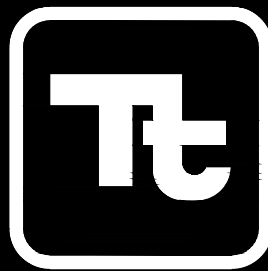


CITY OF HILLSDALE WILLOW STREET STORMWATER IMPROVEMENTS



TETRA TECH

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PROJECT LOCATION:
HILLSDALE, MICHIGAN

CLIENT INFORMATION:
KRISTIN BAUER, PE, CITY ENGINEER
97 N. BROAD STREET
HILLSDALE, MI 49242

Tt PROJECT No.:
200-12761-23001

CLIENT PROJECT No.:

PROJECT DESCRIPTION / NOTES:
PROVIDE 484' 30-INCH STORM SEWER CULVERT TO COLLECT WATER FROM KEEKOOSE PARK AND CONVEY TO THE ST. JOSEPH RIVER.
PROVIDE 28' OF 18-INCH STORM SEWER TO CONNECT TO STORM SEWER FROM MARION STREET.

ISSUED:
3/27/23 - FOR CITY REVIEW
6/20/23 - FOR CITY REVIEW
7/7/23 - ISSUED FOR BIDS

VICINITY MAP:



NOT TO SCALE

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C-502	SESC DETAILS
TC1	TRAFFIC CONTROL PLAN

3. THREE FULL WORKING DAYS PRIOR TO ANY EXCAVATION; THE CONTRACTOR SHALL CONTACT MISS DIG (1-800-482-7171) FOR LOCATION OF UNDERGROUND UTILITIES LOCATED IN THE VICINITY OF THE WORK. THE CONTRACTOR SHALL MAKE ANY NECESSARY ARRANGEMENTS WITH UTILITY COMPANIES FOR RELOCATION OF EXISTING UTILITIES, IF REQUIRED.
2. UNDERGROUND UTILITIES AS SHOWN HEREON WAS TAKEN FROM EXISTING PLANS AND ARE APPROXIMATE LOCATIONS ONLY. UNDERGROUND UTILITY LOCATIONS HAVE NOT BEEN FIELD VERIFIED.
3. UNLESS SPECIFICALLY NOTED FOR REMOVAL ON THE CONSTRUCTION PLANS, ALL SIDEWALK, DRIVES, CULVERTS, GUARDRAILS AND ABOVE GROUND UTILITIES DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED, INCIDENTAL TO THE COST OF CONSTRUCTION, AT NO EXPENSE TO THE OWNER.
4. EXISTING WATER MAINS, GAS MAINS AND UNDERGROUND TELEPHONE, ELECTRIC AND CABLE TELEVISION CONDUITS AND/OR LINES ARE SHOWN ONLY IN THE PLAN VIEW OF THE CONSTRUCTION DRAWINGS. THE EXACT DEPTH OF THESE UTILITIES IS NOT KNOWN AND THEREFORE, NO ATTEMPT HAS BEEN MADE TO SHOW SUCH UTILITIES IN THE PROFILE OF THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THESE UTILITIES WHICH ARE NOT WITHIN THE SPACE OCCUPIED BY COMPLETED PIPES OR STRUCTURES THAT ARE A PART OF THIS CONTRACT. DURING CONSTRUCTION, IF DAMAGED OR DESTROYED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COSTS TO REPAIR OR REPLACE THEM AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. THE CONTRACTOR SHALL PROTECT EXISTING STORM, WATER MAIN AND SANITARY SEWERS IN A MANNER ACCEPTABLE TO THE ENGINEER DURING THE PROPOSED CONSTRUCTION. ANY UTILITY, WHICH IS TO REMAIN IN SERVICE, THAT IS DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT POINTS OF POSSIBLE CONFLICT SO THAT THESE CONFLICTS CAN BE RESOLVED.
7. WORKING HOURS ARE FROM 7AM TO 7PM MONDAY THROUGH SATURDAY. ALL WORK SHALL BE COMPLETED PRIOR TO ~~OCTOBER 16, 2022~~ JUNE 28, 2024.
8. WORK SHALL CONFORM TO CITY OF HILLSDALE DESIGN STANDARDS, LATEST EDITION.

2. INSTALL MULCH BLANKETS ON SLOPES STEEPER THAN 1:4.
2. ALL TOPSOIL OR SOIL STORAGE AREAS ARE REQUIRED TO BE TEMPORARILY STABILIZED AND SHALL BE SEEDED AND MULCHED, OR MATTED WITH STRAW, IMMEDIATELY AFTER THE STRIPPING PROCESS IS COMPLETED, TO PREVENT WIND AND WATER EROSION.
3. PERMANENT SESC MEASURES SHALL BE INSTALLED WITHIN 5 DAYS OF COMPLETION OF FINAL GRADING.
4. COMPREHENSIVE DETAILS CAN BE FOUND IN SECTION 7 OF THE MDOT SOIL EROSION AND SEDIMENTATION CONTROL MANUAL.
5. STORMWATER FLOW FROM THIS SITE SHALL NOT ADVERSELY IMPACT ADJACENT PROPERTIES.
6. PROTECT ALL OPENINGS FROM SEDIMENT AND RUNOFF.
7. CONTRACTOR RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF ALL TEMPORARY AND PERMANENT SOIL EROSION AND SEDIMENTATION CONTROL (SESC) MEASURES DURING CONSTRUCTION. CONTRACTOR SHALL REMOVE ANY TEMPORARY SESC MEASURES AFTER OWNER'S ACCEPTANCE OF AND SUBSTANTIAL COMPLETION OF THE PROJECT. OWNER WILL BE RESPONSIBLE FOR CONTINUED MAINTENANCE OF ALL PERMANENT SESC CONTROL MEASURES AFTER SUBSTANTIAL COMPLETION OF THE PROJECT. CONTRACTOR RESPONSIBLE FOR OBTAINING, EXERCISING AND PERFORMING ALL WORK IN ACCORDANCE WITH THE CONDITIONS PROVIDED BY THE ISSUER OF THE SOIL EROSION AND SEDIMENTATION CONTROL PERMIT.
8. ENGINEER TO VERIFY PROPER INSTALLATION OF APPROVED SESC MEASURES PRIOR TO COMMENCEMENT OF EARTH DISTURBANCE ON SITE.
9. ALL TEMPORARY SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED PRIOR TO EARTH DISTURBANCE ACTIVITY AND CHECKED DAILY FOR EFFECTIVENESS AND REPAIRED AS NEEDED.
10. SITE EARTH CHANGES INCLUDE INSTALLATION OF STORM SEWER, STORM MANHOLES, AND END SECTIONS.
11. AMOUNT OF AREA TO BE DISTURBED IS APPROX. 0.33 ACRES.



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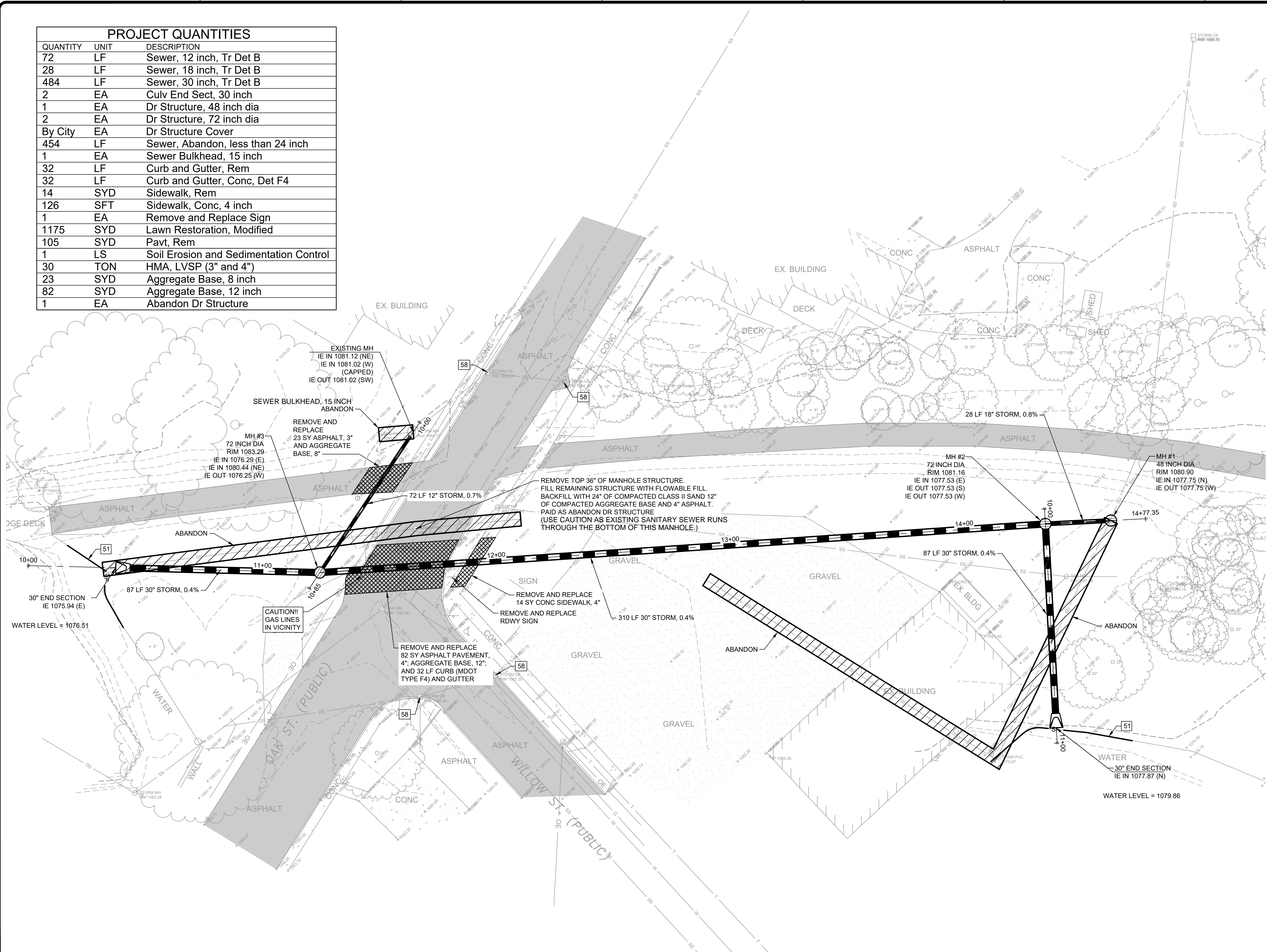
CITY OF HILLSDALE
WILLOW STREET
STORMWATER IMPROVEMENTS
GENERAL NOTES

PROJ:	200-12761-23001
DESN:	J.BABRER
DRWN:	B.THOMASY
CHKD:	J.BARBER

G-001



PROJECT QUANTITIES		
QUANTITY	UNIT	DESCRIPTION
72	LF	Sewer, 12 inch, Tr Det B
28	LF	Sewer, 18 inch, Tr Det B
484	LF	Sewer, 30 inch, Tr Det B
2	EA	Culv End Sect, 30 inch
1	EA	Dr Structure, 48 inch dia
2	EA	Dr Structure, 72 inch dia
By City	EA	Dr Structure Cover
454	LF	Sewer, Abandon, less than 24 inch
1	EA	Sewer Bulkhead, 15 inch
32	LF	Curb and Gutter, Rem
32	LF	Curb and Gutter, Conc, Det F4
14	SYD	Sidewalk, Rem
126	SFT	Sidewalk, Conc, 4 inch
1	EA	Remove and Replace Sign
1175	SYD	Lawn Restoration, Modified
105	SYD	Pavt, Rem
1	LS	Soil Erosion and Sedimentation Control
30	TON	HMA, LVSP (3" and 4")
23	SYD	Aggregate Base, 8 inch
82	SYD	Aggregate Base, 12 inch
1	EA	Abandon Dr Structure



0 10' 20' 40'

SCALE: 1" = 20'



TETRA TECH

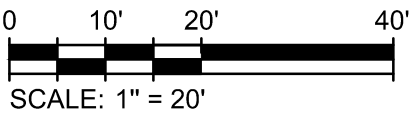
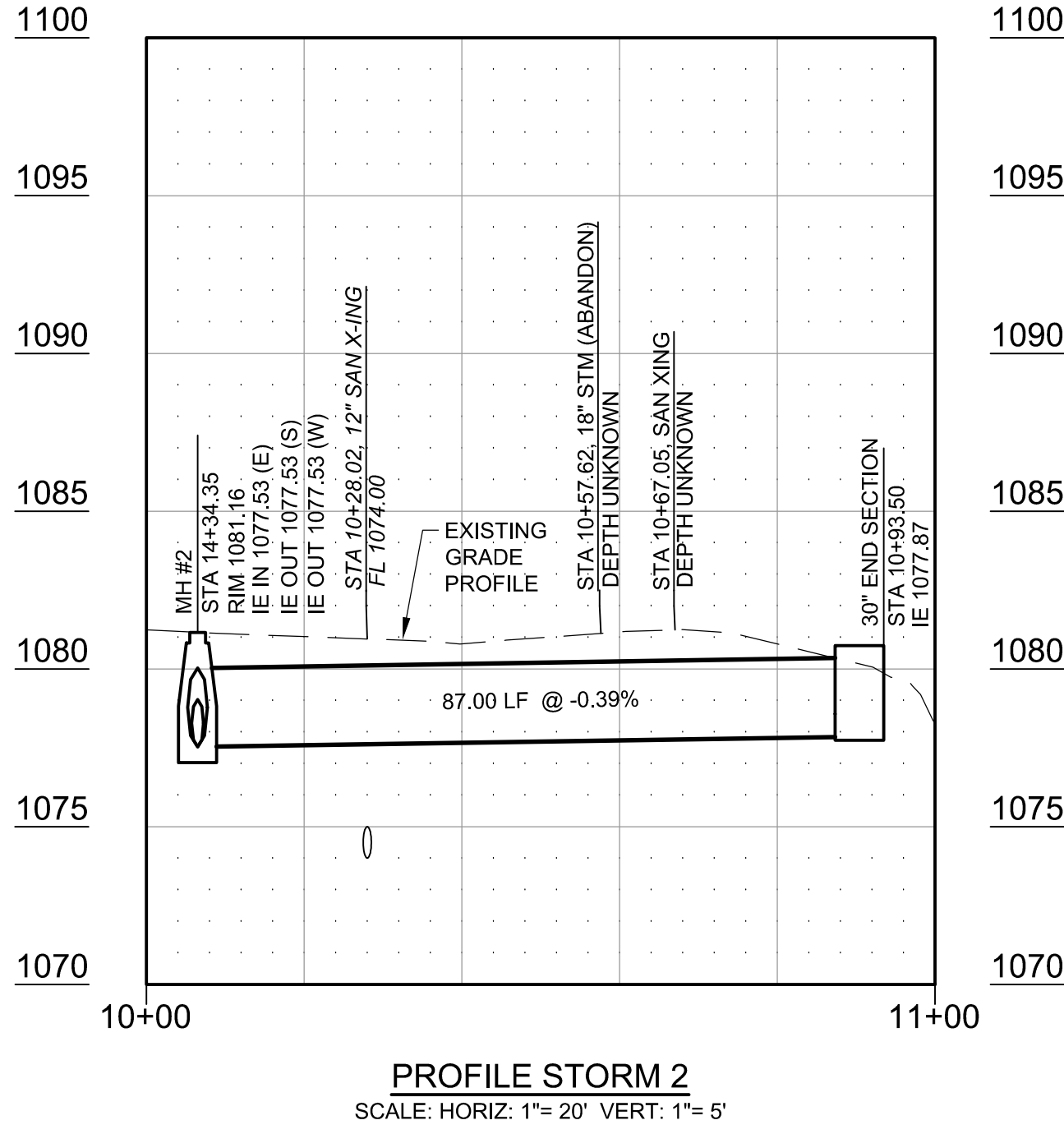
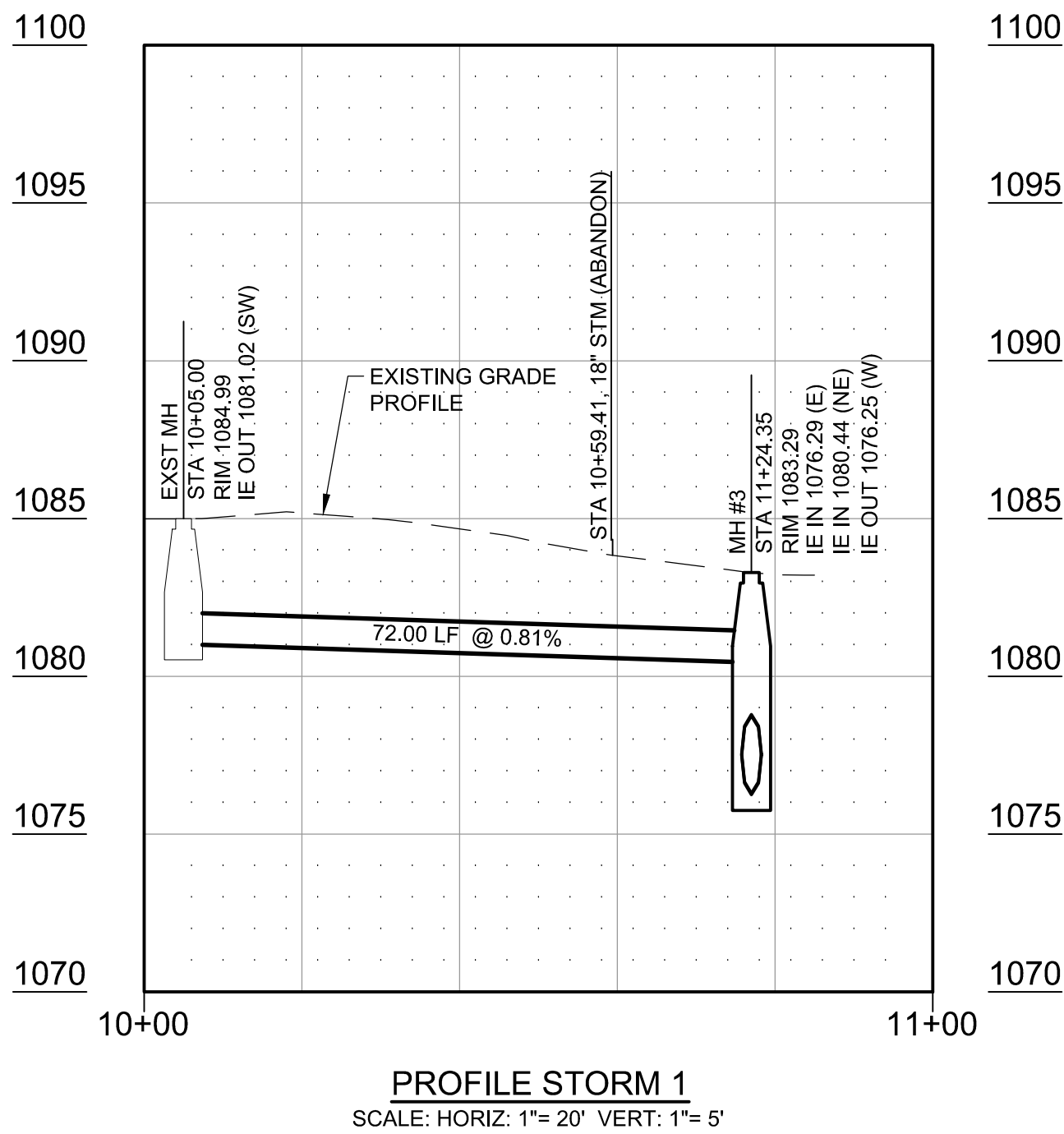
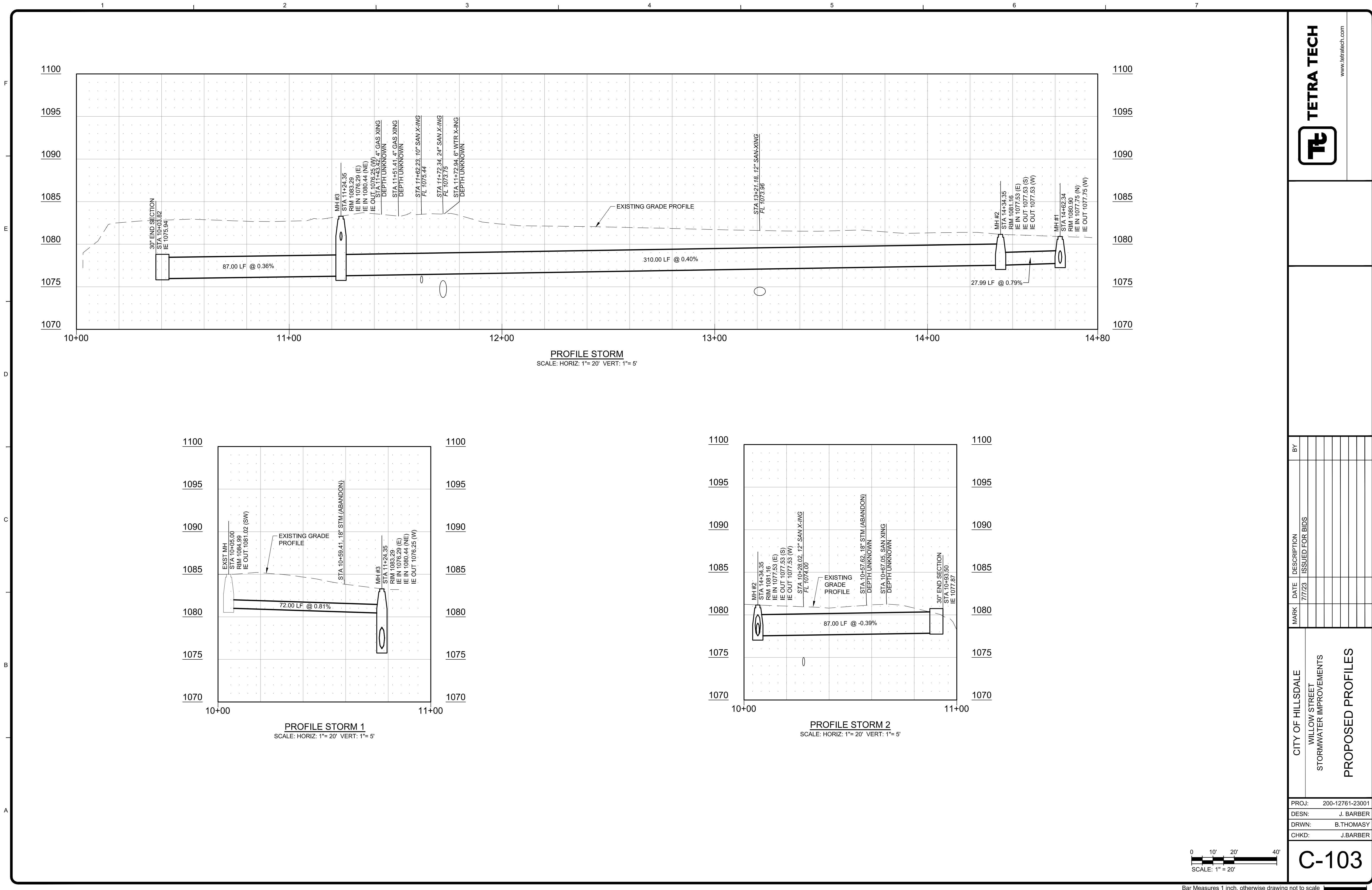
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CITY OF HILLSDALE
WILLOW STREET
STORMWATER IMPROVEMENTS
PROPOSED SITE
PLAN

PROJ:	200-12761-2300
DESN:	J.BARBER
DRWN:	B.THOMAS
CHKD:	J.BARBER

C-102

6/30/2023 7:40:15 AM - C:\PROJECTS\ANN ARBOR\12761\200-12761-23001\CAD\SHEETFILES\C-103 SESC PLAN.DWG - RODRIGUEZ, AMY



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MARK	DATE	DESCRIPTION	BY
	7/7/23	ISSUED FOR BIDS	

CITY OF HILLSDALE
WILLOW STREET
STORMWATER IMPROVEMENTS

PROPOSED PROFILES

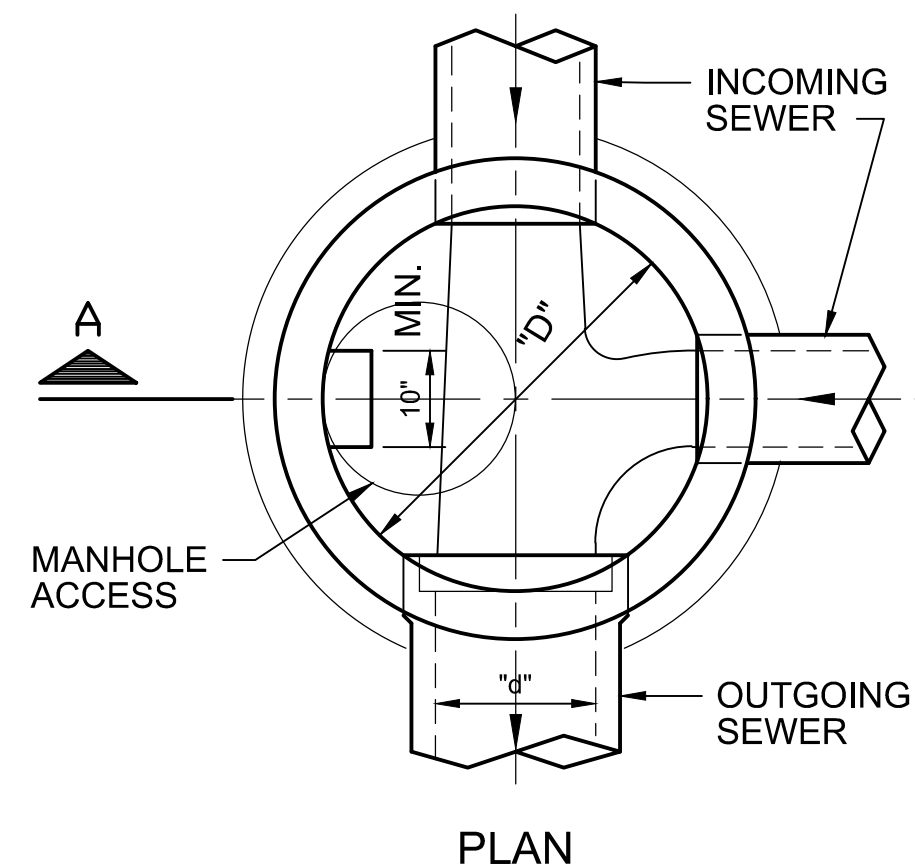
PROJ:	200-12761-23001
DESN:	J. BARBER
DRWN:	B. THOMASY
CHKD:	J. BARBER

C-103

Bar Measures 1 inch, otherwise drawing not to scale

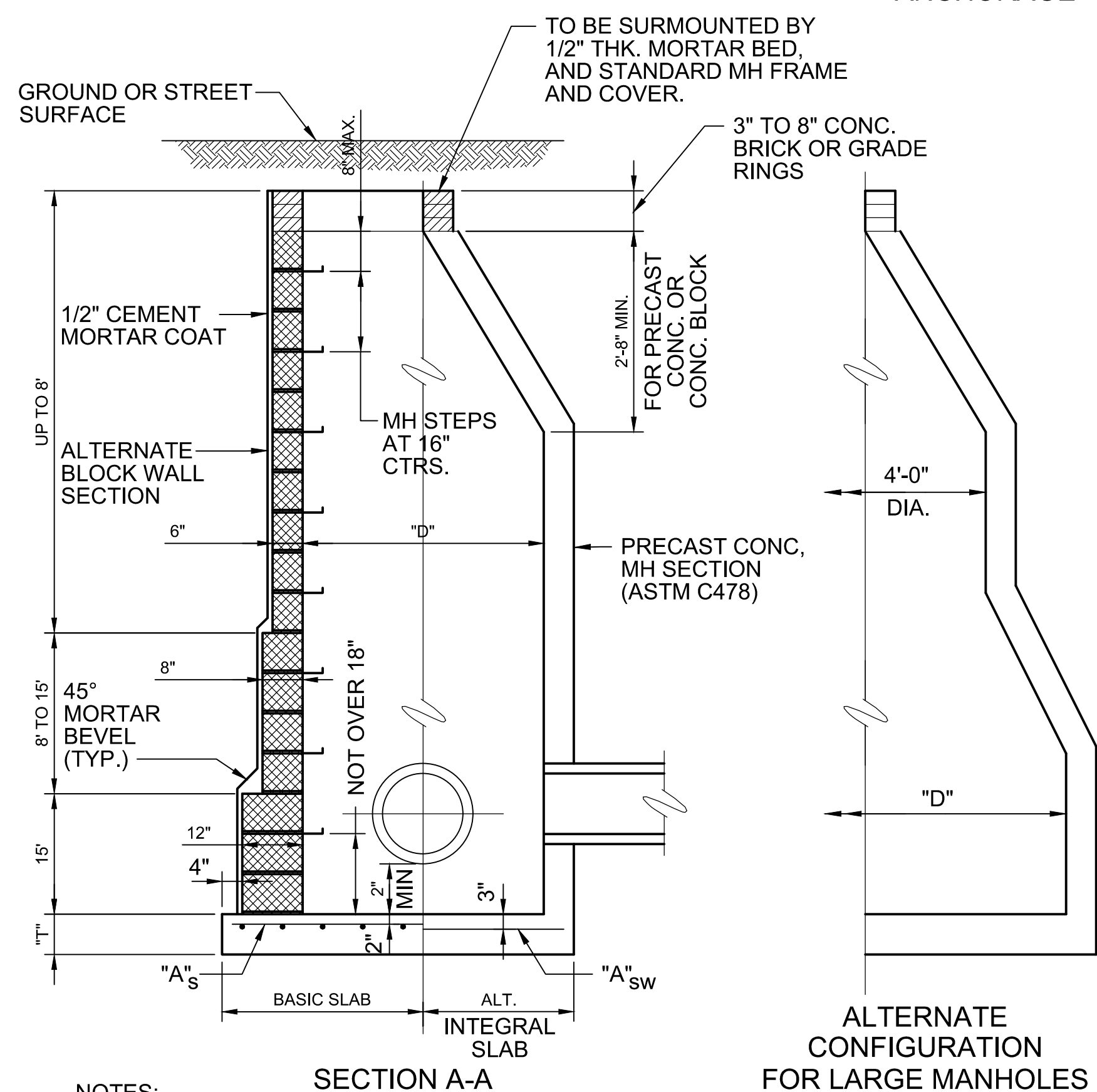
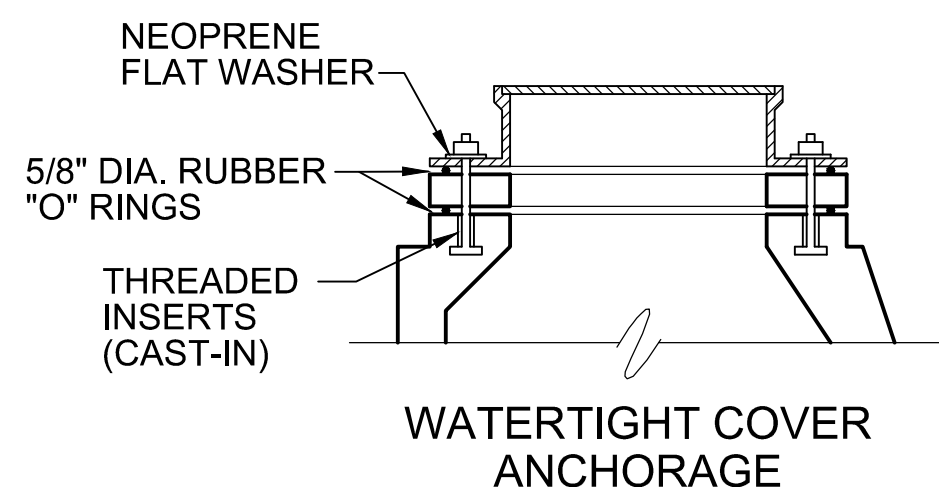
1) STANDARD SANITARY MANHOLE

SCALE: NTS



MANHOLE SCHEDULE					
PIPE SIZE (" d")	D **	T	SLAB REINF (EA WAY)		
			MAX INV DEPTH *	A _s	A _{sw} (SQ IN)
8"-24"	48"	6"	24'	#4AT12"	0.20
27"-36"	60"	8"	24'	#5AT12"	0.31
42"-48"	72"	8"	24'	#5AT9"	0.48
54"	84"	8"	24'	#5AT6"	0.74

* FOR GREATER DEPTH, INCREASE REINFORCEMENT PROPORTIONALLY.
 ** UNLESS NOTED OTHERWISE ON DRAWINGS.



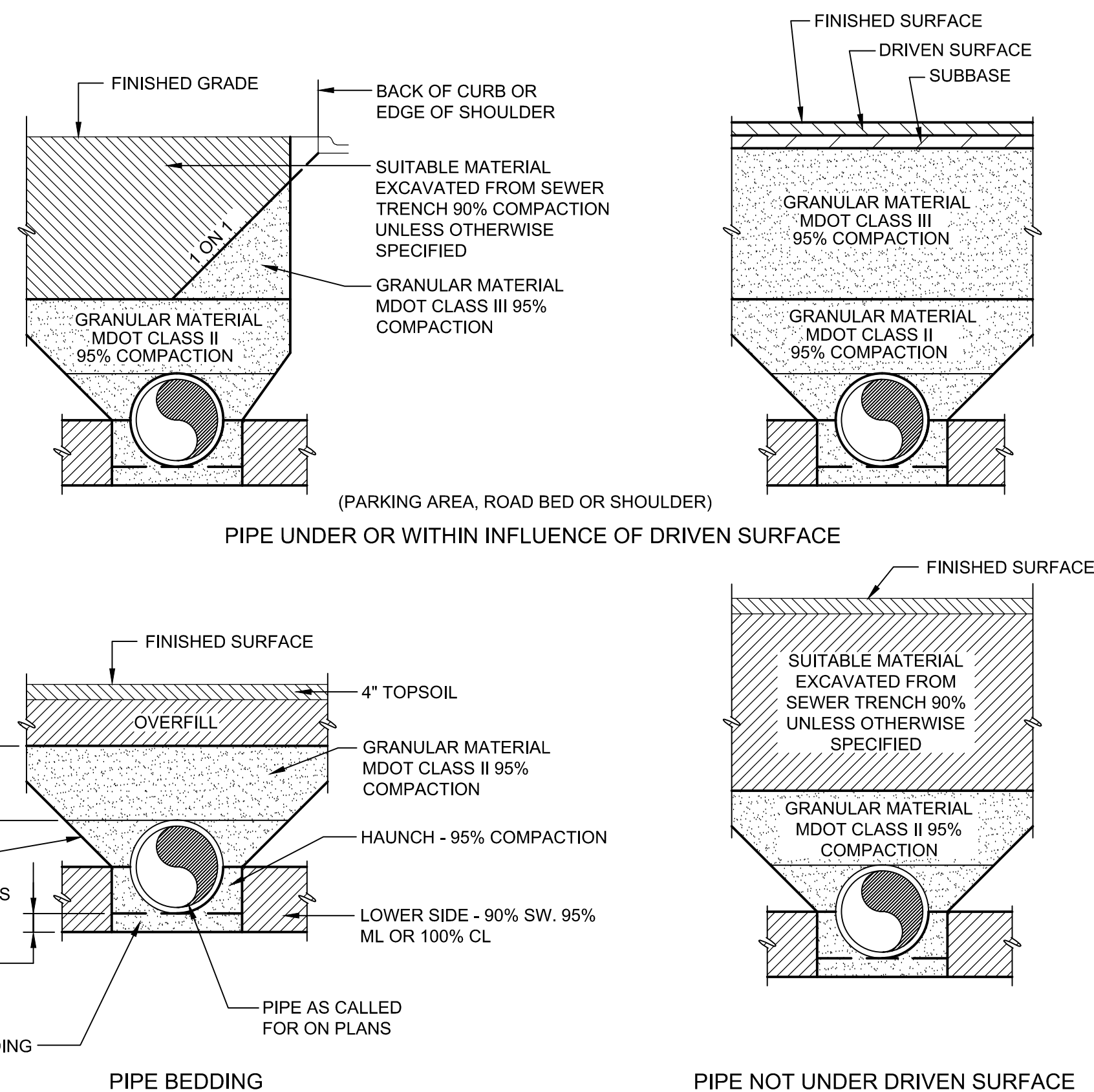
- NOTES:
1. MANHOLE CONES SHALL BE THE ECCENTRIC TYPE.
 2. PROVIDE 6" OF COMPACTED GRANULAR MAT'L UNDER ALL PRECAST CONCRETE BASE SLABS.
 3. STANDARD MH FRAMES AND COVER AS SPECIFIED. USE VENTED COVERS FOR STORM SEWERS.
 4. WATERTIGHT MH FRAME AND COVER AS SPECIFIED.

STANDARD STORM MANHOLE

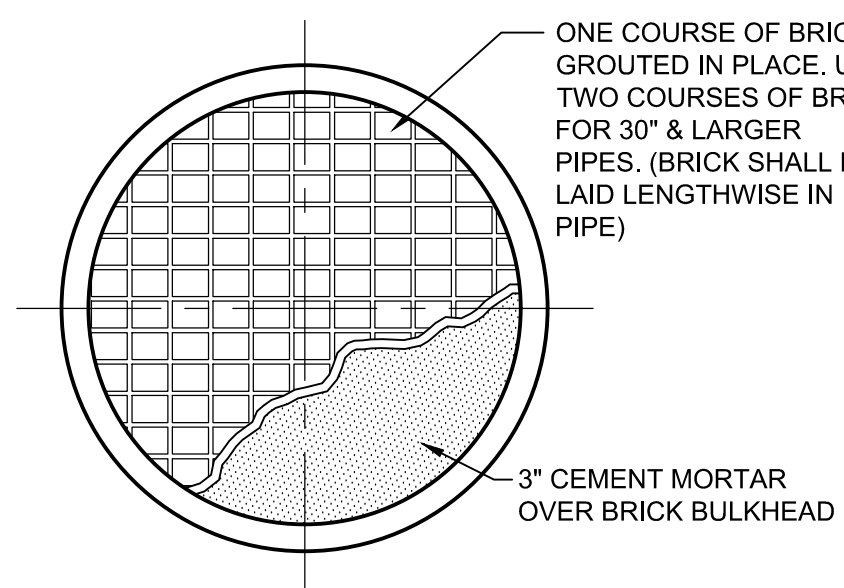
NO SCALE

2) TRENCH DETAIL

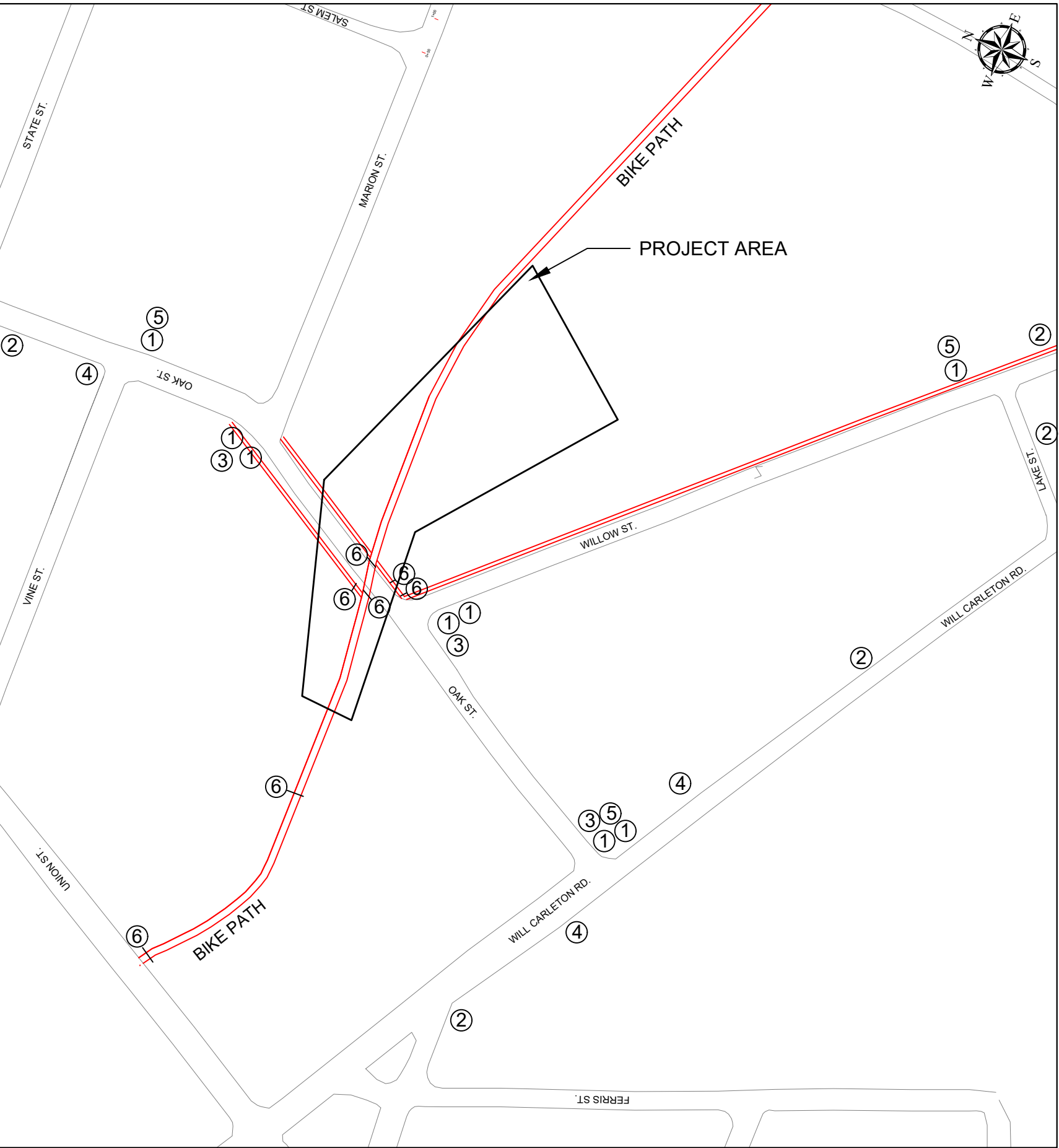
SCALE: NTS



- NOTES:
1. COMPACTION PRESENTED AS MINIMUM STANDARD PROCTOR VALUES.
 2. MATERIALS AROUND THERMO PLASTIC PIPE WITH DIAMETER < 6 INCHES SHALL PASS 0.5 INCH SIEVE, MATERIALS AROUND OTHER PIPES SHALL PASS 1.5 INCH SIEVE.
 3. MATERIALS AROUND HDPE PIPE TO BE MDOT 6A OR 21AA.
 4. DRIVEN SURFACE IS DRIVEWAY, PARKING AREA, ROAD BED OR SHOULDER.



OAK ST.



TRAFFIC CONTROL KEY

KEY	CODE	SIGN	*QTY
①		TYPE III BARRICADE HIGH INTENSITY, LIGHTED	8
②	W21-4	ROAD WORK AHEAD	5
③	R11-2	ROAD CLOSED	3
④	W20-3	ROAD CLOSED AHEAD	3
⑤	R11-5	ROAD CLOSED TO THRU TRAFFIC	3
⑥	R9-9	SIDEWALK CLOSED W/ ADA PED BARR.	7

* QUANTITIES ARE MINIMUM REQUIRED. CONTRACTOR MAY INCREASE AS NEEDED FOR THEIR CONSTRUCTION PLANS. LIGHTED BARRELS AND/OR GRABBER CONES WILL BE NEEDED FOR FLAG CONTROL ZONES AND OVER NIGHT ONE LANE SECTIONS.

PROJECT NOTES

- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE MDOT 2012 STANDARD SPECIFICATION FOR CONSTRUCTION.
- ALL TRAFFIC CONTROL SHALL CONFORM TO THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

45 MONROE ST.
HILLSDALE, MI 49242

REVISIONS	DATE
ISSUED FOR BIDS	7/7/2023

CITY OF HILLSDALE
HILLSDALE, MI
WILLOW STREET
STORM WATER
IMPROVEMENTS

DRAWING SCALE:
NOT TO SCALE

DESIGNED	KLB	7/7/2023
DRAWN	BG	7/7/2023
CHECKED	KLB	7/7/2023

DRAWING
TC1