

ALLEGHENY COUNTY SANITARY AUTHORITY

January 7, 2021

CONTRACT NO. 1729 G, E, H, P

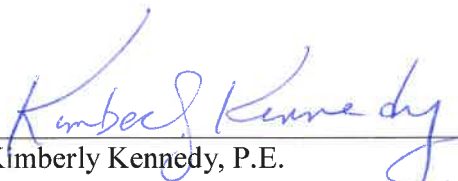
EAST HEADWORKS

ADDENDUM NO. 3

All bidders bidding Contract No. 1729 G, E, H, P shall read and take note of this Addendum No. 3. The Contract Documents for **Contract No. 1729 G, E, H, P – East Headworks** are hereby revised and/or clarified as stated below.

Acknowledgement of Contract No. 1729 G, E, H, P; Addendum No. 3

The Acknowledgement attached to Addendum No. 3 is to be signed and returned immediately via email to Dustin Copenhaver at Dustin.Copenhaver@alcosan.org and acknowledged with the Bidder's Proposal.


Kimberly Kennedy, P.E.
Director – Engineering and Construction

**ACKNOWLEDGEMENT OF
CONTRACT NO. 1729 G, E, H, P – EAST HEADWORKS**

ADDENDUM NUMBER 3

FIRM NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

January 7, 2021

CONTRACT NO. 1729 G, E, H, P

EAST HEADWORKS

ADDENDUM NO. 3



JANUARY 7, 2021
CONTRACT NO. 1729 G, E, H, P
EAST HEADWORKS

ADDENDUM NO. 3

A. Contract Documents – Volume 1

1. Article 4

a) 4 - 4 G

1. Replace “(Sum of Extended Total Amount for 01 thru 14) with (Sum of Extended Total Amount for 01 thru **17**).

b) 4 - 6 G, 4 - 2 E, 4 - 2 H, 4 - 2 P – Paragraph 2

1. Replace 690 Days with 1,260 Days.

B. Contract Specifications – Volume 2

1. Construction Progress Schedule (Section 01 32 16)

a) REPLACE paragraph 1.8 D in its entirety with:

D. Submittal Package:

1. CPM time-scaled network diagram in PDF highlighting the critical path.
2. Tabular Report per 1.12E sorted per CM request.
3. Schedule Update Progress Report: Provide a written progress report with each schedule update detailing the work completed during the month.
4. Electronic Data Files: The Contractor will provide the Owner, Engineer, and CM with the source or “raw” data/electronic files in “.XER” format that can be viewed with the software used to develop the CPM schedule.

b) REPLACE paragraph 1.12 G.3 in its entirety with:

3. Updated CPS Report:

- a. Provide in accordance with paragraph 1.8 D.3.

c) REPLACE paragraph 1.12 G.4 in its entirety with:

4. Revised CPS Report:

- a. Provide a report with each Revised CPS detailing any changes to the CPS logic, any changes to activity durations, any changes to the critical path, and any changes to its assumptions for constructing the Work, including assumed constraints included in the CPS as defined by the Contract Documents, permits, or the Contractor.
- b. Identify any changes to the current critical path activities.
- c. Indicate reasons the Contractor requests the changes to logic, durations, activities, and/or the critical path.

d) REPLACE paragraph 1.12 G.5 in its entirety with:

5. Recovery CPS Report:

- a. Provide a report with an explanation of the changes the contractor would like to make in logic and/or activity durations in order to recover lost time in its work efforts.
- b. Identify the changes to the current critical path activities.
- c. Indicate reasons the Contractor made the changes to logic, durations, activities, and/or the critical path.

2. Temporary Bypass Pumping (Section 01 51 10)

- a) REVISE paragraph 1.5.B.2 to read, "Pipeline connections to the existing 16-inch plant drain between Ex. SMH-2 and Ex. SMH-4 are as follows:"
- b) REVISE paragraph 1.5.B.2.e to read, "West Headworks MH to Ex. SMH-4: two (2) storm drain inlets; West Headworks grit drains; West Headworks Building sanitary line. Cumulative estimated flow in this line is 230 gpm.
- c) REVISE paragraph 1.5.B.2.f to read, "Ex. SMH-4: Primary Tank drains from W2, W3, and W4; two (2) storm drain inlets; Ash pit drains; septage receiving station."

3. Fixed Louvers (Section 08 91 19)

- a) DELETE this specification in its entirety.

C. Contract Specifications – Volume 3

1. Sampling and Monitoring Equipment (Section 46 81 11)

- a) DELETE extraneous pages following this specification (pages 1205 through 1222 in PDF) in their entirety.

D. Contract Drawings

1. Drawing C-21

- a) DELETE Keynote No. 6 and REPLACE with the following, “6’ DIAMETER SEALED DRY WELL VALVE VAULT WITH 12” GATE VALVE. (SEE DETAIL 20 ON SHEET CD-12)”

2. Drawing CD-10

- a) DELETE this drawing and REPLACE with the attached drawing CD-10.

3. Drawing CD-11

- a) DELETE this drawing and REPLACE with the attached drawing CD-11.

4. Drawing CD-12

- a) DELETE this drawing and REPLACE with the attached drawing CD-12.

5. Drawing 500-MDM-10

- a) DELETE SHEET KEYNOTE NO. 2 and REPLACE with the following: “SEE DRAWINGS 500-SDM-11 AND 500-SDM-12 FOR OVERFLOW CONDUIT DEMOLITION.”

6. Drawing 500-M-11

- a) DELETE SHEET KEYNOTE NO. 4 and REPLACE with the following: “RE-ROUTE SIPHON AIR PIPING TO ALLOW FOR OPERATOR ACCESS SEE SHEET 500-MD-50 FOR MORE DETAIL.”

7. Drawing 513-MDM-10

- a) DELETE SHEET KEYNOTE NO. 1 and REPLACE with the following: “SHORTEN EXISTING CONVEYOR BY 3'-4" SEE SHEET 513-MD-50.”

8. Drawing 420-ET-01

- a) DELETE 2ND AND 3RD SENTENCES OF SHEET KEYNOTE NO. 2 and REPLACE with the following: “REFER TO DRAWING 420-ESL-02 FOR WIRE AND CONDUIT SIZING.”

E. Questions

12. QUESTION: There has been confusion on other ALCOSAN projects regarding domestic sourcing requirements for equipment. Can you confirm if this project must comply with the PA Steel ACT (ST3), Buy American Act (BAA), or both?

RESPONSE: Both per Articles 3.76 and 3.77, compliance shall be in accordance with the Pennsylvania Steel Products Procurement Act AND Buy American.

13. QUESTION: Can a complete conduit and cable schedule be provided to the E-Contractor for bidding purposes?

RESPONSE: Conduit and conductors are shown on the drawings. Contractor shall be responsible for take-off of conduit and conductors as required for bidding purposes.

14. QUESTION: Can a complete list of Instruments be provided to the E-Contractor for bidding purposes?

RESPONSE: Instruments are shown on the drawings. Contractor shall be responsible for take-off of instruments and other devices as required for bidding purposes.

15. QUESTION: Reference Instrumentation Scope of Work:

Summary of Work 01 11 00-2

1. General Construction Contract No. 1729G:

X. Installation of field mounted instruments and flow measuring devices;

2. Electrical, Contract No. 1729E:

N. Furnish, wiring and calibration of all field mounted instruments and flow measure devices

Please verify that the G Contract will install all of the instruments provided by the E Contract including mounting accessories, tubing and valves, etc?

RESPONSE: E Contractor will provide required mounting accessories from the instrument manufacturer with the instrument such as brackets, enclosures, etc. Incidental hardware required for mounting and process connections such as nuts/bolts, screws and anchors, tubing, fittings, isolators, valves, etc. will be provided by the G Contract.

16. **QUESTION:** Immediately after Page 468111-6, Sampling and Monitoring Equipment, there are (9) two-sided pages indicating Point Names, IO English Descriptions, DPU's, Characteristics, etc. Please advise what these pages represent and which Contract(s) they are applicable to.

RESPONSE: The pages referenced are the DPU I/O list points. These points are for equipment provided by ALCOSAN and will be deleted from the Project Manual.

17. **QUESTION:** Specification 05 12 00 section 1.5A and 1.5B state that a qualified fabricator and installer that participates in the AISC quality Certification program and is designated an AISC Certified plant. Can the AISC qualification be waved for fabricating and erecting?

RESPONSE: No. The AISC qualification for fabrication and erection will not be waived.

18. **QUESTION:** Reference Drawing 420-G-10 (sheet 14); Note 1 states: "ENTIRE INTERIOR OF ODOR CONTROL DUCTWORK AND EQUIPMENT IS NFPA 820 CLASS 1 DIVISION 2." This would mean explosion-proof, yet none of the existing equipment and wiring is explosion-proof. Please clarify.

RESPONSE: All new work associated to the Odor Control Ductwork and Equipment as indicated in the Contract Documents shall be rated for NFPA Class 1 Division 2.

19. **QUESTION:** Reference Drawing 420-G-10 (Sheet 14); Note 2 states: "THE INTERIOR AND EXTERIOR OF THE ELECTRIC BUILDING AND CHEMICAL BUILDING ARE UNCLASSIFIED AREAS." We assume all conduit in unclassified areas is to be rigid aluminum. Please confirm.

RESPONSE: Conduit types must be installed per drawing E-02 general notes and conduit schedules in the construction documents. Where conduit types are not listed on the contract drawings see contract Specification Section 26 05 33 3.1 "Raceway Application". Rigid Aluminum Conduit is permissible provided it is installed per "Installation" section of Specification Section 26 05 33 3.2.

20. **QUESTION:** Which contractor is responsible for the following:

RESPONSE:

	Supply	Install	Wire	Commission
A. Local Field Control Stations	E	E	E	E
B. Heat Trace Panels	G	G	E	G
C. Transmitters	E	G	E	E
D. VFD's	E	E	E	E

21. **QUESTION:** Which contractor is responsible for the Scope of Work in Spec Section 40-95-00

RESPONSE: Section 40 95 00 provides requirements for control equipment and components provided for the project. This section applies to all control panels provided by either G or E contractors.

22. **QUESTION:** Reference Drawing I-02 (Sheet 603); Drawing I-02, in the Electrical/General Contractor Division of Scope of Work, Note #2 states "THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CUSTOM CONTROL PANELS THAT ARE NOT PROVIDED AS A PART OF A MANUFACTURES PACKAGED SYSTEM."
Please Clarify

RESPONSE: Refer to drawings and equipment specifications where control panels are designated as required to be provided from a single source manufacturer as a part of a packaged equipment supply. Electrical Contractor shall be responsible to provide control panels that are outside of these packaged systems.

23. **QUESTION:** Specification 05 12 00 section 1.5A and 1.5B state that a qualified fabricator and installer that participates in the AISC quality Certification program and is designated an AISC Certified plant. Can the AISC qualification be waived for fabricating and erecting?

RESPONSE: No. The AISC qualification for fabrication and erection will not be waived.

24. **QUESTION:** Reference: Article 4-6 G paragraph 2 - Can you provide further definition on the 690 calendar days for "Contract Time" as it relates to the two Construction milestones in the chart?

RESPONSE: Should be 1,260 days

25. **QUESTION:** Reference: Bid Form 1-4G - "(Sum of Extended Total Amount for 01 thru 14)" 14 should be 17.

RESPONSE: Correct

26. **QUESTION:** What is the flow in the 24" and 15" lines that enter from the west and into SMH 4 ?

RESPONSE: Flow entering **EX-SMH-4** from the 15" is intermittent splashing over the main pumping station overflow weir. The 24" line should be a 16" line and is utilized to unload trucks and drain primary tank W4. Flow from these drains can be controlled by coordination with the Owner per the requirements of Section 01 51 10, paragraph 1.5.C.

27. **QUESTION:** Please confirm that the flow from the 16" and 12" line entering SMH 4 is at peak 80 GPM.

RESPONSE: 80 GPM peak is an estimate of only the building drains entering EX-SMH-2 on drawing C-22. This flow ultimately flows into the 16" line that drains into EX-SMH-4 on drawing C-21. This line also picks up flows from the primary tank drains, grit tank drains, and floor and process drains from the west headworks. The 12" drain line entering EX-SMH-4 should be a 14" line and is used for draining of west primary tanks. The drain line exiting EX-SMH-4 is mislabeled as 42", it is 24". Pipe sizes on drawings will be addressed in a future addendum.

The primary tank and grit tank drains can be controlled by coordination with the Owner per the requirements of Section 01 51 10, paragraph 1.5.C. The process drains from the west headworks generally need to remain in service. Including these process drain flows, the total estimated flow entering EX-SMH-4 from the 16" line is 230 GPM.

28. **QUESTION:** Sheet 322 refers to sheet 500-SDM-10 which does not seem to be in the drawing set. Please advise on the status of those drawings.

RESPONSE: Reference should be to Drawings 500-SDM-11 and 500-SDM-12.

29. **QUESTION:** Sheet 337 refers to drawing 513-M-50 which is not included in the set. Please advise on the status of the drawing.

RESPONSE: Reference should be to Drawing 513-MD-50.

30. **QUESTION:** Sheet 326 refers to drawing 500-M-50 which is not included in the set. Please advise on the status of that drawing.

RESPONSE: Reference should be to Drawing 500-MD-50.

31. **QUESTION:** Sheet 300: Is detail D, channel floor correct?

RESPONSE: Yes. The stop log frame types are optionally channel mounted, embedded mounted or wall mounted as defined in detail D. The Stop Log Frame Schedule on Contract Drawing MS-01 indicates which frame type is required for each location.

32. **QUESTION:** Drawing 500-M-71 (sheet 332) states a 42-inch DIA BSP. Please confirm that 42-inch "inside" diameter piping is required.

RESPONSE: A 42" interior diameter is required.

33. **QUESTION:** When will Contract 1716 be complete to allow the temporary piping from RAW Pumps 3 & 4 to be installed?

RESPONSE: September 2021

34. **QUESTION:** Reference specification section 08 91 19 Fixed Louvers: None found. Please confirm that there are no fixed individual louvers required.

RESPONSE: There are louvers on this project. They are shown on the drawings as Integrated Louver Wall System (ILWS). They are specified in Section 07 42 17.20 INTEGRATED LOUVER WALL SYSTEM. There are no separate louvers covered under Section 08 91 19, so this section should be deleted.

35. **QUESTION:** Reference specification section 07 11 13 Bituminous Dampproofing: None found on drawings. Only waterproofing found. Please confirm that "dampproofing" is not required.

RESPONSE: There is a requirement for bituminous dampproofing shown on structural drawings, including but not limited to, 420-S-31.

F. Clarifications

None.

Attachments:

Specifications:

None.

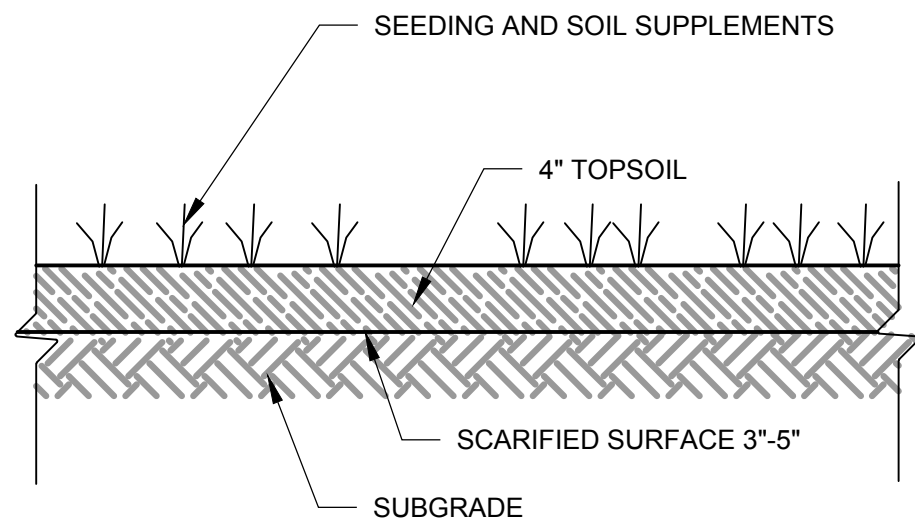
Drawings:

CD-10

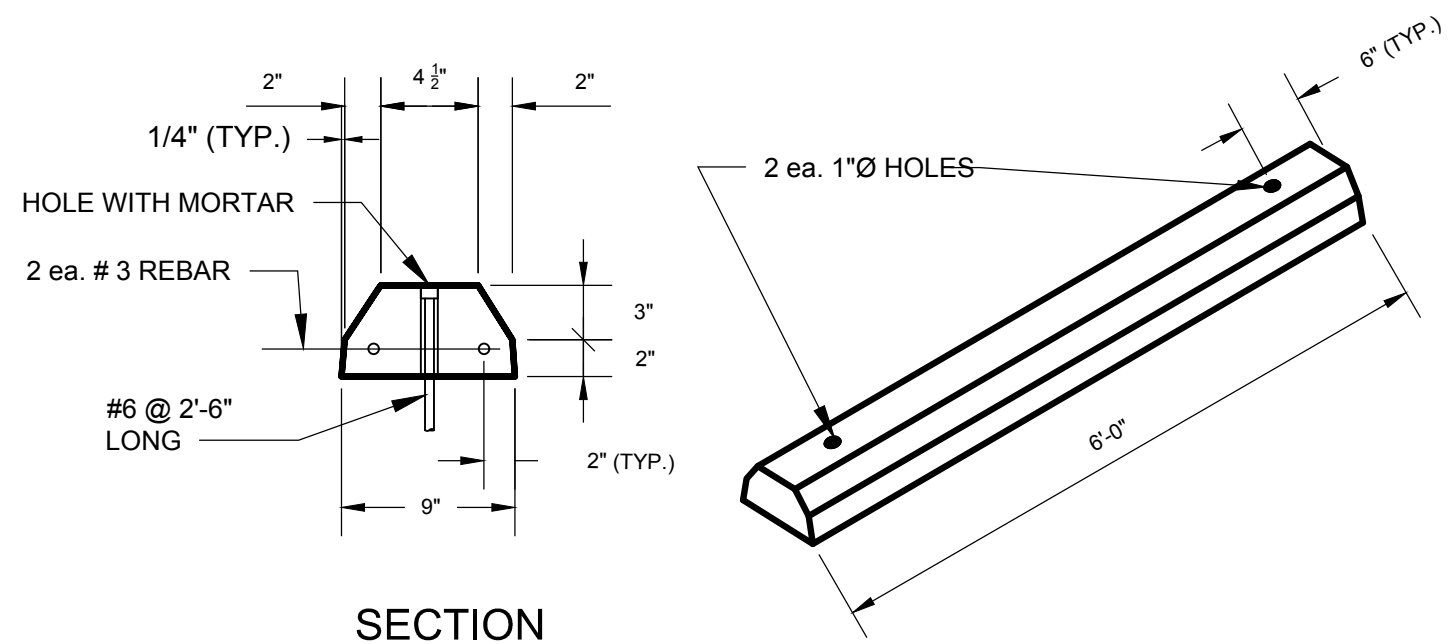
CD-11

CD-12

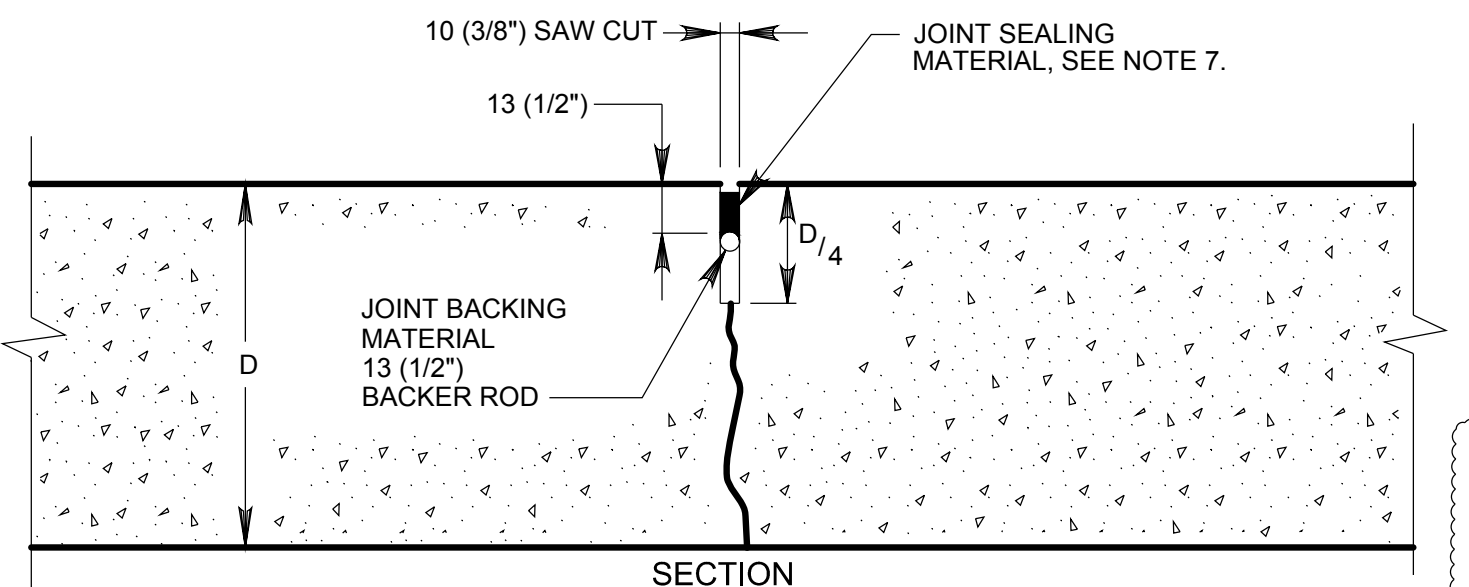
*** * * * END OF ADDENDUM NO. 3 * * * ***



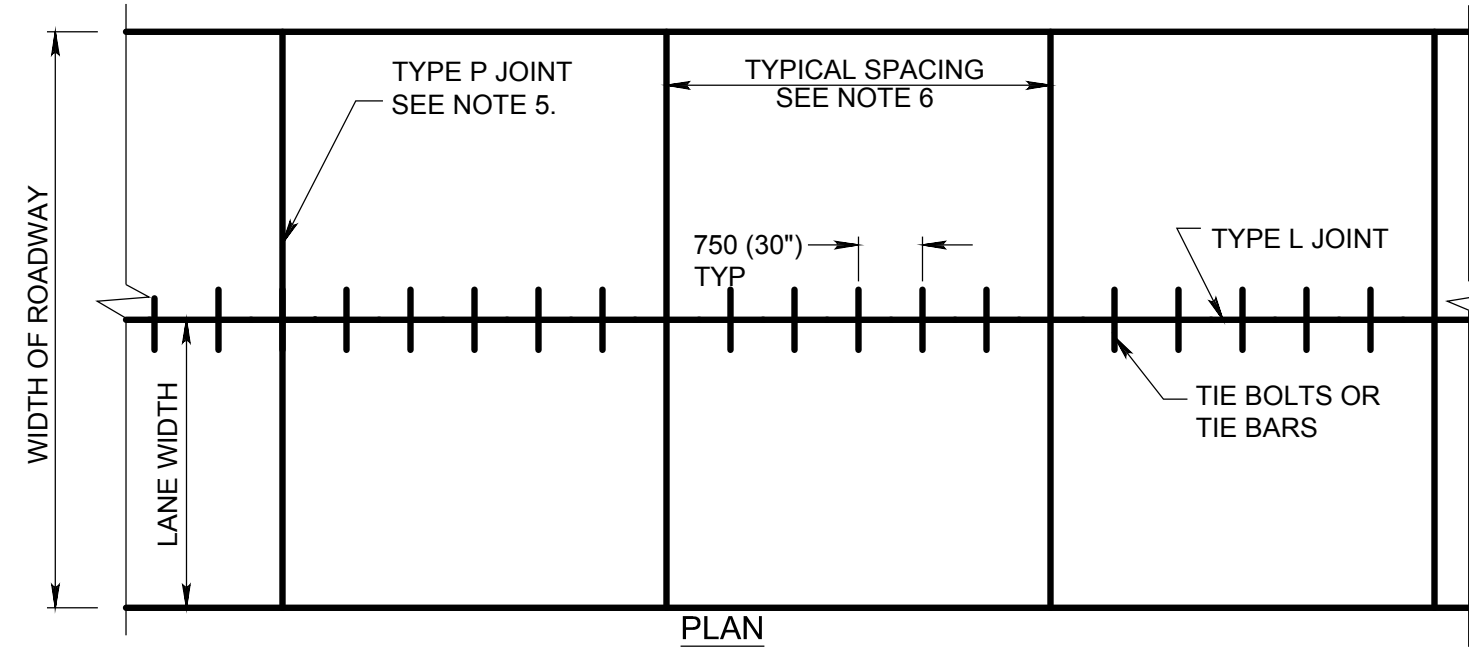
RE-VEGETATED LANDSCAPE 1
NTS



PRECAST CONCRETE WHEEL STOP 2
NTS

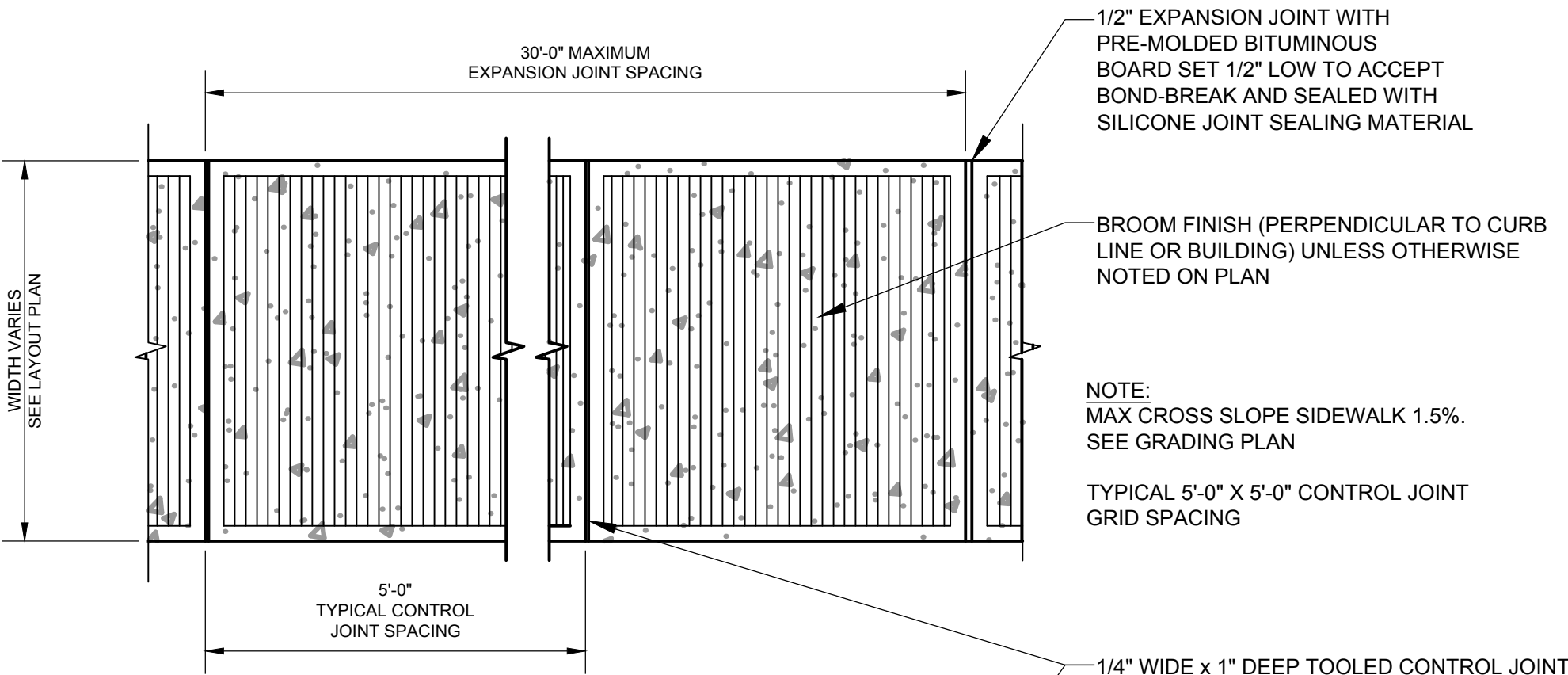


SECTION
TYPE P
SEE RC-27M

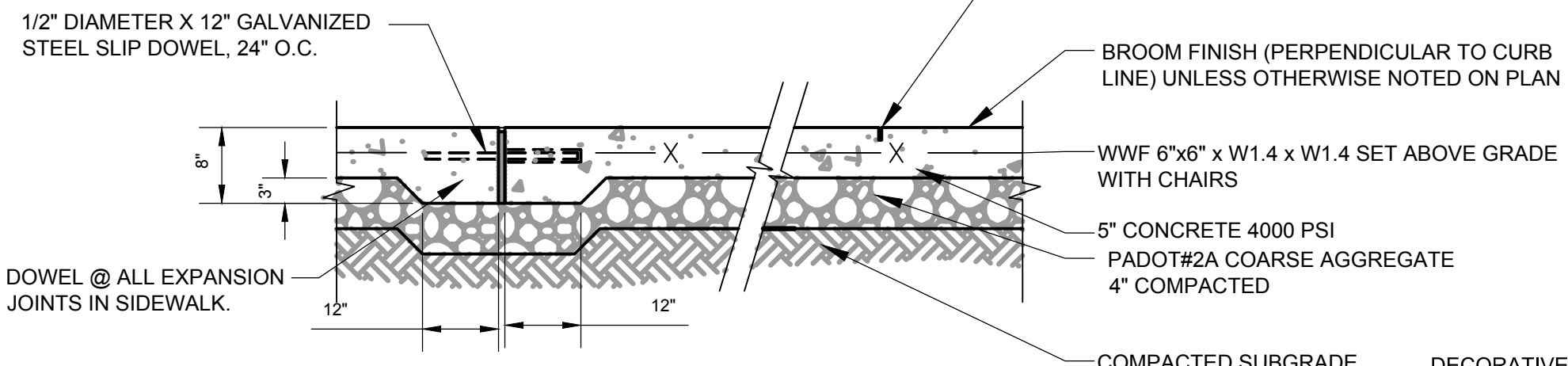


MAXIMUM 12' X 12' SECTIONS

CONCRETE PAVEMENT 3
N.T.S.



PLAN



SECTION

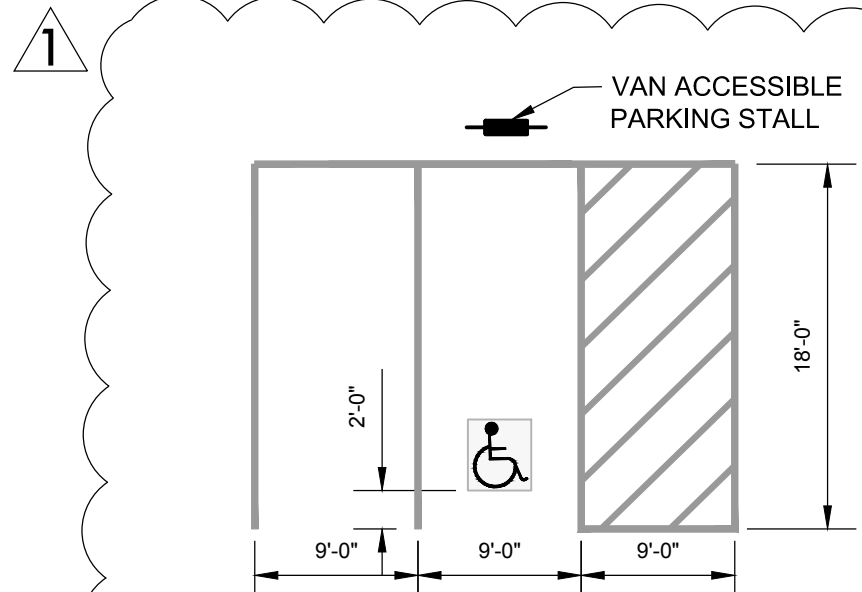
SIDEWALK 4
NTS

NOTE
MAKE THE TOP OF THE JOINT SEALING MATERIAL FROM 3 (1/8") TO 6 (1/4") BELOW THE SURFACE OF THE PAVEMENT. USE HEAT RESISTANT JOINT BACKING MATERIAL FOR HOT POURED JOINTS.

D = 8" FOR PAVEMENT
D = 6" FOR DUMPSTER PAD
D = 5" FOR SIDEWALKS

NOTES

1. FOR JOINT DETAILS, SEE RC-20M.
2. CONSTRUCT TYPE D JOINTS ON INTERSTATE, EXPRESSWAY, ARTERIAL AND RAMP PAVEMENTS.
3. WHEN RAMP OR LANE WIDTH EXCEEDS 4.2 m (14'), A TYPE L JOINT IS REQUIRED AT THE MIDPOINT.
4. CONSTRUCT ACCELERATION AND DECELERATION PORTION OF RAMP WITH THE SAME PAVEMENT STRUCTURE AS THE MAINLINE PAVEMENT TO THE FIRST TRANSVERSE JOINT BEYOND THE RAMP GORE.
5. CONSTRUCT TYPE P JOINT, AS INDICATED, ON COLLECTORS AND LOCAL ROADS.
6. USE A 4.5 m (15'-0") JOINT SPACING ON ALL PAVEMENTS.
7. ON CURVES, THE JOINT SHALL BE CONSTRUCTED PERPENDICULAR TO THE TANGENT ON THE LONG RADIUS SIDE OF THE CURVE.
8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN () PARENTHESES.



PARKING LOT ACCESSIBLE PARKING PAVEMENT MARKINGS 5
NTS

ACCESSIBLE PARKING SPACE STRIPING

4" WIDE BLUE PAVEMENT MARKING

HATCHING

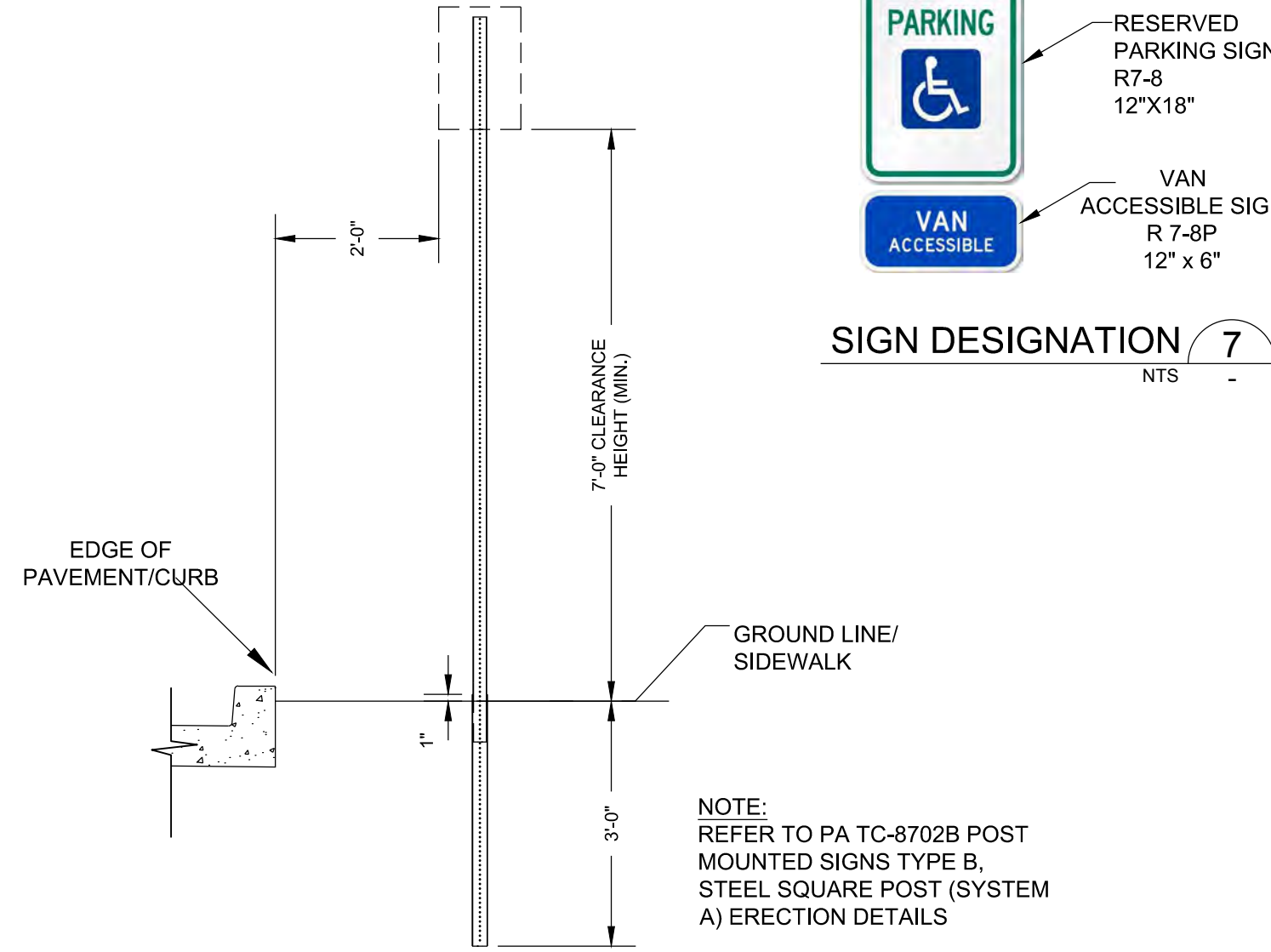
4" WIDE 45° BLUE PAVEMENT MARKINGS 30" O.C.

ACCESSIBLE WALKWAY

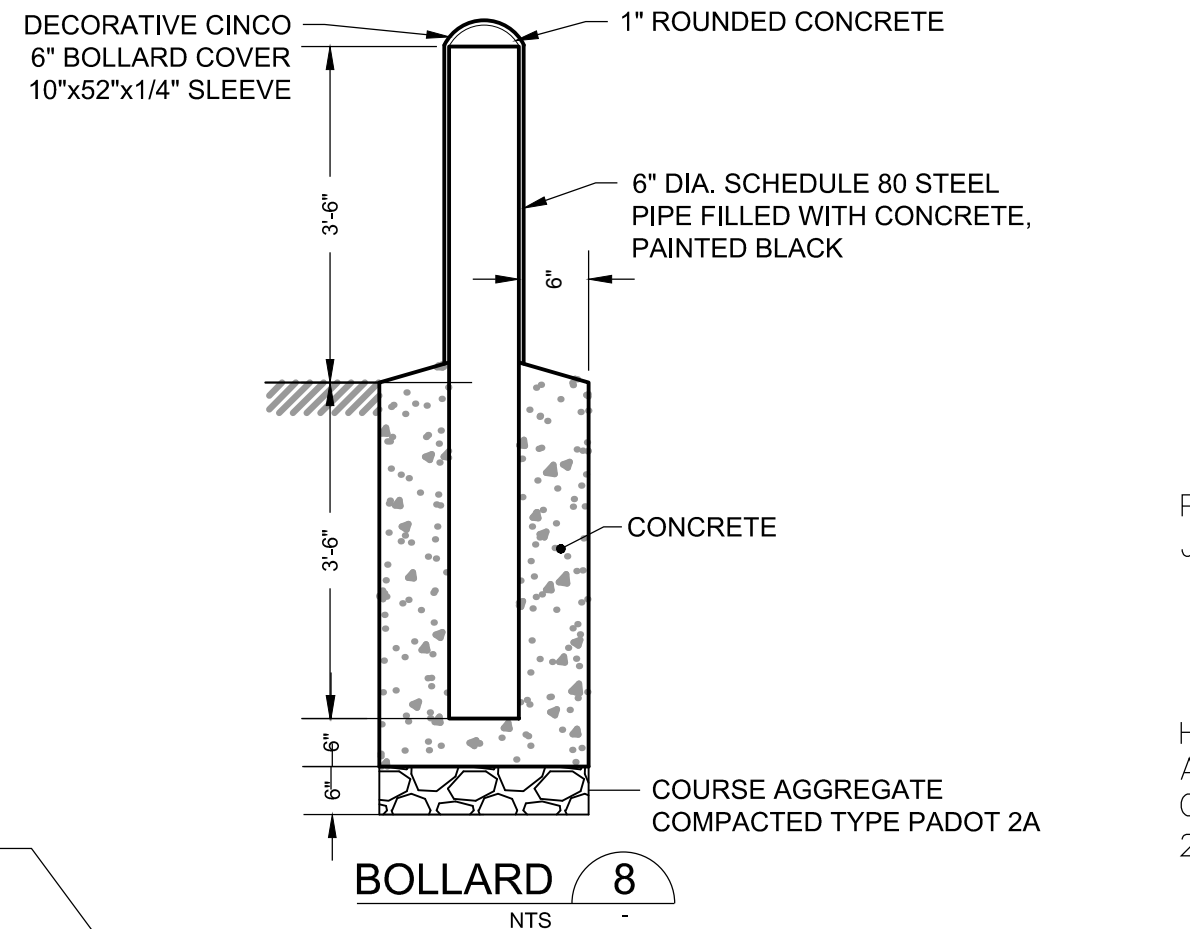
6" WIDE 45° BLUE PAVEMENT MARKINGS

ADA PARKING SYMBOL PAVEMENT

HANDICAP SYMBOL SHALL BE WHITE. IT MAY BE INSTALLED ALONE OR WITH A BLUE BACKGROUND WHICH EXTENDS A MINIMUM OF 3" BEYOND THE SYMBOL. IF MATERIAL THICKNESS OF SYMBOL IS GREATER THAN 20 MILS THE BLUE BACKGROUND MUST BE USED. ANY REDUCTION IN DIMENSIONS MUST BE APPROVED BY THE DEPARTMENT



SIGN POST INSTALLATION 6
NTS

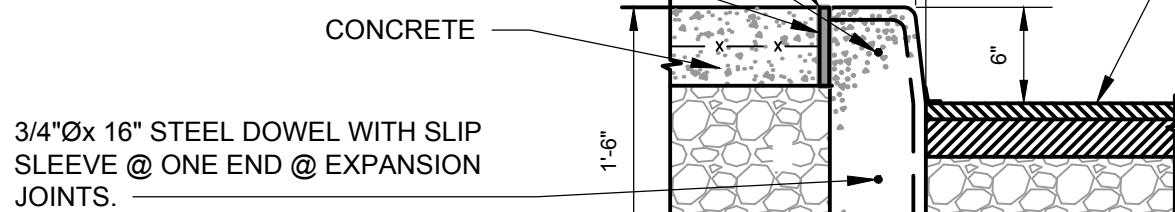


BOLLARD 8
NTS

3/16" WIDE x 1/2" DEEP CONTROL JOINT 10'-0" O.C.

#4 REBAR CONTINUOUS CUT @ EXP. JOINTS.

TYPICAL 1/2" EXP. JOINT & SEALANT

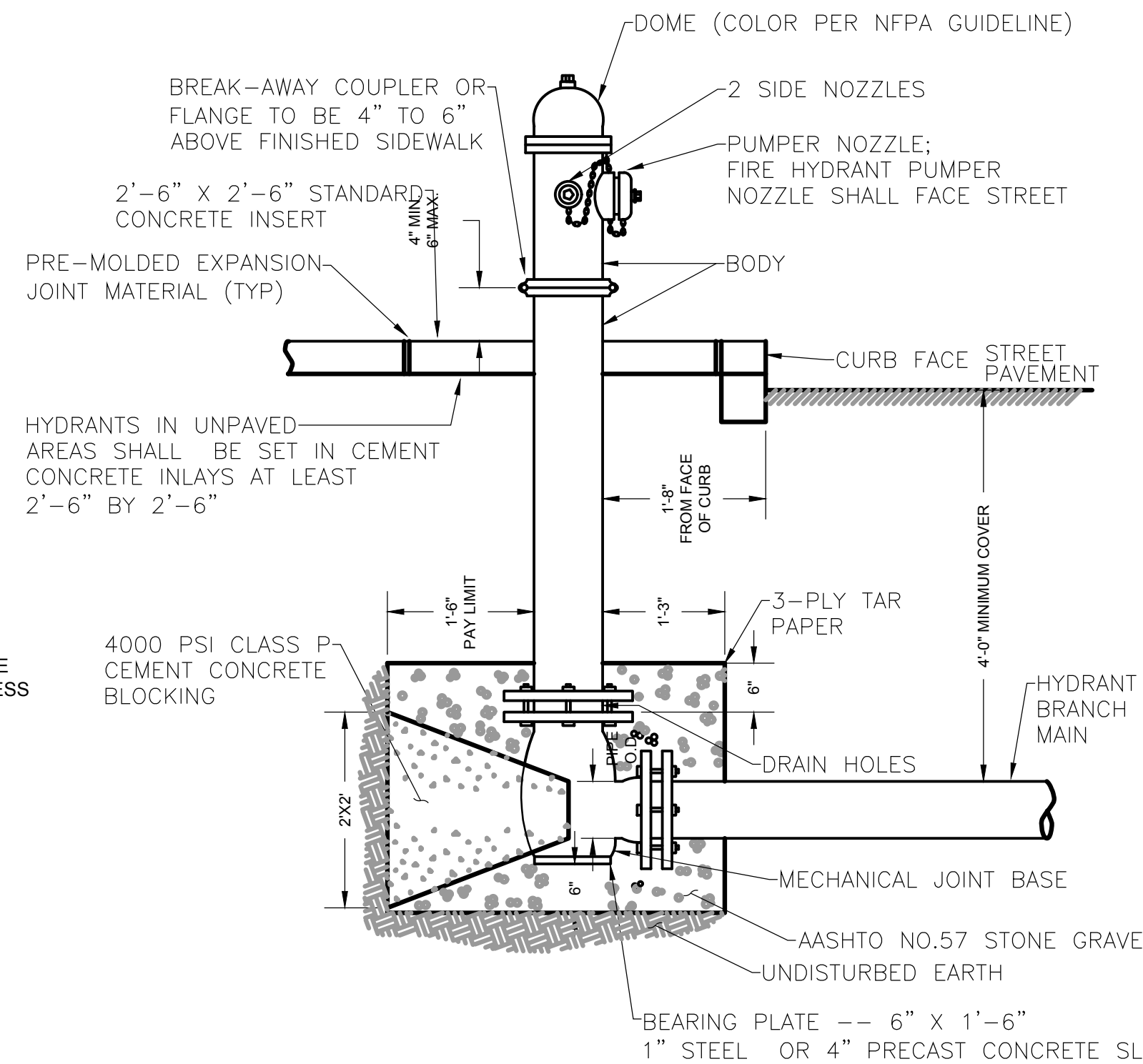


#4 REBAR CONTINUOUS CUT @ EXP. JOINTS.

ASPHALT PAVEMENT & STONE BASE SEE PAVEMENT TYPE FOR THICKNESS

NOTE:
1/2" PRE-MOLDED EXPANSION JOINT FILLER MATERIAL & SEALANT @ ALL INTERSECTIONS AND POINTS OF CURVATURE AND @ STOP OF EACH PLACEMENT.

FULL-DEPTH CONCRETE CURB 9
NTS



FIRE HYDRANT 10
NTS

Designed by: LJK	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
Drawn by: TPM	0	10/28/20	ISSUED FOR BIDS	
	1	1/5/21	ADDENDUM 3	
Checked by: KPK				

WRA
Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, MD 21231

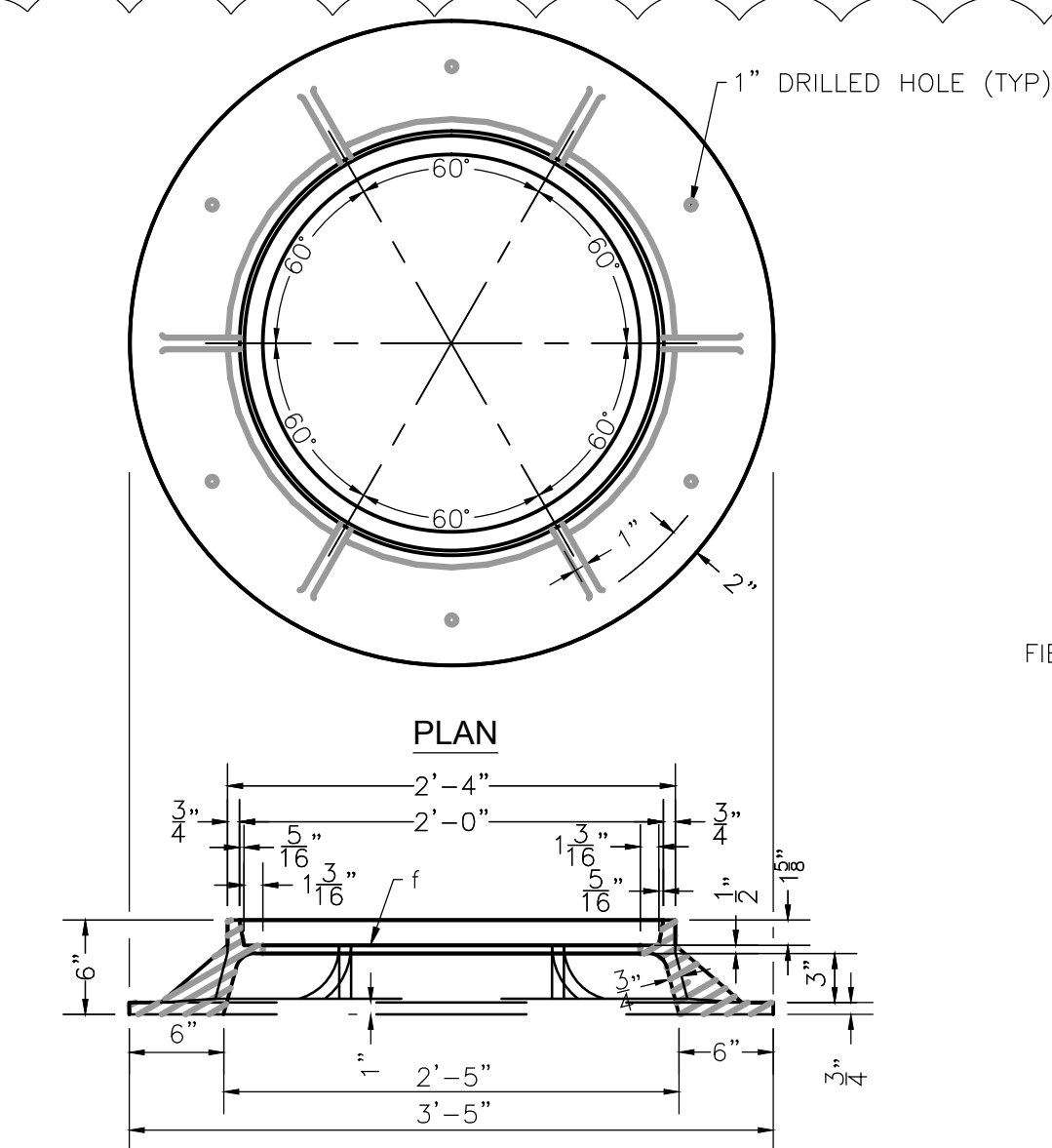
SciTek
CONSULTANTS, INC.
655 RODI ROAD - PITTSBURGH PA15235
PHONE: (412) 371-4460 FAX: (412) 371-4462
www.scitekanswers.com

JOHN D. HARDING
REGISTERED PROFESSIONAL ENGINEER
002494
January 5, 2021

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS
CD-10
CIVIL SITE DETAILS

Contract:	1729
CAD File Name:	C-SITE-DESIGN.DWG
Date:	OCTOBER 2020
Sheet:	56 OF 645

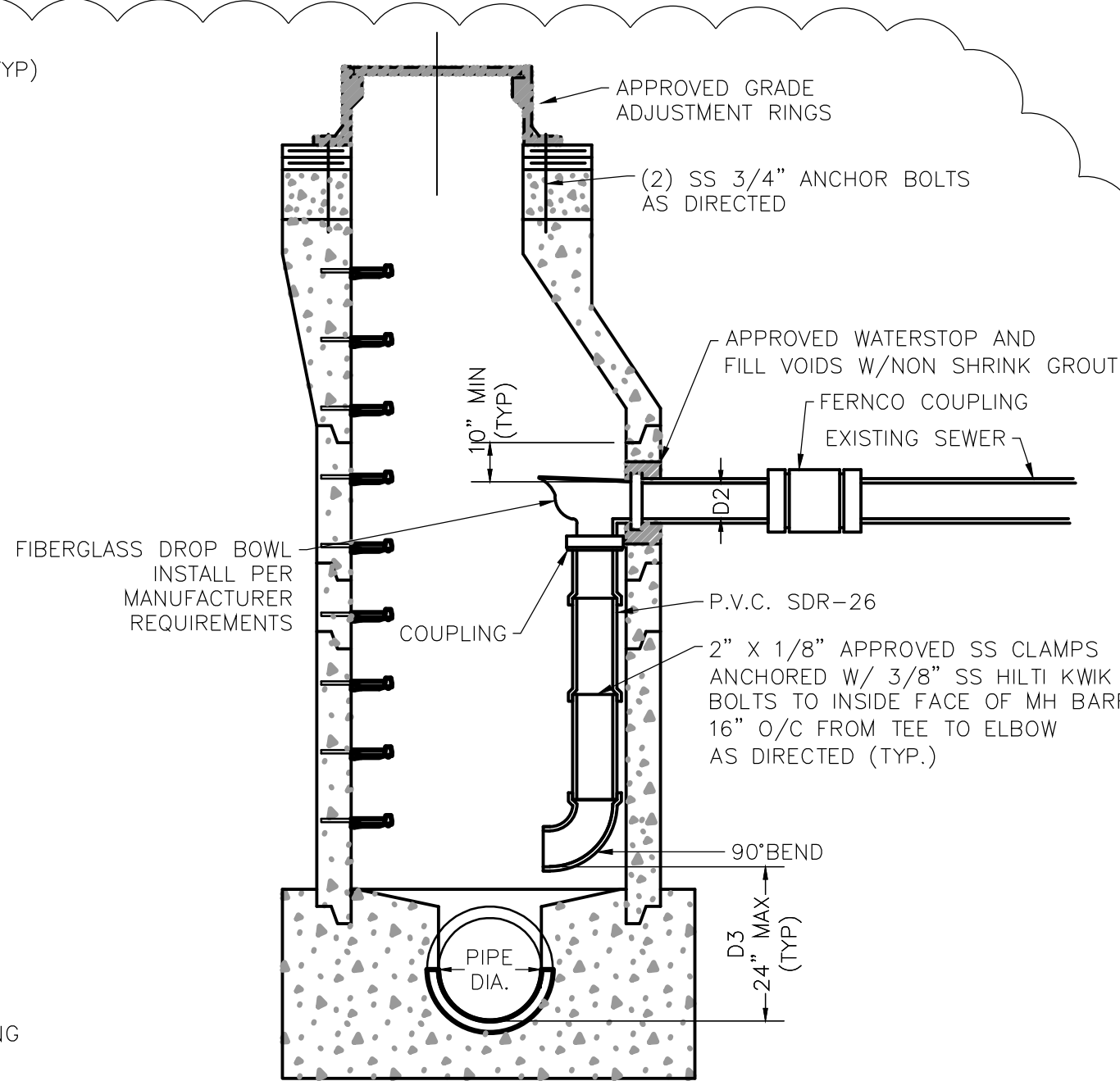


- NOTES:
- FRAMES AND COVERS MUST BE MACHINED TO INSURE GOOD BEARING AND PROPER FIT IN ANY POSITION.
 - CAST IRON SHALL CONFORM TO THE SPECIFICATIONS FOR GRAY IRON CASTINGS, ASTM DESIGNATION: A48 CLASS No. 30B GRADE MINIMUM STRENGTH.

MANHOLE FRAME CASTING

SCALE: N.T.S.

11



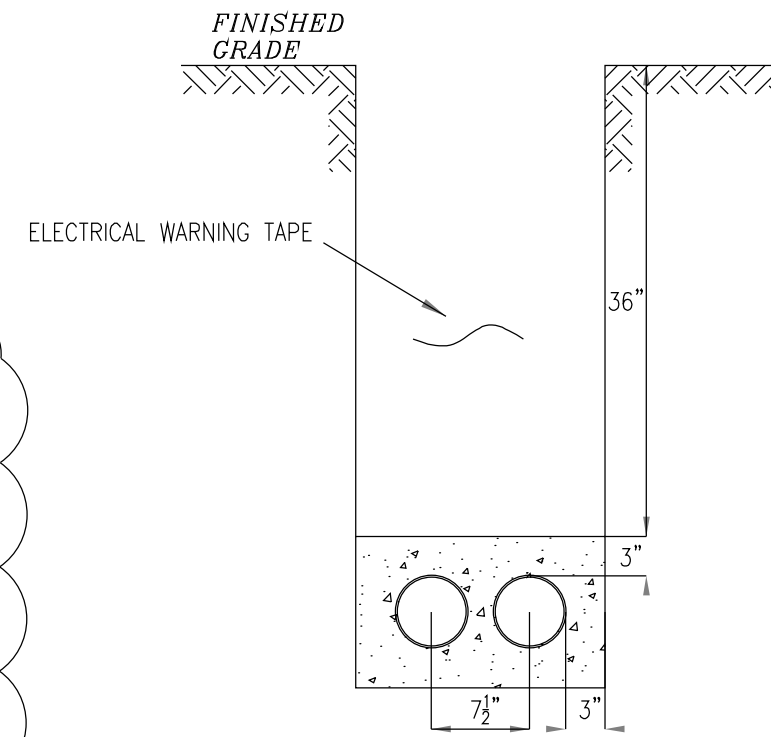
INSIDE DROP MANHOLE

SCALE: N.T.S.

12

NOTES:

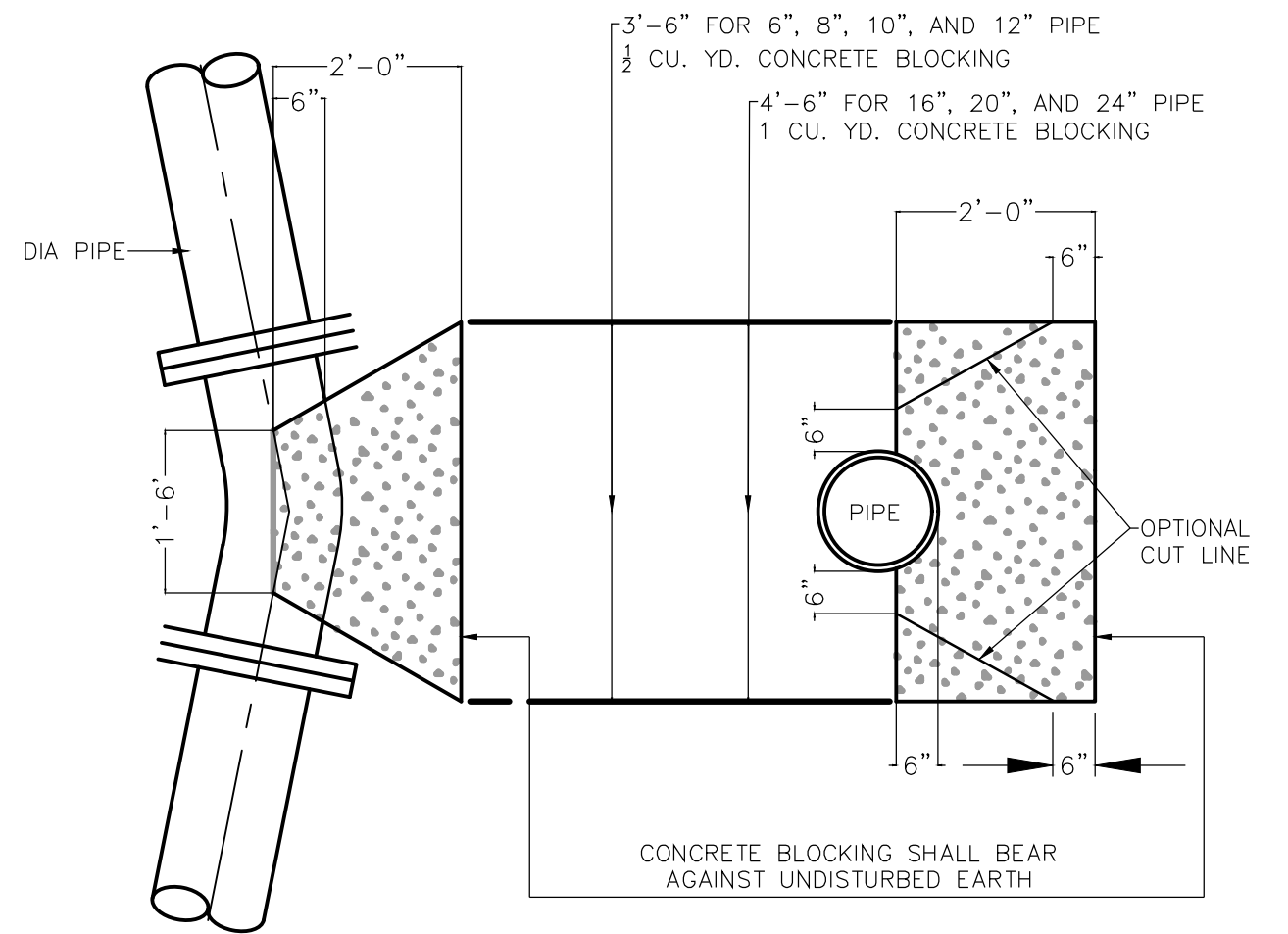
- ALL PROVISIONS OF THE STANDARD MANHOLE PER DETAIL AS APPROPRIATE INCLUDING, BUT NOT LIMITED TO, APPLICABLE ASTM DESIGNATION STANDARDS, DIMENSIONS, AND MATERIALS, APPLY TO DROP MANHOLES.
- ALL CEMENT ENCASED PIPE MUST BE RIGID PIPE ONLY (R.C., V.C., D.I., ETC.)
- USE TYPE "P" CEMENT CONCRETE WHEN THE VERTICAL DROP BETWEEN THE INVERT OF THE PIPE AND MANHOLE IS GREATER THAN 3'-9".
- SEE DETAIL FOR ADDITIONAL MANHOLE INVERT CONSTRUCTION DETAILS.
- PRECAST MANHOLE SECTIONS SHALL COMPLY WITH ASTM C478. LENGTHS MAY BE VARIED TO OBTAIN DESIRED DEPTH.



PRIMARY CONDUIT TRENCH DETAIL

1" = 1'-0"

15



NOTE:

- CONCRETE THRUST BLOCKING SHALL BE PROVIDED AT ALL TEES, BENDS, CAPS, AND PLUGS. IN ADDITION, ALL PIPE BENDS SHALL BE HARNESSSED WITH MECHANICAL JOINT RETAINER GLANDS, USING EITHER SET SCREW OR LUG TYPE RETAINING SYSTEM, AS DIRECTED.
- CONCRETE THRUST BLOCKS SHALL BE MINIMUM 4000 PSI CEMENT CONCRETE.

CONCRETE BLOCK FOR PRESSURE PIPE

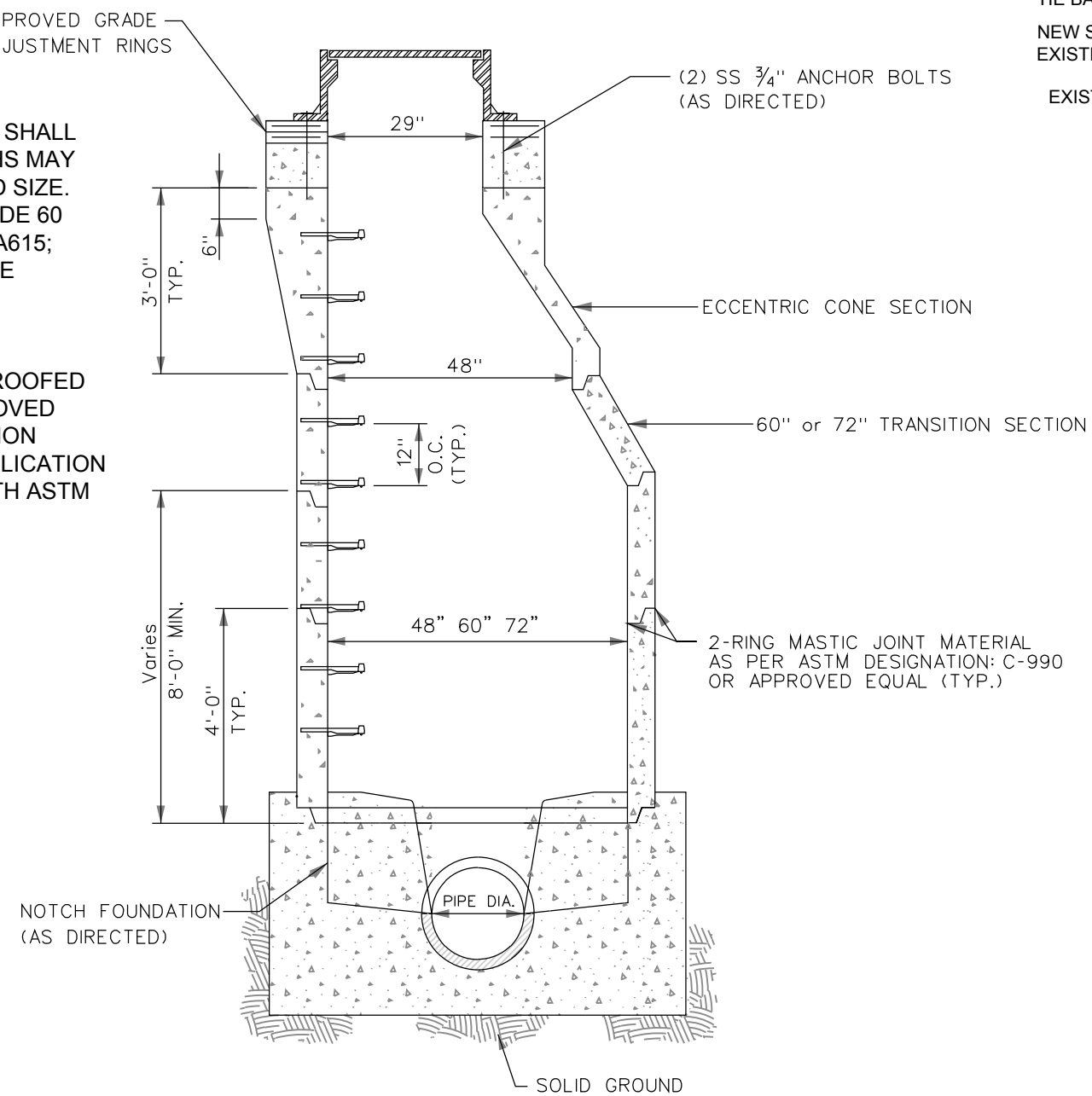
SCALE: N.T.S.

17

NOTES:

- PRECAST MANHOLE SECTIONS SHALL BE AS PER ASTM C478. LENGTHS MAY BE VARIED TO OBTAIN DESIRED SIZE.
- MANHOLE STEPS; No. BAR GRADE 60 DEFORMED STEEL BAR, ASTM A615; COATED WITH POLYPROPYLENE PLASTIC, ASTM D4101.
- MANHOLE FRAMES PER SPECIFICATIONS.
- MANHOLES MUST BE WATERPROOFED ON THE EXTERIOR WITH APPROVED ASPHALT EMULSION FOUNDATION COATING. MATERIALS AND APPLICATION SHALL BE IN ACCORDANCE WITH ASTM D1227.

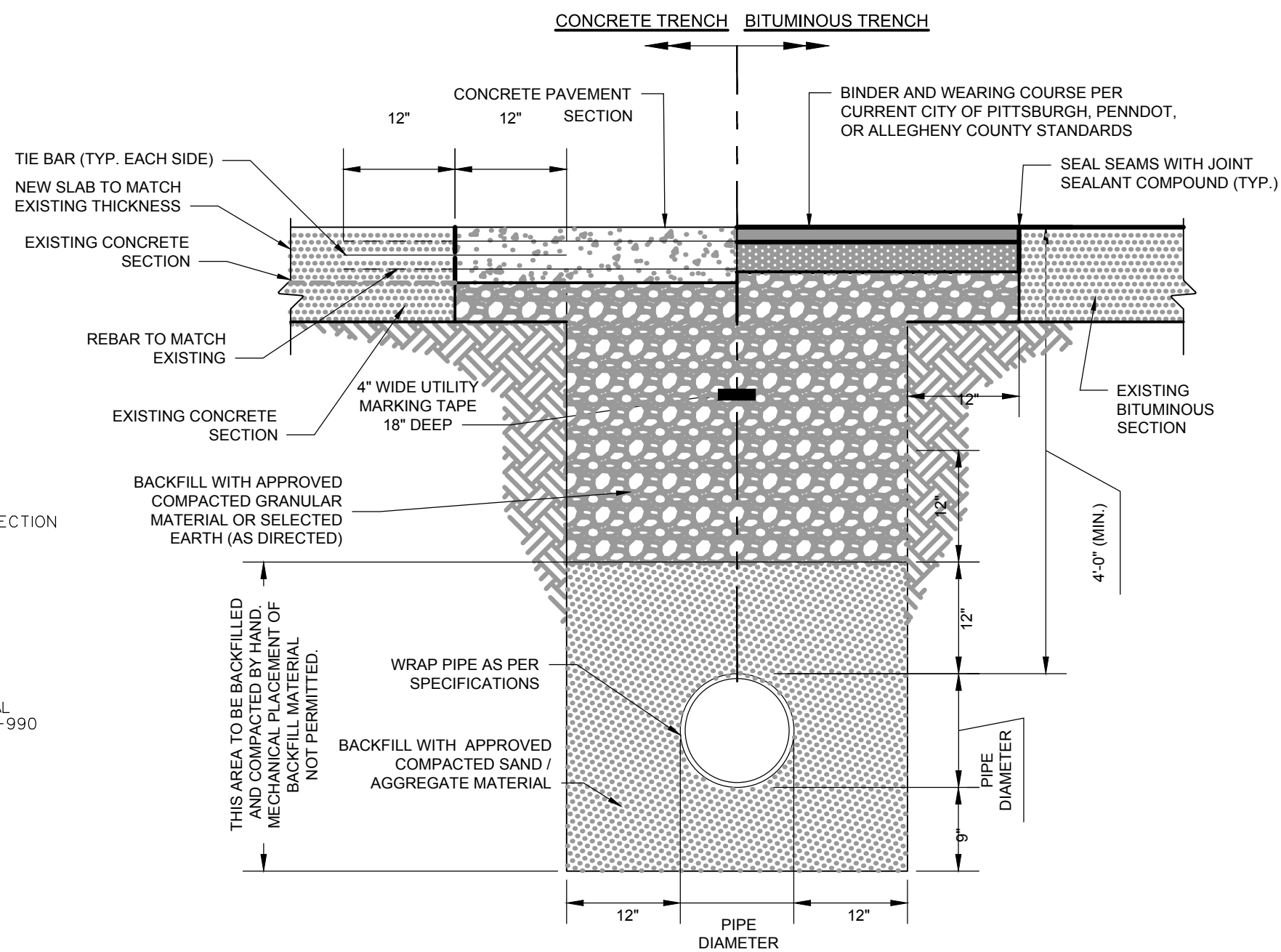
MANHOLE FRAME NUMBERS		
LOCATION	DEPTH	PATTERN
SIDEWALKS & GRASS	6"	No. 65
CONCRETE & BITUMINOUS STREETS	9"	No. 26
BRICK & BLOCK STREETS	13"	No. 23



48", 60" AND/OR 72" DIAMETER PRECAST CONCRETE MANHOLE

NTS

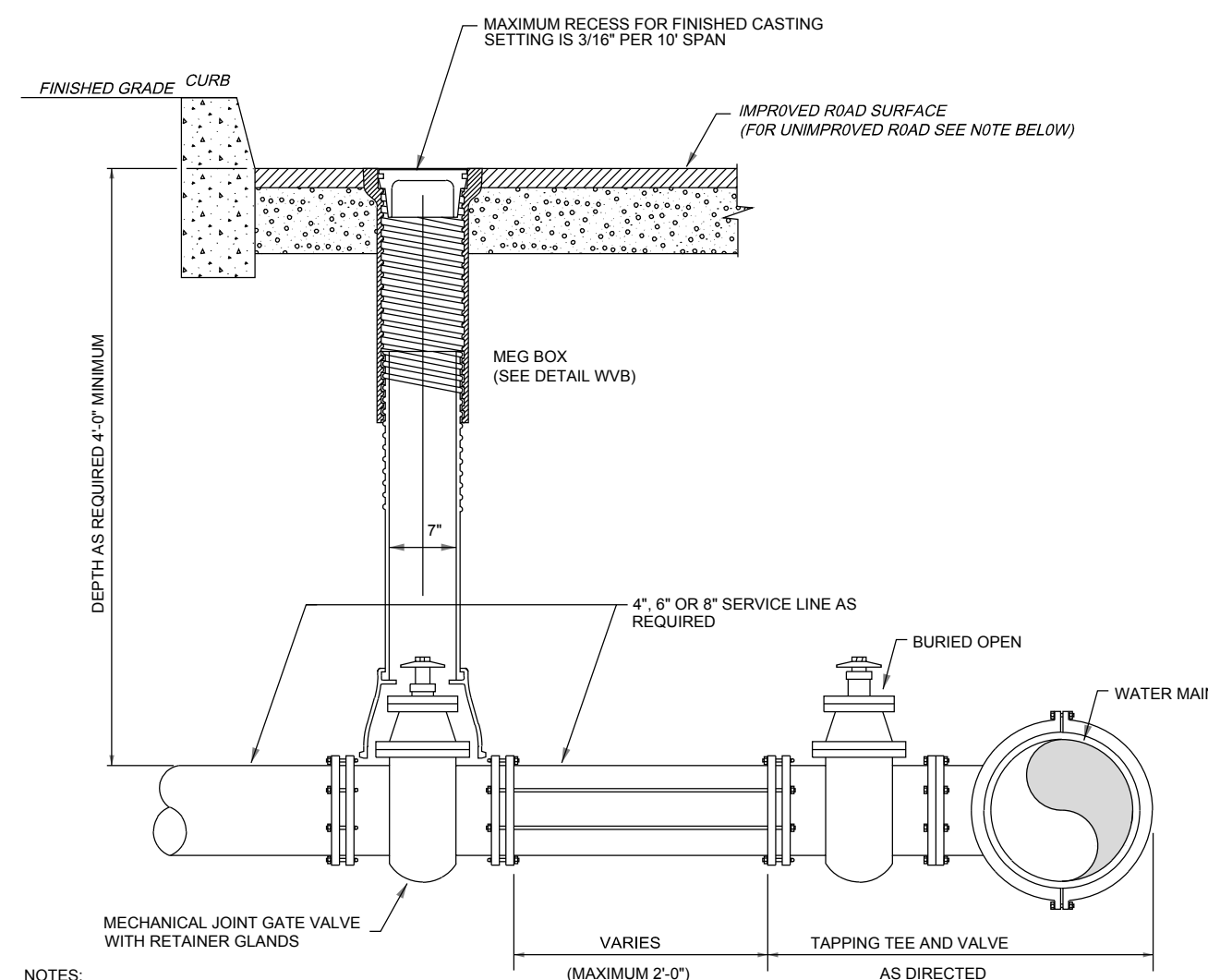
13



WATER, STORM, AND SANITARY SEWER TRENCH

1" = 1'-0"

14



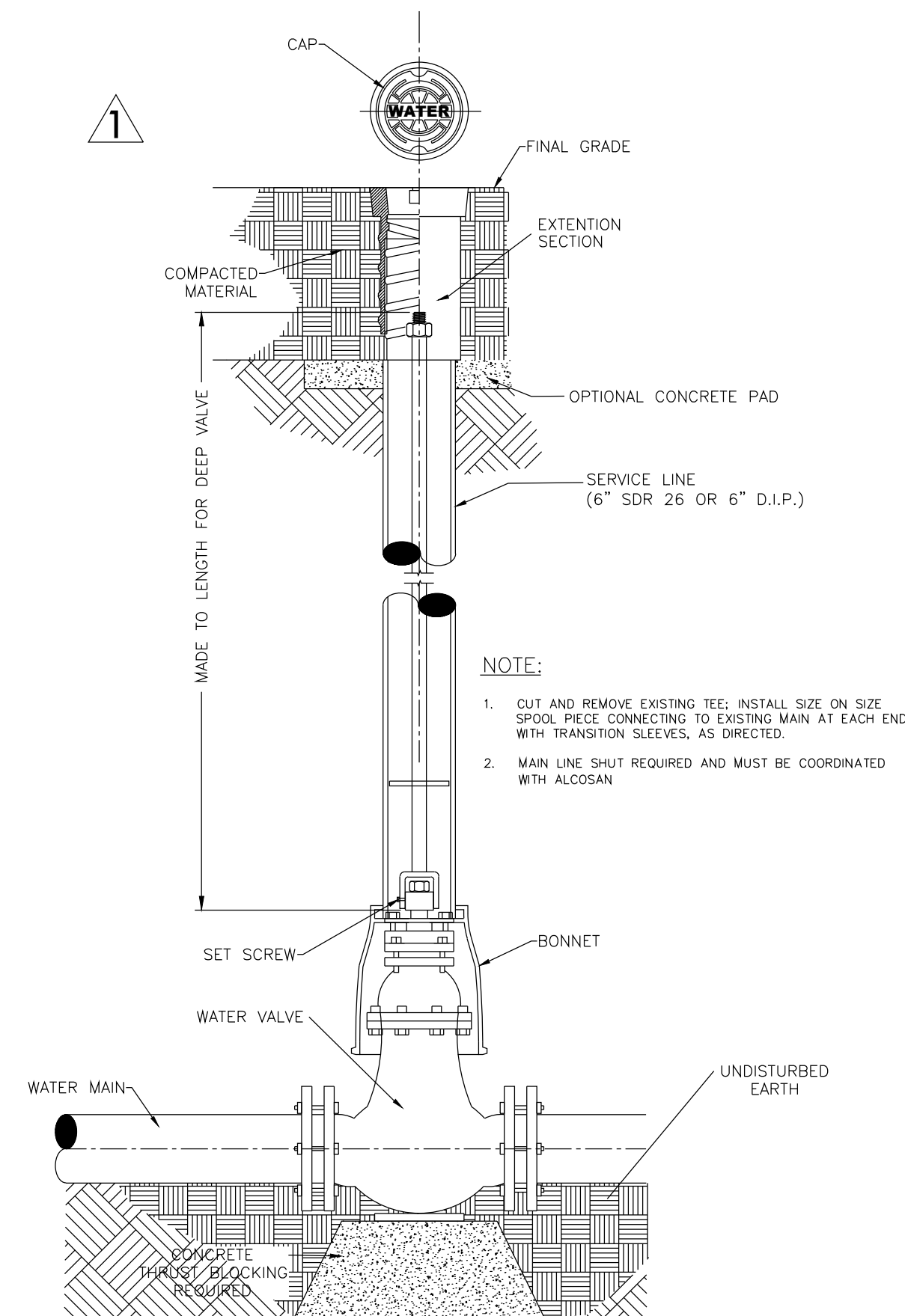
NOTES:

- ALL PIPING TO BE RESTRAINED WITH RODDING AND OR RETAINER GLANDS.
- ALL FITTINGS SHALL HAVE THRUST BLOCKS SEE DETAIL 17.
- STANDARD GATE BOX LID: TWO NOTCH OPENINGS REQUIRED. DIAMETER TO MATCH BOX.
- GATE BOX EXTENSION: GATE BOX EXTENSION RINGS ARE NOT TO BE USED IN NEW WORK.
- A MAXIMUM OF 3 EXTENSION RINGS CAN BE USED PER EXISTING GATE BOX.
- MEG BOX MATERIAL SHALL BE CAST IRON.
- IF MEG BOX IS LOCATED IN AN UNIMPROVED AREA, THEN A 30"x30" x 8" D CONCRETE PAD APRON CENTERED AROUND THE MEG BOX IS REQUIRED.
- ALL VALVES MUST BE RIGHT TURN TO OPEN.
- PRIVATE SERVICE LINE MATERIAL AND EQUIPMENT SHALL CONFORM TO ALLEGHENY COUNTY PLUMBING CODE, ARTICLE XV.

SERVICE CONNECTION 4" THROUGH 8"

NTS

16



SERVICE VALVE WATER AND SEWER

NTS

18

Designed by:	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
LJK	0	10/28/20	ISSUED FOR BIDS	
	1	1/5/21	ADDENDUM 3	
Drawn by:				
TPM				
Checked by:				
KPK				

WRA
Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, MD 21231

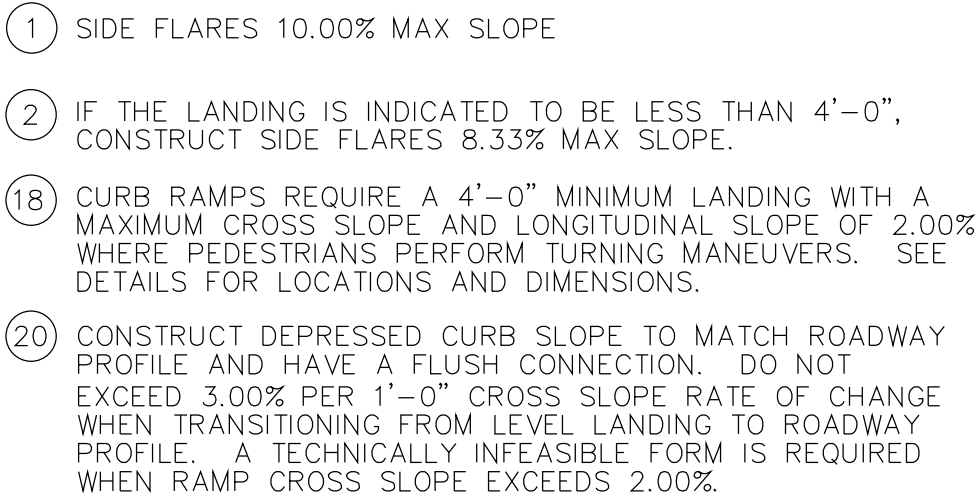
SciTek
CONSULTANTS, INC.
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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS
CD-11
CIVIL SITE DETAILS

Contract: 1729
CAD File Name: C-SITE-DESIGN.DWG
Date: OCTOBER 2020
Sheet: 57 OF 645



PERCENT SLOPE	EQUIVALENT SLOPE
10.00%	10:1
8.33%	12:1
7.14%	14:1
5.00%	20:1
2.00%	50:1
1.00%	100:1

