



The City of  
**WORCESTER**

Administration & Finance – Purchasing Division  
Christopher J. Gagliastro, MCPPO – Purchasing Director  
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February 7, 2023

To All Bidders:

Subject: **Bid #: 7946-W3, Green Hill Park Community Garden / DPWP**

### **ADDENDUM NO. 2**

To Whom It May Concern:

With reference to our proposal request relative to the above subject, please refer to the changes/modifications/clarifications to the original proposal request.

- **PLEASE SEE ATTACHED GENERAL BID CLARIFICATIONS INCLUDING QUESTIONS RECEIVED AND RESPONSES FROM CITY**

Proposers are requested to acknowledge and/or include this addendum with submission. All other terms, conditions and specifications remain unchanged.

Very truly yours,

Christopher J. Gagliastro  
Purchasing Director

**ADDENDUM NUMBER TWO**

**Date:** February 7, 2023

**Project:** Bid No. 7946-W3 **Greenhill Park Community Garden**  
**City of Worcester Department of Public Works and Parks**  
**Parks, Recreation and Cemetery Division**

**General Bid Clarification**

**AMEND:**

SHEET C001: - delete Add Alternate #3, Add alternate #4, complete.

**ADD:**

**Add alternate #3:**

Contractor shall demolish existing hot mix asphalt roadway surface at green hill parkway, beginning at the intersection of Greenhill parkway and Channing Street (west entrance) and ending at the intersection of Greenhill parkway and officer Manny Familia way (golf course entrance), complete (approx. 120,000 s.f.).

The contractor shall supplement road base materials, adjust utility structures, existing curb lines, and fine grade base as needed, and provide new 4" depth vehicular hot mix asphalt pavement, as indicated in the details. Alternate #3 is not indicated in the drawings.

**Base bid:**

No change

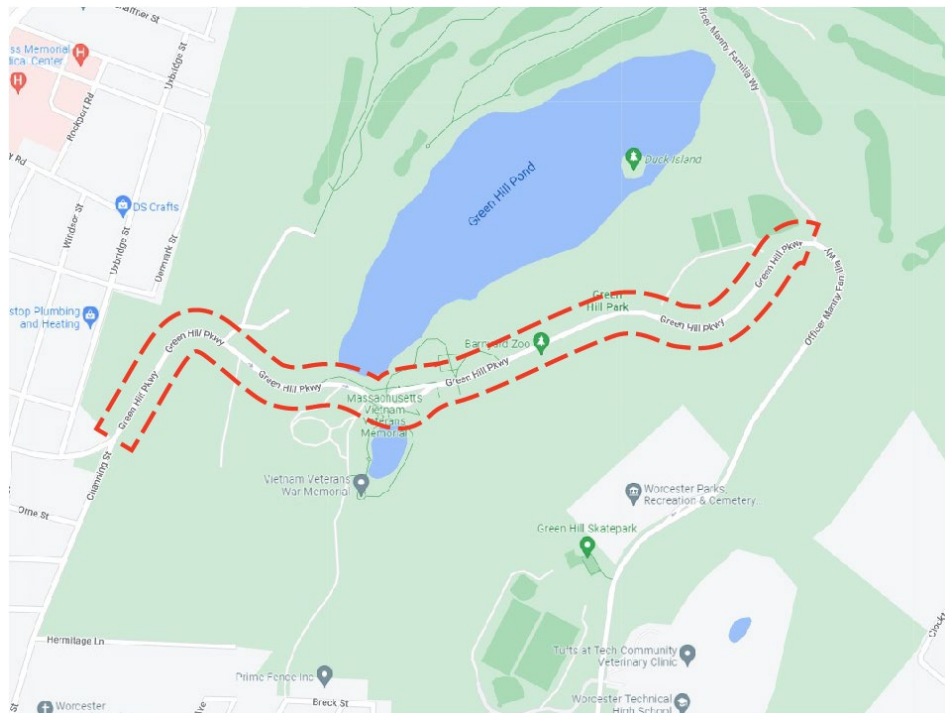
**Add alternate #4:**

Contractor shall mill and overlay existing hot mix asphalt paving surface to a depth of 2" at green hill parkway, beginning at the intersection of Greenhill parkway and Channing Street (west entrance) and ending at the intersection of Greenhill parkway and officer Manny Familia way (golf course entrance), (approx. 120,000 s.f.).

The contractor shall adjust utility structures as needed to provide a smooth, continuous, and well-draining road surface. Alternate #4 is not indicated in the drawings.

**Base bid:**

No change



**DELETE:** SHEETS L120, L130, L140, L141, L142, L143, L501, L502, L503  
**ADD:** SHEETS L120, L130, L140, L141, L142, L143, L501, L502, L503 PER ATTACHMENTS

**DELETE:** SHEETS E1.01, E5.01, E5.02  
**ADD:** SHEETS E1.01, E5.01, E5.02 PER ATTACHMENTS

**DELETE:** SPECIFICATION SECTION 13120 Pre-engineered Utility Structure  
**ADD:** SPECIFICATION SECTION 13120 Pre-engineered Utility Structure REVISED, per attachment

### **Questions & Answers**

*Question 1: Is a lighting specification available for the pedestrian street light poles?*

**Answer 1:** Refer to revised Drawings.

*Question 2: Article 41 requires a Hubbell enclosure for the security cameras which is a large cabinet. Where is the contractor to mount this cabinet?*

**Answer 2:** The Hubbell Enclosure for the security cameras is to be mounted in the proposed electrical cabinet. See electrical drawings.

*Question 3: What are the required dimensions of the electrical, and communications handholes. The provided. handhole drawing is incomplete.*

**Answer 3:** Refer to revised drawings for city standard handholes.

*Question 4: The electrical enclosure depicted has no materials reference. What are the materials that are to be used to fabricate this enclosure, and what are the specifications?*

**Answer 4:** Refer to revised drawings.

*Question 5: Please provide google earth limits of work for Add Alt 3 & 4. Including striping and details. Google earth is not current.*

**Answer 5:** Please see first page for diagram.

*Question 6: What level of contamination should be carried for potential disposal of exported materials if needed?*

**Answer 6:** No soils assessment has been done as part of this project. To Weston & Sampson's knowledge, there is no known contamination of existing material. Any exported material determined necessary to be exported shall comply with the local and state regulations for disposal.

Question 7: Planter detail appears to show 2"x6" boards but is noted 2"x12". Please clarify.

**Answer 7:** Confirmed. Please follow the planter detail callouts (2"x12"). Details drawings not to scale. Please see attachment 'L503 Construction Details'.

Question 8: Can you please provide a product and vendor for the metal edging?

**Answer 8:** 'Duraedge Steel Landscape Edging' or approved equal.

Question 9: Please confirm the 3 planters in the conc paving at the top of the park are 12" planters (Detail 2 on sheet L503) and not 24" height as labeled on the plans (L120).

**Answer 9:** Confirmed. Please see attachment 'L120 Material Plan'.

Question 10: In the detail below, it refers to a flat bar brace. As its drawn it appears that the brace will wrap behind all the way around the accessible raised planter but is not shown on the cross section (to determine how many bands will be required) for the accessible planner or the other planters. Please specify.

**Answer 10:** Confirmed. Please use galvanized steel brackets, and not flat bar braces. Please see attachment 'L503 Site Construction Details'.

Question 11: Please refer to Plan L120. The leaders on the left side of the plan reference only 24" Raised Planters. Are some of these planters supposed to be 12" Raised Planters? Also, the planters on Plan L120 seem to be drawn to different dimensions than what are shown on detail #1 and #2 on Plan L503. Please clarify quantity and size of planters.

**Answer 11:** Please refer to revise drawings. See attachments 'Materials Plan L120' and 'Site Construction Details L503'.

Question 12: Detail #7 on Sheet L503 shows the foundation required for the Greenhouse. The width of the footing is not called out. Please provide the width of the footing and stem for the greenhouse foundation.

**Answer 12:** Please refer to revise drawings. See attachments 'L130 Layout Plan'.

Question 13: Please provide reinforcing details for the 6" greenhouse slab on Detail #7 on Plan L503.

**Answer 13:** Please refer to revise drawing. See attachment 'L503 Site Construction Details', detail #7.

Question 14: Please clarify the depth of concrete paving. Detail #1 on Sheet L502 shows a 4" slab with no reinforcement. Is this the case for all concrete paving site wide? Detail #12 on Sheet L502 calls out the concrete paving as reinforced. Both Details #5 and #10 call for a 6" slab. If the concrete paving is to be 6" depth and reinforced, please provide reinforcing details.

**Answer 14:** Cast-in-place pavement shall be without reinforcement as shown in revised detail #1 Sheet L502. Please refer to revise drawings. See attachment 'L502 Site Construction Details', detail #1, #5, #10 and #12.



Question 15: The Electrical Plan on Sheet E1.01 shows 5 light poles that are not connected into the communication duct bank. Please confirm that not all light poles need to be connected to the communication duct bank.

**Answer 15:** Communications is required only at light poles as shown on the drawings.

Question 16: The Utility Plan on Sheet L143 calls for a 4" perforated HDPE pipe adjacent to an existing stone wall that is to be repaired. According to the legend on the Grading and Drainage Enlargement Plan B on Sheet L142, this pipe is to be 6" solid HDPE pipe. The grading and drainage enlargement also shows a drain manhole and calls for a 6' diameter leaching basin in this area, however neither are shown on the Utility Plan. Please confirm what is to be installed at this location.

**Answer 16:** Confirmed. Pipe adjacent to existing wall shall be 4" perforated HDPE pipe. Leaching Basin shall be 18" DIA. Please refer to revise drawings.

Question 17: On Sheet L120 of the plans, the callout for the Greenhouse - 30'x48' states that this is "By Others". Section 13120 of the Technical Specifications state that the Contractor is to furnish and install the prefabricated greenhouse structure. Please clarify the work associated with the greenhouse to be performed under this contract.

**Answer 17:** Contractor to purchase and install the prefabricated Greenhouse as part of the project. See attachments 'Materials Plan L120'.

Question 18: The Yard Hydrant detail on Sheet L503 calls for an 8" square hardwood post in the bottom detail but calls for a hollow 6" diameter post in the top detail. Please clarify which is to be provided.

**Answer 18:** Please use 6" diameter for pipe and 8" for square hardwood post.

Question 19: Is a licensed plumber required for the installation of the yard hydrants and associated pipe?

**Answer 19:** Not required for site work at yard hydrant.

Question 20: Please confirm which type of pipe is to be utilized for the water service to the yard hydrants. The plans call for 1" PEX, while the specifications call for Type K copper pipe.

**Answer 20:** 1" PEX shall be used for the water service to the yard hydrants.

Question 21: Can a plan be provided showing the limits of work required for Alternates #3 and #4?

**Answer 21:** Please see first page for diagram.

Question 22: Will traffic on Green Hill Parkway need to be maintained during the work described under Alternates #3 and #4? What, if any, traffic controls will be required by the Contractor to complete this work?

**Answer 22:** Contractor to work with Engineer and Owner to develop traffic control plan if Alt #3 or #4 is selected.

Question 23: *There is no catalog number on the pole lighting in the spec or plans. There's a descriptive detail on E5.02 but the lighting distributor will need more info the price these accurately. Can you Please provide catalog number?*

**Answer 23:** Light Fixture shall be Holophane Catalog # WFCL2-P2040K-MVOLT-FC5-BK-SK-PR7-PCLL  
Light Pole shall be Holophane Catalog # NYA-18-SL5-17S-C03-BK-ABG

Question 24: *The grading plan on Sheet L140 shows an approximate 12'+ excavation adjacent to the existing wood framed building for the construction of the new driveway and retaining wall. Please confirm this is the intent. Will the building need to be supported by the Contractor during excavation? Is there any work required to this structure? If so, can existing drawings of this structure be provided?*

**Answer 24:** Yes, the excavation adjacent to the existing building is the intent. There is no work required for the support of the building. The contractor shall pause excavation and notify the owner and engineer of any unknown conditions of this area.

Question 25: *With regards to Alternates #3 and #4, should pavement markings be included in the price of each alternate? If so, please provide an approximate quantity.*

**Answer 25:** Pavement markings shall be included in the alternate price. Approximately 5,000 LF from Green Hill Parkway to Officer Manny Familia Way.

Question 26: *Also, with regards to Alternates #3 and #4 – There appears to be two brick crosswalks on Green Hill Parkway within the limits of road reconstruction. Is any work associated with these crosswalks to be carried in these alternate prices?*

**Answer 26:** Crosswalks within the limits of the road reconstruction shall be removed and be replaced with vehicular hot-mix asphalt pavement including the addition of strip crosswalk markings.

Question 27: *I have been talking with the greenhouse supplier and he wants to know how the land is zoned as it will affect the price. Is this something you can share?*

**Answer 27:** The land where the greenhouse will be located is Zone RS-7. The greenhouse will be located within Green Hill Park which is a Public Park owned and operated by the City of Worcester DPW & Parks.

Question 28: *If alt 3 or 4 are performed, will this include striping? Will the alternate include adding Concrete ADA Compliant Wheelchair ramps at ped crossings?*

**Answer 28:** Yes. See Answer 25 above. The alternates does not include adding Concrete ADA Compliant Wheelchair ramps at ped crossings.

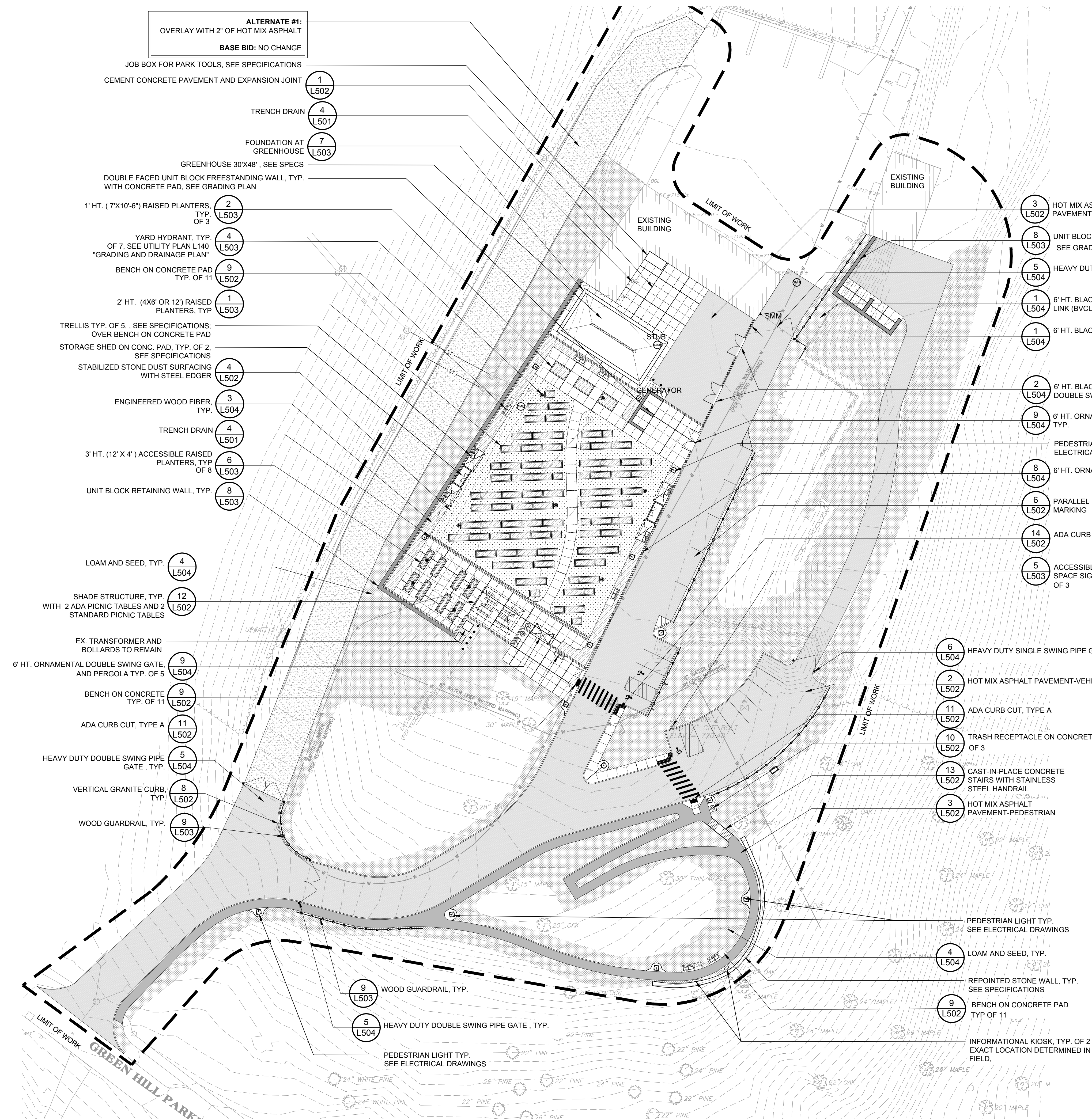
**Attachments**

- L120 Materials Plan
- L130 Layout Plan
- L140 Grading & Drainage Plan
- L141 Grading & Drainage Enlargement Plan
- L142 Grading & Drainage Enlargement A Plan
- L143 Grading & Drainage Enlargement B Plan
- L501 Site Construction Details
- L502 Site Construction Details
- L503 Site Construction Details
- E1.01 Electrical Plan
- E5.01 Electrical Details Sheet I
- E5.02 Electrical Details Sheet II
- SPECIFICATION SECTION 13120 Pre-engineered Utility Structure REVISED

**END OF ADDENDUM TWO**



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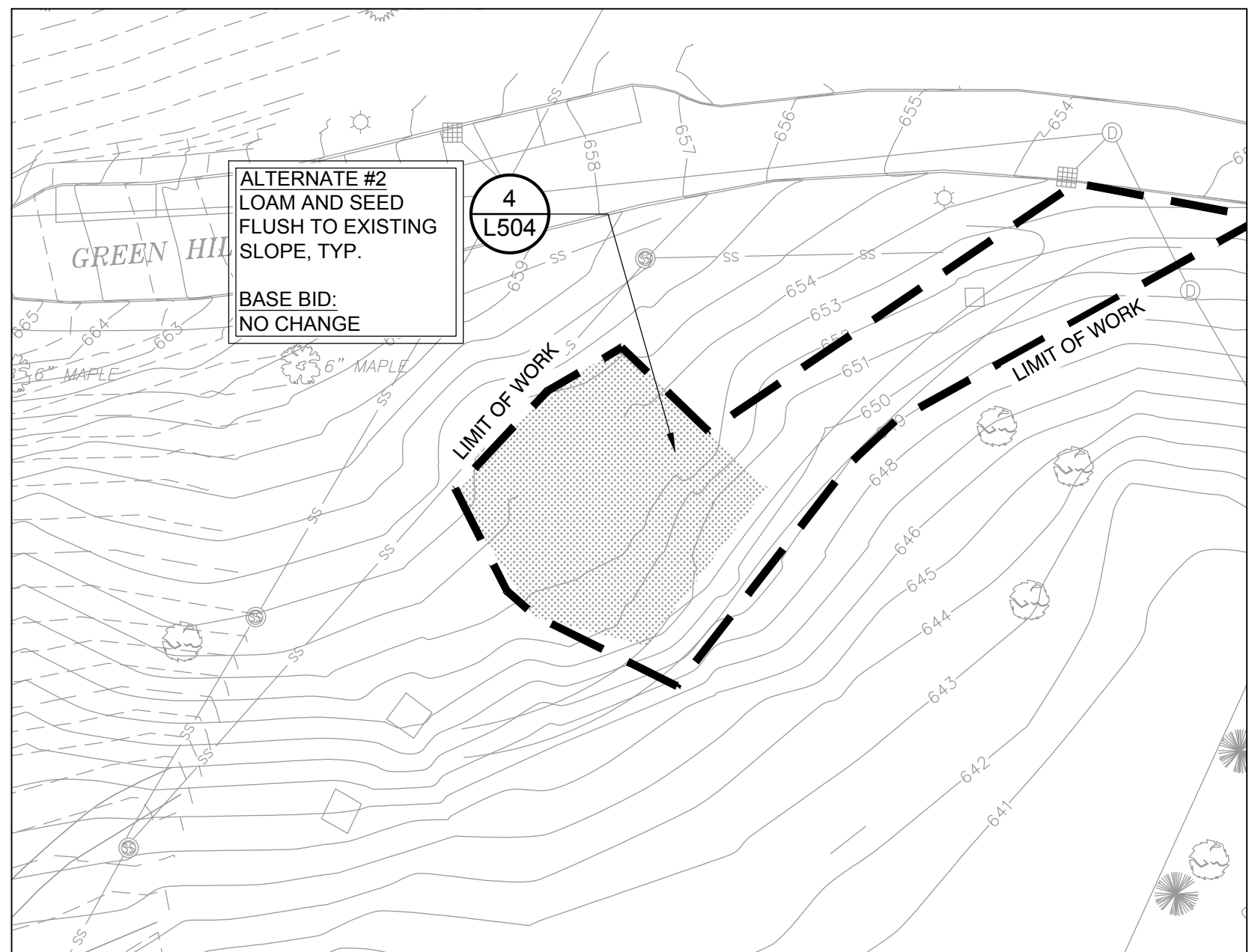


1 COMMUNITY GARDEN PLAN  
SCALE: 1"=30'-0"

## LEGEND

1 L502		LIMIT OF WORK
2 L502		CEMENT CONCRETE PAVEMENT AND EXPANSION JOINT
3 L502		HOT MIX ASPHALT PAVEMENT-VEHICULAR
3 L502		HOT MIX ASPHALT PAVEMENT-PEDESTRIAN
3 L502		ALTERNATE#1 2" HOT MIX ASPHALT PAVEMENT OVERLAY
4 L502		STABILIZED STONE DUST SURFACING WITH STEEL EDGER
4 L504		LOAM AND SEED, TYP., ALL DISTURBED AREAS
4 L504		LOAM AND MULCH
3 L504		UNIT BLOCK RETAINING WALL, TYP.
8 L503		TRENCH DRAIN, TYP.
4 L501		6' HT. ORNAMENTAL FENCE, TYP.
8 L504		6' HT. BLACK VINYL CHAIN LINK (BVCL) FENCE
1 L504		6' HT. BLACK VINYL CHAIN LINK (BVCL) FENCE
9 L503		WOOD GUARDRAIL, TYP.
9 L502		BENCH ON CONCRETE PAD, TYP.
4 L503		YARD HYDRANT, TYP.
10 L502		TRASH RECEPTACLE ON CONCRETE PAD, TYP.
1 L503		24" HT. RAISED PLANTERS, TYP.
1 L503		12" HT. RAISED PLANTERS, TYP.
6 L503		12' X 4' ACCESSIBLE RAISED PLANTERS, TYP.
EX. TYP. CONC. L&S BVCL CIP SPECS.		CITY OF WORCESTER STANDARD PEDESTRIAN LIGHT POLE AND FIXTURE, TYP. SEE ELECTRICAL PLANS

0 30 60 90



2 ALTERNATE #2: CONCESSION BUILDING PROPOSED PLAN  
SCALE: 1"=30'-0"

Project:  
CITY OF WORCESTER  
DEPT. OF PUBLIC WORKS & PARKS



GREEN HILL PARK  
COMMUNITY GARDENS  
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WORCESTER, MA.

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Revisions:

No.	Date	Description
01	01/27/2023	ADDENDUM #1

Seal:

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Scale: AS SHOWN

Date: 08-17-2022

Drawn By: JC

Reviewed By: ME

Approved By: BK

W&S Project No: 2160854

W&S File No:

Drawing Title:

MATERIALS AND  
PLANTING PLAN

Sheet Number:

L120



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LEGEND

--- LIMIT OF WORK

6' LAYOUT DIMENSION

15'-3" ARC DIMENSION

R16'-1" RADIUS DIMENSION

N:2917551.1339  
E:564358.2069 NORTHING AND EASTING STATION POINTS

NOTE:

1. LAYOUT AND DIMENSIONS PROVIDED FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE FOR FINAL LAYOUT AND DIMENSION PLAN.

POB - 1				
Number	Length	Radius	START POINT	END POINT
L10	52.48'		E: 578605.52 N: 2927955.10	E: 578639.27 N: 2927995.27
L11	46.22'		E: 578639.27 N: 2927995.27	E: 578673.62 N: 2928026.21
C1	64.02'	80.130	E: 578673.62 N: 2928026.21	E: 578735.13 N: 2928036.29
L12	27.98'		E: 578735.13 N: 2928036.29	E: 578762.09 N: 2928028.81
C2	51.30'	63.000	E: 578762.09 N: 2928028.81	E: 578811.53 N: 2928035.54
L13	36.44'		E: 578811.53 N: 2928035.54	E: 578842.75 N: 2928054.34
C3	65.24'	112.000	E: 578842.75 N: 2928054.34	E: 578885.99 N: 2928101.96
L14	49.49'		E: 578885.99 N: 2928101.96	E: 578907.34 N: 2928146.61
L15	42.99'		E: 578907.34 N: 2928146.61	E: 578925.89 N: 2928185.39
L16	12.68'		E: 578925.89 N: 2928185.39	E: 578931.35 N: 2928196.83
L17	99.98'		E: 578931.35 N: 2928196.83	E: 578974.48 N: 2928287.03
L18	80.41'		E: 578974.48 N: 2928287.03	E: 579009.17 N: 2928359.57

POB - 2				
Number	Length	Radius	START POINT	END POINT
C4	64.31'	173.708	E: 578809.43 N: 2928012.11	E: 578871.51 N: 2927996.81
C5	85.81'	216.918	E: 578871.51 N: 2927996.81	E: 578955.23 N: 2927980.70
C6	85.77'	44.459	E: 578955.23 N: 2927980.70	E: 578994.55 N: 2928042.30
L19	10.32'		E: 578994.55 N: 2928042.30	E: 578990.56 N: 2928051.82
C7	13.57'	27.500	E: 578990.56 N: 2928051.82	E: 578982.51 N: 2928062.56
L20	22.31'		E: 578982.51 N: 2928062.56	E: 578965.17 N: 2928076.61

POB - 3				
Number	Length	Radius	START POINT	END POINT
C8	41.48'	133.210	E: 578848.10 N: 2928057.78	E: 578885.44 N: 2928075.44
L21	41.76'		E: 578885.44 N: 2928075.44	E: 578925.63 N: 2928086.81
L22	41.76'		E: 578925.63 N: 2928086.81	E: 578965.81 N: 2928098.17
C9	88.25'	113.582	E: 578965.81 N: 2928098.17	E: 579029.87 N: 2928155.63

POB - 4				
Number	Length	Radius	START POINT	END POINT
C10	86.54'	442.707	E: 578966.97 N: 2928075.16	E: 578889.65 N: 2928036.58
L23	8.87'		E: 578889.65 N: 2928036.58	E: 578894.15 N: 2928028.94
L24	24.21'		E: 578894.15 N: 2928028.94	E: 578915.28 N: 2928040.76
C11	77.46'	114.761	E: 578915.28 N: 2928040.76	E: 578990.42 N: 2928052.15

POB - 5				
Number	Length	Radius	START POINT	END POINT
C12	76.20'	521.399	E: 579024.57 N: 2928158.40	E: 579059.07 N: 2928226.27
C13	79.59'	217.300	E: 579059.07 N: 2928226.27	E: 579076.12 N: 2928303.55
C14	20.24'	56.000	E: 579076.12 N: 2928303.55	E: 579080.41 N: 2928323.22
L25	80.20'		E: 579080.41 N: 2928323.22	E: 579108.29 N: 2928398.41

POB - 6				
Number	Length	Radius	START POINT	END POINT
C15	59.09'	100.000	E: 578876.32 N: 2928198.85	E: 578891.56 N: 2928255.05
L26	25.35'		E: 578891.56 N: 2928255.05	E: 578890.79 N: 2928280.39
C16	27.82'	100.000	E: 578890.79 N: 2928280.39	E: 578893.79 N: 2928307.96

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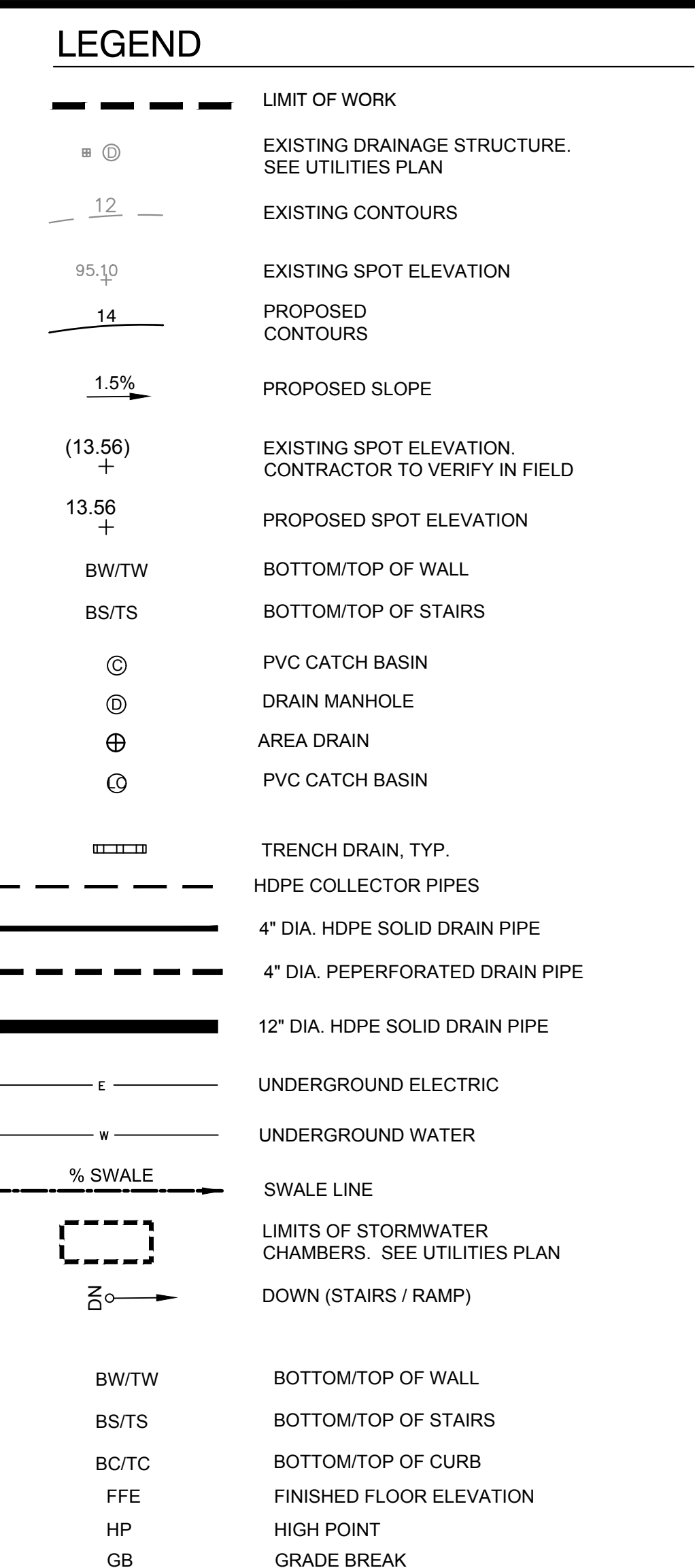
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LAYOUT PLAN

Sheet Number:

L130





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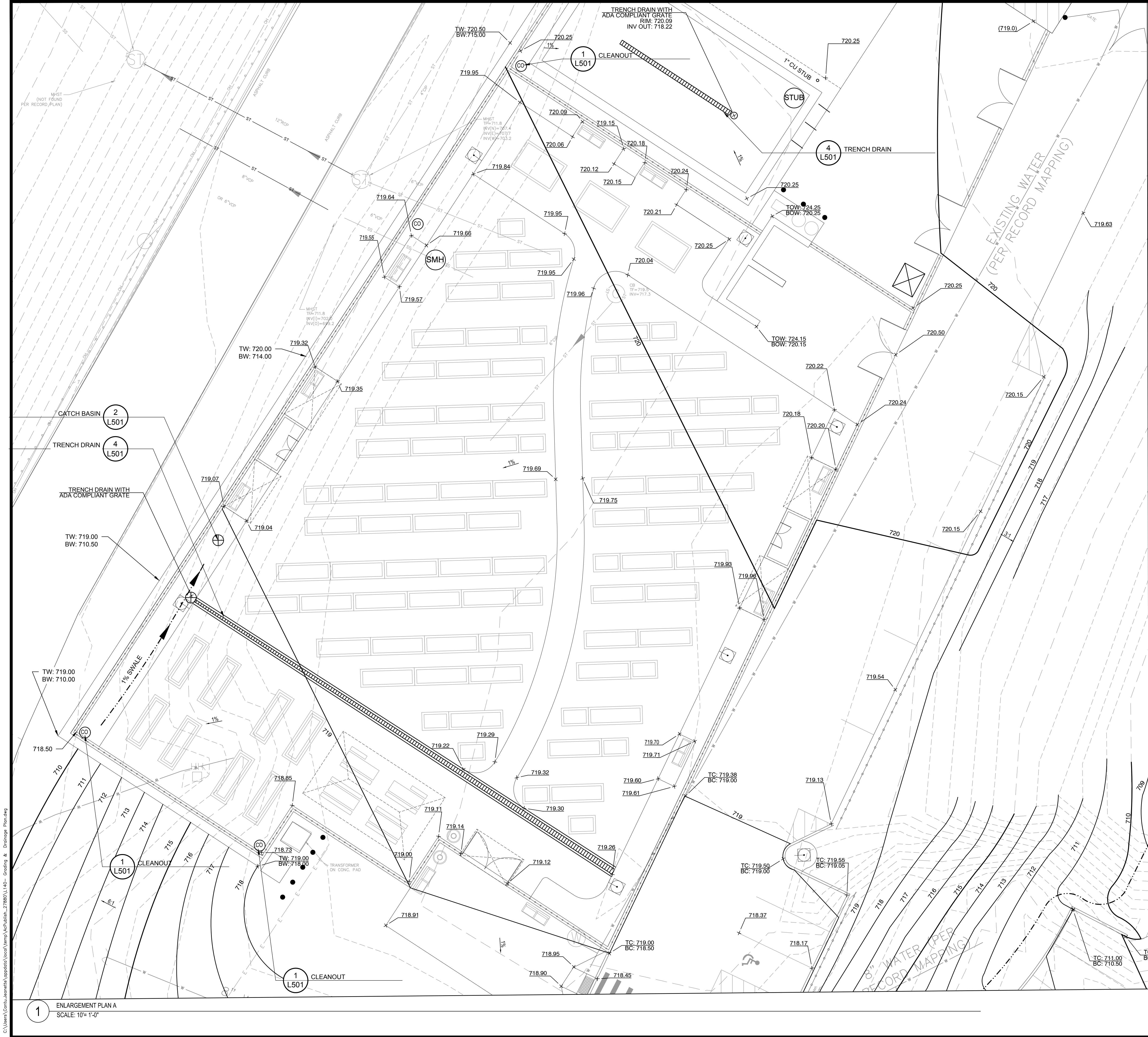
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**GRADING AND  
DRAINAGE PLAN**

Sheet Number:

**L140**





# LEGEND

- LIMIT OF WORK
- EXISTING DRAINAGE STRUCTURE. SEE UTILITIES PLAN
- EXISTING CONTOURS
- 95.10 EXISTING SPOT ELEVATION
- 14 PROPOSED CONTOURS
- 1.5% PROPOSED SLOPE
- (13.56) + EXISTING SPOT ELEVATION. CONTRACTOR TO VERIFY IN FIELD
- 13.56 + PROPOSED SPOT ELEVATION
- BW/TW BOTTOM/TOP OF WALL
- BS/TS BOTTOM/TOP OF STAIRS
- PVC CATCH BASIN
- DRAIN MANHOLE
- AREA DRAIN
- PVC CATCH BASIN
- TRENCH DRAIN, TYP.
- HDPE COLLECTOR PIPES
- 4" DIA. HDPE SOLID DRAIN PIPE
- 4" DIA. PEPPERFORATED DRAIN PIPE
- 12" DIA. HDPE SOLID DRAIN PIPE
- UNDERGROUND ELECTRIC
- UNDERGROUND WATER
- SWALE LINE
- LIMITS OF STORMWATER CHAMBERS. SEE UTILITIES PLAN
- DOWN (STAIRS / RAMP)
- BW/TW BOTTOM/TOP OF WALL
- BS/TS BOTTOM/TOP OF STAIRS
- BC/TC BOTTOM/TOP OF CURB
- FFE FINISHED FLOOR ELEVATION
- HP HIGH POINT
- GB GRADE BREAK

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Drawn By: JC

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Approved By: BK

W&S Project No: 2160854

W&S File No:

Drawing Title:

GRADING AND  
DRAINAGE  
ENLARGEMENT PLAN A

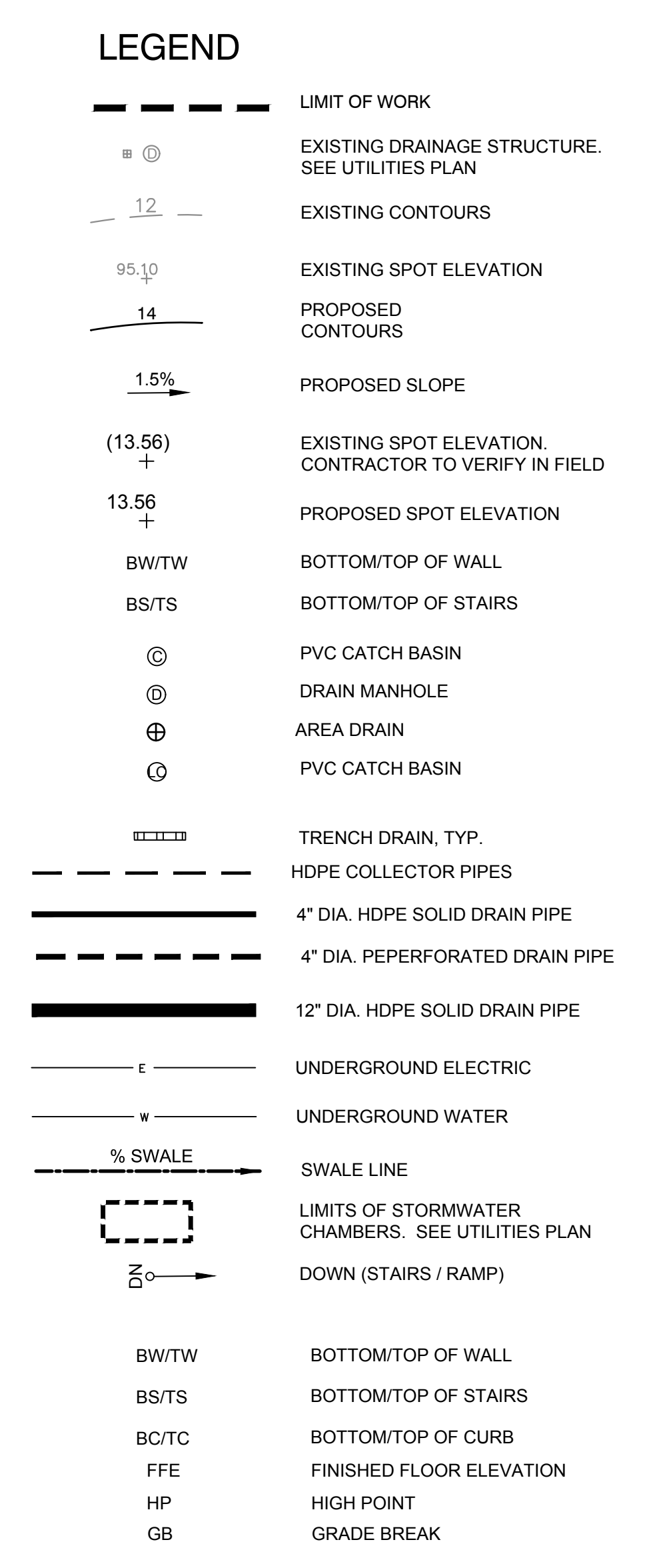
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L141










Project:

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Date:	08-17-2022
Drawn By:	JC
Reviewed By:	ME
Approved By:	BK
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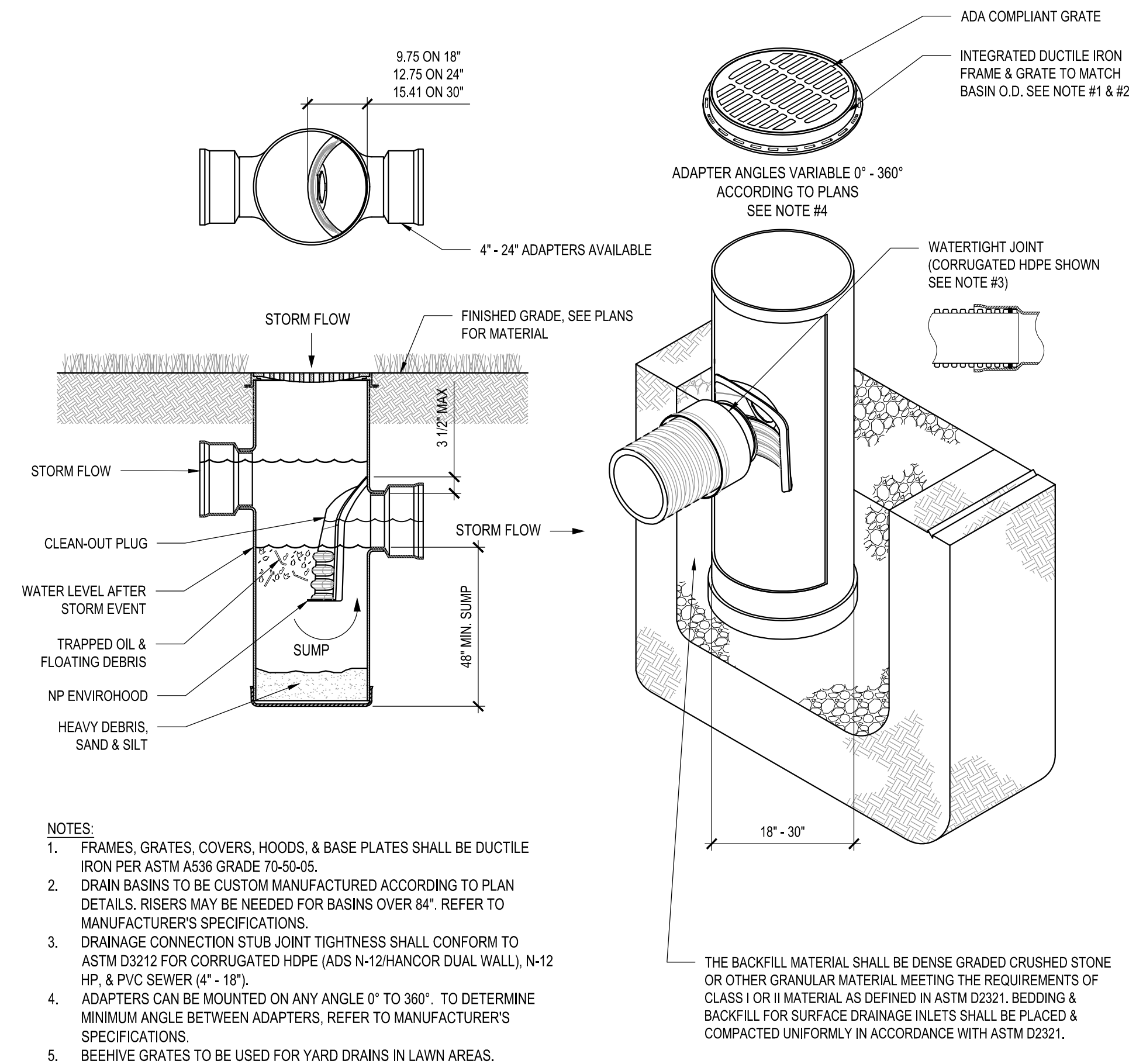
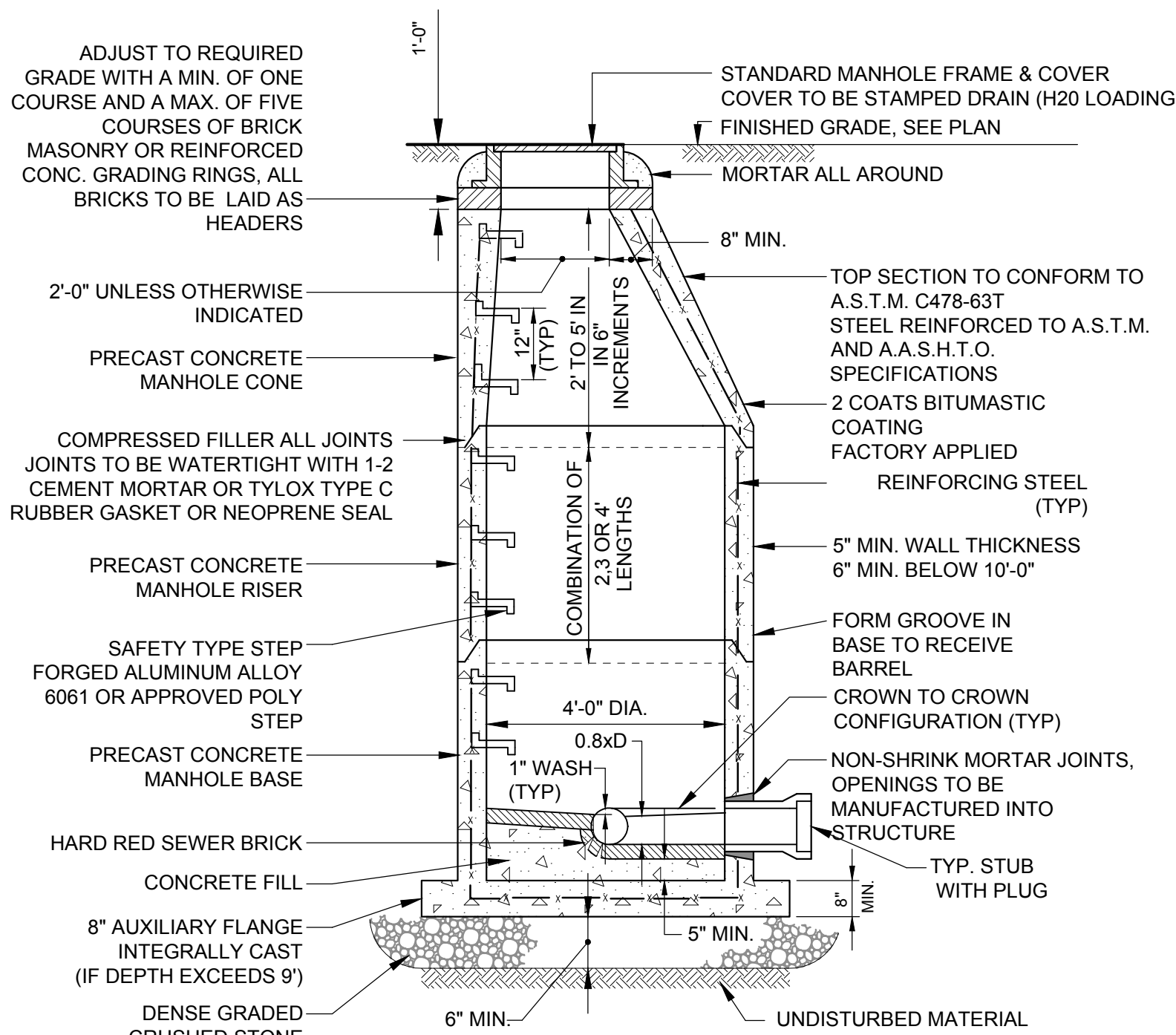
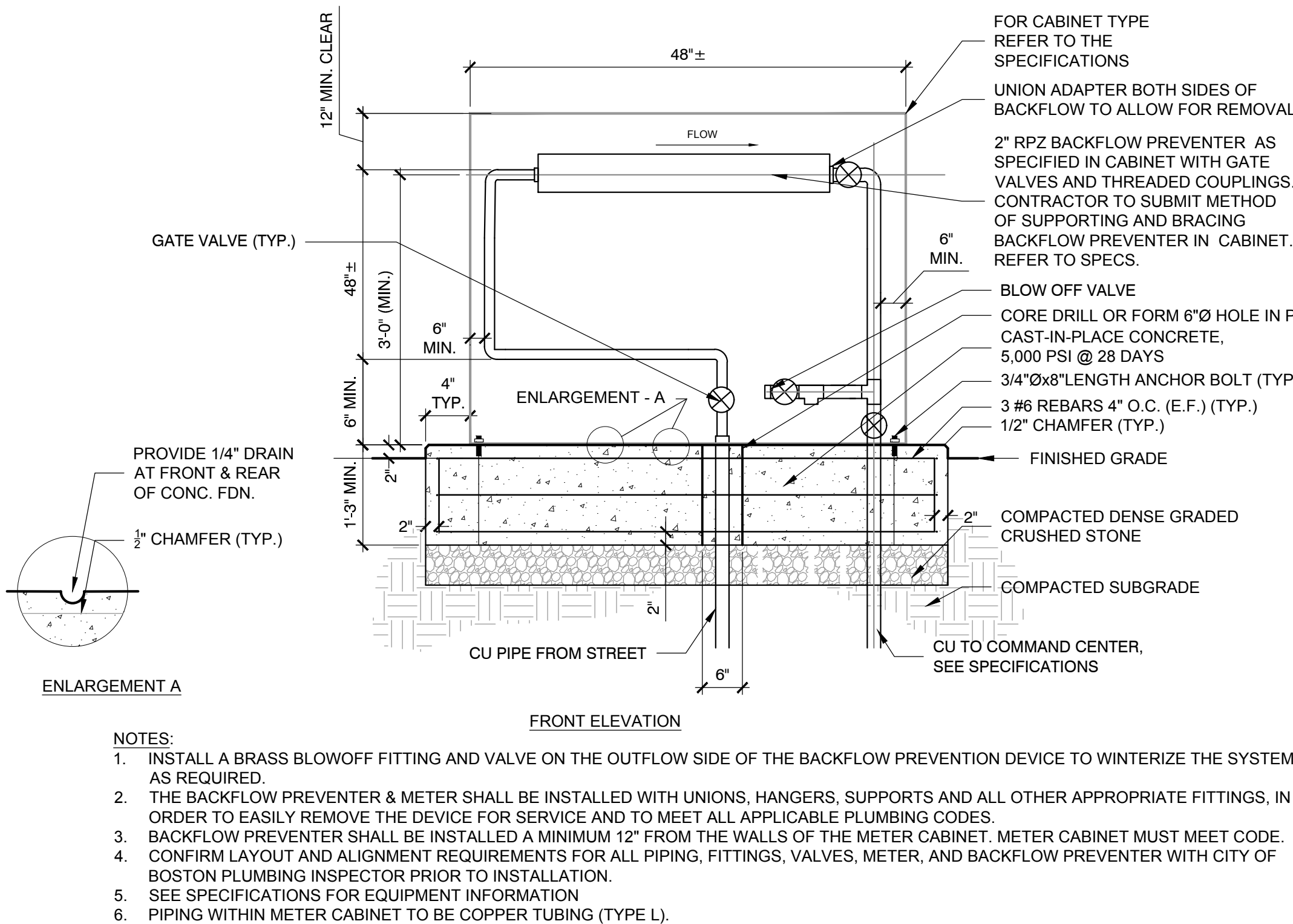
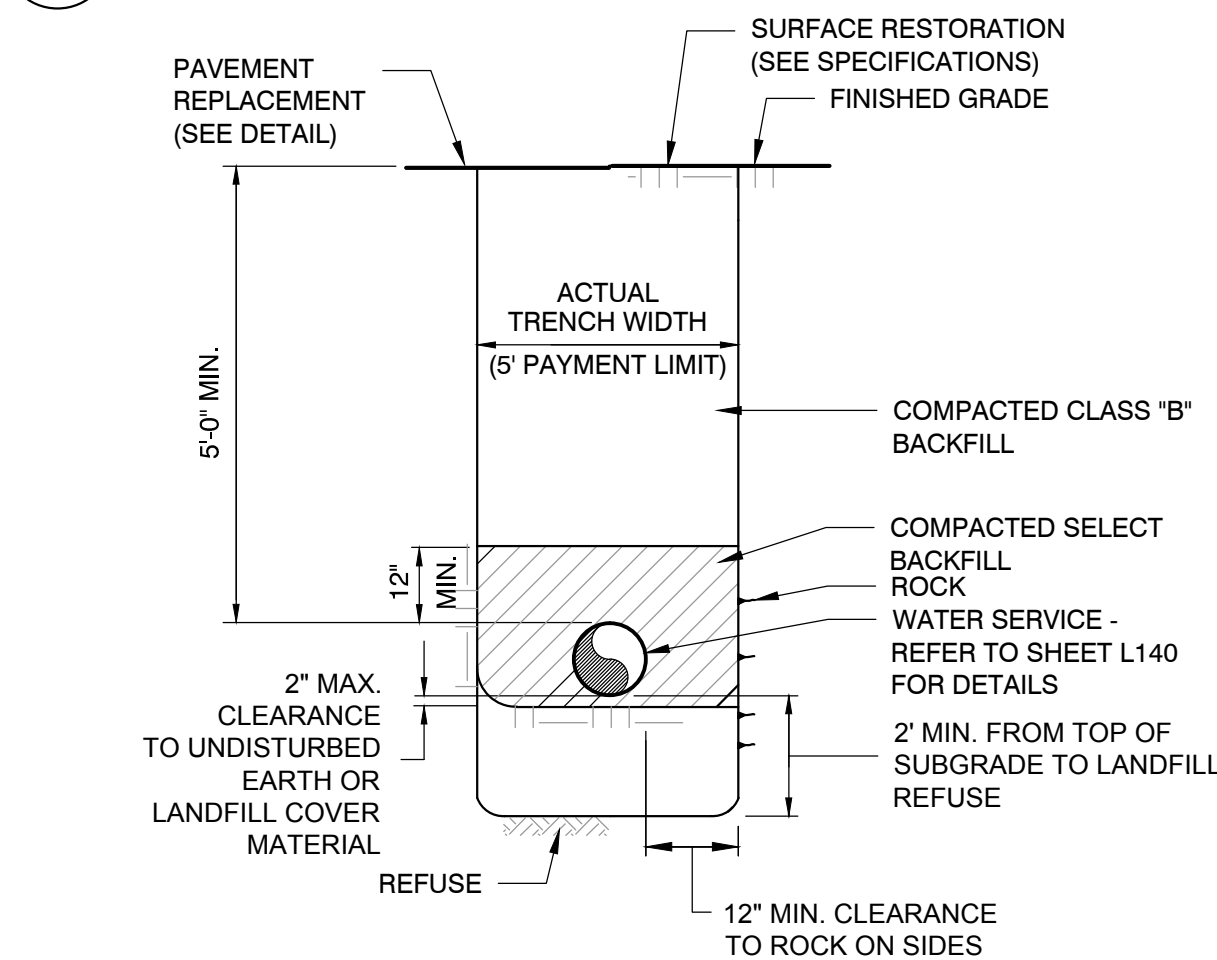
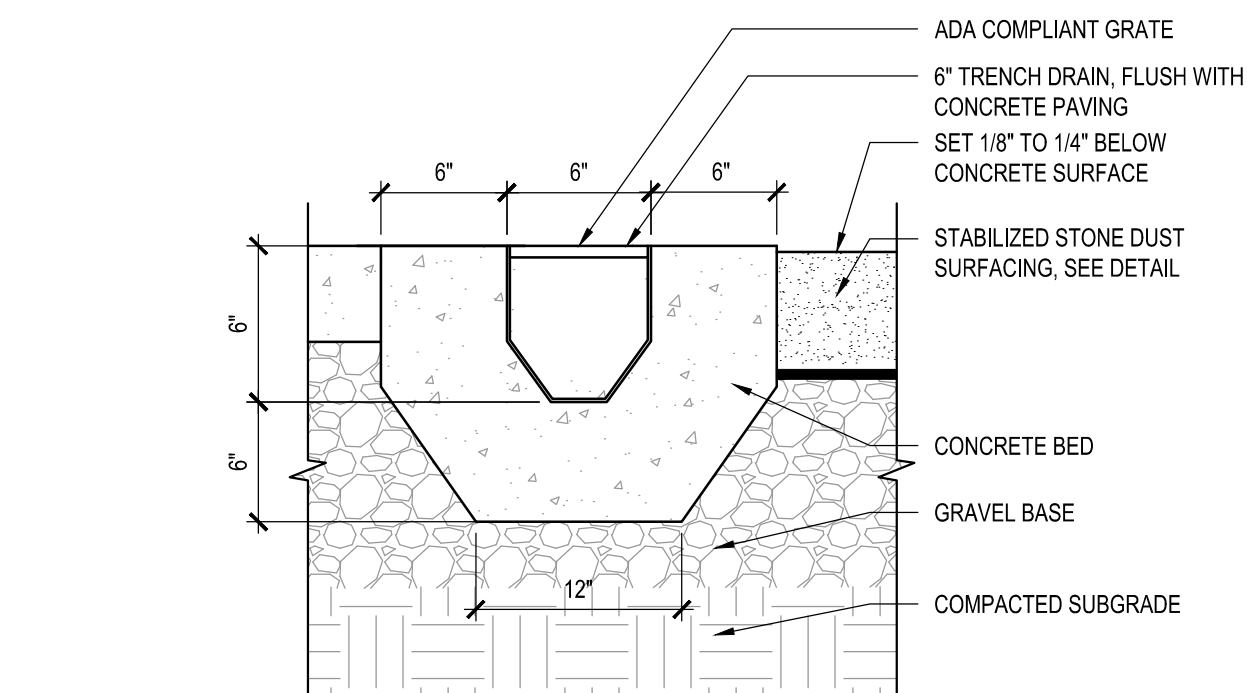
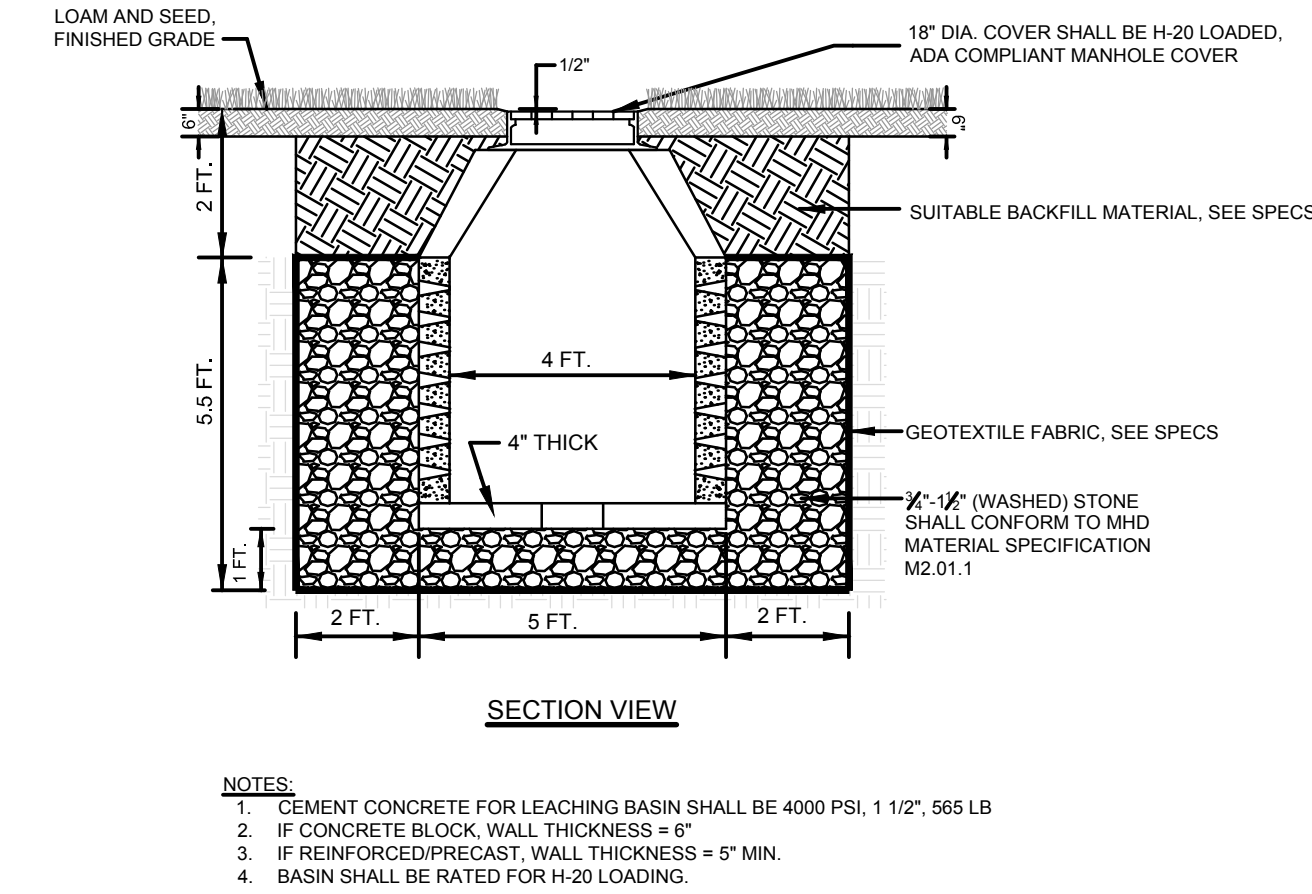
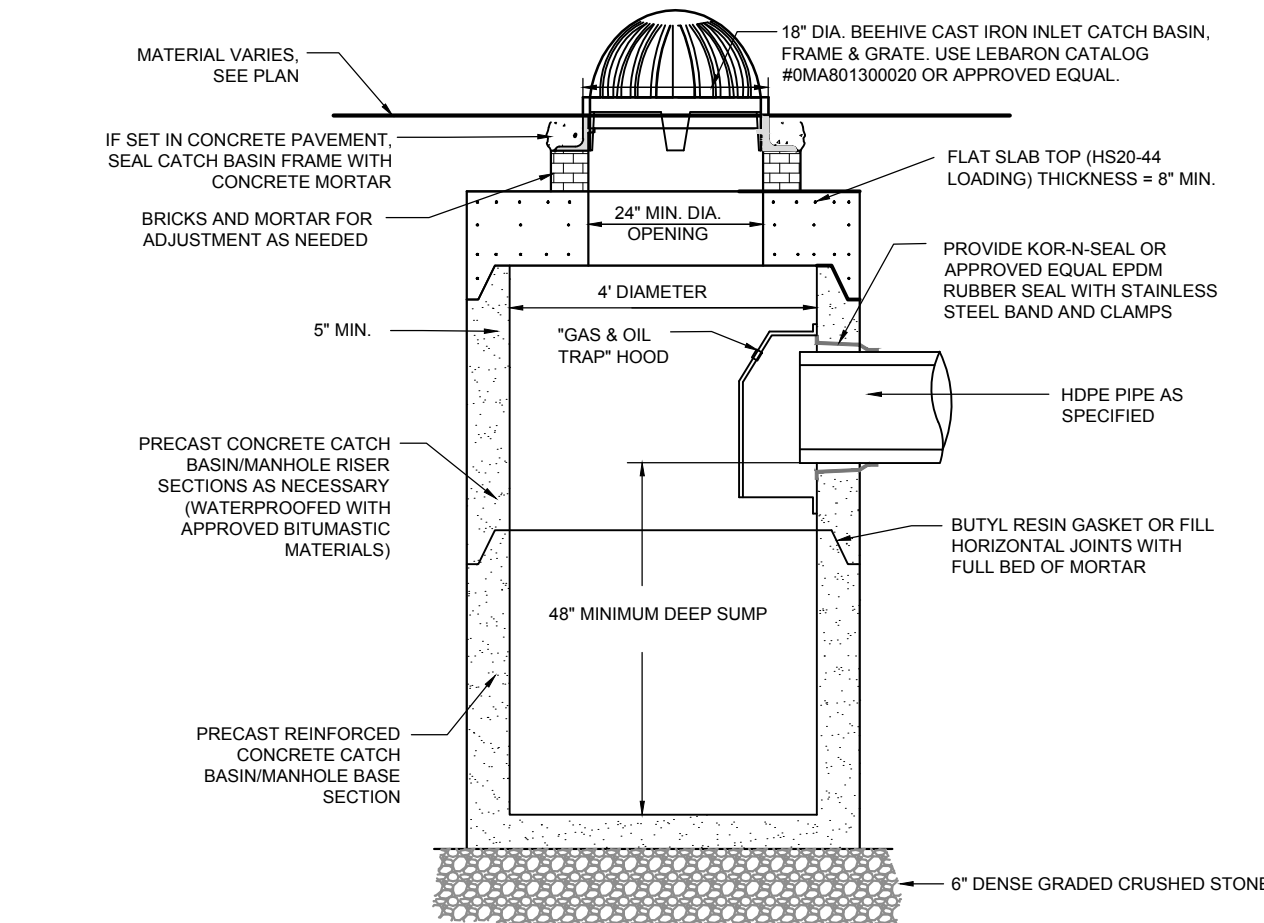
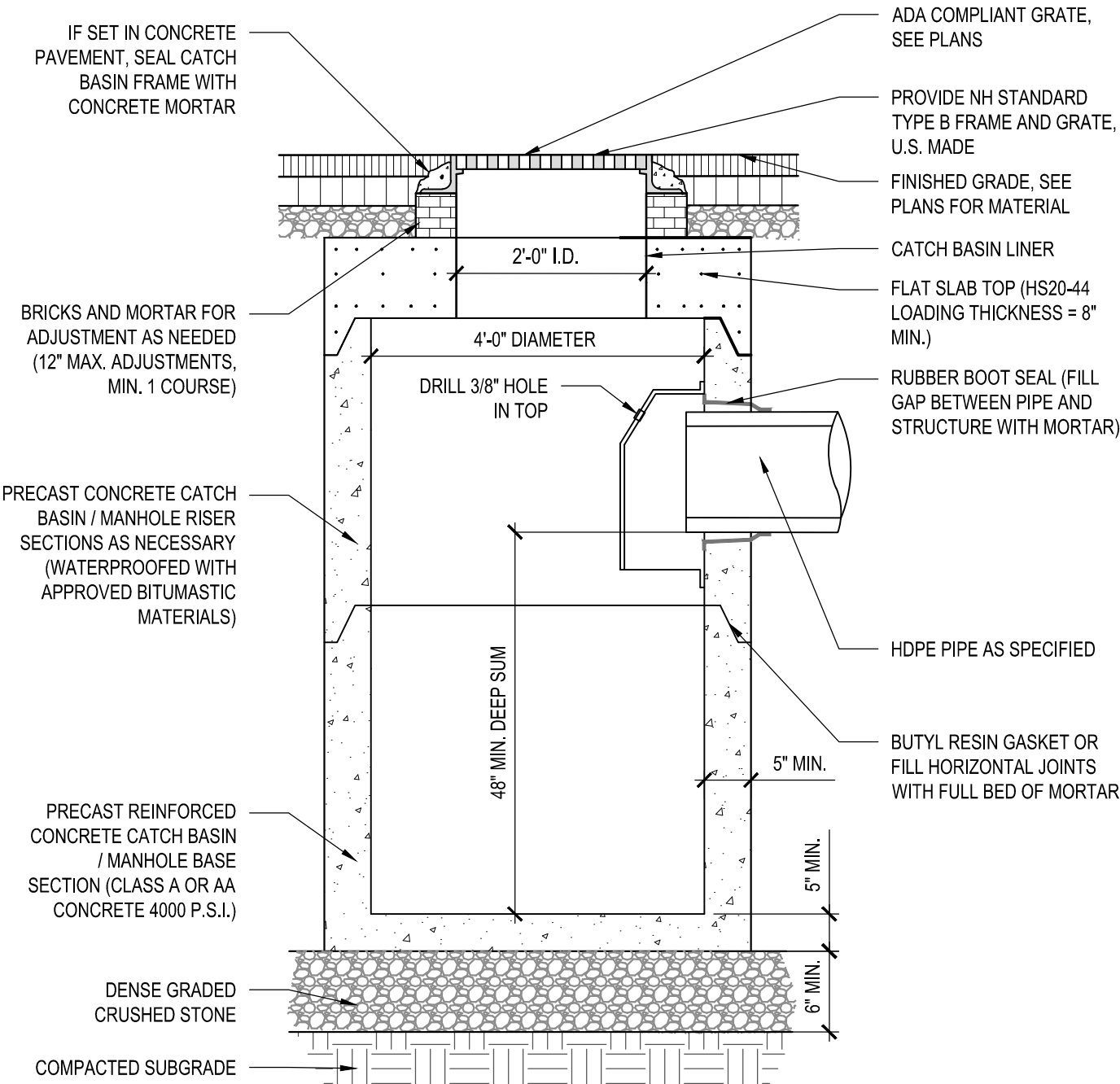
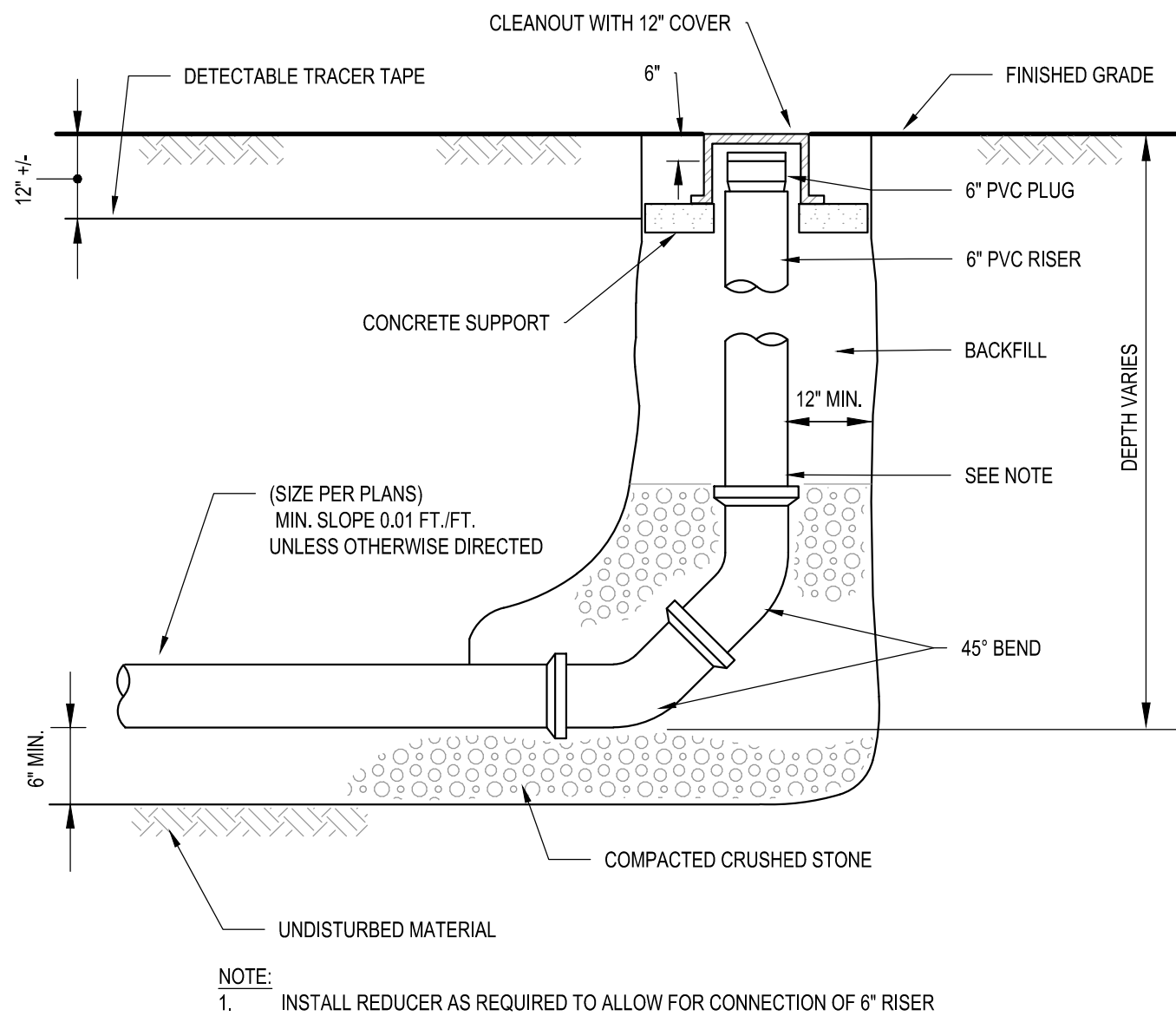
Drawing Title:

GRADING  
DRAINAGE PLAN

Sheet Number:

L143





Consultants:

Revisions:

No.	Date	Description

Seal:

Issued For:

BIDDING

Scale: AS SHOWN

Date: 08-17-2022

Drawn By: JC

Reviewed By: ME

Approved By: BK

W&S Project No: 2160854

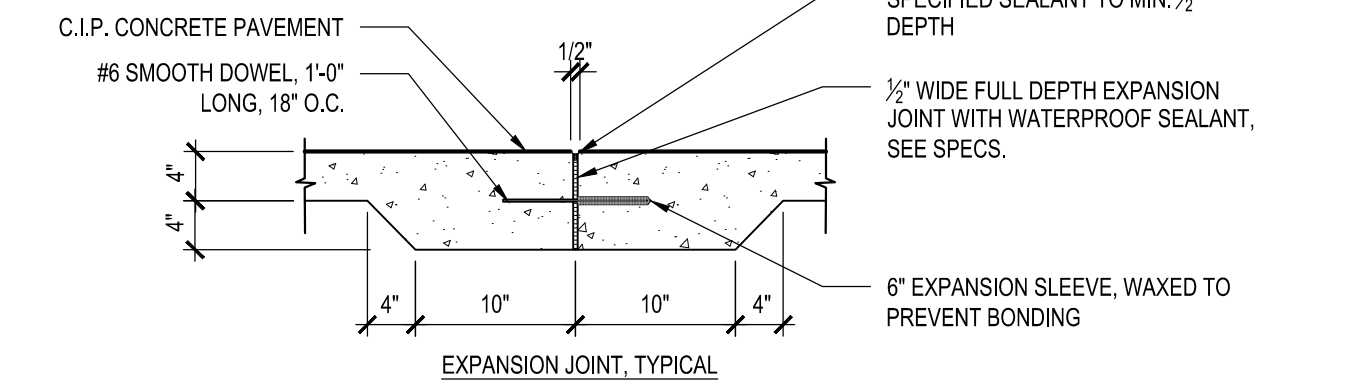
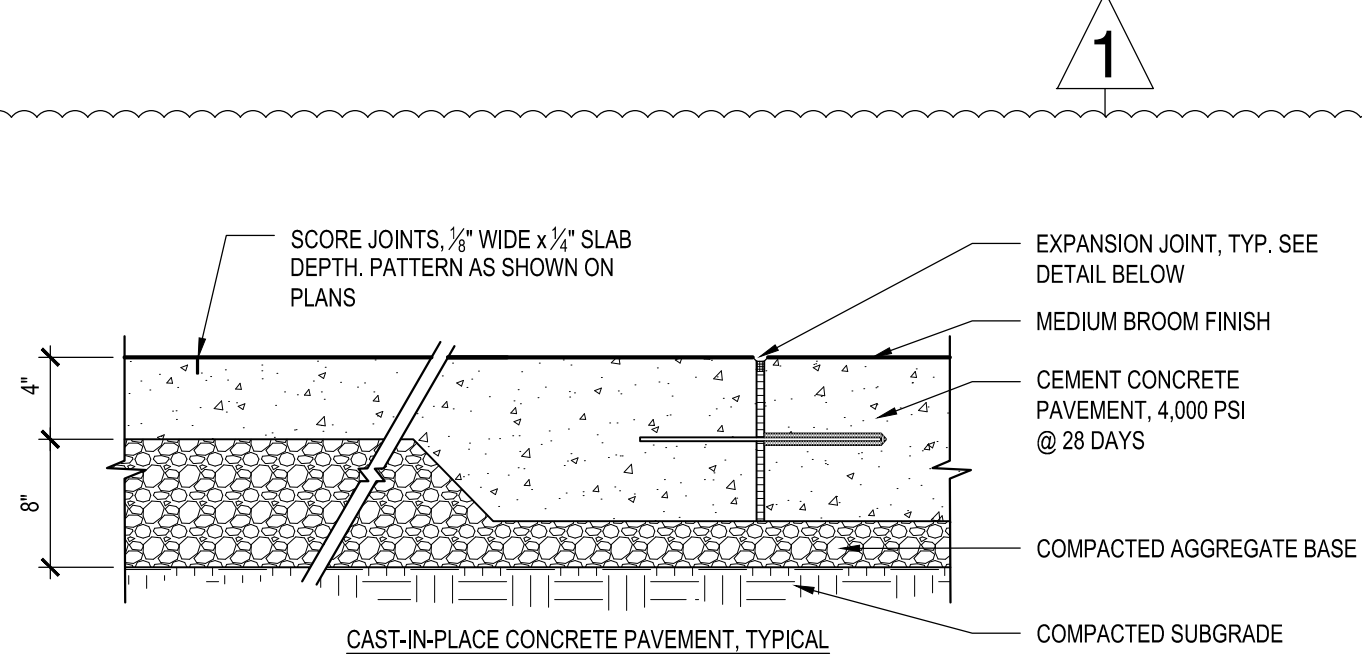
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Drawing Title:

**SITE CONSTRUCTION  
DETAILS**

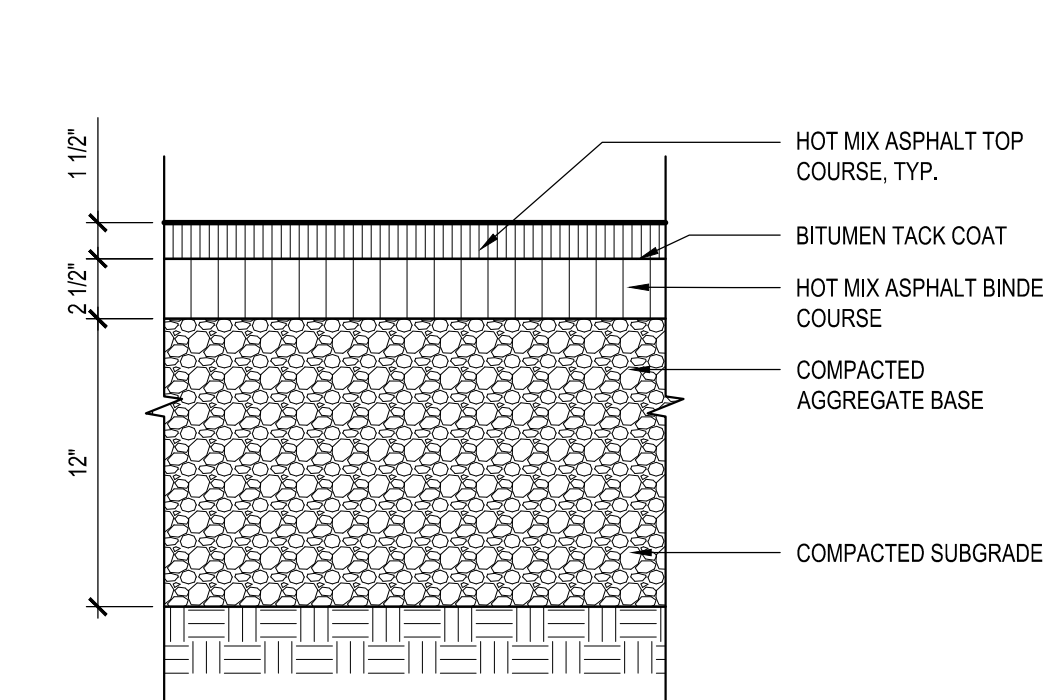
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**L501**

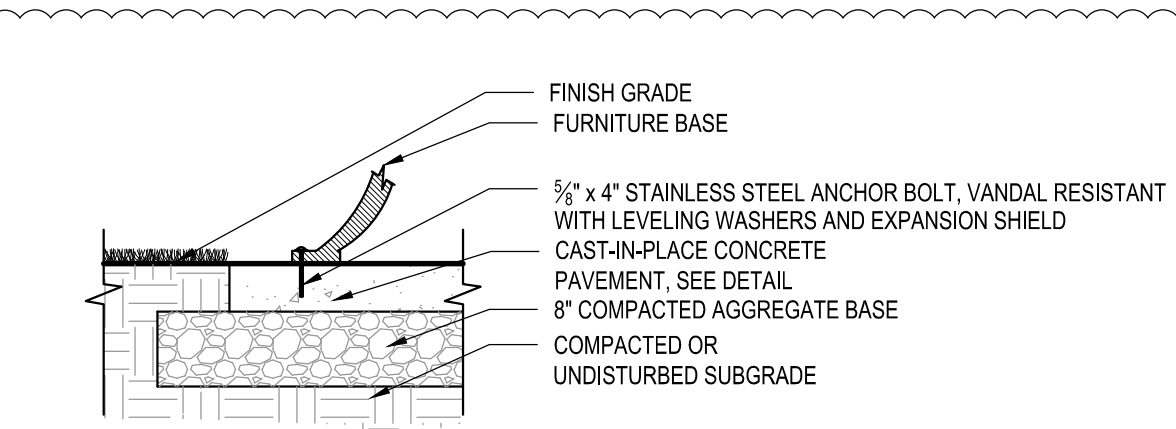


- EXPANSION JOINT INSTALLATION NOTES:
1. DOWEL IS TYPICAL AT ALL EXPANSION JOINTS (18\"/>

**1 CAST-IN-PLACE CONCRETE PAVEMENT AND EXPANSION JOINT**  
NOT TO SCALE

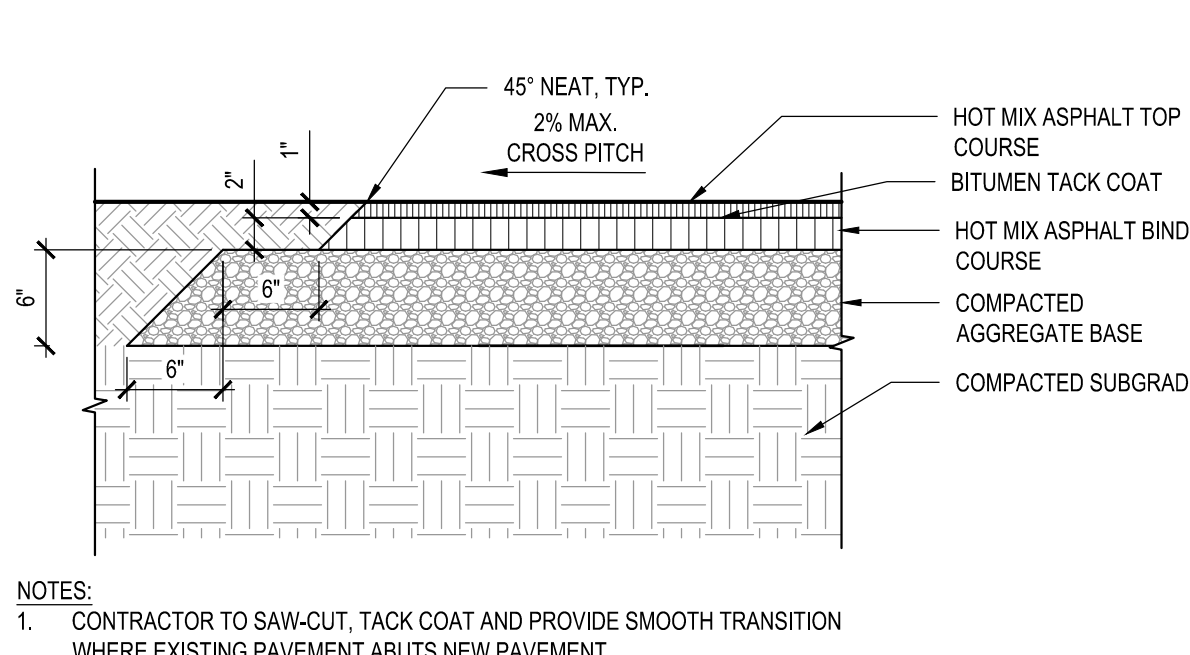


**2 HOT MIX ASPHALT PAVEMENT-VEHICULAR**  
NOT TO SCALE



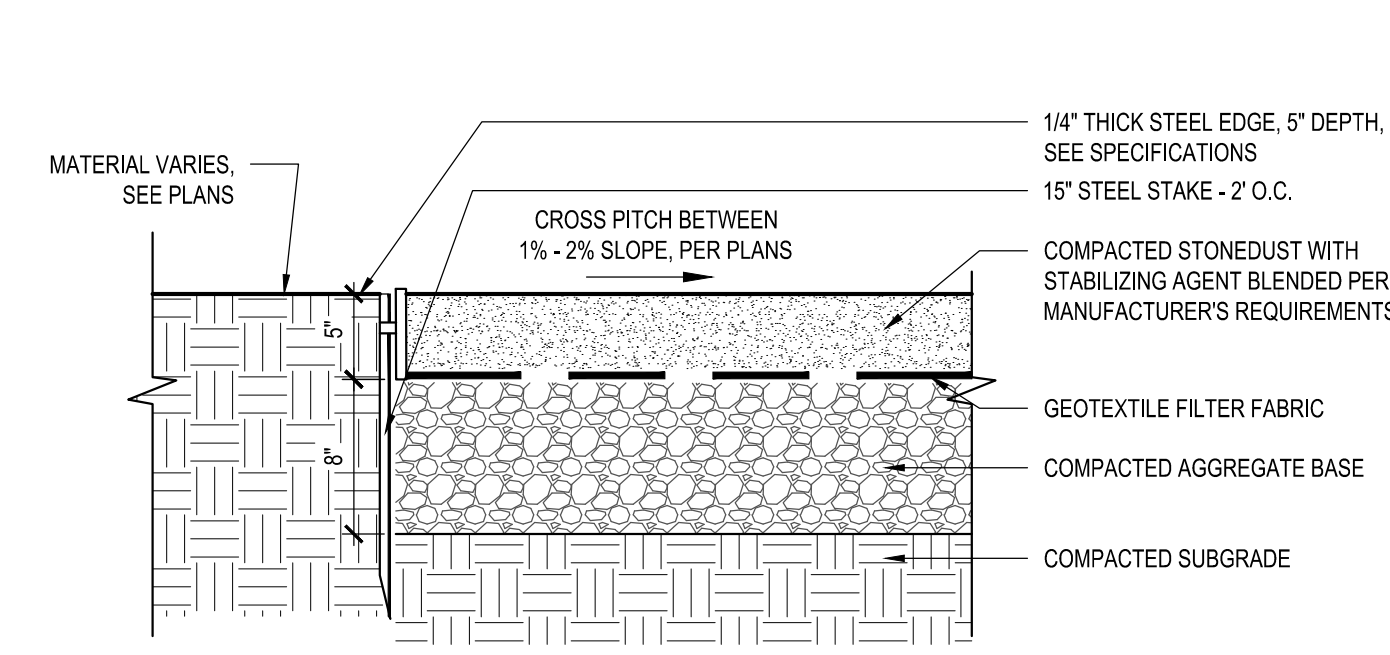
- NOTE:
1. ALL SITE FURNISHINGS SHALL BE SURFACE MOUNTED PER MANUFACTURER'S RECOMMENDATIONS.

**5 FURNITURE SURFACE MOUNT**  
NOT TO SCALE

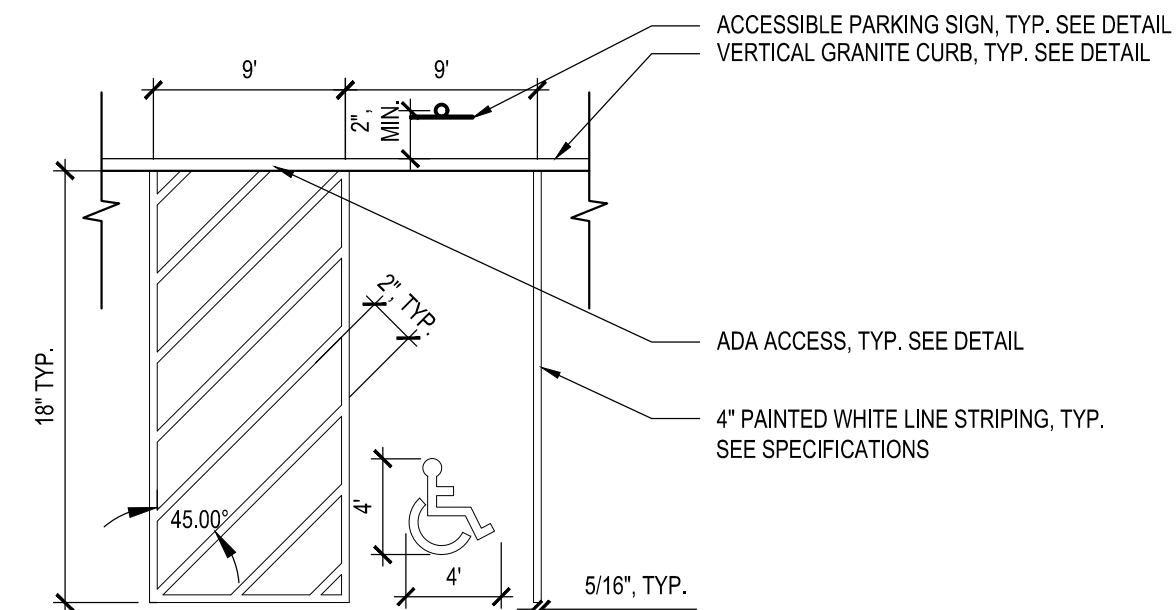


- NOTES:
1. CONTRACTOR TO SAW-CUT, TACK COAT AND PROVIDE SMOOTH TRANSITION WHERE EXISTING PAVEMENT ABUTS NEW PAVEMENT.

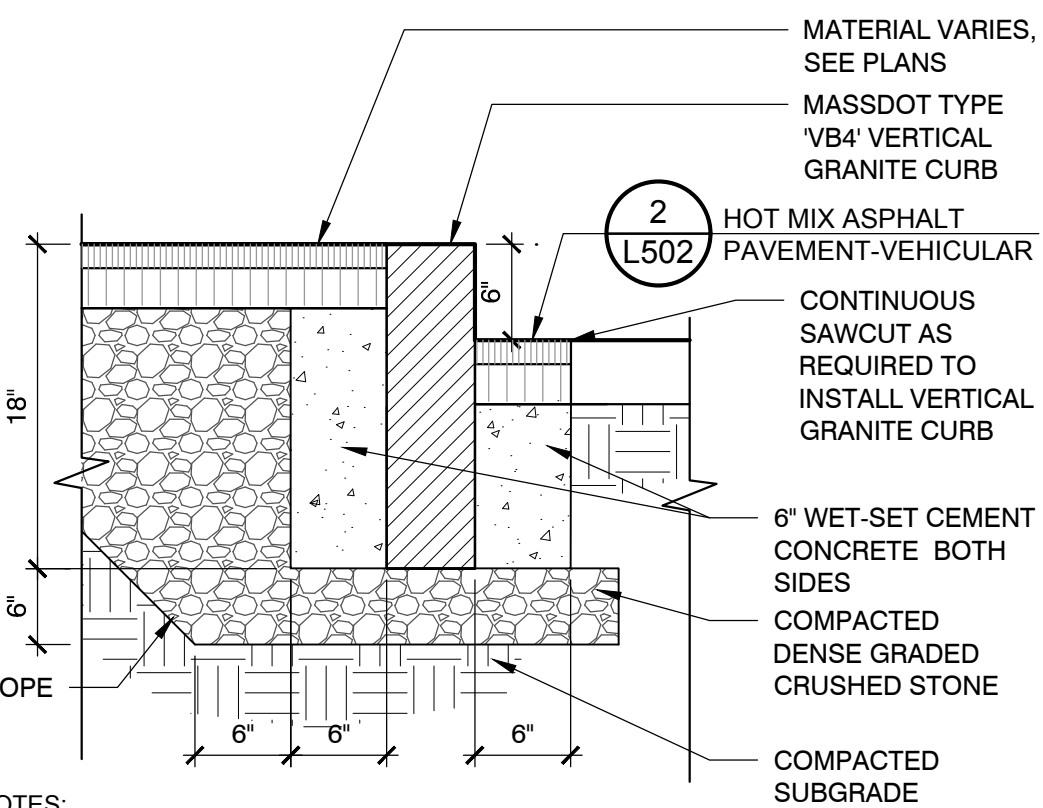
**3 HOT MIX ASPHALT PAVEMENT-PEDESTRIAN**  
NOT TO SCALE



**4 STABILIZED STONE DUST SURFACING WITH STEEL EDGER**  
NOT TO SCALE

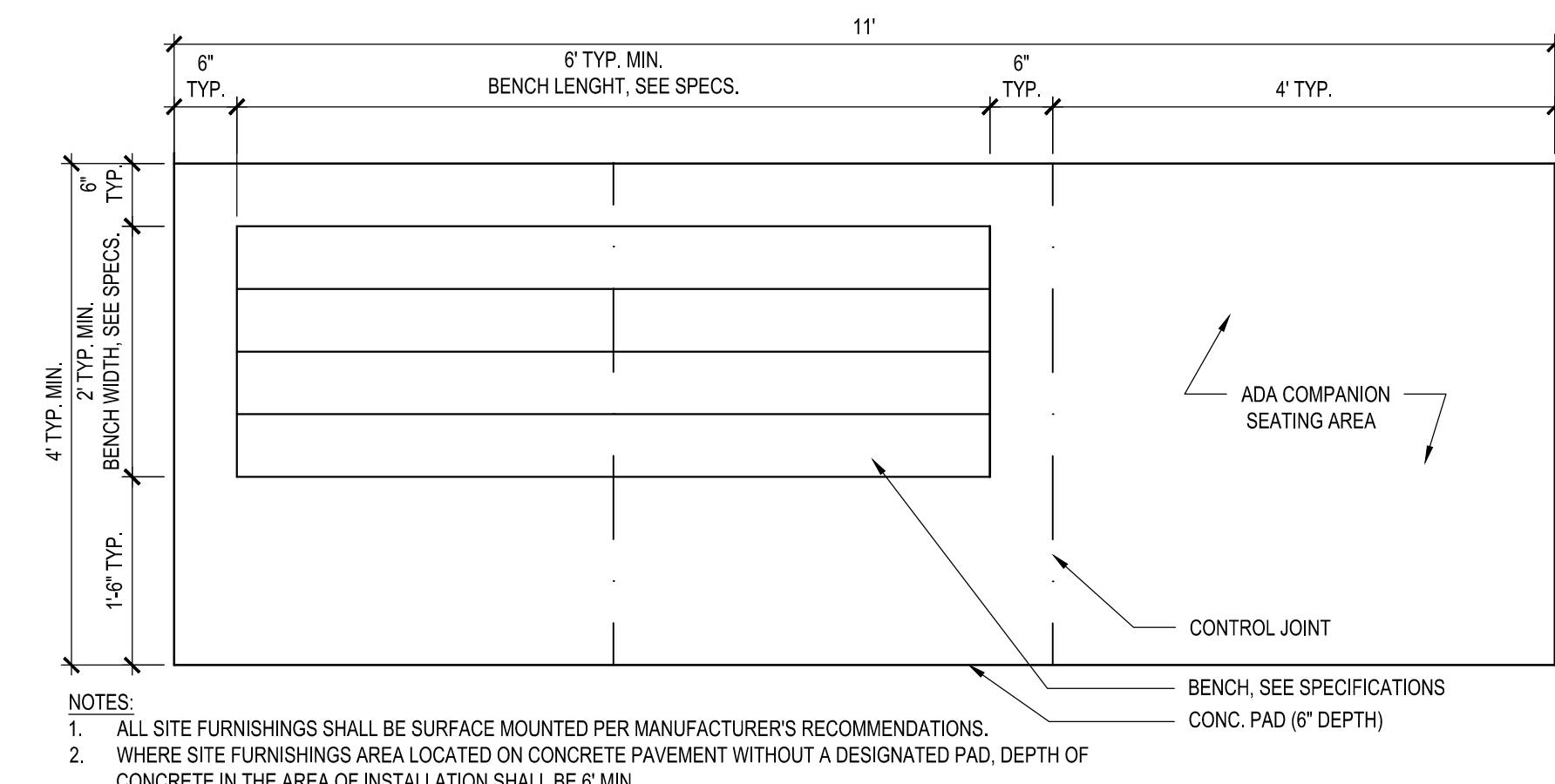


**7 ACCESSIBLE PARKING SPACE MARKINGS**  
NOT TO SCALE



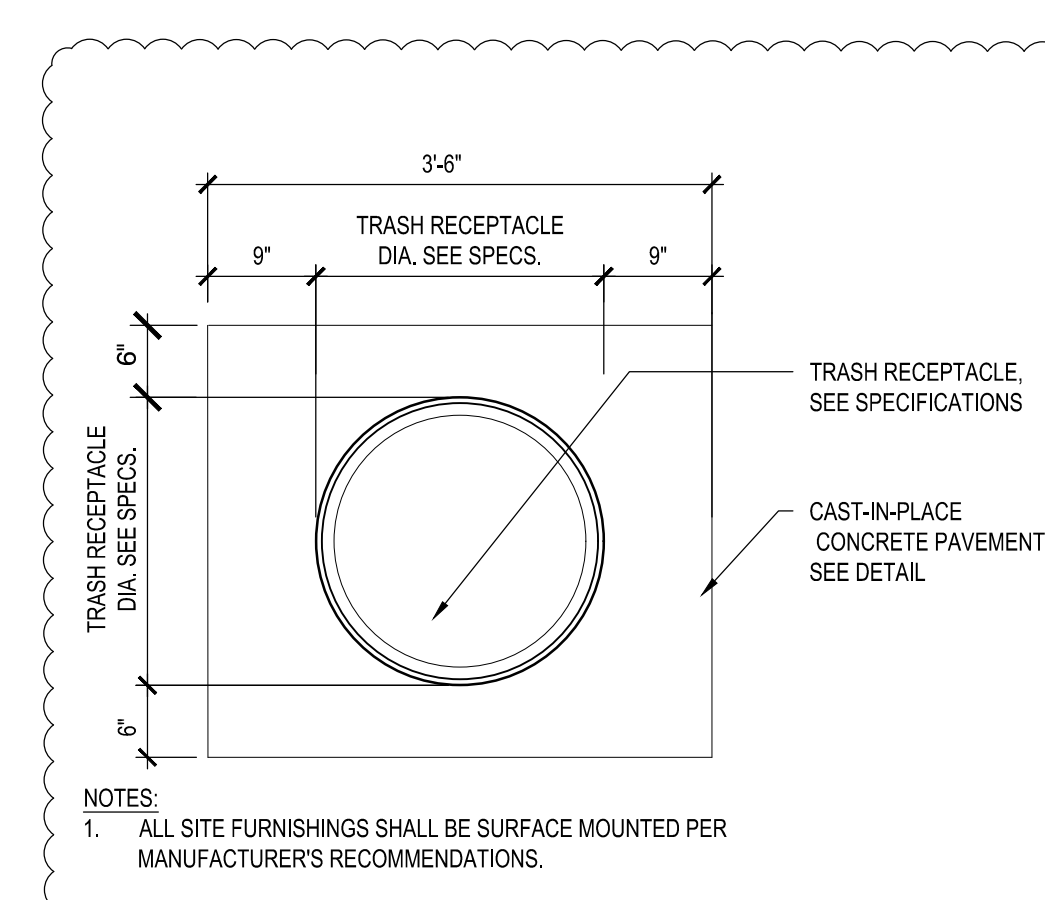
- NOTES:
1. CEMENT CONCRETE SHALL EXTEND TO THE BOTTOM OF THE BITUMINOUS CONCRETE.
  2. ANY CLASS OF CEMENT CONCRETE ACCEPTABLE UNDER SECTION M4 OF THE MASS. 'SSH'B' MAY BE USED.

**8 VERTICAL GRANITE CURB, TYP.**  
NOT TO SCALE



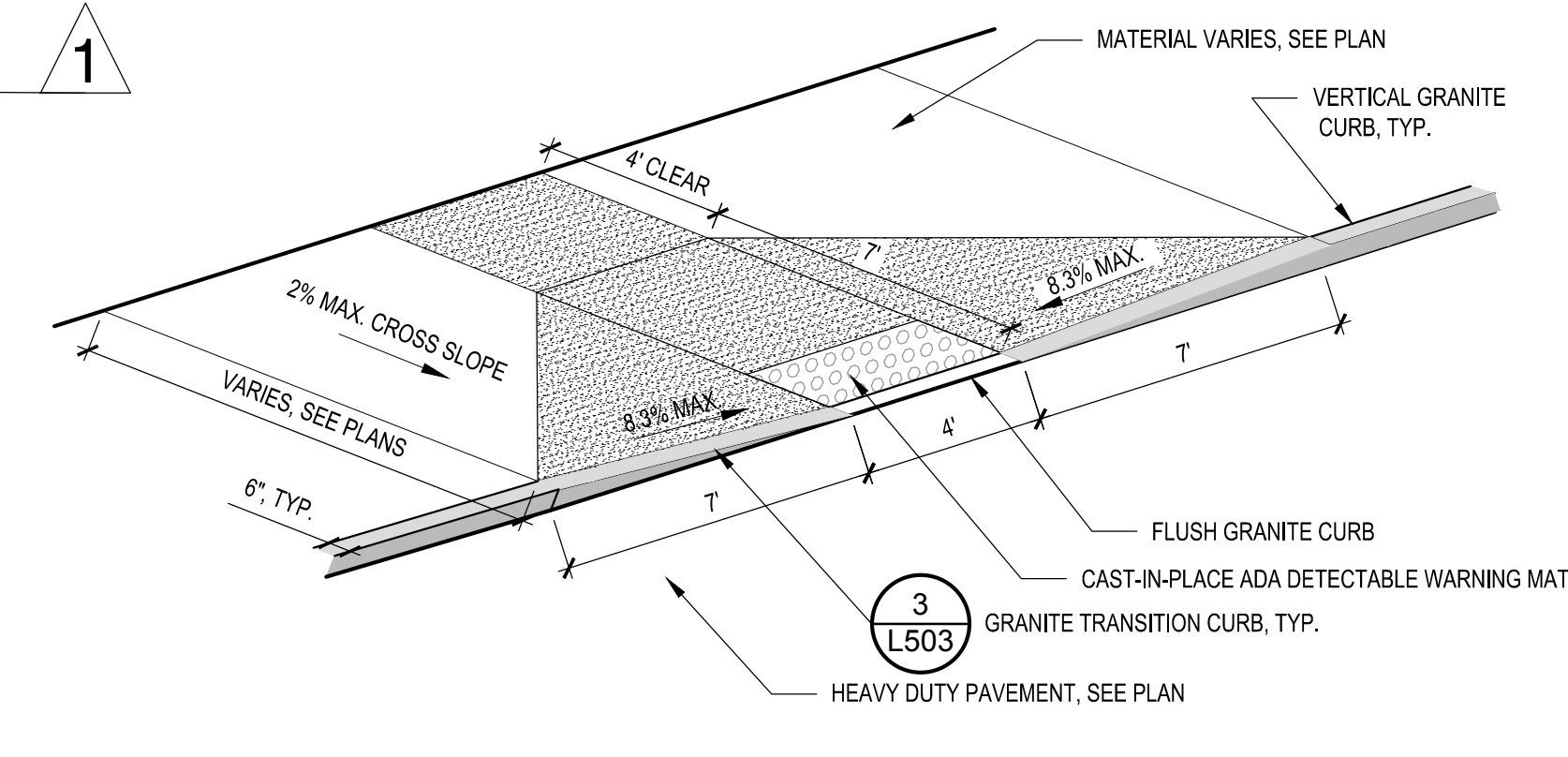
- NOTES:
1. ALL SITE FURNISHINGS SHALL BE SURFACE MOUNTED PER MANUFACTURER'S RECOMMENDATIONS.
  2. WHERE SITE FURNISHINGS AREA LOCATED ON CONCRETE PAVEMENT WITHOUT A DESIGNATED PAD, DEPTH OF CONCRETE IN THE AREA OF INSTALLATION SHALL BE 6\"/>

**9 BENCH ON CONCRETE PAD**  
NOT TO SCALE

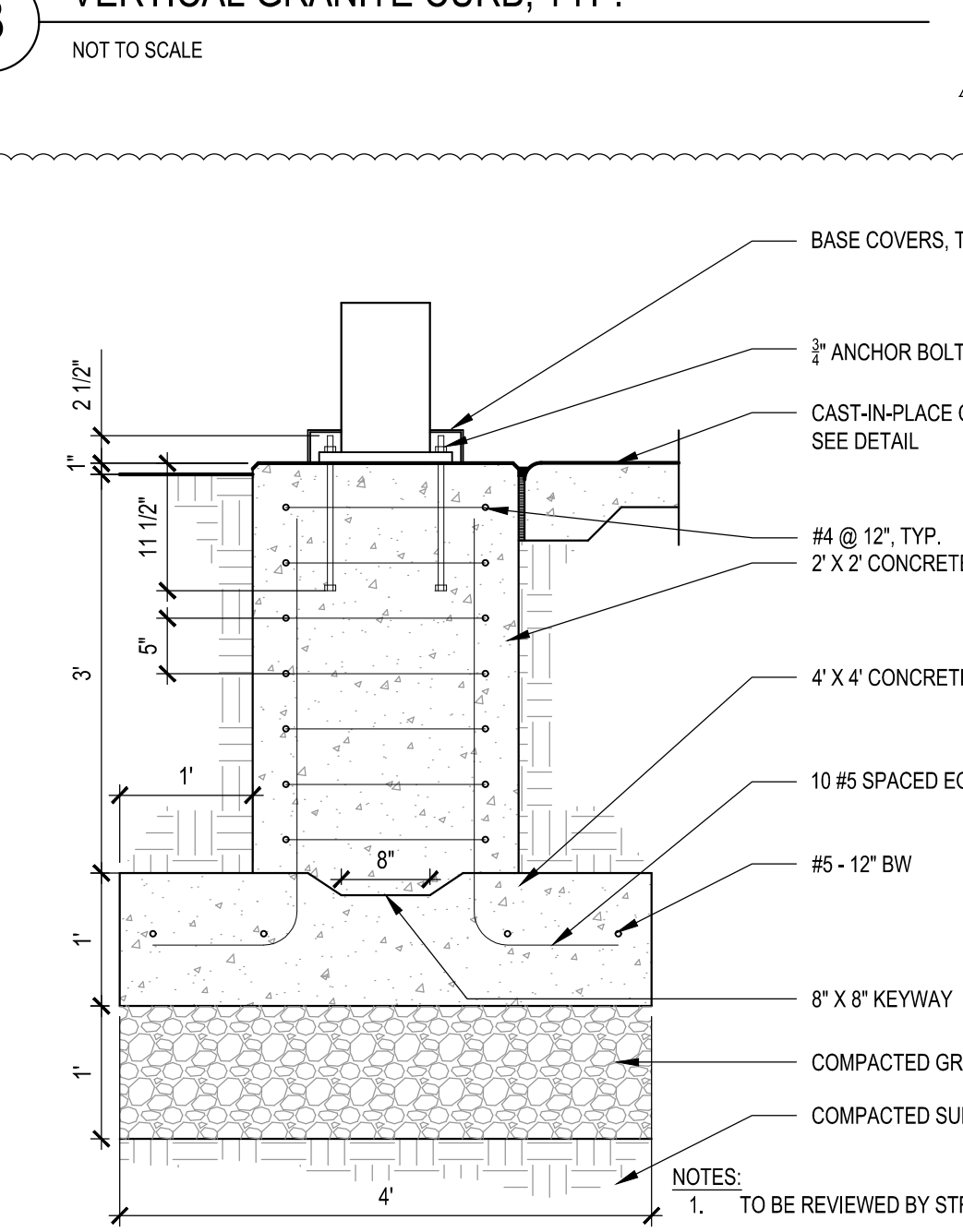


- NOTES:
1. ALL SITE FURNISHINGS SHALL BE SURFACE MOUNTED PER MANUFACTURER'S RECOMMENDATIONS.

**10 TRASH RECEPTACLE ON CONCRETE PAD**  
NOT TO SCALE

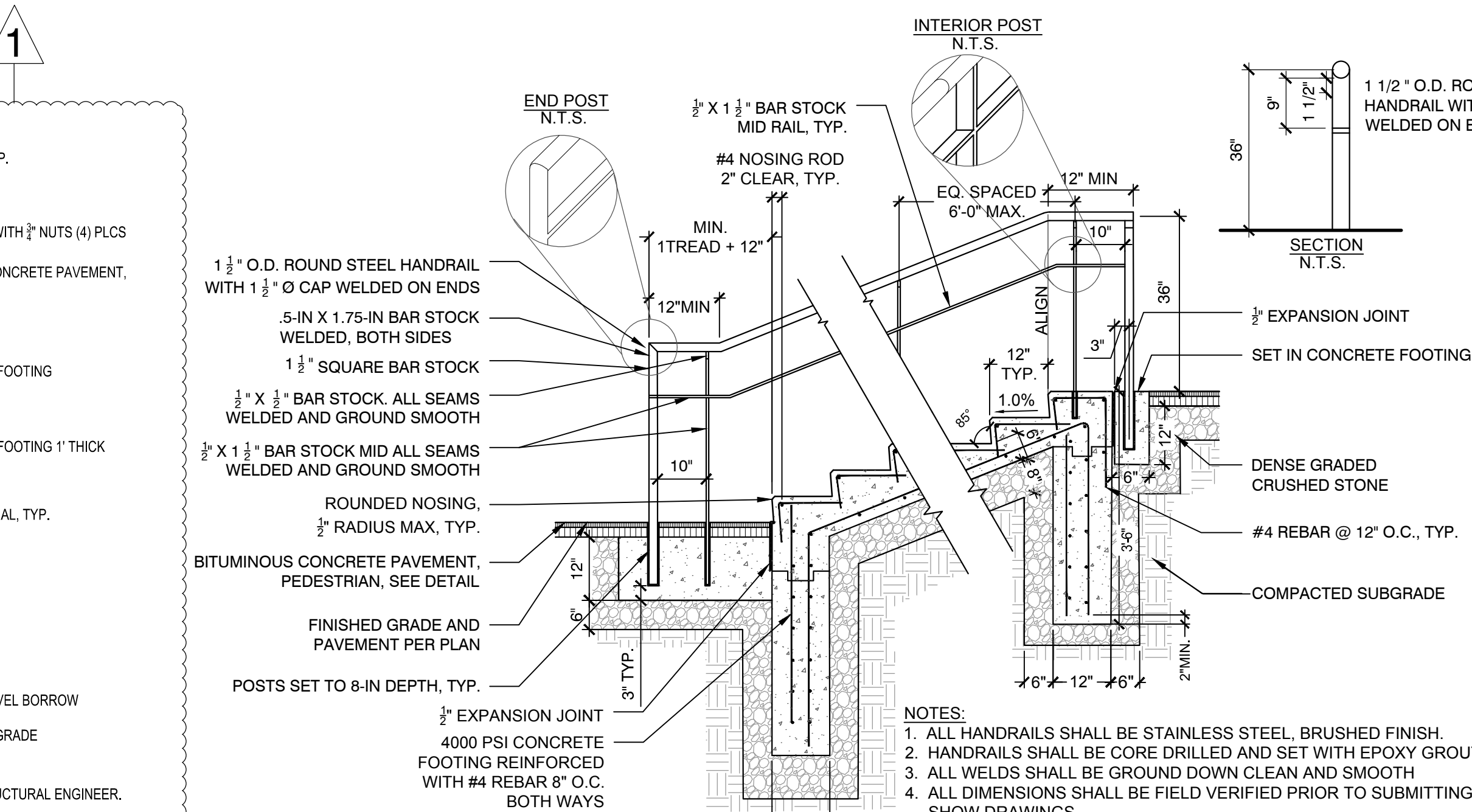


**11 ADA CURB CUT, TYPE A**  
NOT TO SCALE



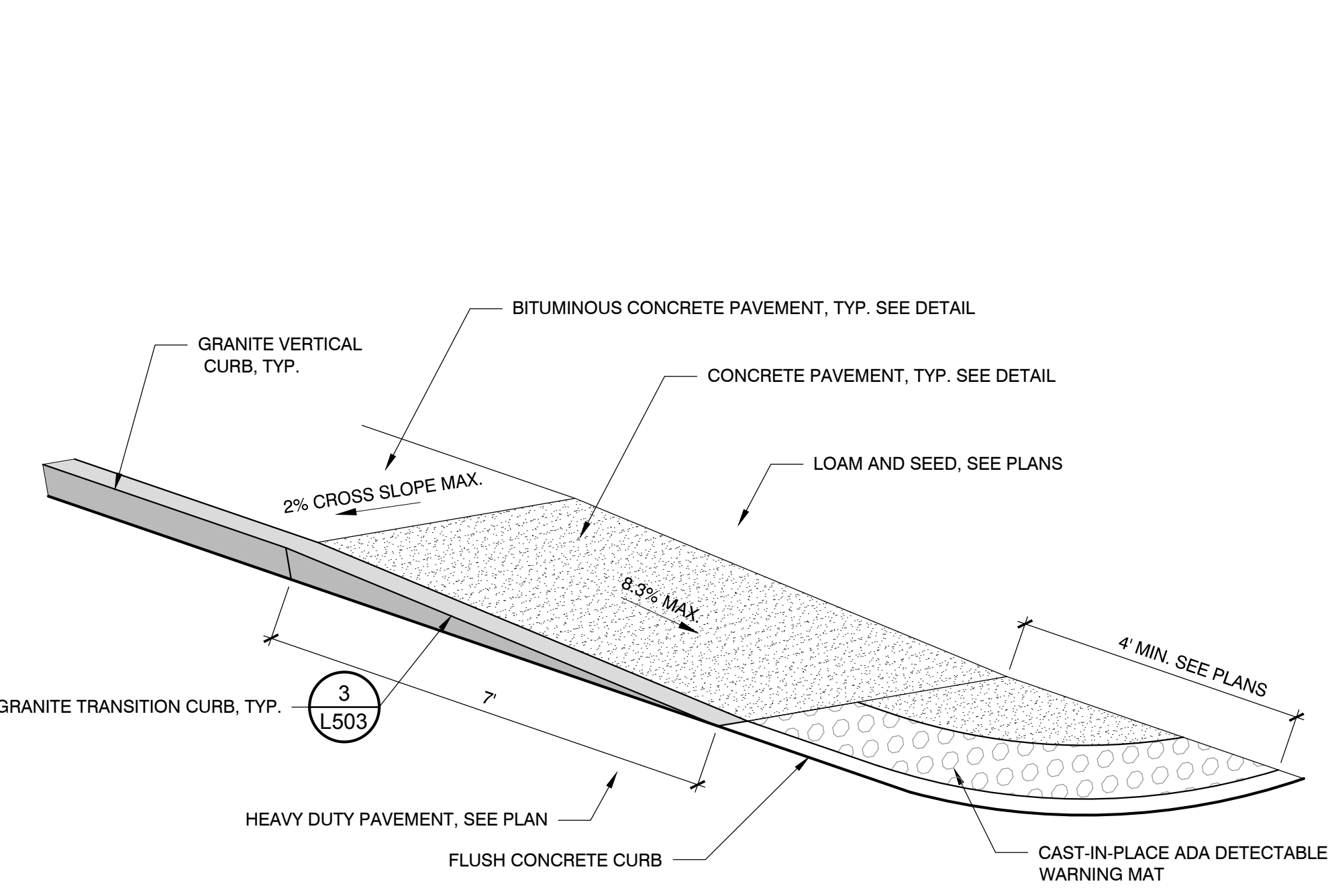
- NOTES:
1. TO BE REVIEWED BY STRUCTURAL ENGINEER.
  2. FINAL FOOTING DESIGN TO BE PROVIDED BY MANUFACTURER

**12 SHADE STRUCTURE, TYP.**  
NOT TO SCALE



- NOTES:
1. ALL HANDRAILS SHALL BE STAINLESS STEEL. BRUSHED FINISH.
  2. HANDRAILS SHALL BE CORE DRILLED AND SET WITH EPOXY GROUT.
  3. ALL WELDS SHALL BE GROUND DOWN CLEAN AND SMOOTH
  4. ALL DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING SHOW DRAWINGS.

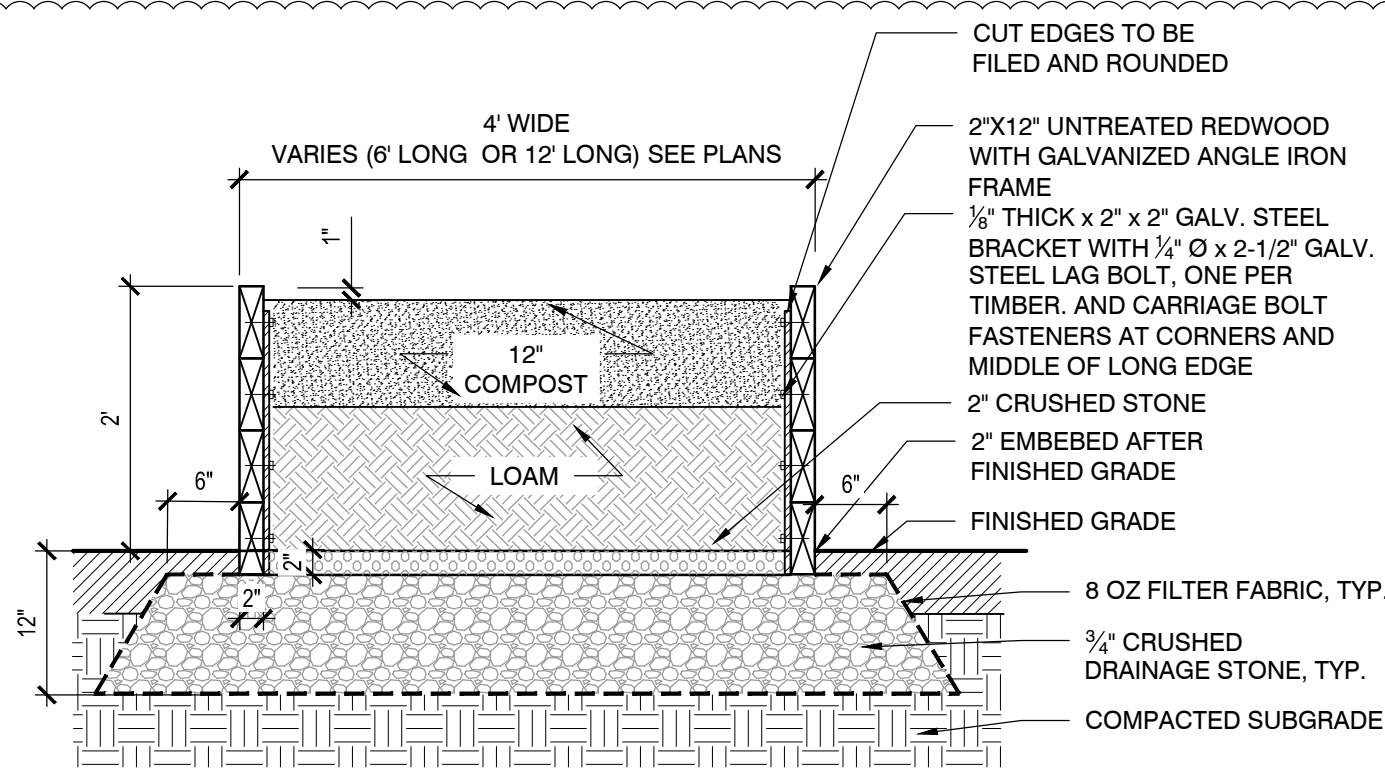
**13 CAST-IN-PLACE CONCRETE STAIRS WITH STAINLESS STEEL HANDRAIL**  
NOT TO SCALE



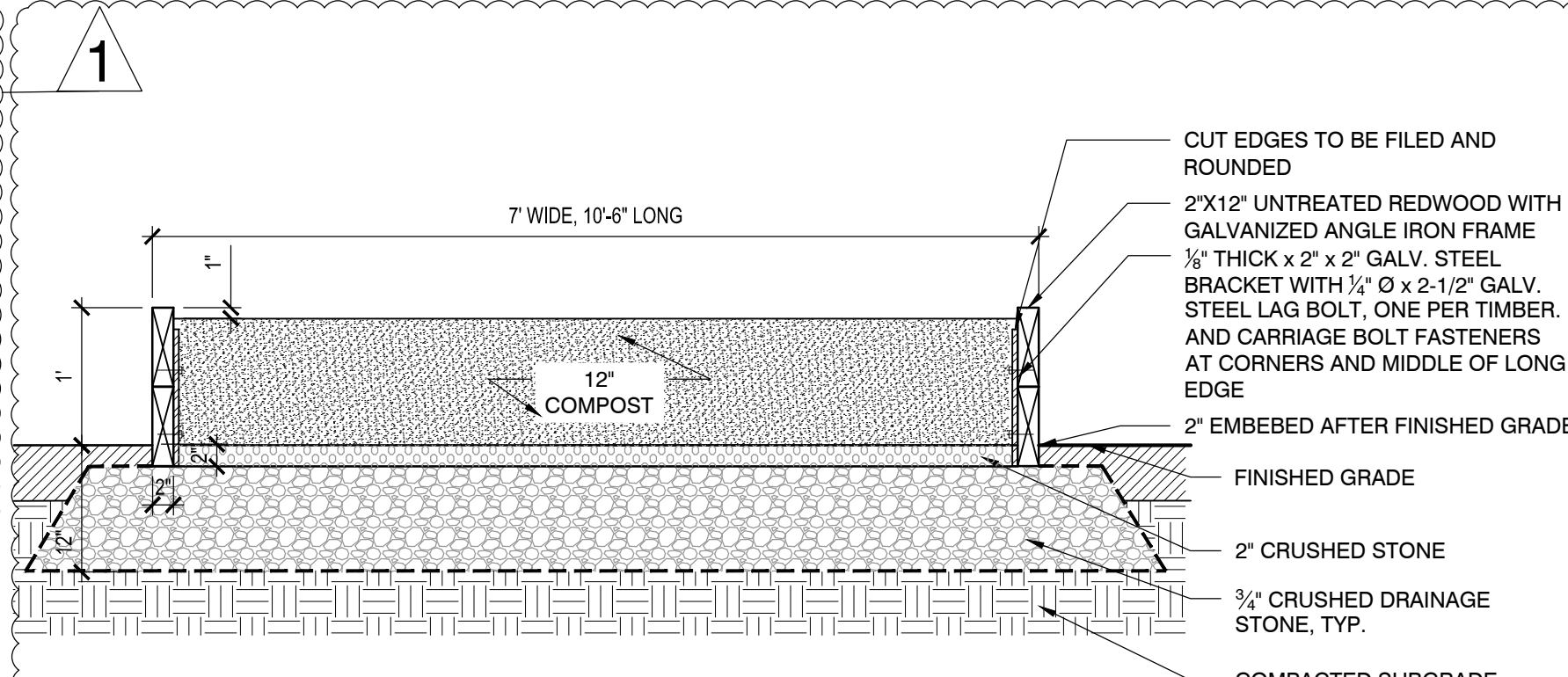
**14 ADA CURB CUT TYPE B, TYP**  
NOT TO SCALE

Revisions:		
No.	Date	Description
01	01/27/2023	ADDENDUM #1

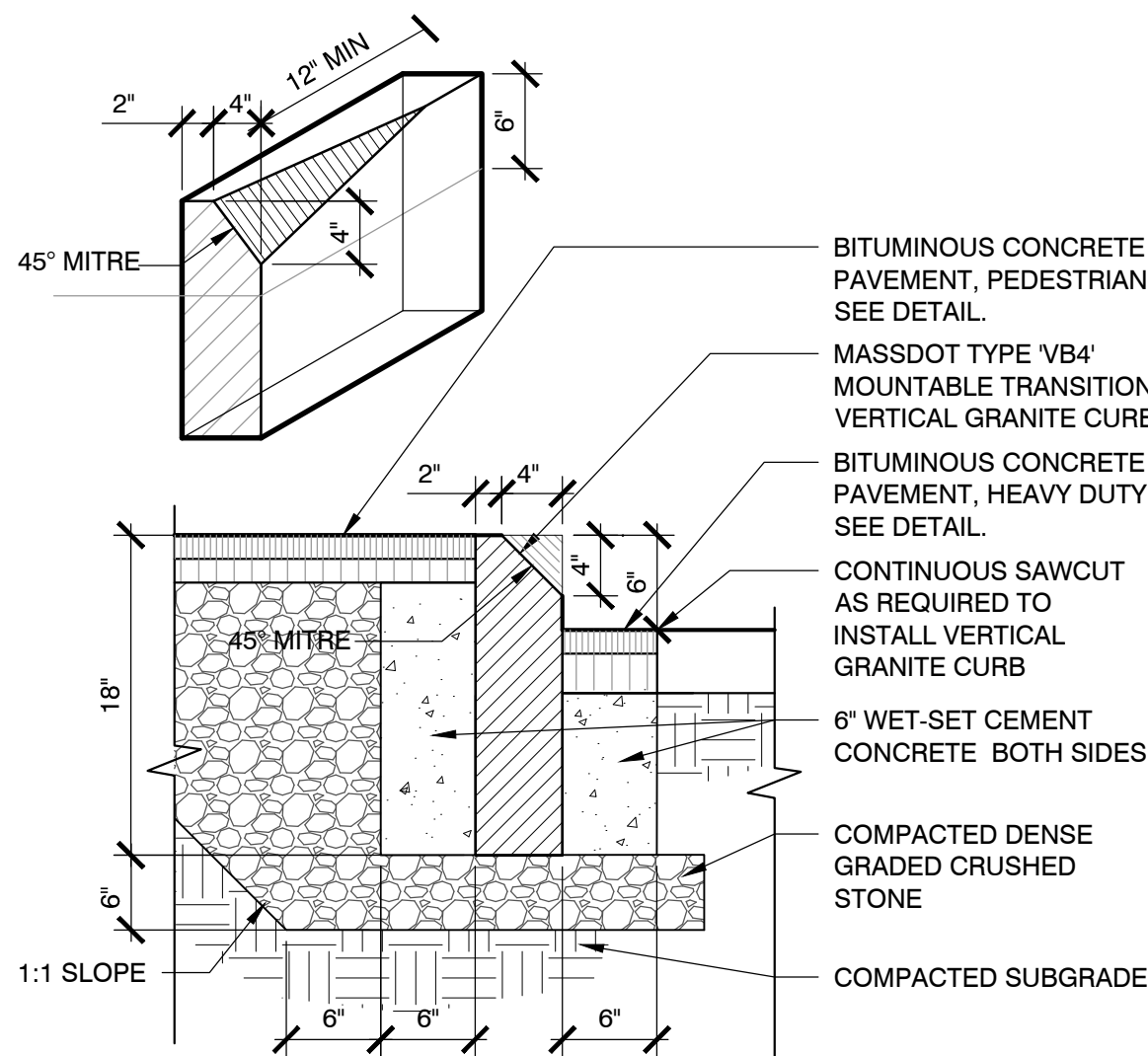




1 2' HT. (4X6' OR 12') RAISED PLANTERS, TYP  
NOT TO SCALE

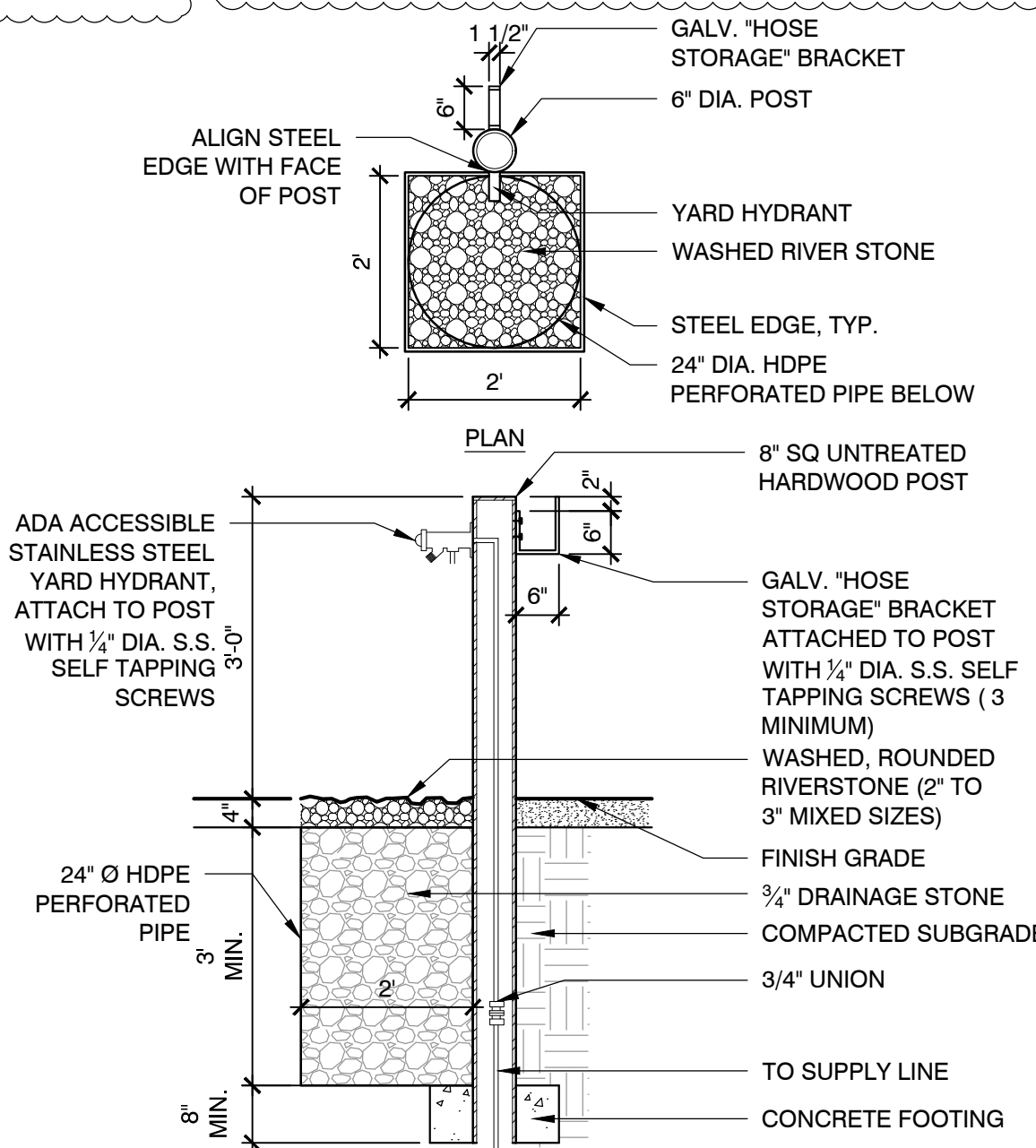


2 1' HT. (7'X10'-6'') RAISED PLANTERS, TYP.  
NOT TO SCALE



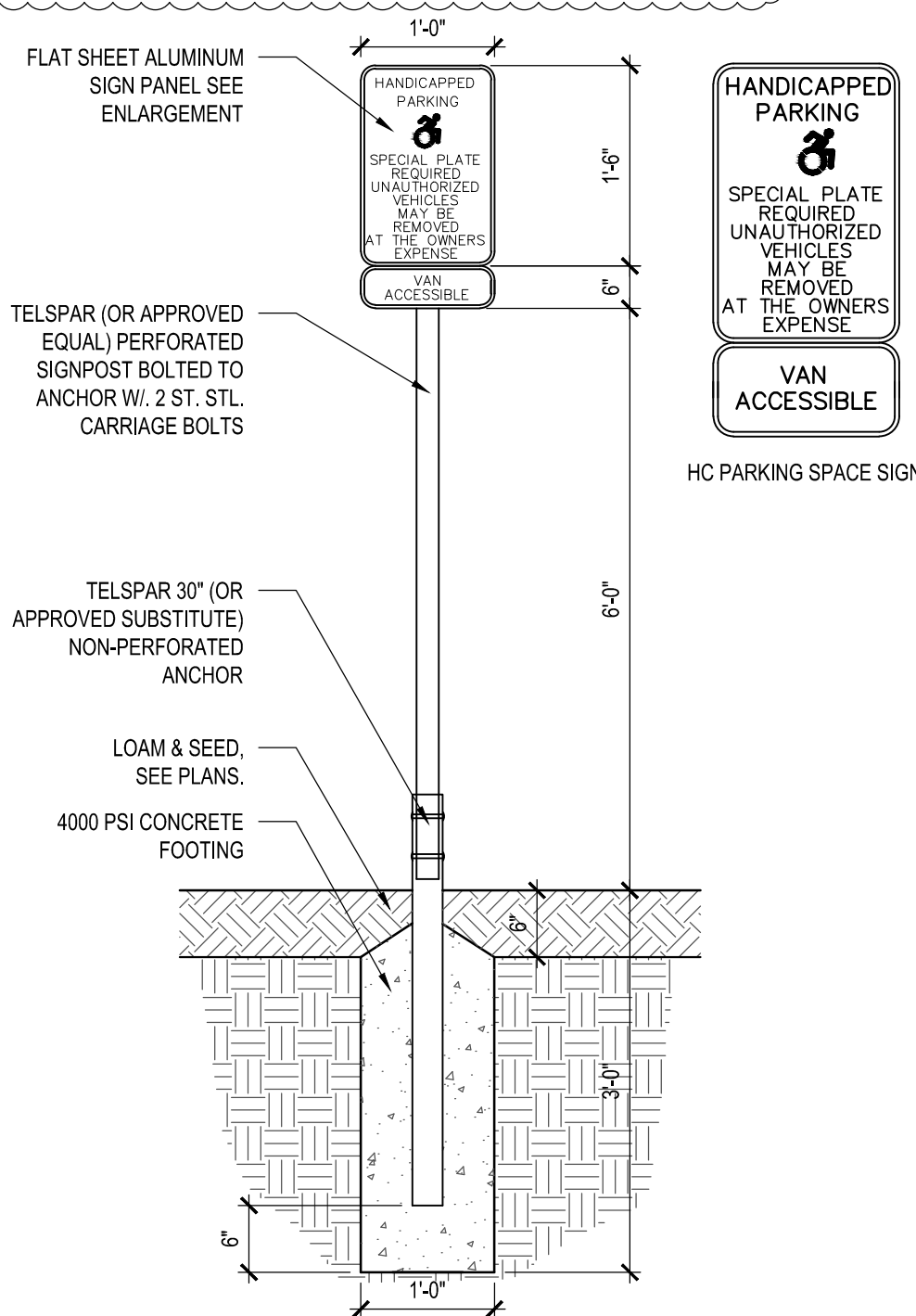
- NOTES:
- CEMENT CONCRETE SHALL EXTEND TO THE BOTTOM OF THE BITUMINOUS CONCRETE.
  - ANY CLASS OF CEMENT CONCRETE ASSEPTABLE UNDER SECTION M4 OF THE MASS. "SSHB" MAY BE USED.

3 GRANITE TRANSITION CURB, TYP.  
NOT TO SCALE

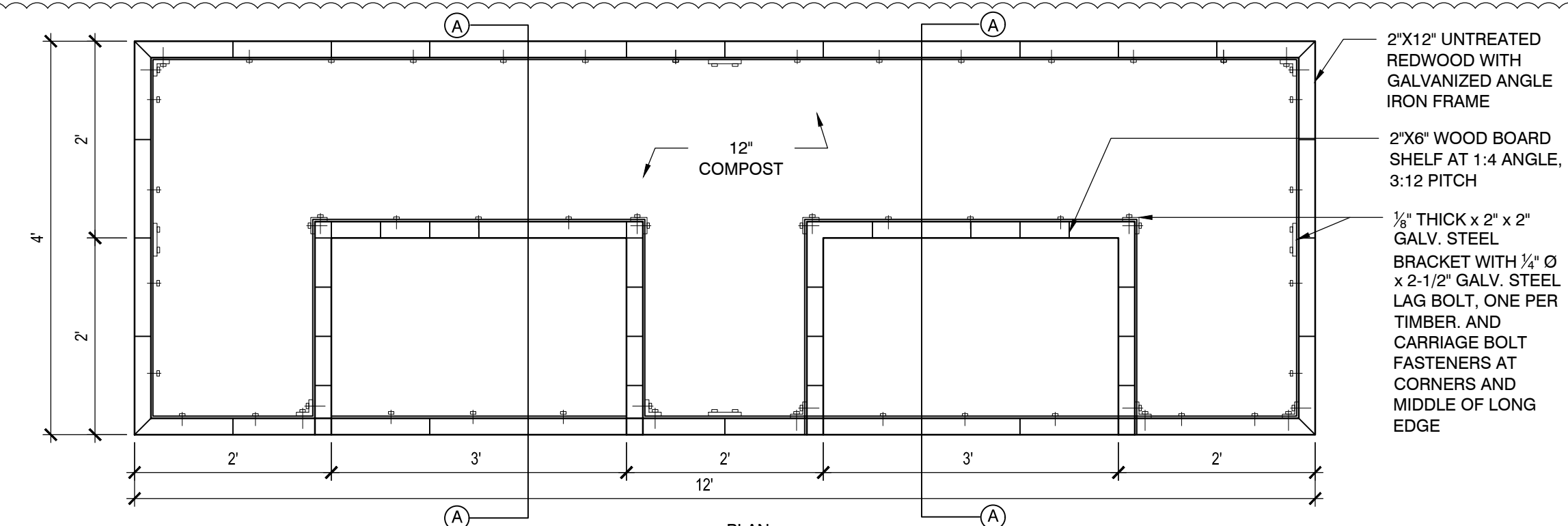


- NOTES:
- FOR WATER PIPE LOCATION AND LAYOUT REFER TO PLANS.
  - FINAL YARD HYDRANT LOCATION TO BE MARKED IN THE FIELD BY OWNERS REPRESENTATIVE

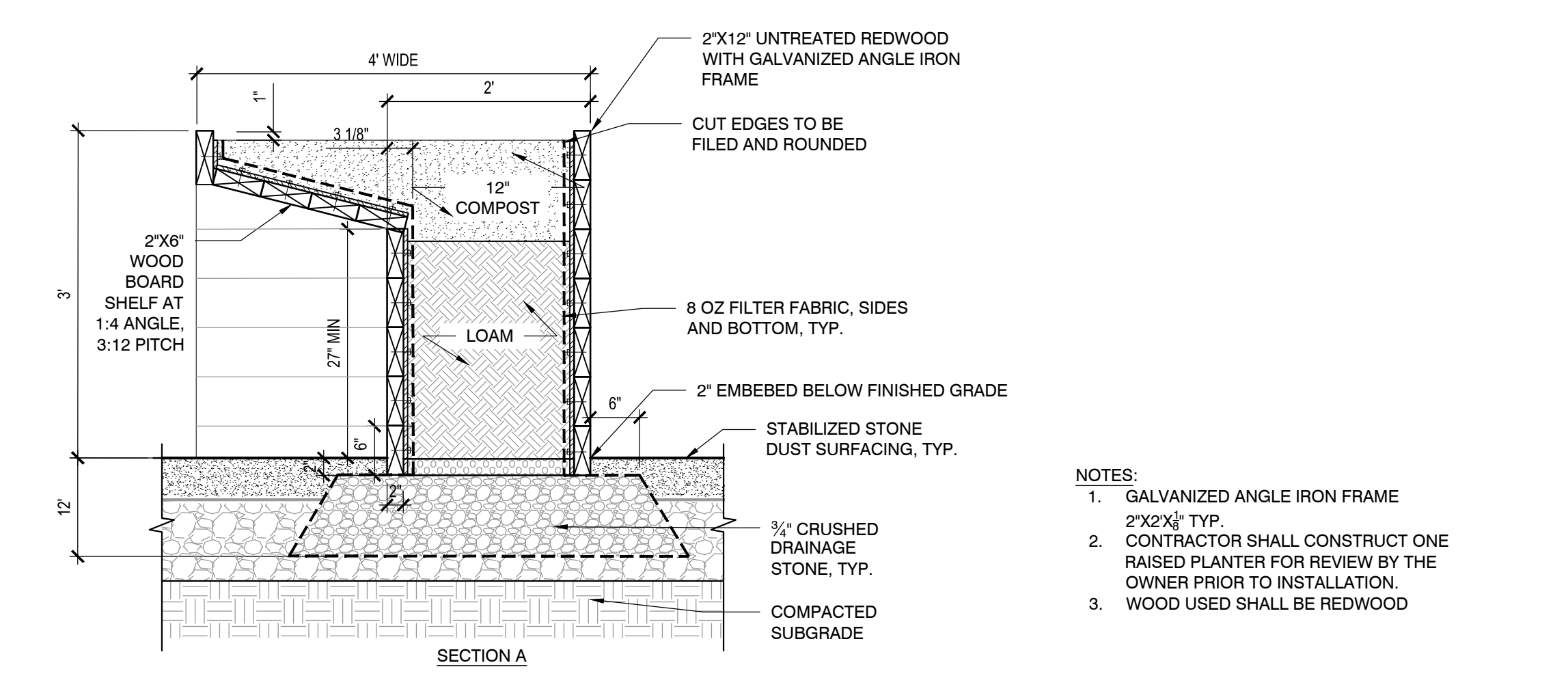
4 YARD HYDRANT, TYP.  
NOT TO SCALE



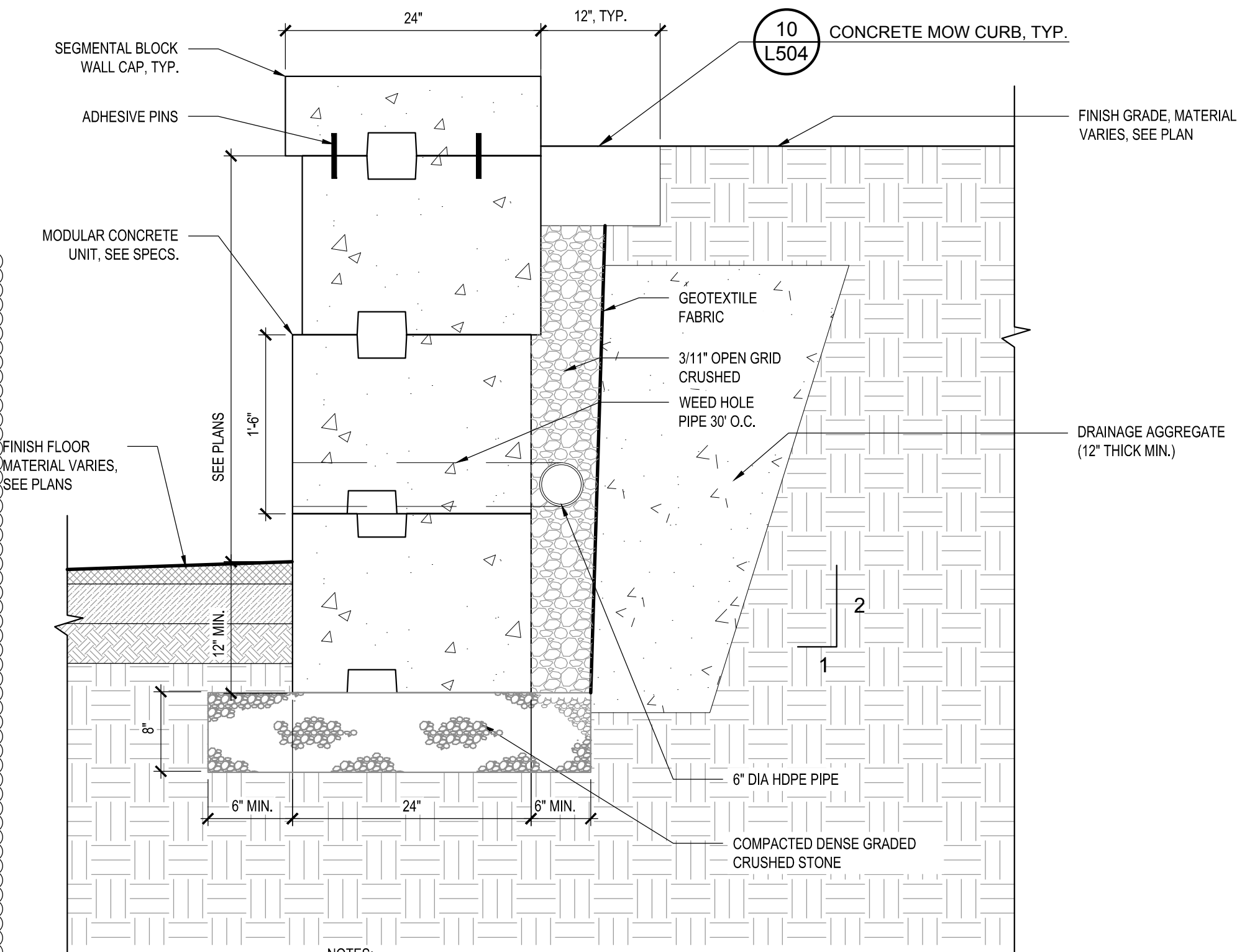
5 ACCESSIBLE PARKING SPACE SIGN, TYP  
NOT TO SCALE



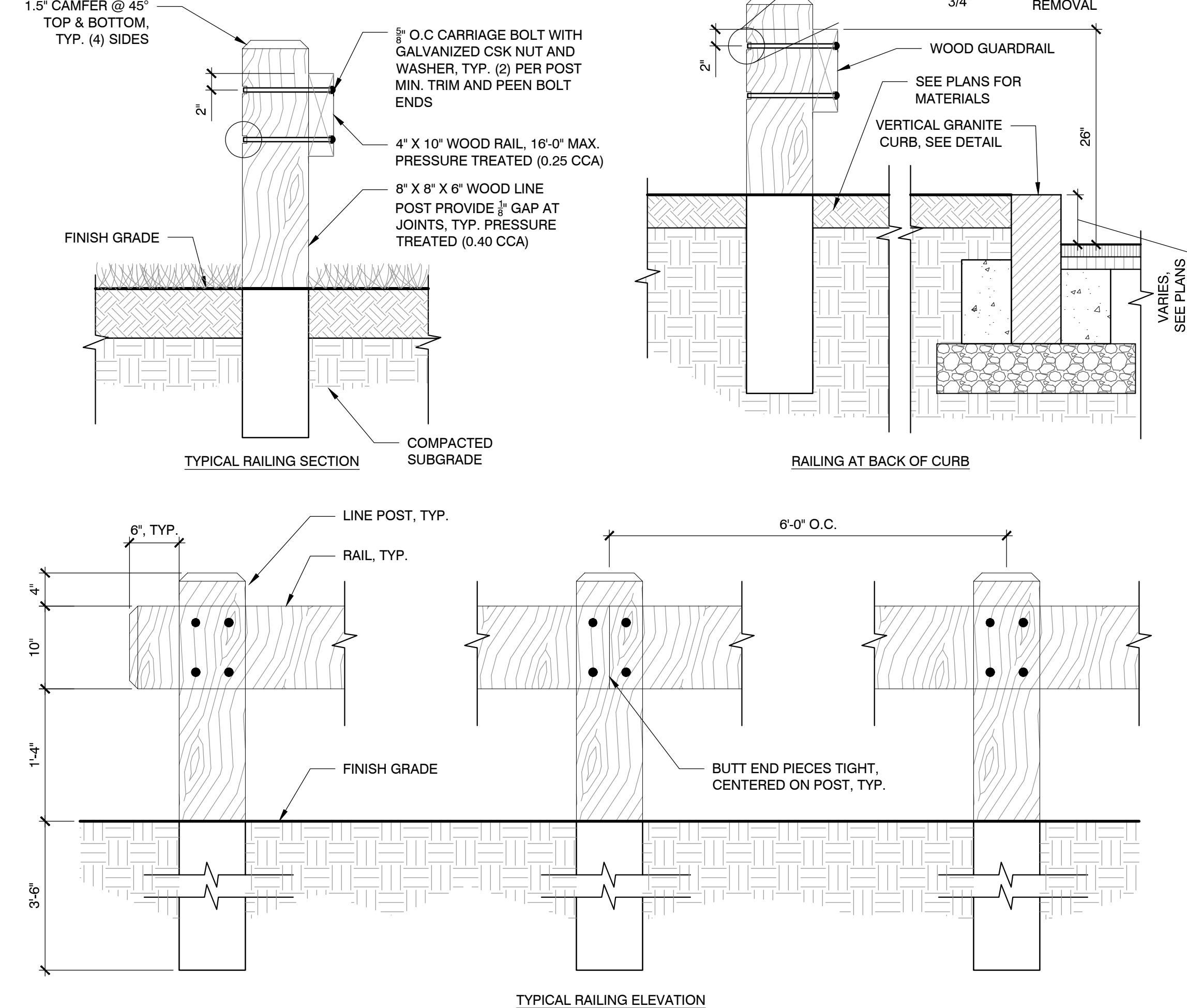
6 3' HT. (12' X 4') ACCESSIBLE RAISED PLANTERS, TYP  
NOT TO SCALE



7 FOUNDATION AT GREENHOUSE  
NOT TO SCALE



8 UNIT BLOCK RETAINING WALL, TYP.  
NOT TO SCALE



9 WOOD GUARDRAIL, TYP.  
NOT TO SCALE

Revisions:		
No.	Date	Description
01	01/27/2023	ADDENDUM #1

Seal:

Issued For:  
BIDDING

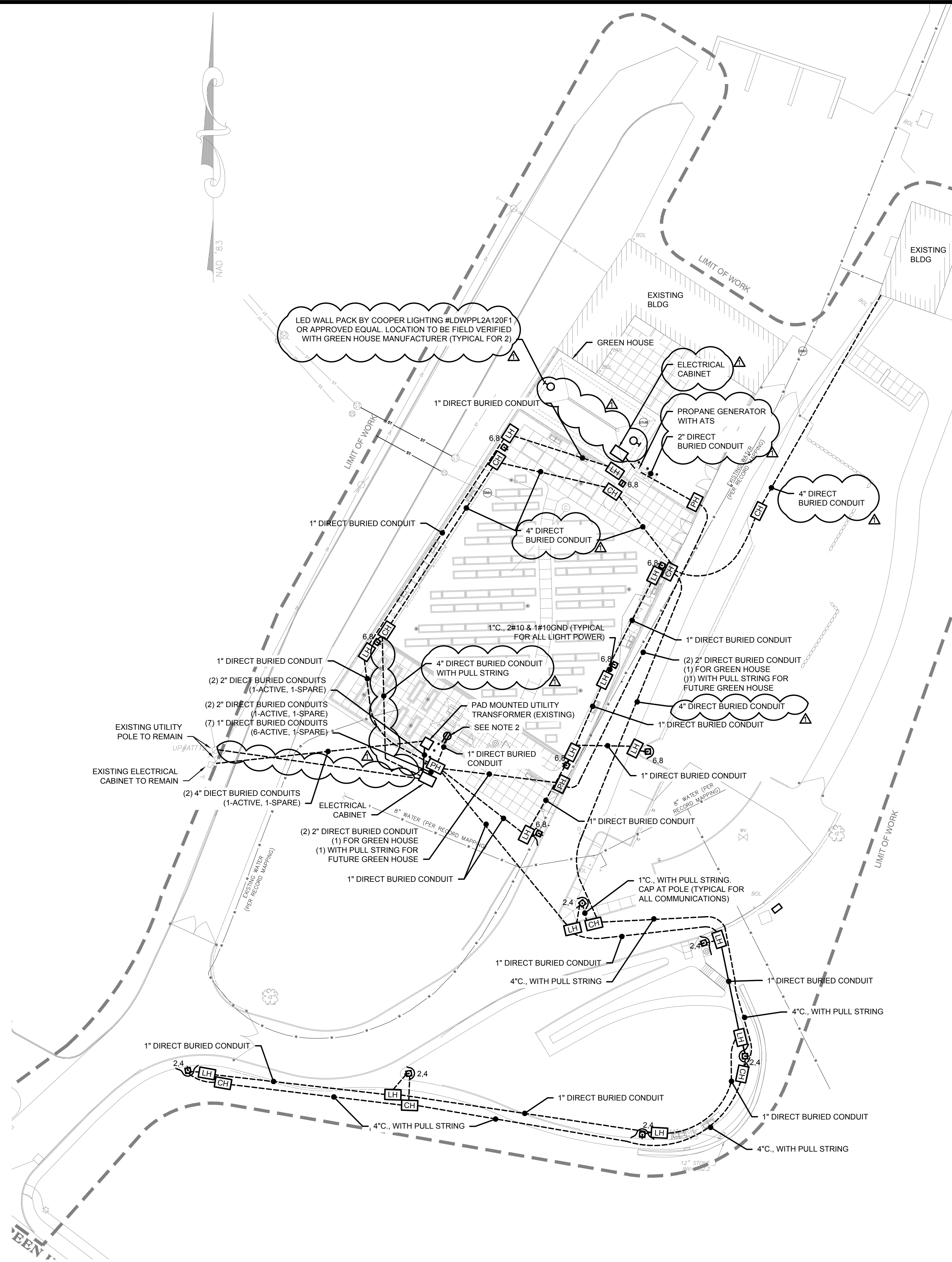
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Date: 08-17-2022  
Drawn By: JC  
Reviewed By: ME  
Approved By: BK  
W&S Project No: 2160854  
W&S File No:

Drawing Title:  
SITE CONSTRUCTION  
DETAILS

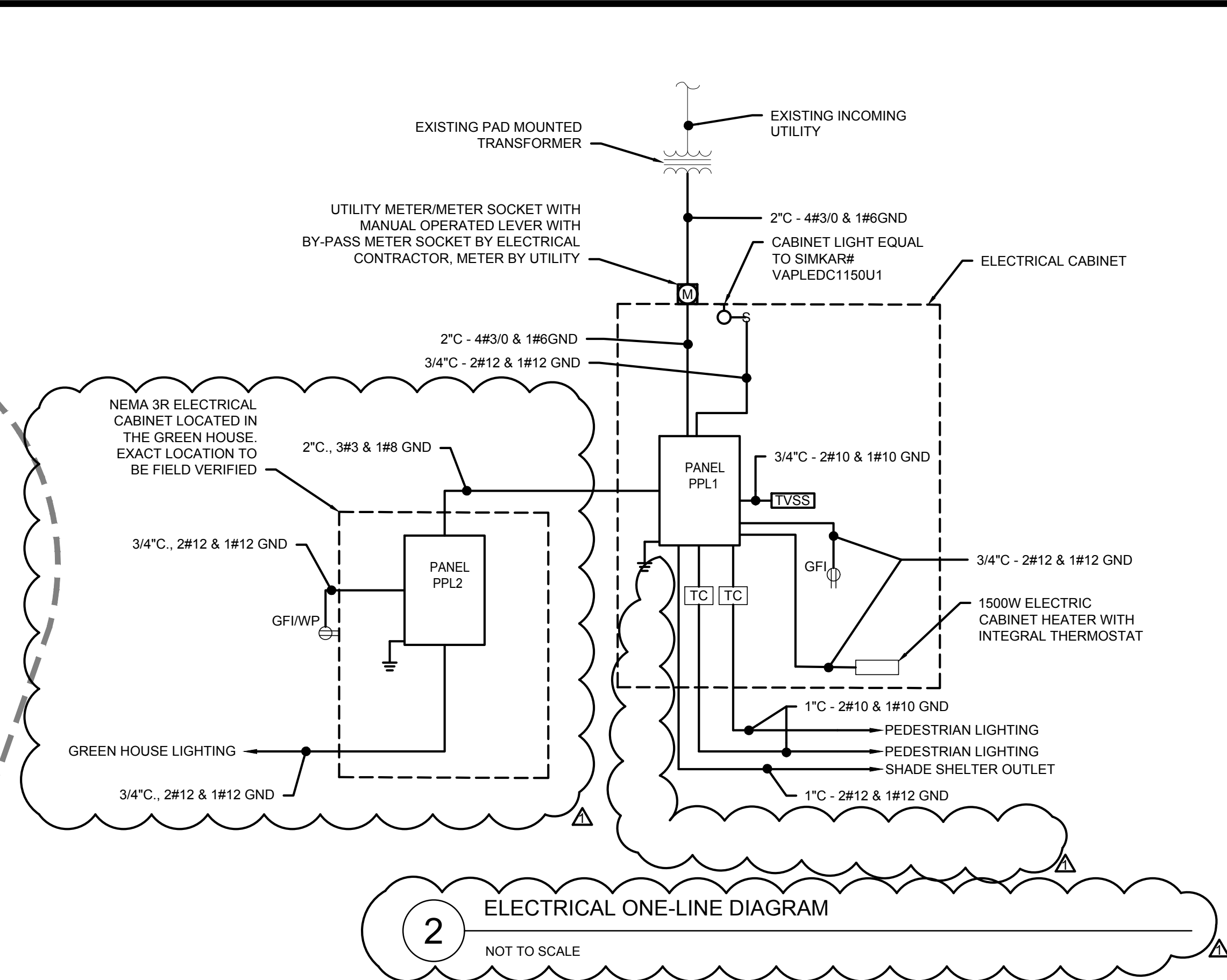
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L503

























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1 ELECTRICAL SITE PLAN  
SCALE: 1" = 20' - 0"

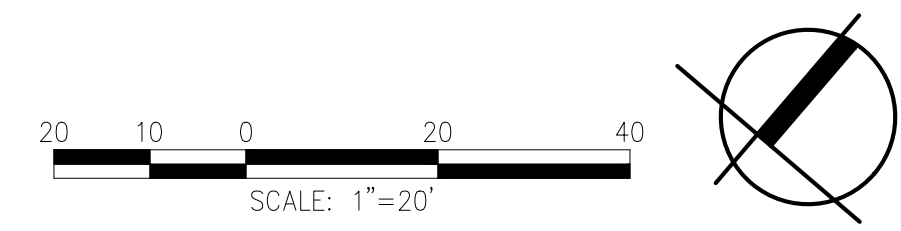


PANELBOARD SCHEDULE										
DESIGNATION: PPL1		S.C. RATING: 10,000A RMS SYM.					REMARKS:			
LOCATION: ELECTRICAL ROOM		SERVICE: 120/240V, 1Ø, 3W								
RATING: 200 AMPS		MOUNTING: SURFACE								
MAIN: 200A MCB										
CKT. NO.	LOAD DESIGNATION	BREAKER		PHASE			BREAKER		LOAD DESIGNATION	CKT. NO.
		TRIP	POLE	A	B	C	POLE	TRIP		
1	LIGHTING IN ELECTRICAL CABINET	20					20	PEDESTRIAN LIGHTING	2	
3	RECEPTACLE IN ELECTRICAL CABINET	20					-	-	4	
5	TVSS	30					20	PEDESTRIAN LIGHTING	6	
7	-	-					-	-	8	
9	GREEN HOUSE	60					20	SPARE	10	
11	-	-					20	SPARE	12	
13	SPARE	20					20	SPARE	14	
15	SPARE	20					20	SPARE	16	
17	SPARE	20					20	SPARE	18	

PANELBOARD SCHEDULE										
DESIGNATION: PPL2			S.C. RATING: 10,000A RMS SYM.				REMARKS:			
LOCATION: GREEN HOUSE			SERVICE: 120/208V, 1Ø, 3W							
RATING: 100 AMPS			MOUNTING: SURFACE							
MAIN: 100A MCB										
CKT. NO.	LOAD DESIGNATION	BREAKER		PHASE			BREAKER		LOAD DESIGNATION	CKT. NO.
		TRIP	POLE	A	B	C	TRIP			
1	OUTDOOR GFI RECEPTACLE	20					20	GREENHOUSE LIGHTING	2	
3	SPARE	20					20	SPARE	4	
5	SPARE	20					20	SPARE	6	
7	SPARE	20					20	SPARE	8	
9	SPARE	20					20	SPARE	10	
11	SPARE	20					20	SPARE	12	


- PROPANE GENERATOR SPECIFICATION:**
- THE GENERATOR SHALL BE THE GENERAC GUARDIAN 14KW 120/240V SINGLE PHASE STANDY PROPANE GENERATOR SYSTEM OR APPROVED EQUAL. GENERATOR SHALL INCLUDE:
    - WIRELESS MONITORING
    - 100 AMP AUTOMATIC TRANSFER SWITCH WITH INTEGRATED LOAD CENTER
    - NEMA 3R OUTDOOR ALUMINUM ENCLOSURE
    - 16 CIRCUIT LOAD CENTER
    - 2-YR OIL CHANGE INTERVAL, MIN.
    - SELF-TEST MODE
    - BATTERY
  - ALL INCIDENTAL WIRING, CONDUIT, PLUMBING, AND OTHER ELEMENTS TO FULLY INSTALL THE GENERATOR SHALL BE INCLUDED

- DRAWING NOTES:**
- REFER TO DRAWING E1.00 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
  - PROVIDE 120V, 20A, GFCI OUTLET IN A WEATHERPROOF ENCLOSURE WITH AN IN-USE COVER. OUTLET SHALL BE MOUNTED TO A COLUMN OF THE SHADE SHELTER. COORDINATE EXACT MOUNTING LOCATION AND HEIGHT IN THE FIELD
  - FINAL LOCATIONS OF ALL HANDHOLES TO BE APPROVED IN THE FIELD PRIOR TO INSTALLATION.



Project:

CITY OF WORCESTER  
DEPT. OF PUBLIC WORKS & PARKS



GREEN HILL PARK  
COMMUNITY GARDENS  
GREEN HILL PARKWAY  
WORCESTER, MA.

**Weston & Sampson**

427 Main Street,  
Suite 400, Worcester, MA 01608  
978.977.0110 800.SAMPSON  
www.westonandsampson.com

Consultants:

Revisions:

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1	01/27/23	ADDENDUM 1

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Drawn By: JC

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Approved By: BK

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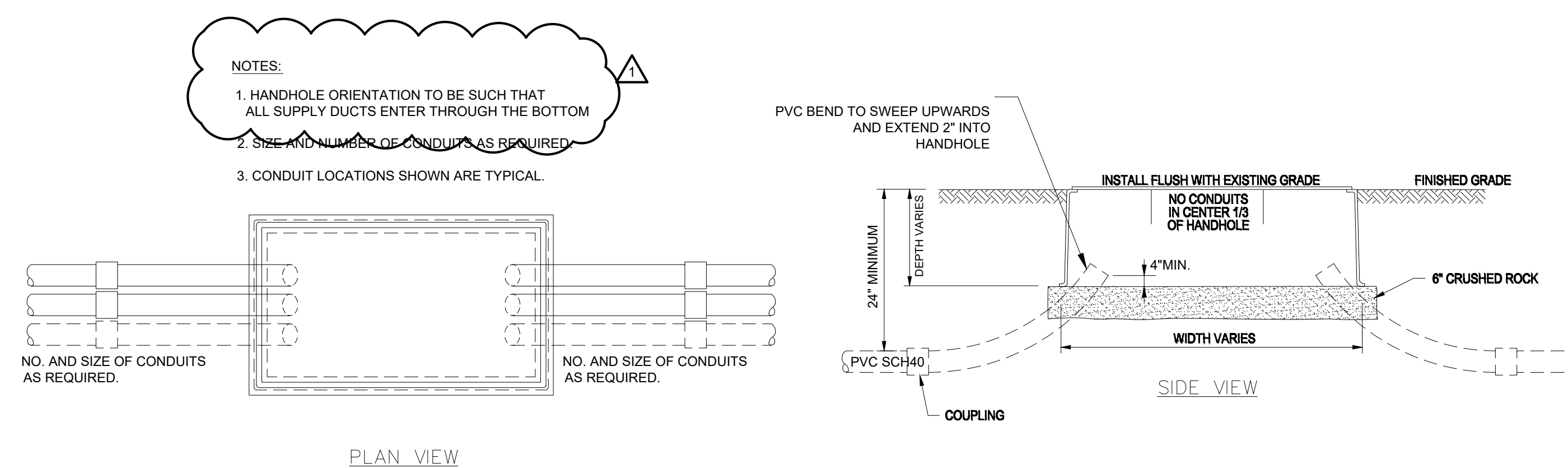
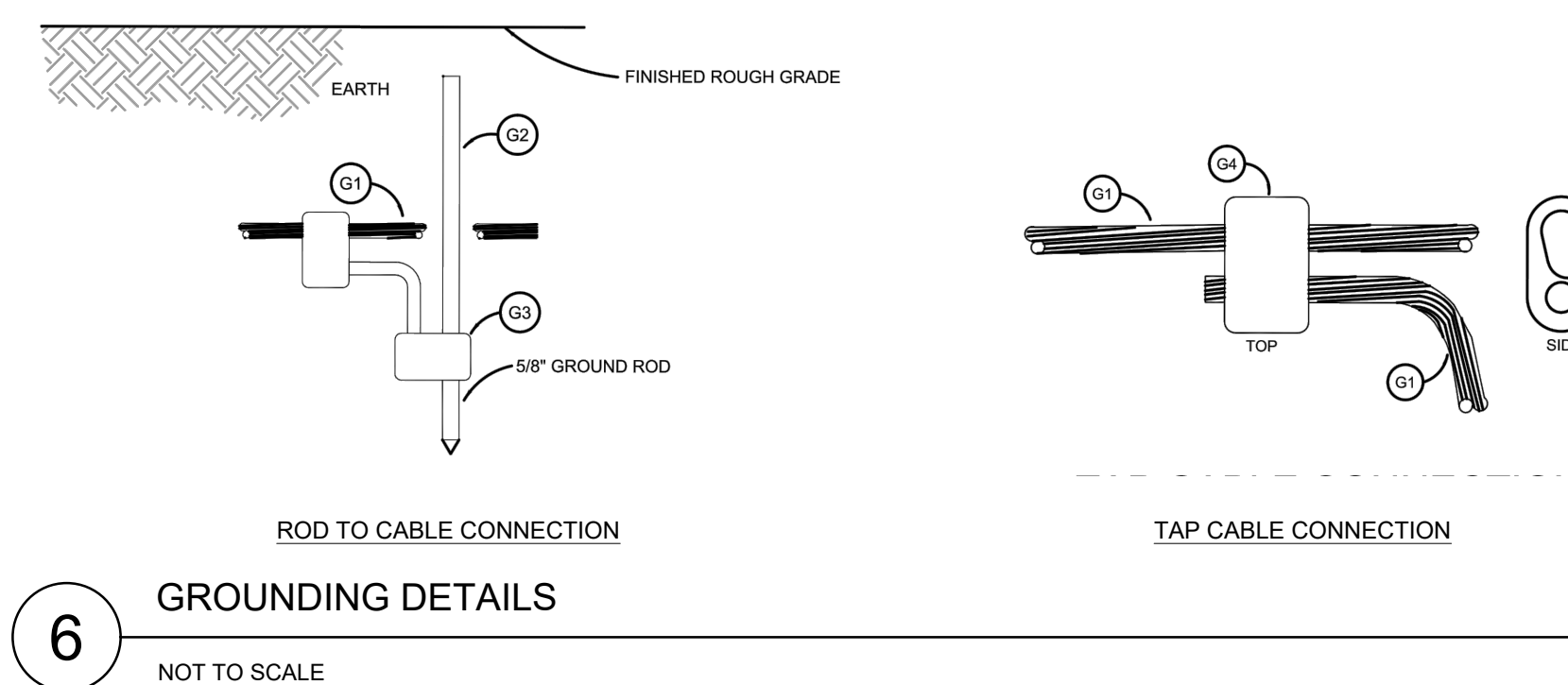
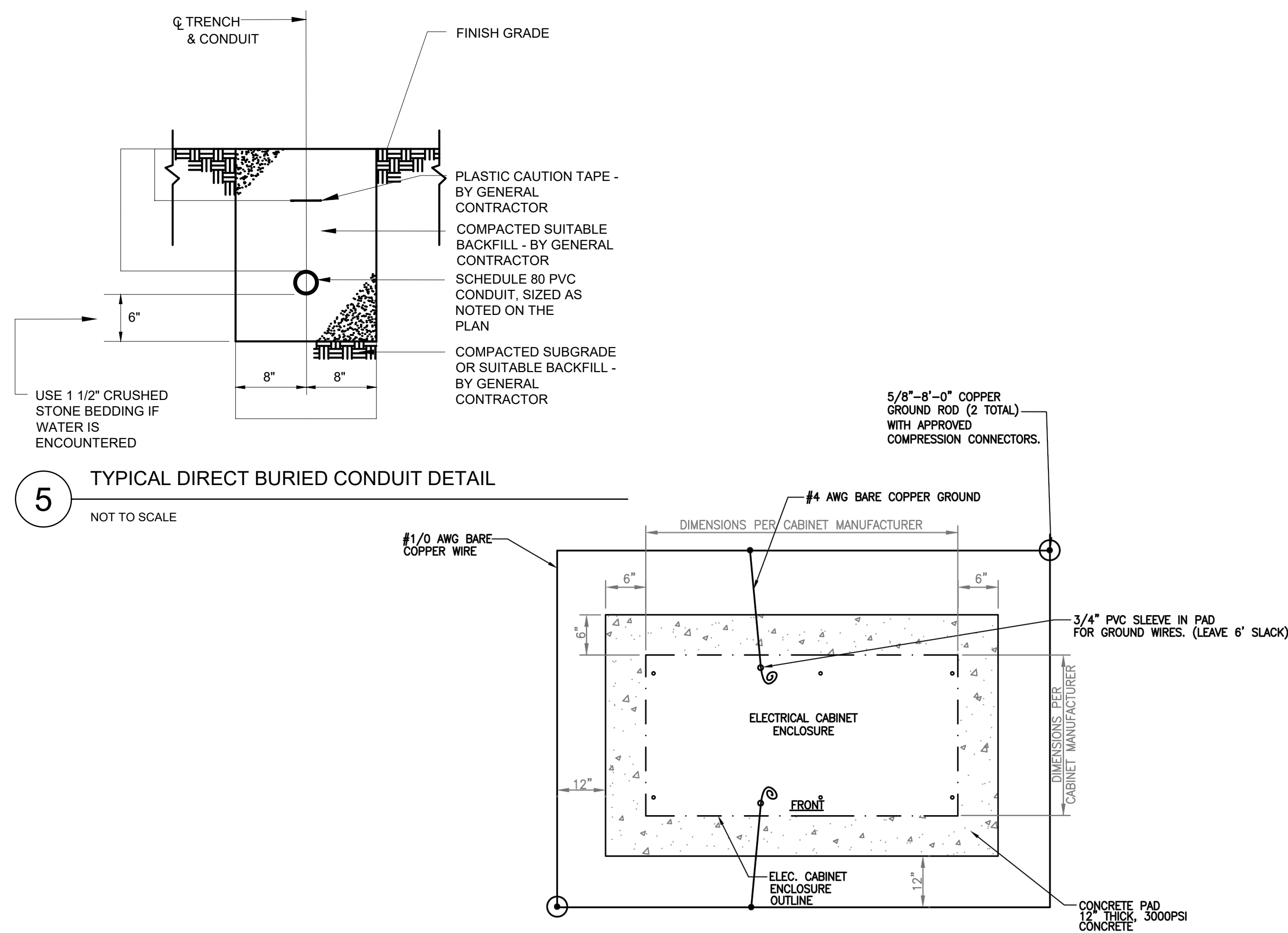
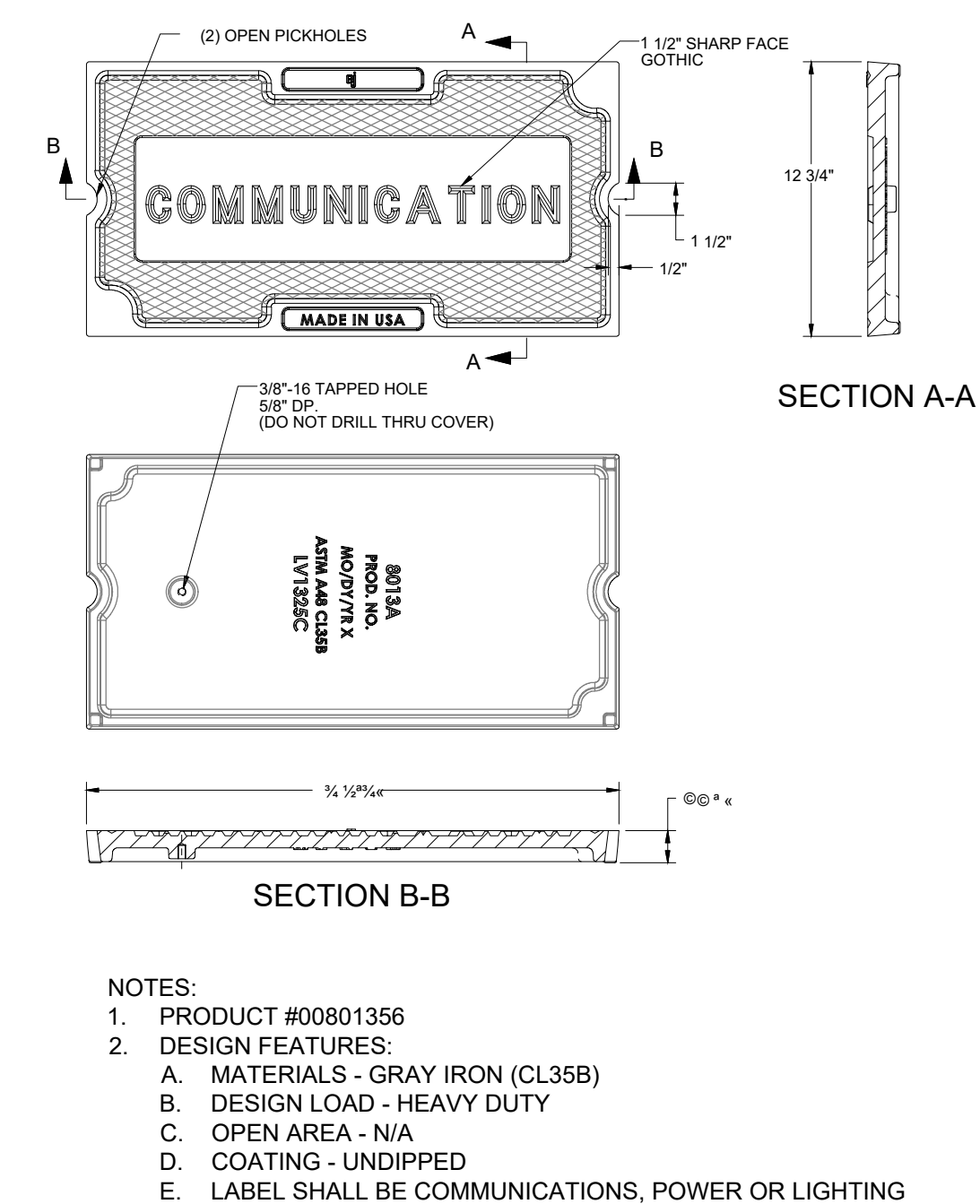
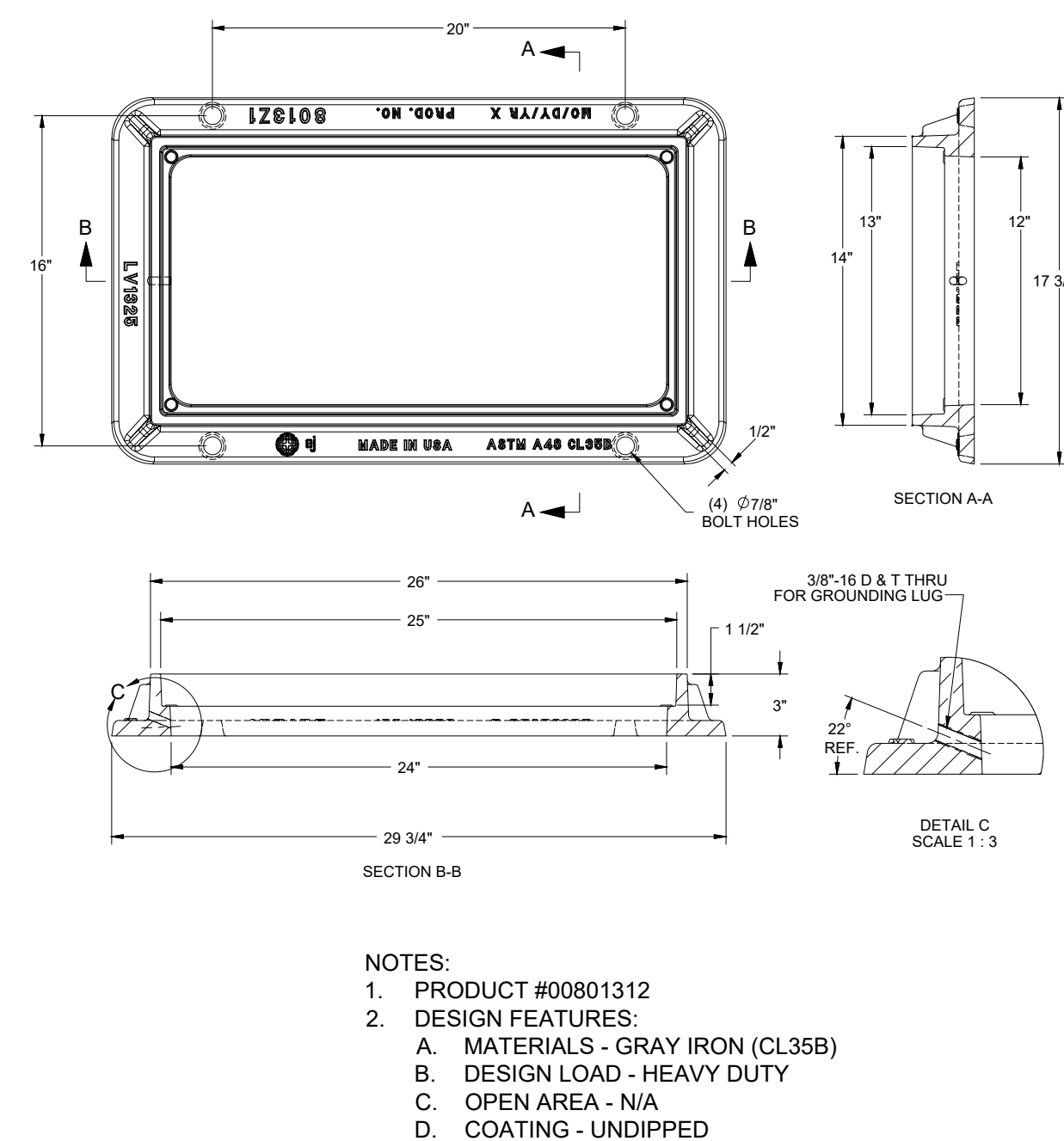
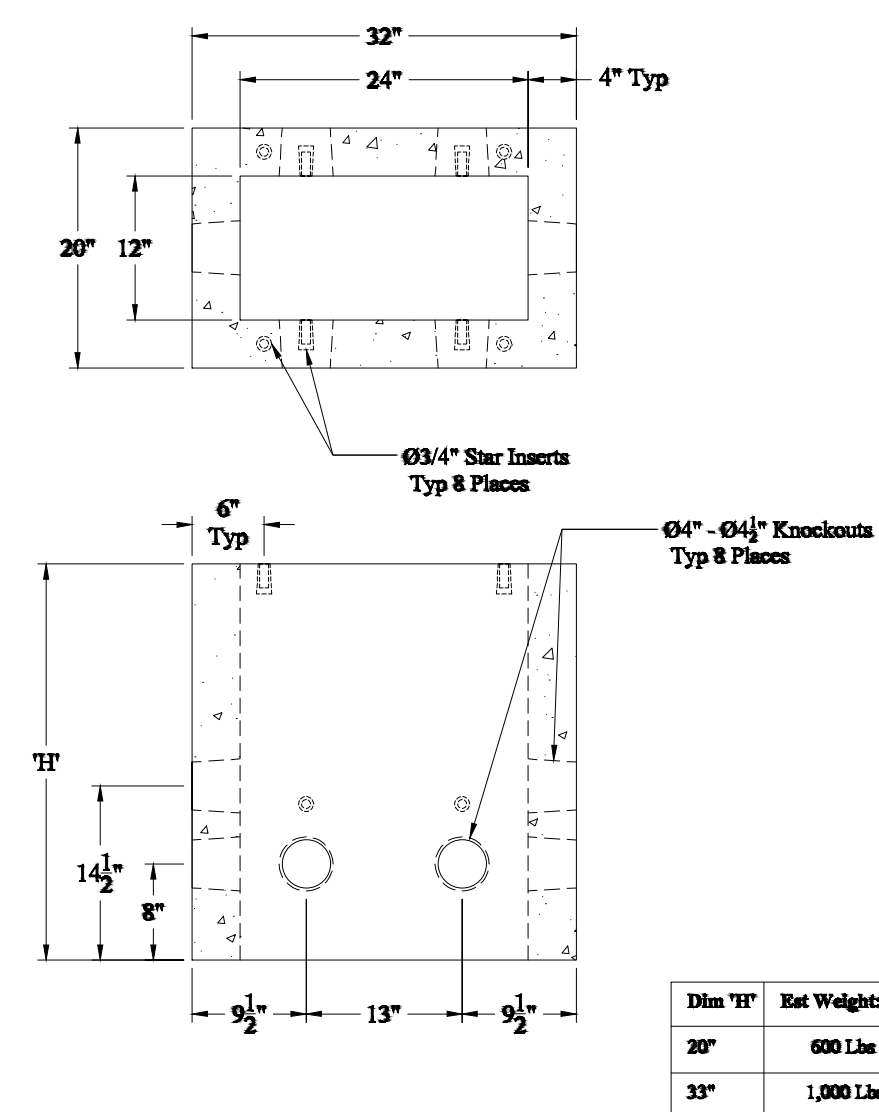
**ELECTRICAL PLAN**

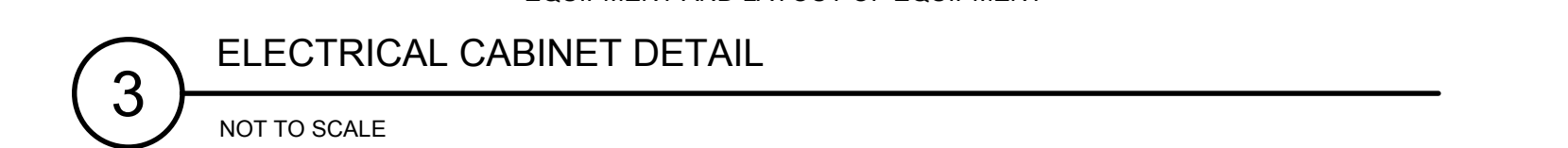
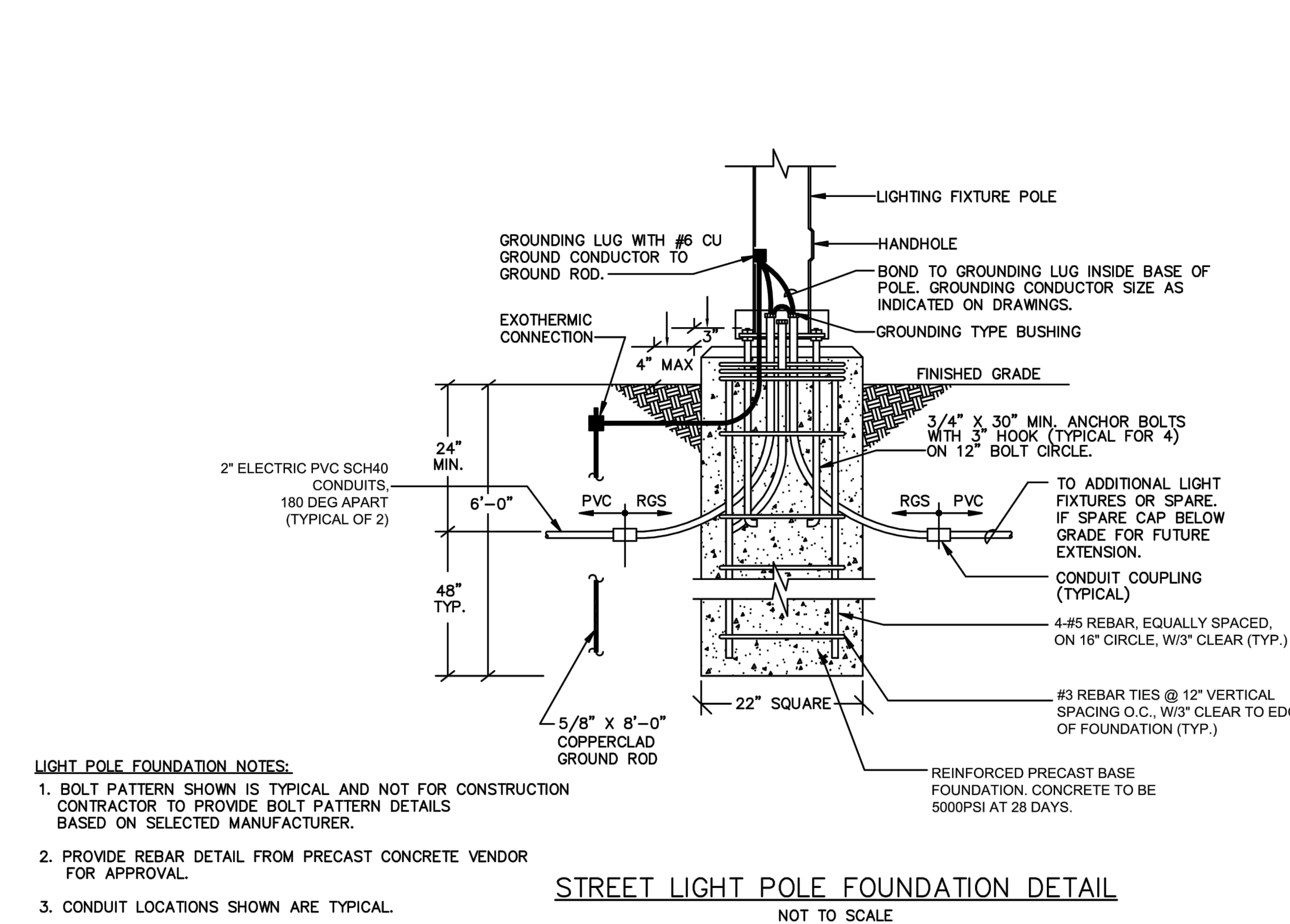
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## SECTION 13120

### PRE-ENGINEERED GREENHOUSE STRUCTURE REVISED

#### PART 1 – GENERAL

##### 1.01 SUMMARY

Contractor to furnish a prefabricated greenhouse structure. Structure to be field assembled per manufacturer's recommendations on a poured-in-place foundation pad constructed per plans and specifications.

##### 1.02 QUALITY ASSURANCE

- A. ANSI/ASCE-7-02 "Building Code Requirement for Minimum Design Loads in Buildings and Other Structures".
- B. IBC 2006, 1996 BOCA
- C. Structure fabricator must have a minimum of 10 years experience manufacturing greenhouse structures.
- D. No alternate structure designs will be allowed unless pre-approved by the Owner's Representative 10 days prior to the bid date.

##### 1.03 DESIGN REQUIREMENTS

###### A. Structure Dimensions:

Exterior – 30' x 48' x 14'-10"

Interior clearance – 9'-3"

###### B. Design Loads:

- 1. Seismic performance parameters:  $S_S = 0.180g$ ,  $S_1 = 0.066g$
- 2. Snow Load – 50 PSF



### 3. Wind Loading for Risk Category I – 114 MPH

#### 1.04 SUBMITTALS

- A. Engineered structure and footing drawings that are designed and sealed by a professional engineer, licensed to practice in the state where the project is located, shall be submitted for approval.
- B. Provide Life Safety Plan for approval by local code officials.

#### PART 2 – PRODUCTS

##### 2.01 - MANUFACTURER

- A. Ovaltech III as manufactured by Harnois Industries , 1044 Principale Street, St-Thomas, Quebec, Canada, J0K 3L0 (450) 756-1041, <https://www.harnois.com/en/> or approved equal.
- B. Structure to be provided by manufacturer with all necessary openings as specified by contractor in conformance with manufacturer's structural requirements.
- C. The manufacturer shall provide stamped engineer's drawings for approval.

##### 2.02 MATERIALS

- A. Steel:
  - a. Fifteen (15) internal steel gable arches set three feet on center. Cross-section of structural tube steel for arches shall be oval measuring 2" x 3 9/16"
  - b. Two (2) end wall steel frames and gable arches
  - c. Two (2) 30' steel anchor plates for end walls
  - d. Two (2) steel gable end stiffeners
  - e. Thirty-four (34) steel anchors for steel gable arches
- B. Polycarbonate:
  - a. Structure to be covered with PCSS double wall 8mm polycarbonate panels min. 1,700 g/m<sup>2</sup>, with UV coating on both sides.

- b. Openings for service door frames and sliding door frames to be provided by manufacturer.

C. Aluminum Sealing Tape: Tape shall be aluminum, 2 inch wide and 3.6 mils thick, with a synthetic adhesive.

## 2.03 ACCESSORIES

### A. Doors:

- a. The structure shall be equipped with a single steel frame opening and 10'x10' double sliding doors with galvanized steel framing, covered with triple-wall polycarbonate. Locking mechanism shall be provided to allow for securing of sliding doors.
- b. The structure shall be equipped with one (1) 35-1/2" x 82" steel service door with panic bar, door closer and wire glass. Seen from the outside hinges are on the right and the opening towards the outside. Door frame to be metal. Frame dimensions to be 36" x 82-1/4". Locking mechanism shall be provided for each door.

### B. Ventilation fans: four (4) HAF fans with variable speed control

- a. Fans: Power supply shall be 240V, 60Hz, maximum current requirement 0.9 A.
- b. Fans to provide 3 to 4 CFM per greenhouse floor sq. ft.
- c. Distance between fans should be 30 times fan diameter (18" diam. = 45 ft)
- d. Total fan capacity in cubic feet per minute (cfm) should equal one-fourth the greenhouse volume.
- e. Fan Controller: Shall allow for manual variable speed control.
- f. All mounting and connection hardware shall be included.

### C. Roof vent and motor:

- a. Roof vent shall be a single 48' long steel framed ridge vent panel covered with a PCSS double wall 8mm polycarbonate panel located on the south side of the structure and driven by a motor gearboxes with a self-braking worm gear transmission. Motor gearbox shall have an integrated linear limit switch system with a maximum switching range equal to 97 revolutions of the drive shaft. Power requirements shall be 240V, 60Hz.

D. Motorized shutters:

- a. Four (4) shutters to be installed in openings provided by manufacturer, two in the front face of the structure and two in the rear face of the structure.
- b. Motorized shutter shall be made entirely of aluminum and shall include a "Multi product" actuator 120 vac/0.5 amp, 60hz., motor 110V. Each blade shall seal with a rubber seal. Shutter opening shall measure 36" x 36".

E. Propane heater:

- a. Heater manufacturer shall calculate BTU's required to meet structure manufacturer's heating requirements.
- b. Heater shall have:
  - i. Stainless steel heat exchanger
  - ii. Minimum 80% thermal efficiency
  - iii. Power exhaustor able to rotate 180 degrees
  - iv. 100% shut-off if unit does not light
  - v. Intermittent pilot-ignition system with continuous retry to keep the unit from locking and needing to be reset if the unit does not light on the first try,
  - vi. Safety pressure switch to prevent flue gases from backing up in the structure.
- c. Heater shall have a vent pipe of sufficient diameter and length to exhaust fumes outside of structure.
- d. Heater power requirements shall be 115V, 60Hz.
- e. Conversion Kit: If necessary, conversion kit shall be provided per heater manufacturer's recommendations.
- f. Regulator: Regulator shall be provided per heater manufacturer's recommendations.
- g. Hose: Hose material and thickness shall meet industry standards and be long enough to connect from propane source to heater.
- h. Controls: Controller shall be provided by manufacturer of heater and shall provide sufficient heat to meet manufacturers recommendations
- i. Installation: Heater to be installed per manufacturer's recommendations using hardware recommended by manufacturer at a height recommended by the structure manufacturer.

F. Tables: Eighteen (18) 48"W x 96"L x 32"H galvanized steel table bases, frames, and mesh tops

- a. Frames: galvanized steel table frames with galvanized steel tube legs with plate bases, and galvanized steel table trays with minimum lip of 1/5" and bracing maximum 2' (two feet) on-center.
  - b. Mesh: 3/4" #13 regular galvanized expanded metal mesh cut to fit table trays.
- G. Sink: Utility sink with hot and cold taps.
- a. 36 Gallon thermoplastic tub min. 12" deep., with min. 3" rear lip.
  - b. Metal legs with integrated steel foot levers.
  - c. ABS plastic faucet with lead-free waterways
    - i. 6" min. spout height
    - ii. Hot and cold ADA compliant handles.
- H. Point of Use Hot Water Heater
- a. Water heater shall be an Eemax MiniTank model number EMT1 or approved equal. The unit shall be enameled glass lined with a single weld design. Water connections and supplied T&P valve to be located on top of the unit. Unit shall have a status indicator lights with adjustable thermostat. Unit to have a 5-year warranty against leaks. Certified to UL174.

## 2.04 FINISHES

- A. Seams: Seams between polycarbonate panels and between polycarbonate panels and door frames to be sealed with Aluminum Sealing Tape per manufacturer's recommendations.

## PART 3 – EXECUTION

### 3.01 SITE PREPARATION REQUIREMENTS

- A. Poured-in-place concrete foundation to be constructed per drawings.
- B. Provide drainage for the poured-in-place concrete foundation as shown in drawings.

### 3.02 PRODUCT ASSEMBLY

- A. Structure shall be positioned on poured-in-place concrete foundation per layout plan and anchored per manufacturer's recommendations.
- B. Structure components to be fastened together using fasteners recommended by manufacturer at connection points specified by manufacturer.
- C. All utilities shall be connected per state and international building codes, with inspections per city requirements.

END OF SECTION