






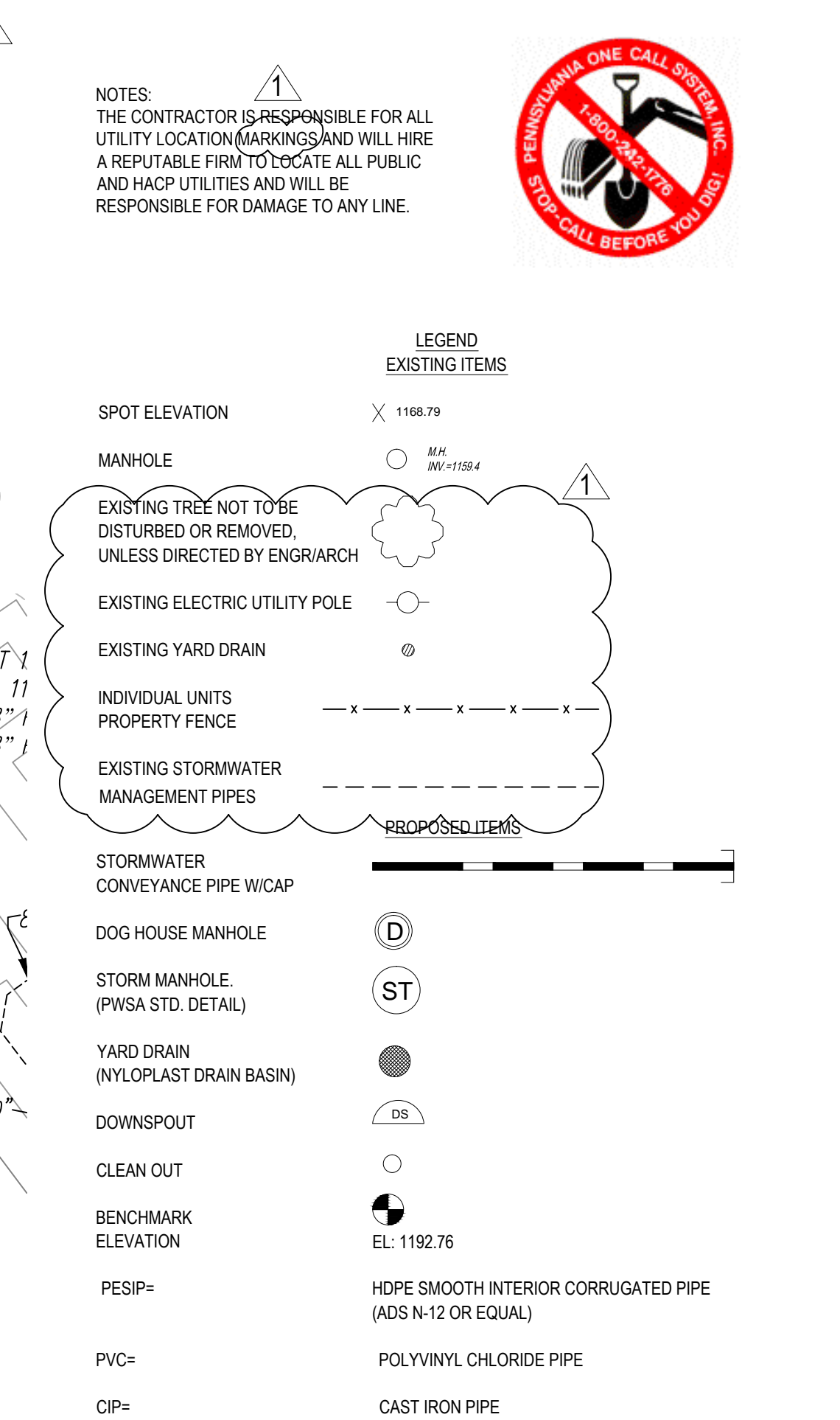
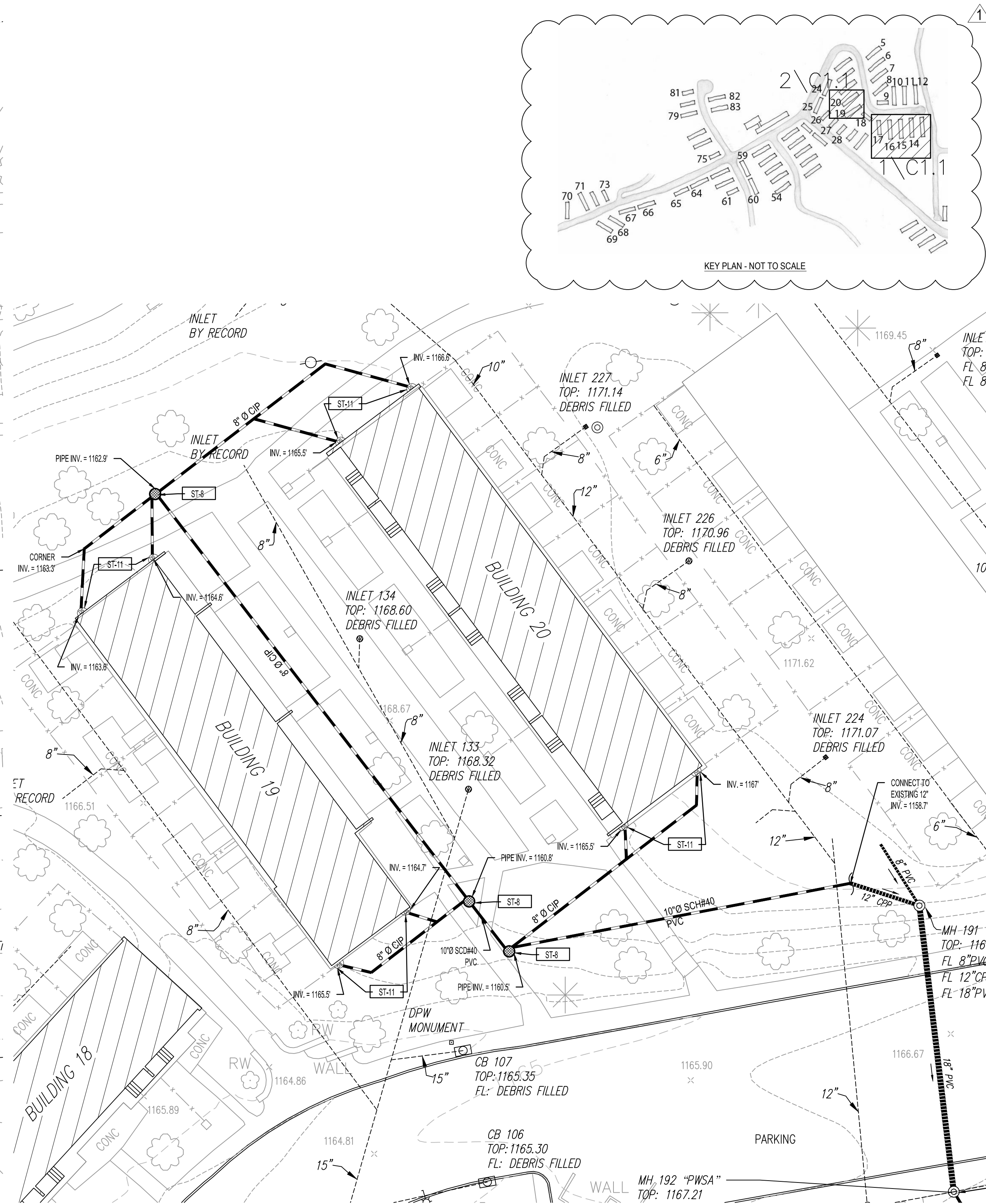


	PROPOSED ITEMS
STORMWATER CONVEYANCE PIPE W/CAP	
DOG HOUSE MANHOLE	
STORM MANHOLE: (PWSA STD. DETAIL)	
YARD DRAIN (NYLOPLAST DRAIN BASIN)	
DOWNSPOUT	
CLEAN OUT	
BENCHMARK ELEVATION	 EL: 1192.76
PESIP=	HDPE SMOOTH INTERIOR CORRUGATED PIPE (ADS N-12 OR EQUAL)
PVC=	POLYVINYL CHLORIDE PIPE
CIP=	CAST IRON PIPE

C1.0



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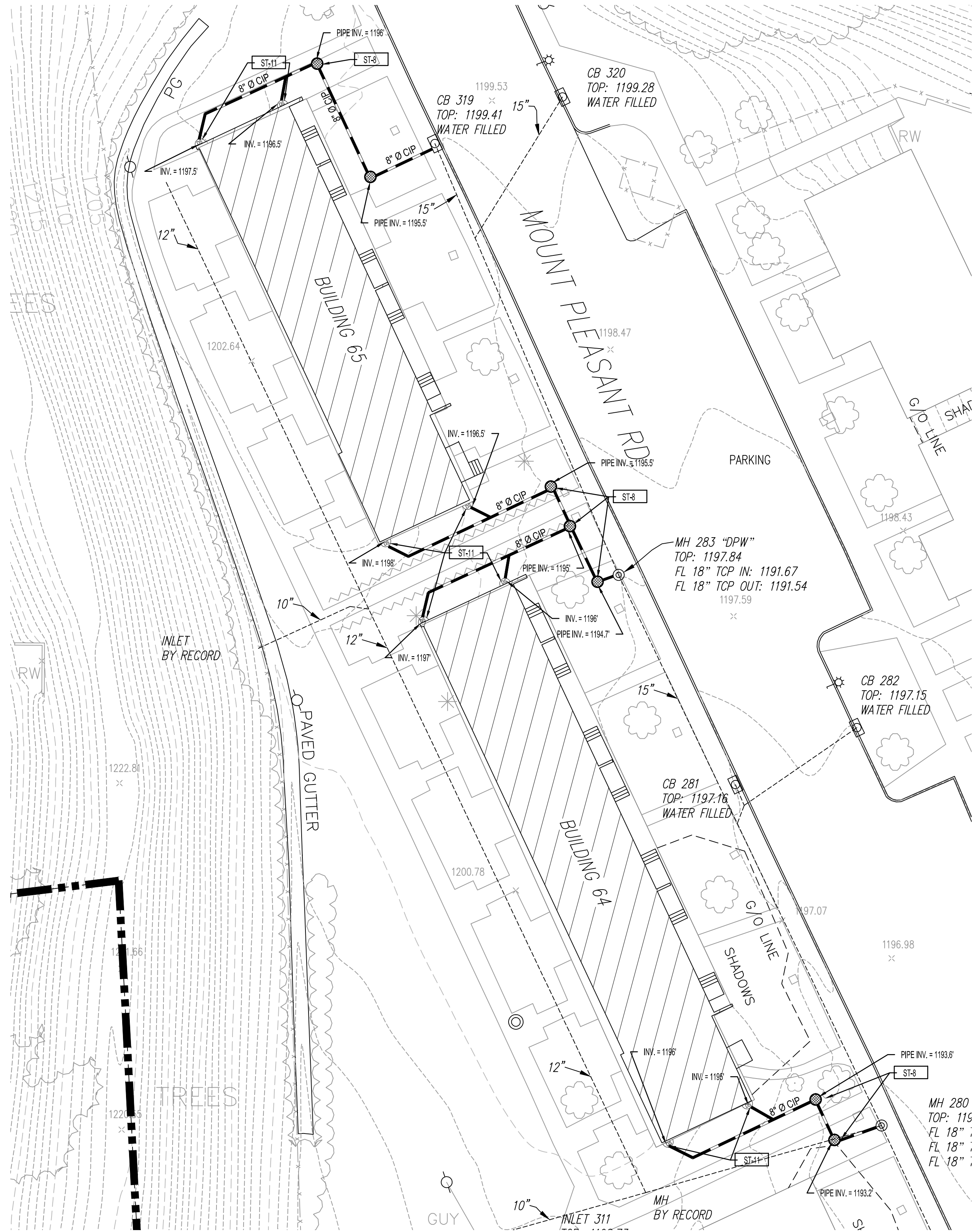
STORMWATER PLAN
Scale: As Noted

Housing Authority City of Pittsburgh
200 Ross Street
Pittsburgh, PA 15219

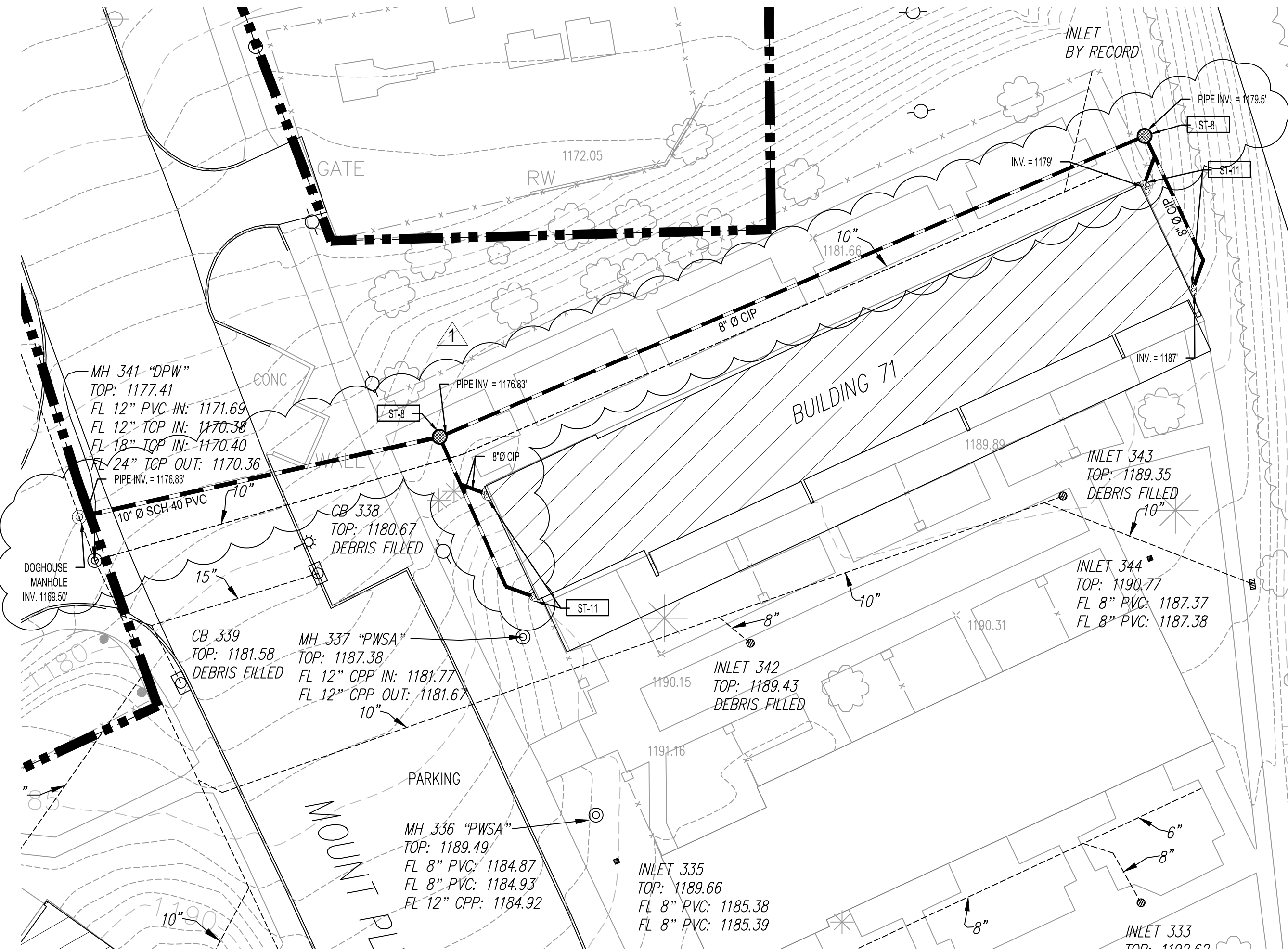
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NOTES:

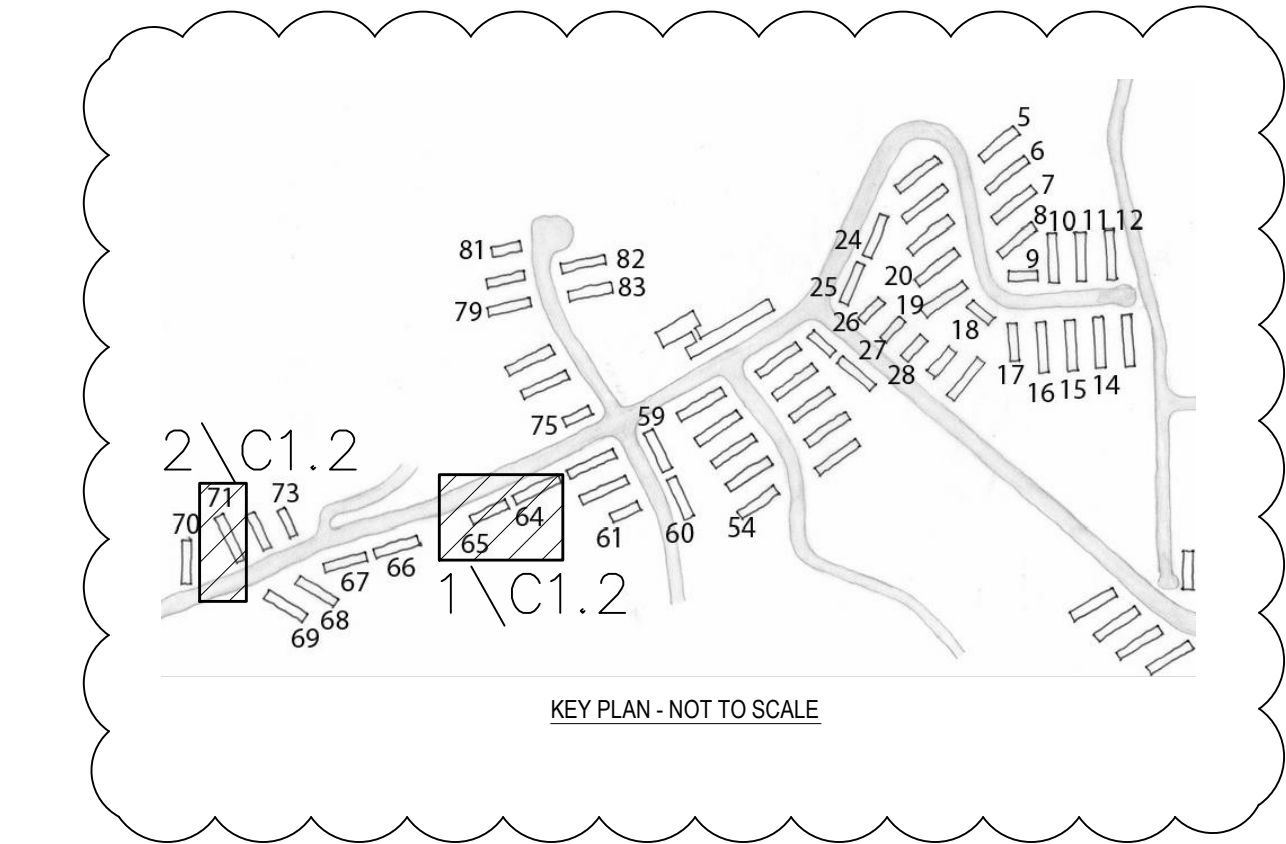
1. FEW EXISTING UTILITIES ARE SHOWN ON THE PLANS. THIS INCLUDES GAS, WATER, SEWER, AND GEOTHERMAL LINES THAT ARE KNOWN TO EXIST WITHIN THE PROPOSED WORK AREA. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE A PA-1 CALL AND IDENTIFY, VERIFY DEPTHS, AND AVOID ALL EXISTING UTILITIES AND RELATED ITEMS. IT SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THE LATEST EDITIONS OF PRELIMINARY WORK SHEETS AND TO AVOID ANY EXISTING UTILITIES WHEN NECESSARY. SUCH MODIFICATIONS THAT DO NOT EXCEED 10 FEET IN A HORIZONTAL DIRECTION, OR 3 FEET IN A VERTICAL DIRECTION SHALL BE INCIDENTAL AND PERFORMED AT NO ADDITIONAL COST TO THE OWNER. MODIFICATIONS THAT DO EXCEED THESE LIMITS SHALL BE DISCUSSED WITH THE ENGINEER OR ARCHITECT.
2. CONTRACTOR SHALL CLEAN ALL EXISTING "DEBRIS FILLED" DRAINAGE FACILITIES SHOWN ON THE CONSTRUCTION DRAINAGE DETAIL. THE DRAINAGE FACILITIES INVERT ELEVATIONS ON THE AS BUILT DRAWING SET. THE CONTRACTOR SHALL PERFORM THIS WORK USING MEANS AND METHODS THAT ARE SUITABLE FOR EACH DRAINAGE FACILITY; REMOVE, COLLECT, AND DISPOSE OF THE DEBRIS OFF-SITE; AND RESTORE THE WORK AREA TO PRE-WORK CONDITIONS. THIS WORK IS INCIDENTAL TO THE INSTALLATION OF NEW DRAINAGE FACILITIES, AND WILL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
3. THE SIZES AND HORIZONTAL AND VERTICAL LOCATIONS OF THE DRAINAGE PIPES AND STRUCTURES SHALL BE DETERMINED BY CONCRETE PADS AND RAMPS, BUILDINGS, ETC. THE SHOWN LOCATIONS ARE APPROXIMATE. THEY HAVE BEEN DERIVED FROM BEST AVAILABLE SOURCES AND HAVE NOT BEEN FIELD VERIFIED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SIZES AND LOCATIONS AND MAKE APPROPRIATE ADJUSTMENTS AND MAKE PROPER CONNECTIONS WITHOUT ANY ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID THE DISTURBANCE OF THE EXISTING SIDEWALKS, CONCRETE PADS AND RAMPS. THIS SHOULD BE DONE BY HORIZONTAL AUGERING, BORING OR SIMILAR MEANS TO INSTALL THE DRAINAGE FACILITIES BENEATH. IF OPEN TRENCHING IS NECESSARY, THE CONCRETE SHALL BE SAW CUT. THE MATERIAL SHALL BE REPLACED IN KIND TO A CONDITION AS EQUAL AS OR BETTER THAN PRIOR TO CONSTRUCTION. DOWELS SHALL BE USED TO PREVENT ANY SETTLEMENT OF THE NEW CONCRETE. THE EXISTING SIDEWALKS, RAMPS AND PATHWAYS ARE UFAS COMPLIANT. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE CERTAIN THESE ARE TO REMAIN UFAS COMPLIANT.
5. MINIMUM SLOPE OF ALL PIPES SHALL BE 1/8" PER FOOT.
6. ALL NYLOPLAST YARD DRAINS (DETAIL ST-8) SHALL BE 24 INCHES IN DIAMETER.



1 BUILDINGS 64 & 65
SCALE: 1:20



2 BUILDING 71
SCALE: 1:20



NOTES:
THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATION MARKINGS AND WILL HIRE A REPUTABLE FIRM TO LOCATE ALL PUBLIC AND H&P UTILITIES AND WILL BE RESPONSIBLE FOR DAMAGE TO ANY LINE.

LEGEND	
EXISTING ITEMS	
SPOT ELEVATION	X 1168.79
MANHOLE	MH INV. = 1159.4
EXISTING TREE NOT TO BE DISTURBED OR REMOVED, UNLESS DIRECTED BY ENGR/ARCH	
EXISTING ELECTRIC UTILITY POLE	
EXISTING YARD DRAIN	
INDIVIDUAL UNITS PROPERTY FENCE	- x - x - x - x - x -
EXISTING STORMWATER MANAGEMENT PIPES	
PROPOSED ITEMS	
STORMWATER CONVEYANCE PIPE W/CAP	
DOG HOUSE MANHOLE	D
STORM MANHOLE (PWSA STD. DETAIL)	ST
YARD DRAIN (NYLOPLAST DRAIN BASIN)	
DOWNSPOUT	DS
CLEAN OUT	
BENCHMARK ELEVATION	EL: 1192.76
PESIP=	HDPE SMOOTH INTERIOR CORRUGATED PIPE (ADS N-12 OR EQUAL)
PVC=	POLYVINYL CHLORIDE PIPE
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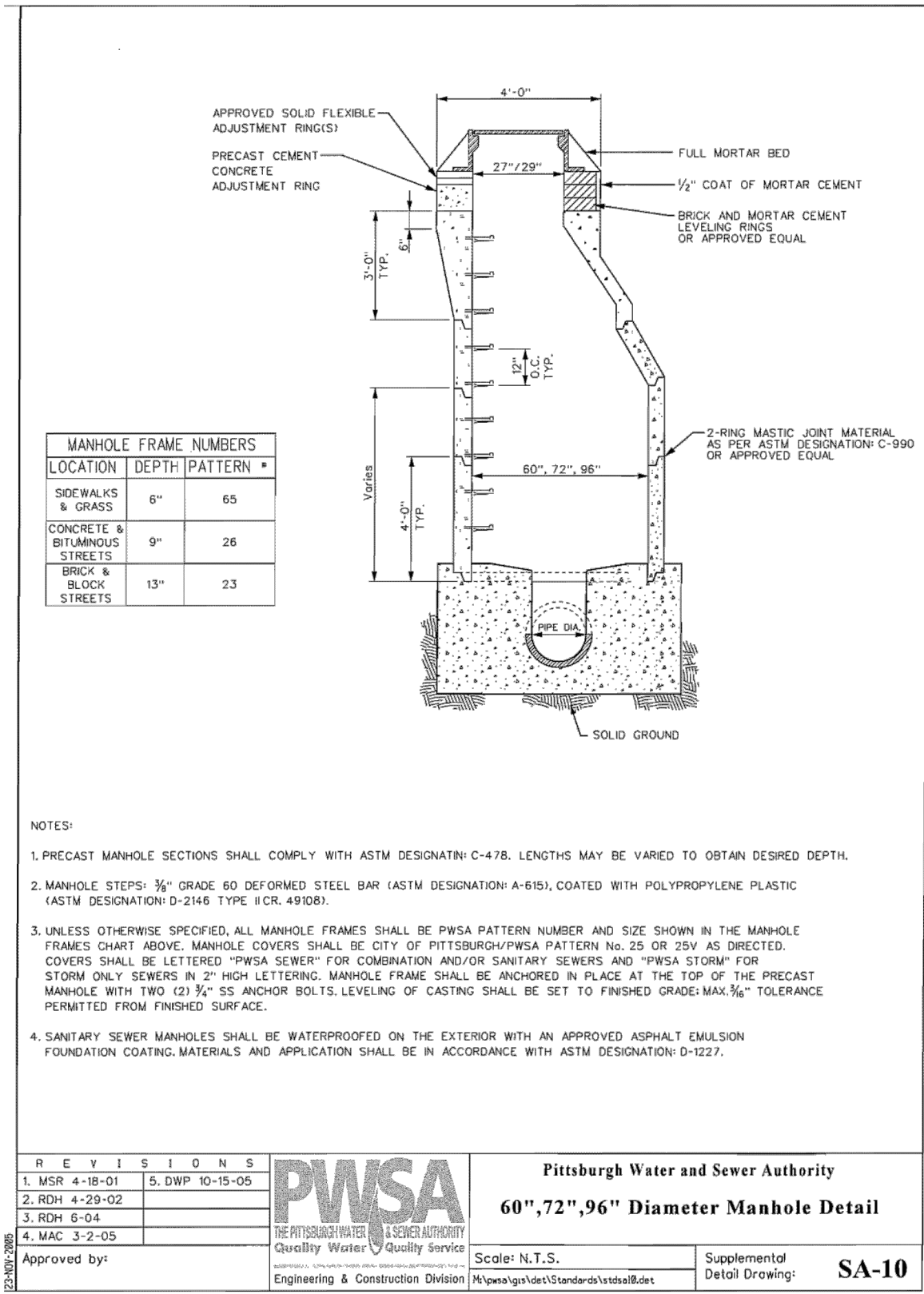
29 Oct 2012
15 Nov 2012

STORMWATER PLAN
Scale: As Noted

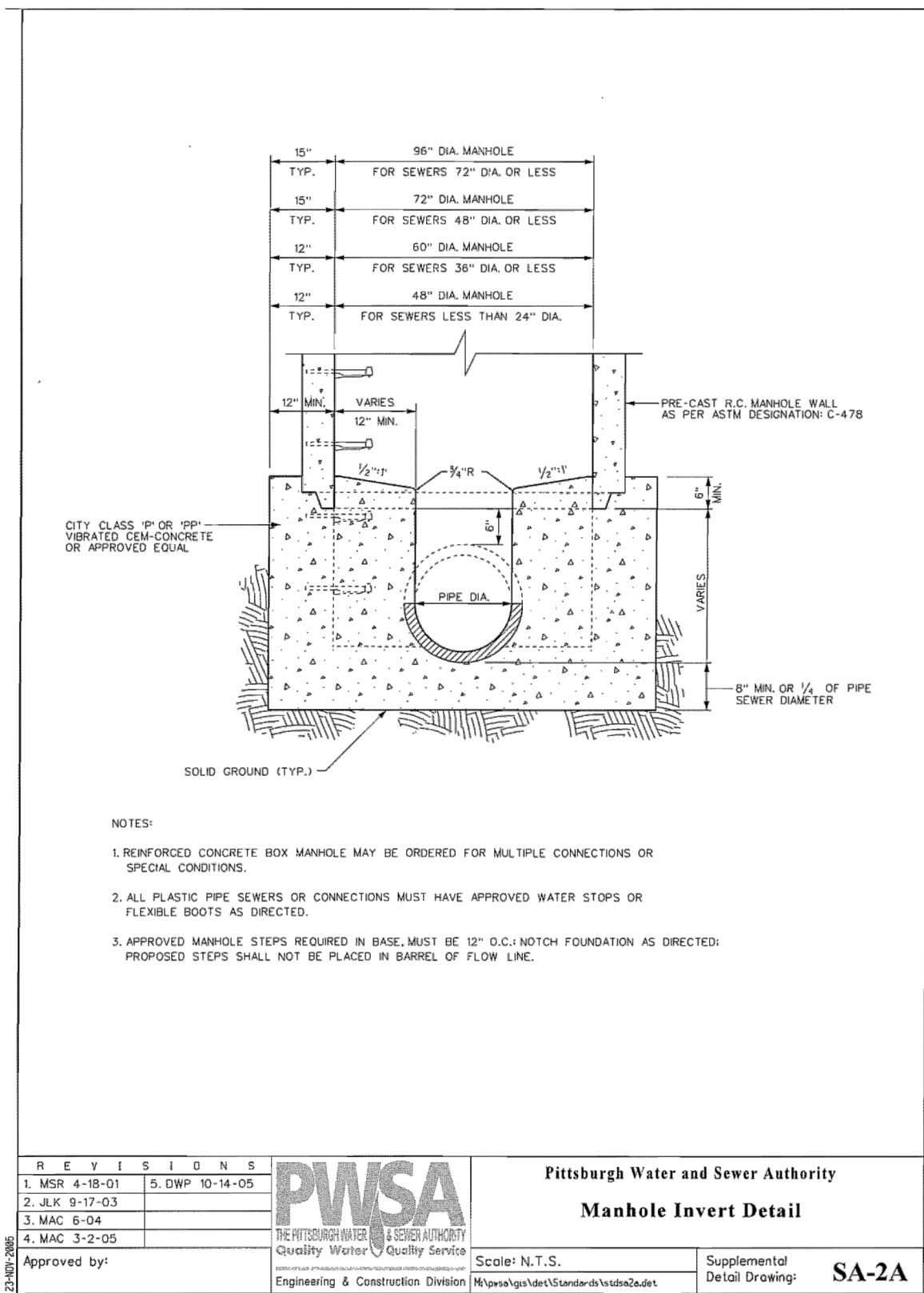
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C1.2

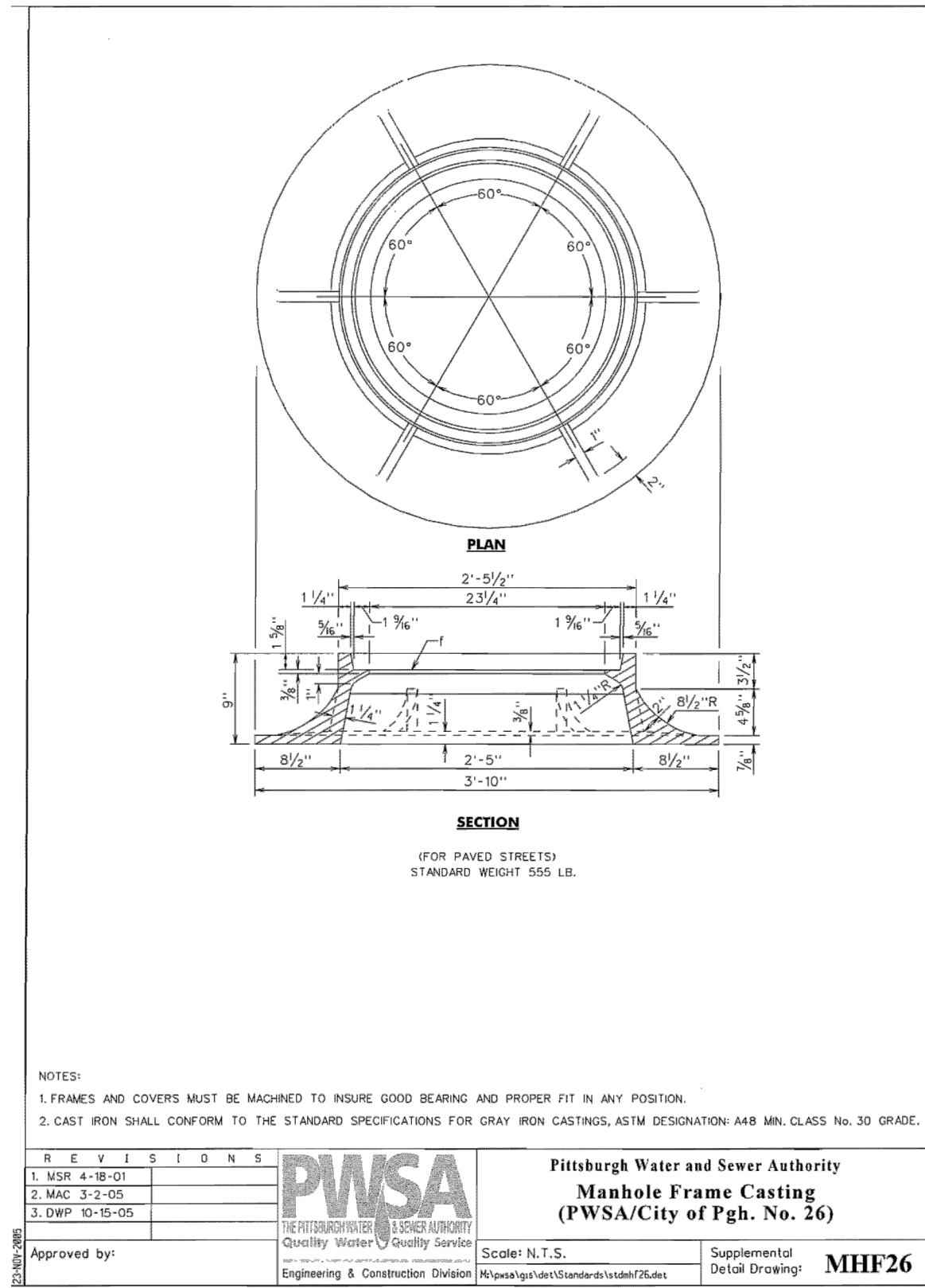
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 - CONTRACTOR SHALL CLEAN ALL EXISTING "DEBRIS FILLED" DRAINAGE FACILITIES SHOWN ON THE CONSTRUCTION DRAWINGS AND RECORD THE DRAINAGE FACILITIES INVERT ELEVATIONS ON THE AS BUILT DRAWING SET. THE CONTRACTOR SHALL PERFORM THIS WORK USING MEANS AND METHODS THAT ARE SUITABLE FOR EACH DRAINAGE FACILITY; REMOVE, COLLECT, AND DISPOSE OF THE DEBRIS OFF-SITE; AND RESTORE THE WORK AREA TO PRE-WORK CONDITIONS. THIS WORK IS INCIDENTAL TO THE INSTALLATION OF NEW DRAINAGE FACILITIES, AND WILL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
 - THE SIZES AND HORIZONTAL AND VERTICAL LOCATIONS OF THE DRAINAGE PIPES AND STRUCTURES, UTILITIES SIDEWALKS, CONCRETE PADS AND RAMPS, BUILDINGS ETC. AS SHOWN ON THIS DRAWING ARE APPROXIMATE. THEY HAVE BEEN DERIVED FROM BEST AVAILABLE SOURCES AND HAVE NOT BEEN FIELD VERIFIED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SIZES AND LOCATIONS AND MAKE APPROPRIATE ADJUSTMENTS AND MAKE PROPER CONNECTIONS WITHOUT ANY ADDITIONAL COST TO THE OWNER.
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 - MINIMUM SLOPE OF ALL PIPES SHALL BE 1%.
 - ALL NYLOPLAST YARD DRAINS (DETAIL ST-8) SHALL BE 24 INCHES IN DIAMETER.



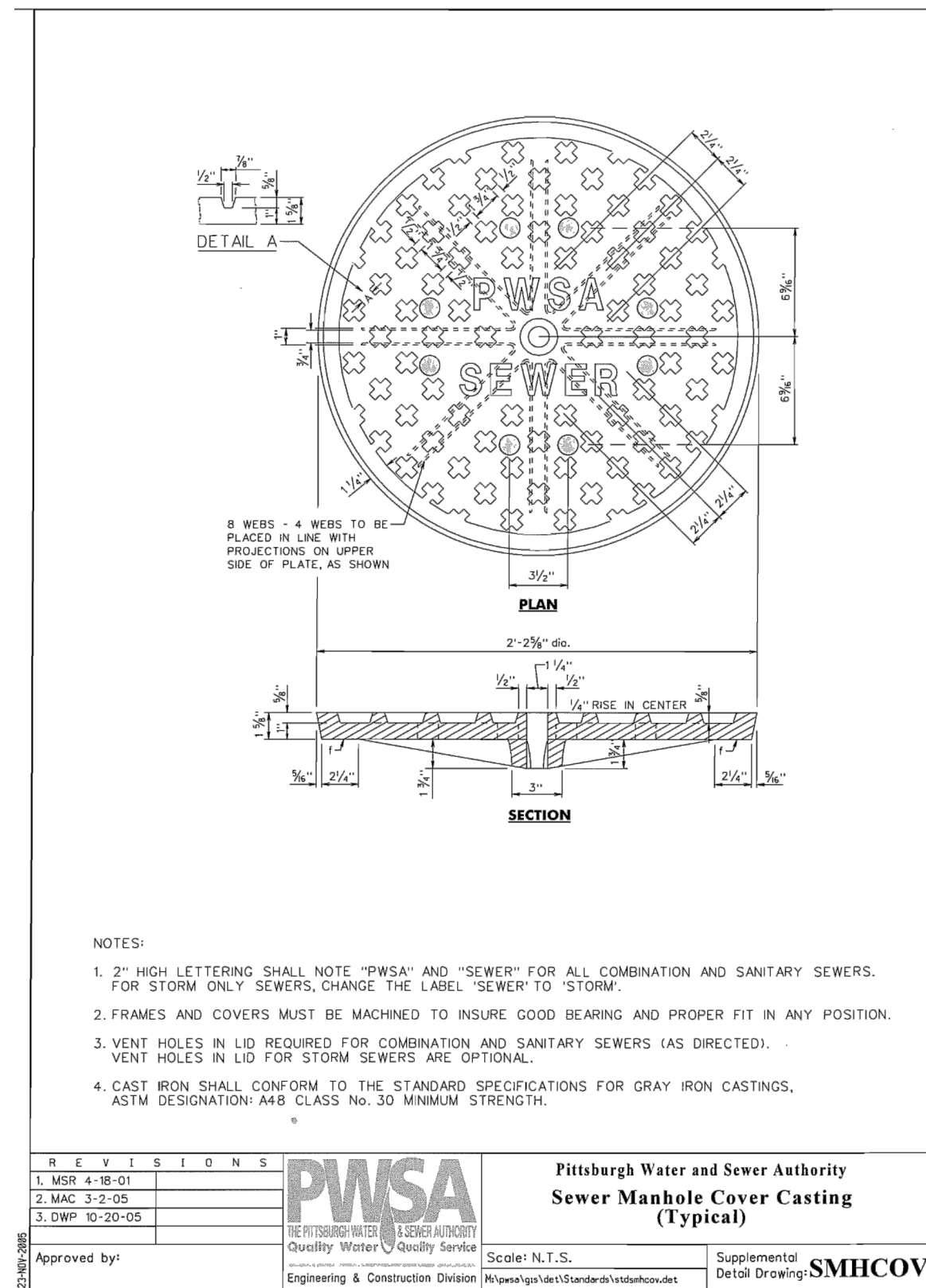
ST-1 60", 72", 96" DIAMETER MANHOLE DETAIL
NOT TO SCALE



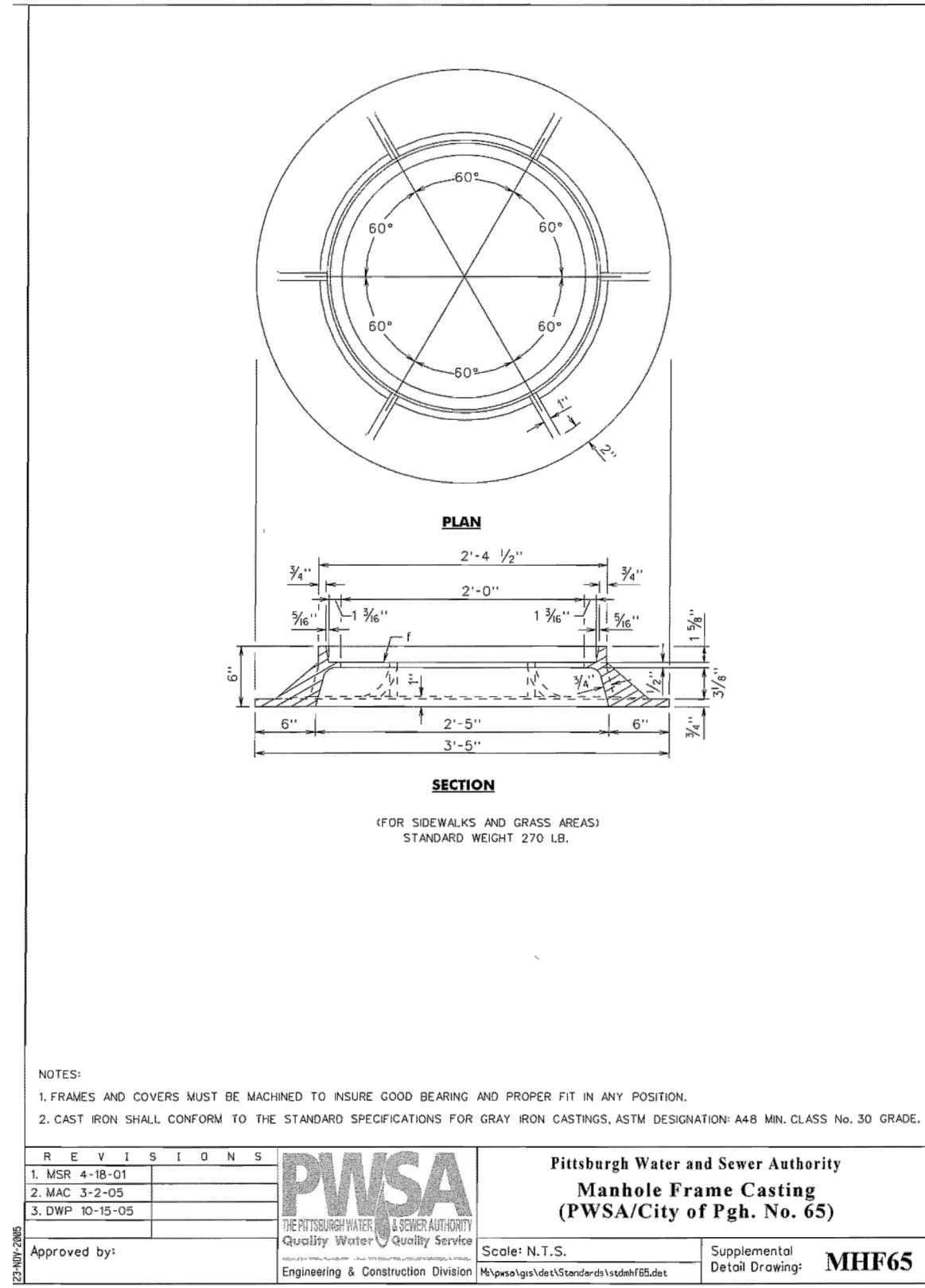
ST-4 MANHOLE INVERT DETAIL
NOT TO SCALE



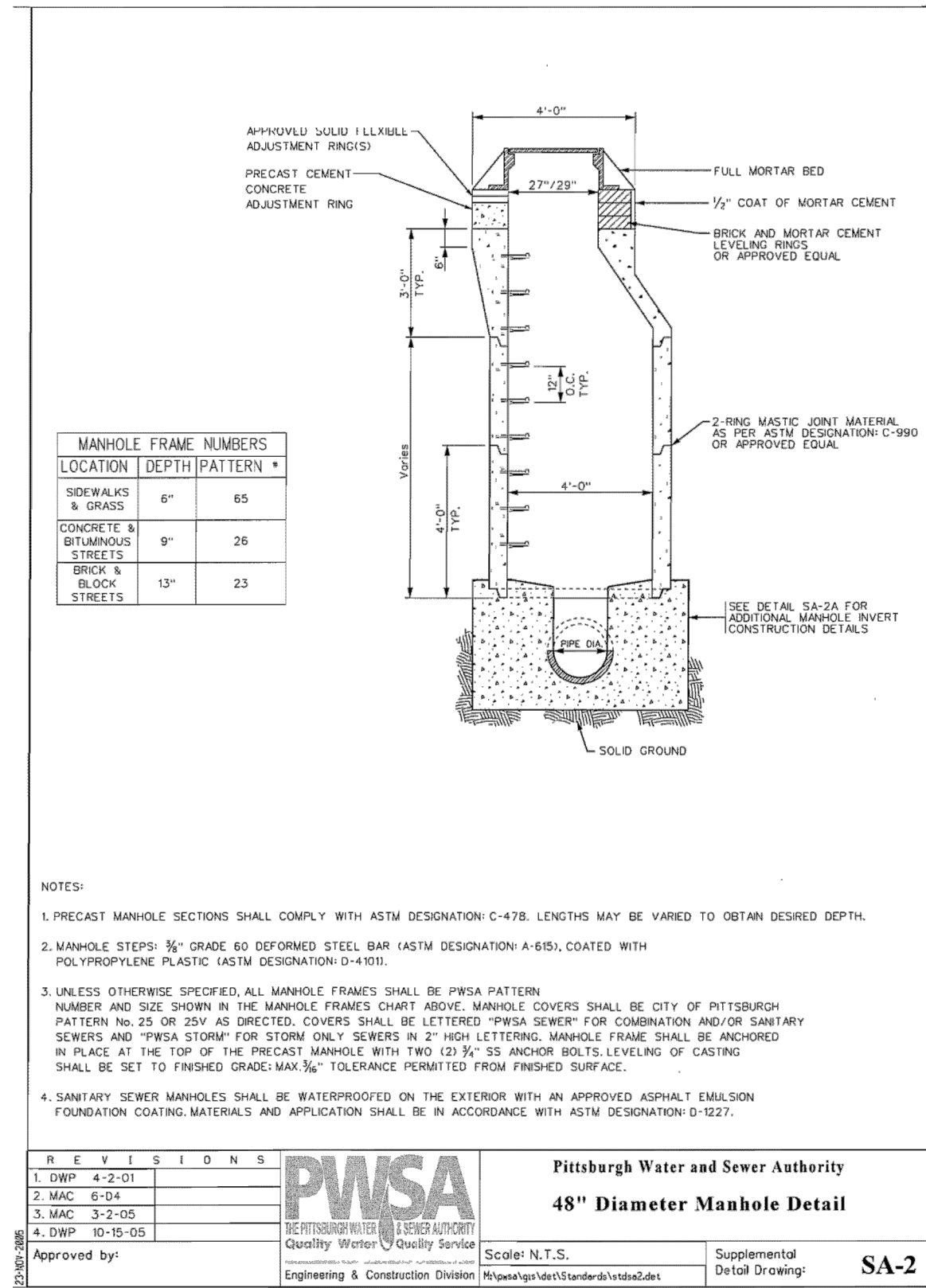
ST-2 MANHOLE FRAME CASTING NO. 26
NOT TO SCALE



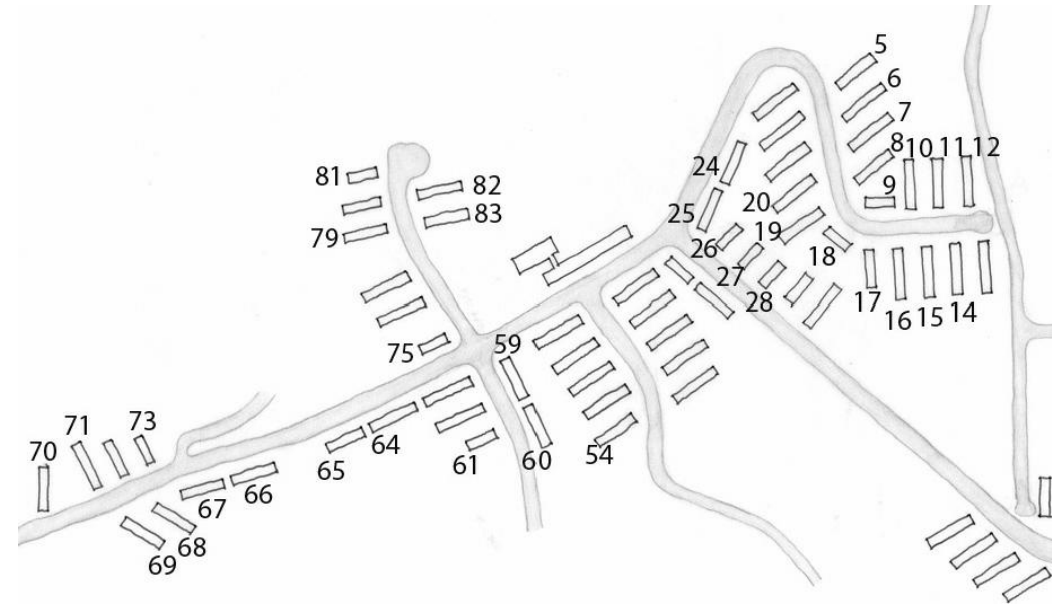
ST-5 SEWER MANHOLE COVER CASTING DETAIL
NOT TO SCALE



ST-3 MANHOLE FRAME CASTING NO. 65
NOT TO SCALE

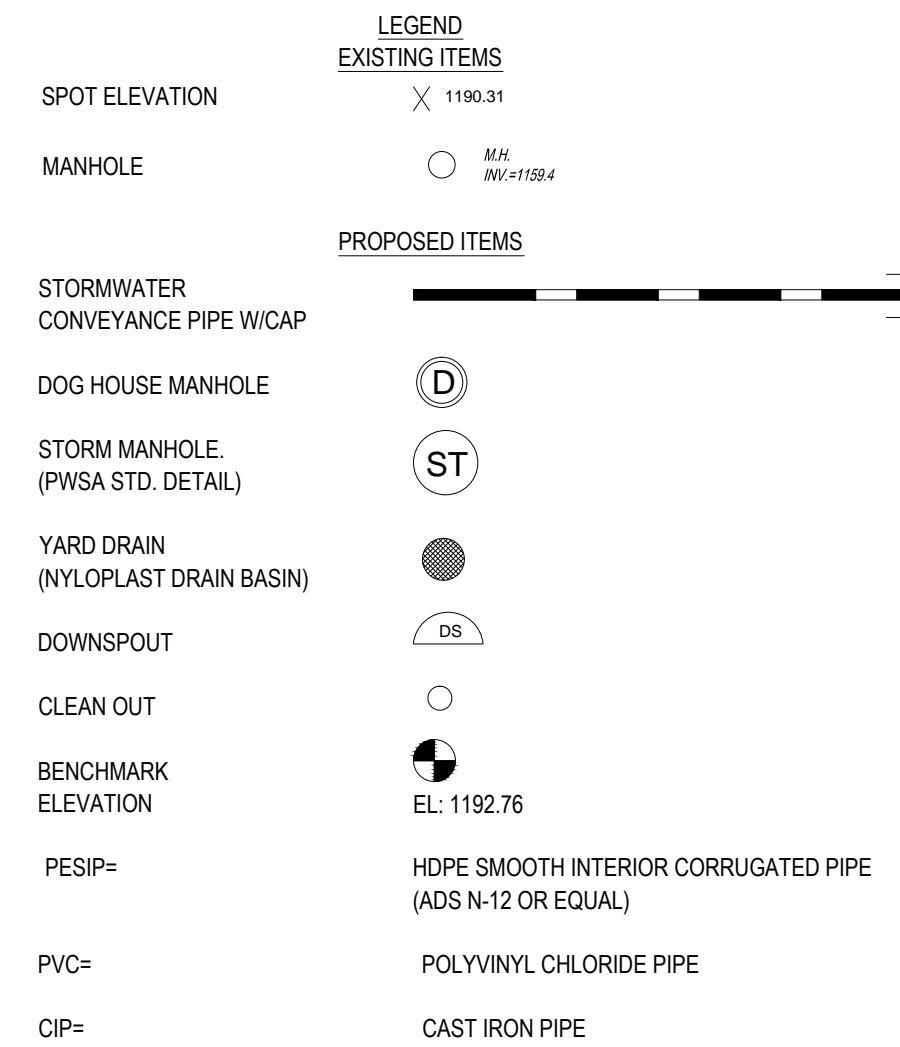


ST-7 TYPICAL MANHOLE DETAIL
NOT TO SCALE



NOTES:

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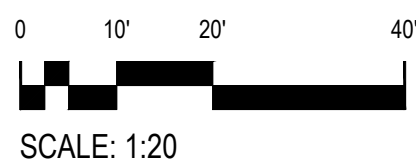
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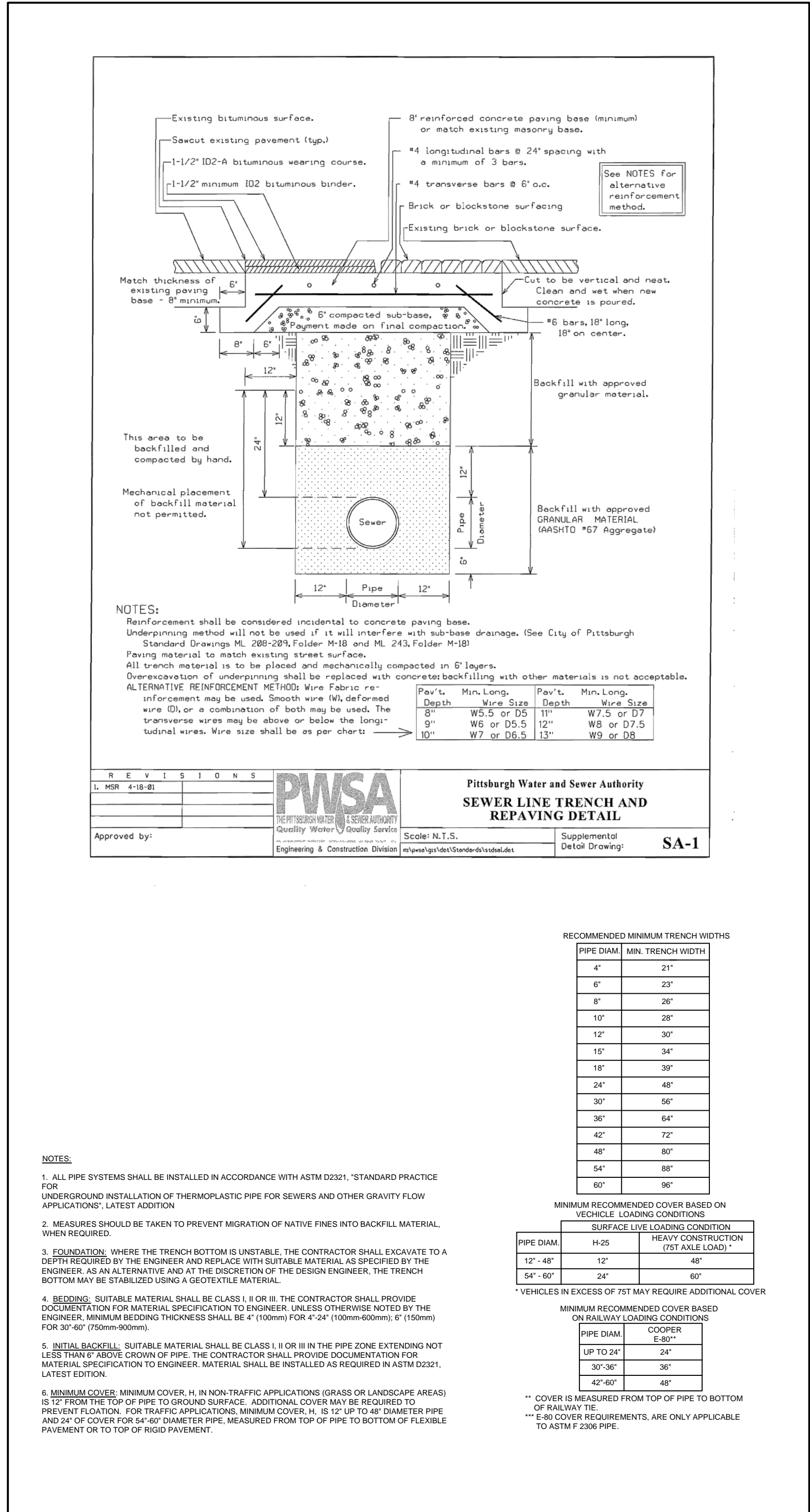
DETAILS
Scale: As Noted

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C2.0

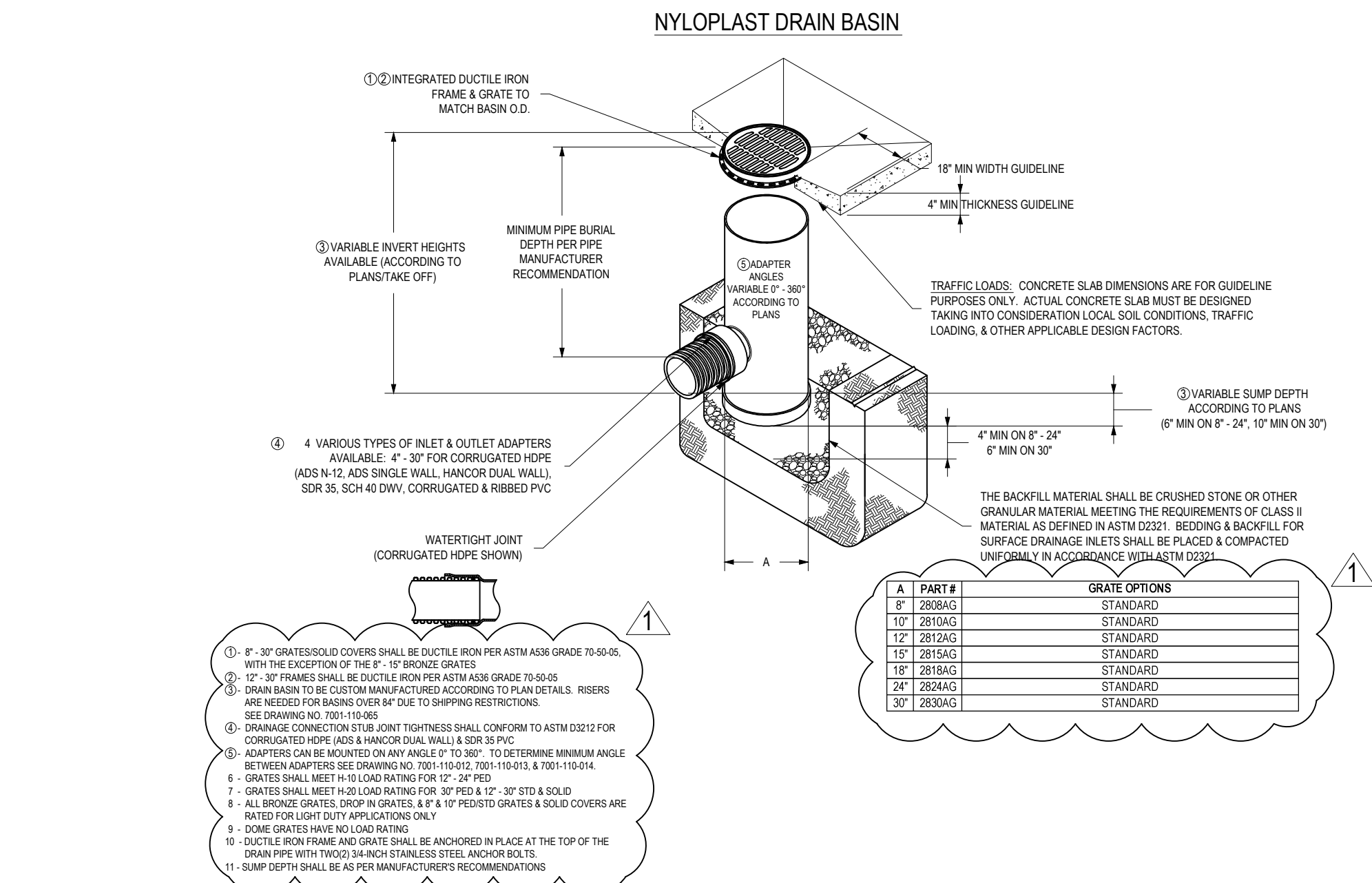


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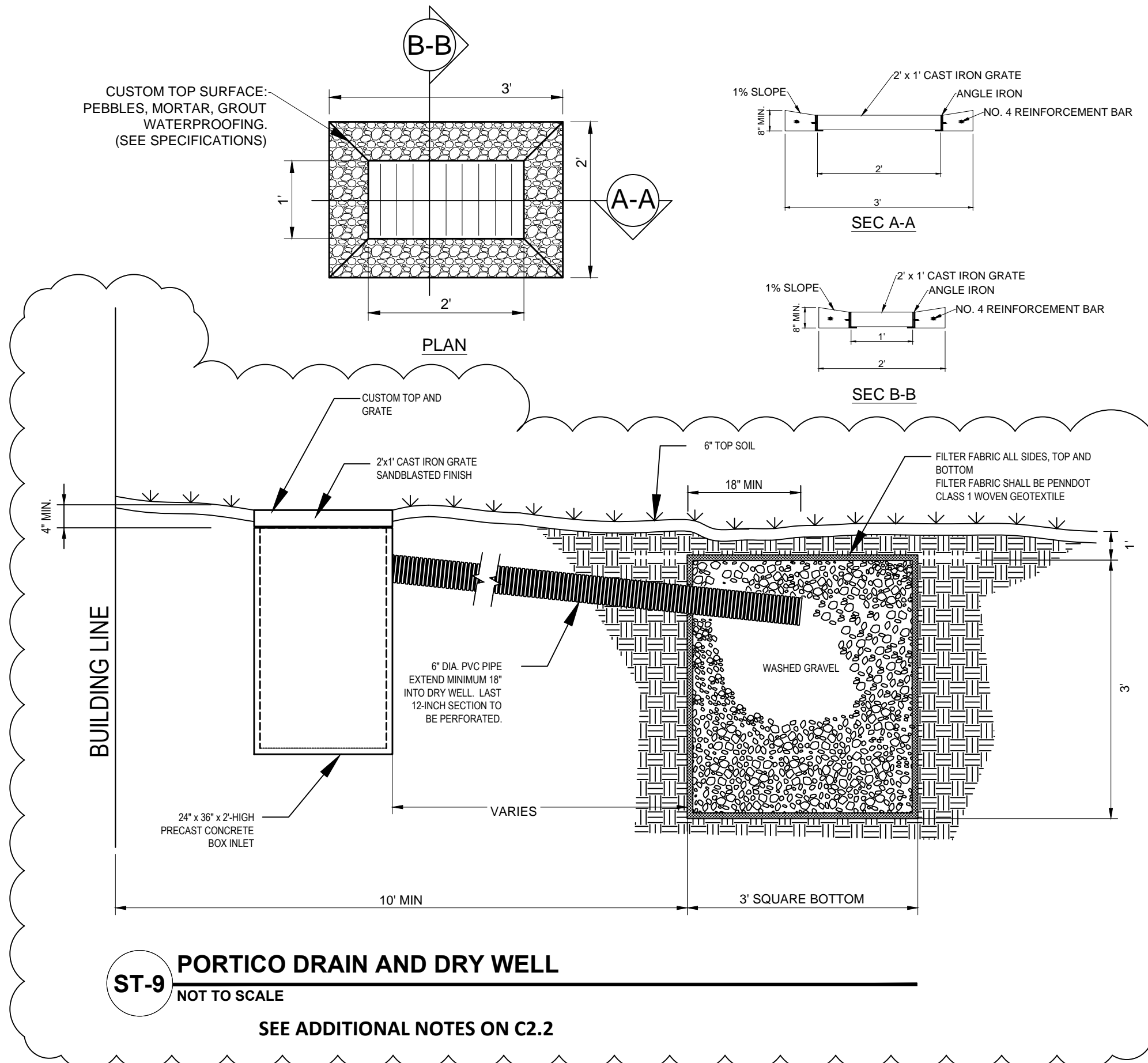
ST-6 STORM SEWER TRENCH & REPAVING DETAIL

NOT TO SCALE



ST-8 YARD DRAIN DETAIL

NOT TO SCALE



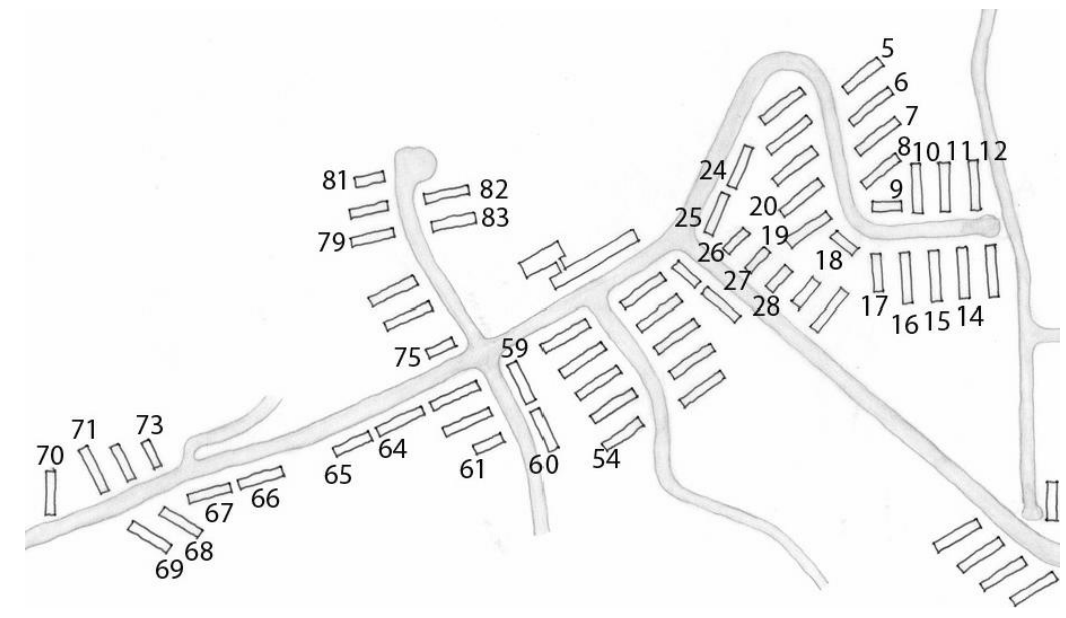
ST-9 PORTICO DRAIN AND DRY WELL

NOT TO SCALE

SEE ADDITIONAL NOTES ON C2.2

ST-10 ROOF DRAIN HEADER DETAIL

NOT TO SCALE



KEY PLAN - NOT TO SCALE

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LEGEND	EXISTING ITEMS
SPOT ELEVATION	X 1190.31
MANHOLE	MANHOLE
STORMWATER CONVEYANCE PIPE W/ CAP	STORMWATER CONVEYANCE PIPE W/ CAP
DOG HOUSE MANHOLE	DOG HOUSE MANHOLE
STORM MANHOLE (PWSA STD. DETAIL)	STORM MANHOLE (PWSA STD. DETAIL)
YARD DRAIN (NYLOPLAST DRAIN BASIN)	YARD DRAIN (NYLOPLAST DRAIN BASIN)
DOWNSPOUT	DOWNSPOUT
CLEAN OUT	CLEAN OUT
BENCHMARK ELEVATION	BENCHMARK ELEVATION
PESIP=	HDPE SMOOTH INTERIOR CORRUGATED PIPE (ADS N-12 OR EQUIV.)
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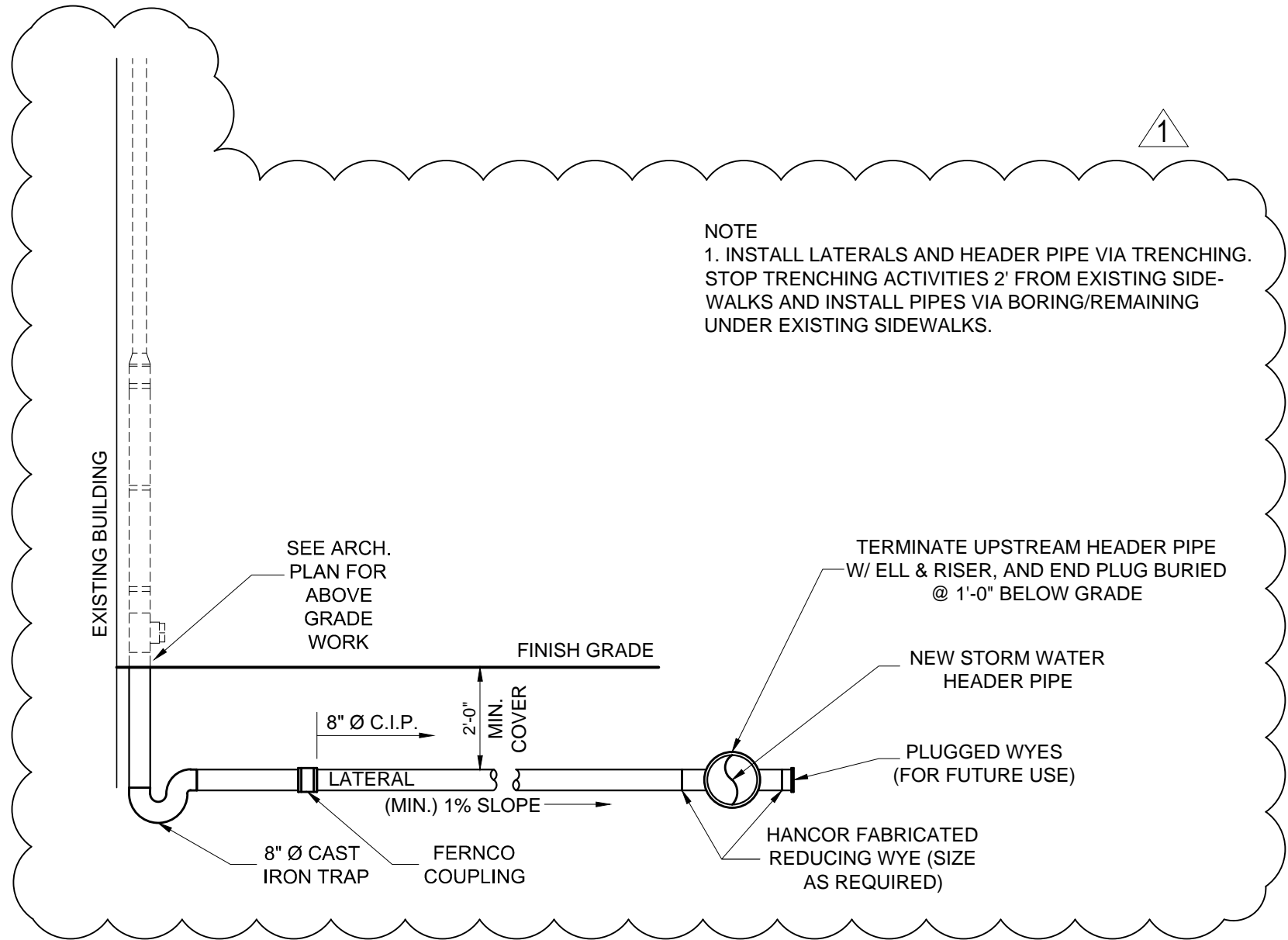
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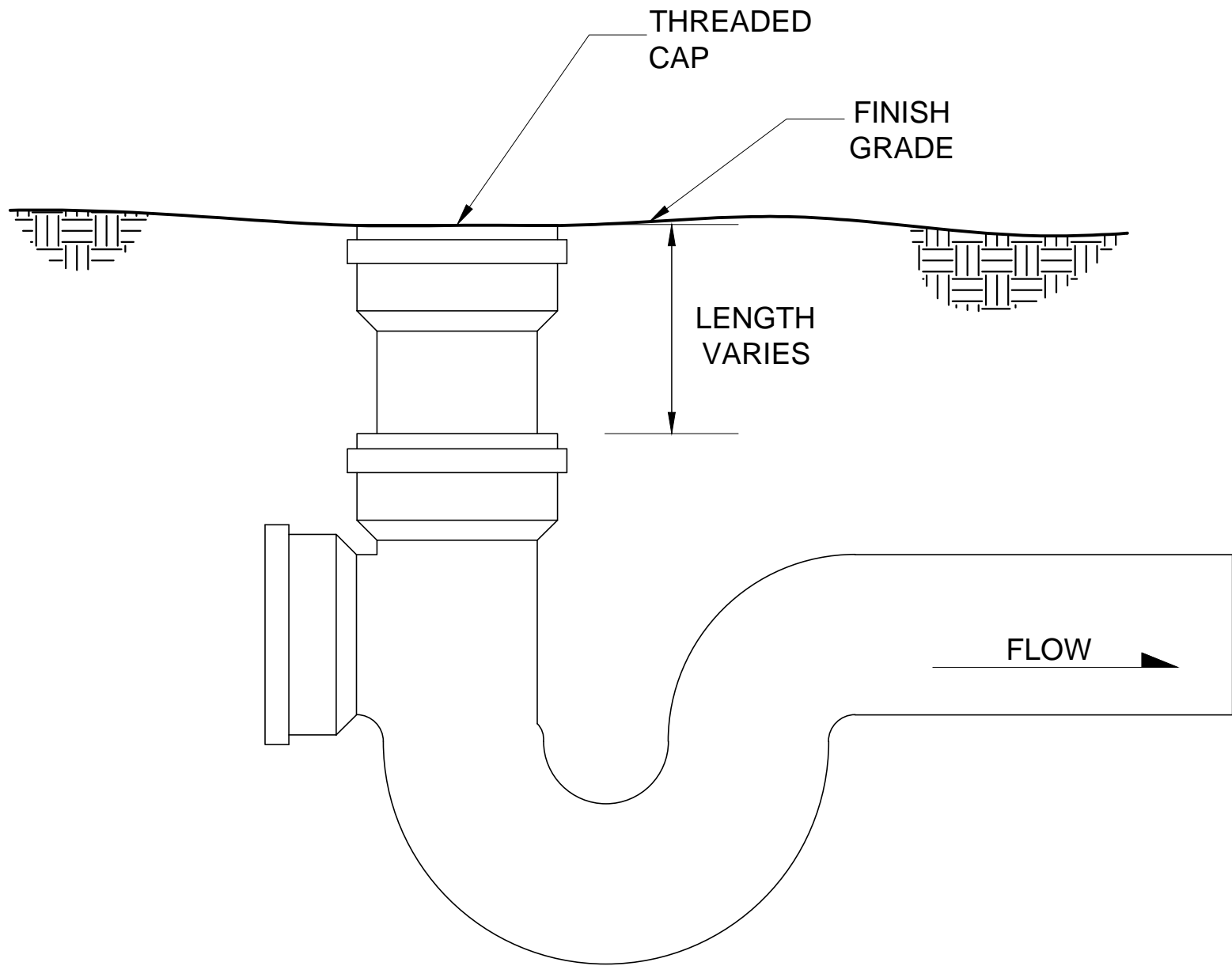
DETAILS
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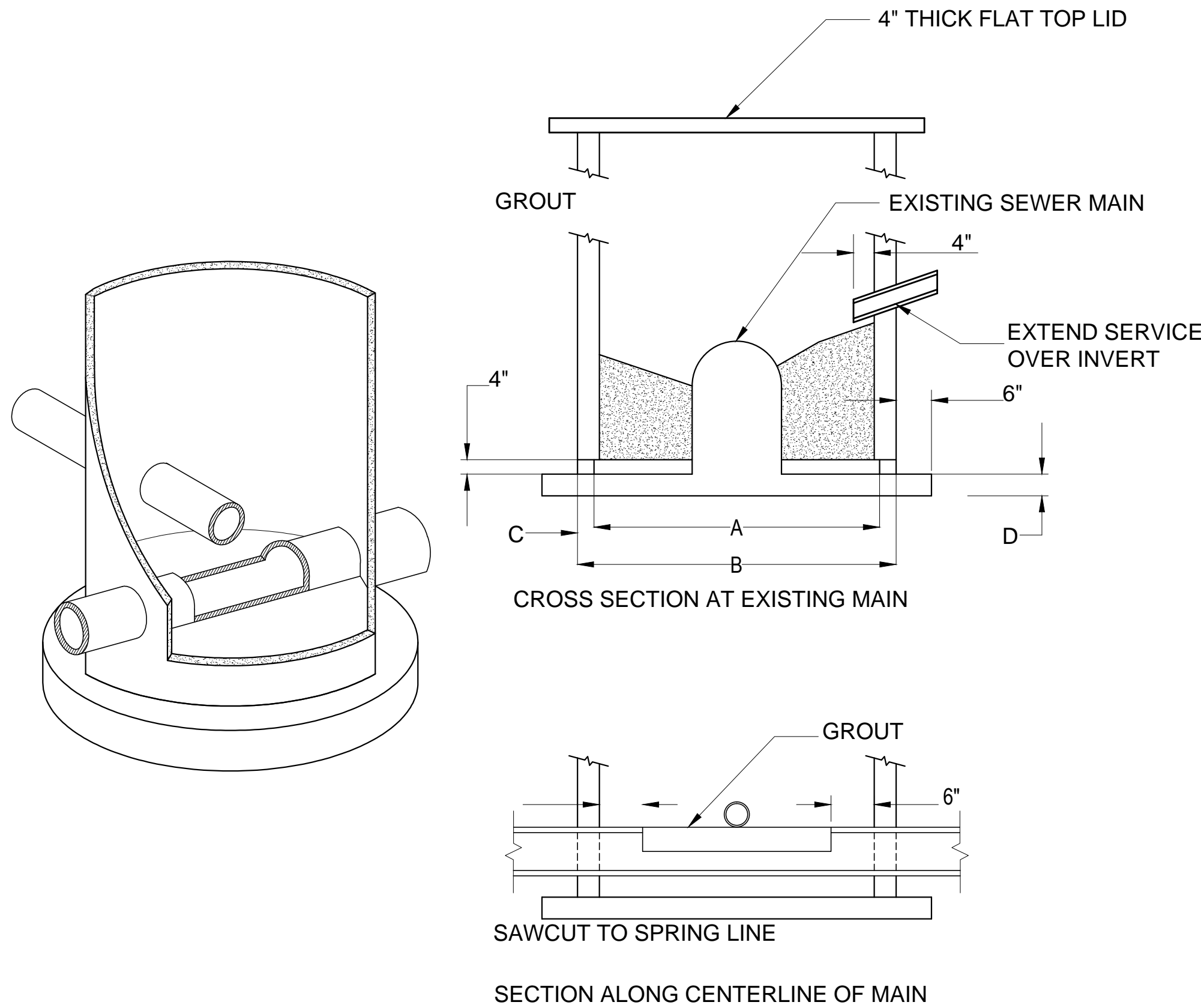
C2.1



ST-11 **DOWNSPOUT TO ROOF DRAIN HEADER WITH U-TRAP CONNECTION**
NOT TO SCALE



ST-12 **CLEANOUT WITH U-TRAP DETAIL**
NOT TO SCALE



ST-13 **"DOGHOUSE" MANHOLE DETAIL**
NOT TO SCALE

NOTES:	
1	CONCRETE TO BE CLASS "C"
2	ALL REINFORCING TO MEET REQUIREMENTS OF CURRENT A.S.T.M. SPECIFICATION C-478.
3	MANHOLE SECTIONS TO MEET REQUIREMENTS OF CURRENT A.S.T.M. SPECIFICATION C-478.
4	TAPERED JOINT WITH O-RING GASKET TO MEET CURRENT A.S.T.M. SPECIFICATION C-361.
5	DOGHOUSE OPENING MAY ONLY BE USED WHEN PLACING A NEW MANHOLE OVER AN EXISTING LINE; OTHERWISE, THE OPENING MUST BE CAST. SIZE, LOCATION AND ANGLE OF ENTRY SHALL BE AS REQUIRED BY THE PLANS.
6	JOINT CONFIGURATION MAY BE CAST BELL- UP OR SPIGOT-UP.
7	HOLES IN PRECAST UNITS ARE TO BE 4" MIN. TO 8" MAX. LARGER THAN THE OUTSIDE DIAMETER OF THE PROPOSED PIPE.
8	BASE SECTION TO PROVIDE 6" MIN. CLEARANCE BETWEEN TOP OF PIPE OPENING AND BOTTOM OF BELL AND SPIGOT JOINT.

MINIMUM DIMENSIONS				
MH	4'-0"	5'-0"	6'-0"	
A	48"	60"	72"	
B	58"	72"	86"	
C	5"	6"	7"	
D	6"	8"	10"	

ADDITIONAL NOTES FOR DETAIL ST-9 SHEET C2.1

PennDOT Type M Precast Concrete Box Inlet

GENERAL NOTES

- All dimensions are in United States customary units in feet and inches
- Design specifications and requirements:
 - Design is in accordance with the load and resistance factor design method (LRFD)
 - Inlet boxes are designed for an allowable foundation pressure equal to 2.0 tsf (tons per square foot), at the service limit state.
- Construction specifications:
 - Provide materials and perform work in accordance with the current version of the Pennsylvania Department of Transportation (PennDOT) Publication 408 (Pub 408) and the contract special conditions, if any.
- Shop drawings for inlet boxes, top slabs, and transition slabs are not required if the item is constructed/fabricated in accordance with PennDOT Pub 408 standards.
- Inside inlet box dimensions are based on providing a pipe opening to accommodate a minimum 6-inch diameter pipe to a maximum 12-inch diameter pipe.
- The top slab shall not be placed monolithically with any adjacent box section
- For inlet tops, grates, grade adjustment rings and frames, refer to Detail ST-9

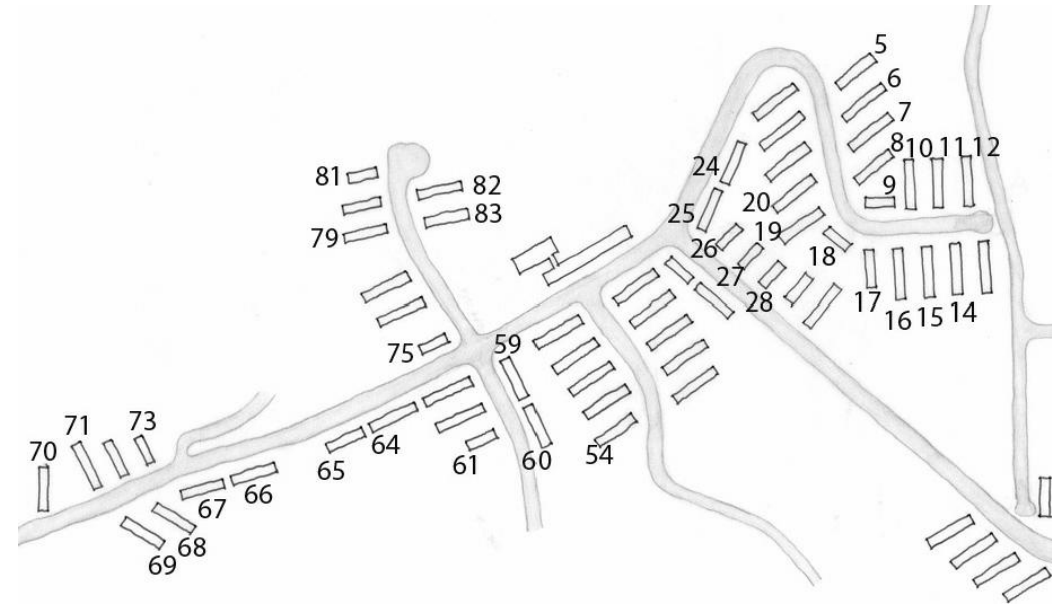
MATERIAL NOTES

- Provide the following concrete class:
 - Precast: Class AA cement concrete, modified, $f'_c = 4,000$ psi.
- A higher strength concrete may be substituted for a lower strength of concrete at no additional cost to the Owner. Submit concrete mix design to the architect/engineer for review and acceptance
- Reinforcement steel:
 - Provide Grade 60 deformed reinforcement bars that meet the requirements of ASTM A615 or ASTM A706.
- Welded wire fabric:
 - Provide Grade 65 plain welded wire fabric that meets the requirements of ASTM A185 of Grade 70, deformed welded wire fabric that meet the requirements of ASTM A497.
- Non-shrink grout:
 - Provide non-shrink grout in accordance with PennDOT Pub 408, Section 1001.2 (d)
- Epoxy bonding compound

- Provide epoxy bonding compound in accordance with PennDOT Pub 408, Section 706.1
- Mortar:
 - Provide mortar in accordance with PennDOT Pub 408, Section 705.7 (b)
 - Caulking compound:
 - Provide caulking compound in accordance with PennDOT Pub 408, Section 705.8 (a)
 - Gaskets:
 - Provide gaskets in accordance with PennDOT Pub 408, Section 605.2 (c)
 - Subbase material and preparation
 - Provide PennDOT No. 2A coarse aggregate in accordance with Pub 408, Section 703.2, and compact in accordance with Pub 408, Section 350.3 (e)
 - Place and compact in 4-inch maximum layers
 - Provide 12-inch minimum depth

FIELD CONSTRUCTION NOTES

- Place inlet boxes level, unless otherwise indicated or directed by architect/engineer
- Place inlet boxes on a subbase constructed of compacted PennDOT No. 2A coarse aggregate. Place and compact in 4-inch layers to provide a 12-inch minimum depth
- Locate drainage pipes as indicated on drawings, or as directed by architect/engineer
- Connect drainage pipes to inlet boxes with mortar or watertight rubber flexible connectors
- Backfill excavated spaces around the structure with acceptable backfill material. Backfill material must be acceptable to architect/engineer
- The following items are incidental to the cost of the inlet box pay item:
 - Excavation
 - Compacted PennDOT No. 2A coarse aggregate
 - Inlet box
 - Class A cement concrete to channel flow
 - Transition slab
 - Top slab
 - Backfill, and
 - Any other miscellaneous items required for the fabrication/installation of the inlet box.



KEY PLAN - NOT TO SCALE

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LEGEND	
EXISTING ITEMS	
SPOT ELEVATION	X 1190.31
MANHOLE	Ø 1190.31
PROPOSED ITEMS	
STORMWATER CONVEYANCE PIPE W/CAP	—
DOG HOUSE MANHOLE	⊙
STORM MANHOLE (PWSA STD. DETAIL)	⊙
YARD DRAIN (NYLOPLAST DRAIN BASIN)	⊙
DOWNSPOUT	⊙
CLEAN OUT	⊙
BENCHMARK ELEVATION	⊙ EL: 1192.76
PESIP=	HDPE SMOOTH INTERIOR CORRUGATED PIPE (ADS N-12 OR EQUAL)
PVC=	POLYVINYL CHLORIDE PIPE
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