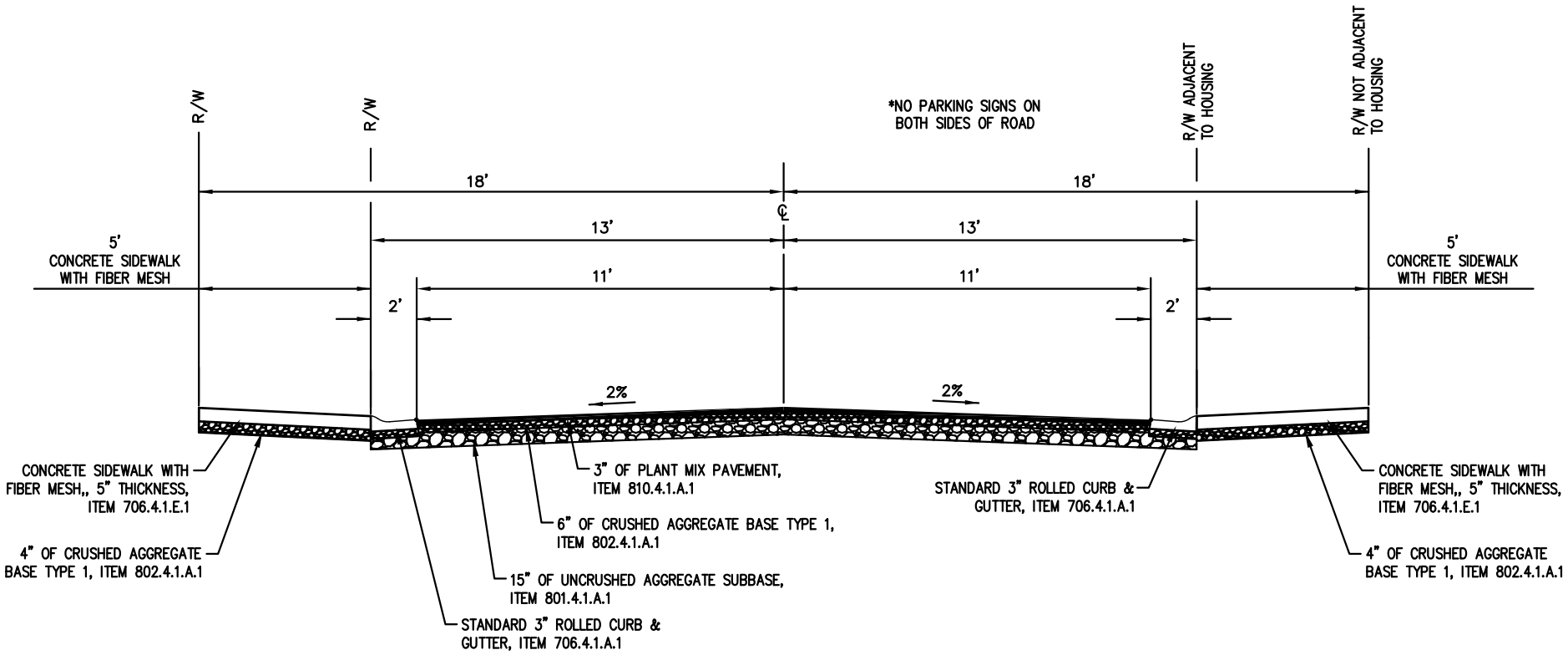
City of Middleton
Local Collector Roadway Typical Section - 30' Half Width ROW

NOT TO SCALE



City of Middleton
Local Roadway Typical Section - 25' Half Width ROW

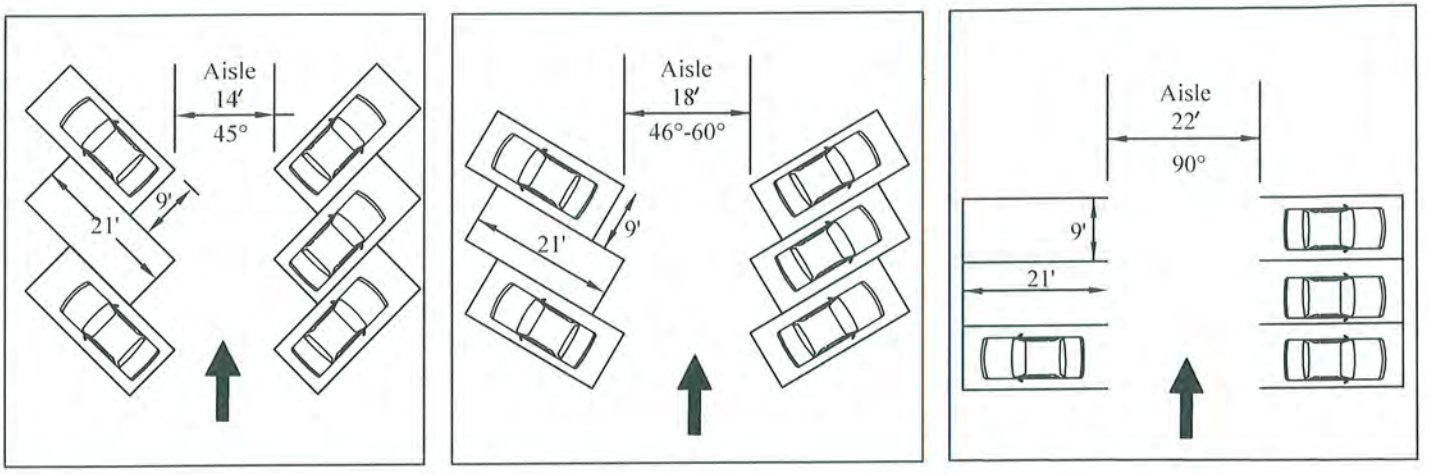
NOT TO SCALE



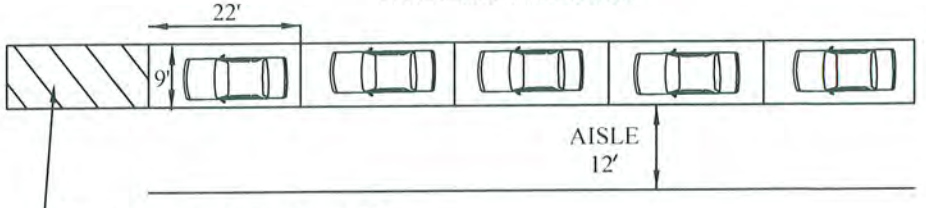
City of Middleton
Townhome Roadway Typical Section - 13' or 18 ' Half Width ROW

NOT TO SCALE

OFF STREET PARKING AND LOADING
DIMENSIONS OF PARKING SPACES AND AISLES

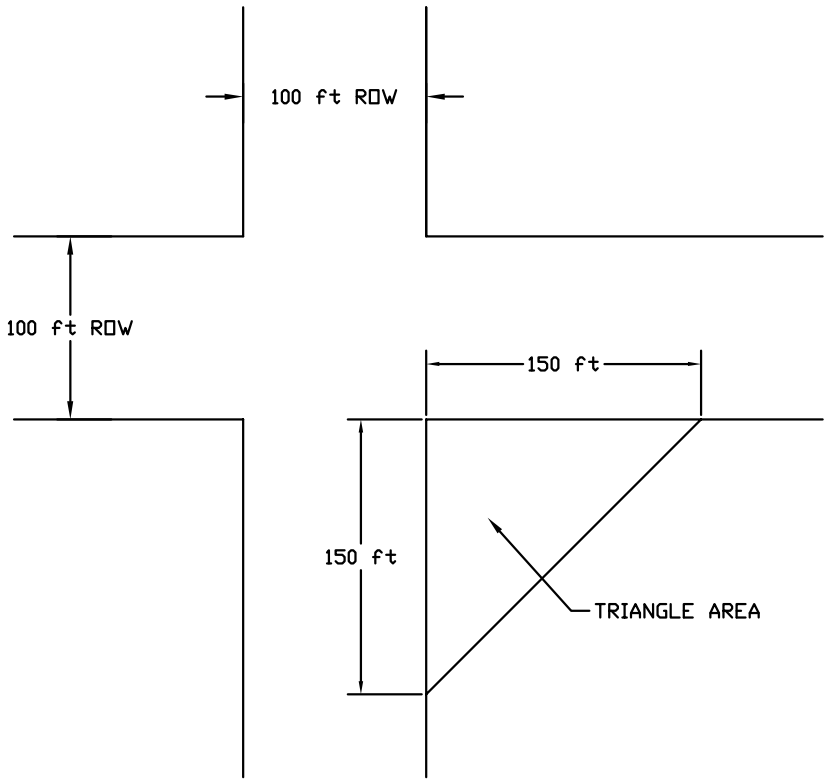


PARALLEL PARKING*

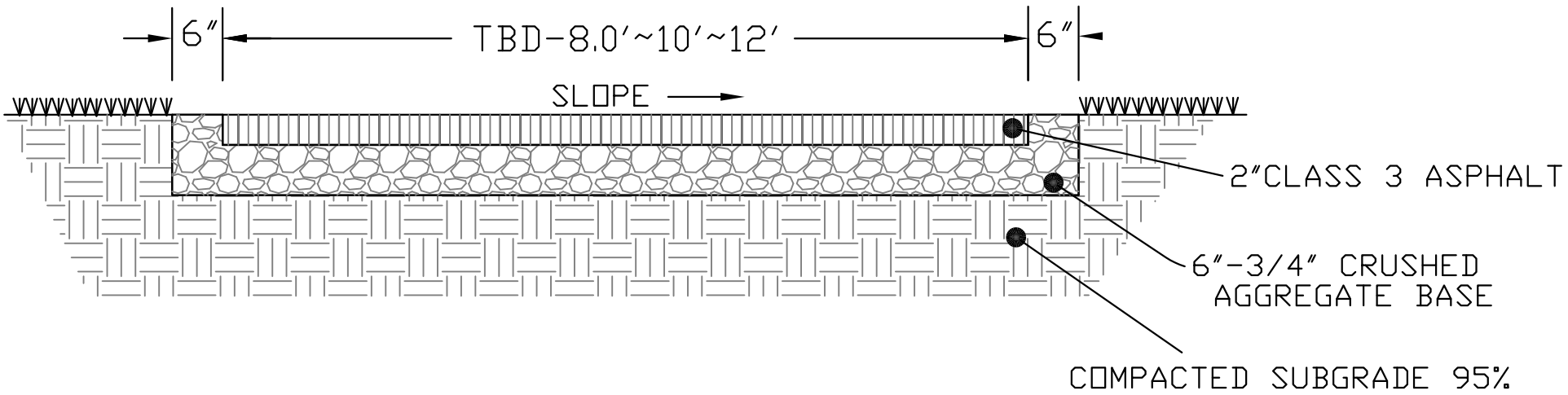


*End space must have at least 20' of area in front for manuevering.

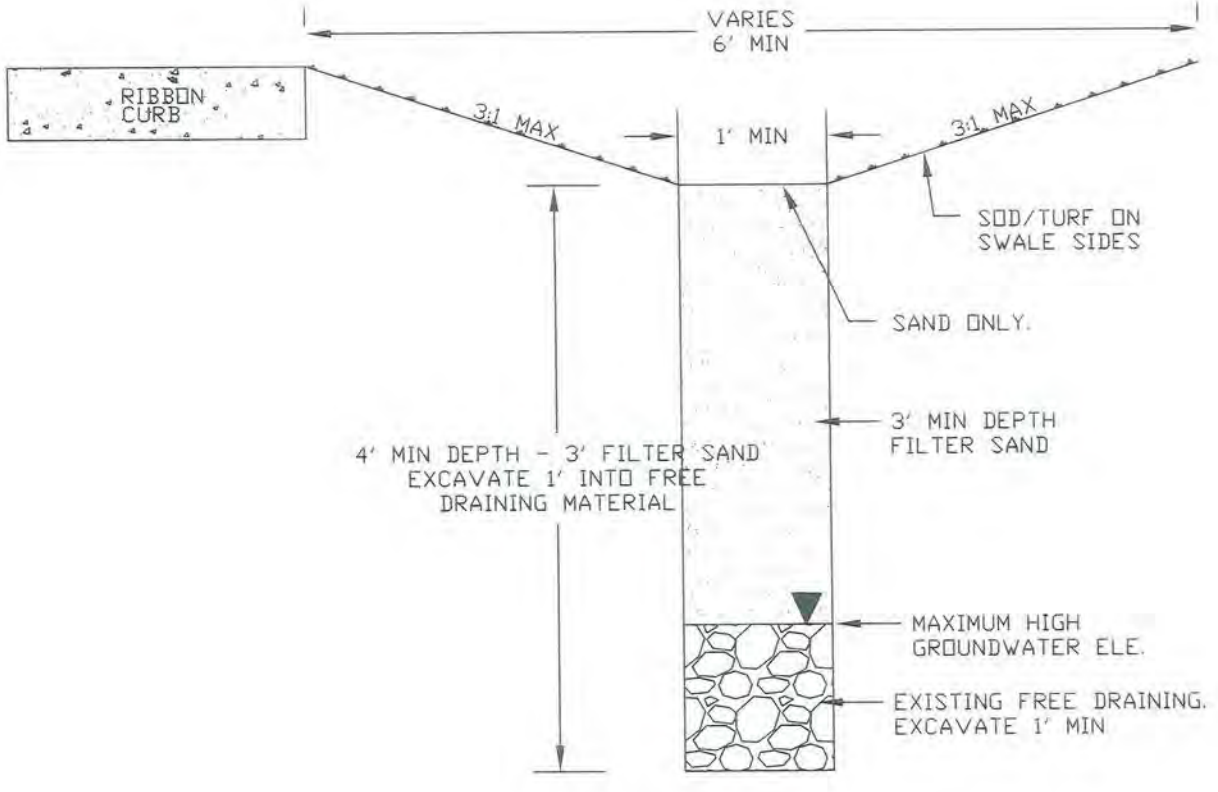
CITY OF MIDDLETON - SUPPLEMENTAL SPECIFICATION
RIGHTS OF WAY AT SECTION LINE/QUARTER SECTION LINE ROAD INTERSECTIONS



RIGHT OF WAY DEDICATION AT SECTION
LINE AND QUARTER SECTION LINE ROADS (NTS)



CITY OF MIDDLETON
SEPARATED PATHWAY
TYPICAL SECTION



CITY OF MIDDLETON ROADSIDE SWALE X-SECTION

City of Middleton
Tree Classification Table

CLASS I

- Crabapple, Red and White Flowering
- Flowering Dogwood
- Goldenraintree
- Washington Hawthorn
- Japanese Tree Lilac
- Saucer Magnolia
- Amur Maple
- Hedge Maple
- Flowering Pear
- Blireiana Plum
- Eastern Redbud
- Staghom Sumac

CLASS II

- Mountain Alder
- Green Ash
- Raywood Ash
- White Ash
- River Birch
- Amur Corktree
- Turkish Hazel
- Ginkgo
- Hackberry
- Honeylocust
- Hornbeam
- Horsechestnut
- American Linden
- Littleleaf Linden
- Silver Linden
- Cucumbertree
- Norway Maple
- Sugar Maple
- Japanese Pagodatree
- Persimmon
- Sweetgum
- Yellowwood

CLASS III

- European Beech
- Northern Catalpa
- Kentucky Coffeetree
- Black Cottonwood
- Bur Oak
- English Oak
- Red Oak
- Swamp White Oak
- London Planetree
- Tuliptree

NOT ALLOWED IN RIGHTS OF WAY OR WITIDN 15 FEET OF SIDEWALK:

- Conifers
- Silver Maple
- Red Maple
- Boxelder or Sensation Maple
- Poplar
- Quaking Aspen
- Willow
- Elm
- Black Locust
- Honey Locust
- Black Walnut
- Tree of Heaven
- European Ash