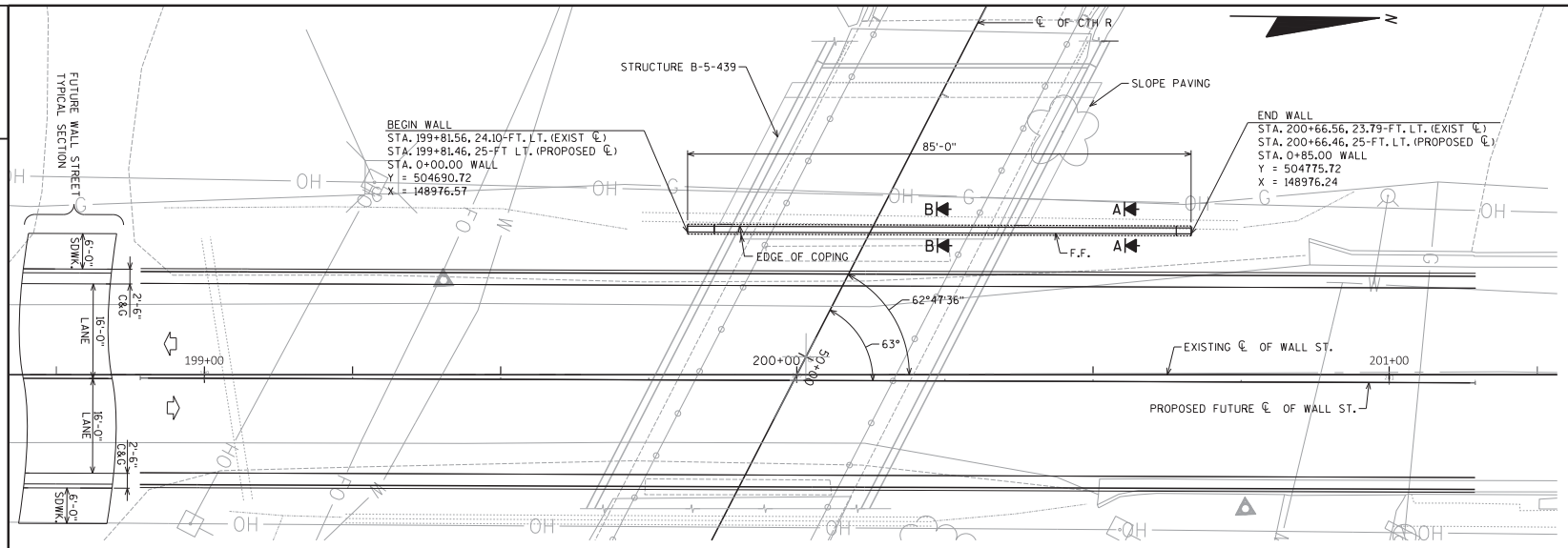


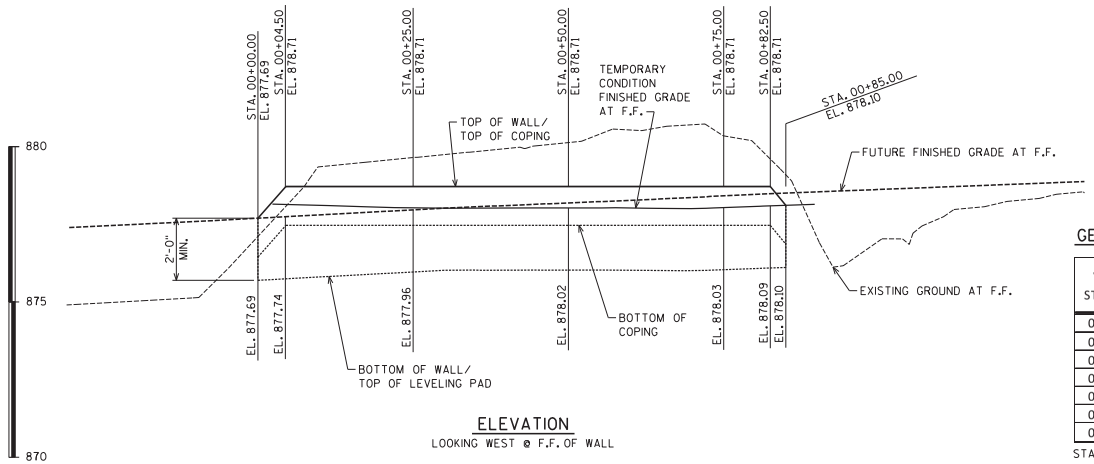
PLAN

ALL STATIONS & DIMENSIONS ARE MEASURED ALONG FRONT FACE

FOR SECTIONS A & B, SEE SHEET "RETAINING WALL DETAILS - TYPICAL SECTIONS".

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	105 LF
SPV.0165.01	WALL MODULAR BLOCK GRAVITY LANDSCAPE WEST ABUTMENT	235 SF



ELEVATION

LOOKING WEST @ F.F. OF WALL

GEOMETRY TABLE

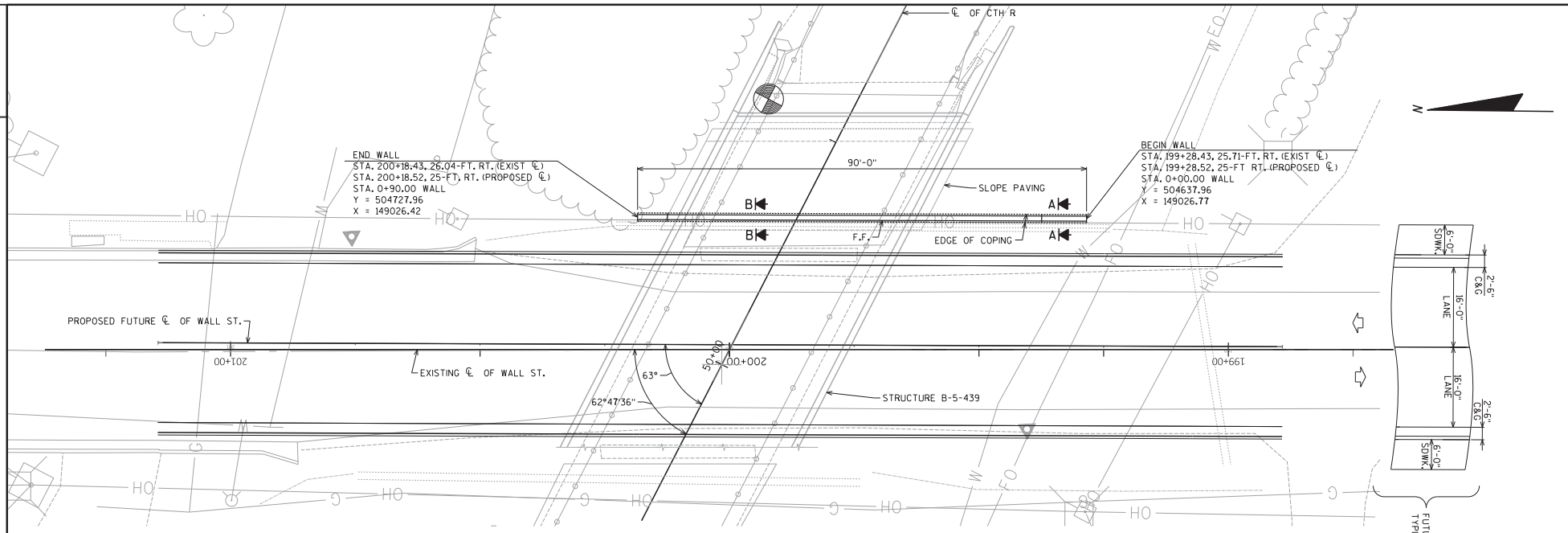
WALL STATION	ROAD STATION	OFFSET TO FF OF WALL	TOP OF WALL EL.	FINISHED GRADE EL.
0+00.00	199+81.46	25'	877.69	877.69
0+04.50	199+85.96	25'	878.71	877.74
0+25.00	199+98.96	25'	878.71	877.96
0+50.00	200+23.96	25'	878.71	878.02
0+75.00	200+48.96	25'	878.71	878.03
0+82.50	200+63.96	25'	878.71	878.09
0+85.00	200+66.46	25'	878.10	878.10

STATIONING BASED ON PROPOSED ℄

F.F. DENOTES FRONT FACE.

Addendum No. 02
ID 4327-09-71
Added Sheet 4A
January 9, 2020

PROJECT NO: 4327-09-71	HWY: CTH R	COUNTY: BROWN	RETAINING WALL LAYOUT - WEST ABUTMENT	SHEET 4A	E



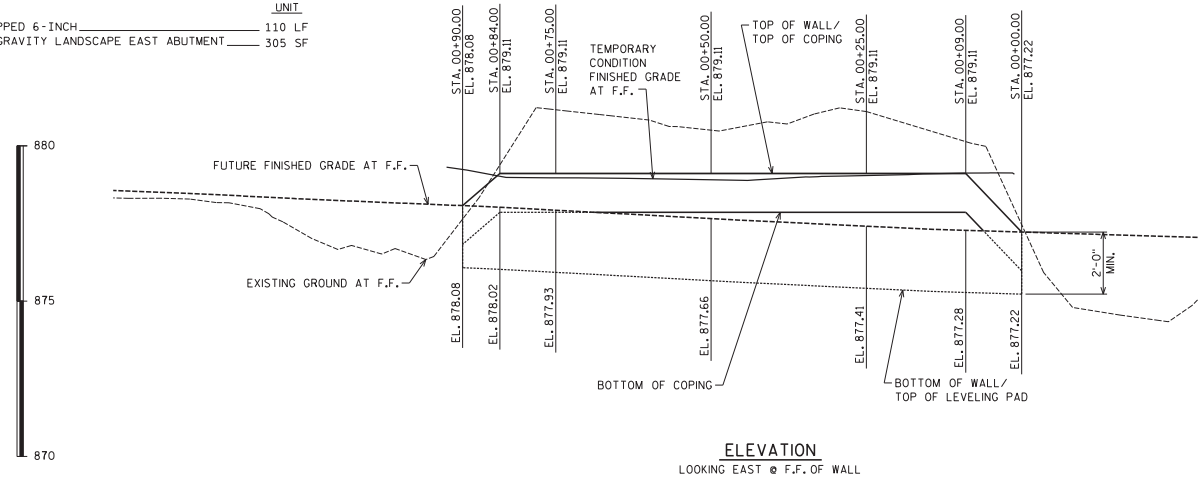
PLAN

ALL STATIONS & DIMENSIONS ARE MEASURED ALONG FRONT FACE

FOR SECTIONS A & B, SEE SHEET "RETAINING WALL DETAILS - TYPICAL SECTIONS".

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	110 LF
SPV.0165.02	WALL MODULAR BLOCK GRAVITY LANDSCAPE EAST ABUTMENT	305 SF



ELEVATION

LOOKING EAST @ F.F. OF WALL

GEOMETRY TABLE

WALL STATION	ROAD STATION	OFFSET TO FF OF WALL	TOP OF WALL EL.	FINISHED GRADE EL.
0+00.00	199+28.52	25'	877.22	877.22
0+09.00	199+37.52	25'	879.11	877.28
0+25.00	199+48.52	25'	879.11	877.41
0+50.00	199+73.52	25'	879.11	877.66
0+75.00	199+98.52	25'	879.11	877.93
0+84.00	200+12.52	25'	879.11	878.02
0+90.00	200+18.52	25'	878.08	878.08

STATIONING BASED ON PROPOSED ℄

F.F. DENOTES FRONT FACE.

Addendum No. 02
ID 4327-09-71
Added Sheet 4B
January 9, 2020

PROJECT NO: 4327-09-71	HWY: CTH R	COUNTY: BROWN	RETAINING WALL LAYOUT - EAST ABUTMENT	SHEET 4B	E

GENERAL NOTES

THE PLAN QUANTITY FOR THE BID ITEM "WALL MODULAR BLOCK GRAVITY" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF WALL TO A CONSTANT DEPTH OF 2'-0" BELOW FINISHED GRADE.

DRAWINGS SHALL NOT BE SCALED.

THE QUANTITY OF CONCRETE MASONRY, COATED REINFORCING STEEL, AND RUBBERIZED MEMBRANE WATERPROOFING FOR THE CAST-IN-PLACE COPING IS INCIDENTAL TO BID ITEM "WALL MODULAR BLOCK GRAVITY".

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK GRAVITY".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO ANY WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

MODULAR BLOCKS SHALL HAVE A 'CUT STONE' APPREARNCE WITH SANDSTONE COLORATION.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THE LAYOUT SHEETS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AND RAILING AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 psf.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY (COPING) _____ f'_c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) _____ f_y = 60,000 p.s.i.

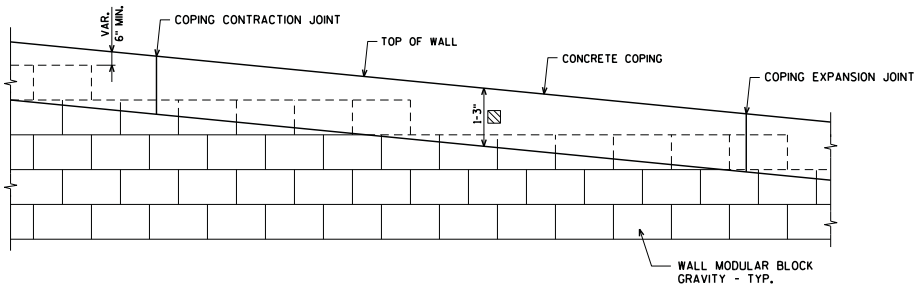
WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATIONS	
LOCATION	W. ABUT.	E. ABUT.
WALL HEIGHT (FEET)	2.97	3.83
EXPOSED WALL HEIGHT (FEET)	0.97	1.83
MINIMUM LENGTH OF REINFORCEMENT (FEET) ■	---	---
WALL STATION	0+04.50	0+09.00
BORING USED	1-18	2-18
CAPACITY TO DEMAND RATIO (CDR)		
SLIDING (CDR>1.0)	1.03	1.00
ECCENTRICITY (CDR>1.0)	1.28	1.00
OVERALL STABILITY (CDR>1.0) ☆	2.30	2.15
BEARING RESISTANCE (CDR>1.0)	6.30	2.86
FACTORED BEARING RESISTANCE (psf)	4,105	3,485

NOTES

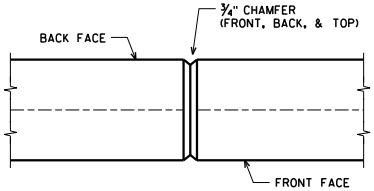
■ THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS.

☆ THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCMENT LENGTHS BASED ON OVERALL STABILITY PERFORMED BY THE WALL DESIGNER. COMPOUND STABILITY IS THE CONTRACTORS RESPONSIBILITY.



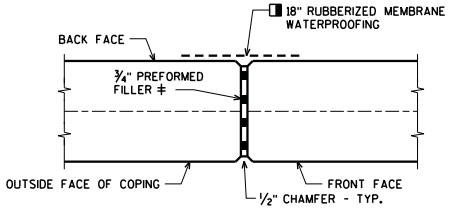
RETAINING WALL FACE & CONCRETE COPING DETAIL

▨ THIS DIMENSION MAY CHANGE DEPENDING ON HEIGHT OF BLOCKS. THIS DIMENSION TO BE CONSTANT FOR ENTIRE LENGTH OF WALL. MAXIMUM ALLOWABLE HEIGHT OF BLOCKS TO BE 9 INCHES.



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT
MAXIMUM SPACING OF JOINT = 12'



COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT
MAXIMUM SPACING OF JOINT = 50'

◨ MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

PLACE EXPANSION JOINTS AT EVERY THIRD JOINT AND AT ALL WALL RADIUS PC/PT POINTS AND BEND POINTS.

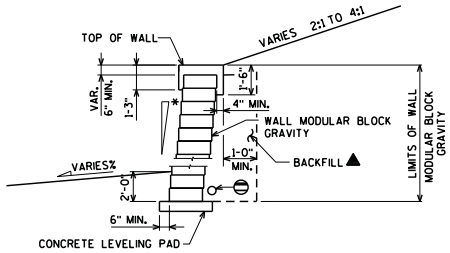
SOIL PARAMETERS

STRATUM LOCATIONS AND SOIL DESCRIPTIONS	TOTAL UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PCF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	34°	0
RETAINED SOIL ⊛	120	30°	0

⊛ DESIGN WALL FOR THESE VALUES

Addendum No. 02
ID 4327-09-71
Added Sheet 4C
January 9, 2020

PROJECT NO 4327-09-71	HWY: CTH R	COUNTY: BROWN	RETAINING WALL DETAILS - DESIGN DATA	SHEET 4C	E



SECTION A-A

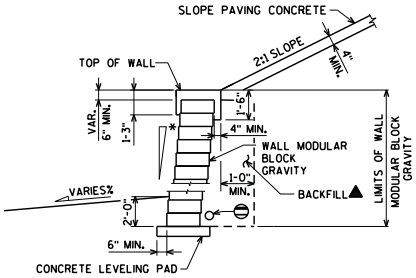
STA. 199+81.46 TO STA. 199+86.82 (PROPOSED ℄) - WEST ABUTMENT
STA. 200+39.01 TO STA. 200+66.46 (PROPOSED ℄) - WEST ABUTMENT
STA. 199+28.52 TO STA. 199+59.99 (PROPOSED ℄) - EAST ABUTMENT
STA. 200+12.17 TO STA. 200+18.52 (PROPOSED ℄) - EAST ABUTMENT

* SET BLOCK VARIES BY MANUFACTURER, MAX. FRONT FACE FROM VERTICAL BLOCK IS 1 HORIZ. TO 12 VERT.

▲ INCIDENTAL TO BID ITEM "WALL MODULAR BLOCK GRAVITY".

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET.

FOR LOCATION OF SECTION A, SEE SHEETS :
"RETAINING WALL LAYOUT - WEST ABUTMENT"
& "RETAINING WALL LAYOUT - EAST ABUTMENT"



SECTION B-B

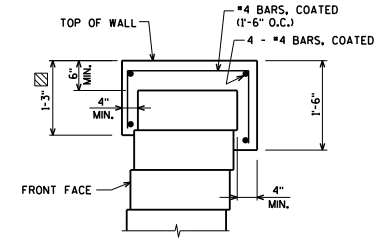
STA. 199+86.82 TO STA. 200+39.01 (PROPOSED ℄) - WEST ABUTMENT
STA. 199+59.99 TO STA. 200+12.17 (PROPOSED ℄) - EAST ABUTMENT

* SET BLOCK VARIES BY MANUFACTURER, MAX. FRONT FACE FROM VERTICAL BLOCK IS 1 HORIZ. TO 12 VERT.

▲ INCIDENTAL TO BID ITEM "WALL MODULAR BLOCK GRAVITY".

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET.

FOR LOCATION OF SECTION A, SEE SHEETS :
"RETAINING WALL LAYOUT - WEST ABUTMENT"
& "RETAINING WALL LAYOUT - EAST ABUTMENT"

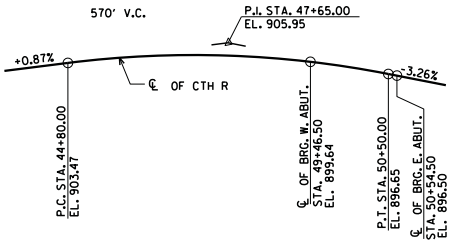


COPING DETAIL

▨ THIS DIMENSION MAY CHANGE DEPENDING ON HEIGHT OF BLOCKS. THIS DIMENSION TO BE CONSTANT FOR ENTIRE LENGTH OF WALL. MAXIMUM ALLOWABLE HEIGHT OF BLOCKS TO BE 9 INCHES AT COPING.

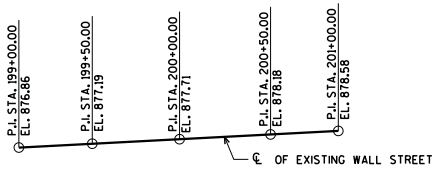
MAINTAIN 2" MINIMUM COVER ON ALL REBAR.

Addendum No. 02
ID 4327-09-71
Added Sheet 4D
January 9, 2020

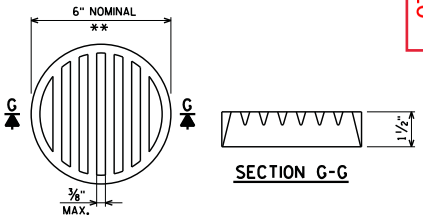


PROFILE GRADE LINE
(CTH R)

BENCH MARK:
ALUM. CAP ON NE WW
STA. 50+52, 16.0 FT. LT.
EL. 896.78



PROFILE GRADE LINE
(EXISTING WALL STREET)



SECTION G-G

** DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

RODENT SHIELD DETAIL

PROJECT NO: 4327-09-71	HWY: CTH R	COUNTY: BROWN	RETAINING WALL DETAILS - TYPICAL SECTIONS	SHEET 4D	E