5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: LIST

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STEEP SLOPE PLANS

House Plan - 15%-40% Steep Slopes (Type 1)

Foundation Plan - 15%-25% Steep Slopes (Type 1)

Foundation Plan - 25%-40% Steep Slopes (Type 1)

House Plan - 15%-40% Steep Slope (Type 2)

Foundation Plan - 15%-25% Steep Slope (Type 2)

Foundation Plan - 25%-40% Steep Slope (Type 2)

GENERAL DETAILS

- G 1.0 Letter of Credit Release Form
- G 2.0 Utility Notifications
- G 3.0 Town of Canandaigua Standard Notes
- G 4.0 Typical Tree and Shrub Planting Details
- G 5.0 Typical Grading Plan
- G 6.0 Monument
- G 7.0 Inspection Form
- G 8.0 Dedication Form

HIGHWAY DETAILS

- H 1.0 Typical Driveway Apron Detail
- H 1.1 Typical Driveway Culvert Detail
- H 2.0 Typical Road Crossing Sections (Town Collector Road)
- H 2.1 Typical Road Crossing Sections (Subdivision Road)
- H 2.2 Typical Road Crossing Sections (Rural Development / Private Drive)

- H 3.0 Stabilized Shoulder Section
- H 4.0 Mountable Curb Detail
- H 5.0 Pavement Cross Section (Town Collector / Subdivision)
- H 5.1 Pavement Cross Section (Rural Development / Private Drive)
- H 6.0 Conventional Cul-de-Sac Plan (with island)
- H 6.1 Offset Cul-de-Sac Plan (with island)
- H 7.0 Hammer Head Turn Around
- H 8.0 Sidewalk Detail
- H 9.0 Stone Dust Walking Trail
- H 10.0 Gutter Detail
- H 11.0 Catch Basin Detail
- H 12.0 Gutter and Catch Basin Apron Detail

MS4 / STORM DETAILS

- ST 1.0 SWPPP and Stormwater Permit Process
- ST 2.0 MS4 SWPPP Acceptance Form
- ST 3.0 Town of Canandaigua Stormwater Maintenance Agreement
- ST 4.0 Detention Area Outfall Structure
- ST 5.0 Rain Intensity Curves
- ST 6.0 Storm Sewer Manhole and Catch Basin Manhole
- ST 7.0 Storm Pipe Bedding / Trench Detail

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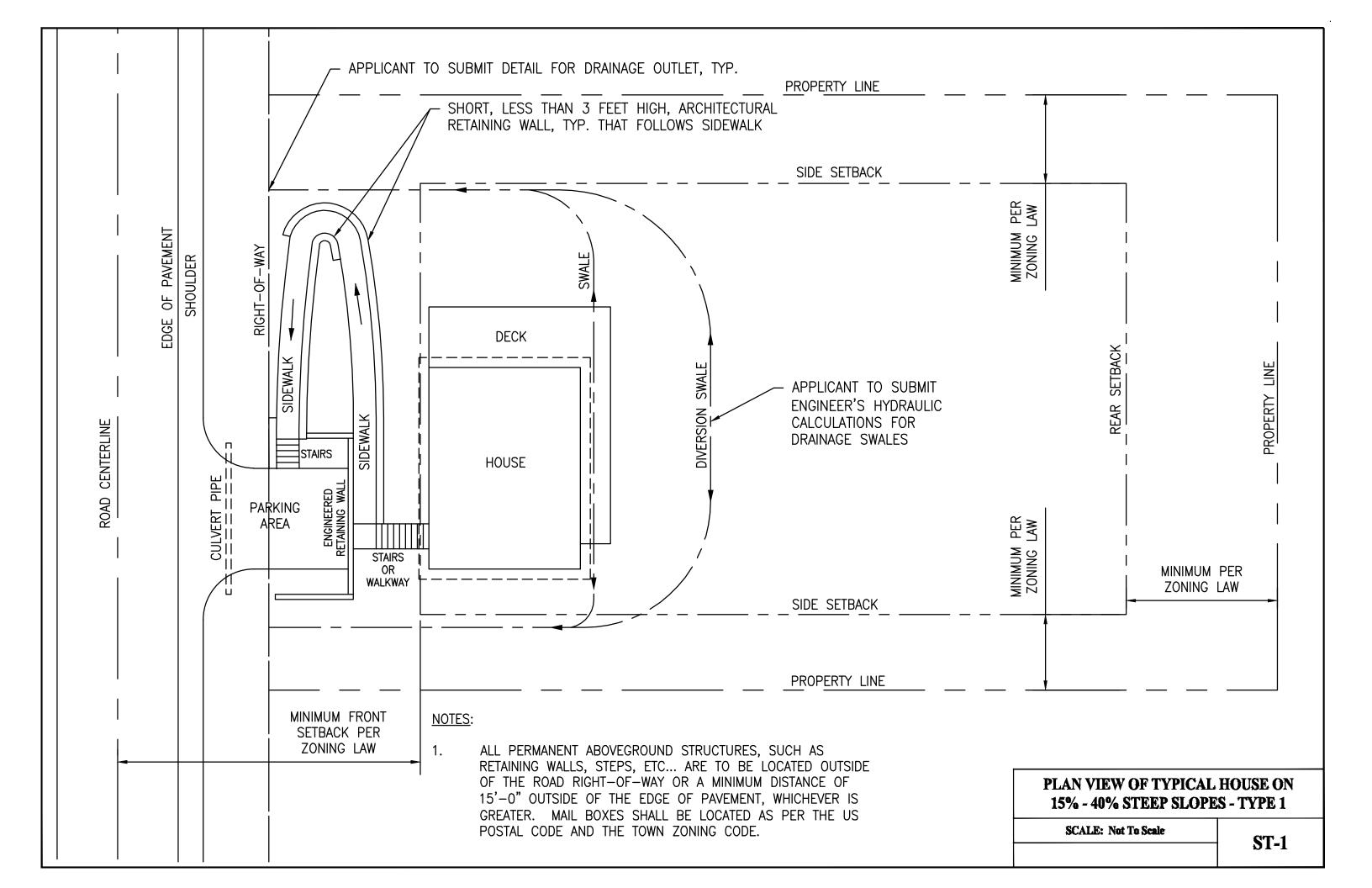
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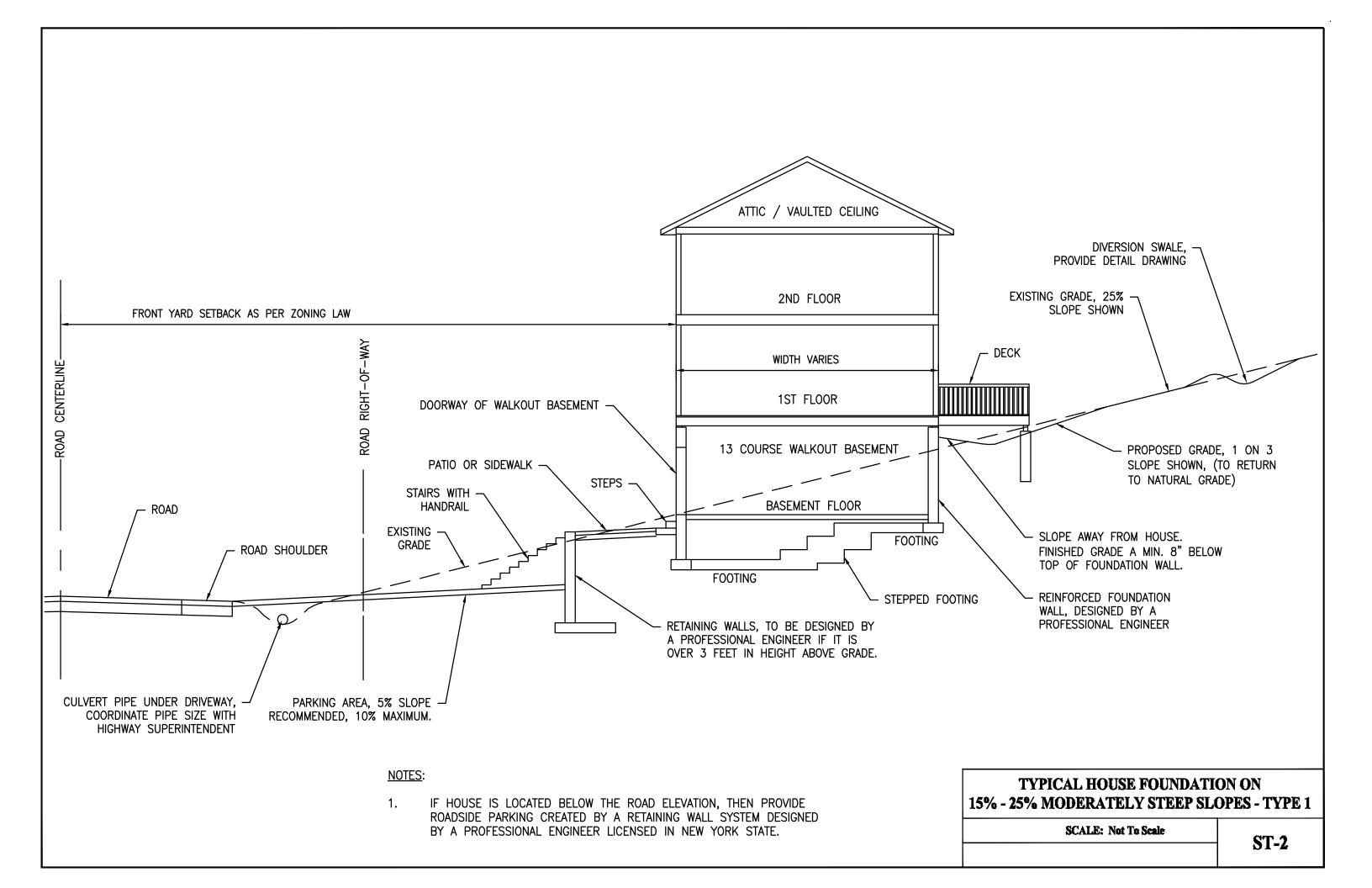
WATER DETAILS

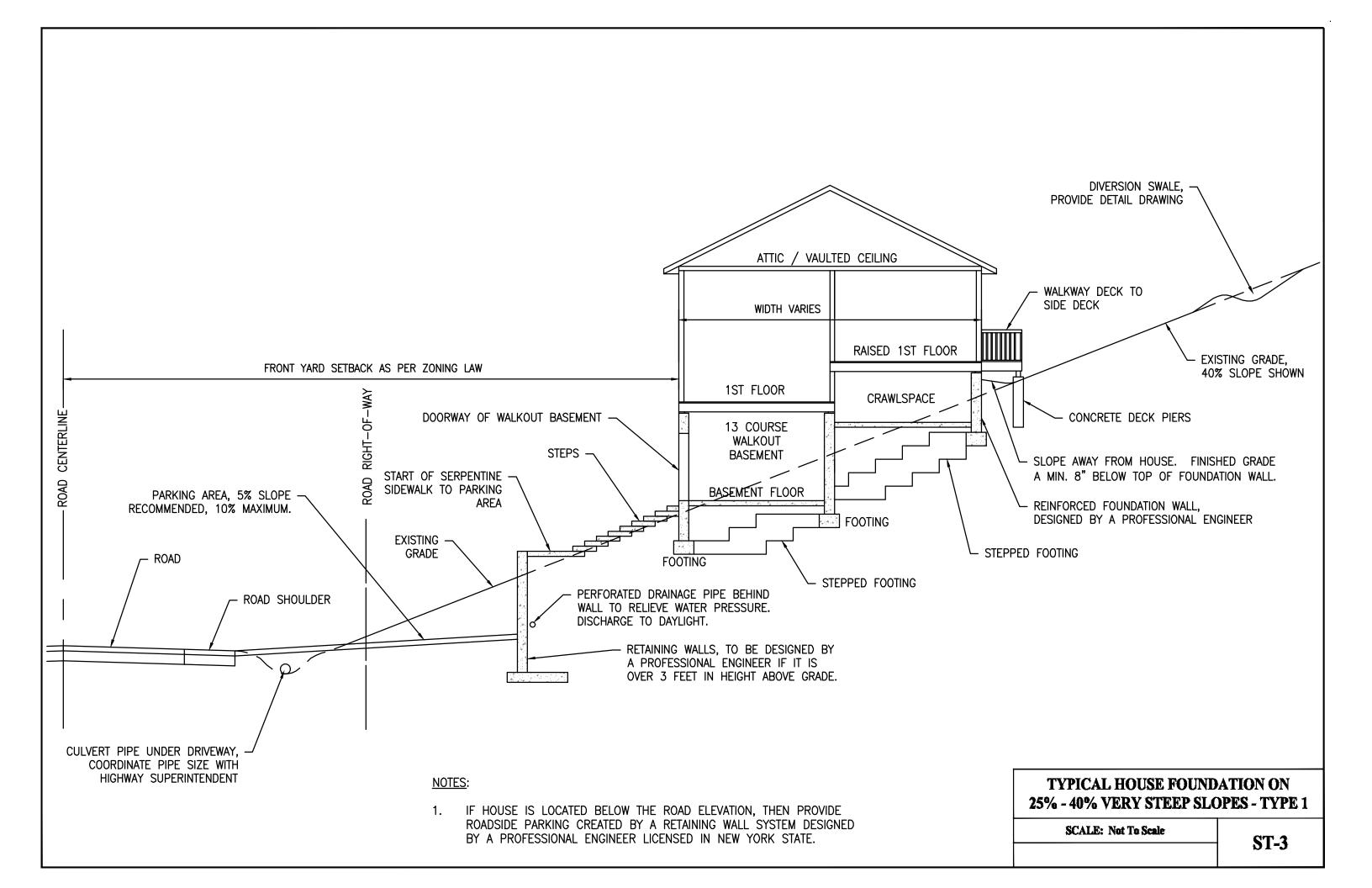
W - 11.0 Meter Pit Detail

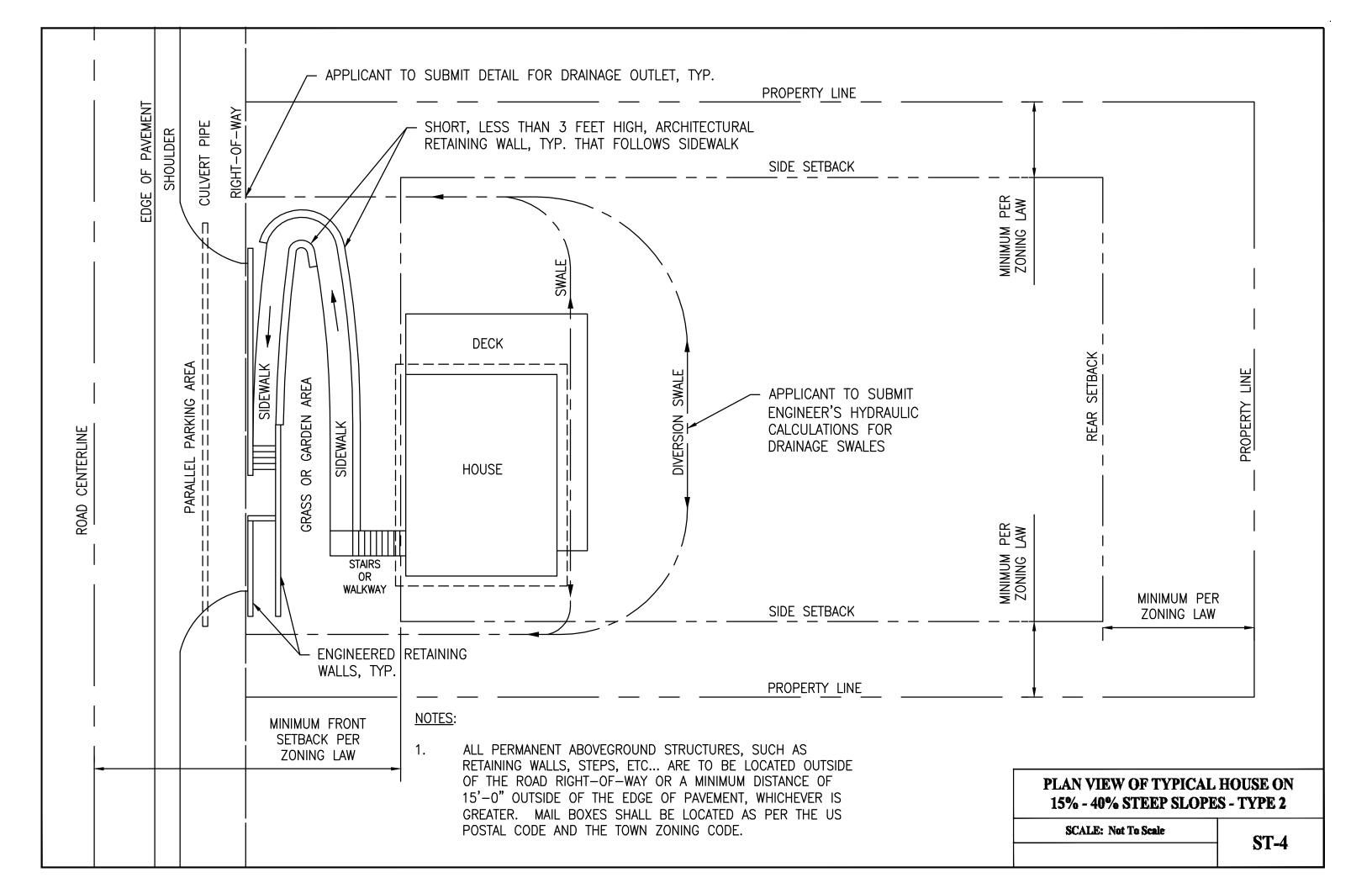
W - 12.0 RPZ & Hot Box Detail

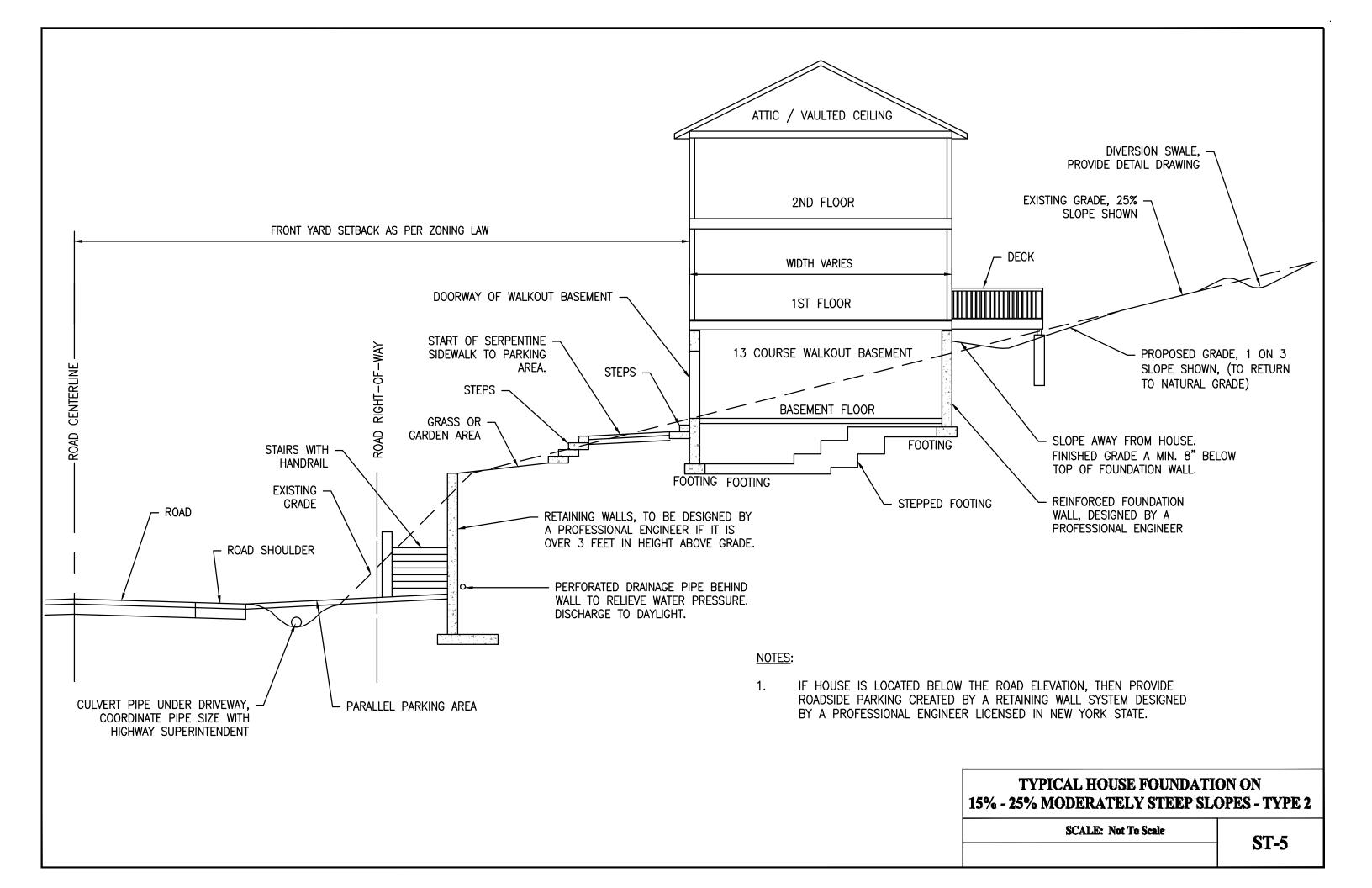
W - 1.0	Watermain Pressure Test
W - 2.0	Typical Water Meter Vault
W - 3.0	Typical Water Service
W - 4.0	Temporary Blow-Off Detail
W - 5.0	Thrust Block Detail
W - 5.1	Mechanical Joint Pipe Restraints
W - 6.0	Typical Hydrant Unit
W - 6.1	Parallel Hydrant Unit
W - 6.2	End of Main Hydrant Unit
W - 6.3	Dead End Hydrant Unit
W - 7.0	Temporary Disinfection / Sampling Tap / Blow-Off
W - 8.0	Pipe Bedding / Trench Detail
W - 8.1	Pipe Bedding - Ductile Iron Watermain (Select Earth)
W - 8.2	Pipe Bedding - Ductile Iron Watermain (Rock of Hard Pan & Wet Earth)
W - 8.3	Pipe Bedding - PVC Watermain (Select Earth)
W - 8.4	Pipe Bedding - PVC Watermain (Rock or Hard Pan & Wet Earth)
W - 9.0	Watermain / Sewer Crossing Detail
W - 10.0	Typical Utility Service Detail

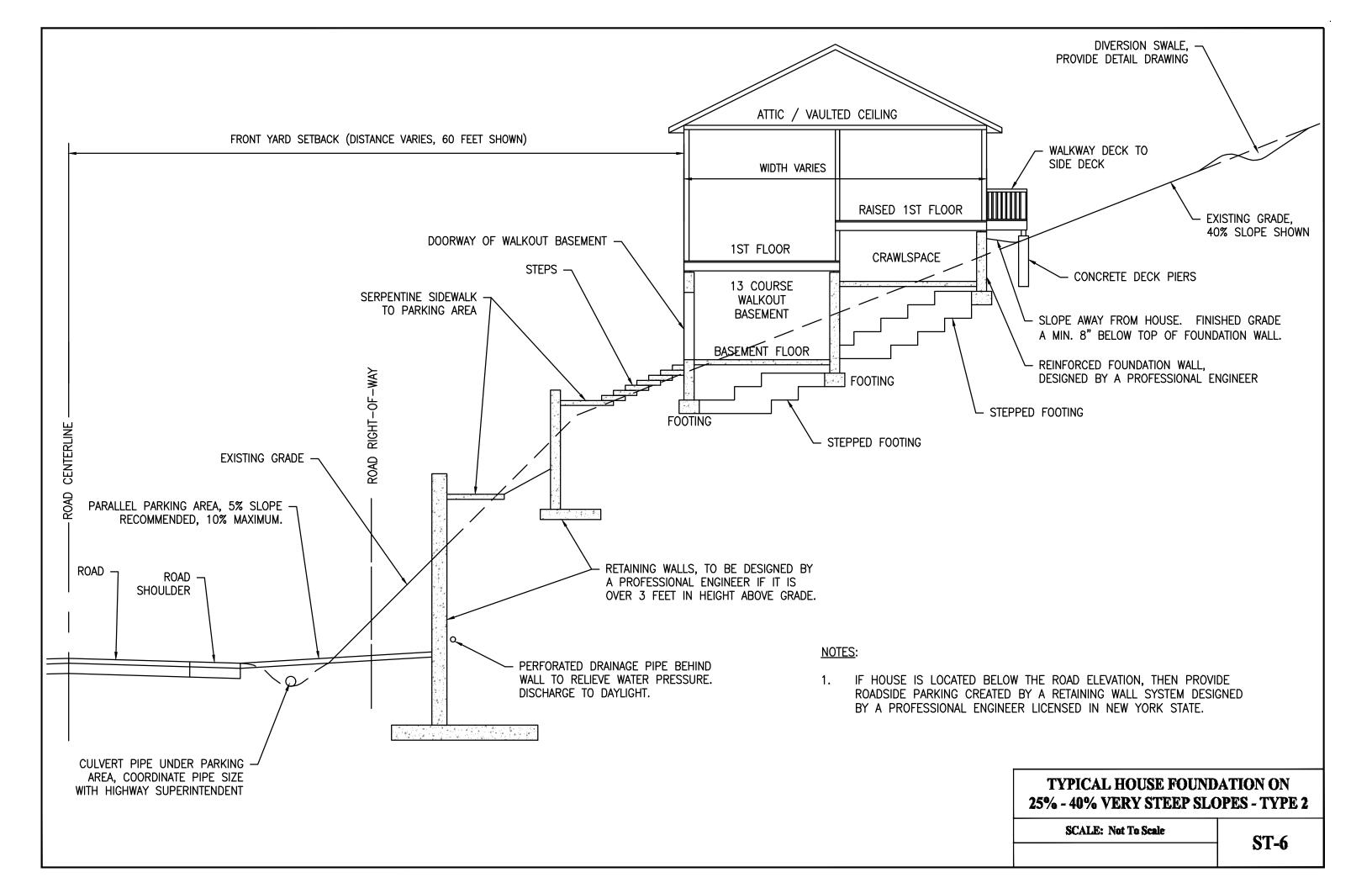












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LETTER OF CREDIT RELEASE

PROJECT NAME		SURETY NO
		ESTIMATE NO.
PROJECT NO.		DATE
CPN NO		LETTER OF CREDIT INFORMATION
Total Construction To Date	\$	1) Original Amount
Less Retainage	\$	2) Authorized For Release Per Estimate Nos.
A. Construction Value To Be Released	\$	- \$ \$
B. Engineering Costs	\$	-
C. Construction Observation Costs (5%)	\$	\$ \$
D. 10% Contingency	\$	
E. Other Costs	\$	
Amount Previously Released Through Estimate No	\$	\$
Amount Authorized For Release	\$	* Balance Remaining In Letter Of Credit Through This Statement
Project Engineer		\$
Owner		* The balance amount shall be sufficient to insure satisfactory completion of the remainder of the development.
Town Highway/ Water	Supt.	Date
Municipal Engineer		Date
Planning Board Chairn	man	Date
Fiscal Officer LETTER OF CREDIT EX	(PIRES	Date

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!! CALL !!

BEFORE YOU DIG, DRILL OR BLAST

1-800-962-7962 or 811

IN ACCORDANCE WITH DSNY (DIG SAFE NEW YORK), CONTRACTORS MUST NOTIFY ALL UTILITIES IN THE AREA TWO (2) WORKING DAYS BEFORE EXCAVATION.

IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE MUNICIPAL SEWER AND WATER DEPARTMENTS WITHIN THE PROJECT AREA.

UTILITY NOTIFICATIONS

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EXAMPLE CONSTRUCTION SEQUENCE

ALL PLANS ARE TO BE PROVIDED WITH A DETAILED CONSTRUCTION SEQUENCE. THE CONTRACTOR SHALL COMPLETE CONSTRUCTION AND INSTALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE APPROVED CONSTRUCTION SEQUENCE UNLESS SPECIFIED OTHERWISE ON THE APPROVED DESIGN PLANS OR AT THE PRE —CONSTRUCTION MEETING. AN EXAMPLE OF A CONSTRUCTION SEQUENCE IS THE FOLLOWING:

- •• INSTALL PERIMETER SEDIMENT CONTROLS, (I.E. EROSION FENCING).
- •• INSTALL STABILIZED CONSTRUCTION ENTRANCE.
- •• PROTECT VEGETATION TO REMAIN.
- •• CLEAR GRUB AND CONSTRUCT DIVERSIONARY SWALES AND SEDIMENT BASINS.
- •• COMPLETE CLEARING AND GRUBBING OPERATION.
- •• PLACE EROSION CONTROL MEASURES AROUND TOPSOIL STOCKPILES AND STRIP TOPSOIL LOCATIONS.
- •• CONSTRUCT SWALES AND SILTATION DEVICES AS EARTHWORK OPERATIONS PROGRESS.
- •• MAINTAIN EROSION CONTROL MEASURES AND PLACE ADDITIONAL MEASURES AS EARTHWORK AND UNDERGROUND UTILITIES ARE CONSTRUCTED.
- •• RESTORE AREAS AS DEFINED BY CONTRACT DOCUMENTS.
- •• REMOVE EROSION CONTROL MEASURES AS AREAS ARE REESTABLISHED WITH GROUND COVER.
- •• IF SITE PREPARATIONS OCCUR BETWEEN SEPTEMBER I AND MARCH 31, ADDITIONAL EROSION CONTROLS MUST BE TAKEN INCLUDING REDUCING THE SIZE OF DISTURBED AREAS AND PLACING HEAVY STRAW MULCH WHERE PRACTICAL.

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STANDARD NOTES

- 1. ALL IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE MOST RECENT STANDARDS AND SPECIFICATIONS OF THE TOWN OF CANANDAIGUA AND THE APPROPRIATE WATER/SEWER AGENCIES, UNLESS OTHERWISE NOTED.
- 2. A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO CONFORM WITH THE LATEST NYSDEC GENERAL PERMIT AND TO THE TOWN REQUIREMENTS REGARDING MAINTENANCE AND CONTROL OF STORM WATER QUALITY AND QUANTITY.
- 3. ALL SWPPP'S ARE REQUIRED TO BE REVIEWED AND APPROVED BY THE TOWN CEO AND TOWN ENGINEER. THE TOWN MS4 SWPPP ACCEPTANCE FORM IS TO BE SIGNED AND INSERTED INTO THE PROJECT SWPPP PRIOR TO CONSTRUCTION.
- 4. THE OWNER IS RESPONSIBLE FOR IMPLEMENTING THE REQUIRED SWPPP, INCLUDING FILING OF THE "NOTICE OF INTENT" (NOI). A COPY OF THE NYSDEC ACKNOWLEDGEMENT LETTER IS TO BE PROVIDED TO THE TOWN DEVELOPMENT OFFICE AND TOWN ENGINEER PRIOR TO CONSTRUCTION.
- A COPY OF THE PROJECT SWPPP IS TO BE PROVIDED TO THE TOWN DEVELOPMENT OFFICE, TOWN ENGINEER, AND A COPY IS TO REMAIN ONSITE DURING CONSTRUCTION AT ALL TIMES IN A MARKED AND ACCESSIBLE LOCATION.
- 6. ANY MODIFICATIONS OR DEVIATIONS FROM THE APPROVED PLANS, CONSTRUCTION SEQUENCE, AND/OR SWPPP, INCLUDING IMPLEMENTATION OF EROSION CONTROL MEASURES AND STORM WATER MANAGEMENT AREAS, SHALL BE APPROVED BY THE TOWN OF CANANDAIGUA AND DOCUMENTED WITHIN THE PROJECT SWPPP.
- 7. THE OWNER IS REQUIRED TO PROVIDE DAILY ONSITE OBSERVATION BY A LICENSE PROFESSIONAL OR A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC). ALL SWPPP INSPECTIONS ARE TO BE IN A FORM ACCEPTABLE BY THE TOWN OF CANANDAIGUA AND FORWARDED TO OWNER, THE TOWN CEO, TOWN ENGINEER, AND A COPY PLACED WITHIN THE ONSITE PROJECT SWPPP.
- 8. THE OWNER IS RESPONSIBLE FOR PROVIDING ONSITE SWPPP INSPECTIONS BY A LICENSE PROFESSIONAL OR A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) DURING CONSTRUCTION ONCE PER WEEK (EVERY 7 DAYS) IF UNDER 5-ACRES OF DISTURBANCE AND TWICE PER WEEK (EVERY 7 DAYS) IF 5-ACRES OR MORE WITH RECEIPT OF A 5-ACRE WAIVER FROM THE TOWN OF CANANDAIGUA (MS4).
- 9. DEVELOPMENT IN THE CANANDAIGUA LAKE WATERSHED DISTURBING MORE THAN 5-ACRES AT ONE TIME, IS REQUIRED TO COORDINATE THE REGULAR SWPPP OBSERVATIONS REQUIRED BY THE LATEST GENERAL PERMIT WITH THE CANANDAIGUA LAKE WATERSHED INSPECTOR, THE WATERSHED PROGRAM MANAGER AND THE TOWN CODE ENFORCEMENT OFFICER.
- 10. <u>CONSTRUCTION SEQUENCE</u> ALL PLANS ARE TO BE PROVIDED WITH A DETAILED CONSTRUCTION SEQUENCE. THE CONTRACTOR SHALL COMPLETE CONSTRUCTION AND INSTALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE APPROVED CONSTRUCTION SEQUENCE UNLESS SPECIFIED OTHERWISE ON THE APPROVED DESIGN PLANS OR AT THE PRE —CONSTRUCTION MEETING.
- 11. DUST SHALL BE CONTROLLED DURING CONSTRUCTION BY THE CONTRACTOR TO MINIMIZE EFFECT ON THE ADJACENT PROPERTIES. THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL MEASURES AS NEEDED AND/OR AS DIRECTED BY THE TOWN OF CANANDAIGUA.
- 12. THE OWNER'S CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT, MAINTENANCE, CLEANING, REPAIR AND REPLACEMENT OF EROSION CONTROL MEASURES DURING SITE CONSTRUCTION AND UNTIL THE SITE IS FULLY STABILIZED, INSPECTED BY THE TOWN OF CANANDAIGUA, AND ISSUANCE OF THE NOTICE OF TERMINATION (NOT) HAS BEEN PROVIDED TO NYSDEC.
- 14. ROOF LEADERS SHOULD BE CONNECTED TO STORM SEWERS WHERE POSSIBLE, UNLESS OTHERWISE SPECIFIED ON THE APPROVED PLANS AND WITHIN THE PROJECT SWPPP.
- 15. NO SITE PREPARATION SHALL COMMENCE UNTIL A VISUAL INSPECTION BY THE TOWN OF CANANDAIGUA, CONFIRMS THE INSTALLATION OF PERIMETER SEDIMENT CONTROLS AND THE STABILIZED CONSTRUCTION ENTRANCE.
- 16. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF VEGETATION, THE STORM WATER MANAGEMENT FACILITIES SHALL BE CLEANED OF ACCUMULATED SILT.

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NDADD NOTES

STANDARD NOTES (CONTINUED)

- 17. ALL SITE STABILIZATION IS TO BE IN ACCORDANCE WITH THE LATEST VERSIONS OF THE NYSDEC STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL AND THE NYSDEC GENERAL PERMIT REQUIREMENTS (WHERE APPLICABLE).
- 18. ADDITIONAL TEMPORARY AND PERMANENT SEEDING AND SITE STABILIZATION REQUIREMENTS:
 - A. ALL DISTURBED AREAS INCLUDING TOPSOIL STOCKPILES AND STORMWATER MANAGEMENT FACILITIES ARE TO BE STABILIZED WITHIN SEVEN (7) DAYS AFTER COMPLETION.
 - B. TEMPORARY SEEDING OF DISTURBED AREAS SHALL BE PROVIDED AS FOLLOWS:
 - THE SURFACE TWO INCHES OF SOIL SHOULD BE LOOSENED BY DISKING, RAKING, OR BACK-BLADING WITH A BULLDOZER.
 - FERTILIZE WITH 300 POUNDS PER ACRE (OR 7 POUNDS PER 1,000 SQUARE FEET).
 - NO PHOSPHORUS SHALL BE USED UNLESS SOIL TESTING HAS BEEN COMPLETED AND TESTED BY HORTICULTURAL TESTING LAB AND THE SOIL TESTS SPECIFICALLY INDICATE A PHOSPHORUS DEFICIENCY THAT IS HARMFUL, OR WILL PREVENT NEW LAWNS AND PLANTINGS FROM ESTABLISHING PROPERLY.
 - IF SOIL TESTS INDICATE A PHOSPHORUS DEFICIENCY THAT WILL IMPACT PLANT AND LAWN ESTABLISHMENT, PHOSPHORUS SHALL BE APPLIED AT THE MINIMUM RECOMMENDED LEVEL PRESCRIBED IN THE SOIL TEST FOLLOWING ALL NYSDEC REGULATIONS.
 - THE FOLLOWING SEED MIX SHALL BE USED:

SPRING/SUMMER/EARLY FALL	LBS/ACRE	LBS/1,000 SQ. ACRE
ANNUAL RYE GRASS PERENNIAL RYEGRASS	30 30	0.7 0.7
LATE FALL/EARLY WINTER		
CEREAL RYE	100	2.5

- SEED SHOULD HAVE A GERMINATION RATE OF AT LEAST 85 PERCENT AND MINIMAL INERT MATERIAL.
- C. DISTURBED AREAS SHALL BE STABILIZED USING <u>PERMANENT LAWN SEEDING MIX</u> UPON COMPLETION OF GRADING AND CONSTRUCTION:

	LBS/ACRE	LBS/1,000 SQ. ACRE
BIRDSFOOT TREFOIL OR COMMON WHITE CLOVER	8 OR 8	0.20 OR 0.20
TALL FESCUE	20	0.45
REDTOP OR RYEGRASS (PERENNIAL)	2 OR 5	0.05 OR 0.10

- SEEDING RATE: 6.0 POUNDS PER 1,000 SQUARE FEET
- MULCH: STRAW OR WOOD FIBER MULCH USED WITH HYRDO SEEDING METHOD AT TWO TONS PER ACRE WITH TACKIFIER.
- FOR FALL OR EARLY WINTER, SEED WITH CERTIFIED "AROOSTOCK" WINTER RYE (CEREAL RYE) AT 100 POUNDS PER ACRE.
- PERMANENT STABILIZATION FOR STEEP SLOPES GREATER THAN 3:1 SHALL INCLUDE JUTE MESH BLANKET AND CROWN VETCH SEED WITH PERENNIAL RYEGRASS.
- 19. THE CONTRACTOR SHALL LOCATE, MARK, SAFEGUARD AND PRESERVE ALL SURVEY CONTROL MONUMENTS AND RIGHT-OF-WAY MONUMENTS IN THE AREAS OF CONSTRUCTION.
- 20. EXISTING UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM FIELD LOCATIONS AND/OR UTILITY COMPANY RECORD PLANS. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL CALL THE DIG SAFELY NEW YORK (UFPO) HOTLINE AT 1-800-962-7962 FOR STAKEOUT OF EXISTING UTILITIES. THE CONTRACTOR SHALL DETERMINE EXACT LOCATION AND ELEVATION OF UNDERGROUND UTILITIES BEFORE COMMENCING CONSTRUCTION. CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS TO LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS AS REQUIRED TO MEET THE EXISTING CONDITIONS.

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STANDARD NOTES (CONTINUED)

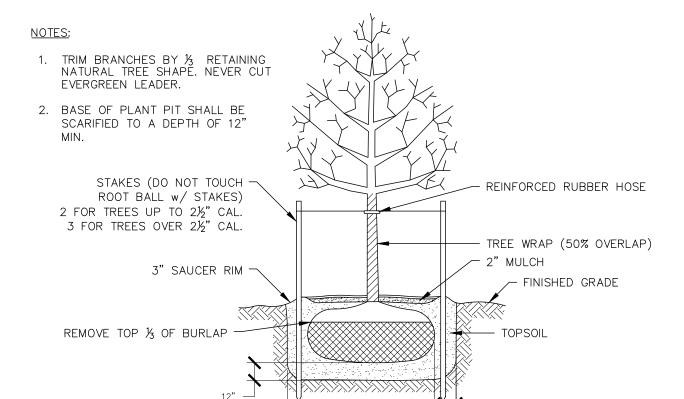
- 21. THE HOMEBUILDER WILL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING INDIVIDUAL LOT EROSION & SEDIMENT CONTROL MEASURES, DURING HOUSE CONSTRUCTION. MEASURES TO BE MAINTAINED UNTIL FINAL LOT LAWN GRADING AND SITE IS FULLY STABILIZED AND INSPECTED BY THE TOWN OF CANANDAIGUA.
- 22. ANY ADDITIONAL EROSION OR SEDIMENT CONTROL MEASURES DEEMED NECESSARY BY THE TOWN OF CANANDAIGUA OR A REPRESENTATIVE THEREOF SHALL BE PROVIDED BY THE OWNER AND INSTALLED BY THE CONTRACTOR.
- 23. SEDIMENT CONTROL MEASURES ARE TO BE ESTABLISHED PRIOR TO COMMENCING EARTHWORK. SEDIMENT CONTROL MEASURES ARE TO BE MAINTAINED BY THE CONTRACTOR UNTIL UPSTREAM GROUND COVER HAS BEEN ESTABLISHED AND REMOVAL IS APPROVED BY THE TOWN OF CANANDAIGUA.
- 24. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING, REPLACING AND SUBSEQUENTLY REMOVING TEMPORARY EROSION & SEDIMENT CONTROL DEVICES.
- 25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ADJOINING PROPERTIES, ROADWAYS, DRAINAGE WAYS AND SINKS OF SILT ACCUMULATION AS NEEDED AND AS DETERMINED/REQUESTED BY THE TOWN OF CANANDAIGUA.
- 26. ANY FINAL GRADE DEVIATIONS OF HOUSE PAD ELEVATIONS MORE THAN 12 INCHES SHALL BE APPROVED BY THE PLANNING BOARD.

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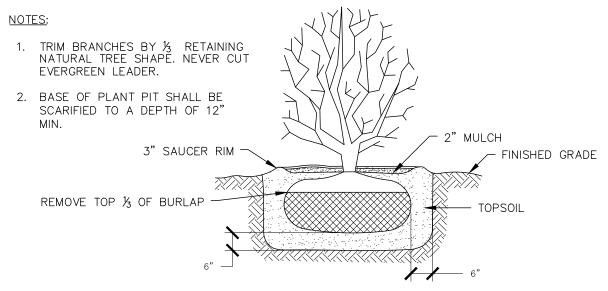
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TYPICAL TREE PLANTING DETAIL

HOLE Ø 2X

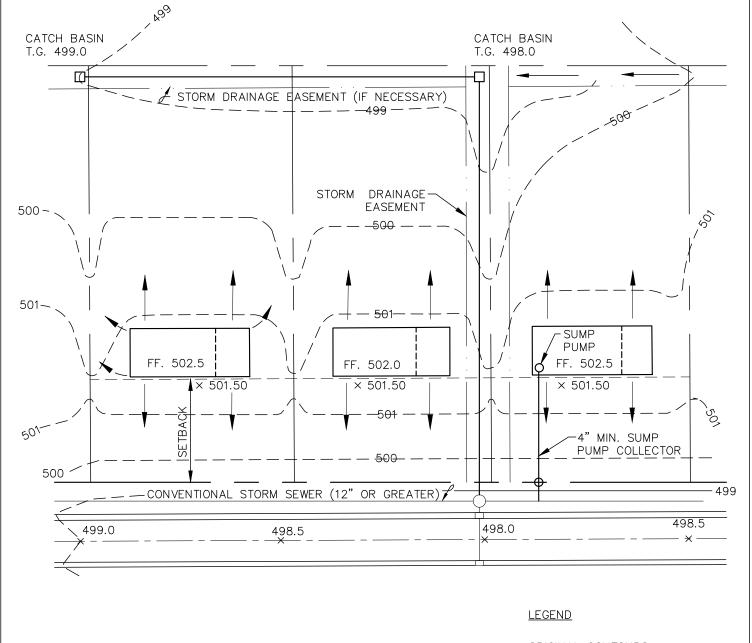


TYPICAL SHRUB PLANTING DETAIL

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--502 -- ORIGINAL CONTOURS

-- 501-- PROPOSED CONTOURS

───── FLOW ARROWS

× 498.50 SPOT ELEVATIONS

STORM SEWER & MANHOLE

☐ CATCH BASIN

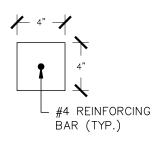
TYPICAL GRADING PLAN

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DATE: 2018

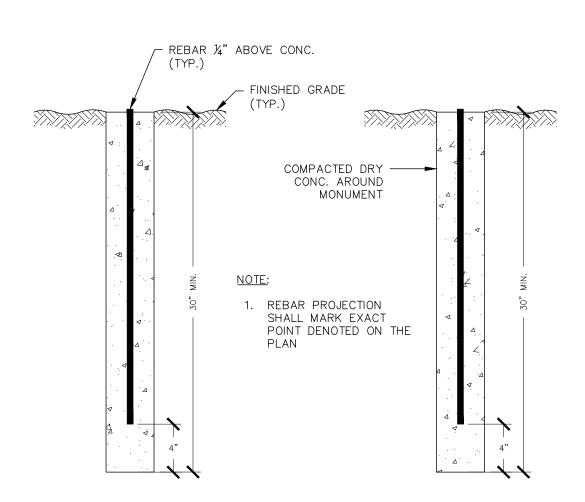
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SECTION

MONUMENT

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APPENDIX:	G - 7.0	
DATE:	2018	
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INSPECTION FORM

DAT	E:NAME:
	NO DEFICIENCIES WERE FOUND DURING THIS FINAL INSPECTION AND IT IS RECOMMENDED THAT THE TOWN BOARD TAKE DEDICATION OF THE ITEMS IDENTIFIED WITHIN THE TOWN OF CANANDAIGUA DEDICATION FORM AND THE DEDICATION PACKAGE PROVIDED BY THE TOWN ATTORNEY.
	DEFICIENCIES WERE FOUND DURING THE FINAL INSPECTION AND IT IS RECOMMENDED THAT THE TOWN BOARD NOT TAKE DEDICATION AT THIS TIME UNTIL THE ITEMS IDENTIFIED BELOW HAVE BEEN ADDRESSED TO THE SATISFACTION OF THE TOWN.
	DEFICIENCIES WERE FOUND DURING THE FINAL INSPECTION AND IT IS RECOMMENDED THAT THE TOWN BOARD DIRECT THESE DEFICIENCIES TO BE CORRECTED WITHIN THE NEXT THIRTY (30) DAYS AND/OR REQUIRE THAT THERE BE A ONE-YEAR EXTENSION TO THE EXPIRING SURETY.
	NOTES:
	PICTURES
	HIGHWAY & WATER SUPERINTENDENT DATE
	CODE ENFORCEMENT OFFICER DATE
	TOWN ENGINEER DATE

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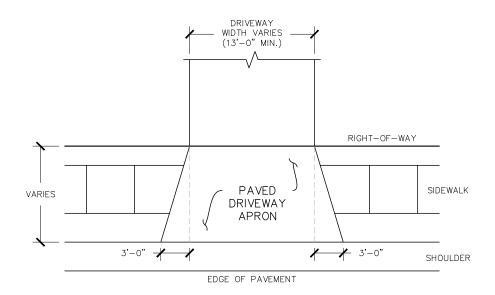
DEDICATION FORM

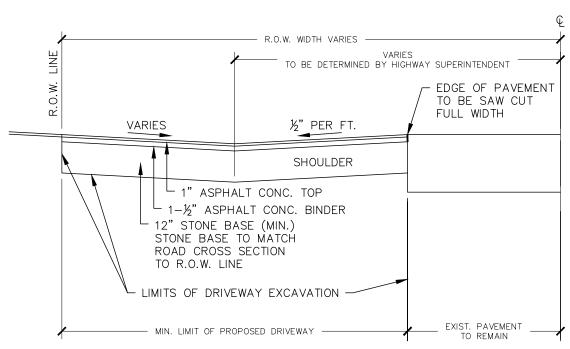
DA	ATE:	RE:		
Σ,				(PROJECT NAME)
Αl	BOVE REFEI	FFICIALS LISTED BELOW, AS MAY BE APPROPRIA RENCED PROJECT AND RECOMMEND THE TOWN E RIBED COMPONENTS.		HAVE COMPLETED A FINAL INSPECTION OF THE RD TAKE ACTION TO ACCEPT FOR DEDICATION THE
		PUBLIC STREET(S)		DRAINAGE FACILITIES/GREEN INFRASTRUCTURE
		PUBLIC WATERMAIN AND/OR FIRE HYDRANTS		SIDEWALKS
		STORM SEWERS		PARKLAND/OPEN SPACE AREA
		LANDSCAPING		OTHER (SPECIFY)
		STREET LIGHTS		
	A FINAL III G-7.0) WA ALL R.O.W APPROVED RECORD M ENFORCEM THE GIS D MANUAL H THE MAIN BY THE TO	NDATION IS BASED UPON OUR UNDERSTANDING TO SPECTION WAS COMPLETED AND THE TOWN OF AS COMPLETED AND SIGNED. 7. DESCRIPTIONS, EASEMENT(S) AND DEED(S), BILD BY THE ATTORNEY FOR THE TOWN AND PROVIDENT OFFICER, AND TOWN ENGINEER. 8. DATA AS SPECIFIED WITHIN THE TOWN OF CANANDAM BEEN PROVIDED TO THE TOWN OF CANANDAM BEEN PROVIDED TO THE TOWN OF CANANDAM BEEN ACCEPTED BY THE OF ALL FEES HAS BEEN PROVIDED TO THE TOWN OF CANANDAM BEEN ACCEPTED BY THE TOWN ENGINEER AND HAS BEEN ACCEPTED BY THE TOWN OF CANANDAM BEEN ACCEPTED BY THE TOWN OF ALL FEES HAS BEEN PROVIDED TO THE TOWN OF ALL FEES HAS BEEN PROVIDED TO THE TOWN	CAN LLS DED THE IDAI(APF HE T	OF SALE, AND MAPS HAVE BEEN REVIEWED AND TO THE TOWN BOARD. HIGHWAY & WATER SUPERINTENDENT, CODE GUA SITE DESIGN AND DEVELOPMENT CRITERIA A AND TOWN ENGINEER. PROVED BY THE ATTORNEY FOR THE TOWN AND TOWN BOARD.
		& WATER SUPERINTENDENT ORCEMENT OFFICER		DATE DATE
	TOWN ENG			DATE

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NOTES:

- DRIVEWAYS FRONTING ON TOWN ROADS SHALL BE PAVED a MINIMUM OF 30 FEET EXTENDING FROM THE EDGE OF PAVEMENT TO R.O.W. UNLESS OTHERWISE INDICATED BY THE TOWN.
- 2. THE APPLICANT SHALL NOTIFY THE HIGHWAY SUPERINTENDENT AT LEAST 48 HOURS PRIOR TO PERFORMING THE WORK TO SCHEDULE A FIELD INSPECTION.
- 3. A MAXIMUM 3% LEVELING AREA TO BE PROVIDED FOR THE FIRST 30 FEET FROM THE EDGE OF PAVEMENT.

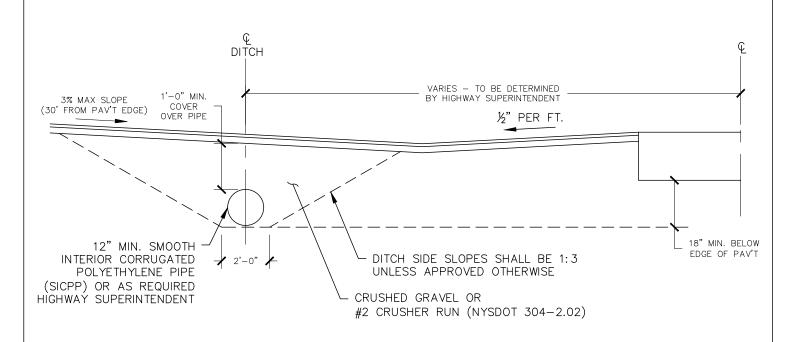
TYPICAL DRIVEWAY APRON DETAIL

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SECTION

NOTES:

- CULVERT PIPE TO BE SUPPLIED AND INSTALLED AT THE DISCRETION OF THE TOWN HIGHWAY SUPERINTENDENT.
- 2. CULVERT PIPE TO BE INSTALLED WITH A MINIMUM LENGTH TO EXTEND AT LEAST THREE (3) FEET BEYOND THE OUTER EDGES OF THE NEW PROPOSED DRIVEWAY AT THE DITCH LINE OR AS DIRECTED BY THE HIGHWAY SUPERINTENDENT.
- 3. PROPOSED DRIVEWAY CULVERT SHALL BE PLACED AT A LINE, GRADE AND OFFSET DETERMINED BY THE EXISTING DITCH LINE, GRADE AND OFFSET OF THE ADJACENT PROPERTIES ON EITHER SIDE OF THE NEW PROPOSED DRIVEWAY TO FLOW PROPERLY
- 4. END SECTIONS TO BE INSTALLED ON EACH END OF THE NEW PROPOSED DRIVEWAY CULVERT. ENERGY DISSIPATING MATERIAL OR RIP RAP SHOULD BE USED AT EITHER END SECTION
- 5. THE APPLICANT SHALL NOTIFY THE HIGHWAY SUPERINTENDENT AT LEAST 48 HOURS PRIOR TO PERFORMING THE WORK TO SCHEDULE FIELD INSPECTION.

TYPICAL DRIVEWAY CULVERT DETAIL

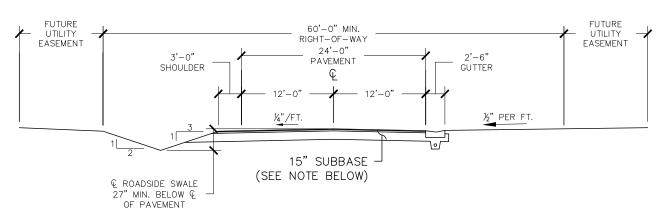
5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: H - 2.0

DATE: 2018

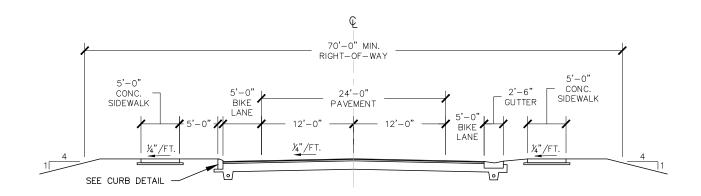
SCALE:

MRB group

N.T.S.



TOWN COLLECTOR ROAD



TOWN COLLECTOR ROAD (COMPLETE STREET)

NOTES:

 SUBBASE EXTENDED OUT TO SWALE BY EITHER STONE WEEPS OR UNDERDRAIN AT DISCRETION OF THE HIGHWAY SUPERINTENDENT.

TYPICAL ROAD CROSS SECTIONS

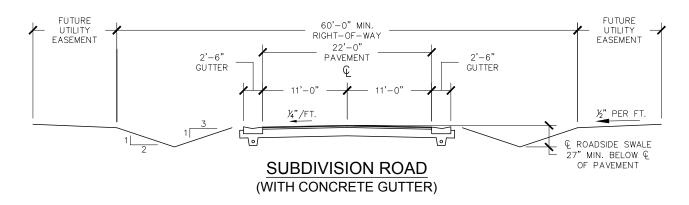
(TOWN COLLECTOR / COMMERCIAL / INDUSTRIAL)

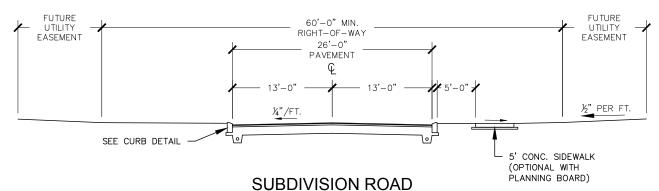
5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: **H - 2.1**

DATE: 2018

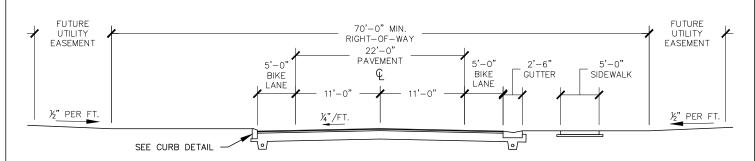
SCALE: N.T.S.

MRB group





(WITH OPTIONAL SHOULDER AND MOUNTABLE CURB)



SUBDIVISION ROAD (COMPLETE STREET)

TYPICAL ROAD CROSS SECTIONS (SUBDIVISION)

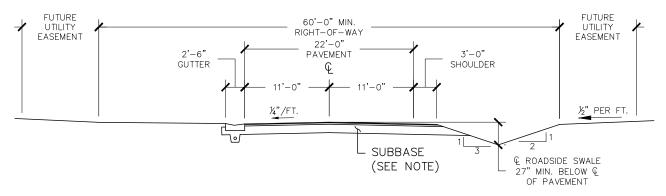
5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: **H - 2.2**DATE: 2018

AIL. 2010

SCALE:

MRB group

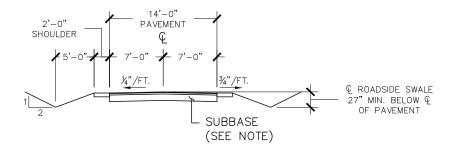
N.T.S.



NOTES:

- 1. SUBBASE EXTENDED OUT TO SWALE BY EITHER STONE WEEPS OR UNDERDRAIN AT DISCRETION OF THE HIGHWAY SUPERINTENDENT.
- 2. WHERE WATERMAIN HYDRANTS ARE LOCATED ALONG ROAD, DRIVING SURFACE (PAVEMENT AND CONCRETE GUTTERS) WIDTH TO BE 26' MIN. AND EXTEND 20' MIN. IN EACH DIRECTION (40' MIN.)

RURAL DEVELOPMENT ROAD



NOTES:

1. WHERE WATERMAIN HYDRANTS ARE LOCATED ALONG ROAD, DRIVING SURFACE (PAVEMENT AND CONCRETE GUTTERS) WIDTH TO BE 26' MIN. AND EXTEND 20' MIN. IN EACH DIRECTION (40' MIN.)

NON-DEDICATED PRIVATE DRIVE

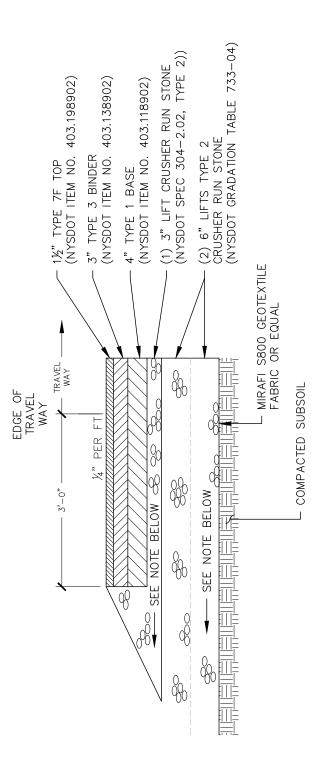
TYPICAL ROAD CROSS SECTIONS

(RURAL DEVELOPMENT / NON-DEDICATED PRIVATE DRIVE)

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: **H - 3.0**DATE: 2018

SCALE: N.T.S.

MRB group



NOTES:

1. EXTEND SUBBASE TO SWALE PER APPENDICIES H-2.0, H-2.1, H-2.2

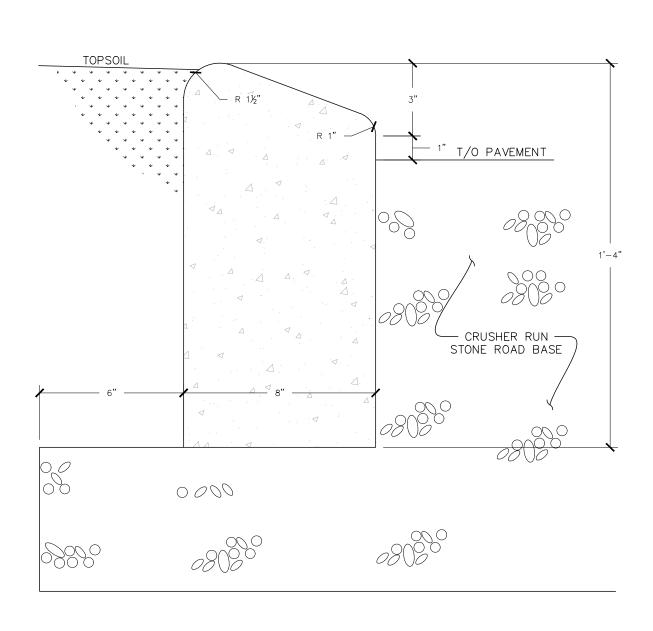
2. PROVIDE 4" UNDERDRAIN IF SUBBASE CANNOT DAYLIGHT

STABILIZED SHOULDER SECTION

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: **H - 4.0**DATE: 2018

SCALE: N.T.S.

MRB group

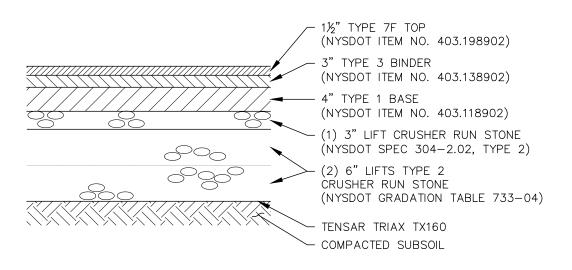


CAST IN PLACE MOUNTABLE CONCRETE CURB

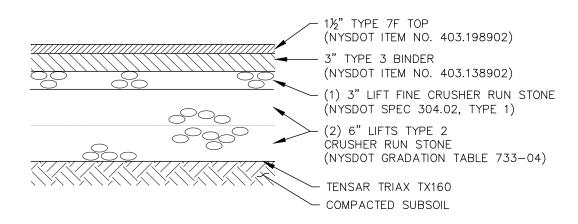
5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789

APPENDIX:	H - 5.0)
DATE:	2018	
SCALE:	N.T.S.	

MRB group



TOWN COLLECTOR ROAD



SUBDIVISION ROAD

NOTES:

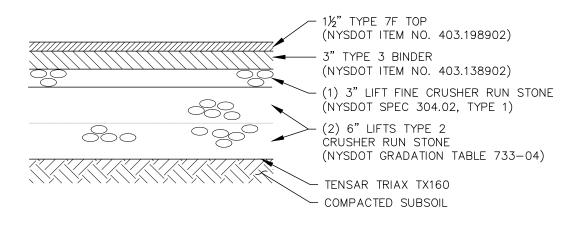
- 1. ALL DEPTHS DIMENSIONS ARE COMPACTED THICKNESS.
- 2. PAVEMENT THICKNESS MAY VARY AS REQUIRED BY TOWN ENGINEER
- 3. UNDERDRAIN AS REQUIRED
- 4. IF THE SUBGRADE IS FOUND TO HAVE TOO HIGH A MOISTURE CONTENT OR PUMPING FINES, A LIGHTWEIGHT NON-WOVEN GEOTEXTILE IS TO BE USED DIRECTLY UNDER THE GEOGRID LAYER.

PAVEMENT CROSS SECTION

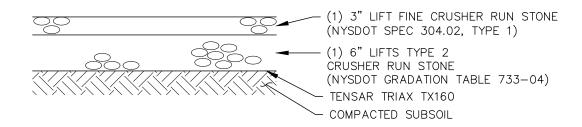
5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789

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SCALE:	N.T.S.	

MRB group



RURAL DEVELOPMENT ROAD



NON-DEDICATED PRIVATE DRIVE

NOTES:

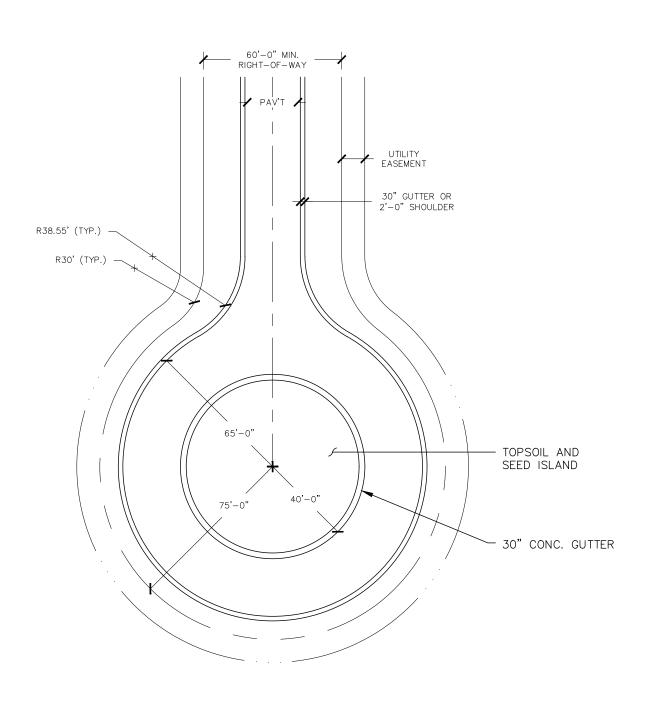
- 1. ALL DEPTHS DIMENSIONS ARE COMPACTED THICKNESS.
- 2. PAVEMENT THICKNESS MAY VARY AS REQUIRED BY TOWN ENGINEER
- 3. IF THE SUBGRADE IS FOUND TO HAVE TOO HIGH A MOISTURE CONTENT OR PUMPING FINES, A LIGHTWEIGHT NON-WOVEN GEOTEXTILE IS TO BE USED DIRECTLY UNDER THE GEOGRID LAYER.

PAVEMENT CROSS SECTION

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: **H - 6.0**DATE: 2018

SCALE: N.T.S.

MRB group



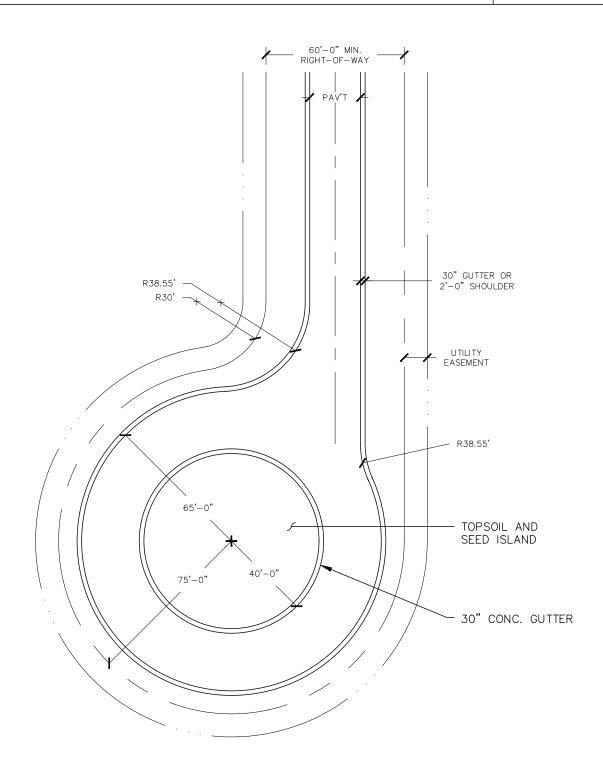
CONVENTIONAL CUL-DE-SAC PLAN

(WITH ISLAND)

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: **H - 6.1**DATE: 2018

SCALE: N.T.S.

MRB group



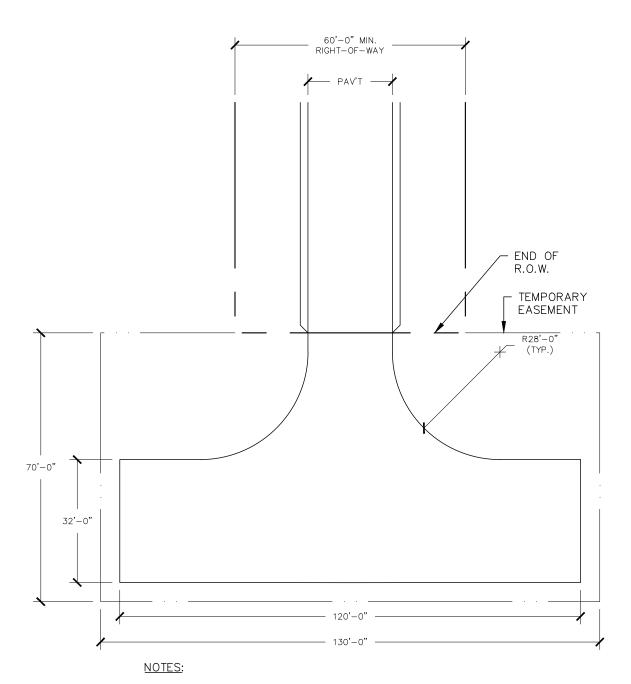
OFFSET CUL-DE-SAC PLAN

(WITH ISLAND)

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: **H - 7.0**DATE: 2018

SCALE: N.T.S.

MRB group



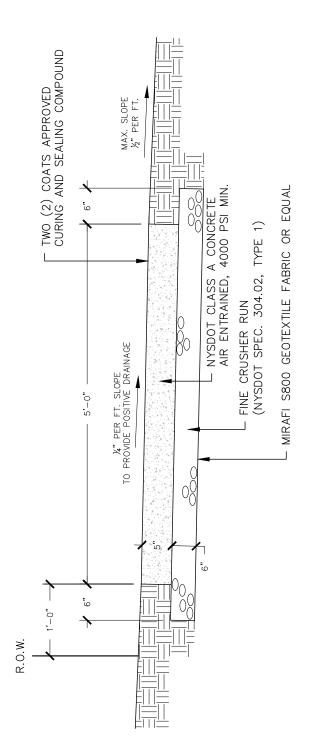
1. LARGER AREAS MAY BE REQUIRED FOR SNOW STORAGE OR TOPOGRAPHY. R.O.W. SHOULD EXTEND TO THE PROPERTY LINE FOR FUTURE DEVELOPMENT.

HAMMER HEAD TURN-AROUND

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Eslablished 1789 APPENDIX: **H - 8.0**DATE: 2018

SCALE: N.T.S.

MRB group



NOTE:

1. CONCRETE SIDEWALKS THROUGH DRIVEWAYS SHALL BE INCREASED TO A 6" THICKNESS AND SHALL INCLUDE 6"x6" WIRE MESH (10 GAUGE) FOR REINFORCEMENT.

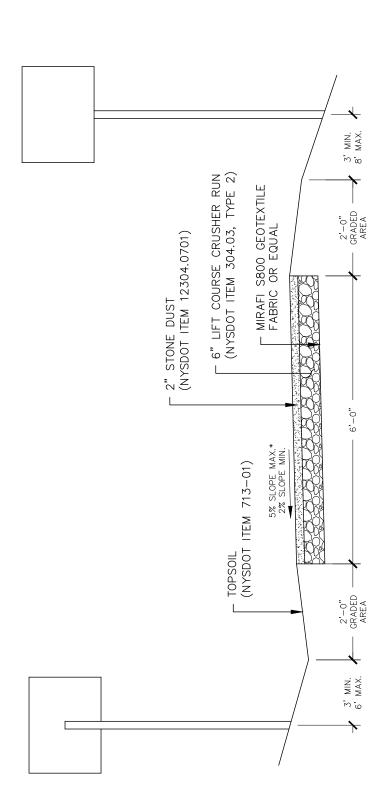
IDEWALK DETAIL

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 *Established 1789* APPENDIX: **H - 9.0**

DATE: 2018

SCALE: N.T.S.

MRB group



* TYPICAL RUNNING GRADE OF THE TRAIL SHALL BE 5% OF LESS WHERE PRACTICAL

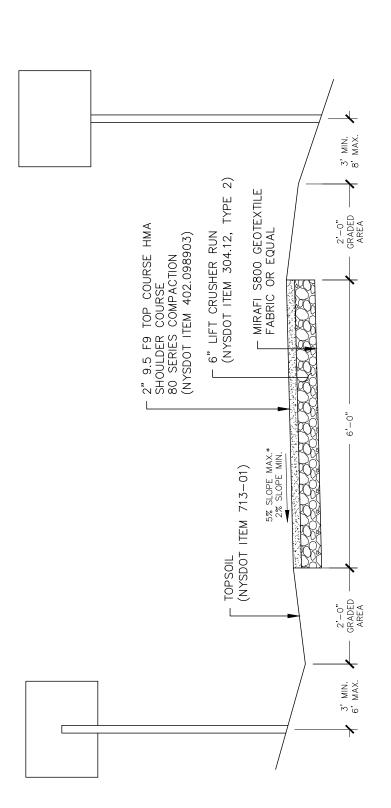
STONE DUST WALKING TRAIL

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 *Eslablished 1789* APPENDIX: **H - 9.1**

DATE: 2018

SCALE: N.T.S.

MRB group



* TYPICAL RUNNING GRADE OF THE TRAIL SHALL BE 5% OF LESS WHERE PRACTICAL

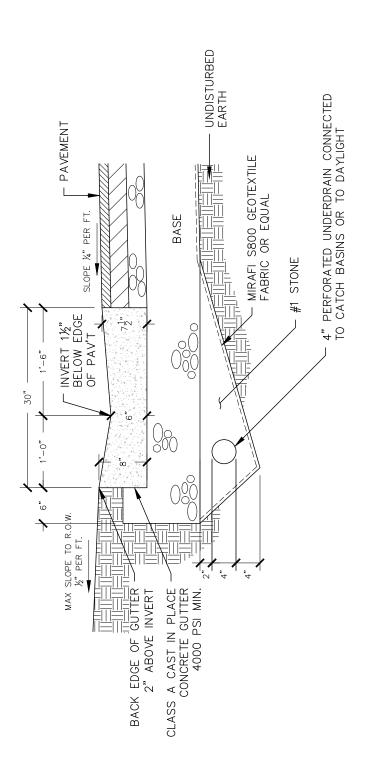
PAVED WALKING TRAIL

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Eslablished 1789 APPENDIX: **H - 10.0**

DATE: 2018

SCALE: N.T.S.

MRB group



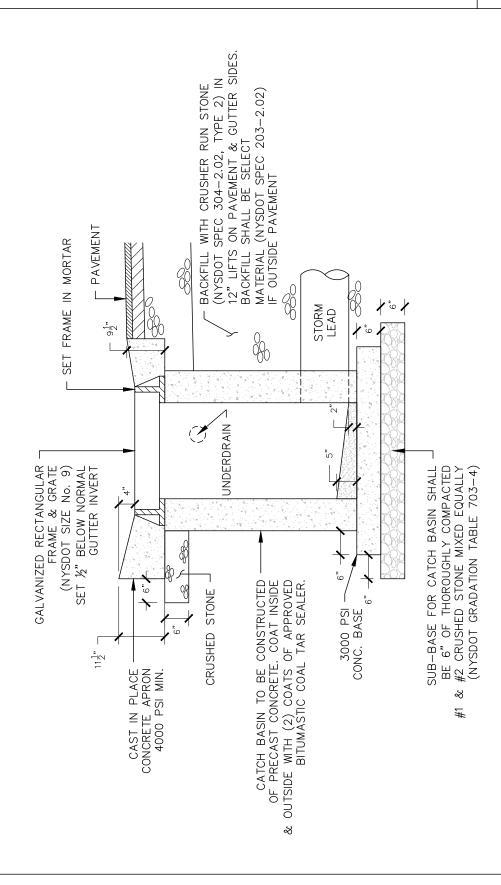
GUTTER DETAIL

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: **H - 11.0**

DATE: 2018

SCALE: N.T.S.

MRB group



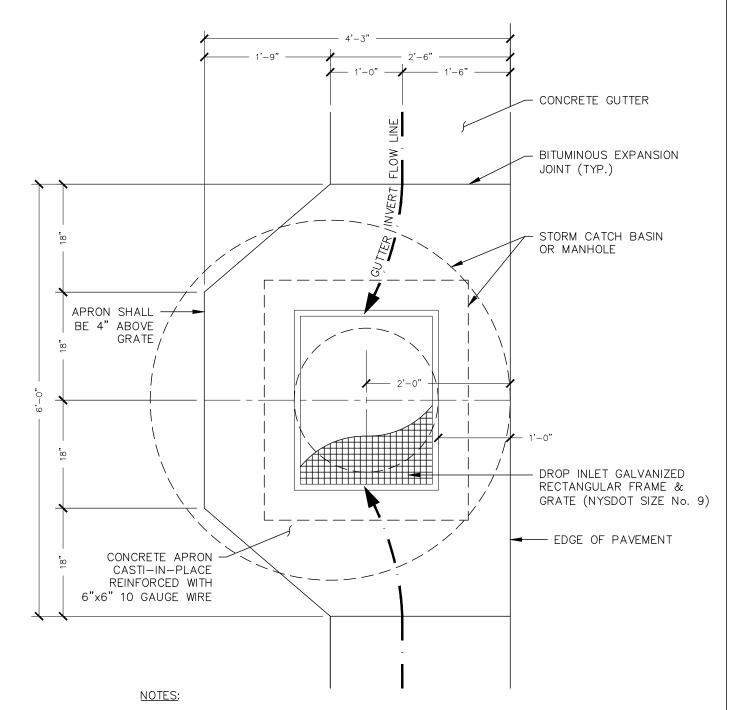
CATCH BASIN DETAIL

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 *Established 1789* APPENDIX: **H - 12.0**

DATE: 2018

SCALE: N.T.S.

MRB group



- 1. CATCH BASINS SHOULD NOT BE PLACED IN DRIVEWAY AREAS OR IN FRONT OF DRIVEWAY AREAS.
- 2. SPECIAL DESIGN MAY BE REQUIRED FOR STEEP GRADE SECTIONS.

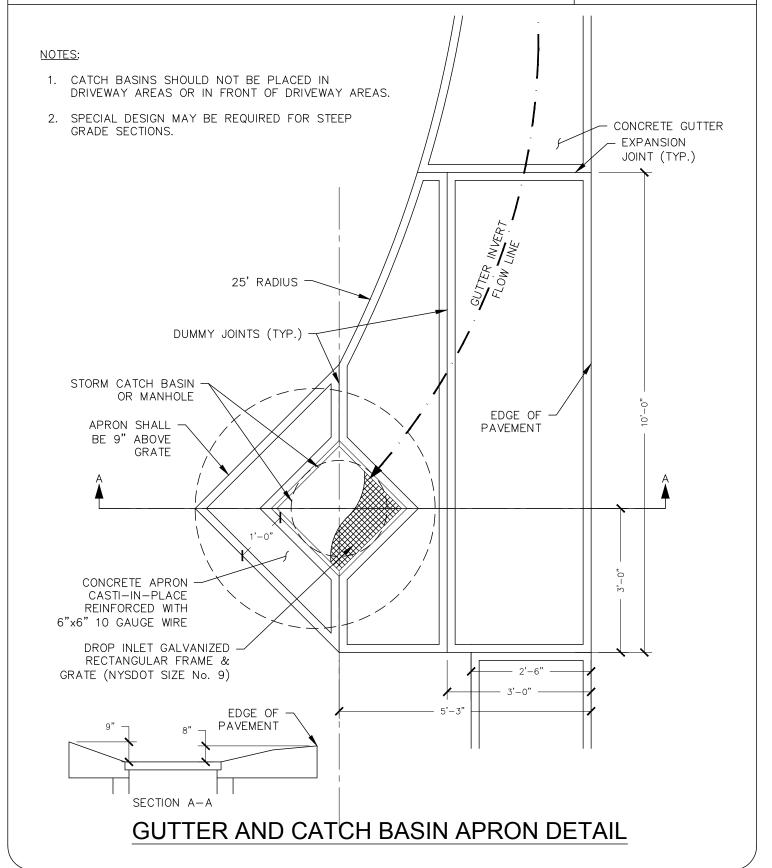
GUTTER AND CATCH BASIN APRON DETAIL

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: **H - 13.0**

DATE: 2018

SCALE: N.T.S.

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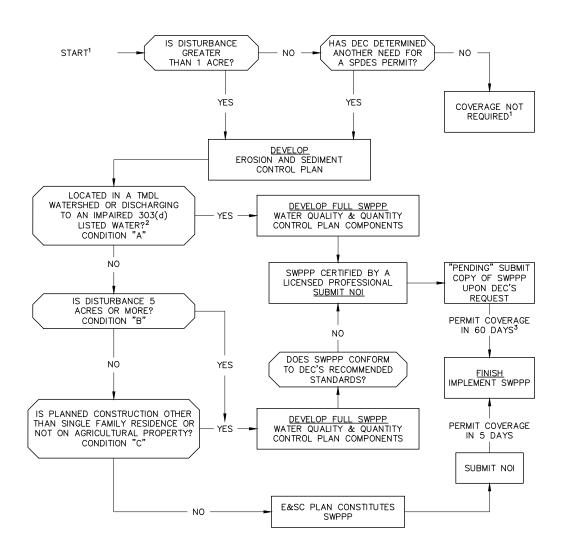


5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: ST - 1.0

DATE: 2018

SCALE: N.T.S.

MRB group



NOTES:

- 1. UNDER ANY OF THE ABOVE CONDITIONS OTHER ENVIRONMENTAL PERMITS MAY BE REQUIRED. DEC MAY REQUIRE PERMIT FOR CONSTRUCTION DISTURBANCE < 1 ACRES ON A CASE BY CASE BASIS.
- 2. <u>AND</u> THE FOLLOWING EXISTS: CONSTRUCTION AND/OR STORMWATER DISCHARGES FROM THE CONSTRUCTION OR POST—CONSTRUCTION SITE CONTAIN THE POLLUTANT OF CONCERN IDENTIFIED IN THE TMDL OR 303(d) LISTING.
- 3. AFTER RECIEPT BY DEC OF COMPLETED APPLICATION.

SWPPP AND STORMWATER PERMIT PROCESS

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: ST - 2.0

DATE:

2018

SCALE:

N.T.S.

MRB group



Department of Environmental Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit *(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

Project Owner/Operator Information 1. Owner/Operator Name: 2. Contact Person: 3. Street Address: 4. City/State/Zip: II. Project Site Information 5. Project/Site Name: 6. Street Address: 7. City/State/Zip: III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information 8. SWPPP Reviewed by: 9. Title/Position: 10. Date Final SWPPP Reviewed and Accepted: IV. Regulated MS4 Information 11. Name of MS4: 12. MS4 SPDES Permit Identification Number: NYR20A 13. Contact Person: 14. Street Address: 15. City/State/Zip: 16. Telephone Number:

Page 1 of 2

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789

APPENDIX: ST - 2.1

2018

DATE:

SCALE: N.T.S.

MRB group

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or **Duly Authorized Representative**

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES

General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.
Printed Name:
Title/Position:
Signature:
Date:
VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

Page 2 of 2

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789

APPENDIX:	ST - 3.0	
DATE:	2018	
SCALE:	N.T.S.	

MRB group

Town of Canandaigua

5440 Routes 5 & 20 West • Canandaigua, NY 14424 • (585) 394-1120

STORMWATER CONTROL FACILITIES MAINTENANCE AGREEMENT

WHEREAS, the Town of Canandaigua, having an address	of 5440 Routes 5 & 20 West, Canandaigua,
New York 14424 (Municipality) and	(Facility Owner),
having an address of	want to enter into an agreement (this
"Agreement") to provide for the long term maintenance an	d continuation of permanent stormwater
control measures approved by the Municipality for the belo	ow named project, and
WHEREAS, the Municipality and the Facility Owner desir measures, as detailed on the approved project plans entitle	•
having drawing number(s), prepared by	and last revised,
(the "Plans"), be built in accordance with the Plans and the replaced, and continued in perpetuity in order to ensure op Reduced size versions of the Plans are attached hereto as E	ereafter be maintained, cleaned, repaired, timum performance of the components.
Therefore, the Municipality and the Facility Owner agree a	as follows:

- 1. This Agreement binds the Municipality and the Facility Owner, its successors and assigns, to maintain the permanent stormwater control measures depicted in the Plans (as same may be amended), which are attached as Schedule A of this Agreement.
- 2. The Facility Owner shall maintain, clean, repair, replace and continue the stormwater control measures depicted on the Plans as necessary to ensure optimum performance of the measures to design specifications. If identified on the plans, the stormwater control measures shall include, but shall not be limited to, the following: drainage ditches, swales, dry wells, infiltrators, drop inlets, pipes, culverts, soil absorption devices, and retention ponds (collectively, the "Control Measures").
- 3. The Facility Owner shall be responsible for all expenses related to the maintenance of the Control Measures.
- 4. The Facility Owner shall provide for the periodic inspection of the Control Measures, not less than once in every five year period, to determine the condition and integrity of the Control Measures. The Facility Owner's obligations to inspect the Control Measures under this Section 4 shall commence upon the issuance of the first certificate of occupancy for the project depicted on the Plans. Each inspection shall be performed by a Professional Engineer, at the Facility Owner's choosing, so long as such Professional Engineer is licensed by the State of New York (the "Inspecting Engineer"). The Inspecting Engineer shall prepare and submit to the Municipality within 30 days of each inspection, a written report of the findings of his/her inspection including any recommendations necessary for the continued maintenance or repair of the Control Measures.

STANDARD SWMF MAINTENANCE AGREEMENT

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789

APPENDIX:	ST - 3.1	\
DATE:	2018	
SCALE:	N.T.S.	

MRB group

- 5. The Facility Owner shall grant Right of Entry to duly authorized representatives of the Town. Upon presentation of proper credentials, duly authorized representatives of the Town may enter at reasonable times upon the premises to inspect the implementation, condition or operation and maintenance of the Control Measures. Facility Owner shall allow persons working on behalf of the Town ready access to all parts of the premises for the purposes of inspecting the Control Measures. Persons working on behalf of the Town shall have the right to temporarily locate, on any stormwater facility or Control Measure in the Town, such devices as are necessary to conduct monitoring and/or sampling of the discharges from such Control Measures.
- 6. Except in an emergency situation, or as permitted by Section 7 below, The Facility Owner shall not authorize, undertake, or permit any material alteration, abandonment, modification, or discontinuation of the Control Measures except in accordance with written approval of the Municipality.
- 7. The Facility Owner shall undertake all necessary repairs, maintenance, or replacement of the Control Measures in accordance with the recommendations of the Inspecting Engineer, except to the extent such repairs, maintenance, or replacement are made necessary by the acts or omissions of the Municipality, including without limitation offsite grading. Such repair, maintenance, or replacement shall not require the approval of the Municipality. Repairs, maintenance, or replacements made necessary by the acts or omissions of the Municipality shall be undertaken by the Municipality as its cost and expense.
 - 8. This Agreement shall be recorded in the Office of the County Clerk, County of Ontario.
- 9. If ever the Municipality determines that the Facility Owner has failed to maintain, clean, repair, replace, and continue the Control Measures in accordance with the Plans or has failed to undertake necessary corrective action in accordance with Section 7 above, the Municipality shall give the Facility Owner written notice of such a default. In the event the Facility Owner fails to cure such default within thirty (30) days from its receipt of such notice, the Municipality is authorized to undertake such steps as reasonably necessary for the preservation, continuation, or maintenance of the Control Measures, to charge the Facility Owner for the reasonable expenses of such steps, and to affix such expenses as a lien against the property (including reasonable attorney fees and other administrative costs incurred in executing such a lien); provided however that if the nature of the default is such that it cannot reasonably be cured within such thirty (30) day period, then so long as the Facility Owner commences to cure such default within such thirty (30) day period, and, thereafter, diligently, in good faith and expeditiously proceeds to cure such default before the Municipality may take action under this Section 9.
- 10. The parties agree and acknowledge that this Agreement shall cover not only the Control Measures set forth on the Plans, but it also shall cover any alterations or modifications to the Plans that may be approved by the Municipality after the execution of this Agreement.
- 11. This Agreement shall be binding upon, and inure to the benefit of, the respective successors and permitted assigns of the parties. This Agreement shall not be assignable by the Municipality but may be assigned or transferred by the Facility Owner.

STANDARD SWMF MAINTENANCE AGREEMENT

(CONTINUED)

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 DATE: 2018

SCALE: N.T.S.

MRB group

12. All notices required or permitted hereunder shall be in writing and shall be sent to the parties at the following addresses:

If to the Municipality: Stormwater Program Manager

Town of Canandaigua 5440 Routes 5 & 20 West Canandaigua, New York 14424

If to the Facility Owner: xxxx

xxxx xxxx xxxx

With copies to: xxxx

XXXX XXXX XXXX

Any such notices may be sent by:

(a) certified mail, return receipt requested, or

(b) a nationally recognized overnight courier

The above addresses may be changed by written notice to the other party. Any such notices shall be deemed effective upon receipts.

- 12. This agreement sets forth all of the agreements, conditions, and understandings between the Municipality and the Facility Owner concerning the maintenance of the Control Measures and supersedes any and all prior agreements and understandings between the parties with respect thereto.
- 13. This Agreement shall be governed exclusively by the laws of the State of New York, without giving effect to choice of laws or choice of laws rules or principles.
- 14. Issuance of the first certificate of occupancy or certificate of compliance for the project depicted on the Plans shall be deemed an acknowledgement by the Municipality that the Control Measures have been constructed in accordance with the Plans.
- 15. This Agreement may be executed in several counterparts, including by facsimile, each of which shall be an original and all of which shall constitute but one and the same instrument.
- 16. This Agreement may not be amended, changed, modified, altered, or terminated, except by an instrument in writing, signed by the parties hereto.
 - 17. This Agreement is effective upon full execution by both parties.

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STANDARD SWMF MAINTENANCE AGREEMENT

(CONTINUED)

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: ST - 3.3

DATE: 2018

SCALE: N.T.S.

MRB group

The parties have entered into this Agreement on this day of	, 2016.
MUNICIPALITY TOWN OF CANANDAIGUA, N	Y
By: Title: Date:	_
FACILITY OWNER xxxxxxxx	
By: Title: Date:	_

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STANDARD SWMF MAINTENANCE AGREEMENT (CONTINUED)

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789

APPENDI	×: ST - 3.4
DATE:	2018
SCALE:	N.T.S.

MRB group

County of Ontario	,	
On the day of	in the year	before me, the undersigned, personally appeared y known to me or proved to me on the basis of
satisfactory evidence to be and acknowledge to me t	be the individual(s) whose that he/she/they executed on the instrument, the inc	e name(s) is (are) subscribed to the within instrument the same in his/her/their capacity(ies), and that by dividual(s), or the person upon behalf of which the
Signature and Office of in	ndividual taking acknow	ledgment
State of New York County of Ontario)) ss.:	
On the day of	in the year	before me, the undersigned, personally appeared y known to me or proved to me on the basis of
satisfactory evidence to be and acknowledge to me to	the individual(s) whose that he/she/they executed on the instrument, the inc	e name(s) is (are) subscribed to the within instrument the same in his/her/their capacity(ies), and that by dividual(s), or the person upon behalf of which the
Signature and Office of in	ndividual taking acknow	ledgment

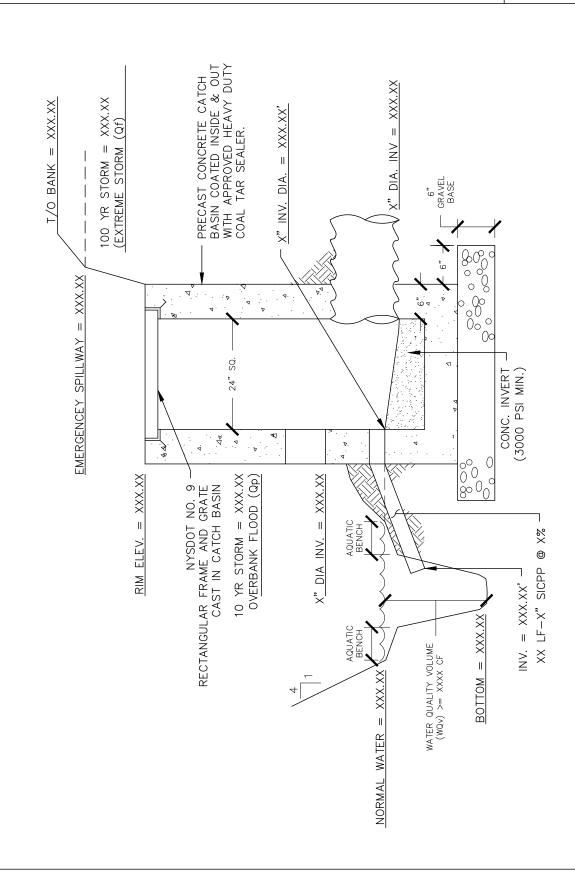
(CONTINUED)

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: ST - 4.0

DATE: 2018

SCALE: N.T.S.

MRB group



DETENTION AREA OUTFALL STRUCTURE

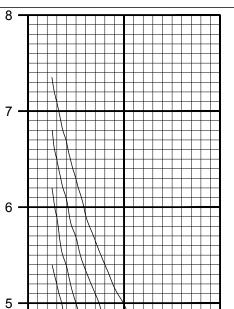
5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 *Established 1789* APPENDIX: ST - 5.0

DATE: 2018

SCALE: N.T.S.

MRB group

120



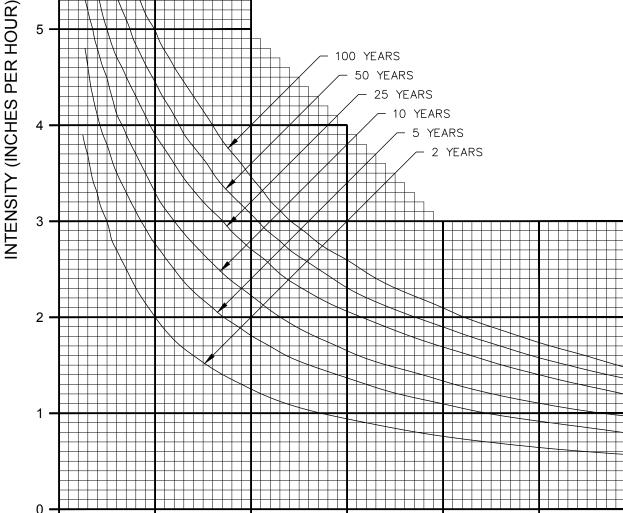
20

40

STORM DURATIONS - 5 MINUTES TO 120 MINUTES

RETURN PERIODS - 2 YEARS TO 100 YEARS

REF — WEATHER BUREAU, U.S. DEPARTMENT OF COMMERCE BY METHOD OF EXTREME VALUES AFTER GUMBEL (ANNUAL SERIES)



60

DURATION (MINUTES)

RAINFALL INTENSITY CURVES

80

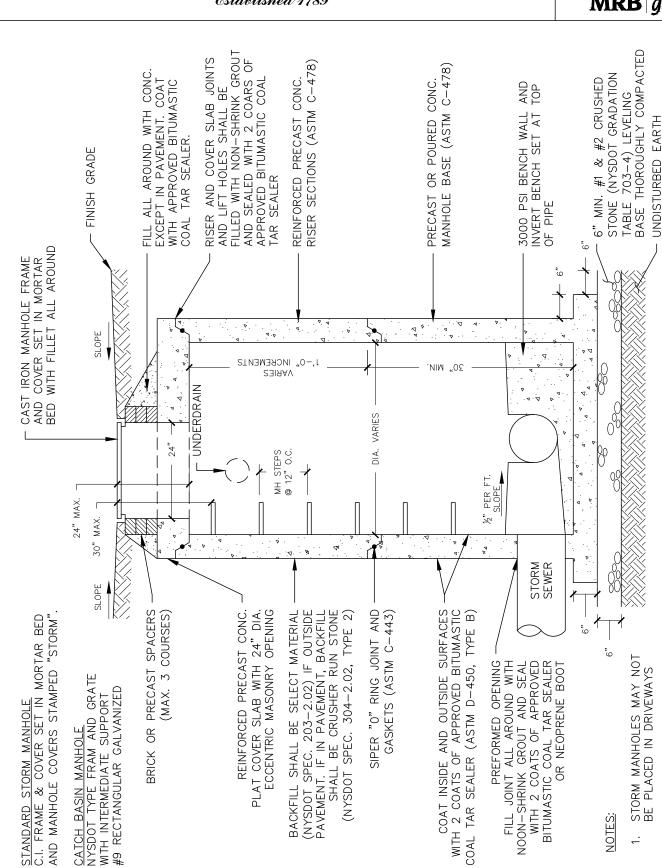
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5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: ST - 6.0

DATE: 2018

SCALE: N.T.S.

MRB group



STORM SEWER MANHOLE AND CATCH BASIN MANHOL

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: ST - 7.0

DATE: 2018

SCALE: N.T.S.

MRB group

PIPE BEDDING DETAILS FOR STORM LINES

TYPE OF UTILITY: STORM SEWER

PIPE MATERIAL: PVC

APPLICABLE PIPE SIZE: 4" TO 15"

TRENCH WIDTH: MAX. O.D. + 24"

TRENCH CONDITIONS: SELECT EARTH

BEDDING SPECIFICATION: THE TRENCH BOTTOM SHALL BE TRUE, EVEN, AND FREE OF LARGE

STONES, LARGE DIRT CLODS, AND ANY OTHER FROZEN MATERIAL AS APPROVED BY THE ENGINEER. A MINIMUM OF THREE (3) INCHES OF NO. 1 AND NO. 1A CRUSHED STONE MIXED EQUALLY (NYSDOT GRADATION TABLE 703-4) SHALL BE INSTALLED AND TAMPED TO PROVIDE SATISFACTORY BEDDING FOR THE PIPE WHICH IS FIRM AND GIVES CONTINUOUS SUPPORT OF THE PIPE BARREL. DEPRESSIONS SHALL BE HOLLOWED IN THE TRENCH BOTTOM FOR PIPE BELLS AT ALL

JOINTS IN THIS GRANULAR LIFT.

BACKFILL SPECIFICATION: INITIAL BACKFILL FROM THE TOP OF THE PIPE BEDDING MATERIAL TO

THE SPRING LINE OF THE PIPE SHALL CONSIST OF NO. 1 AND NO. 1A CRUSHED STONE (NYSDOT GRADATION TABLE 703-4) MIXED EQUALLY.

FROM THE SPRING LINE OF THE PIPE TO 12" ABOVE THE TOP OF THE PIPE APPROVED SELECT BACKFILL MATERIAL, FREE OF LARGE STONES, DIRT CLODS, OR FROZEN MATERIAL WITH ANY DIMENSION

GREATER THAN 1-1/2" SHALL BE INSTALLED.

THE REMAINDER OF THE BACKFILL MATERIAL NEED NOT BE AS CAREFULLY SELECTED AS THE INITIAL BACKFILL. LARGE STONES SHALL BE AVOIDED THAT COULD DAMAGE THE INSTALLED PIPE WHEN DROPPED OR WHEN FORCE THROUGH THE SOIL CUSHION OF THE

INITIAL BACKFILL.

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: ST - 7.1

DATE: 2018

SCALE: N.T.S.

MRB group

PIPE BEDDING DETAILS FOR STORM LINES

TYPE OF UTILITY: STORM SEWER

PIPE MATERIAL: PVC

APPLICABLE PIPE SIZE: 4" TO 15"

TRENCH WIDTH: MAX. O.D. + 24"

TRENCH CONDITIONS: ROCK OR HARD PAN

BEDDING SPECIFICATION: A MINIMUM CUSHION OF 6" OF NO. 1 AND NO. 1A CRUSHED STONE

(NYSDOT GRADATION TABLE 703-4) SHALL BE USED WHEN EXCAVATING THROUGH ROCK OR HARD PAN. THE REMAINDER OF THE BEDDING INSTRUCTIONS SHALL BE AS THOSE FOR BEDDING IN SELECT EARTH.

BACKFILL SPECIFICATION: SEE INSTRUCTIONS FOR PVC SEWER PIPE, BACKFILL IN SELECT EARTH

TRENCH CONDITIONS: WET EARTH

BEDDING SPECIFICATION: IN ADDITION TO THE BEDDING REQUIRED FOR PVC SEWER PIPE IN

SELECT EARTH, AN ADDITIONAL 6" OF NO. 2 AND NO. 3 CRUSHED STONE (NYSDOT GRADATION TABLE 703-4) MIXED EQUALLY SHALL BE INSTALLED TO SUPPORT THE SPECIFIED BEDDING MATERIAL, 3" OR NO.

1 AND NO 1A CRUSHED STONE.

BACKFILL SPECIFICATION: SEE INSTRUCTIONS FOR PVC SEWER PIPE, BACKFILL IN SELECT EARTH

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SCALE:

MRB group

N.T.S.

PIPE BEDDING DETAILS FOR STORM LINES

TYPE OF UTILITY: STORM SEWER

PIPE MATERIAL: REINFORCED CONCRETE PIPE (RCP) AND CORRUGATED STEEL PIPE

(CSP), CORRUGATED HDPE

APPLICABLE PIPE SIZE: 12" TO 27" FOR RCP

12" TO 24" FOR CSP 12" TO 24" FOR C. HDPE

TRENCH WIDTH: MAX. O.D. + 24"

TRENCH CONDITIONS: SELECT EARTH

BEDDING SPECIFICATION: SEE INSTRUCTIONS FOR PVC SEWER PIPE, BEDDING IN SELECT EARTH

AND SUBSTITUTE NO. 1 AND NO. 2 CRUSHED STONE MIXED EQUALLY

FOR NO. 1 AND NO. 1A CRUSHED STONE.

BACKFILL SPECIFICATION: SEE INSTRUCTIONS FOR PVC SEWER PIPE, BACKFILL IN SELECT EARTH

AND SUBSTITUTE NO. 1 AND NO. 2 CRUSHED STONE MIXED EQUALLY

FOR NO. 1 AND NO. 1A CRUSHED STONE.

TRENCH CONDITIONS: ROCK OR HARD PAN

BEDDING SPECIFICATION: SEE INSTRUCTIONS FOR PVC, SEWER PIPE, BEDDING IN ROCK OR

HARD PAN AND SUBSTITUTE NO. 1 AND NO. 2 CRUSHED STONE MIXED

EQUALLY FOR NO. 1 AND NO. 1A CRUSHED STONE.

TRENCH CONDITIONS: WET EARTH

BEDDING SPECIFICATION: SEE INSTRUCTIONS FOR PVC, SEWER PIPE, BEDDING IN WET EARTH

AND SUBSTITUTE NO. 1 AND NO. 2 CRUSHED STONE FOR NO. 1 AND NO.

1A CRUSHED STONE.

BACKFILL SPECIFICATION: SEE INSTRUCTIONS FOR PVC SEWER PIPE, BACKFILL IN EARTH AND

SUBSTITUTE NO. 1 AND NO. 2 CRUSHED STONE FOR NO. 1 AND NO. 1A

CRUSHED STONE.

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APPENDIX: W - 1.0 DATE: 2018 N.T.S.

SCALE:

MRB group

	ı					
			TEST P	RESSURE	(P.S.I.)	
		200	225	250	275	300
	PIPE DIA. (INCHES)	Al	LLOWABLE	LEAKAGE	(gal/hou	r)
	6	0.64	0.68	0.71	0.75	0.78
D.I.P.	8	0.85	0.90	0.95	1.00	1.04
PER 1,000 L.F. OF LINE	10	1.06	1.13	1.19	1.24	1.30
	12	1.28	1.35	1.42	1.49	1.56
	6	0.57	0.61	0.64	0.67	0.70
P.V.C.	8	0.76	0.81	0.85	0.90	0.94
PER 1,000 L.F. OF LINE	10	0.96	1.02	1.07	1.12	1.17
	12	1.15	1.22	1.28	1.34	1.40

NOTES:

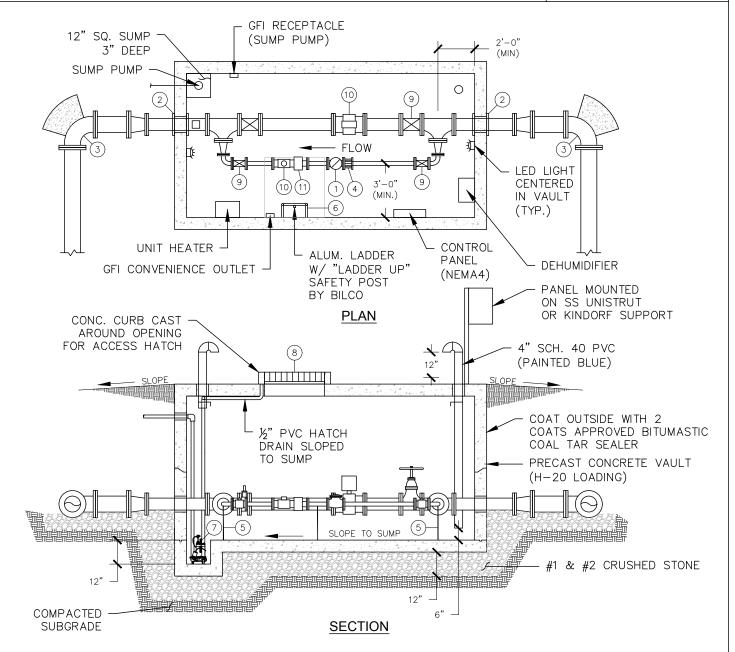
- TEST PRESSURE TO BE 200 P.S.I. OR 1.5 x WORKING PRESSURE, WHICHEVER IS GREATER.
- 2. PRESSURE TESTS SHALL BE CONDUCTED SO THE PIPE SECTIONS ARE WITHIN 10 PSI OF THE TEST PRESSURE LOCATION.
- 3. PRESSURE TESTS SHALL BE CONDUCTED FOR A MINIMUM OF 2 HOURS.
- 4. LEAKAGE TESTS AT LINE PRESSURE SHALL BE CONDUCTED OVER A 24 HOUR PERIOD.

WATERMAIN PRESSURE TEST

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 *Established 1789* APPENDIX: **W - 2.0**DATE: 2018

SCALE: N.T.S.

MRB group



- 1 SURGEBUSTER SWING CHECK VALVE (FL-FL)
- (2) SOCKET CLAMPS
- (3) MJ ELBOW
- (4) FLANGE ADAPTOR
- (5) PIPE SUPPORTS
- (6) ALUM. LADDER
- SUMP PUMP OR GRAVITY DISCHARGE TO GROUND SURFACE

- 8 BILCO ACCESS DOOR TYPE J-2AL (2'-6"X2'-6") H-20 LOADING
- (9) RESILIENT SEAT GATE VALVE (FL-FL) (MUELLER)
- BADGER RECORDALL COMPOUND METER OR FIRE SERVICE METER
- (11) RECORDER PLATE STRAINER

NOTE: IF A GRAVITY DRAIN IS POSSIBLE, ELIMINATE ALL ELECTRIC.

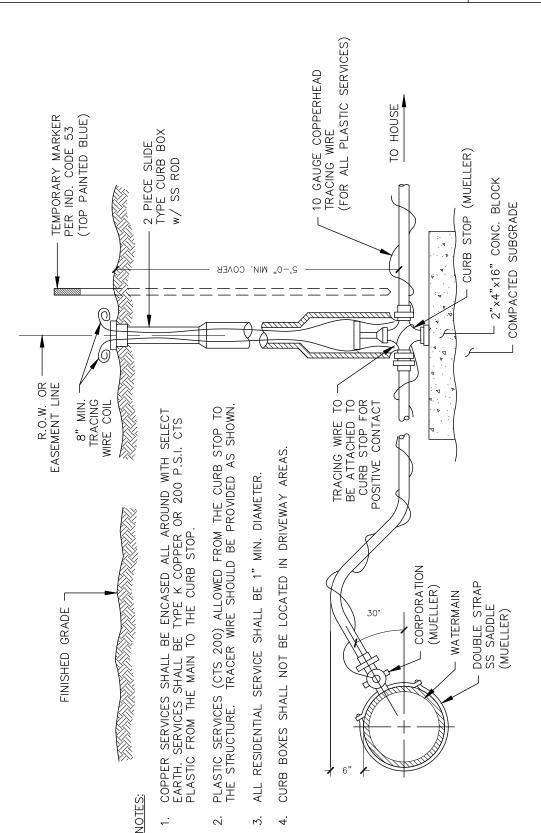
TYPICAL WATER METER VAULT

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789

APPENDIX: W - 3.02018 DATE:

N.T.S. SCALE:

MRB group



4. 3

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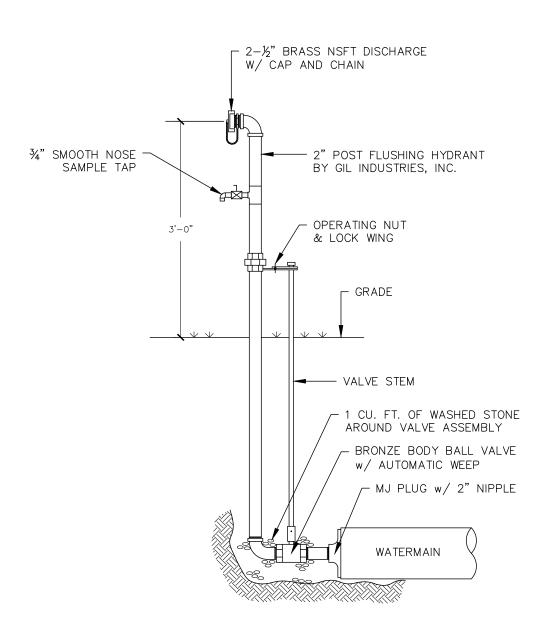
TYPICAL WATER SERVICE

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: W - 4.0

DATE: 2018

SCALE: N.T.S.

MRB group



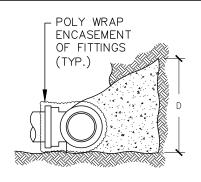
TEMPORARY BLOW-OFF DETAIL

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789

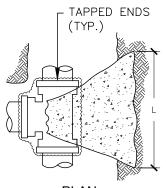
APPENDIX: W - 5.02018 DATE:

N.T.S. SCALE:

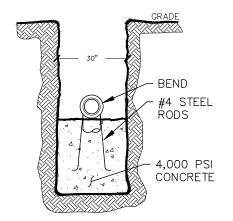
MRB group







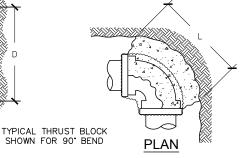
PLAN



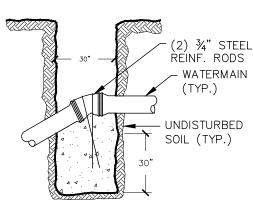


TEE

SECTION



BEND



VERTICAL

THRUST BLOCK DETAIL

PIPE SIZE (INCHES)	ICHES) PRESSURE PLUG		90° BEND		45° BEND		22-1/2° BEND		
	(PSIG)	L	D	L	D	L	D	L	D
4	200	2.00	1.00	2.25	1.25	2.00	0.75	1.25	0.75
	300	2.50	1.25	2.75	1.50	2.25	1.00	1.50	1.00
6	200	3.00	1.25	3.25	1.75	2.50	1.25	2.00	0.75
	300	3.50	1.50	4.00	2.00	3.25	1.50	2.25	1.00
8	200	3.25	2.00	4.25	2.25	3.75	1.75	2.25	1.25
	300	4.00	2.50	5.25	2.75	4.00	2.25	3.00	1.50
10	200	4.25	2.25	5.25	2.50	4.00	2.00	3.00	1.25
	300	5.50	2.50	6.50	3.00	5.00	2.50	4.00	1.50
12	200	5.25	2.50	6.00	3.25	4.50	2.25	3.25	1.75
12	300	6.25	3.25	7.50	4.00	5.50	2.75	4.25	2.00
1.4	200	5.50	3.25	7.25	3.50	5.25	2.50	3.25	2.00
14	300	10.25	5.00	9.00	4.25	6.50	3.00	5.00	2.25
16	200	6.5	3.50	8.25	4.00	5.50	3.25	4.50	2.25
10	300	8.25	4.25	10.00	5.00	7.25	3.75	5.25	3.00

NOTES:

- 1. ALL DIMENSIONS ARE IN FEET.
- BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
- 3. HEIGHT OF THRUST BLOCK SHOULD BE EQUAL TO OR LESS THAN $\frac{1}{2}$ THE DEPTH FROM THE GROUND SURFACE TO THE BASE OF THE BLOCK.
- ALL THRUST BLOCKS SHALL CURE A MINIMUM OF SEVEN (7) DAYS BEFORE ANY PRESSURE TESTS ARE CONDUCTÉD.
- 5. CONCRETE SHALL BE MINIMUM 3000 PSI.
- RESTRAINING RODS MAY BE USED IN LEIU OF THRUST BLOCKS. METHOD TO USED SHALL BE APPROVED BY ENGINEER PRIOR TO PLACEMENT.

WATERMAIN THRUST BLOCK SCHEDULE

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DATE: 2018

SCALE: N.T.S.

MRB group

PIPE SIZE (INCHES)	90°	45° BEND	22.5° BEND	11.25° BEND	SIZE ON SIZE TEE	DEAD END
4	13 FT.	1	1	_	1	29 FT.
6	17 FT.	8 FT.	4 FT.	3 FT.	BR.	36 FT.
8	22 FT.	10 FT.	5 FT.	3 FT.	3 FT.	48 FT.
12	33 FT.	14 FT.	7 FT.	4 FT.	23 FT.	76 FT.
14	38 FT.	16 FT.	7 FT.	4 FT.	32 FT.	97 FT.
16	44 FT.	18 FT.	9 FT.	4 FT.	46 FT.	110 FT.

NOTES:

- RECOMMENDED RESTRAINED LENGTHS FOR STRAIGHT TEES ASSUME A MINIMUM 10' LENGTH OF PIPE ATTACHED TO EACH SIDE OF THE RUN.
- 2. BR. ONLY INDICATES RESTRAINT AT TEE BRANCH ONLY.
- 3. ALL BENDS (DEGREE CHANGES) ARE CALCULATED AS HORIZONTAL.
- 4. DEAD-END SERVICE CONSTITUTES CAPS, PLUGS, VALVES AND HYDRANTS.

HORIZONTAL BEND RESTRAINT

PIPE SIZE (INCHES)	90° BEND	45° BEND	22.5° BEND	11.25* BEND
6	35/10	14/6	7/3	4/2
8	45/13	22/10	11/5	5/2
12	65/19	31/14	16/7	7/3
14		40/16	19/8	10/4
16		45/18	22/9	11/4

NOTES:

 ALL BENDS (DEGREE CHANGES) ARE CALCULATED AS VERTICAL. THE FIRST RESTRAINED LENGTH (FEET) IS FOR THE HIGH-SIDE BENDS (Lhs) AND THE SECOND RESTRAINED LENGTH (FEET) INDICATES THE LOW-SIDE BENDS (LIS). LENGTHS WERE CALCULATED USING A CONSISTENT 5 FOOT DEPTH OF COVER FOR THE WATERMAIN.

VERTICAL BEND RESTRAINT

PIPE SIZE (INCHES)	TEE (REDUC.)	STRAIGHT REDUCER
8 X 4	BR.	55/29
8 X 6	BR.	22/17
12 X 6	BR.	81/42
12 X 8	BR.	54/36
12 X 10	BR.	20/17
16X 10	BR.	48/30
16 X 12	BR.	29/32

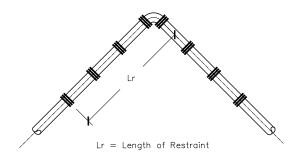
RESTRAINED		
LENGTHS FOR		
REDUCING FITTING	<u>s</u>	

PIPE SIZE (INCHES)	VALVE LR
6	40'
8	40'
12	76'
14	97'
16	110'

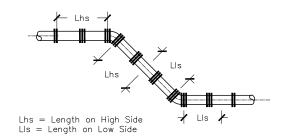
RESTRAINED LENGTHS FOR VALVES

NOTES:

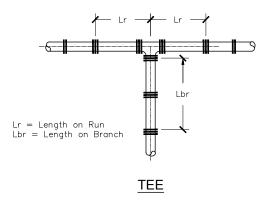
- RECOMMENDED RESTRAINED LENGTHS FOR STRAIGHT TEES ASSUME A MINIMUM 10'
 LENGTH OF PIPE ATTACHED TO EACH SIDE OF THE RUN.
 BR. ONLY INDICATES RESTRAINT AT TEE BRANCH ONLY.
- 2. BN. ONLY INDICATES RESTRAINT AT LEE BIOLOGY OF THE OPTION OF RESTRAINING RECOMMENDED DISTANCES ON THE SMALL—END SIDE (FIRST RESTRAINED LENGTH PROVIDED) OR THE LARGE—END SIDE (SECOND RESTRAINED LENGTH PROVIDED).

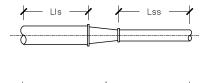


HORIZONTAL BEND



VERTICAL DOWN BEND AND OFFSET







LIs = Length on Large Side Lss = Length on Small Side

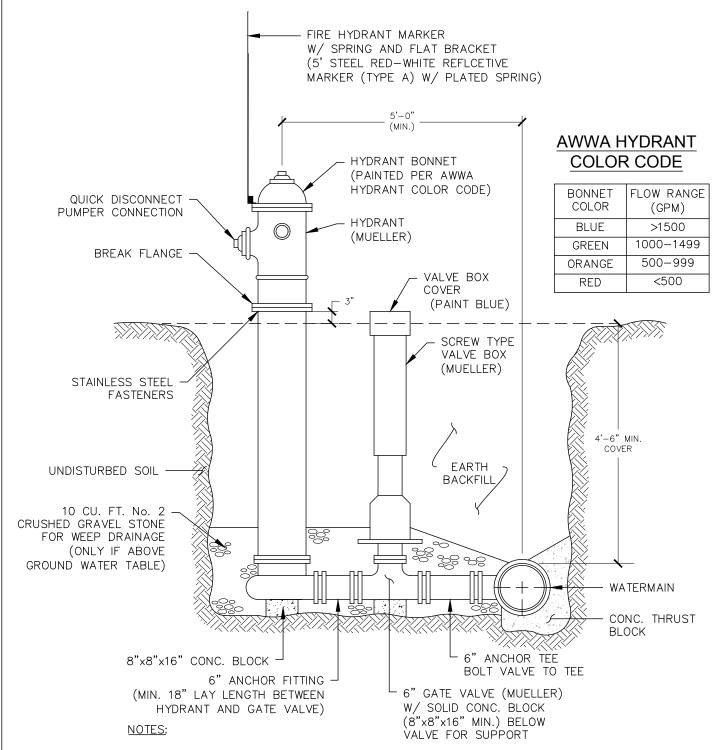
MECHANICAL JOINT PIPE RESTRAINTS

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: W - 6.0

DATE: 2018

SCALE: N.T.S.

MRB group



- 1. IF GROUND WATER IS ENCOUNTERED, THE WEEP HOLES MUST BE PLUGGED AND THE HYDRANT MARKED.
- 2. HYDRANTS SHALL BE PAINTED RED.

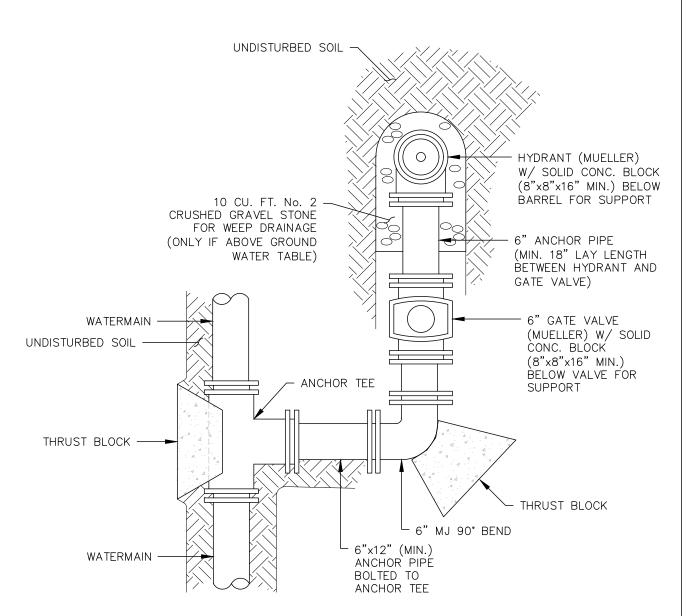
HYDRANT UNIT

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: **W - 6.1**DATE: 2018

SCALE:

MRB group

N.T.S.



NOTES:

- 1. IF GROUND WATER IS ENCOUNTERED, THE WEEP HOLES MUST BE PLUGGED AND THE HYDRANT MARKED.
- 2. HYDRANTS SHALL BE PAINTED RED.

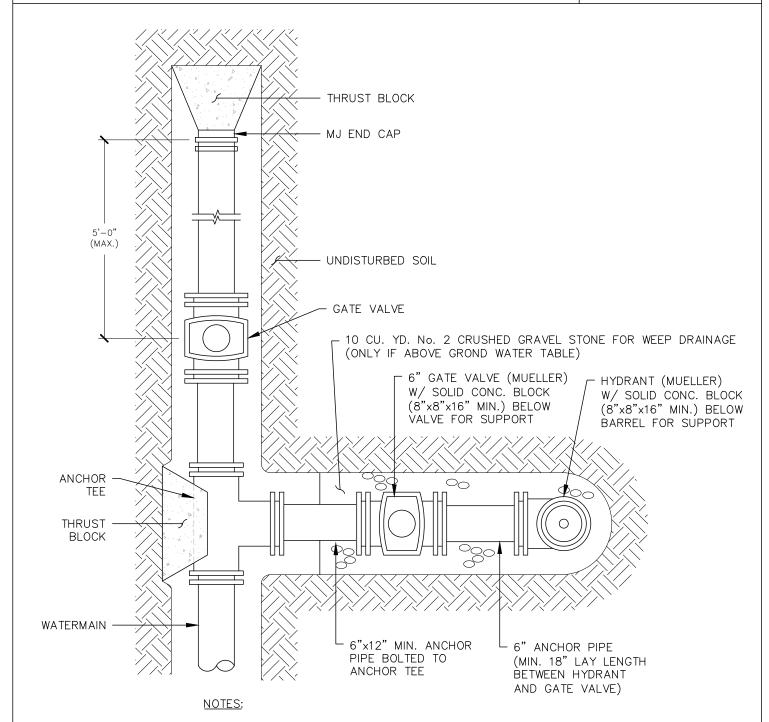
PARALLEL HYDRANT UNIT

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 *Established 1789* APPENDIX: **W - 6.2**DATE: 2018

SCALE:

MRB group

N.T.S.



- 1. IF GROUND WATER IS ENCOUNTERED, THE WEEP HOLES MUST BE PLUGGED AND THE HYDRANT MARKED.
- 2. HYDRANTS SHALL BE PAINTED RED.

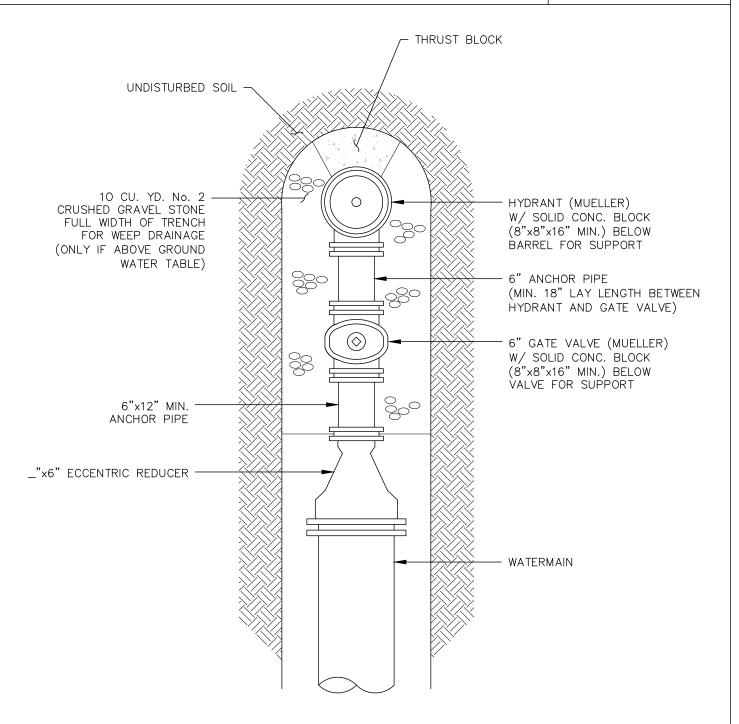
END OF MAIN HYDRANT UNIT

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 APPENDIX: W - 6.3

DATE: 2018

SCALE: N.T.S.

MRB group

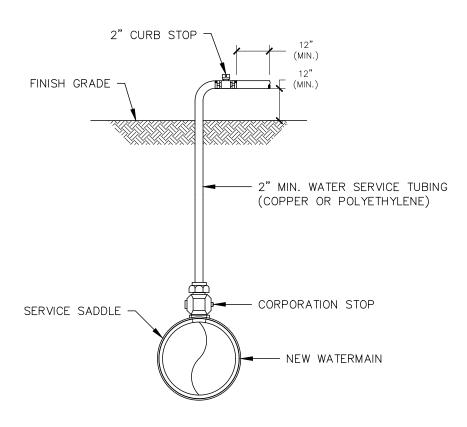


DEAD END HYDRANT UNIT

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APPENDIX:	W - 7.0	`
DATE:	2018	
SCALE:	N.T.S.	

MRB group



NOTES:

- 1. UPON NOTIFICATION FROM THE HEALTH DEPARTMENT THAT A SATISFACTORY WATER SAMPLE HAS BEEN OBTAINED, SHUT DOWN CORPORATION STOP AND REMOVE THE SERVICE TUBING.
- 2. IMMEDIATELY PRIOR TO PLACING THE WATER MAIN IN SERVICE THE CONTRACTOR SHALL REMOVE ALL CORPORATIONS ASSOCIATED WITH TEMPORARY FACILITIES (I.E. SAMPLING TAPS, ETC.) AND REPLACE WITH THREADED BRASS PLUGS.
- 3. FOR DISINFECTION\SAMPLING TAPS THAT ARE NOT NEEDED TO BLOW-OFF, 1" DISINFECTION\SAMPLING TAPS ARE ACCEPTABLE.
- 4. 1000 LF MAXIMUM DISTANCE BETWEEN SAMPLE TAPS UNLESS OTHERWISE SPECIFIED BY ENGINEER.

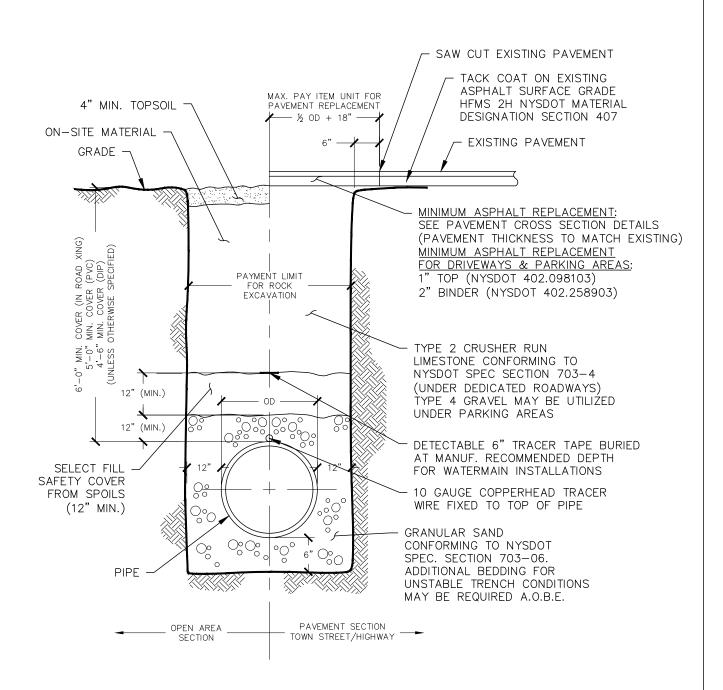
TEMPORARY DISINFECTION / SAMPLING TAP / BLOW-OFF

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DATE: 2018

SCALE: N.T.S.

MRB group



PIPE BEDDING/ TRENCH DETAIL

(OUTSIDE OF N.Y.S. HIGHWAYS)

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DATE: 2018

SCALE: N.T.S.

MRB group

PIPE BEDDING DETAILS FOR WATERMAIN

TYPE OF UTILITY: WATERMAIN

PIPE MATERIAL: DUCTILE IRON PIPE

APPLICABLE PIPE SIZE: 4" TO 24"

TRENCH WIDTH: MAX. O.D. + 24"

TRENCH CONDITIONS: SELECT EARTH

BEDDING SPECIFICATION: THE TRENCH BOTTOM SHALL BE TRUE, EVEN, AND FREE FROM

STONES, LARGE DIRT CLODS, AND ANY FROZEN MATERIALS WITH ANY DIMENSION GRATER THAN 1-1/2". PIPE TO BE BEDDED FROM BOTTOM OF TRENCH UP TO 12" ABOVE TOP OF PIPE WITH GRANULAR SAND MEETING THE STANDARDS OF NYSDOT SPEC. 703.06. DEPRESSIONS SHALL BE PROVIDED IN THE TRENCH BOTTOM FOR PIPE BELLS AT EACH JOINT END TO ALLOW FOR WITHDRAWAL OF PIPE SLINGS. THIS IS TO ASSURE THAT THE PIPE BARRELS LIE FLAT ON THE TRENCH

BOTTOM

BACKFILL SPECIFICATION: ALL BACKFILL MATERIAL SHALL BE FREE FROM CINDERS, ASHES.

REFUSE, VEGETABLE OR ORGANIC MATERIAL, BOULDERS, ROCKS OR STONES, FROZEN SOIL, OR OTHER MATERIAL THAT IN THE OPINION OF THE OWNER IS UNSUITABLE. SAFETY COVER MEASURING 12" DEEP SHALL BE PROVIDED ON TOP OF THE BEDDING MATERIAL AND SHALL MEET THE STANDARDS OF GRADATION FOR SELECT GRANULAR FILL (NYSDOT SPEC. 203-2.06). EXCAVATED MATERIAL MAY BE USED FOR BACKFILL PROVIDED THAT SUCH MATERIAL CONSISTS OF LOAM, CLAY, SAND, GRAVEL, OR OTHER MATERIALS THAT IN THE OPINION OF THE OWNER ARE SUITABLE FOR BACKFILLING EXCEPT WITHIN LIMITS OF

DEDICATED ROADWAYS.

BACKFILL BENEATH DEDICATED ROADWAYS TO BE FULL DEPTH TYPE 2 CRUSHER RUN STONE MEETING THE STANDARDS OF NYSDOT SPEC. 304.12.

IF THERE IS A DEFICIENCY OF BACKFILL MATERIAL DUE TO A REJECTION OF PORTION OF THE EXCAVATED MATERIAL, THE REQUIRED AMOUNT OF APPROVED SELECT MATERIAL SHALL BE PROVIDED.

REFER TO APPROPRIATE AGENCY FOR SANITARY SEWER BEDDING REQUIREMENTS

5440 Route 5 & 20 West Canandaigua, NY 14424 (585) 394-1120 Fax (585) 394-9476 Established 1789 DATE: 2018

SCALE: N.T.S.

MRB group

PIPE BEDDING DETAILS FOR WATERMAIN

TYPE OF UTILITY: WATERMAIN

PIPE MATERIAL: DUCTILE IRON PIPE

APPLICABLE PIPE SIZE: 4" TO 24"

TRENCH WIDTH: MAX. O.D. + 24"

TRENCH CONDITIONS: ROCK OR HARD PAN

BEDDING SPECIFICATION: WHEN EXCAVATION OF ROCK OR HARD PAN IS ENCOUNTERED, ALL

ROCK OR HARD PAN MATERIAL SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BELOW AND ON EACH SIDE OF ALL PIPE, VALVES, AND FITTINGS. IN ITS PLACE APPROVED NYSDOT

CRUSHED STONE SCREENINGS (NYSDOT GRADATION TABLE 703-4) OR COARSE SAND SHALL BE INSTALLED (MINIMUM OF 6 INCHES) AND TAMPED. FROM THIS POINT, FOLLOW BACK FILL INSTRUCTIONS FOR

BEDDING IN SELECT EARTH.

BACKFILL SPECIFICATION: SEE INSTRUCTIONS FOR BACKFILL IN SELECT EARTH.

TRENCH CONDITIONS: WET EARTH

BEDDING SPECIFICATION: WHEN THE SUB-GRADE IS FOUND TO BE WET OR UNSTABLE, SUCH

MATERIAL SHALL BE REMOVED TO A MINIMUM OF 8" OR TO THE DEPTH ORDERED BY THE OWNER AND REPLACED WITH 6" OF CRUSHED STONE, #2 AND #3 MIXED EQUALLY AS PER GRADATION IN NYSDOT TABLE 703-4 AND 2" OF CRUSHED STONE SCREENINGS (NYSDOT GRADATION TABLE 703-4) OR APPROVED COARSE SAND. FROM THIS POINT, FOLLOW INSTRUCTIONS FOR BEDDING IN SELECT EARTH.

BACKFILL SPECIFICATION: SEE INSTRUCTIONS FOR BACKFILL IN SELECT EARTH

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DATE: 2018

SCALE: N.T.S.

MRB group

PIPE BEDDING DETAILS FOR WATERMAIN

TYPE OF UTILITY: WATERMAIN

PIPE MATERIAL: PVC PRESSURE PIPE

APPLICABLE PIPE SIZE: 4" TO 24"

TRENCH WIDTH: MAX. O.D. + 24"

TRENCH CONDITIONS: SELECT EARTH

BEDDING SPECIFICATION: THE TRENCH BOTTOM SHALL BE TRUE, EVEN, AND FREE FROM

STONES, LARGE DIRT CLODS, OR ANY FROZEN MATERIAL WITH ANY DIMENSION GREATER THAN ½". PIPE TO BE BEEDDED FROM BOTTOM OF TRENCH UP TO 12" ABOVE TOP OF PIPE WITH GRANULAR SAND MEETING THE STANDARDS OF NYSDOT SPEC. 703.03. DEPRESSIONS SHALL BE PROVIDED IN THE TRENCH BOTTOM FOR PIPE BELLS AT EACH JOINT AND TO ALLOW FOR WITHDRAWAL OF PIPE SLINGS. THIS IS TO ASSURE THAT THE PIPE BARREL LIES FLAT ON THE TRENCH

BOTTOM.

BACKFILL SPECIFICATION: ALL BACKFILL MATERIAL SHALL BE FREE FROM CINDERS, ASHES,

REFUSE, VEGETABLE OR ORGANIC MATERIAL, BOULDERS, ROCKS OR STONES, OR FROZEN MATERIAL AND ANYTHING HAVING A DIMENSION GREATER THEN ½" OR ANY OTHER MATERIAL THAT IN THE OPINION OF THE OWNER IS UNSUITABLE. SAFETY COVER MEASURING 12" DEEP SHALL BE PROVIDED ON TOP OF OF THE BEDDING MATERIAL AND SHALL MEET THE STANDARDS OF GRADATION FOR SELECT GRANULAR FILL (NYSDOT SPEC. 203.2.06. EXCAVATED MATERIAL MAY BE USED FOR BACKFILL PROVIDED THAT SUCH MATERIAL CONSISTS OF LOAM, CLAY, SAND, GRAVEL, OR OTHER MATERIALS THAT IN THE OPINION OF THE OWNER ARE SUITABLE FOR BACKFILLING EXCEPT WITHIN THE

LIMITS OF DEDICATED ROADWAYS.

BACKFILL BENEATH DEDICATED ROADWAYS TO BE FULL DEPTH TYPE 2 CRUSHER RUN STONE MEETING THE STANDARDS OF NYSDOT SPEC.

304.12.

THE BALANCE OF THE BACKFILL NEED NOT BE AS CAREFULLY SELECTED AS THE INITIAL MATERIAL. IT SHALL BE PLACED IN UNIFORM LAYERS IN SUCH A MANNER AS TO PROVIDE A UNIFORMLY DENSE BACKFILL LOAD ON THE PIPE AND AVOID UNFILLED SPACES IN THE BACKFILL. ROLLING EQUIPMENT SHALL NOT BE USED UNTIL A MINIMUM OF 18" OF BACKFILL MATERIAL COVER THE TOP OF THE PIPE.

REFER TO APPROPRIATE AGENCY FOR SANITARY SEWER BEDDING REQUIREMENTS

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PIPE BEDDING DETAILS FOR WATERMAIN

TYPE OF UTILITY: WATERMAIN

PIPE MATERIAL: PVC PRESSURE PIPE

APPLICABLE PIPE SIZE: 4" TO 24"

TRENCH WIDTH: MAX. O.D. + 24"

TRENCH CONDITIONS: ROCK OR HARD PAN

BEDDING SPECIFICATION: SEE INSTRUCTIONS FOR DUCTILE IRON PIPE, BEDDING IN ROCK OR

HARD PAN

BACKFILL SPECIFICATION: SEE INSTRUCTIONS FOR DUCTILE IRON PIPE, BACKFILL IN ROCK OR

HARD PAN

TRENCH CONDITIONS: WET EARTH (3)

BEDDING SPECIFICATION: SEE INSTRUCTIONS FOR DUCTILE IRON PIPE, BEDDING IN WET EARTH

BACKFILL SPECIFICATION: SEE INSTRUCTIONS FOR DUCTILE IRON PIPE, BACKFILL IN WET EARTH

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	T	
CONDITION	SCHEMATIC	REQUIREMENTS
I WATER LINE ABOVE SEWER LINE	MORE THAN 18"	A) WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT CROSSING. EACH LENGTH OF PIPE TO BE 10 FT. MINIMUM. B) BACKFILL WITH COMPACTED CRUSHER RUN STONE.
II WATER LINE ABOVE SEWER LINE	ML 18" (MIN.)	A) WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT CROSSING. EACH LENGTH OF PIPE TO BE 10 FT. MINIMUM. B) WHEN BOTH WATER LINE AND SEWER LINE ARE NEW, SLEEVE SEWER LINE WITH STEEL CASING FOR 10 FT. EACH SIDE OF CROSSING. C) WHEN ONE LINE IS EXISTING, SLEEVE PIPE BEING INSTALLED WITH STEEL CASING FOR 10 FT. EACH SIDE OF CROSSING. D) BACKFILL WITH COMPACTED CRUSHER RUN STONE.
III SEWER LINE ABOVE WATER LINE	18" (MIN.)	A) WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT CROSSING. EACH LENGTH OF PIPE TO BE 10 FT. MINIMUM. B) SLEEVE SEWER LINE WITH STEEL CASING FOR 10 FT. EACH SIDE OF CROSSING. C) PROVIDE CRADLE OF CONCRETE OR CRUSHER RUN STONE (SEE TRENCH
NOTES WL (WATER LINE) SL (SEWER LINE) D (OUTSIDE DIAMETER OF PIPE) IN NO CASE SHALL PIPES BE CLOSER THAN 18" APART. DISTANCES ARE MEASURED BETWEEN OUTSIDES OF PIPE.		DETAIL BELOW) FOR WATER LINE AND SEWER LINE FOR 10 FT. EACH SIDE OF CROSSING. CAREFULLY TAMPED BACKFILL CRADLE OF CONC. OR CRUSHER RUN STONE 1#4 D 1#4 D 1#4 D (4" MIN.)

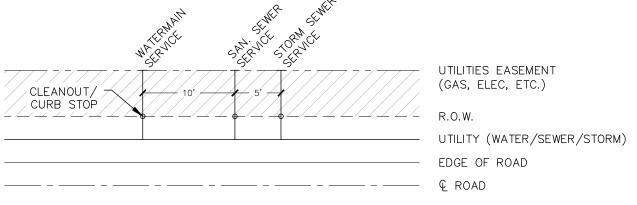
WATERMAIN/SEWER CROSSING DETAIL

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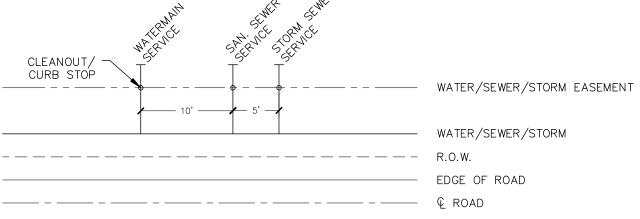
DATE: 2018

SCALE: N.T.S.

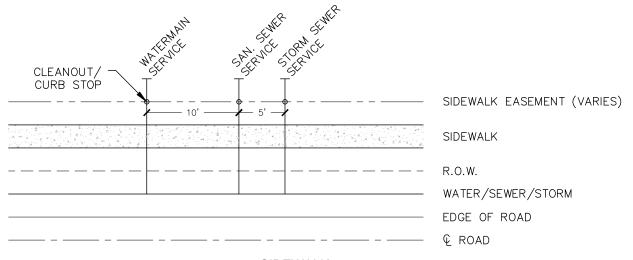
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INSIDE R.O.W.



OUTSIDE R.O.W.



SIDEWALK

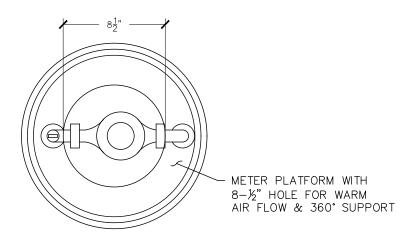
TYPICAL UTILITY SERVICE PLAN

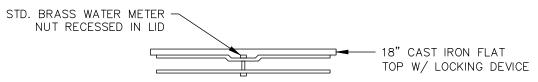
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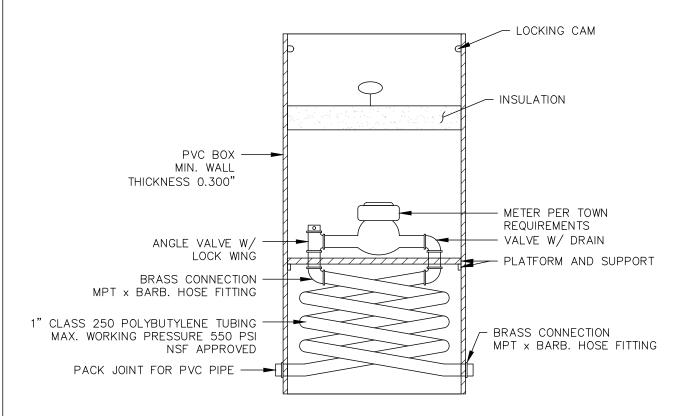
DATE: 2018

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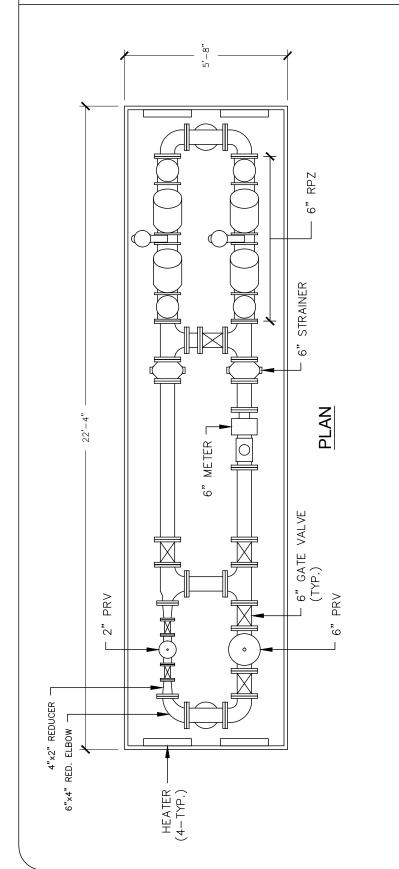
METER PIT DETAIL

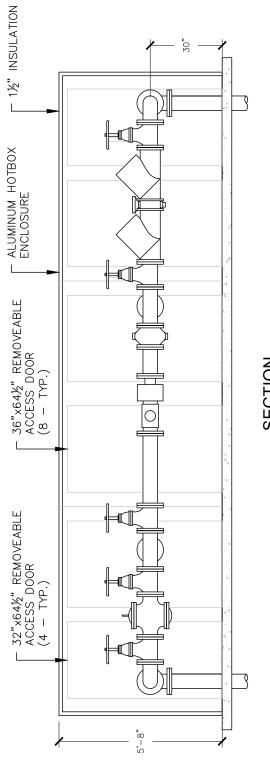
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RPZ AND METER IN HOTBOX