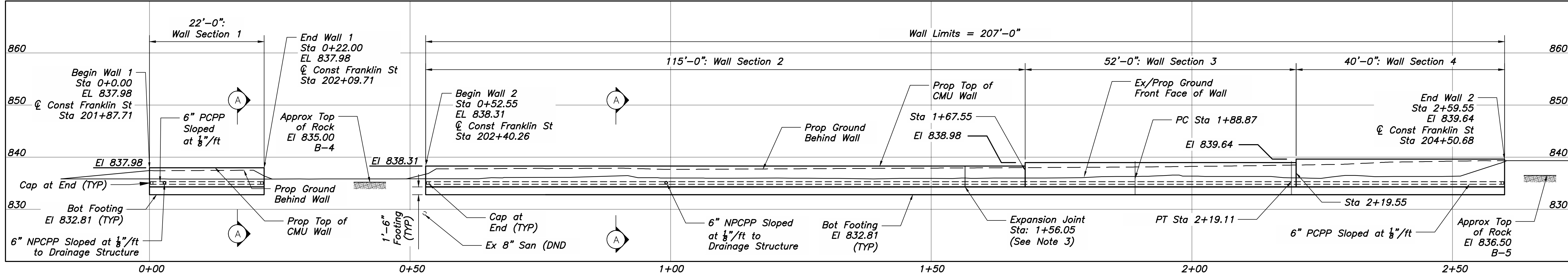
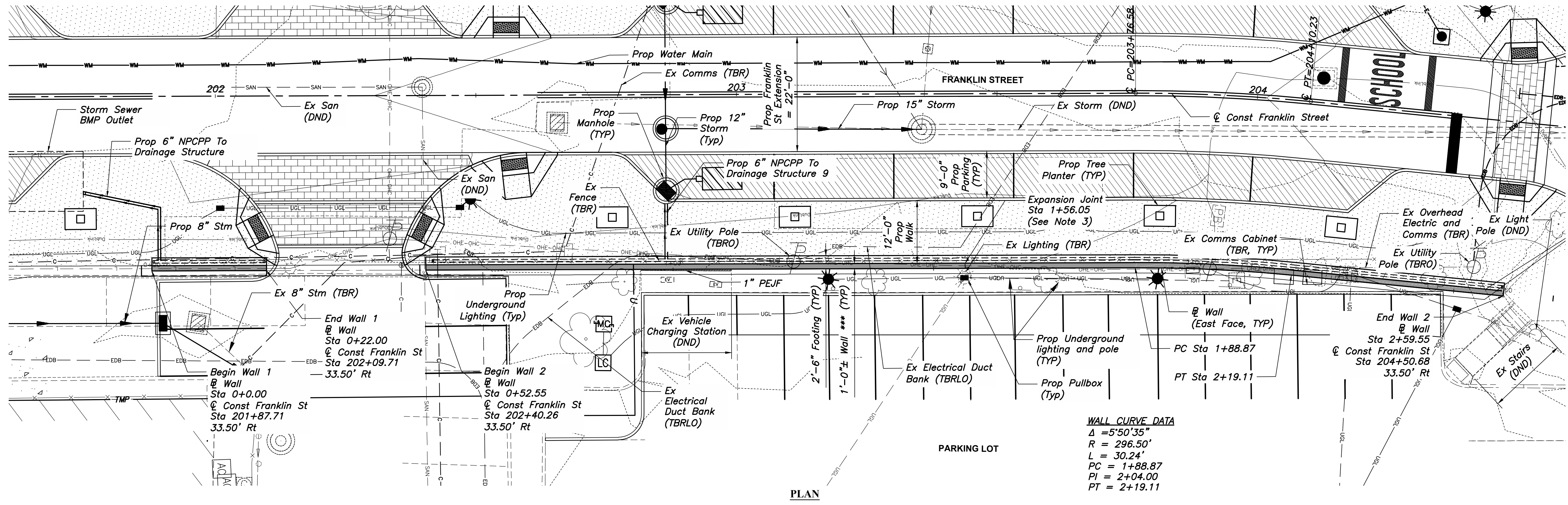


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WALL PLAN AND ELEVATION

FRANKLIN STREET EXTENSION

85
87



PROFILE ALONG e WALL
(Veneer and Cap not shown, top of wall elevations taken from top of CMU blocks)

- NOTES**
- For additional information and Section A-A, see Sheet 86/87.
 - For Abbreviation Legend, See Sheet 86/87.
 - Expansion Joint location is approximate. Actual Joint location shall be submitted to the Engineer for review and approval. Joint shall be located approximately mid point of Wall 2. Additional Joints requested by the Contractor shall be submitted to the Engineer for Review and Approval. See General Notes for Details.

- LEGEND**
- Proposed Wall Stem
 - Proposed Brick Pavers
 - Proposed Detectable Warning
 - Proposed Brick Crosswalk
 - Proposed Parking Stalls
 - *** - Includes Stone Veneer Thickness

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PROPOSED WORK

The proposed work consists of building two reinforced CMU walls with stone veneer supported on a Cast-In-Place (CIP) reinforced concrete footing along the proposed Franklin Street Extension.

DESIGN SPECIFICATIONS

These structure conforms to "The LRFD Bridge Design Specifications" adopted by the American Associated of State Highway and Transportation Official, 9th Edition, 2020, and the ODOT Bridge Design Manual, 2020.

All items required to construct the retaining wall as detailed in these plans shall conform to ODOT Construction and Materials Specifications, 2019 and as required by the plan specifications and details.

DESIGN DATA

Internal Angle of Friction of Backfill Soil, $\phi = 30^\circ$
Total Unit Weight of Backfill = 120 PCF
Internal Angle of Friction (Drained), Foundation Soil $\phi = 30^\circ$

Concrete Class QC1- Compressive Strength 4000 PSI (CIP footing)

Reinforcing steel - ASTM A615 or A996 Grade 60, minimum yield strength 60,000 PSI
Lap Length Minimum: 2'-5"

Spacing of reinforcing bars is from center of bars. The clearance of reinforcing shall be 2" minimum unless otherwise specified.

Concrete Masonry Units (CMU) shall be normal weight and meet the requirements of ODOT Item 602 and ASTM C90.

Mortar strength shall be $f'm = 1500$ PSI minimum

Grout all Concrete Masonry Units (CMU) solid. Grout filler for CMU shall consist of one part Portland Cement (ODOT CMS 701) and three parts sand (ODOT CMS 703.03) by volume, and water.

FOUNDATION BEARING RESISTANCE:

Retaining wall footings, as designed, produces a maximum service load pressure of 1.59 kips per square foot and a maximum strength load pressure of 2.21 kips per square foot. The factored bearing resistance is 3.0 kips per square foot.

ITEM 511 - CONCRETE MISC.: MANUFACTURED STONE VENEER/CAP

All exposed vertical faces of the proposed retaining walls shall have a stone facing. Manufactured Synthetic Stone Veneer (color beige) shall be Great Lakes Limestone as Manufactured by Dutch Quality Stone, Inc (330-359-7866) or approved alternative.

Manufactured Stone Cap shall be 12" wide as shown in the plans and manufactured by Dutch Quality Stone, Inc or approved equivalent. The City will permit the use of a natural limestone cap in lieu of a manufactured stone cap. Natural limestone cap shall be Indiana Buff Limestone. Shop drawings shall be submitted for approval to the City Engineer before fabrication.

Mortar and grouting type shall be per the manufacturer's instructions. Use Type "S" mortar and bonding agent Acryl 60 or approved equal. A scratch course of mortar shall be applied and cured before placement of the stone.

Substrate preparation: Acid wash the CMU block surface before applying scratch coarse. Apply diamond mesh 2.5 lath with concrete nails to all concrete surfaces to receive manufactured stone veneer and cap. A scratch course of mortar shall be applied approximately 1/8 inch thick evenly over the exposed surface and cured 12 hours before placement of stone.

Pattern and Joints: Stone shall be placed in a random Ashlar Pattern similar to that on the retaining wall along West North Street and Avery/Muirfield at US-33/SR-161. The stone must cover all exposed vertical surfaces and shall extend 6" minimum below final grade. No more than two stones of identical size to be placed adjacent to each other. Horizontal joints should be no more than 6 to 8 feet in length before ending. Vertical joints should be no longer than 2 courses of stone. In most cases, vertical joints are staggered course to course.

Rake, clean, and finish joints in accordance with the manufacturer's instructions. Joint widths are to be fairly uniform in size, close to thumb width.

Temperature limitations per CMS section 602.03f shall govern.

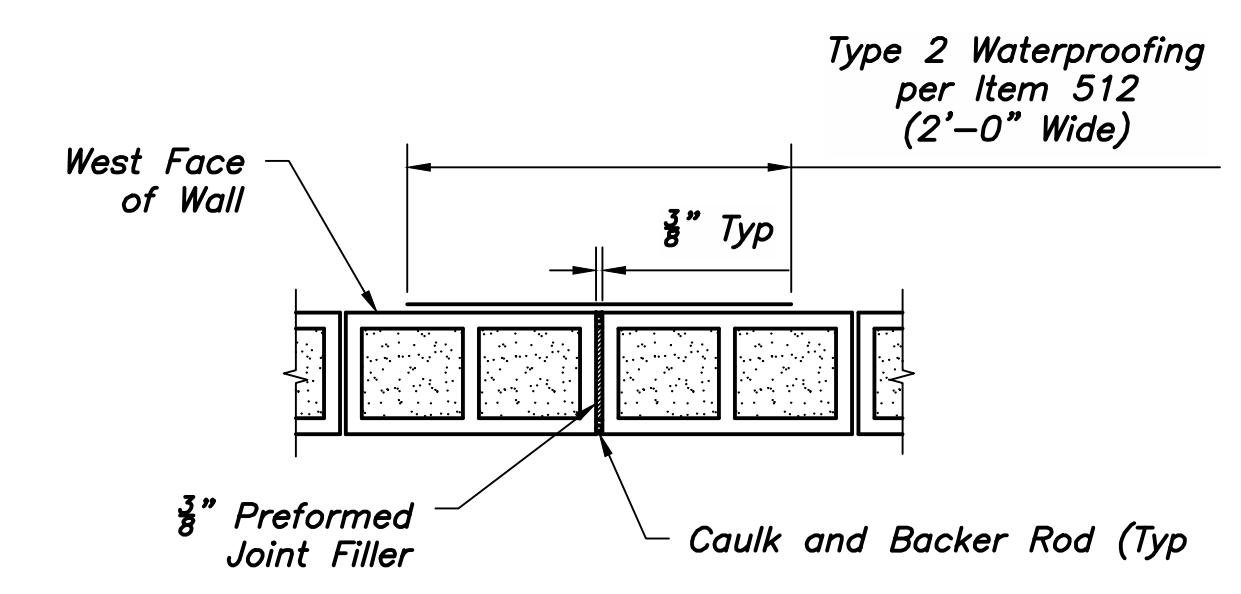
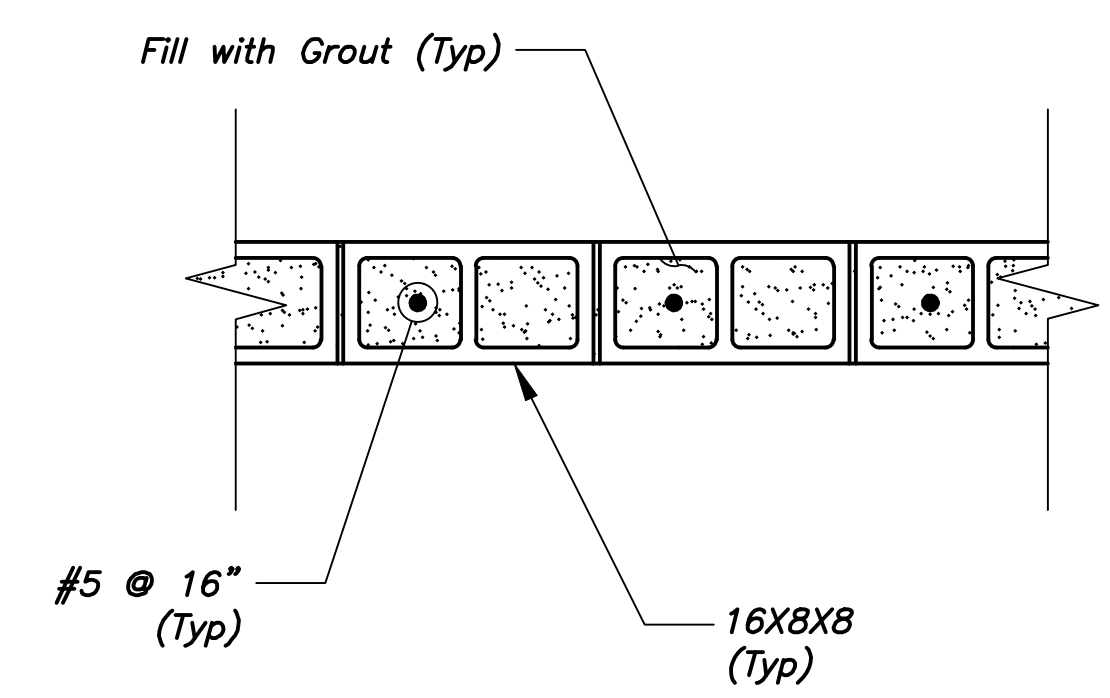
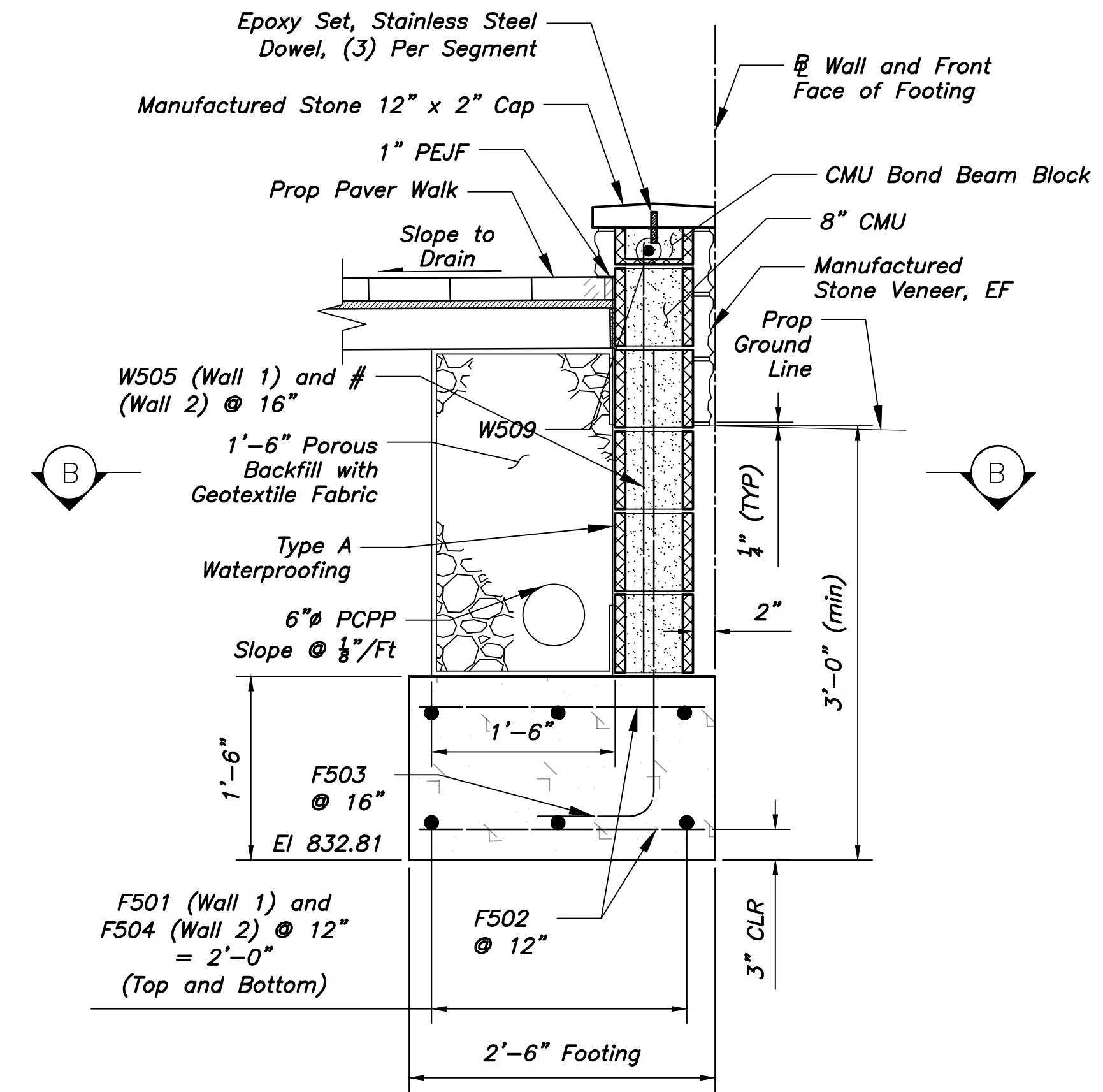
ITEM SPECIAL - POLYURETHANE CAULKING FOR STONE VENEER

Caulk vertical contraction joints with Polyurethane Caulking material manufactured for outdoor masonry. Color is to be beige. Methods, procedures and materials shall adhere to the manufacturer's specifications. Payment shall be included Item 511 - Concrete MISC.: Manufactured Stone Veneer/Cap.

ITEM 512 - TYPE A WATERPROOFING

- Dampproofing of the concrete surfaces below grade shall be as shown in the plans. Unless noted otherwise, dampproofing limits are from the finished grade line to the top of footing elevation on the backside (soil contact side) of wingwalls. The top limit of dampproofing shall be located as close as practical to the finished surface, but not exposed in the final condition.
- Surfaces to be treated shall be clean and dry.
- Concrete surfaces shall have been cured a minimum of 7 days before being dampproofed.
- Dampproofing materials shall conform to CMS 702.06, and the following:
 - Surfaces to be dampproofed shall be covered with a uniform coat of hot primer at a rate of 1 gallon per 100 sq.ft.
 - After the primer has been allowed to cure, two successive uniform coats of hot asphalt or tar shall be applied at a rate of 4.5 gallons per 100 sq. ft. per each coat. The first coat shall be allowed to cure before the second coat is applied.
- No dampproofing or waterproofing shall be allowed when temperature below 35° F.
- Asphalt shall be applied at a temperature between 300° F and 350° F.
- Tar shall be applied at a temperature between 200° F and 250° F.
- All bitumen shall be mopped or brushed on the surface except that spraying shall be permitted for the prime coat.
- The final coat shall be allowed to dry at least 2 days before any earth is allowed to contact the surface.

Dampproofing shall be in accordance with Type A Waterproofing requirements per CMS 512.08D.



ABBREVIATIONS:

- CLR - Clear
- CONST - Construction
- DIA - Diameter
- DND - Do Not Disturb
- EF - Each Face
- EL - Elevation
- EX - Existing
- MAX - Maximum
- MIN - Minimum
- NPCPP - Non-Perforated Corrugated Plastic Pipe
- PEJF - Preformed Expansion Joint Filler
- PCPP - Perforated Corrugated Plastic Pipe
- PROP - Proposed
- RT - Right
- STA - Station
- TBR - To Be Removed
- TBRLO - To Be Relocated by Others
- TBRO - To Be Removed by Others
- TYP - Typical

LEGEND:

- # - W506 @ 16": Wall Section 2
- W507 @ 16": Wall Section 3
- W508 @ 16": Wall Section 4

NOTES:

- For location of Section A-A, See Sheet 85/87.

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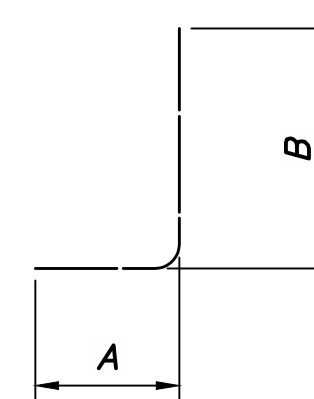
RETAINING WALL GENERAL NOTES

FRANKLIN STREET EXTENSION

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Estimated Quantities					Calculated By: MSM	Checked By: MJR
Item	Wall 1	Wall 2	Total	Unit	Description	Sheet #
503	4	33	37	CY	Unclassified Excavation	
503	5	57	62	CY	Rock Excavation	
509	407	4144	4551	LB	Epoxy Coated Reinforcing Steel	
511	4	29	33	CY	Class QC1 Concrete, Footing	
511	83	752	835	SF	Concrete Misc.: Concrete Veneer	86/87
512	0	1	1	SY	Type 2 Waterproofing	86/87
512	7	77	84	SY	Type A Waterproofing	86/87
518	3	33	36	CY	Porous Backfill with Geotextile Fabric	
518	22	207	229	FT	6" Perforated Corrugated Plastic Pipe	
	32	11	43	FT	6" Non-Perforated Corrugated Plastic Pipe, Including Specials	
602						
	81	917	998	SF	CMU Blocks	

Mark	Total	Length	Weight	Type								
					A	B	C	D	E	R	INC	
F501	6	21'-8"	136	STR								
F502	462	2'-2"	1044	STR								
F503	175	4'-7"	837	1	1'-0"	3'-8"						
F504	48	30'-0"	1502	STR								
W505	18	3'-8"	69	STR								
W506	88	3'-9"	344	STR								
W507	40	4'-5"	184	STR								
W508	31	5'-1"	164	STR								
W509	12	21'-8"	271	STR								
Sub-Total			4280									



TYPE 1

NOTES:

- The bar size number is specified on the plans in the bar mark column. The first digit where three digits are used, and the first two digits where four are used, indicated the bar size number. For example W501 is a No. 5 bar. Bar dimensions shown are out to out, unless otherwise indicated.
- Unless otherwise noted, the following lap lengths shall apply:
#5 Bars: 2'-5" Min
- See General Notes for additional information and Abbreviation Legend.