

**PROJECT INFORMATION**

**LAND INFORMATION**

MAP PARCEL: 04-015/2A,3,3A,4,5,7,13,14,15,16,23,17+24; 04-14-2A+3B  
 DEED BOOK/PAGE: VARIOUS  
 PROPOSED FRONTAGE: 303.76 FT  
 PROPOSED AREA: 5.79 ACRES±

**ZONING INFORMATION**

ZONING DISTRICT: BUSINESS, GENERAL (BG-3.0)  
 COMMERCIAL CORRIDORS OVERLAY DISTRICT ELSEWHERE (CCOD-E)  
 DOWNTOWN/BLACKSTONE CANAL SIGN OVERLAY DISTRICT (DSOD)  
 DIMENSIONAL REQUIREMENTS: REQUIRED

MINIMUM AREA: 5,000 SF 3.89 AC  
 MINIMUM FRONTAGE: 40 FEET/UNIT (MAX 200') 303.76 FT  
 MAXIMUM HEIGHT: 100 FEET 55.17 FT  
 MINIMUM SETBACKS:  
 FRONT YARD: N/A 5.50 FT  
 SIDE YARD: N/A N/A  
 REAR YARD: N/A 10 FT  
 FLOOR AREA RATIO: 3:1 (BUILDING:LAND) 1.9:1

**GENERAL NOTES:**

- PROPERTY LINE INFORMATION BASED DEEDS AND PLANS OF RECORD. NO CERTIFICATION OF PROPERTY LINES SHOWN ON THIS PLAN IS INTENDED OR IMPLIED BY HANNIGAN ENGINEERING, INC. TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ON-THE-GROUND TOPOGRAPHIC SURVEY BY HANNIGAN ENGINEERING, INC. IN SEPTEMBER OF 2021.
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**MULTI-FAMILY RESIDENTIAL CCOD-E DISTRICT**  
 PER ZONING ORDINANCE  
 1 SPACE PER UNIT  
 364 UNITS X 1 SPACE = 364 SPACES  
 1 SPACE PER 10 UNITS (GUEST)  
 364 UNITS / 10 UNITS = 36.4 SPACES  
**TOTAL SPACES REQUIRED=401 SPACES REQUIRED**

**TOTAL PROVIDED**  
**TOTAL SURFACE PARKING = 342**  
**TOTAL PARKING REDUCTION = -59 SPACES (14.6%)**

**COMPACT SPARKING SPACE CALCULATION**  
 342 SPACES x 25% = 85 SPACES BY RIGHT  
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**MISCELLANEOUS PARKING COUNT:**  
 54 ELECTRIC VEHICLE CAPABLE SPACES  
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**APPLICANT:**  
 GOVENTURE CAPITAL GROUP, LLC  
 10 E. WORCESTER STREET, SUITE 3A  
 WORCESTER, MASSACHUSETTS 01605

**DEFINITIVE SITE PLAN**

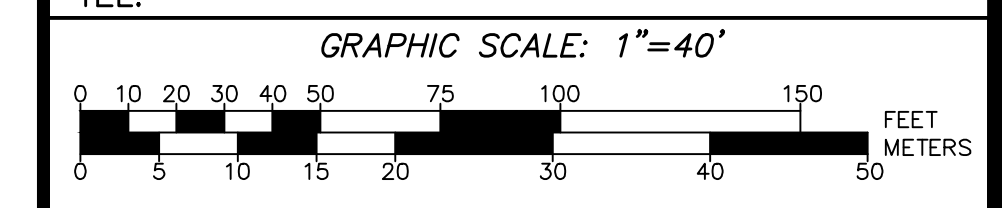
NO.	DATE	REVISIONS	BY
10	12/22/2023	PERMITTING/CITY COMMENT	CMA
9	11/1/2023	PERMITTING/CITY COMMENT	CMA
8	6/22/2023	LAYOUT REVISIONS	CMA
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**HANNIGAN ENGINEERING, INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS

8 Monument Square  
 Leominster, Massachusetts 01453  
 (978) 534-1234 (T)  
 (978) 534-6060 (F)  
 www.hanniganengineering.com

**SITE DEVELOPMENT PLAN**  
 IN  
**WORCESTER, MASSACHUSETTS**

PREPARED FOR:  
 GOVENTURE CAPITAL GROUP, LLC.  
 BRENDAN GOVE  
 10 E. WORCESTER ST.  
 WORCESTER, MASSACHUSETTS 01604  
 TEL:

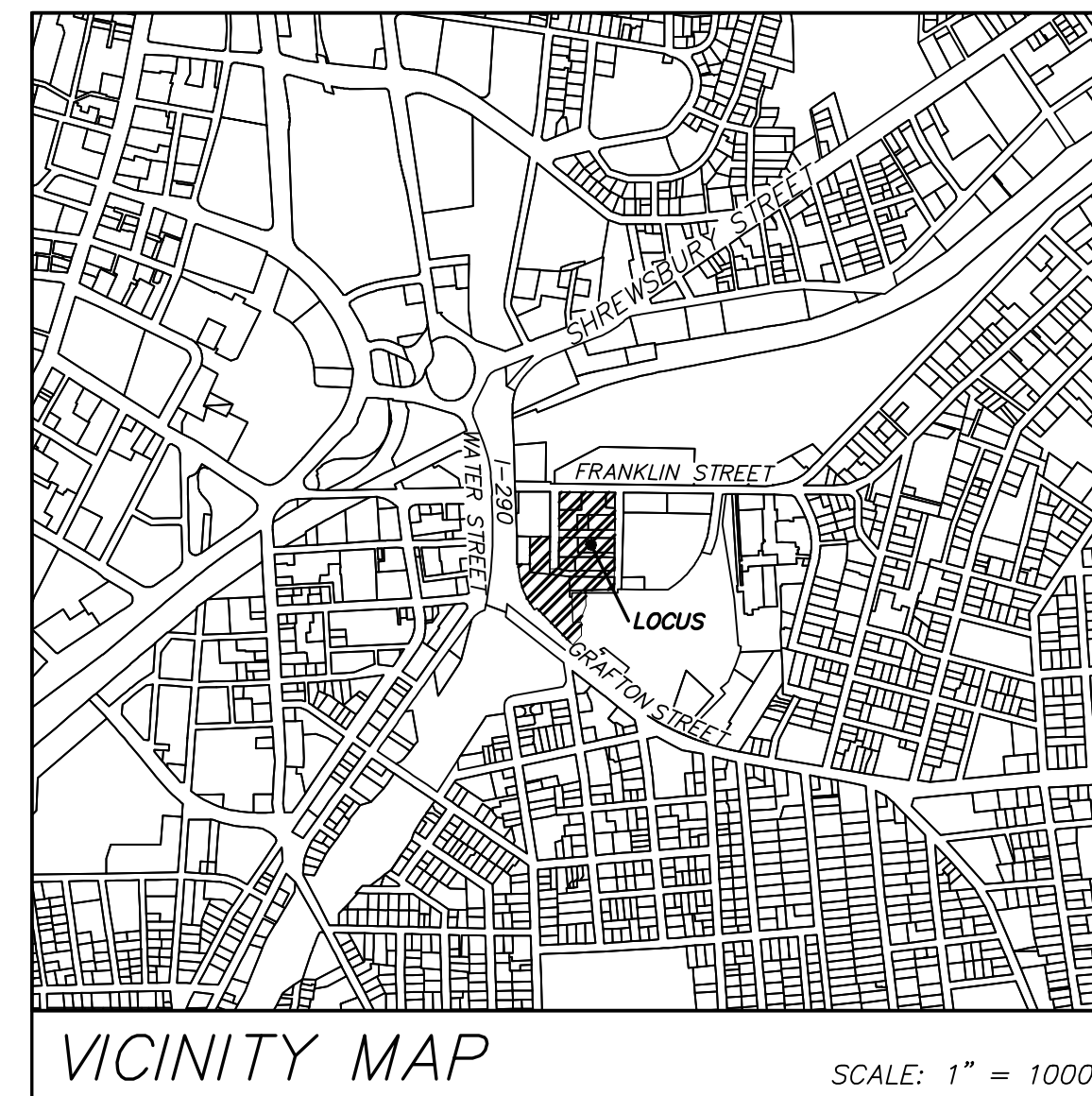


CALC: CMA/WDH DRWN: CMA/WDH SCALE: 1"=40'  
 CHKD: WDH APPD: WDH DATE: NOV 12, 2021  
 SRV: JHG FB: 71-144 JOB NO: 3030  
 TAB: (3) SDP SHEET 3 OF 13 PLAN NO: C-18-9

**LEGEND**

342	CONTOURS	560
—	PROPERTY LINES	—
—	SEWER	—
—	DRAIN	—
—	WATER	—
—	GAS	—
—	ETC	—
—	ELEC/TELE/CABLE	—
—	EDGE OF PAVEMENT	—
—	BITUMINOUS CURB	—
—	GUARDRAIL	—
—	EROSION CONTROL	—
—	FIRE SERVICE	—
—	SEWER MANHOLE (SMH)	—
—	DRAIN MANHOLE (DMH)	—
—	CATCH BASIN (DCB)	—
—	SIGN	—
—	UTILITY POLE	—
—	LIGHT POLE	—
—	WATER SHUT OFF	—
—	WATER VALVE	—
—	GAS VALVE	—
—	HYDRANT	—

**DEFINITIVE SITE DEVELOPMENT  
RESIDENTIAL APARTMENT COMPLEX  
FRANKLIN STREET  
IN  
WORCESTER, MASSACHUSETTS  
NOVEMBER 12, 2021  
REVISIONS THROUGH OCTOBER 3, 2024**



**APPLICANT:**

GOVENTURE CAPITAL GROUP, LLC  
BRENDON GOVE  
10 E. WORCESTER STREET, SUITE 3A  
WORCESTER, MASSACHUSETTS 01605  
TEL: (784) 234-9008

**CIVIL ENGINEER & LAND SURVEYOR:**

HANNIGAN ENGINEERING, INC.  
8 MONUMENT SQUARE  
LEOMINSTER, MASSACHUSETTS 01453  
TEL: (978) 534-1234

**PLAN INDEX**

SHEET 1	EXISTING CONDITIONS PLAN
SHEET 2	SITE DEMOLITION PLAN
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SHEET 4	SITE UTILITY PLAN
SHEET 5	SITE GRADING PLAN
SHEET 6	LANDSCAPE AND LAYOUT DIAGRAM
SHEET 7	LIGHTING DIAGRAM
SHEET 6-11	CONSTRUCTION DETAILS

PERMITTING SET - NOT FOR CONSTRUCTION

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**VICINITY MAP** SCALE: 1"=1,000'

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 10 E. WORCESTER STREET, SUITE 3A  
 WORCESTER, MASSACHUSETTS 01605

**DEFINITIVE SITE PLAN**

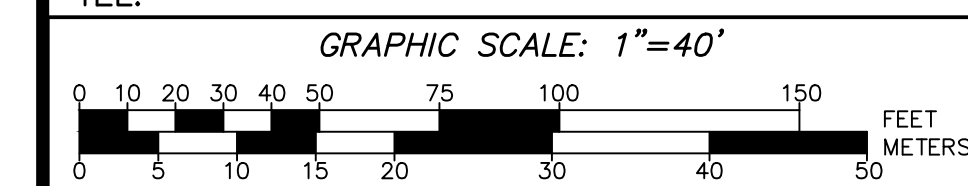
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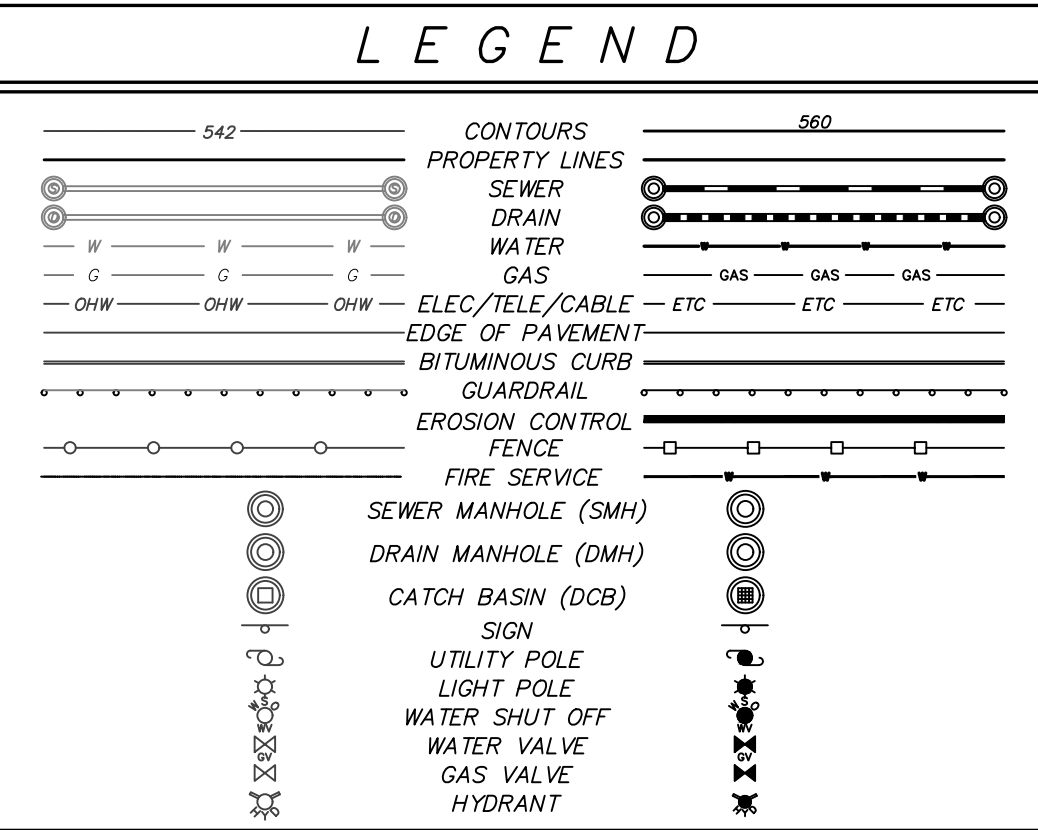
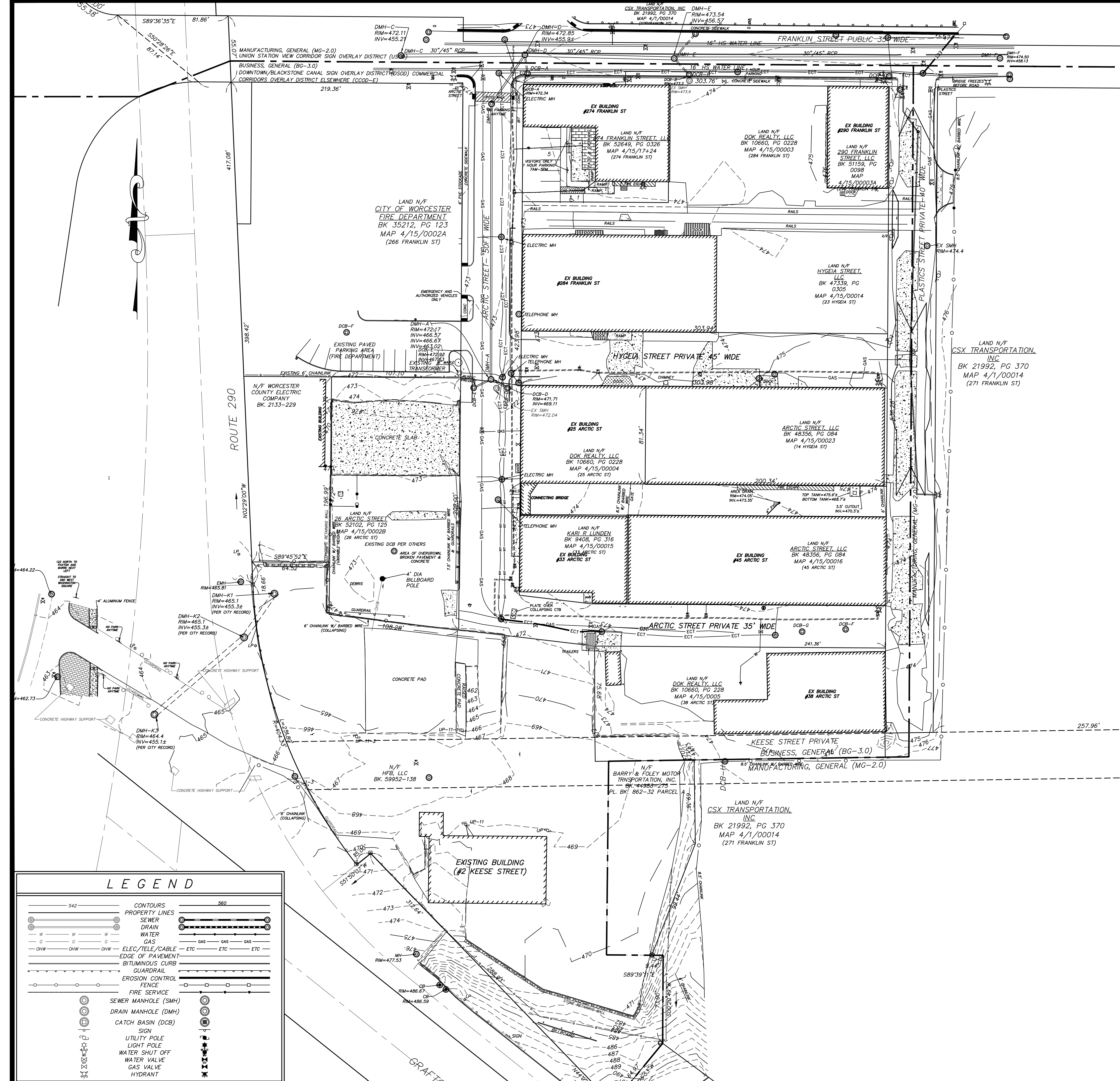
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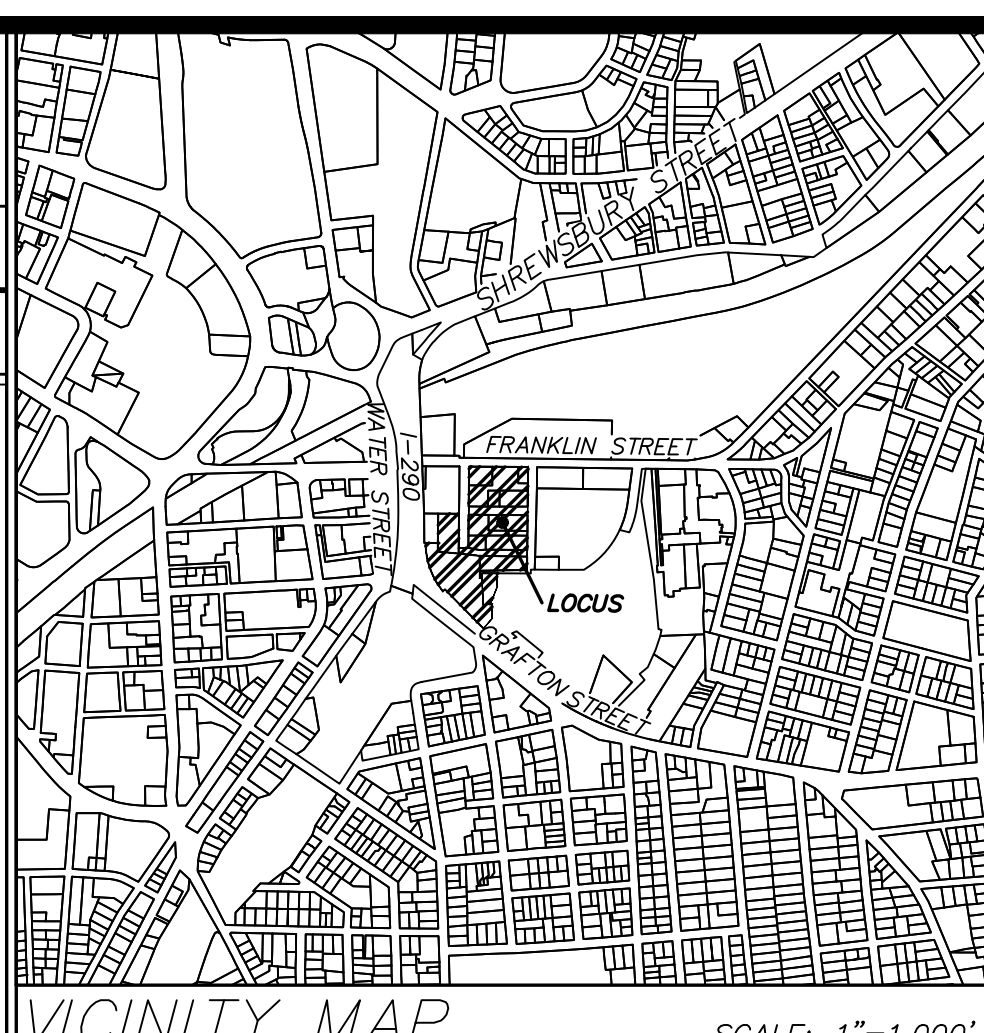
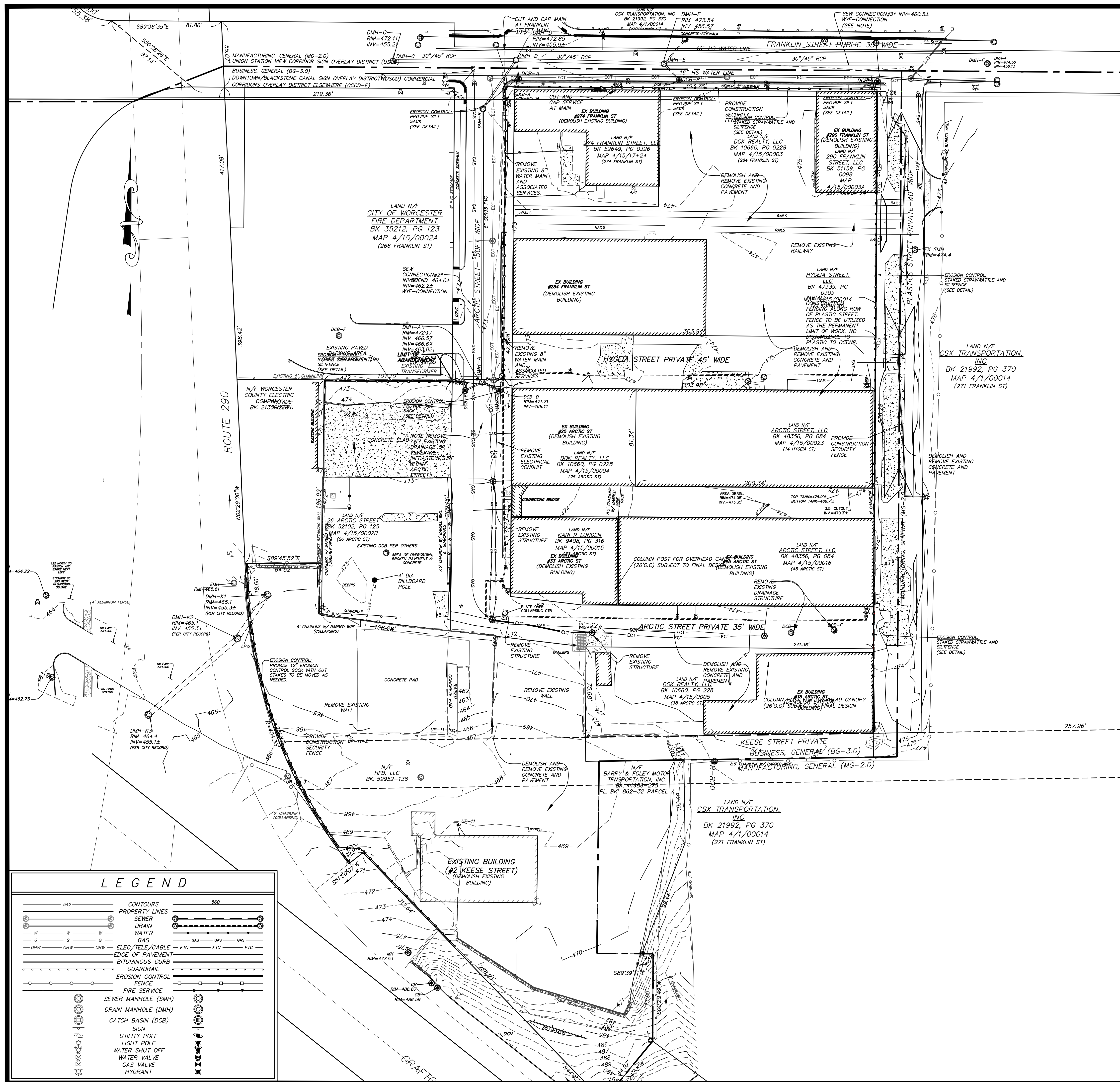
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 IN  
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PREPARED FOR:  
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 BRENDAN GOVE  
 10 E. WORCESTER ST.  
 WORCESTER, MASSACHUSETTS 01604  
 TEL:



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TAB: (1) EXCOND	SHEET 1 OF 13	PLAN NO: C-18-9





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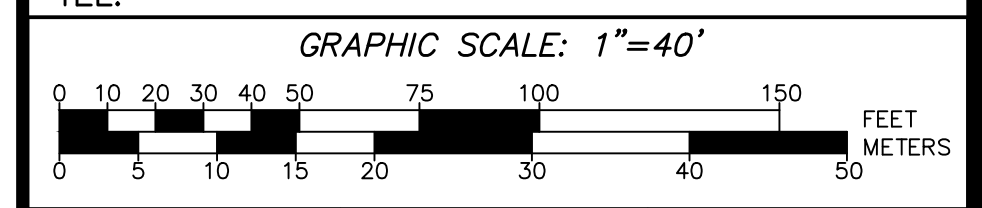
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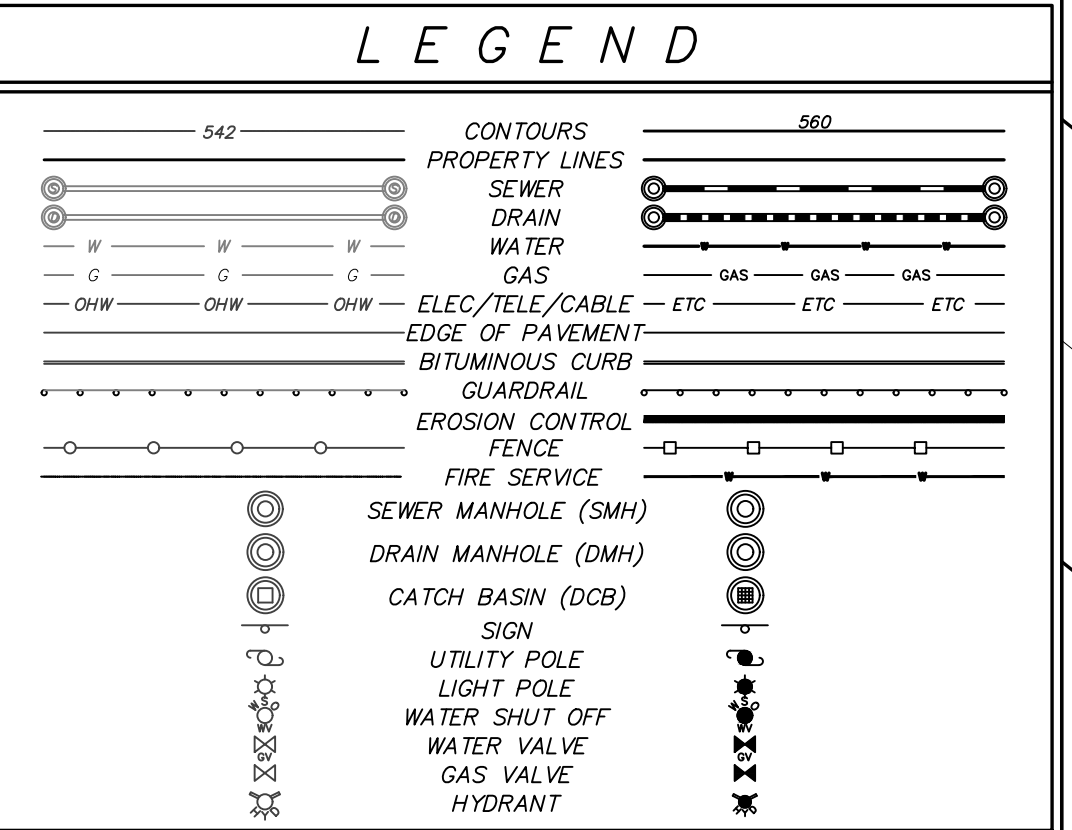
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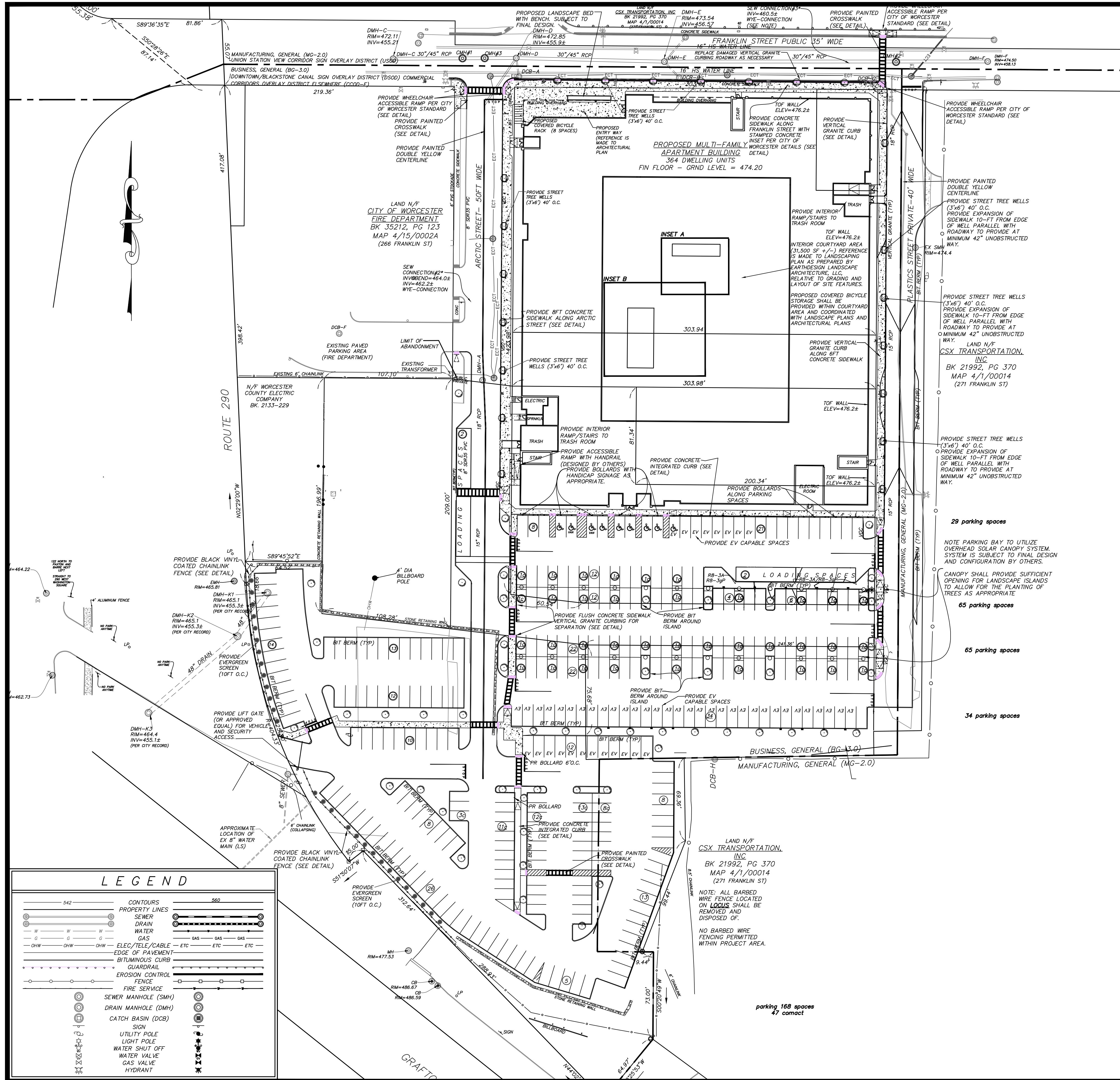
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PREPARED FOR:  
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**FLOOR AREA RATIO:** 3:1 (BUILDING:LAND) 1.9:1

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- PROPERTY LINE INFORMATION BASED DEEDS AND PLANS OF RECORD. NO CERTIFICATION OF PROPERTY LINES SHOWN ON THIS PLAN IS INTENDED OR IMPLIED BY HANNIGAN ENGINEERING, INC. TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ON-THE-GROUND TOPOGRAPHIC SURVEY BY HANNIGAN ENGINEERING, INC. IN SEPTEMBER OF 2021.
  - LOCATION OF ALL UTILITIES ARE APPROXIMATE AS SHOWN AND BASED UPON VISIBLE STRUCTURES AT THE TIME OF THE FIELD SURVEY. LOCATION OF EXISTING UTILITIES AND SUBSURFACE STRUCTURES, WHETHER OR NOT SHOWN ON THESE PLANS, SHALL BE DETERMINED BY THE CONTRACTOR, MARKED IN THE FIELD, AND REVIEWED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL BE AWARE OF THE OBLIGATION TO ALL UTILITY COMPANIES AND AGENCY AS WELL AS DIG-SAFE PRIOR TO EXCAVATION (SEE NOTE).
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  - UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY OF WORCESTER AND THE MASS DOT SPECIFICATIONS OF HIGHWAYS AND BRIDGES.
  - ALL SLOPES UNLESS OTHERWISE SPECIFIED, SHALL BE LOADED AND SEDED FOR STABILIZATION.
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  - PLANS TO BE REVIEWED BY APPLICABLE UTILITY AGENCIES FOR COMPLIANCE WITH REGULATIONS. FINAL LOCATION IS SUBJECT TO CHANGE.
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  - AREAS OF FILL TO BE COMPACTED TO A MINIMUM 95% DRY DENSITY IN AREAS WITHIN ROADWAYS AND UTILITY EASEMENTS. OTHER AREAS OF FILL TO BE COMPACTED TO A MINIMUM 90% DRY DENSITY. ALL FILL MATERIALS ARE TO BE CLEAN FILL, FREE OF DELETERIOUS MATERIALS AND DEBRIS.
  - ALL SIDEWALKS AND RAMPS TO CONFORM TO REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), AS REQUIRED. SEE ARCHITECTURAL PLANS FOR CONFORMANCE REQUIREMENTS FOR PROPOSED BUILDINGS.
  - THE AREA PROPOSED FOR DEVELOPMENT IS NOT WITHIN A 100 YEAR FLOOD PLAIN PER F.E.M.A. FIRM PANEL #25027C-0618 E, DATED: JULY 4, 2011. COMPLIANCE WITH APPLICABLE REGULATIONS IS REQUIRED.
  - ALL REINFORCED CONCRETE PIPE TO BE CLASS III UNLESS OTHERWISE NOTED.
  - PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
  - ALL UTILITIES ARE TO BE INSTALLED BY A LICENSED UTILITY CONTRACTOR LICENSED BY THE CITY OF WORCESTER.

**DEFINITIVE SITE PLAN**

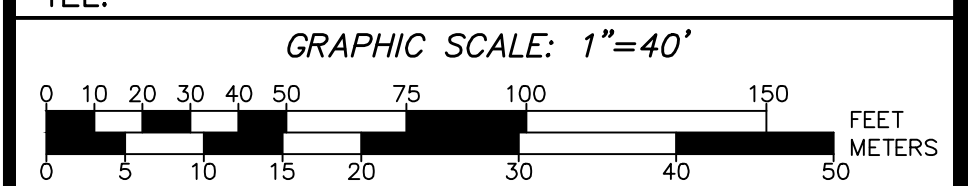
NO.	DATE	REVISIONS	BY
10	12/22/2023	PERMITTING/CITY COMMENT	CMA
9	11/1/2023	PERMITTING/CITY COMMENT	CMA
8	6/22/2023	LAYOUT REVISIONS	CMA
7	6/7/2023	LAYOUT REVISIONS	CMA
6	5/4/2023	LAYOUT REVISIONS	CMA

**HANNIGAN ENGINEERING, INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS

8 MONUMENT SQUARE (978) 534-1234 (T)  
 LEOMINSTER, MASSACHUSETTS 01453 (978) 534-6060 (F)  
 WWW.HANNIGANENGINEERING.COM

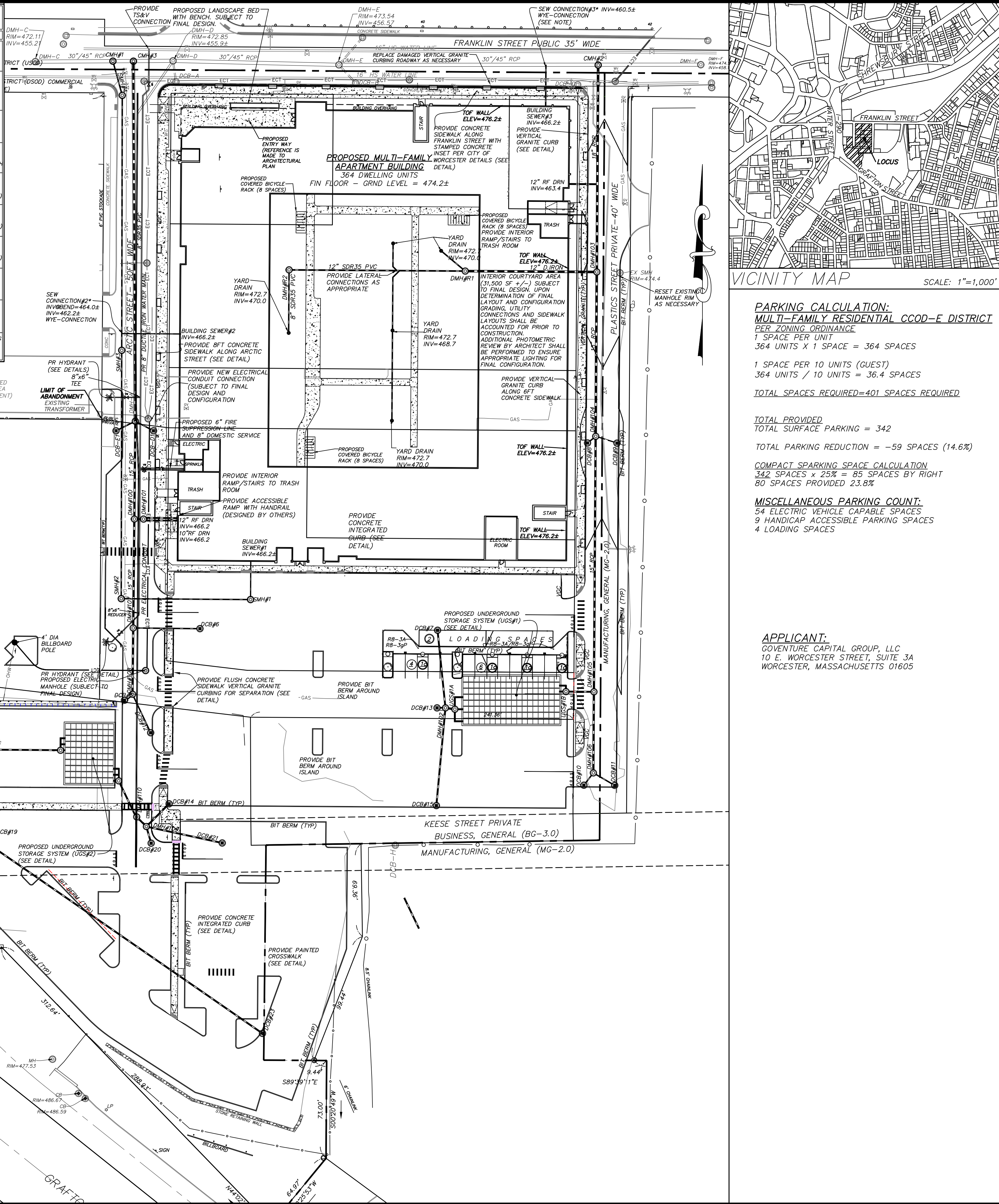
**SITE DEVELOPMENT PLAN**  
 IN  
**WORCESTER, MASSACHUSETTS**

PREPARED FOR:  
 GOVENTURE CAPITAL GROUP, LLC.  
 BRENDAN GOVE  
 10 E. WORCESTER ST.  
 WORCESTER, MASSACHUSETTS 01604  
 TEL:



CALC: CMA/WDH DRWN: CMA/WDH SCALE: 1"=40'  
 CHKD: WDH APPD: WDH DATE: NOV 12, 2021  
 SRV: JHG FB: 71-144 JOB NO: 3030  
 TAB: (3) SDP SHEET 3 OF 13 PLAN NO: C-18-9

SCHEDULE OF DRAINAGE STRUCTURES & ELEVATIONS			SCHEDULE OF DRAINAGE STRUCTURES & ELEVATIONS			SCHEDULE OF SEWAGE STRUCTURES & ELEVATIONS		
FROM	PIPE	TO	FROM	PIPE	TO	FROM	PIPE	TO
DCB#1 RM=472.44 INV=469.14 SUMP=465.14	8" C900 PVC L=5.0 FT S=0.033F/F	DMH#2 (WOU) RM=473.34 INV=468.04 (DCB#3) INV=467.04 (DCB#1) INV=466.75 (OUT) HYDROWORKS HS4	DMH#1 RM=473.34 L=39 FT S=0.011F/F	DMH#2 (WOU) RM=473.14 INV=468.04 (DCB#3) INV=467.04 (DCB#1) INV=466.75 (OUT) HYDROWORKS HS4	DMH#3 RM=472.84 L=44 FT S=0.013F/F	SMH#1 RM=472.94 L=39 FT S=0.011F/F	8" SDR35 PVC L=180 FT S=0.010F/F	SMH#2 RM=472.84 L=39 FT S=0.011F/F



### PROJECT INFORMATION

**LAND INFORMATION**  
 MAP PARCEL: 04-015/2A,3A,4,5,7,13,14,15,16,23,17+24; 04-14-2A+3B  
 DEED BOOK/PAGE: VARIOUS  
 PROPOSED FRONTAGE: 303.76 FT  
 PROPOSED AREA: 5.79 ACRES±

**ZONING INFORMATION**  
 ZONING DISTRICT: BUSINESS, GENERAL (BG-3.0)  
 COMMERCIAL CORRIDORS OVERLAY DISTRICT ELSEWHERE (CCOD-E)  
 DOWNTOWN/BLACKSTONE CANAL SIGN OVERLAY DISTRICT (DOSD)  
 DIMENSIONAL REQUIREMENTS - REQUIRED

**GENERAL NOTES:**

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**PARKING CALCULATION:**  
**MULTI-FAMILY RESIDENTIAL CCOD-E DISTRICT**  
 PER ZONING ORDINANCE  
 1 SPACE PER UNIT  
 364 UNITS X 1 SPACE = 364 SPACES

1 SPACE PER 10 UNITS (GUEST)  
 364 UNITS / 10 UNITS = 36.4 SPACES

**TOTAL SPACES REQUIRED=401 SPACES REQUIRED**

TOTAL PROVIDED  
 TOTAL SURFACE PARKING = 342

TOTAL PARKING REDUCTION = -59 SPACES (14.6%)

**COMPACT SPARKING SPACE CALCULATION**  
 342 SPACES X 25% = 85 SPACES BY RIGHT  
 80 SPACES PROVIDED 23.8%

**MISCELLANEOUS PARKING COUNT:**  
 54 ELECTRIC VEHICLE CAPABLE SPACES  
 9 HANDICAP ACCESSIBLE PARKING SPACES  
 4 LOADING SPACES

**APPLICANT:**  
 GOVENTURE CAPITAL GROUP, LLC  
 10 E. WORCESTER STREET, SUITE 3A  
 WORCESTER, MASSACHUSETTS 01605

### DEFINITIVE SITE PLAN

NO.	DATE	REVISIONS	BY
7	6/7/2023	LAYOUT REVISIONS	CMA
6	5/4/2023	LAYOUT REVISIONS	CMA
5	1/6/23	CITY DEPARTMENT COMMENT	CMA
4	12/15/22	CITY DEPARTMENT COMMENT	CMA
3	9/27/22	BUILDING/LAYOUT REVISIONS	CMA

### HANNIGAN ENGINEERING, INC.

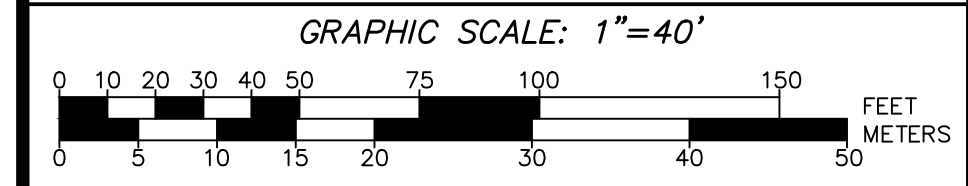
CIVIL ENGINEERS & LAND SURVEYORS

8 MONUMENT SQUARE (978) 534-1234 (F)  
 LEOMINSTER, MASSACHUSETTS 01453 (978) 534-6060 (M)  
 WWW.HANNIGANENGINEERING.COM

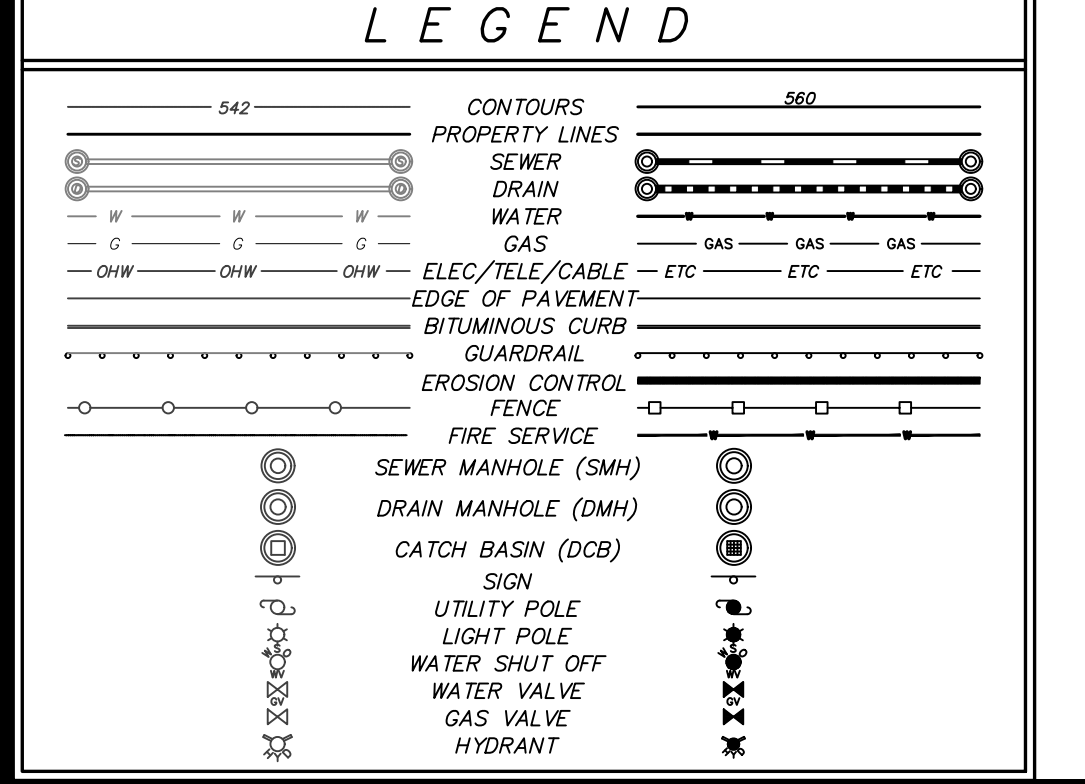
### SITE UTILITY PLAN

IN  
 WORCESTER, MASSACHUSETTS

PREPARED FOR:  
 GOVENTURE CAPITAL GROUP, LLC.  
 BRENDAN GOVE  
 10 E. WORCESTER ST.  
 WORCESTER, MASSACHUSETTS 01604  
 TEL:



CALC:	CMA/WDH	DRWN:	CMA/WDH	SCALE:	1"=40'
CHKD:	WDH	APPD:	WDH	DATE:	NOV 12, 2021
SRV:	JHG	FB:	71-144	JOB NO:	3030
TAB:	(4) UTIL	SHEET:	4 OF 13	PLAN NO:	00-18-9



# PROJECT INFORMATION

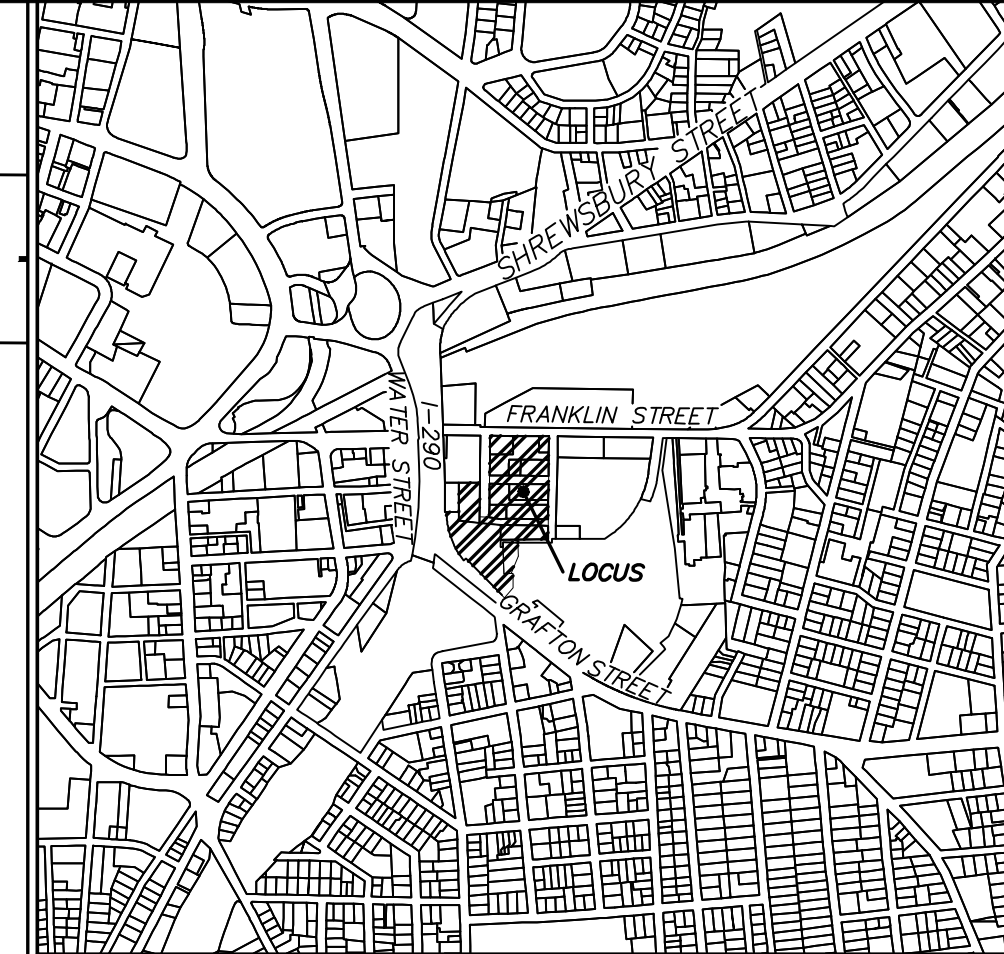
**LAND INFORMATION**  
 MAP PARCEL: 04-015/2A,3,3A,4,5,7,13,14,15,16,23,17+24; 04-14-2A+3B  
 DEED BOOK/PAGE: VARIOUS  
 PROPOSED FRONTAGE: 303.76 FT  
 PROPOSED AREA: 5.79 ACRES±

**ZONING INFORMATION**  
 ZONING DISTRICT: BUSINESS, GENERAL (BG-3.0)  
 COMMERCIAL CORRIDORS OVERLAY DISTRICT ELSEWHERE (CCOD-E)  
 DOWNTOWN/BLACKSTONE CANAL SIGN OVERLAY DISTRICT (DSOD) (PROVIDE)  
 DIMENSIONAL REQUIREMENTS: REQUIRED

**MINIMUM AREA:** 5,000 SF  
**MINIMUM FRONTAGE:** 40 FEET/UNIT (MAX 200') 303.76 FT  
**MAXIMUM HEIGHT:** 100 FEET 55.17 FT  
**MINIMUM SETBACKS:**  
 FRONT YARD: N/A 5.50 FT  
 REAR YARD: 5-FT (GROUND FLOOR RESIDENCE) 5.50 FT  
 SIDE YARD: N/A NA  
 FLOOR AREA RATIO: 3:1 (BUILDING:LAND) 1.9:1

**GENERAL NOTES:**

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VICINITY MAP SCALE: 1"=100'

**PARKING CALCULATION:**  
**MULTI-FAMILY RESIDENTIAL CCOD-E DISTRICT**  
 PER ZONING ORDINANCE  
 1 SPACE PER UNIT  
 364 UNITS X 1 SPACE = 364 SPACES

1 SPACE PER 10 UNITS (GUEST)  
 364 UNITS / 10 UNITS = 36.4 SPACES

**TOTAL SPACES REQUIRED=401 SPACES REQUIRED**

**TOTAL PROVIDED**  
 TOTAL SURFACE PARKING = 392  
**TOTAL SPACES PROVIDED = 392 SPACES**

**BICYCLE SPACE REDUCTION**  
 EXTERIOR PROVIDED BICYCLE SPACES = 24 SPACES  
 REDUCTION ALLOWED = 24 SPACES / 2 = 12 SPACES  
 REDUCTION ALLOWED = 10 SPACES (10 SPACES MAX)

**CUMULATIVE PARKING COUNT**  
 VEHICLE PARKING = 392 SPACES  
 BICYCLE REDUCED SPACES = 10 SPACES  
**TOTAL PARKING PROVIDED = 402 SPACES**

**COMPACT SPARKING SPACE CALCULATION**  
 396 SPACES x 25% = 99 SPACES BY RIGHT  
 97 SPACES PROVIDED (24.7% COMPACT)

**MISCELLANEOUS PARKING COUNT:**  
 60 ELECTRIC VEHICLE CAPABLE SPACES  
 9 HANDICAP ACCESSIBLE PARKING SPACES  
 4 LOADING SPACES

**APPLICANT:**  
 GOVENTURE CAPITAL GROUP, LLC  
 10 E. WORCESTER STREET, SUITE 3A  
 WORCESTER, MASSACHUSETTS 01605

## DEFINITIVE SITE PLAN

NO.	DATE	REVISIONS	BY
7	6/7/2023	LAYOUT REVISIONS	CMA
6	5/4/2023	LAYOUT REVISIONS	CMA
5	1/6/23	CITY DEPARTMENT COMMENT	CMA
4	12/15/22	CITY DEPARTMENT COMMENT	CMA
3	9/27/22	BUILDING/LAYOUT REVISIONS	CMA

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CIVIL ENGINEERS & LAND SURVEYORS

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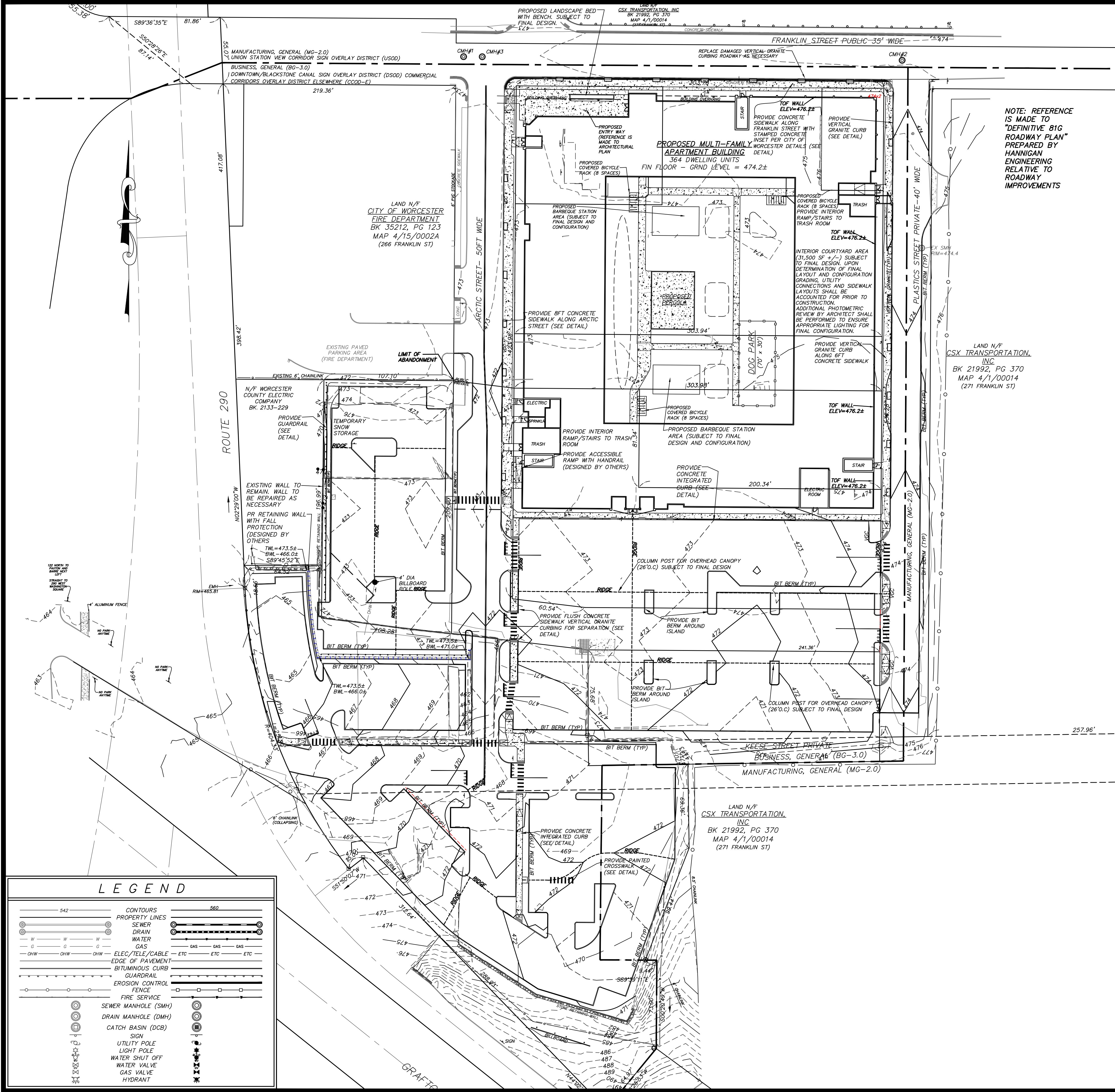
## SITE GRADING PLAN

IN  
 WORCESTER, MASSACHUSETTS

PREPARED FOR:  
 GOVENTURE CAPITAL GROUP, LLC.  
 BRENDAN GOVE  
 10 E. WORCESTER ST.  
 WORCESTER, MASSACHUSETTS 01604

TEL:  
 GRAPHIC SCALE: 1"=40'

CALC: CMA/WDH	DRWN: CMA/WDH	SCALE: 1"=40'
CHKD: WDH	APPD: WDH	DATE: NOV 12, 2021
SRV: JHG	FB: 71-144	JOB NO: 3030
TAB: (5) GRAD	SHEET 5 OF 13	PLAN NO: C-18-9



NOTE: REFERENCE IS MADE TO "DEFINITIVE 81G ROADWAY PLAN" PREPARED BY HANNIGAN ENGINEERING RELATIVE TO ROADWAY IMPROVEMENTS

LAND N/F CSX TRANSPORTATION, INC. BK 21992, PG 370 MAP 4/1/00014 (271 FRANKLIN ST)

LAND N/F CSX TRANSPORTATION, INC. BK 21992, PG 370 MAP 4/1/00014 (271 FRANKLIN ST)

**PROJECT INFORMATION**

**LAND INFORMATION**  
 MAP PARCEL: 04-015/2A,3,3A,4,5,7,13,14,15,16,23,17+24; 04-14-2A+3B  
 DEED BOOK/PAGE: VARIUS  
 PROPOSED FRONTAGE: 303.76 FT  
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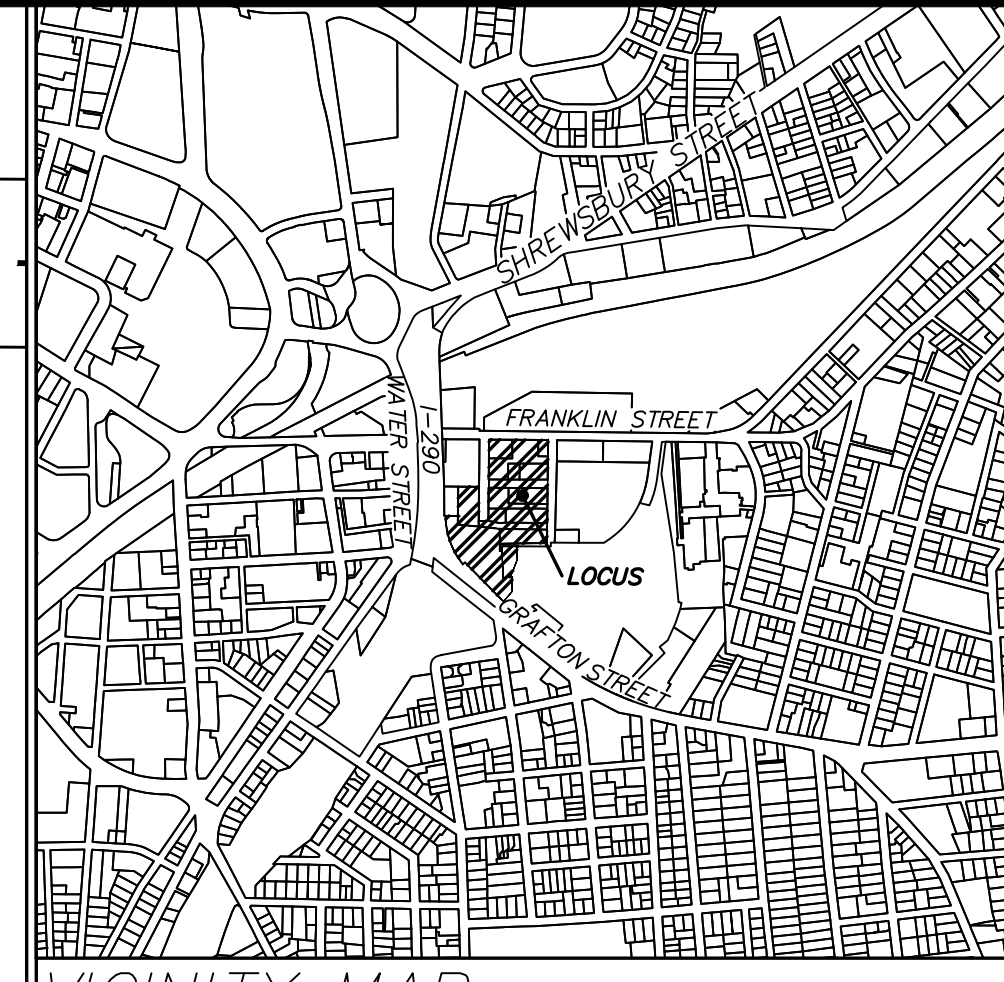
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 COMMERCIAL CORRIDORS OVERLAY DISTRICT ELSEWHERE (CCOD-E)  
 DOWNTOWN/BLACKSTONE CANAL SIGN OVERLAY DISTRICT (DSOD) PROVIDED

**DIMENSIONAL REQUIREMENTS - REQUIRED**

MINIMUM AREA:	5,000 SF	3.89 AC
MINIMUM FRONTAGE:	40 FEET/JUNT (MAX 200')	303.76 FT
MINIMUM HEIGHT:	100 FEET	55.17 FT
MINIMUM SETBACKS:		
FRONT YARD:	N/A	5.50 FT
REAR YARD:	5-FT (GROUND FLOOR RESIDENCE)	5.50 FT
SIDE YARD:	N/A	NA
REAR YARD:	10 FT	NA
FLOOR AREA RATIO:	3:1 (BUILDING:LAND)	1.9:1

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- ALL REINFORCED CONCRETE PIPE TO BE CLASS III UNLESS OTHERWISE NOTED.
- PRE-CONSTRUCTION CONSTRUCTION SHALL BE HELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- ALL UTILITIES ARE TO BE INSTALLED BY A LICENSED UTILITY CONTRACTOR LICENSED BY THE CITY OF WORCESTER.



VICINITY MAP SCALE: 1"=100'

**PARKING CALCULATION:**  
**MULTI-FAMILY RESIDENTIAL CCOD-E DISTRICT**  
 PER ZONING ORDINANCE  
 1 SPACE PER UNIT  
 364 UNITS x 1 SPACE = 364 SPACES  
 1 SPACE PER 10 UNITS (GUEST)  
 364 UNITS / 10 UNITS = 36.4 SPACES  
**TOTAL SPACES REQUIRED=401 SPACES REQUIRED**  
**TOTAL PROVIDED**  
 TOTAL SURFACE PARKING = 392  
**TOTAL SPACES PROVIDED = 392 SPACES**

**BICYCLE SPACE REDUCTION**  
 EXTERIOR PROVIDED BICYCLE SPACES = 24 SPACES  
 REDUCTION ALLOWED = 24 SPACES / 2 = 12 SPACES  
 REDUCTION ALLOWED = 10 SPACES (10 SPACES MAX)

**CUMULATIVE PARKING COUNT**  
 VEHICLE PARKING = 392 SPACES  
 BICYCLE REDUCED SPACES = 10 SPACES  
**TOTAL PARKING PROVIDED = 402 SPACES**

**COMPACT SPARKING SPACE CALCULATION**  
 392 SPACES x 25% = 99 SPACES BY RIGHT  
 97 SPACES PROVIDED (24.7% COMPACT)

**MISCELLANEOUS PARKING COUNT:**  
 60 ELECTRIC VEHICLE CAPABLE SPACES  
 9 HANDICAP ACCESSIBLE PARKING SPACES  
 4 LOADING SPACES

**APPLICANT:**  
 GOVENTURE CAPITAL GROUP, LLC  
 10 E. WORCESTER STREET, SUITE 3A  
 WORCESTER, MASSACHUSETTS 01605

**PLANTING LEGEND**  
 PROPOSED TREE 78  
 PROPOSED TREES TO BE PLANTED SHALL BE A MIX OF THE FOLLOWING SPECIES:  
 HAWTHORNE  
 SERVICEBERRY  
 HONEY LOCUST  
 CALLERY PEAR  
 (TREES TO BE PLANTED SHALL HAVE TRUNKS AT LEAST 3 TO 3-1/2" IN DIAMETER WHEN MEASURED SIX INCHES ABOVE THE GROUND)

PROPOSED SHRUBS  
 PROPOSED SHRUBS TO BE PLANTED SHALL BE A MIX OF THE FOLLOWING SPECIES:  
 HICKSII OR HATFIELD YEW  
 PURPLE LEAFED SAND CHERRY  
 JAPANESE HOLLY  
 (SHRUBS SHALL BE NO TALLER THAN (4) FEET HIGH)

**LANDSCAPING NOTES:**

- LANDSCAPING OF AREAS SHOULD OCCUR AS SOON AS POSSIBLE
- IF THE SEASON OR ADVERSE WEATHER CONDITIONS DO NOT PERMIT THE ESTABLISHMENT OF VEGETATION, TEMPORARY HAY MULCH, OR OTHER MEANS OF STABILIZATION SHALL BE PERFORMED.
- THE USE OF HERBICIDES MAY BE SUBJECT TO LOCAL OR STATE REGULATIONS
- CARE SHOULD BE TAKEN WITH FERTILIZERS SUCH THAT THEY ARE NOT CARRIED TO A WETLAND OR SENSITIVE AREA
- TRUNKS OF TREES SHOULD NOT BE COVERED WITH MORE THAN TWO (2) INCHES OF SOIL.
- STUMPS SHALL BE GROUND DOWN INTO A WOOD MULCH AND UTILIZED OR REMOVED FROM THE SITE.
- AREAS TO BE LOAMED AND SEEDED WITH APPROPRIATE GRASS SEED UNLESS OTHERWISE NOTED.

**LIGHTING NOTE:**  
 PROPOSED LIGHTING DEPICTED IN A GENERAL MANNER. FINAL LOCATION OF LIGHTING TO BE DETERMINED PRIOR TO CONSTRUCTION AND TO CONFORM WITH THE CITY OF WORCESTER ZONING ORDINANCE SECTION 7.B.2(b).

**DEFINITIVE SITE PLAN**

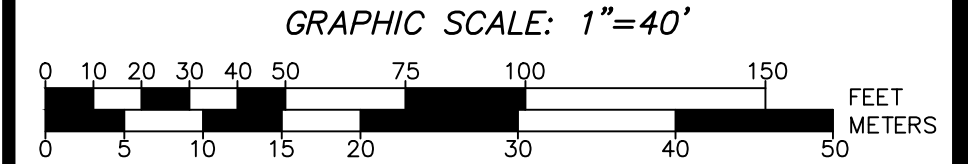
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7	6/7/2023	LAYOUT REVISIONS	CMA
6	5/4/2023	LAYOUT REVISIONS	CMA
5	1/6/23	CITY DEPARTMENT COMMENT	CMA
4	12/15/22	CITY DEPARTMENT COMMENT	CMA
3	9/27/22	BUILDING/LAYOUT REVISIONS	CMA

**HANNIGAN ENGINEERING, INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS

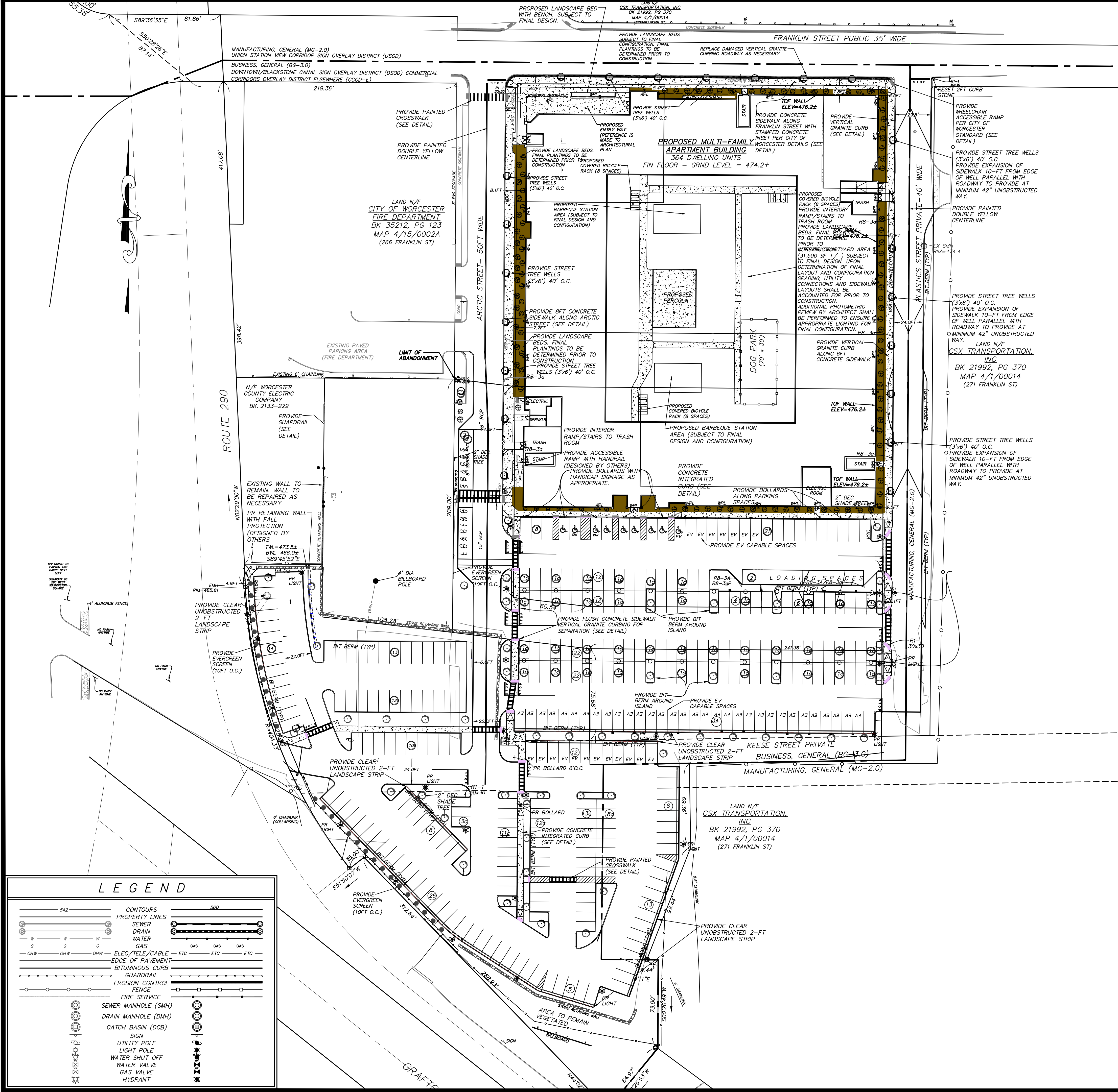
8 MONUMENT SQUARE (978) 534-1234 (F)  
 LEOMINSTER, MASSACHUSETTS 01453 (978) 534-6060 (F)  
 WWW.HANNIGANENGINEERING.COM

**LAYOUT & LANDSCAPE DIAGRAM**  
 IN  
**WORCESTER, MASSACHUSETTS**

PREPARED FOR:  
 GOVENTURE CAPITAL GROUP, LLC.  
 BRENDAN GOVE  
 10 E. WORCESTER ST.  
 WORCESTER, MASSACHUSETTS 01604  
 TEL:



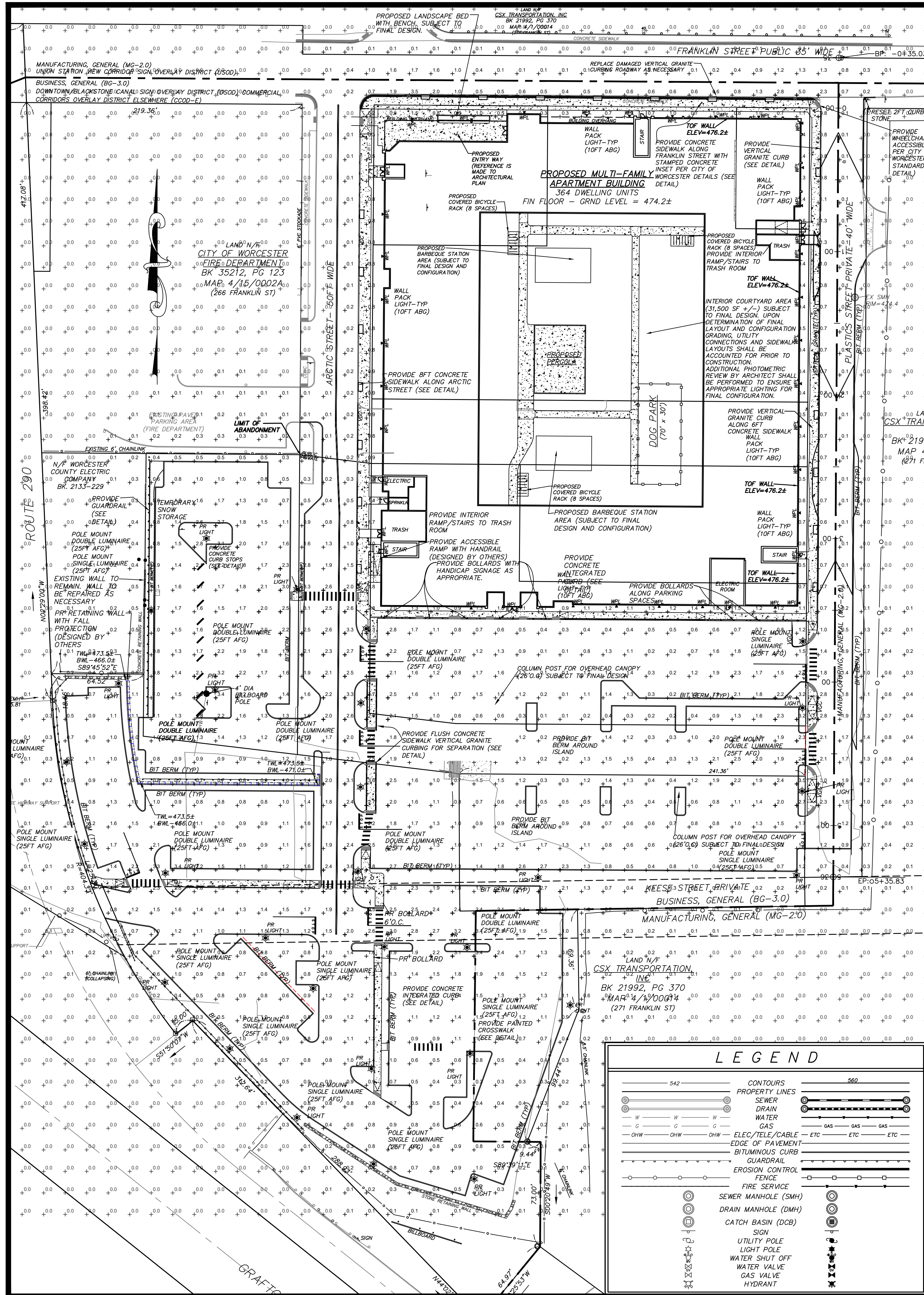
CALC: CMA/WDH DRWN: CMA/WDH SCALE: 1"=40'  
 CHKD: WDH APPD: WDH DATE: NOV 12, 2021  
 SRV: JHG FB: 71-144 JOB NO: 3030  
 TAB: (6) LL SHEET 5 OF 13 PLAN NO: C-18-9



**LEGEND**

542	CONTOURS	560
---	PROPERTY LINES	
---	SEWER	
---	DRAIN	
---	WATER	
---	GAS	
---	ELEC/TELE/CABLE	
---	ETC	
---	ETC	
---	ETC	
---	EDGE OF PAVEMENT	
---	BITUMINOUS CURB	
---	GUARDRAIL	
---	EROSION CONTROL	
---	FIRE SERVICE	
---	SEWER MANHOLE (SMH)	
---	DRAIN MANHOLE (DMH)	
---	CATCH BASIN (DCB)	
---	SIGN	
---	UTILITY POLE	
---	LIGHT POLE	
---	WATER SHUT OFF	
---	WATER VALVE	
---	GAS VALVE	
---	HYDRANT	





### RSX1 LED Area Luminaire

**Specifications**

- EPA (ft=0): 0.57 ft (0.05 m)
- Length: 21.8" (55.4 cm) (SPA mount)
- Width: 13.3" (33.8 cm)
- Height: 3.0" (7.6 cm) Main Body (18.4 cm) Arm
- Weight (SPA mount): 22.0 lbs (10.0 kg)

**Introduction**

The new RSX1 LED Area family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSX1 delivers 7,000 to 17,000 lumens allowing it to replace 70W to 400W HID luminaires.

The RSX features an integral universal mounting mechanism that allows the luminaire to be mounted on most existing drill hole patterns. This "no-drill" solution provides significant labor savings. An easy-access door on the bottom of mounting arm allows for wiring without opening the electrical compartment. A mast arm adaptor, adjustable integral splitter and other mounting configurations are available.

**Ordering Information**

**EXAMPLE: RSX1 LED P4 40K R3 MOLT SPA DBB8X**

Series	Package	Color Temperature	Distribution	Voltage	Mounting
RSX1 LED	P4	40K	R3	120V	MOLT
	P4	30K	R3	120V	MOLT
	P4	50K	R3	120V	MOLT

**Options**

Option	Finish
DBB8X	Dark Bronze
DBL8X	Black
DBAL8X	Natural Aluminum
DBWH8X	White
DBBK8X	Textured Dark Bronze
DBL8BK	Textured Black
DBAL8BK	Textured Natural Aluminum
DBWH8BK	Textured White

### WDGE2 LED Architectural Wall Sconce

**Specifications**

- Depth (D1): 7"
- Depth (D2): 1.5"
- Height: 9"
- Width: 11.5"
- Weight: 13.5 lbs (without options)

**Introduction**

The WDGE2 LED family is designed to meet the needs of any wall-mounted lighting application. The clean, rectangular design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AUR wireless controls, the WDGE2 family provides additional energy savings and code compliance.

WDGE2 delivers up to 6,000 lumens with a soft, non-pollared light source, creating a visually comfortable environment. When combined with multiple integrated emergency battery backup options, including an 18V cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

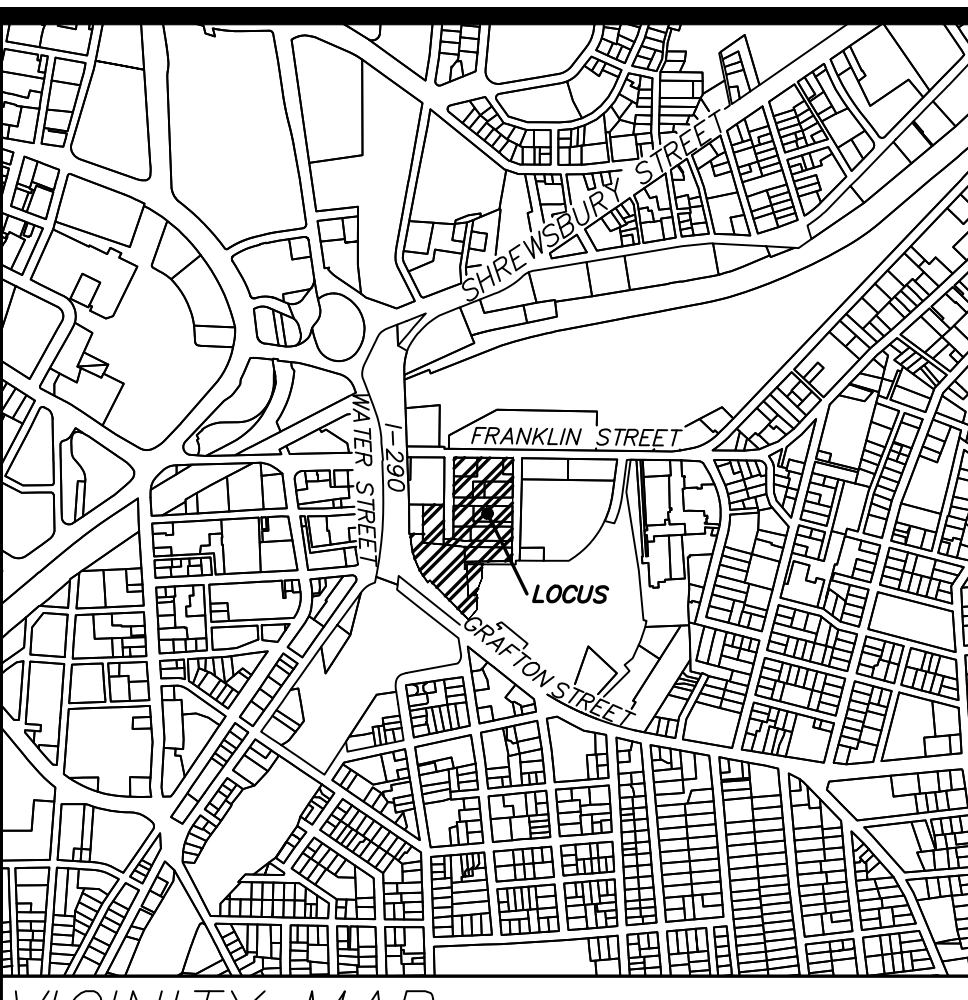
**Ordering Information**

**EXAMPLE: WDGE2 LED P3 40K 80CRI VF MOLT SRM DBB8X**

Series	Package	Color Temperature	CR	Distribution	Voltage	Mounting
WDGE2 LED	P3	40K	80	VF	120V	MOLT
	P3	30K	80	VF	120V	MOLT
	P3	50K	80	VF	120V	MOLT

**Options**

Option	Finish
DBB8X	Dark Bronze
DBL8X	Black
DBAL8X	Natural Aluminum
DBWH8X	White
DBBK8X	Textured Dark Bronze
DBL8BK	Textured Black
DBAL8BK	Textured Natural Aluminum
DBWH8BK	Textured White



### PARKING CALCULATION

**MULTI-FAMILY RESIDENTIAL CCOD-E DISTRICT PER ZONING ORDINANCE**

1 SPACE PER UNIT  
364 UNITS x 1 SPACE = 364 SPACES

1 SPACE PER 10 UNITS (GUEST)  
364 UNITS / 10 UNITS = 36.4 SPACES

**TOTAL SPACES REQUIRED=401 SPACES REQUIRED**

**TOTAL SPACES PROVIDED = 392 SPACES**

**BICYCLE SPACE REDUCTION**  
EXTERIOR PROVIDED BICYCLE SPACES = 24 SPACES  
REDUCTION ALLOWED = 24 SPACES / 2 = 12 SPACES  
REDUCTION ALLOWED = 10 SPACES (10 SPACES MAX)

**CUMULATIVE PARKING COUNT**  
VEHICLE PARKING = 392 SPACES  
BICYCLE REDUCED SPACES = 10 SPACES  
**TOTAL PARKING PROVIDED = 402 SPACES**

**COMPACT SPARKING SPACE CALCULATION**  
396 SPACES x 25% = 99 SPACES BY RIGHT  
97 SPACES PROVIDED (24.7% COMPACT)

**MISCELLANEOUS PARKING COUNT:**  
60 ELECTRIC VEHICLE CAPABLE SPACES  
9 HANDICAP ACCESSIBLE PARKING SPACES  
4 LOADING SPACES

### PROJECT INFORMATION

**LAND INFORMATION**  
MAP PARCEL: 04-015/2A,3,4,4.5,7,13,14,15,16,23,17+24; 04-14-2A+3B  
DEED BOOK/PAGE: VARIUS  
PROPOSED FRONTAGE: 303.76 FT  
PROPOSED AREA: 5.79 ACRES±

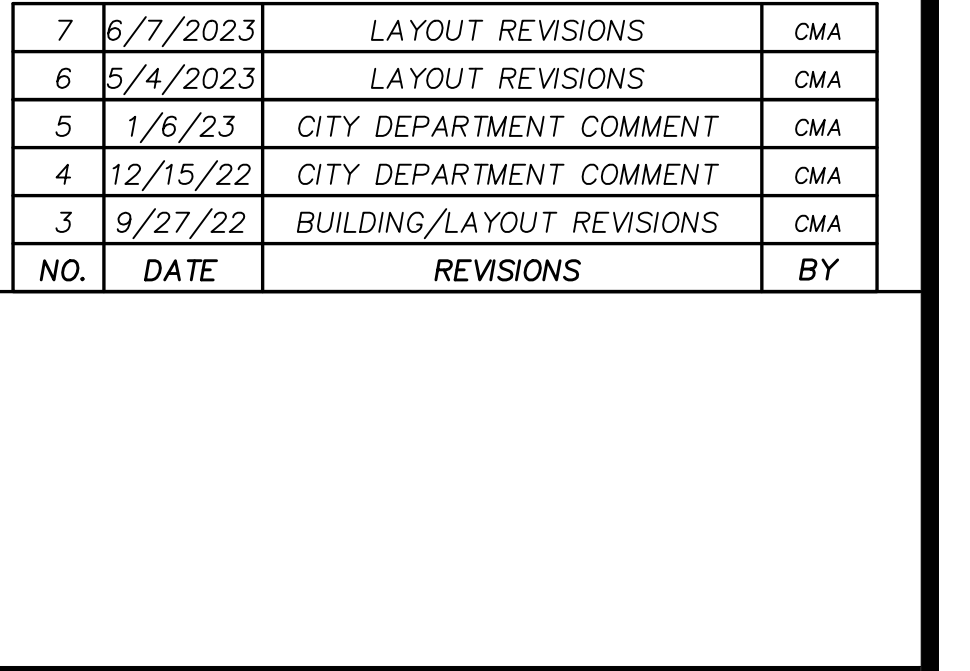
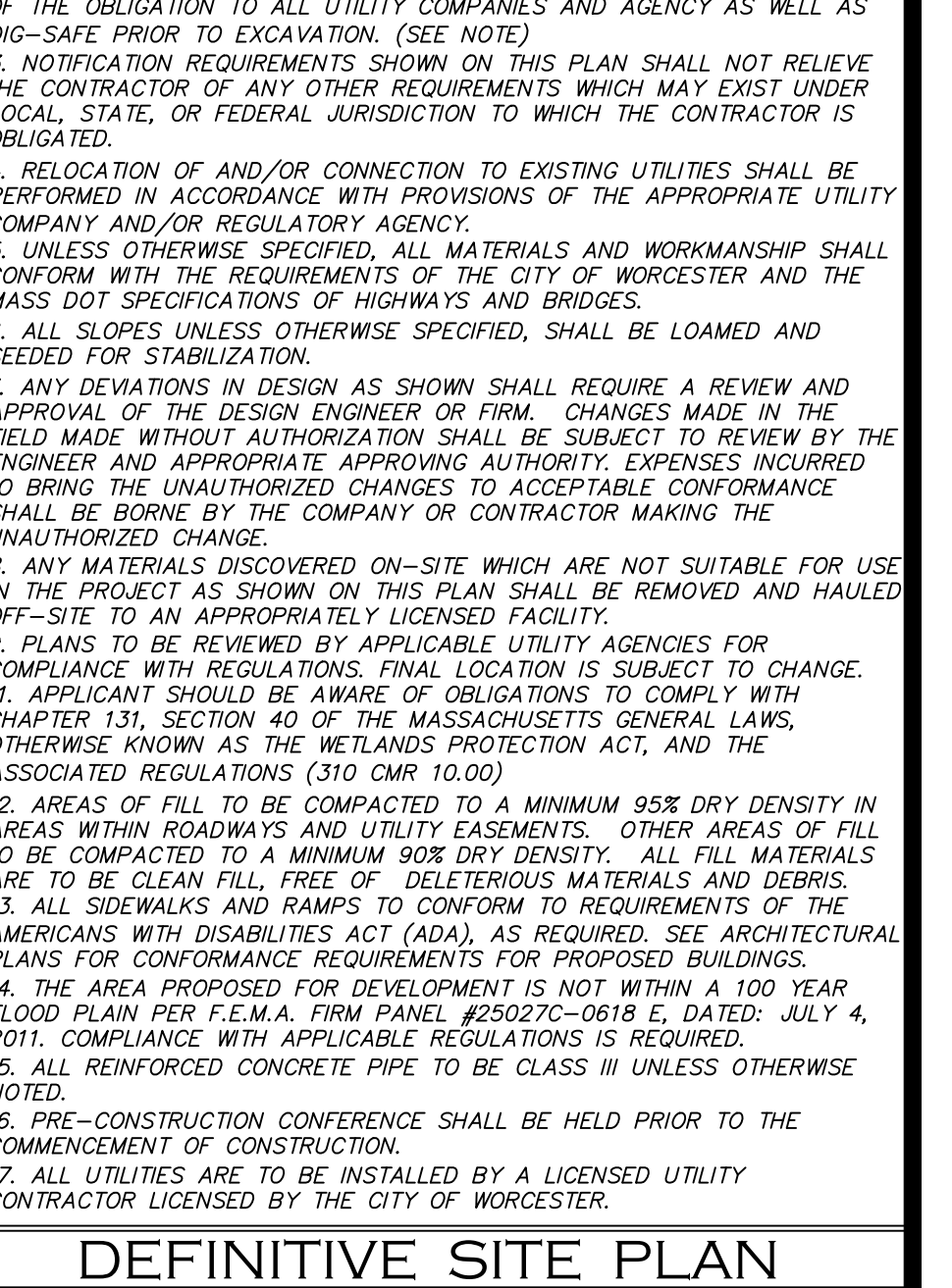
**ZONING INFORMATION**  
ZONING DISTRICT: BUSINESS, GENERAL (BG-3.0)  
COMMERCIAL CORRIDORS OVERLAY DISTRICT ELSEWHERE (CCOD-E)  
DOWNTOWN/BLACKSTONE CANAL SIGN OVERLAY DISTRICT (DSOD) PROVIDED

**DIMENSIONAL REQUIREMENTS - REQUIRED**

Requirement	Value
MINIMUM AREA:	5,000 SF
MINIMUM FRONTAGE:	40 FEET/JUNT (MAX 200')
MINIMUM HEIGHT:	100 FEET
MINIMUM SETBACKS:	N/A
FRONT YARD:	5-FT (GROUND FLOOR RESIDENCE) 5.50 FT
REAR YARD:	N/A
SIDE YARD:	N/A
FLOOR AREA RATIO:	3:1 (BUILDING:LAND) 1.9:1

**GENERAL NOTES:**

- PROPERTY LINE INFORMATION BASED DEEDS AND PLANS OF RECORD. NO CERTIFICATION OF PROPERTY LINES SHOWN ON THIS PLAN IS INTENDED OR IMPLIED BY HANNIGAN ENGINEERING, INC. TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ON-THE-GROUND TOPOGRAPHIC SURVEY BY HANNIGAN ENGINEERING, INC. IN SEPTEMBER OF 2021.
- LOCATION OF ALL UTILITIES ARE APPROXIMATE AS SHOWN AND BASED UPON EXISTING UTILITIES AND SUBSURFACE STRUCTURES, WHETHER OR NOT SHOWN ON THESE PLANS. SHALL BE DETERMINED BY THE CONTRACTOR MARKED IN THE FIELD, AND REVIEWED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL BE AWARE OF THE OBLIGATION TO ALL UTILITY COMPANIES AND AGENCY AS WELL AS DIG-SAFE PRIOR TO EXCAVATION. (SEE NOTE)
- NOTIFICATION REQUIREMENTS SHOWN ON THIS PLAN SHALL NOT RELIEVE THE CONTRACTOR OF ANY OTHER REQUIREMENTS WHICH MAY EXIST UNDER LOCAL, STATE, OR FEDERAL JURISDICTION TO WHICH THE CONTRACTOR IS OBLIGATED.
- RELOCATION OF AND/OR CONNECTION TO EXISTING UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH PROVISIONS OF THE APPROPRIATE UTILITY COMPANY AND/OR REGULATORY AGENCY.
- UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY OF WORCESTER AND THE MASS DOT SPECIFICATIONS OF HIGHWAYS AND BRIDGES.
- ALL SLOPES UNLESS OTHERWISE SPECIFIED, SHALL BE LOADED AND SEDED FOR STABILIZATION.
- ANY DEVIATIONS IN DESIGN AS SHOWN SHALL REQUIRE A REVIEW AND APPROVAL OF THE DESIGN ENGINEER OR FIRM. CHANGES MADE IN THE FIELD MADE WITHOUT AUTHORIZATION SHALL BE SUBJECT TO REVIEW BY THE ENGINEER AND APPROPRIATE APPROVING AUTHORITY. EXPENSES INCURRED TO BRING THE UNAUTHORIZED CHANGES TO ACCEPTABLE CONFORMANCE SHALL BE BORNE BY THE COMPANY OR CONTRACTOR MAKING THE UNAUTHORIZED CHANGE.
- ANY MATERIALS DISCOVERED ON-SITE WHICH ARE NOT SUITABLE FOR USE IN THE PROJECT AS SHOWN ON THIS PLAN SHALL BE REMOVED AND HAULED OFF-SITE TO AN APPROPRIATELY LICENSED FACILITY.
- PLANS TO BE REVIEWED BY APPLICABLE UTILITY AGENCIES FOR COMPLIANCE WITH REGULATIONS. FINAL LOCATION IS SUBJECT TO CHANGE.
- ANY MATERIALS DISCOVERED ON-SITE WHICH ARE NOT SUITABLE FOR USE IN THE PROJECT AS SHOWN ON THIS PLAN SHALL BE REMOVED AND HAULED OFF-SITE TO AN APPROPRIATELY LICENSED FACILITY.
- APPLICANT SHOULD BE AWARE OF OBLIGATIONS TO COMPLY WITH CHAPTER 131, SECTION 4.0 OF THE MASSACHUSETTS GENERAL LAWS, OTHERWISE KNOWN AS THE WETLANDS PROTECTION ACT, AND THE ASSOCIATED REGULATIONS (310 CMR 10.00).
- AREAS OF FILL TO BE COMPACTED TO A MINIMUM 95% DRY DENSITY IN AREAS WITHIN ROADWAYS AND UTILITY EASEMENTS. OTHER AREAS OF FILL TO BE COMPACTED TO A MINIMUM 90% DRY DENSITY. ALL FILL MATERIALS ARE TO BE CLEAN OR FREE OF DELETERIOUS MATERIALS AND DEBRIS.
- ALL SIDEWALKS AND RAMPS TO CONFORM TO REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), AS REQUIRED. SEE ARCHITECTURAL PLANS FOR CONFORMANCE REQUIREMENTS FOR PROPOSED BUILDINGS.
- THE AREA PROPOSED FOR CONSTRUCTION IS NOT WITHIN A 100 YEAR FLOOD PLAIN PER F.E.M.A. FIRM PANEL #25027C-0618 E, DATED: JULY 4, 2011. COMPLIANCE WITH APPLICABLE REGULATIONS IS REQUIRED.
- ALL REINFORCED CONCRETE PIPE TO BE CLASS III UNLESS OTHERWISE NOTED.
- PRE-CONSTRUCTION CONFORMANCE SHALL BE HELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- ALL UTILITIES ARE TO BE INSTALLED BY A LICENSED UTILITY CONTRACTOR LICENSED BY THE CITY OF WORCESTER.



### HANNIGAN ENGINEERING, INC.

CIVIL ENGINEERS & LAND SURVEYORS

8 MONUMENT SQUARE (978) 534-1234 (F)  
LEOMINSTER, MASSACHUSETTS 01453 (978) 534-6060 (T)  
WWW.HANNIGANENGINEERING.COM

PREPARED FOR:  
GOVENTURE CAPITAL GROUP, LLC.  
BRENDAN GOVE  
10 E. WORCESTER ST.  
WORCESTER, MASSACHUSETTS 01604

TEL: \_\_\_\_\_

GRAPHIC SCALE: 1"=40'

CALC: CMA/WDH DRWN: CMA/WDH SCALE: 1"=40'  
CHKD: WDH APPD: WDH DATE: NOV 12, 2021  
SRV: JHG FB: 71-144 JOB NO: 3030  
TAB: (7) LD SHEET 7 OF 13 PLAN NO: 0-18-9

## EROSION & SEDIMENTATION CONTROL PLAN

### GENERAL:

1. THE PURPOSE OF THIS PLAN IS TO PRESENT A PREVENTIVE METHOD OF CONSTRUCTION TO MINIMIZE THE IMPACT OF THE CONSTRUCTION ACTIVITIES UPON WETLANDS AND OTHER SENSITIVE AREAS. THE DATA CONTAINED ON THIS PLAN IS INTENDED TO SUPPLEMENT THE DEVELOPER OR CONTRACTORS' EXPERTISE AND IS NOT MEANT TO CIRCUMVENT LOGICAL DECISIONS REQUIRED BY A VARIETY OF FIELD CONDITIONS INCLUDING WEATHER AND THE TYPE OF EQUIPMENT AVAILABLE TO THE CONTRACTOR.
2. THE CONTRACTOR IS TO BE AWARE OF THE REQUIREMENTS AND OBLIGATIONS TO COMPLY WITH CHAPTER 131, SECTION 40 OF THE MASSACHUSETTS GENERAL LAWS, OTHERWISE KNOWN AS THE WETLANDS PROTECTION ACT, AND THE FEDERAL REGULATIONS (310 CMR 10.00) CERTAIN PERMITS IN THE FORM OF AN ORDER OF CONDITIONS, OR OTHER FORMAT, MAY BE REQUIRED FOR THE CONSTRUCTION AS DEPICTED ON THIS PLAN. THESE PERMITS SHALL BE REVIEWED AND ADHERED TO BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL ALSO MAINTAIN COPIES OF ALL PERMITS ON SITE AT ALL TIMES.
3. IF CHANGES IN THE PROJECT ARE REQUIRED DUE TO FIELD CONDITIONS THE DEVELOPER/CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER FOR REVIEW OF THESE CONDITIONS. UPON REVIEW PRIOR TO THE IMPLEMENTATION OF ANY CHANGE, THE CONTRACTOR AND THE ENGINEER SHALL MEET WITH THE APPROPRIATE LOCAL AND/OR STATE OFFICIAL, OR ITS AGENT, TO DETERMINE IF THE CHANGE REQUIRES MODIFICATION TO EXISTING APPROVED PERMITS.
4. ALTERATION AND/OR DESTRUCTION OF WETLAND AREAS WITHOUT PRIOR CONSENT OF THE CONSERVATION COMMISSION IS PROHIBITED. SILTATION PLUMES, ILLICIT DISCHARGES, OR INADVERTENT ALTERATION SHALL BE CONSIDERED AS ACTIVITIES NOT PERMITTED BY THE ORDER AND SHALL BE REPORTED TO THE CONSERVATION COMMISSION ALONG WITH THE PROPOSED MITIGATIVE MEASURES SHOWN ON THE PLAN.
5. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE EROSION AND SEDIMENT CONTROL BARRIER SHALL BE INSTALLED AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN THE EROSION CONTROL BARRIER UNTIL ALL WORK IS COMPLETE, AND ALL AREAS HAVE BEEN STABILIZED. THE REMOVAL OF SEDIMENT CONTROL DEVICES SHALL BE ONLY UPON THE APPROVAL OF THE CONSERVATION COMMISSION.
6. EROSION AND SEDIMENTATION CONTROL DEVICES, SUCH AS CHECK DAMS, SEDIMENT BASINS, ETC. ARE TO BE INSTALLED AS SHOWN ON THE SITE DEVELOPMENT PLANS WITH ASSOCIATED DETAILS, AS APPROPRIATE.
7. CONSTRUCTION OPERATIONS SHALL NOT CAUSE NOTICEABLE SEDIMENTATION PLUMES TO OCCUR ON OR SURROUNDING THE PROJECT. SHOULD SEDIMENTATION DURING CONSTRUCTION ACTIVITIES BE NEARBY, THE CONTRACTOR SHALL STOP WORK AND INSTALL ADDITIONAL MITIGATIVE MEASURES TO PREVENT FURTHER SEDIMENTATION.
8. NO MATERIAL SUBJECT TO EROSION SHALL BE STOCKPILED OVERNIGHT WITHIN 100 FEET OF ANY WETLAND AREAS WITHOUT PROPER EROSION AND SEDIMENTATION DEVICES IN PLACE.
9. EQUIPMENT SHALL NOT BE PARKED WITHIN WETLAND OR BUFFER AREAS EXCEPT DURING ACTUAL OPERATIONS REQUIRING SAID EQUIPMENT.
10. ACCUMULATED SEDIMENT ALONG EROSION CONTROL BARRIERS SHALL BE PERIODICALLY REMOVED AND DISPOSED OF BY THE CONTRACTOR AS REQUIRED BY THE CONSERVATION COMMISSION OR AS DIRECTED BY THE ENGINEER.

1. THE ROUGH GRADING OF THE ROADWAY SHALL FOLLOW THE FILL AND EXCAVATION SEQUENCES, RESULTING IN SLOPES BEING MAINTAINED AWAY FROM WETLANDS AND SENSITIVE AREAS AS MUCH AS PRACTICAL.
2. DURING THIS PROCESS THE EROSION POTENTIAL IS HIGH. SUFFICIENT EROSION CONTROL BARRIERS SHOULD BE KEPT IN PROXIMITY TO THE WORK AREA TO ALLOW QUICK ACTION SHOULD EROSION BECOME AN ISSUE AND TO INSURE THAT NO SEDIMENT REACHES WETLANDS OR OTHER SENSITIVE AREAS.
3. IN AREAS OF CUT AND/OR FILL WHERE SLOPES COULD DIVERT WATER TOWARD WETLAND AREAS, DIVERSION TRENCHES AND/OR SWALES SHOULD BE CONSIDERED AND IMPLEMENTED TO DIVERT WATER AWAY FROM THESE AREAS.
4. STEEP SLOPE SLOPES IN EXCAVATION OR FILL SHOULD BE AVOIDED.
5. DISTURBED AREAS SHALL BE STABILIZED BY LOAMING AND SEEDING OR RIPRAP IMMEDIATELY AFTER THE FINISH GRADE HAS BEEN MET. IF FINAL GRADING DOES NOT OCCUR DURING THE GROWING SEASON, THESE AREAS SHALL BE MULCHED BY HAY SECURED BY WEIGHTED SNOW FENCE, CHICKEN WIRE MESH OR JUTE NETTING WITH APPROPRIATE SECURING DEVICES.
6. A GROUND COVER SUFFICIENT TO RETAIN SOILS IN A STABILIZED CONDITION MUST BE PROVIDED WITHIN 14 WORKING DAYS, SEASON PERMITTING, ON ANY PORTION OF THE TRACT UPON WHICH FURTHER ACTIVE CONSTRUCTION IS NOT BEING UNDERTAKEN.

### ROUGH GRADING:

1. IF DRAINAGE PIPES OR SWALES ARE TO BE INSTALLED, THEY SHALL BE CONSTRUCTED FROM DOWNSTREAM UP AND CONSTRUCTION SHALL INCLUDE THE PLACEMENT OF OUTFALL RIPRAP AND OTHER MITIGATIVE MEASURES SHOWN ON THE PLAN.
2. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, HAY BALES OR OTHER SUITABLE METHODS TO ENTRAP SEDIMENT SHALL BE PLACED DOWNSTREAM.
3. THE TOE OF EMBANKMENTS SHALL BE STABILIZED IMMEDIATELY, MULCHED AND TACKED DOWN BY SUITABLE MEANS.
4. IF THE PROPOSED ROADWAY IS NOT PAVED IMMEDIATELY AFTER THE INSTALLATION OF DRAINAGE STRUCTURES, HAY BALES SHALL BE PLACED TO PROTECT THE INTEGRITY OF THE STRUCTURES.

### DRAINAGE:

1. DURING THE CONSTRUCTION OF BUILDINGS, MATERIALS SHALL BE STOCKPILED IN A MANNER AS NOT TO DIVERT CONCENTRATE RUNOFF IN ORDER TO PREVENT THE TRANSPORT OF SEDIMENT.
2. THE LOT SHOULD BE KEPT LITTER FREE.
3. NO FUELS, SOLVENTS, PAINTS, ETC. SHALL BE STORED ON SITE. THESE PRODUCTS SHALL BE REMOVED FROM THE SITE EACH EVENING AND RETURNED THE FOLLOWING DAY.
4. BURIAL OF MATERIALS OR CONSTRUCTION DEBRIS IS PROHIBITED.
5. PLASTERERS AND PAINTERS SHALL BE INFORMED THAT DISCHARGE OF LIQUIDS INTO A WETLAND OR RESOURCE AREA IS PROHIBITED.
6. STUMPS SHALL BE GROUND DOWN INTO A WOOD MULCH AND UTILIZED OR REMOVED FROM THE SITE.

### WATER SUPPLY:

1. IF MUNICIPAL WATER SUPPLY IS TO BE UTILIZED, CARE SHOULD BE TAKEN TO INSURE THAT THE TRENCH DOES NOT DIVERT RUNOFF WATER TO A WETLAND AREA OR ONTO A ROAD WHERE IT WILL BE CARRIED INTO A WETLAND OR SENSITIVE AREA.
2. IF PRIVATE ON-SITE WELLS ARE PROPOSED, CARE SHOULD BE TAKEN IN THE CONSTRUCTION OF THE WELL, TO INSURE THAT DRILLING FLUID DOES NOT DISCHARGE TO A STREAM, WETLAND OR SENSITIVE AREA.
3. WELL DRILLING OPERATIONS SHALL BE SUCH THAT WETLANDS ARE NOT DISTURBED AND THE INSTALLATION OF THE WATER LINE WILL NOT DIRECT WATER TOWARDS A WETLAND AREA.

### BUILDING CONSTRUCTION:

1. LANDSCAPING OF AREAS SHOULD OCCUR AS SOON AS POSSIBLE.
2. IF THE SEASON OR ADVERSE WEATHER CONDITIONS DO NOT PERMIT THE ESTABLISHMENT OF VEGETATION, TEMPORARY HAY MULCH, OR OTHER MEANS OF STABILIZATION SHALL BE PERFORMED.
3. USE OF HERBICIDES MAY BE SUBJECT TO OTHER REGULATIONS.
4. CARE SHOULD BE TAKEN WITH FERTILIZERS SUCH THAT THEY ARE NOT CARRIED TO A WETLAND OR SENSITIVE AREA.
5. TRUNKS OF TREES SHOULD NOT BE COVERED WITH MORE THAN TWO (2) INCHES OF SOIL.

### LANDSCAPING:

1. LANDSCAPING OF AREAS SHOULD OCCUR AS SOON AS POSSIBLE.
2. IF THE SEASON OR ADVERSE WEATHER CONDITIONS DO NOT PERMIT THE ESTABLISHMENT OF VEGETATION, TEMPORARY HAY MULCH, OR OTHER MEANS OF STABILIZATION SHALL BE PERFORMED.
3. USE OF HERBICIDES MAY BE SUBJECT TO OTHER REGULATIONS.
4. CARE SHOULD BE TAKEN WITH FERTILIZERS SUCH THAT THEY ARE NOT CARRIED TO A WETLAND OR SENSITIVE AREA.
5. TRUNKS OF TREES SHOULD NOT BE COVERED WITH MORE THAN TWO (2) INCHES OF SOIL.

### DEWATERING:

1. LAND CLEARING SHALL BE PERFORMED IN PHASES CONSISTENT WITH ACTUAL CONSTRUCTION REQUIREMENTS. FINAL LAND CLEARING SHALL BE LIMITED TO RETURN TO GRADE SLOPES.
2. TREES SHALL BE CUT AND STUMPS GROUND IN PLACE TO EXISTING GRADE TO MAINTAIN SOIL STABILIZATION.
3. BRUSH AND BRANCHES SHOULD BE CHIPPED AND UTILIZED FOR WOOD MULCH IF PRACTICAL.
4. VEHICLES UTILIZED IN THE CLEARING OPERATION SHOULD NOT TRAVERSE WETLANDS OR FLOWING BROOKS OR STREAMS WITHOUT PRIOR APPROVAL FROM THE LOCAL CONSERVATION COMMISSION OR AGENT.

### ORDERLY CONSTRUCTION PROCEDURES:

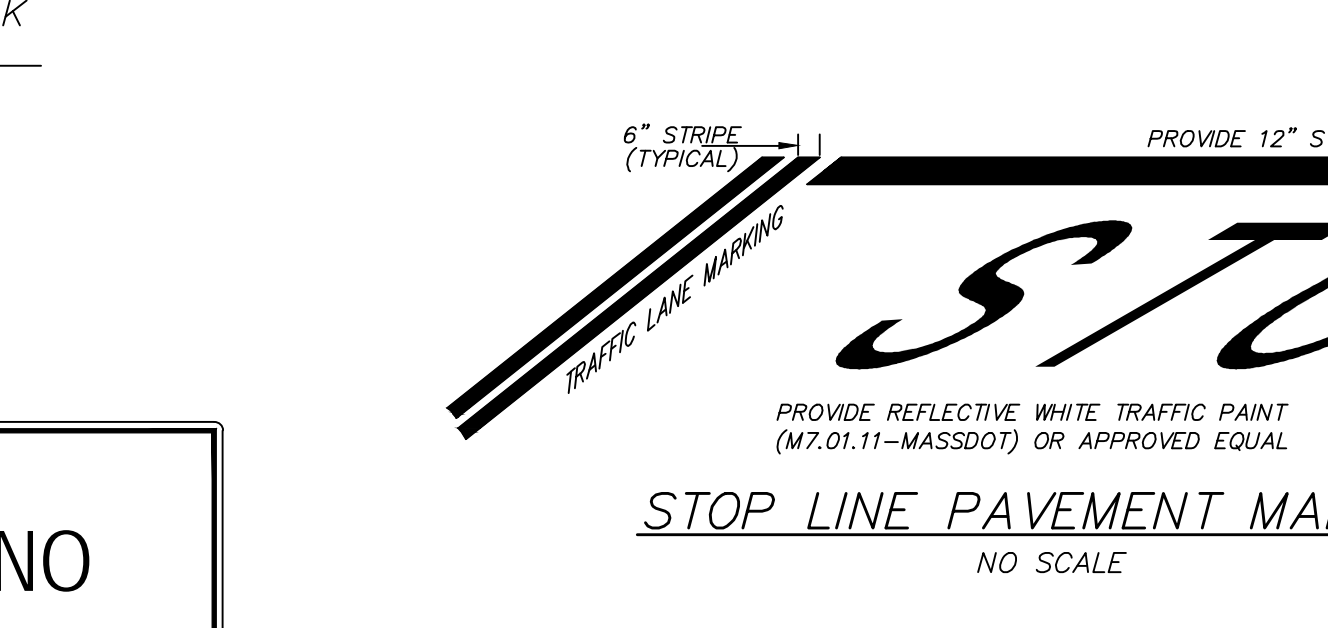
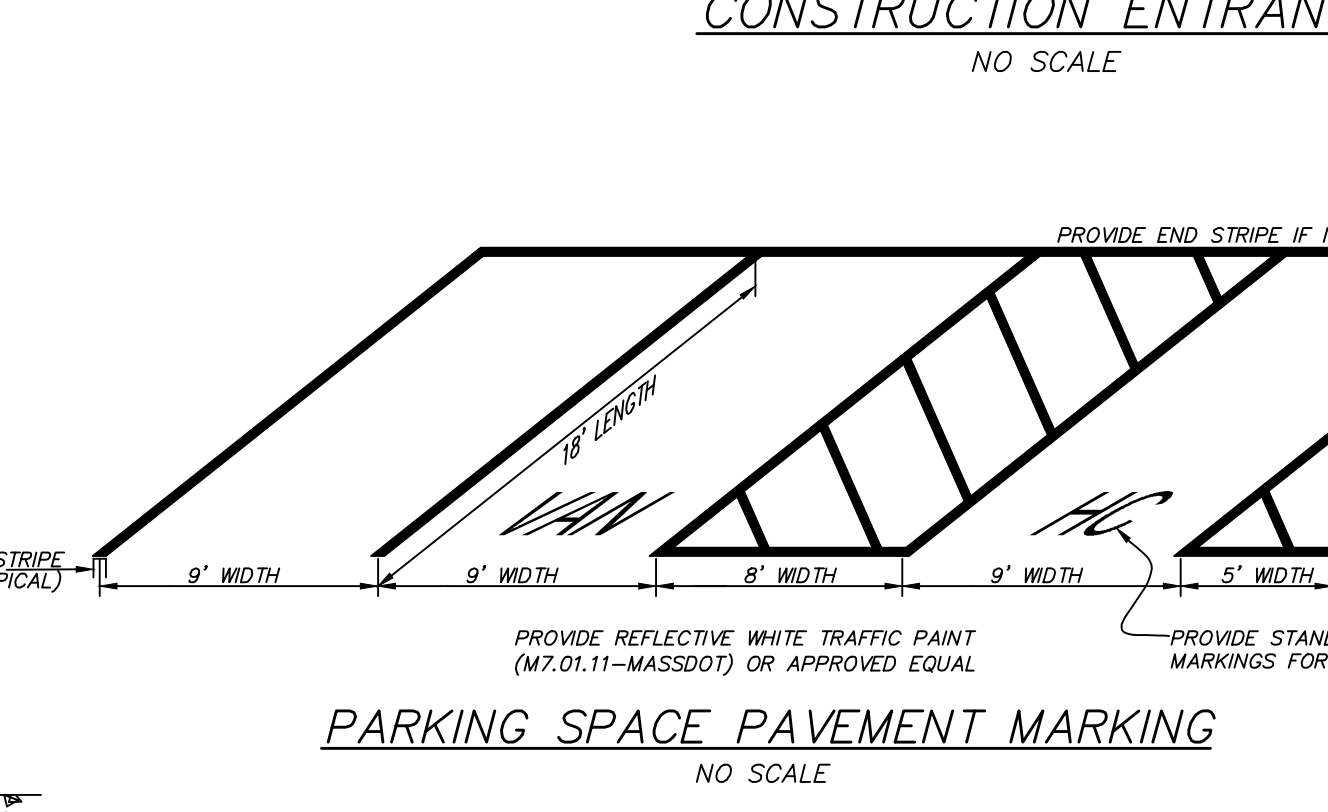
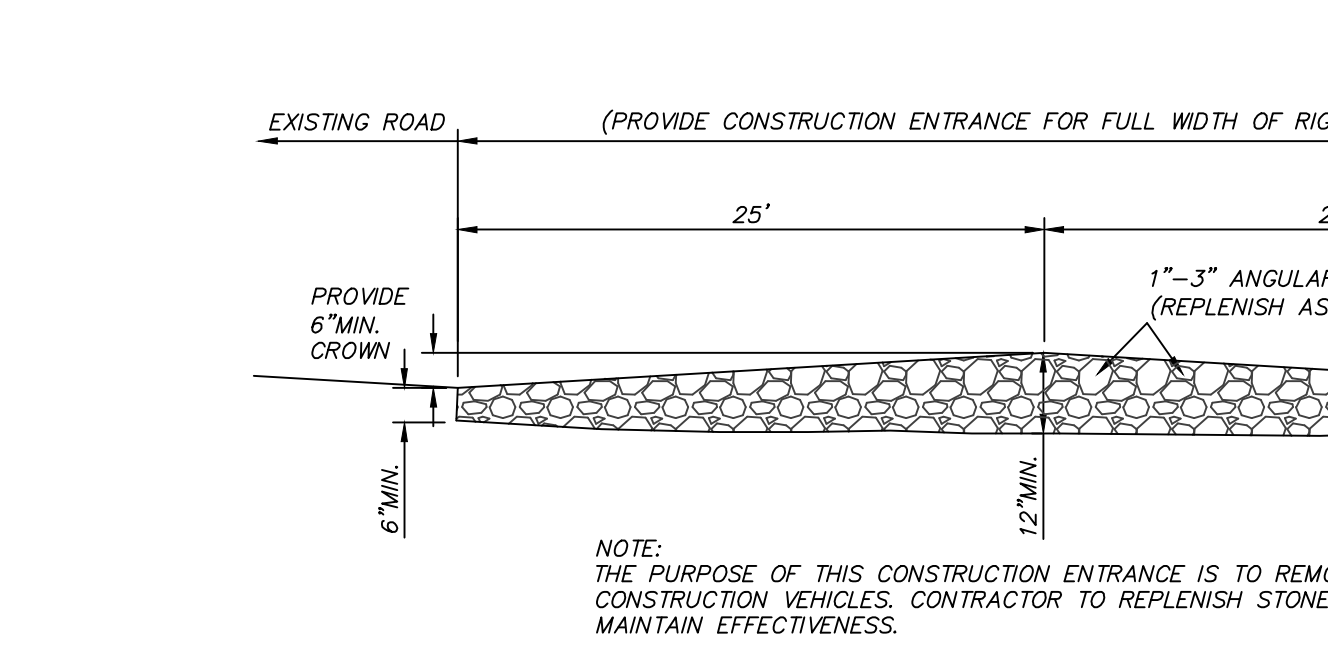
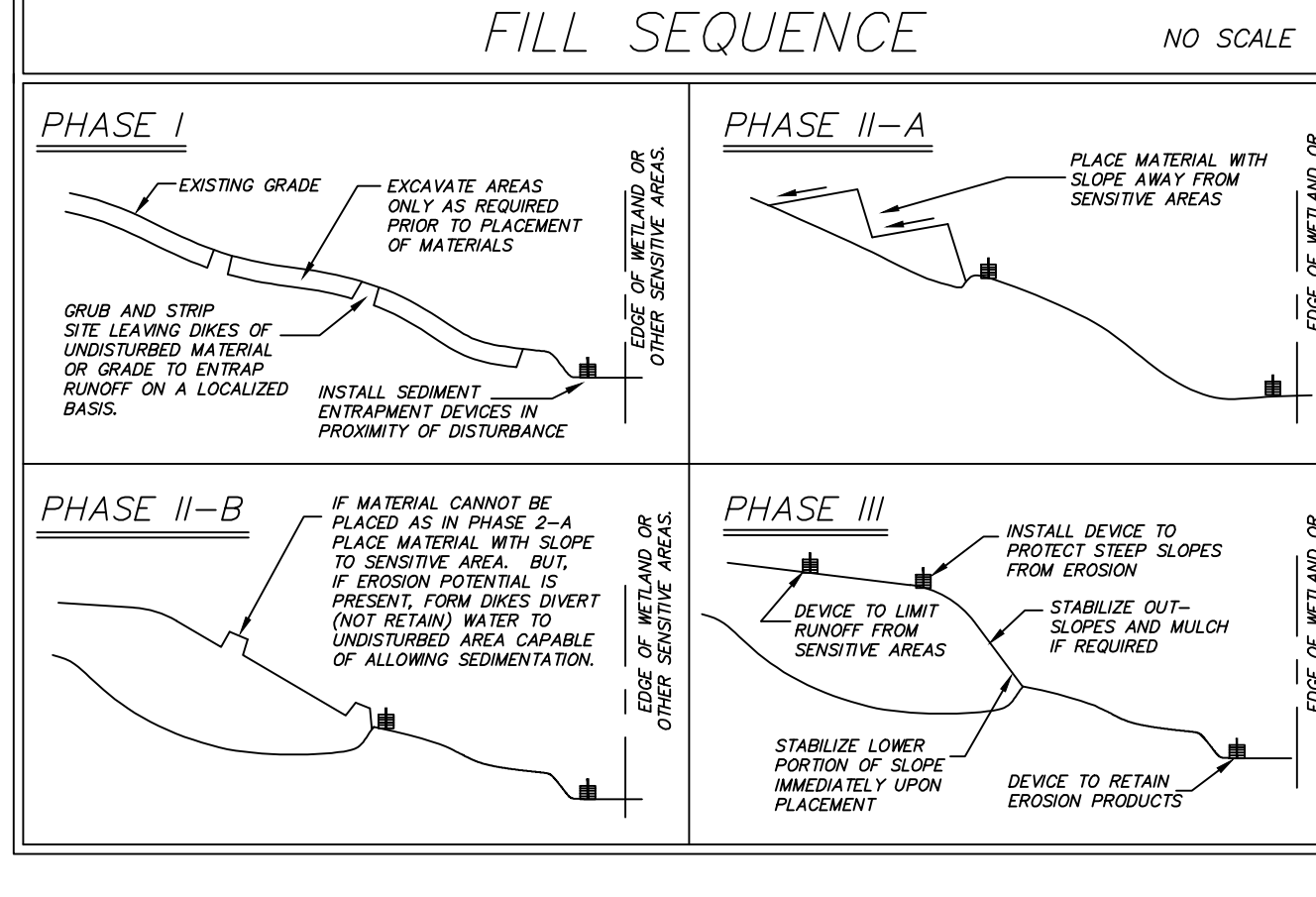
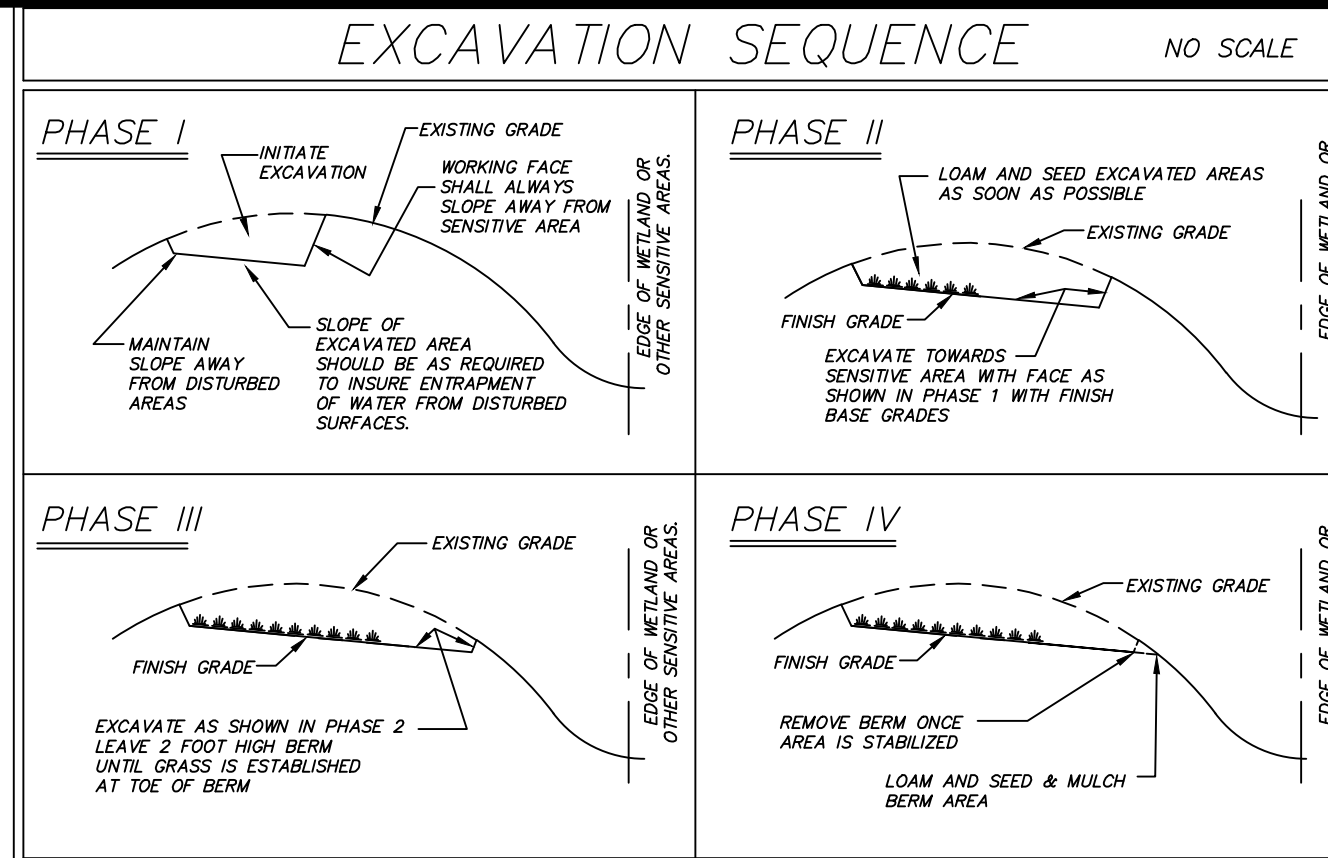
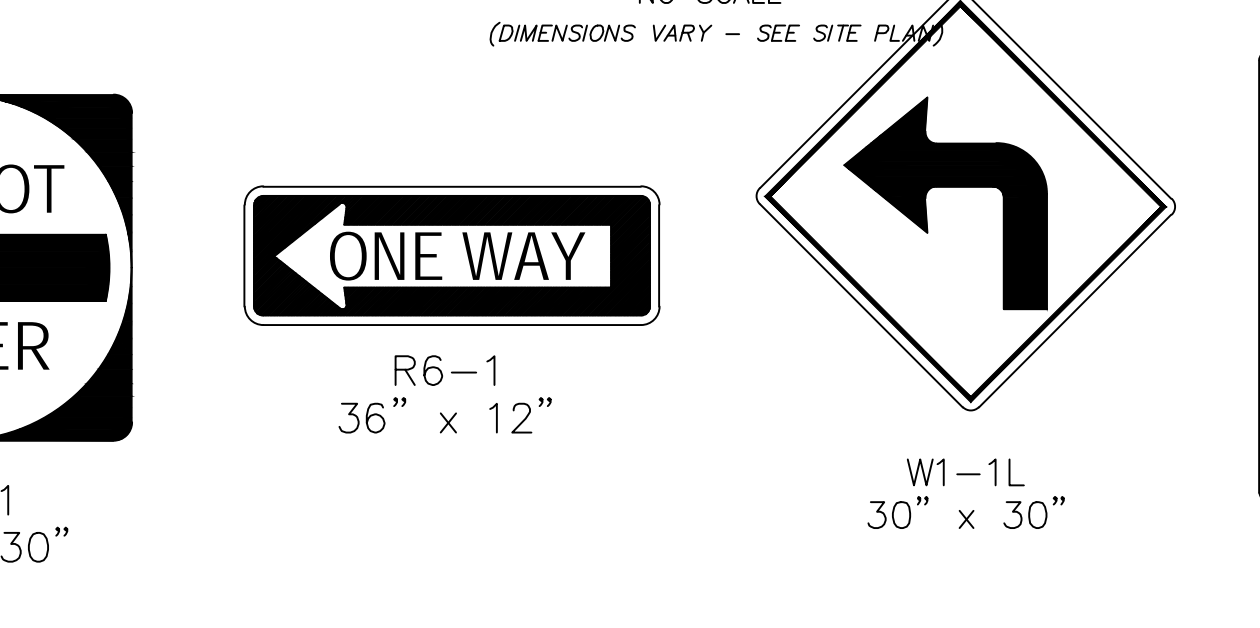
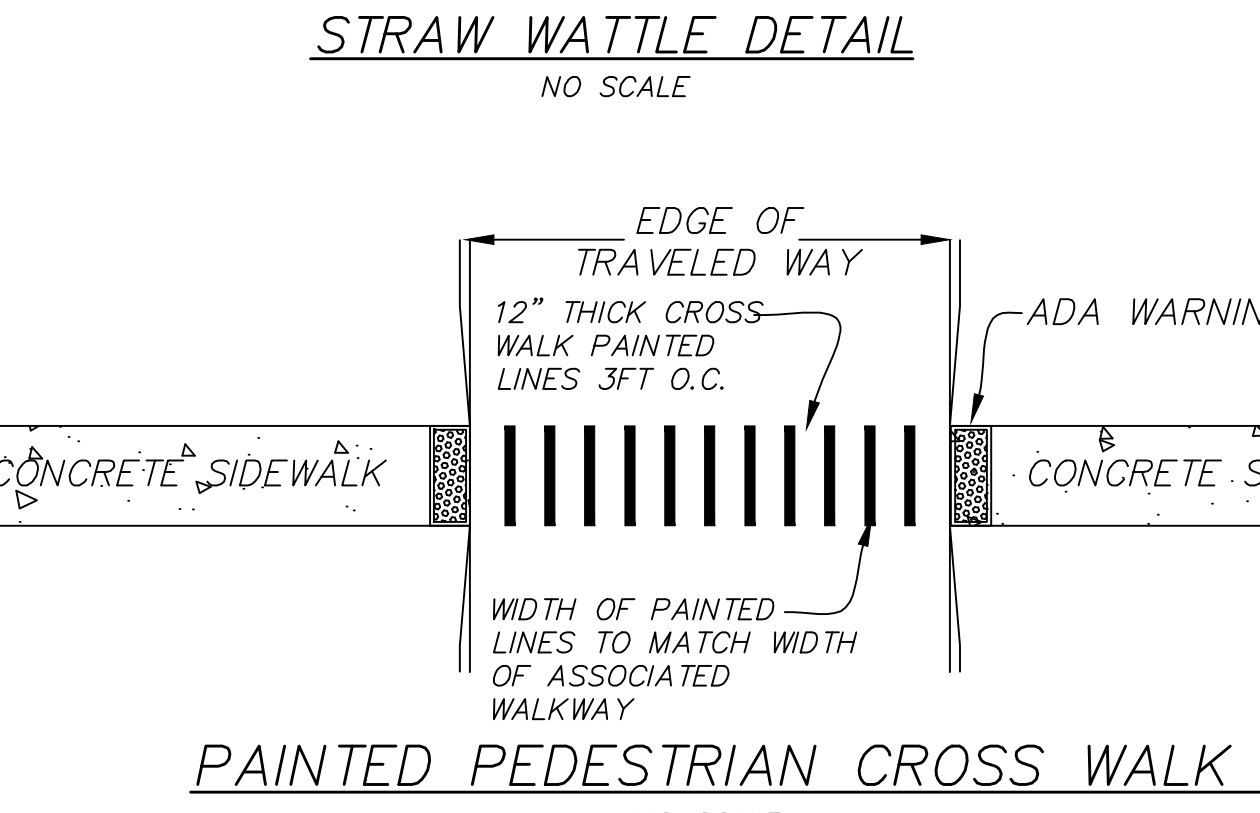
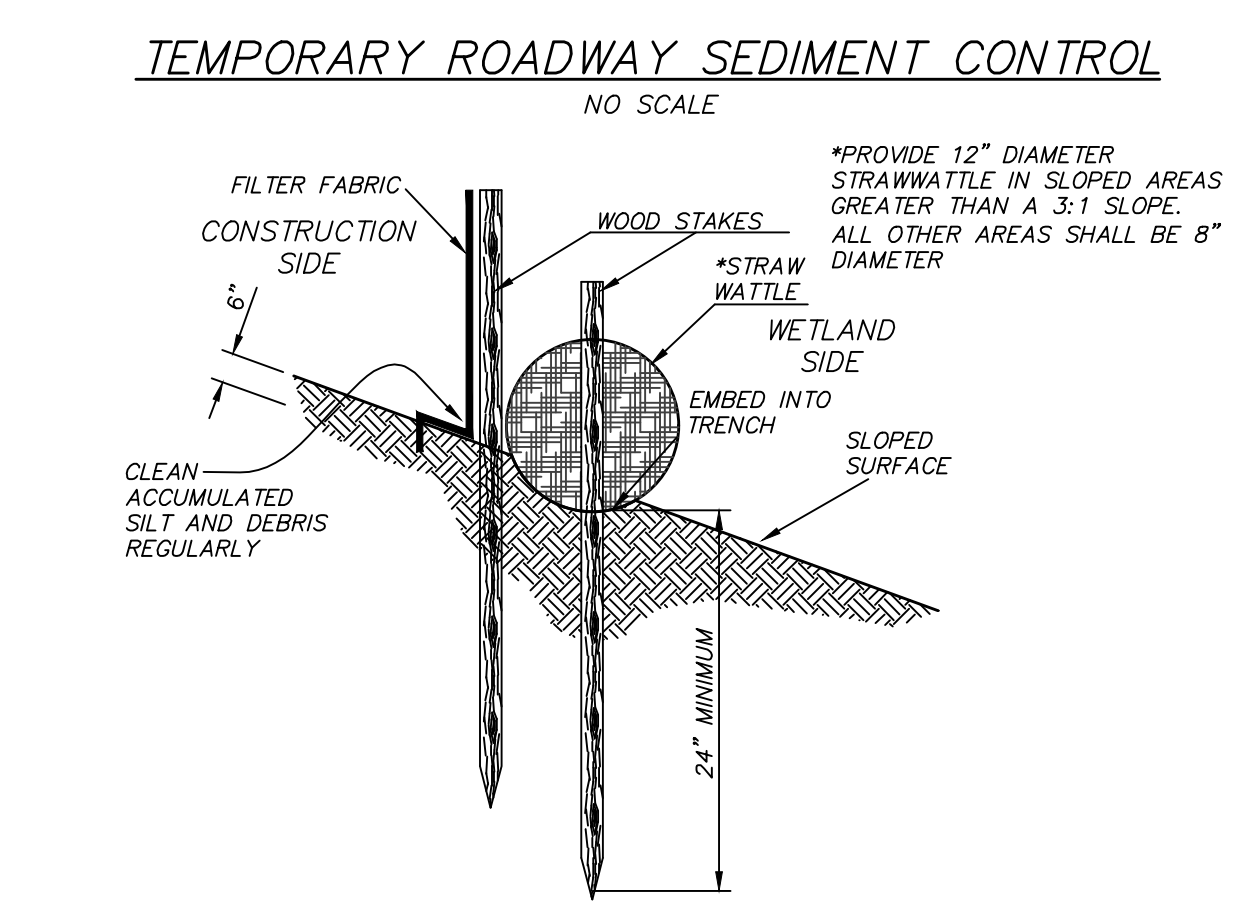
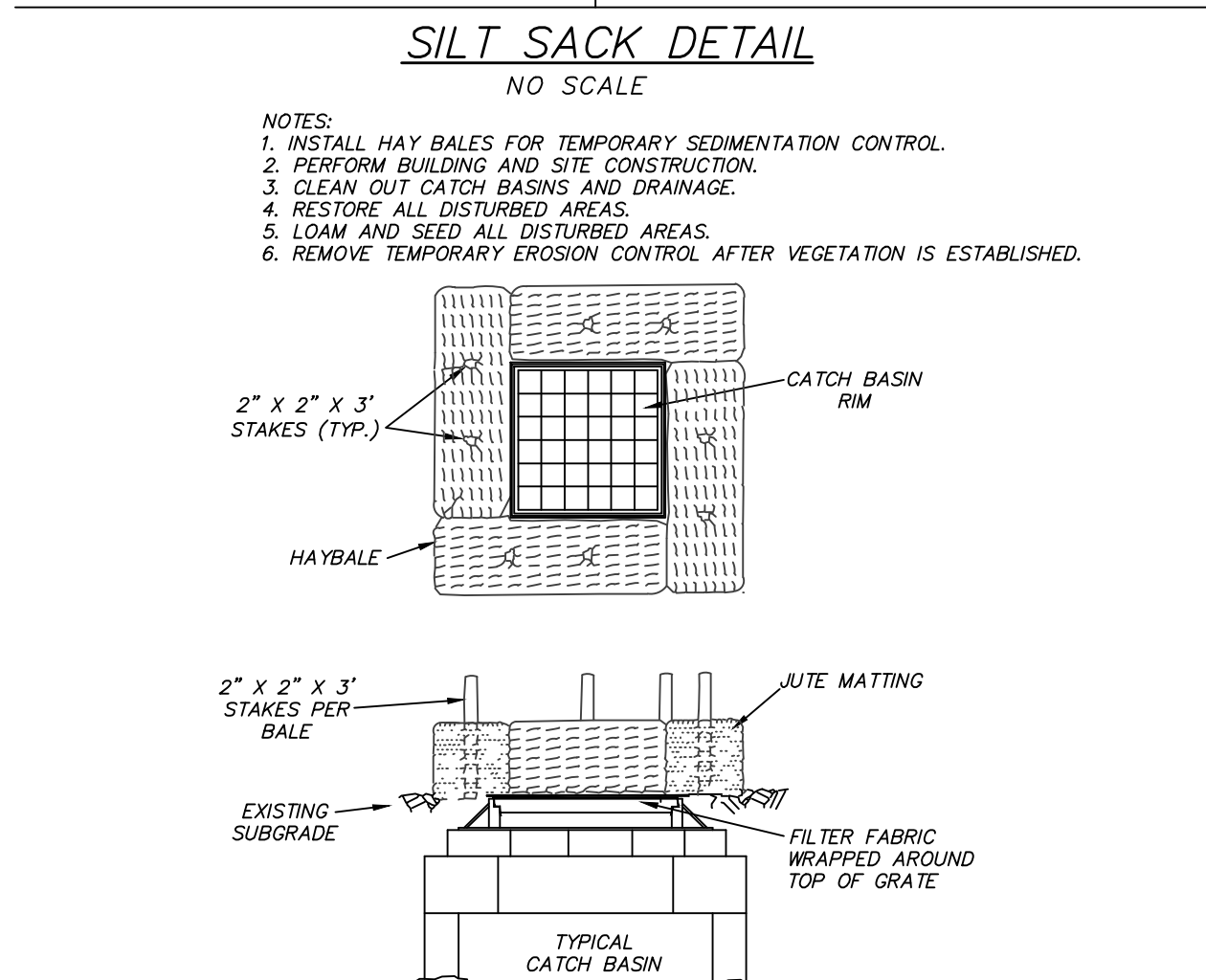
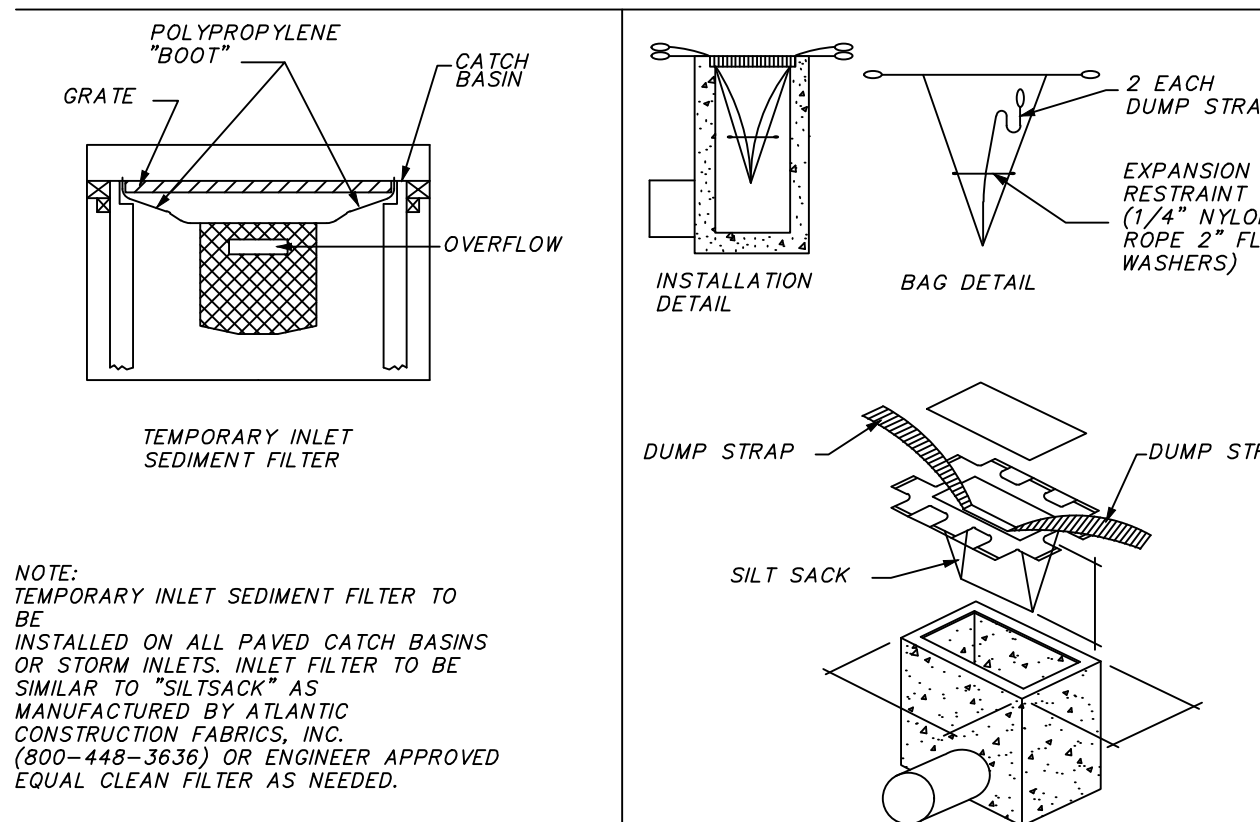
1. THE CONTRACTOR SHALL PERFORM SITE CONSTRUCTION IN A MANNER WHICH WILL INSURE THE STABILIZATION OF AREAS IN PROXIMITY OF OR TRIBUTARY TO WETLAND AREAS AS SOON AS POSSIBLE.
2. EROSION CONTROL DEVICES SUCH AS HAY BALE BARRIERS, SILT FENCES AND MULCH SHALL BE BROUGHT TO THE SITE AND STOCKPILED PRIOR TO INITIATING CONSTRUCTION.
3. THE CONTRACTOR SHALL PROVIDE AREAS FOR THE TEMPORARY STORAGE OF CONSTRUCTION DEBRIS. CONSTRUCTION DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE FOR AN EXTENDED PERIOD OF TIME.

### ACCESS:

1. LAND CLEARING SHALL BE PERFORMED IN PHASES CONSISTENT WITH ACTUAL CONSTRUCTION REQUIREMENTS. FINAL LAND CLEARING SHALL BE LIMITED TO RETURN TO GRADE SLOPES.
2. TREES SHALL BE CUT AND STUMPS GROUND IN PLACE TO EXISTING GRADE TO MAINTAIN SOIL STABILIZATION.
3. BRUSH AND BRANCHES SHOULD BE CHIPPED AND UTILIZED FOR WOOD MULCH IF PRACTICAL.
4. VEHICLES UTILIZED IN THE CLEARING OPERATION SHOULD NOT TRAVERSE WETLANDS OR FLOWING BROOKS OR STREAMS WITHOUT PRIOR APPROVAL FROM THE LOCAL CONSERVATION COMMISSION OR AGENT.

### GRUBBING AND STRIPPING:

1. TOP SOIL SHALL BE RETAINED FOR LANDSCAPING PURPOSES.
2. GRUBBING AND STRIPPING OF SLOPES LEADING TO WETLAND AREAS SHOULD NOT BE UNDERTAKEN DURING PERIODS OF INTENSE RAINFALL.
3. TOP SOIL STOCKPILE LOCATIONS ARE DEPICTED ON THE SITE DEVELOPMENT PLAN, THE EROSION CONTROL PLAN, AND/OR THE CONSTRUCTION PHASING PLAN AND SHALL BE ADHERED TO.
4. WHEN WORKING IN THE VICINITY OF WETLANDS, TOP SOIL SATURATED WITH WATER SHALL BE REMOVED, AND CONTAINED PRIOR TO BEING USED.
5. AREAS LEADING TO WETLANDS SHALL HAVE HAY BALE BARRIERS INSTALLED ACROSS THEM IN ARCS POINTING DOWN THE HILL AT INTERVALS SUFFICIENT TO MITIGATE RUNOFF CARRYING SEDIMENT.
6. DURING PERIODS OF INTENSE RAINFALL, OR IF THE PROJECT IS TO BE LEFT FOR A PERIOD OF TIME, CONSIDERATION SHOULD BE GIVEN TO SUPPLEMENT HAY BALE BARRIERS WITH EITHER CRUSHED STONE OR ARMORED BARRIERS. CONSIDERATION MAY ALSO BE GIVEN TO DIVERTING RUNOFF INTO TEMPORARY SEDIMENTATION CONTROL AREAS.
7. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED AND SUPPLEMENTED.



## STORMWATER OPERATION AND MAINTENANCE PLAN

THE FOLLOWING SHALL BE CONSIDERED THE OPERATION & MAINTENANCE PLAN (OMP) FOR THE STORMWATER COLLECTION FACILITY FOR THIS DEVELOPMENT. THIS OMP HAS BEEN PREPARED IN ACCORDANCE WITH THE STORMWATER MANAGEMENT POLICY AS ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

**I. SYSTEM OWNERSHIP:**  
THE SYSTEM SHALL INCLUDE THE DRAINAGE INFRASTRUCTURE AND ALL OF ITS COMPONENTS AS SHOWN ON THE SITE DEVELOPMENT PLANS, INCLUDING THE DETENTION FACILITIES AND OUTFALL AREAS OF THE DRAINAGE SYSTEM. THE STRUCTURES OF THE SYSTEM SHALL INCLUDE THE DRAINAGE SWALES AND THE OUTFALL & CONTROL STRUCTURES. THE SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DETAILS AND THE APPROVED PLANS.

UPON THE COMPLETION OF CONSTRUCTION THE DRAINAGE SYSTEM DESCRIBED ABOVE AND AS DEPICTED ON THE SITE PLANS SHALL BECOME PROPERTY OF THE LAND OWNER.

**II. RESPONSIBLE PARTIES:**  
THE OPERATOR OF THE SITE SHALL BE CONSIDERED THE RESPONSIBLE PARTY FOR THE OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM. THE SYSTEM SHALL INCLUDE THE DRAINAGE INFRASTRUCTURE AND ALL OF ITS COMPONENTS AS SHOWN ON THE APPROVED PLANS. THE SYSTEM SHALL ALSO INCLUDE THE DETENTION FACILITIES AND THE OUTFALL AREAS OF THE DRAINAGE SYSTEM.

**III. INSPECTION & MAINTENANCE SCHEDULE:**  
THE FOLLOWING MAINTENANCE SCHEDULE SHALL BE FOLLOWED IN ORDER TO MAINTAIN THE EFFECTIVENESS OF THE STORMWATER MANAGEMENT SYSTEM.

STRUCTURE TYPE	INSPECTION	MAINTENANCE	TASK
SUBDRAINS	EVERY 2 YEARS	EVERY 4 YEARS	REPLACE PEASTONE
CATCH BASINS	QUARTERLY AND AT THE END OF END OF THE FOLIAGE AND SNOW REMOVAL SEASONS	QUARTERLY, OR WHENEVER THE DEPTH OF DEPOSITS IS GREATER THAN OR EQUAL TO ONE HALF THE DEPTH FROM THE BOTTOM OF THE INVERT OF THE LOWEST PIPE	REMOVE SEDIMENT FROM SUMPS  ***GRATES TO BE KEPT CLEAR THROUGHOUT THE YEAR***
HYDROWORKS - HYDROGUARD	ANNUALLY IN THE SPRING	ANNUALLY IN THE SPRING	REMOVE SEDIMENT FROM SUMPS
PARKING LOT SWEEPING	N/A	ANNUALLY IN THE SPRING	REMOVE STREET SAND BUILDUP
PIPING/MANHOLE CONNECTIONS	QUARTERLY AND AT THE END OF END OF THE FOLIAGE AND SNOW REMOVAL SEASONS	AS NEEDED	REMOVE SEDIMENT IF PRESENT. REPLACE/REPAIR DAMAGED CONNECTIONS.

NOTE: THE DETENTION BASINS ON THIS PROJECT MAY GROW VEGETATION IN THE BOTTOM WHICH MAY INCLUDE SPECIES PART OF THE WETLAND PROTECTION ACT. THESE PLANTS SHALL NOT BE CONSIDRED AS HAVING PROTECTION UNDER THE ACT AND SHALL BE CONSIDERED OPPORTUNISTIC GROWTH PLANTS. ADDITIONALLY, THIS AREA SHALL NOT BE CONSIDERED A CONSTRUCTED WETLAND.

NOTE ALL CONSTRUCTION DETAILS, MEANS AND METHODS SHALL CONFORM TO THE CITY OF WORCESTER DEPARTMENT OF PUBLIC WORKS CONSTRUCTION SPECIFICATIONS AS WELL AS MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES STANDARDS.

## DEFINITIVE PLAN

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4	12/15/22	CITY DEPARTMENT COMMENT	CMA
3	9/27/22	BUILDING/LAYOUT REVISIONS	CMA

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CIVIL ENGINEERS & LAND SURVEYORS

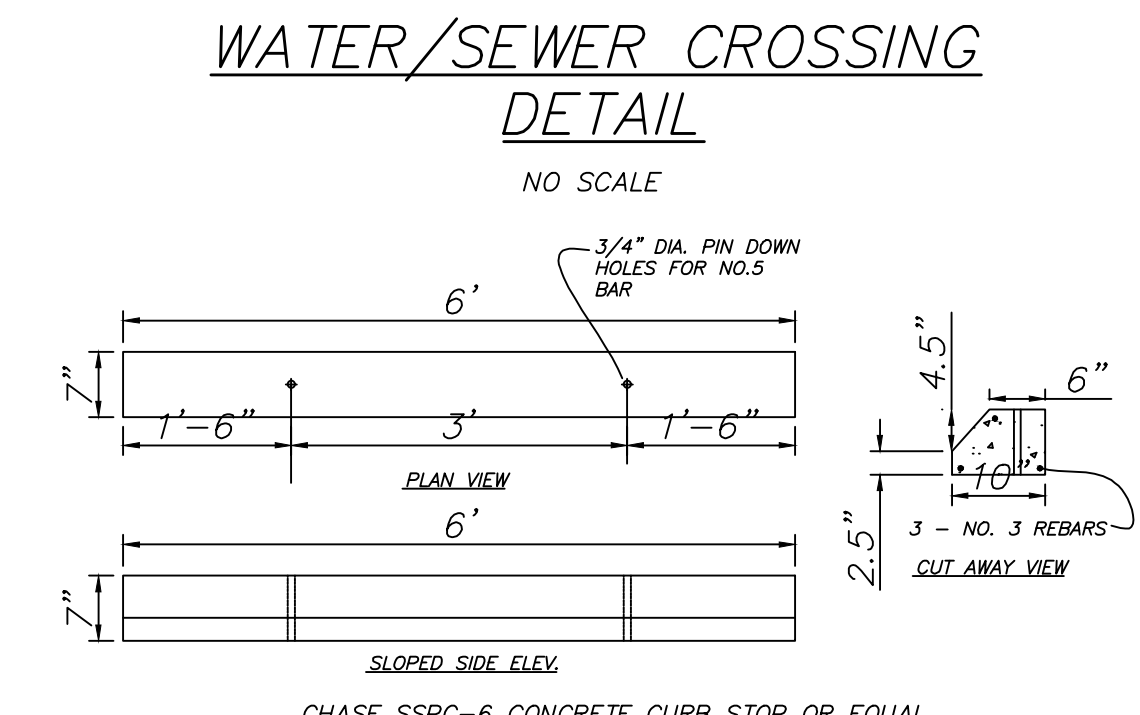
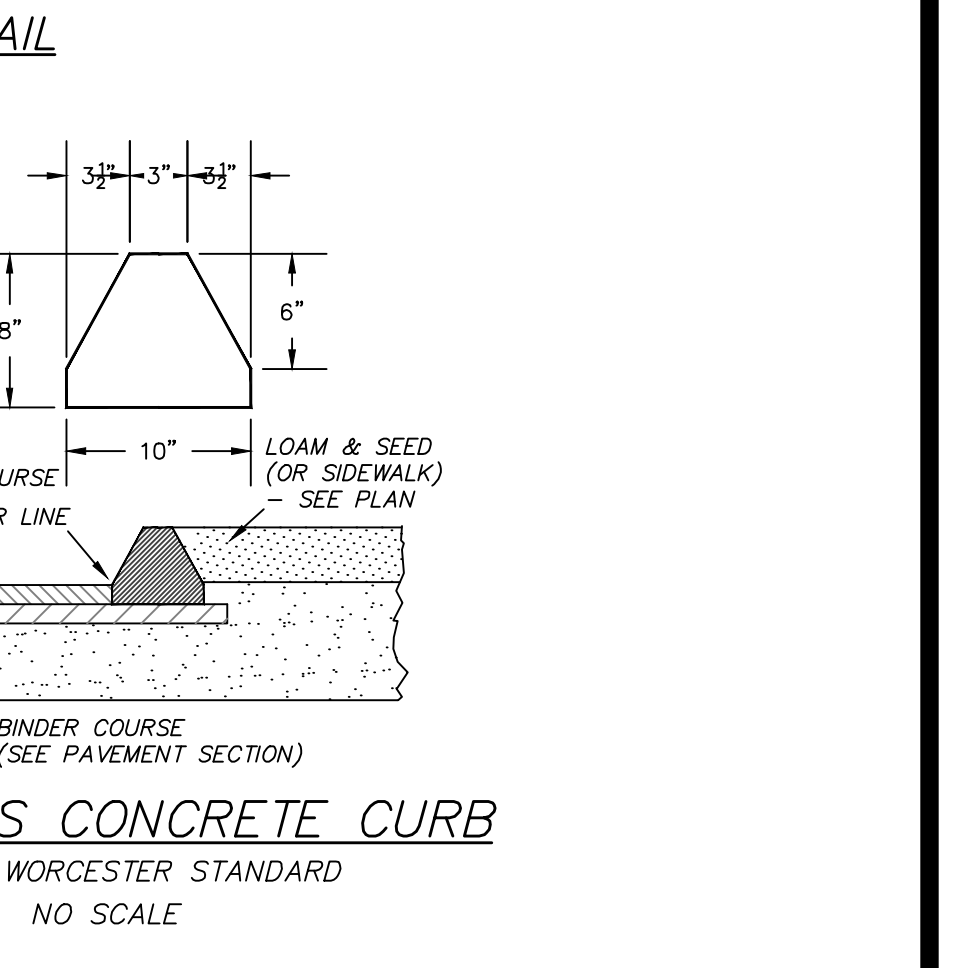
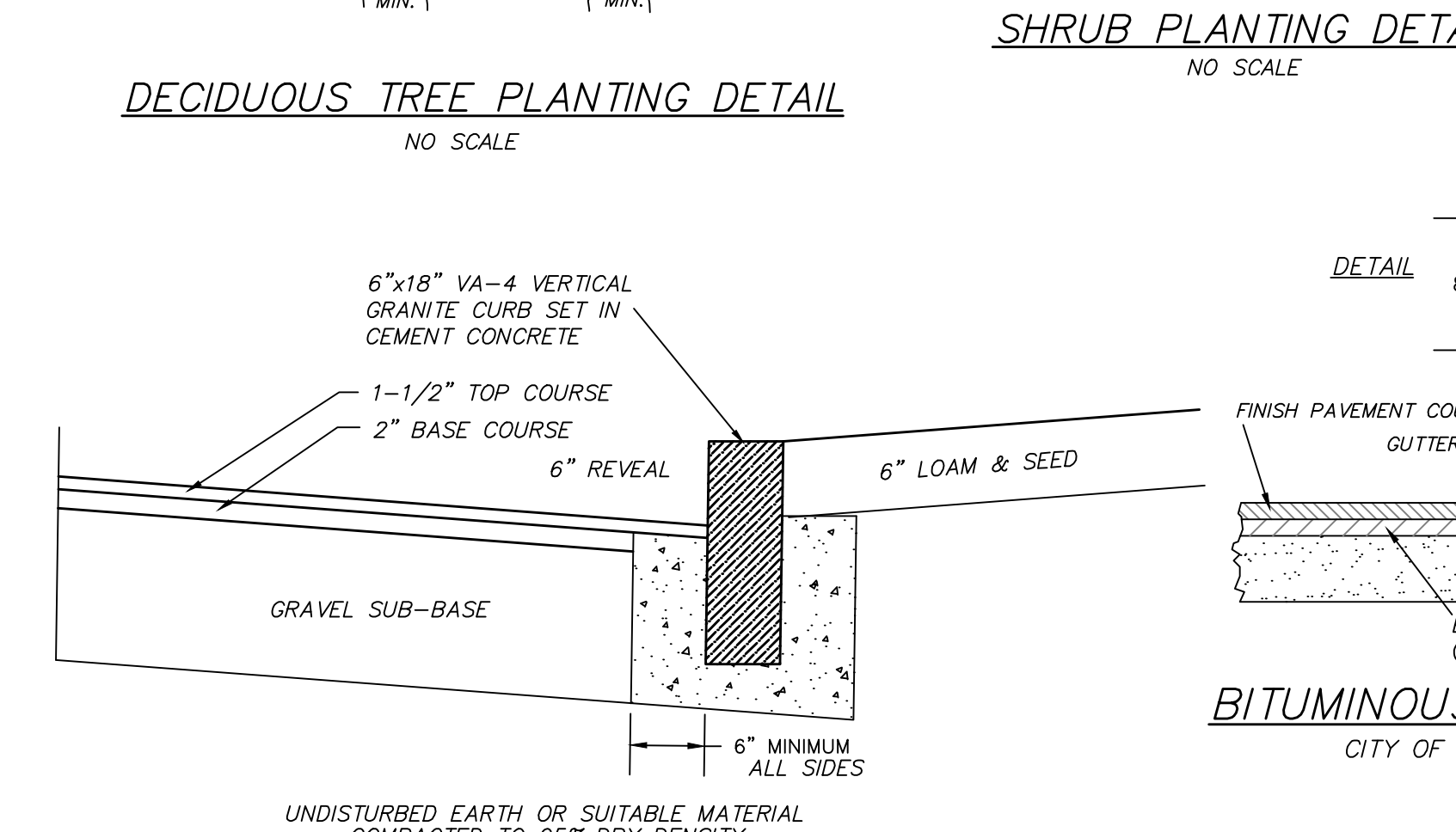
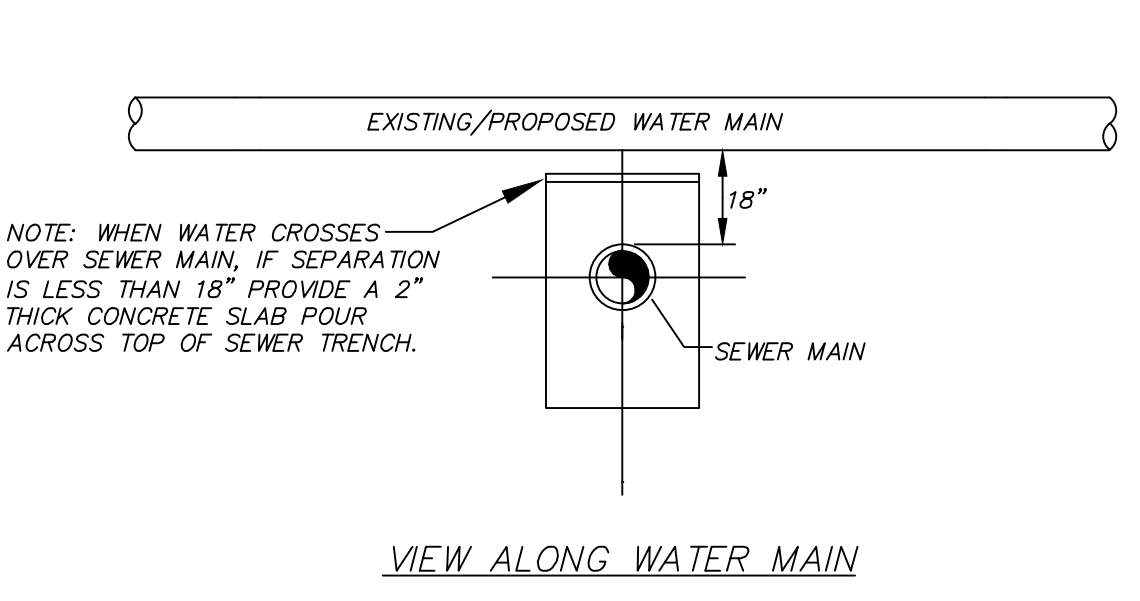
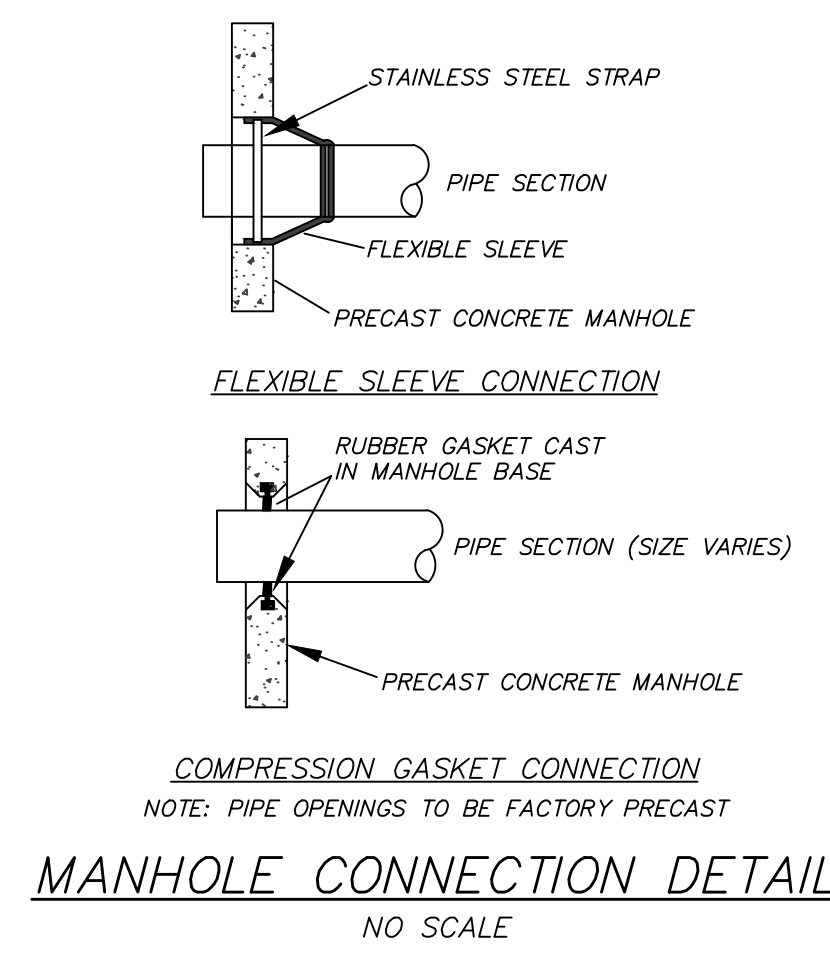
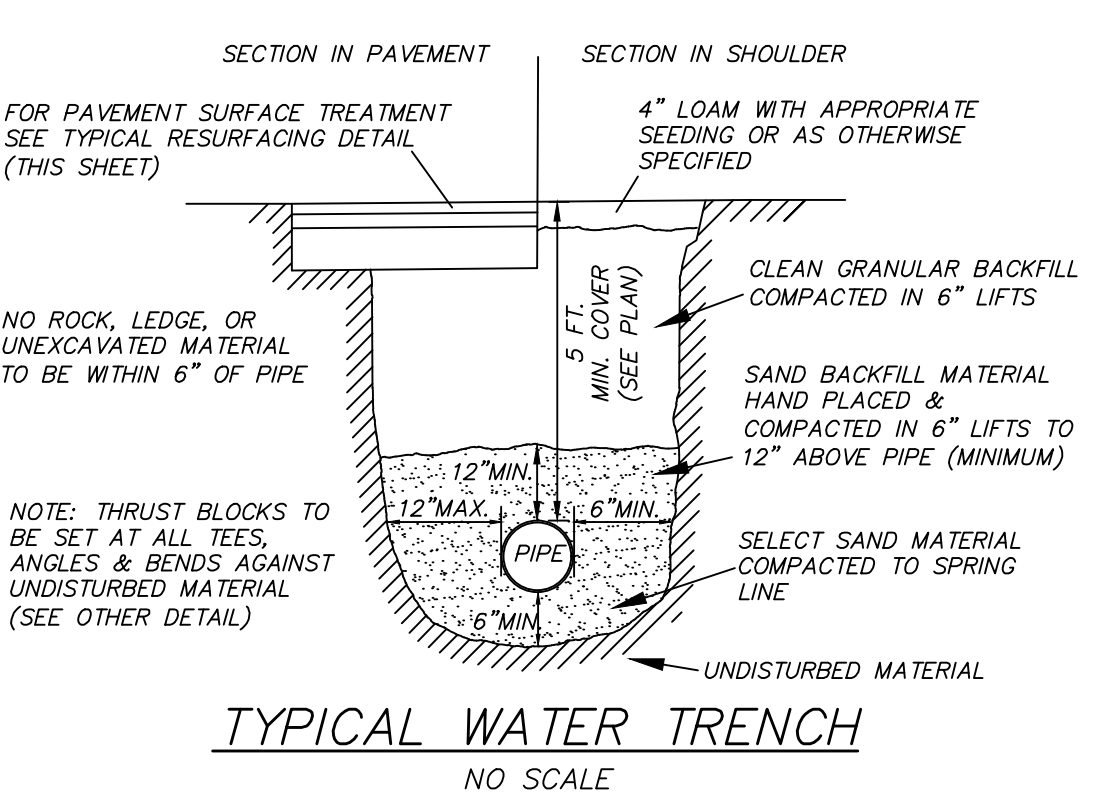
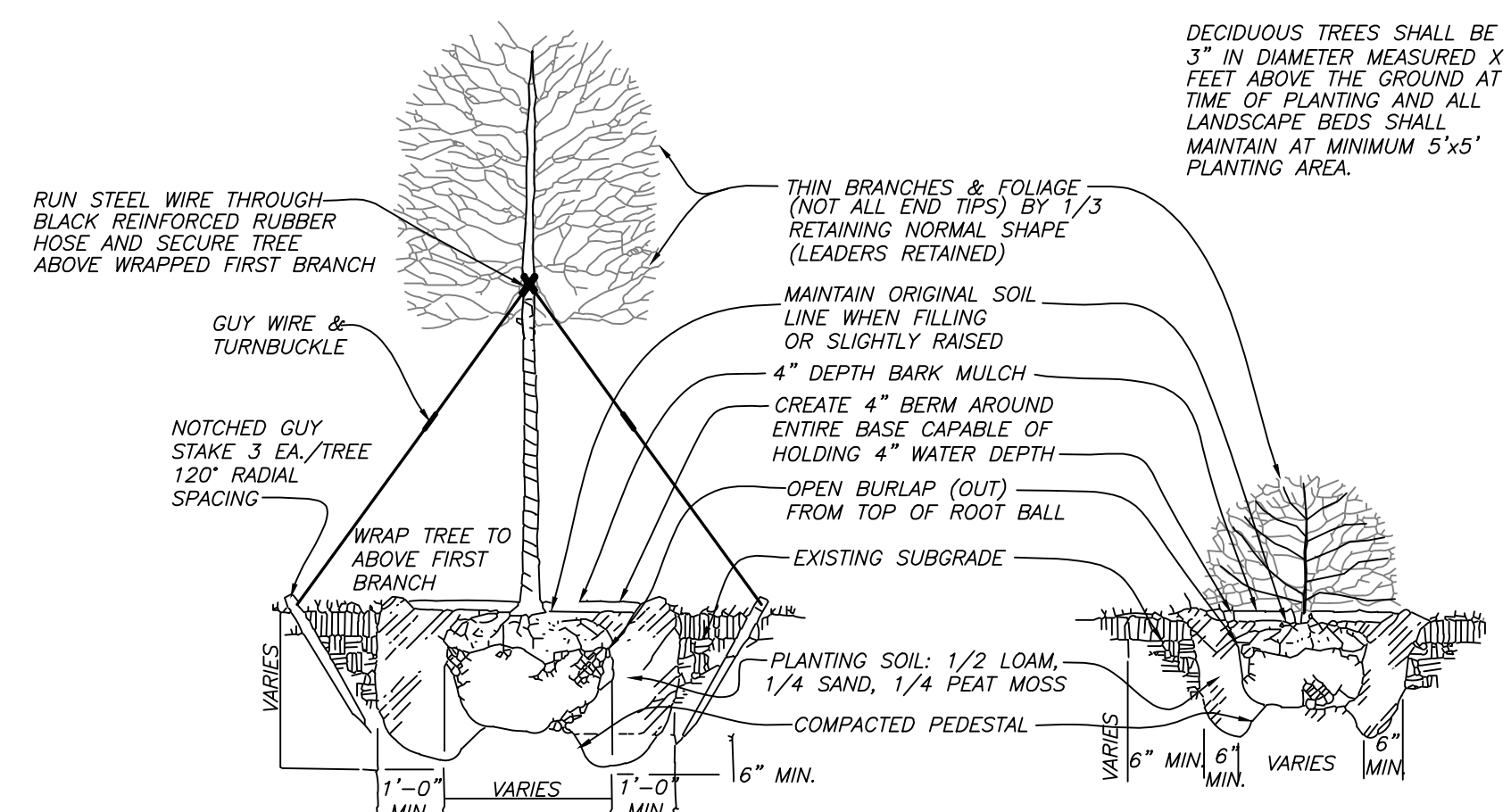
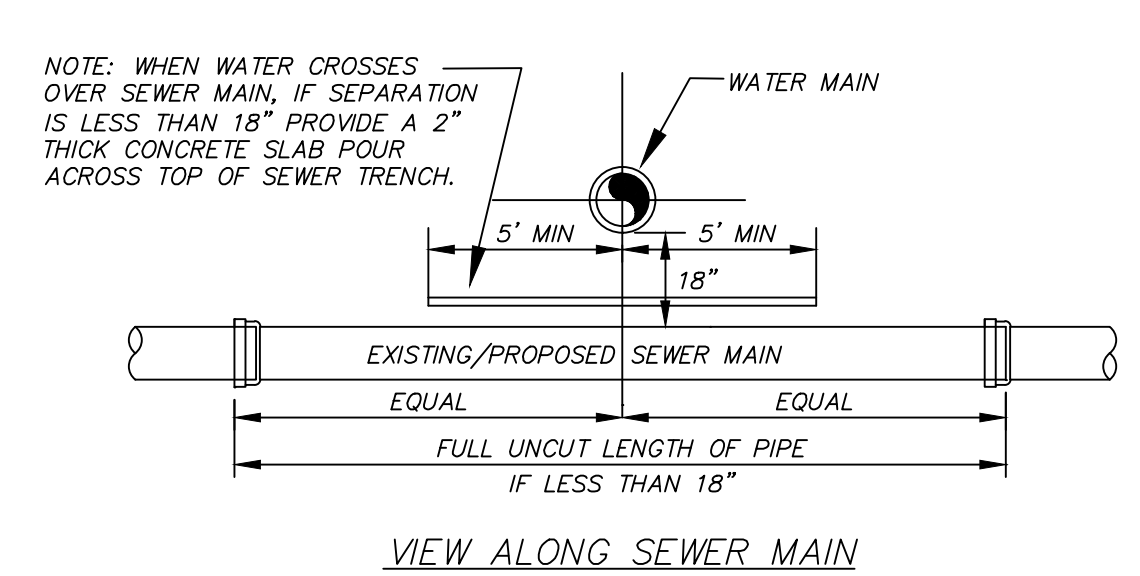
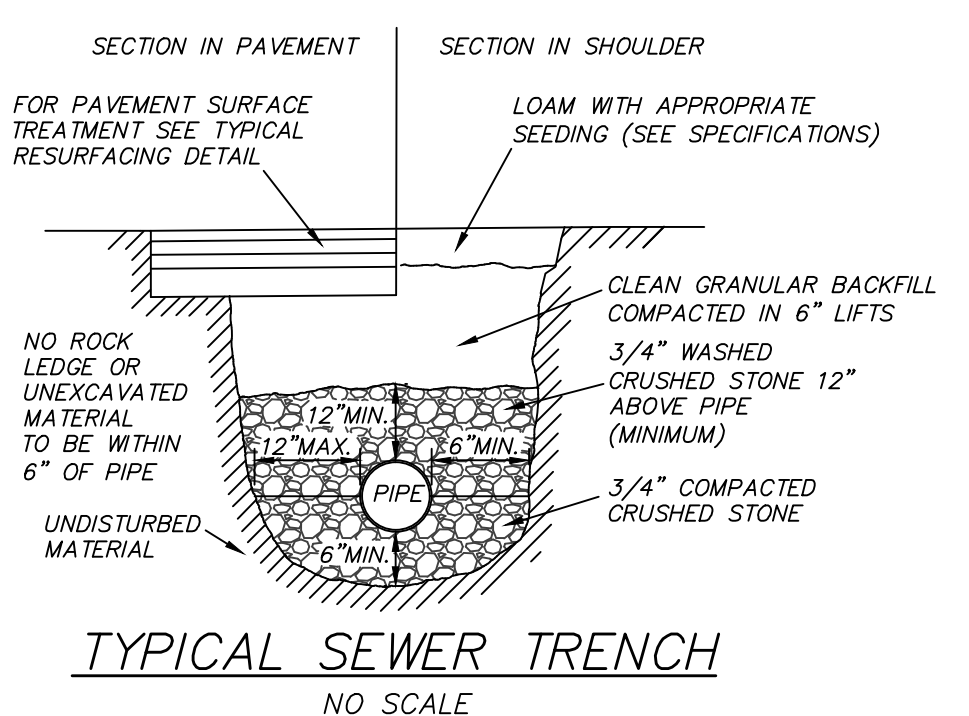
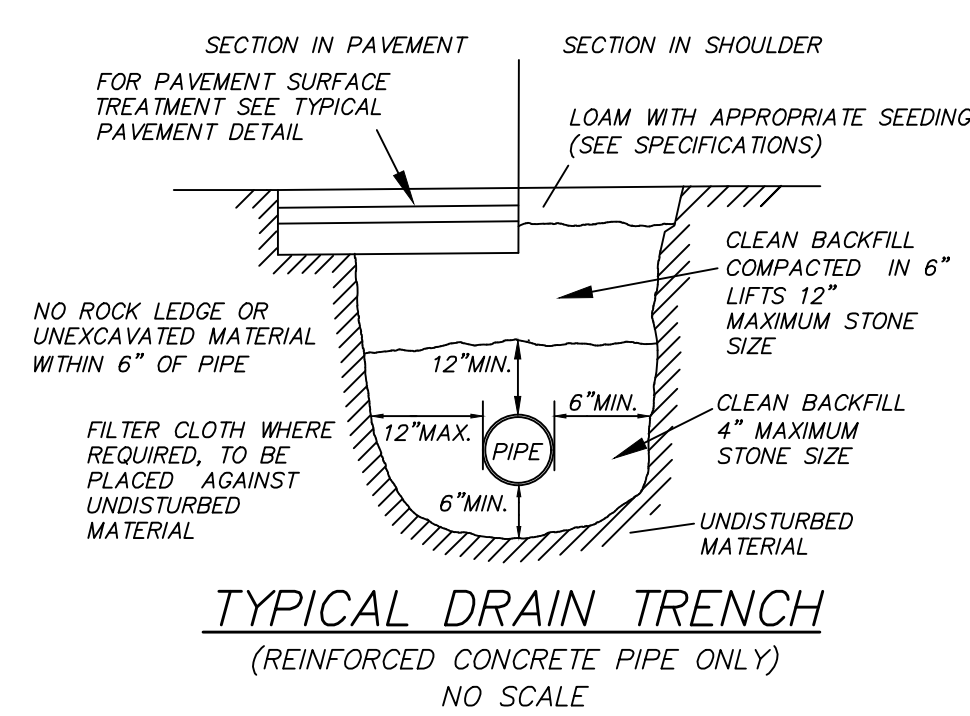
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**CONSTRUCTION DETAILS**  
IN  
**WORCESTER, MASSACHUSETTS**

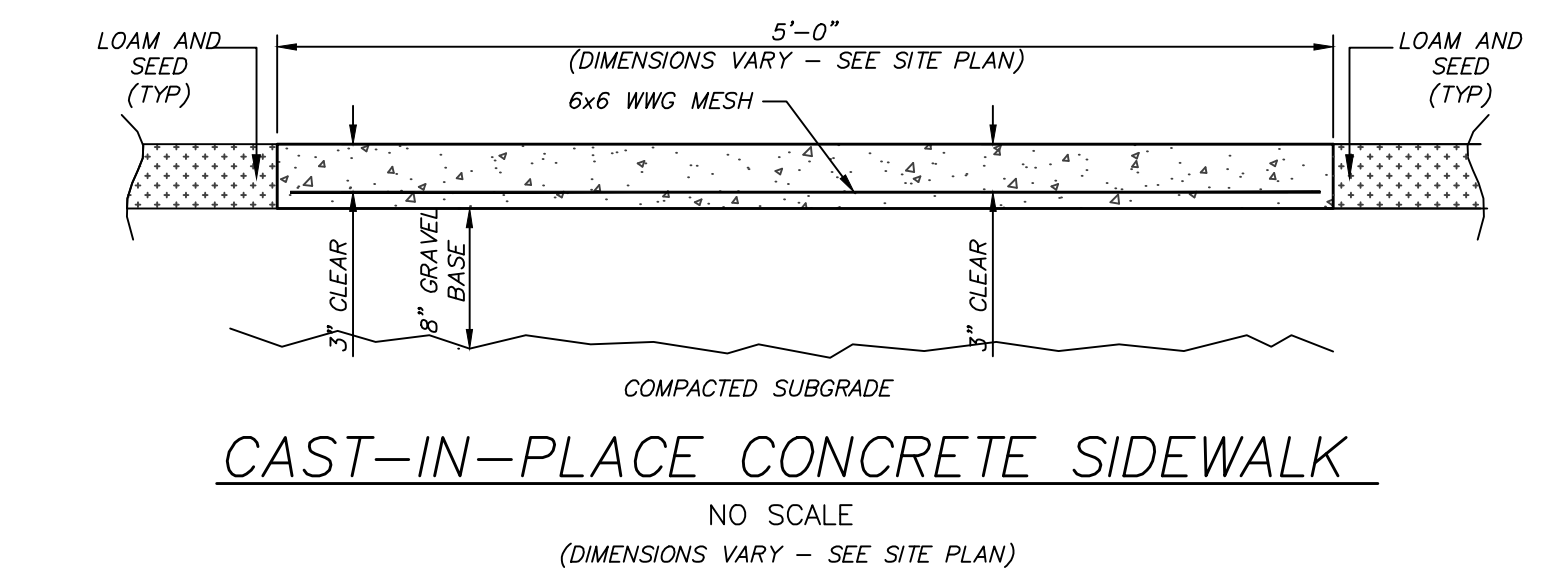
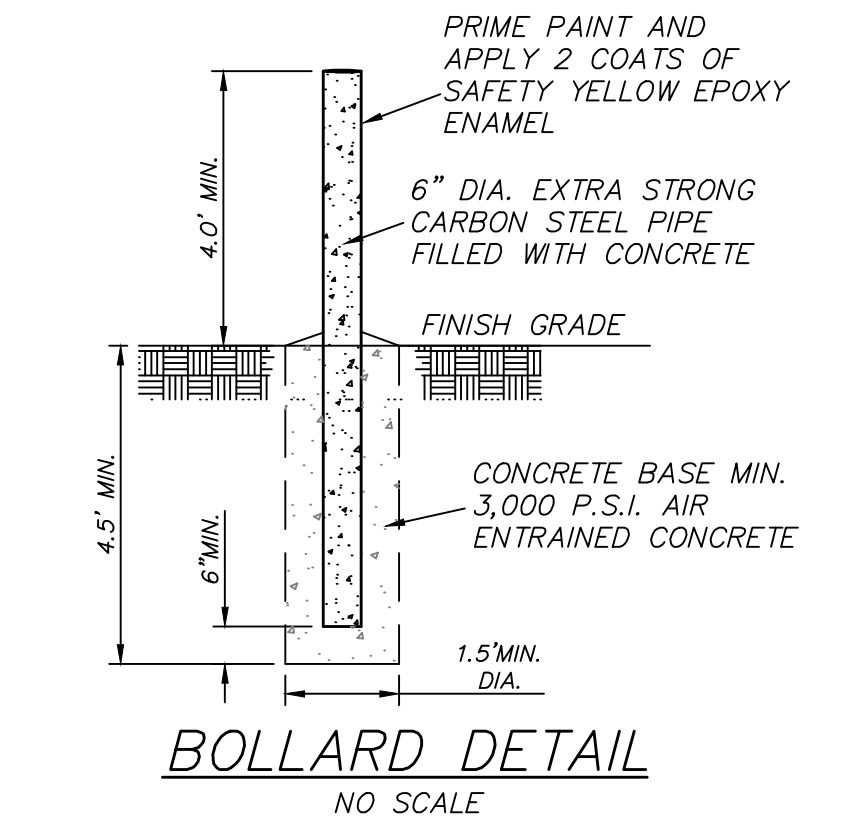
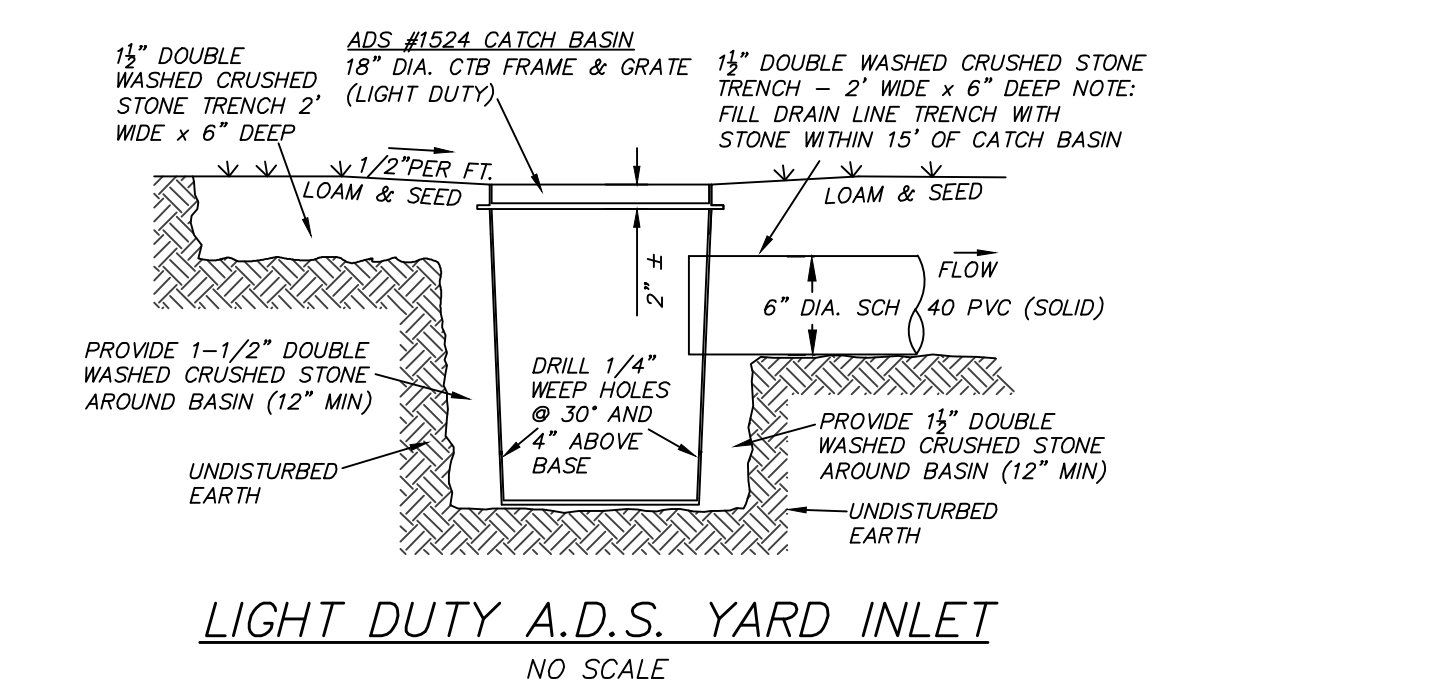
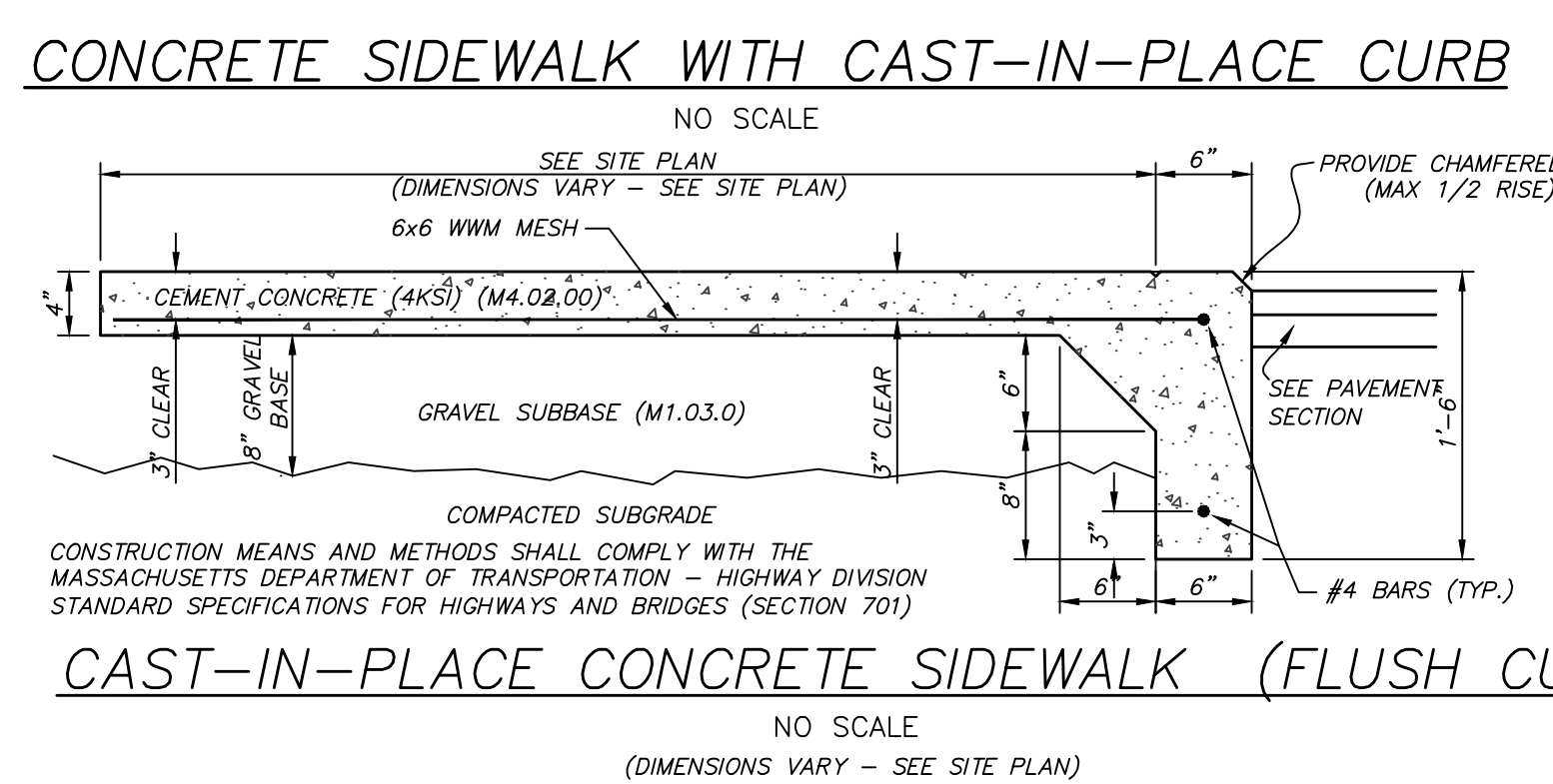
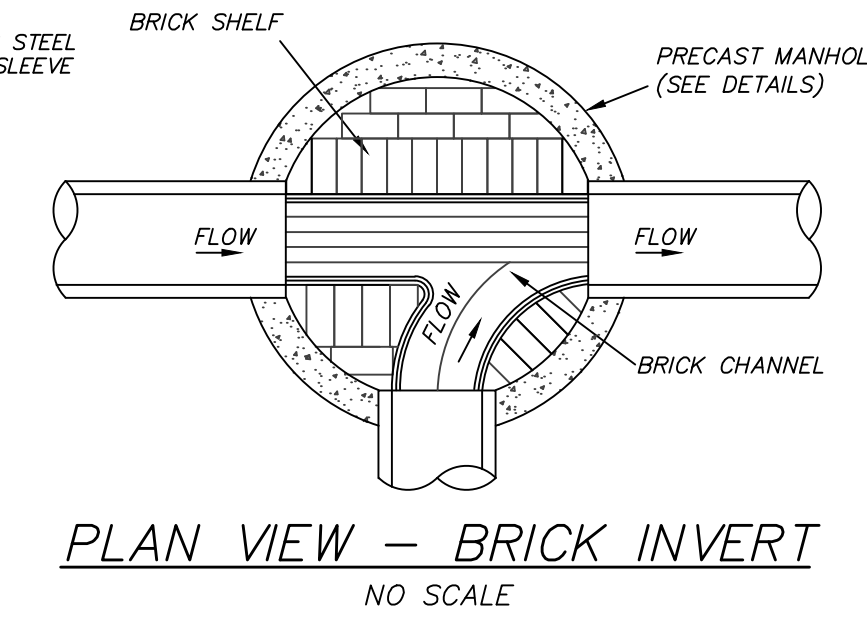
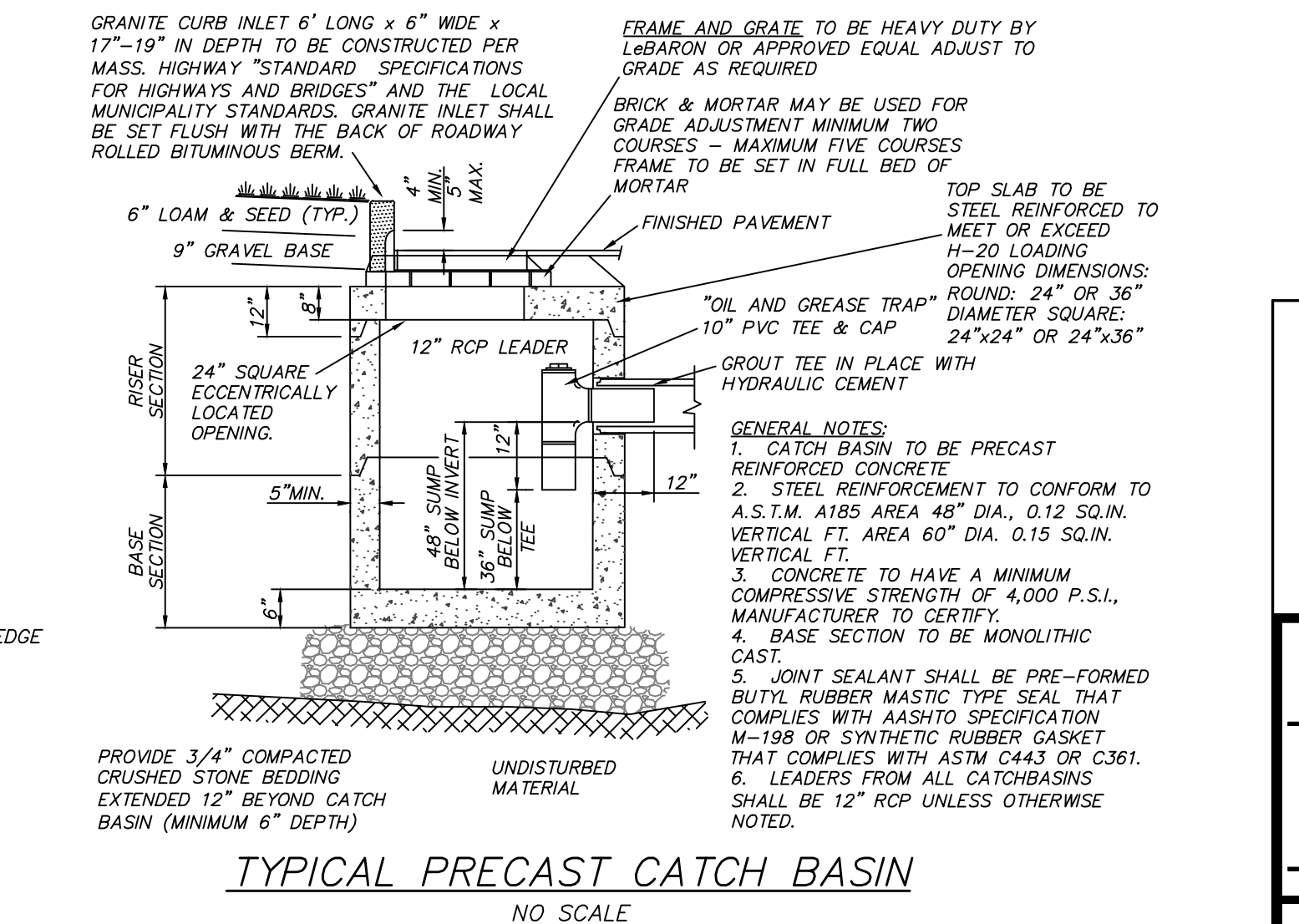
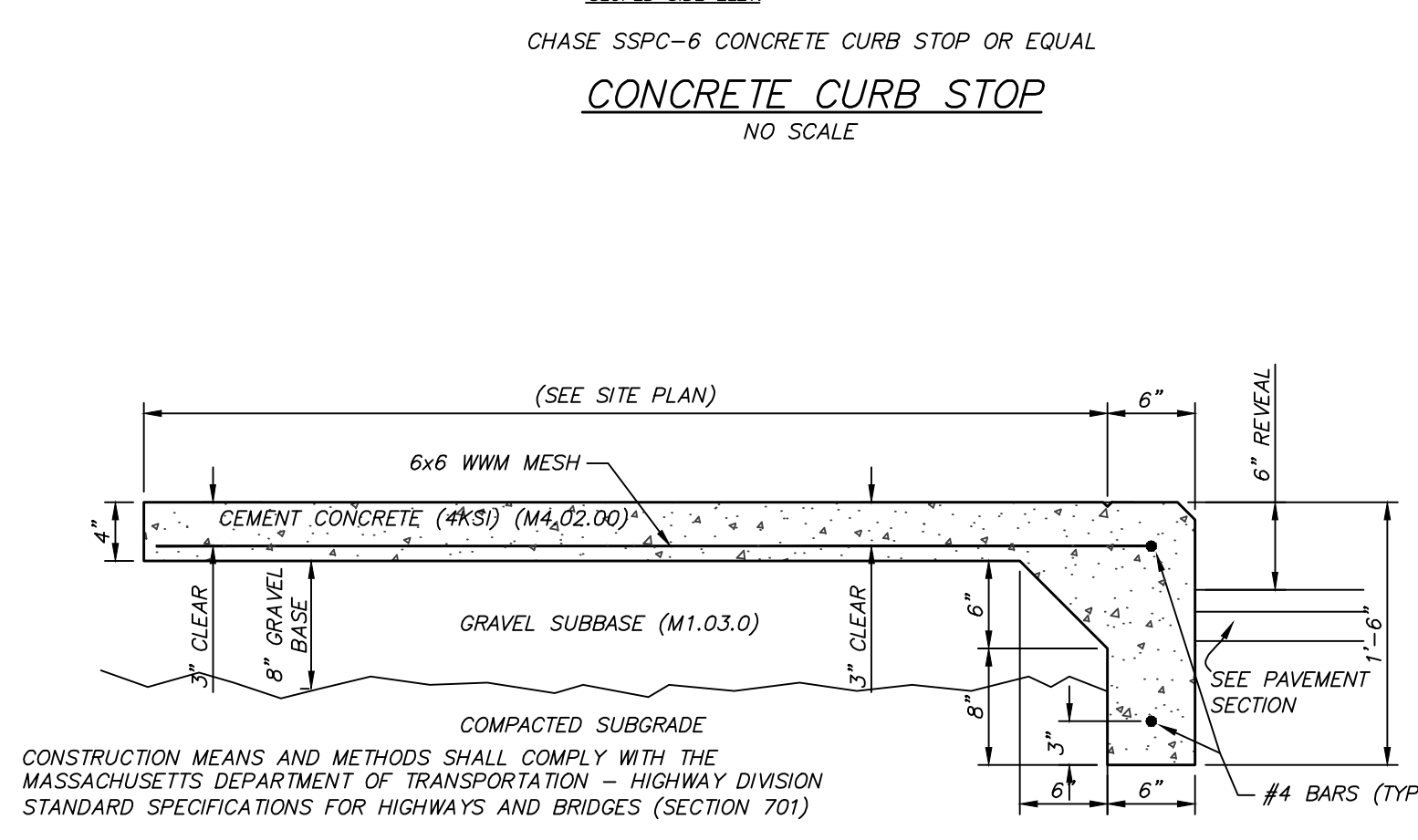
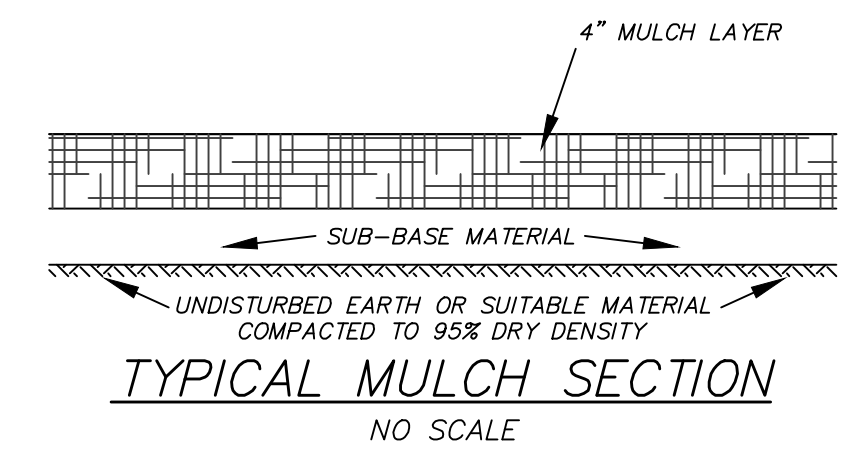
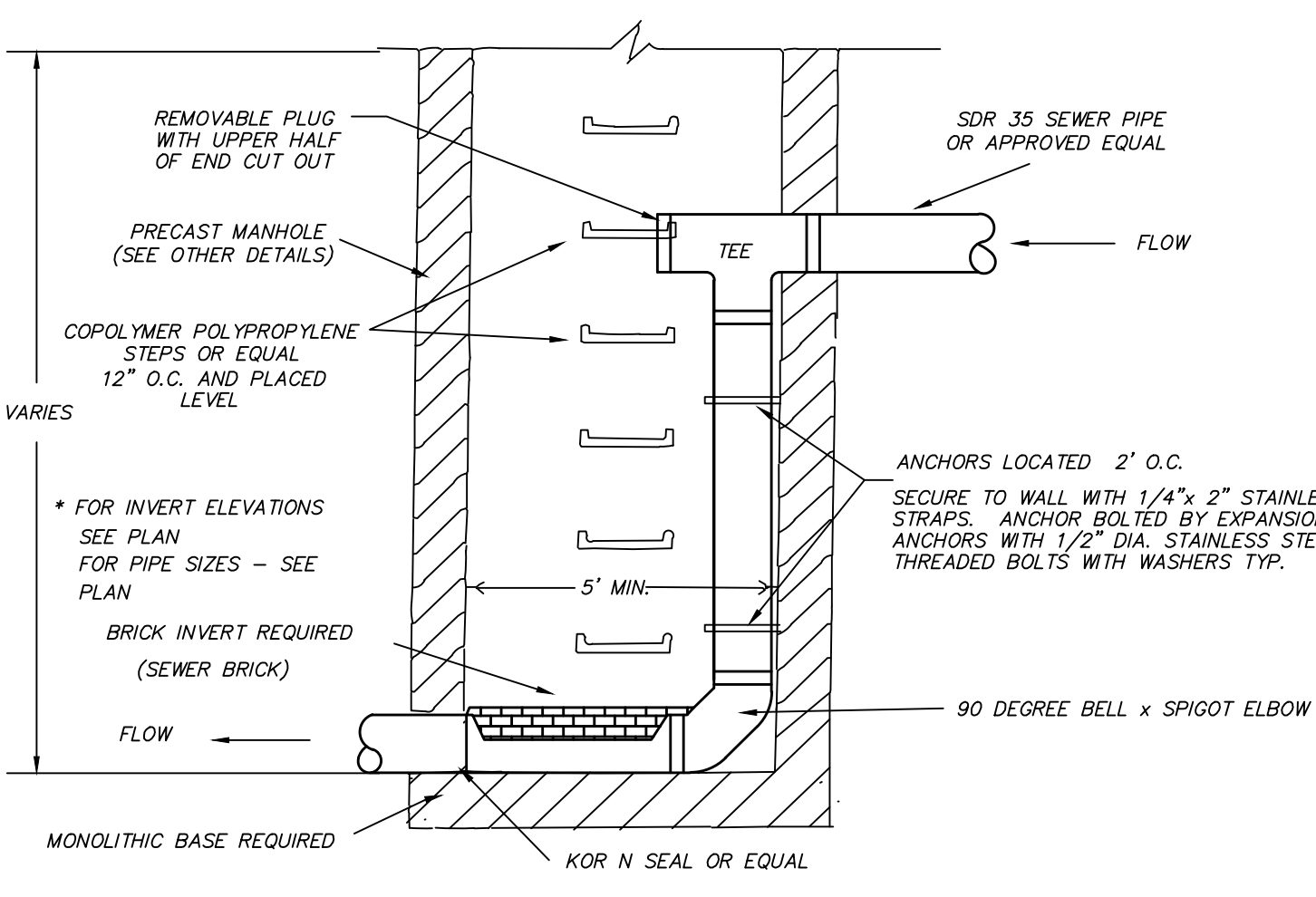
PREPARED FOR:  
GOVENTURE CAPITAL GROUP, LLC  
BRENDAN GOVE  
10 E. WORCESTER STREET, SUITE 3A  
WORCESTER, MASSACHUSETTS 01605  
TEL:

CALC:	CMA/WDH	DRWN:	CMA/WDH	SCALE:	NA
CHKD:	WDH	APPD:	WDH	DATE:	NOV 12, 2021
SRV:	NA	FB:	NA	JOB NO:	3030
TAB:	(8-13) DET	SHEET	8 OF 13	PLAN NO:	C-18-9

NOTE ALL CONSTRUCTION DETAILS, MEANS AND METHODS SHALL CONFORM TO THE CITY OF WORCESTER DEPARTMENT OF PUBLIC WORKS CONSTRUCTION SPECIFICATIONS AS WELL AS MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES STANDARDS.



FOR USE ON LOCUS PROPERTIES



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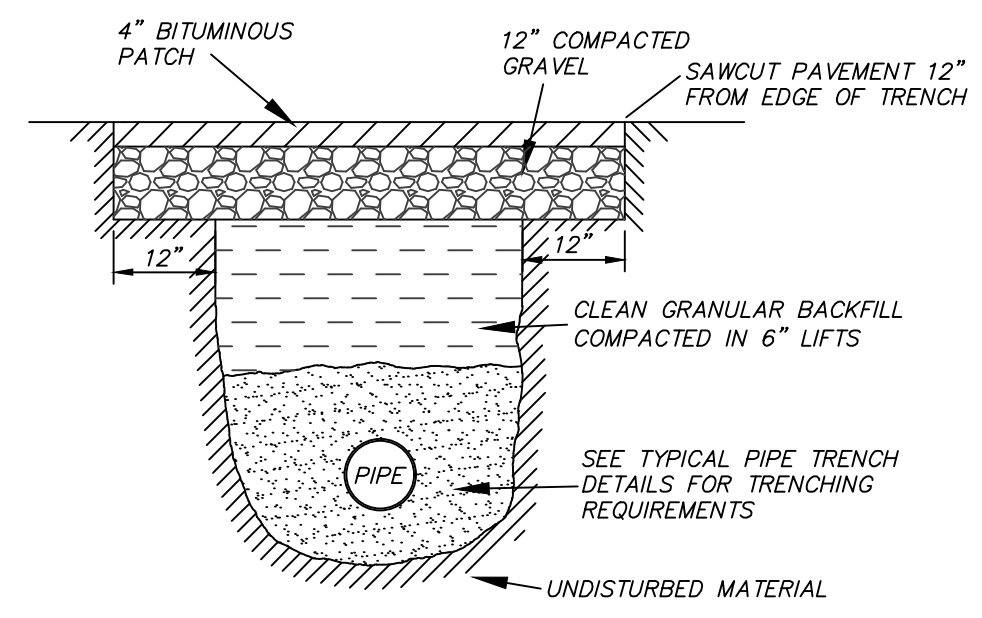
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LEOMINSTER, MASSACHUSETTS 01453  
WWW.HANNIGANENGINEERING.COM

**CONSTRUCTION DETAILS**  
IN  
**WORCESTER, MASSACHUSETTS**

PREPARED FOR:  
GOVENTURE CAPITAL GROUP, LLC  
BRENDAN GOVE  
10. E. WORCESTER STREET, SUITE 3A  
WORCESTER, MASSACHUSETTS 01605  
TEL:

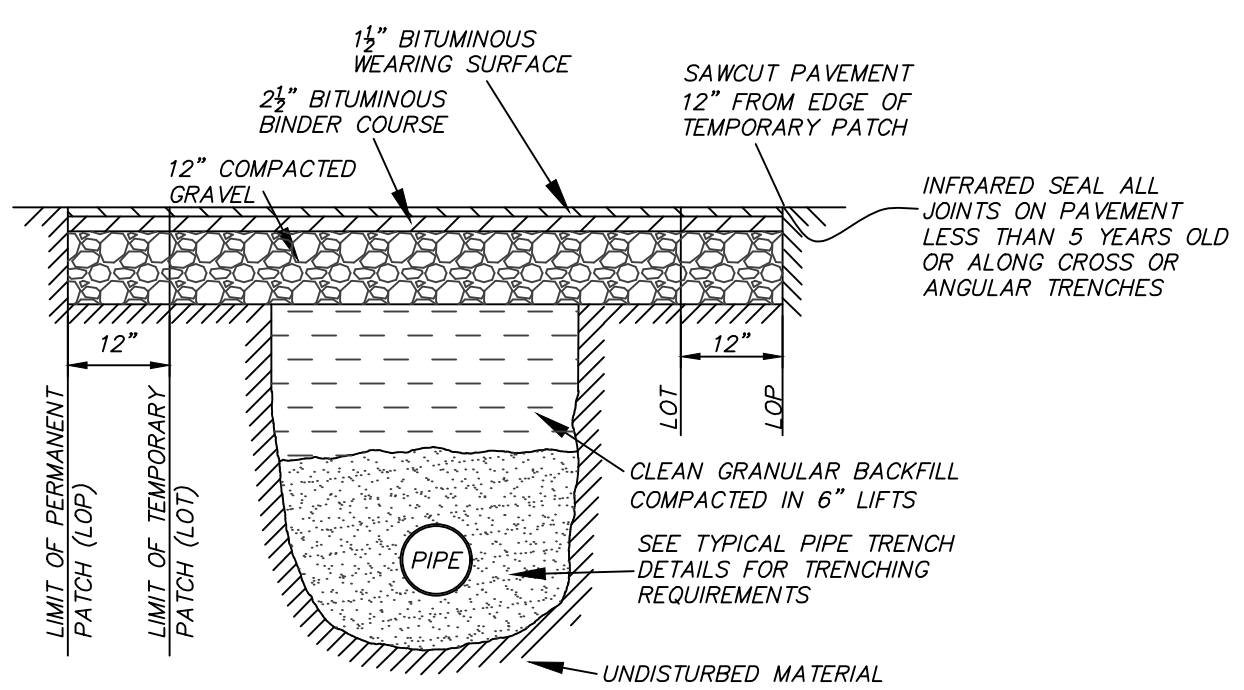
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APPLICANT:  
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10. E. WORCESTER STREET, SUITE 3A  
WORCESTER, MASSACHUSETTS 01605



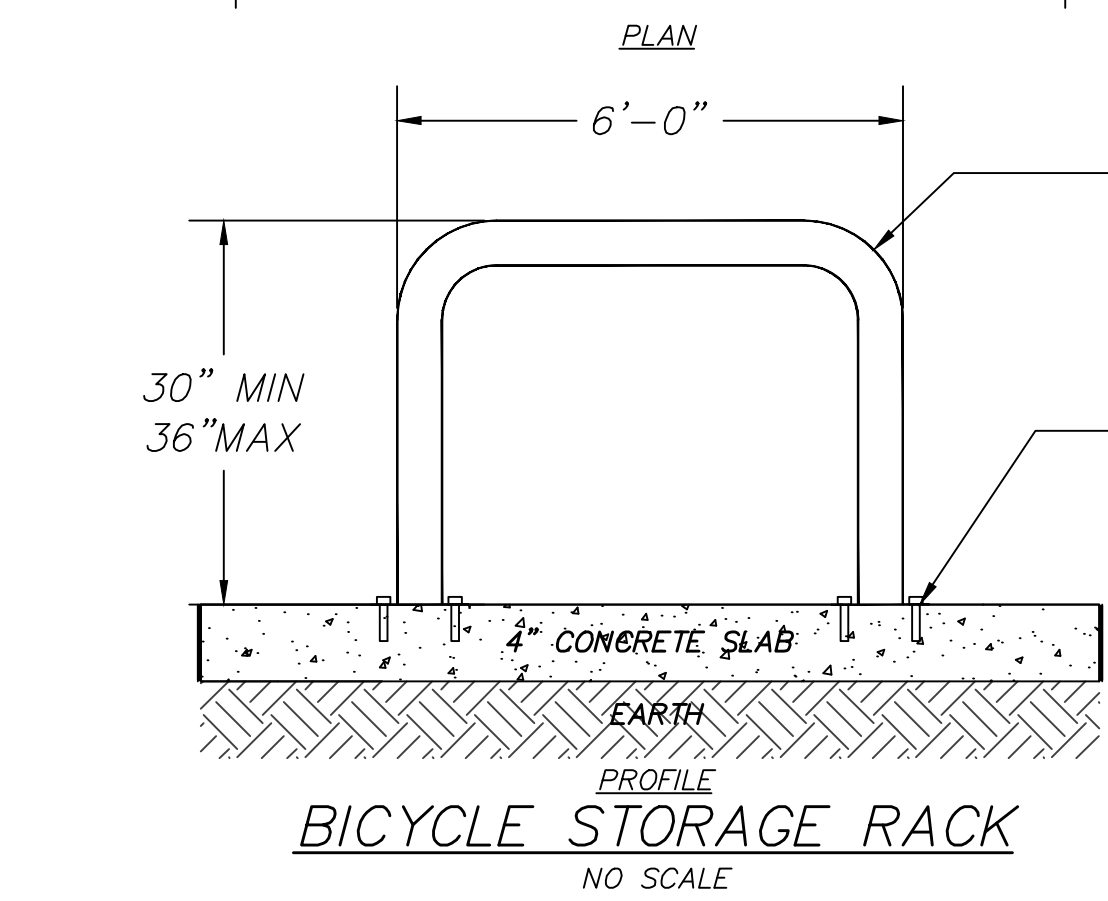
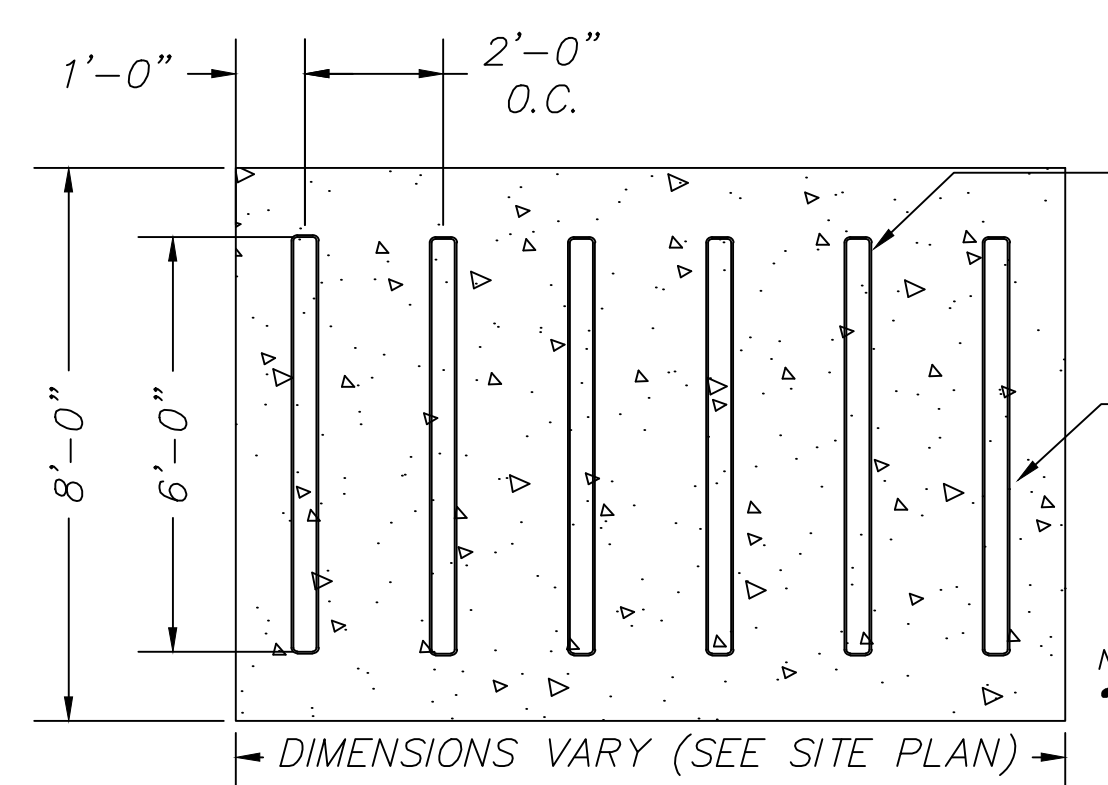
AFTER BACKFILLING HAS BEEN COMPLETED AND SUB GRADE REESTABLISHED, A FOUR (4) INCH BITUMINOUS CONCRETE, TYPE I TEMPORARY PATCH SHALL BE INSTALLED AND MAINTAINED UNTIL A PERMANENT PATCH IS INSTALLED (SEE DETAIL).

TEMPORARY PATCH DETAIL  
NO SCALE



PERMANENT PATCH DETAIL  
NO SCALE

- TRENCH PATCHING NOTES:**
- UPON COMPLETION OF THE TRENCH/UTILITY INSTALLATION WORK, AND ONLY AFTER REQUIRED BACKFILLING AND COMPACTION HAS BEEN ACHIEVED, SHALL ROAD PATCHING OPERATIONS BEGIN. IN NO EVENT SHALL OPENINGS BE ALLOWED TO BE LEFT UN-PATCHED FOR MORE THAN FORTY-EIGHT (48) HOURS WITHOUT WRITTEN APPROVAL OF THE DEPARTMENT OF PUBLIC WORKS (DPW).
  - ALL ROAD PATCHES SHALL BE PLACED PERPENDICULAR OR PARALLEL TO TRAFFIC FLOW. ANGULAR PATCHES ACROSS THE ROADWAY SHALL NOT BE PERMITTED WITHOUT DPW APPROVAL. ALL TRENCHES SHALL BE SAW-CUT TO PROVIDE A VERTICAL JOINT FOR PATCHING.
  - HOT PATCH SHALL BE USED AT ALL TIMES EXCEPT WHEN SEASONAL CONDITIONS WARRANT THE USE OF A TEMPORARY COLD PATCH.
  - IF A TEMPORARY PATCH IS USED, THE DPW SHALL BE NOTIFIED AS TO WHEN A PERMANENT PATCH IS TO BE PLACED. THE CONTRACTOR IS RESPONSIBLE UNTIL THE PERMANENT PATCH IS IN PLACE.
  - TEMPORARY PATCHES SHALL BE MAINTAINED BY THE CONTRACTOR THROUGH ONE WINTER-SPRING SEASON. PERMANENT PATCH WILL BE REQUIRED ON ALL TRENCHES AND SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR.
  - PERMANENT PATCHES IN A HEAVILY TRAVELED AREA, AS DETERMINED BY THE DPW, SHALL BE REINFORCED WITH A CONCRETE SLAB NO LESS THAN FIVE (5) INCHES THICK. CONSTRUCTION SHALL COMPLY WITH SECTION 430 OF THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
  - TEMPORARY AND PERMANENT PATCHES SHALL BE NO LESS THAN FOUR (4) INCHES THICK OR THE THICKNESS OF THE EXISTING PAVEMENT, WHICHEVER IS GREATER.
  - TEMPORARY AND PERMANENT PATCHES SHALL BE ROLLED AND COMPACTED TO MATCH THE EXISTING SURFACE IN A GOOD WORKMANLIKE MANNER AND ALL ABUTTING SURFACES SEALED.
  - PERMANENT PATCHES WILL BE MAINTAINED BY THE CONTRACTOR FOR A PERIOD OF NINETY (90) DAYS AT WHICH TIME THE PATCH WILL BE FINALIZED BY THE INFRARED METHOD OF PATCHING. NO INFRARED PATCHING WILL BE REQUIRED ON ANY PAVEMENT THAT IS FIVE (5) YEARS OLD OR GREATER.
  - ALL MATERIALS AND CONSTRUCTION METHODS MUST MEET THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
  - THE REPAINTING OF TRAFFIC LINES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE TOWN SHALL BE NOTIFIED PRIOR TO THE PAINTING OF ANY NEW TRAFFIC MARKINGS.
  - THE CONTRACTOR SHOULD EXERCISE EXTREME CARE TO PREVENT THE DAMAGE TO MAJOR ROOT SYSTEMS OF TREES.
  - WHERE MANHOLES ARE TO BE PLACED IN THE HARDENED SURFACE, ALL MANHOLE COVERS SHALL BE SET IN CONCRETE COLLARS TO WITHIN FOUR (4) INCHES OF THE EXISTING SURFACE. A PATCH OF CLASS I BITUMINOUS PAVEMENT TYPE I SHALL BE PLACED OVER THE CONCRETE COLLAR TO A LEVEL WITH THE PAVEMENT GRADE WHEN SATISFACTORILY COMPACTED.
  - WITH THE EXCEPTION OF EMERGENCY WORK, NO EXCAVATION SHALL BE PERMITTED FROM DECEMBER 1 TO APRIL 1. WORK WITHIN THIS PERIOD MAY BE ALLOWED AT THE DISCRETION OF THE TOWN.

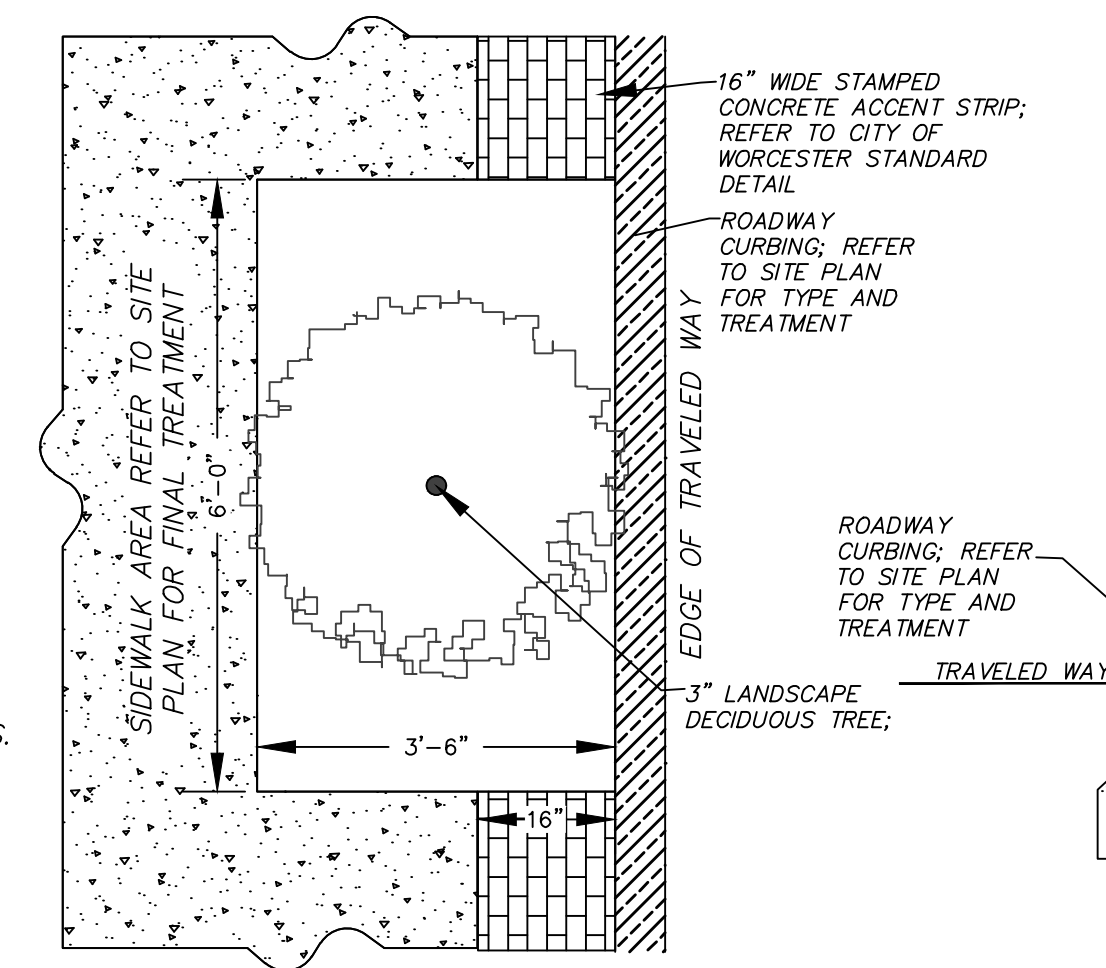


BICYCLE STORAGE RACK  
NO SCALE

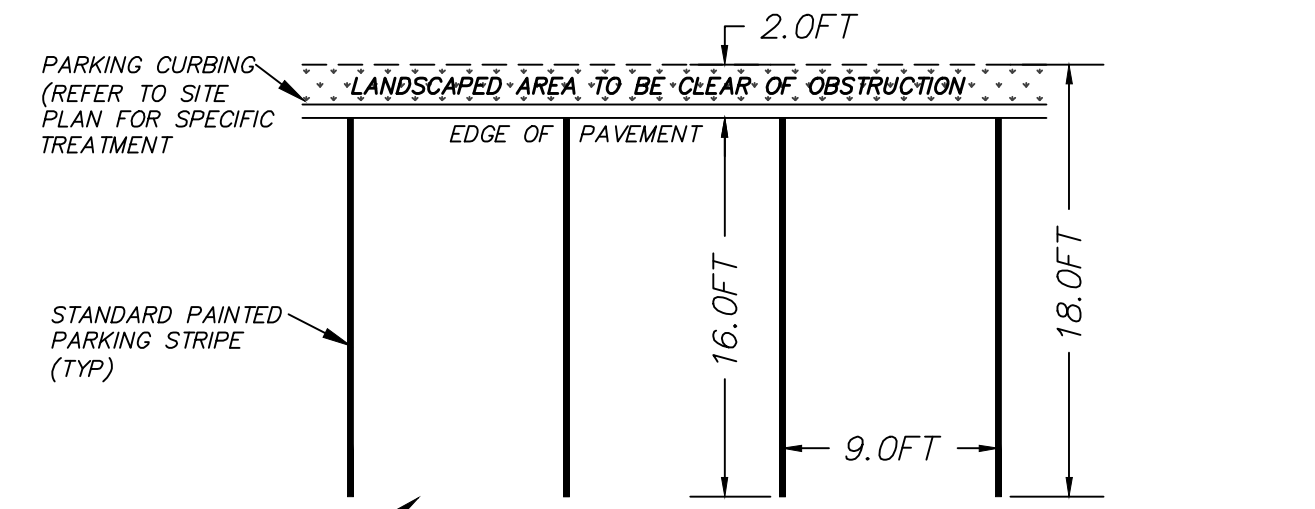
1-1/2" O.D. SCHEDULE 40 STAINLESS STEEL INVERTED "U" BUMPER; SET BUMPER 1'-0" CLEAR OF PAD FASCIA

NOTE: SIZE AND CONFIGURATION OF BICYCLE STORAGE RACK DEPICTED IN A GENERAL MANNER. FINAL SIZE AND MATERIAL TO BE BASED ON MANUFACTURER SPECIFICATIONS.

MOUNTING PLATE AND ANCHOR BOLTS SIZE AND CONFIGURATION TO BE DETERMINED BY MANUFACTURER



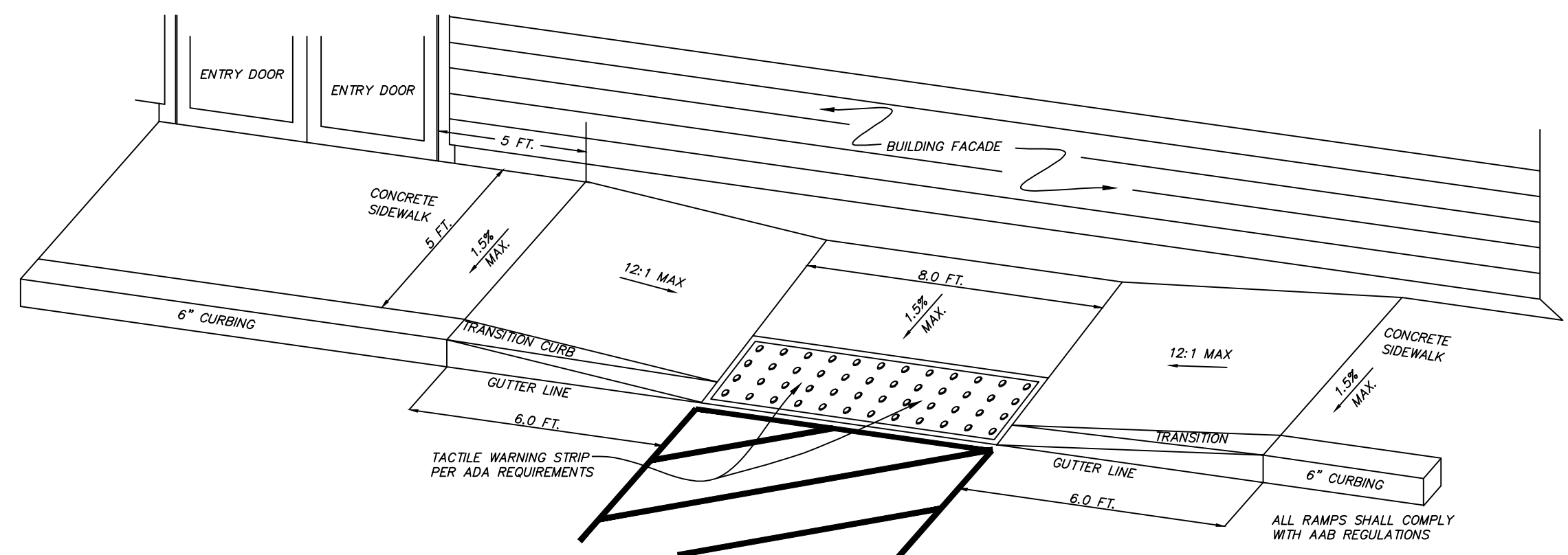
STREET TREE PLANTING DETAIL  
NO SCALE



REDUCED LENGTH PARKING STALL DIAGRAM  
NO SCALE

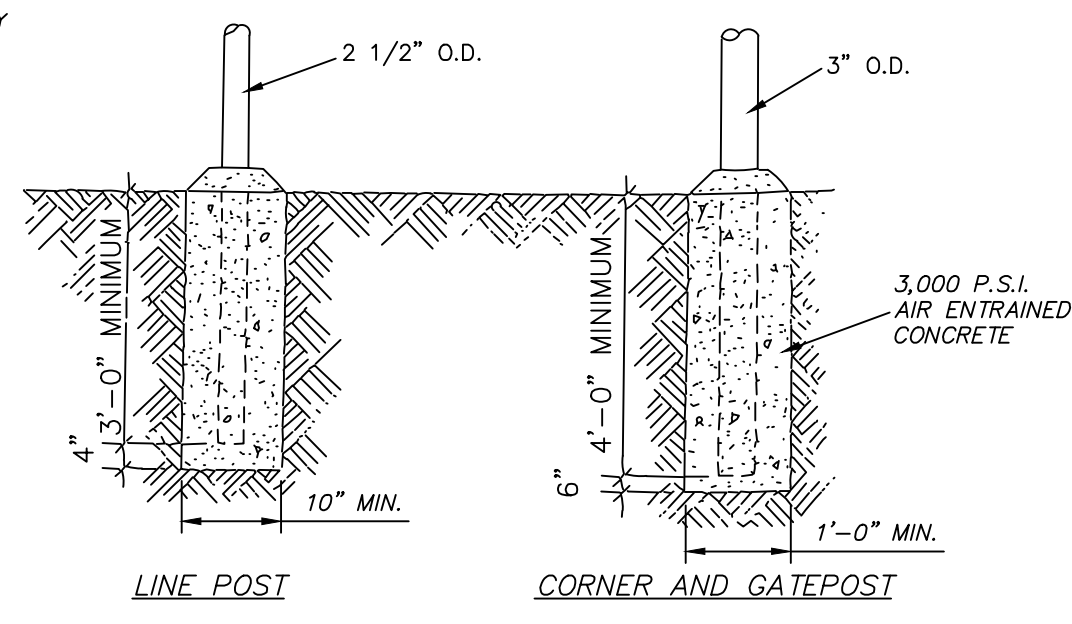
**APPLICANT:**  
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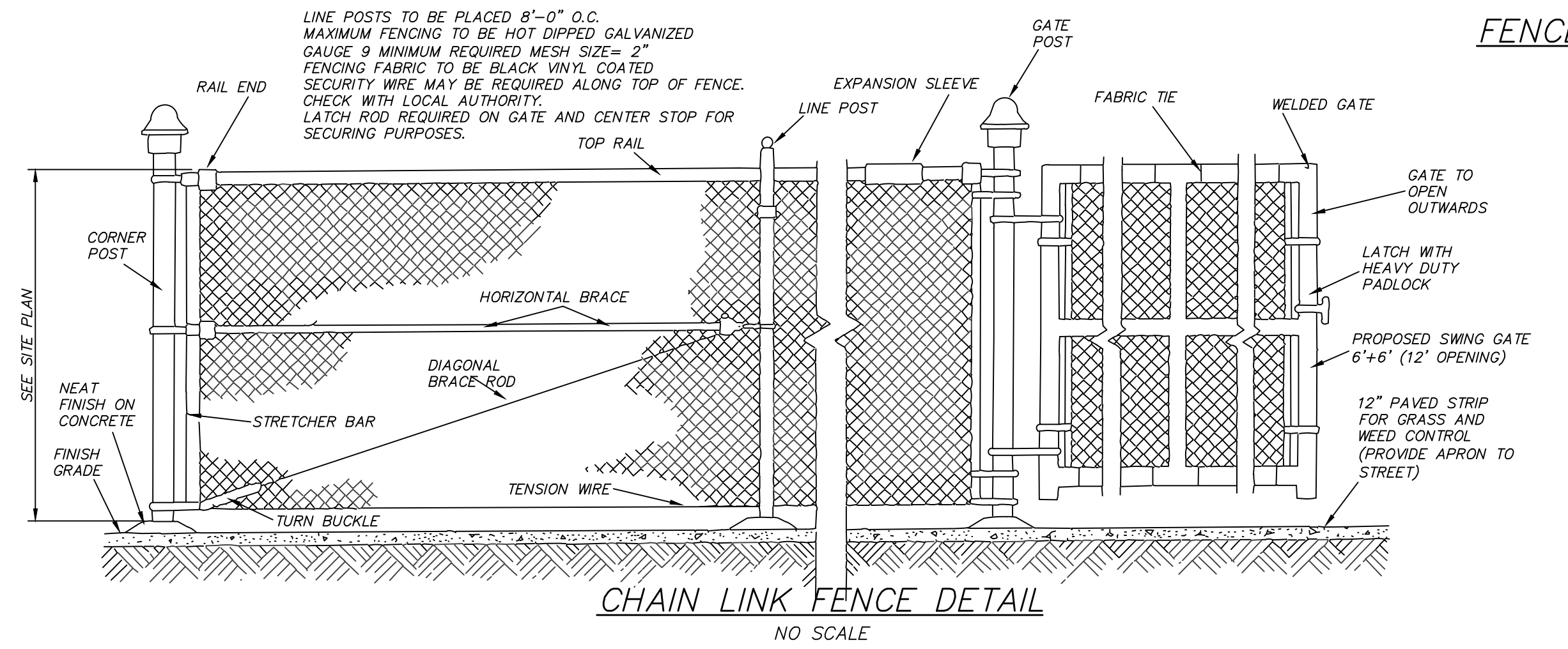


ACCESSIBLE ENTRY DETAIL  
NO SCALE

- NOTES:**
- THE DIMENSIONS SHOWN AT PARKING LOT EDGE ARE FIXED DISTANCES.
  - RAMP SECTION AND MATERIALS TO BE CONSTRUCTED IN ACCORDANCE TO CONCRETE SIDEWALK DETAIL.
  - PORTLAND CEMENT CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
  - CURB STOPS REQUIRED AT TRANSITION CURBING.
  - SEE ARCHITECTURAL PLANS FOR SPECIFIC BUILDING REQUIREMENTS.



FENCE POST DETAIL  
NO SCALE



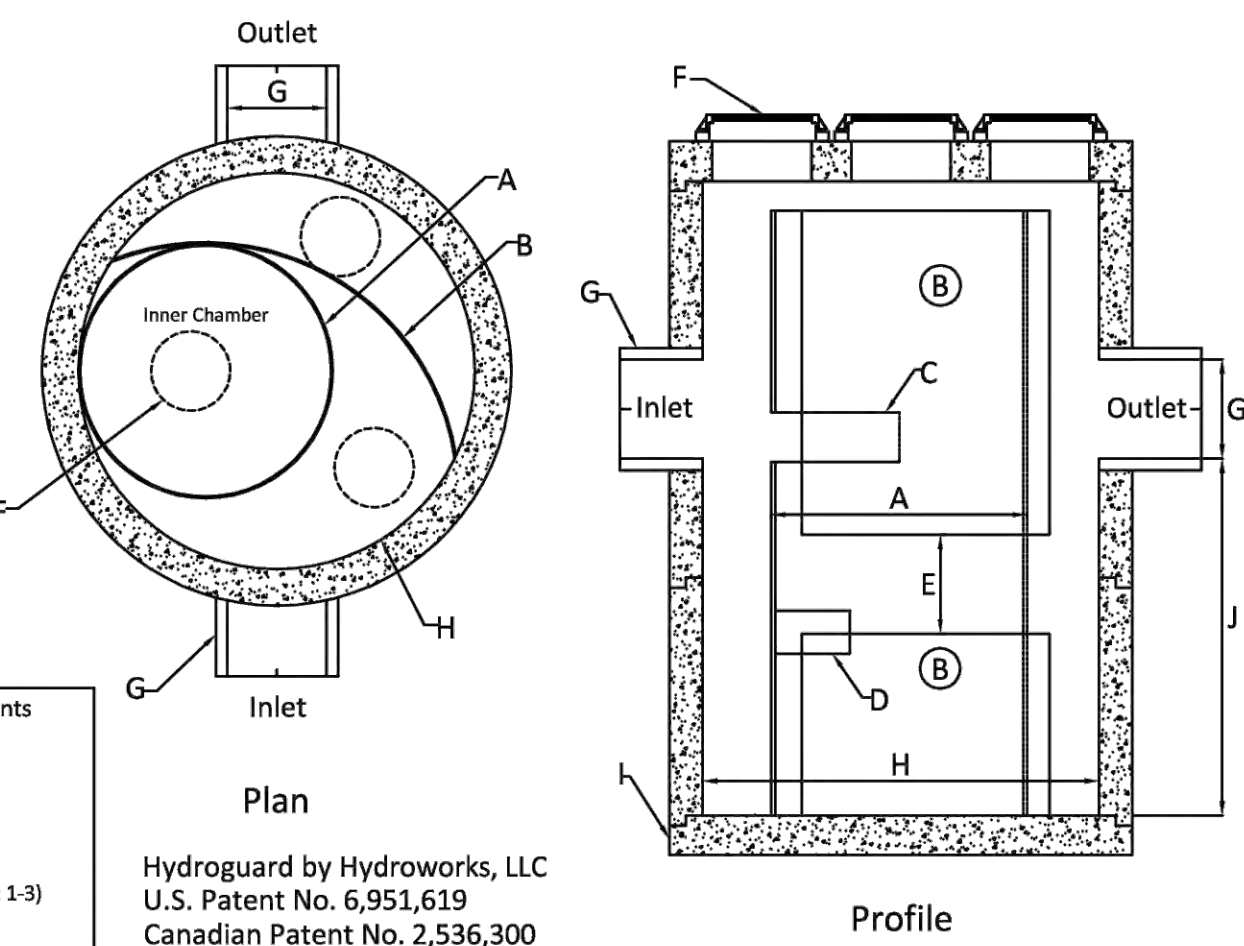
CHAIN LINK FENCE DETAIL  
NO SCALE

- Specifications:**
- Any alternate equal must be independently tested to the 2002 NIDEP Laboratory Separator Protocol. Separator must be sized based on this data.
  - Alternate equal must be NETE Certified, MASTEP Verified, Massachusetts Plumbing Board approved and ConnDOT approved.
  - Any testing performed by the manufacturer and/or field testing is unacceptable to demonstrate an alternate equal.
  - Grab sampling has been deemed inaccurate by multiple independent agencies. Only mass balance testing will be accepted to verify an alternate equal.
  - The separator must be designed based on the following criteria:

Flow Criteria	
Water Quality Flow Rate cfs (L/s)	
Peak Design Flow Rate cfs (L/s)	

TSS Removal Criteria	
Annual TSS Removal (%)	
NIDEP/ETV Canada TSS	
OK110 Sand	
City of Toronto	
Other	

- HydroGuard Components**
- A. Inner Chamber
  - B. Outer Baffle Wall
  - C. Inner Chamber Inlet
  - D. Inner Chamber Outlet
  - E. Outer Baffle Opening
  - F. Frame and Cover (Qty: 1-3)
  - G. Inlet and Outlet Pipes
  - H. Structure Diameter
  - I. Base Extension (HG4 - HG6)
  - J. Sump Depth



Hydroguard by Hydroworks, LLC  
U.S. Patent No. 6,951,619  
Canadian Patent No. 2,536,300  
www.hydroworks.com  
888-290-7900

- Notes:**
- Headloss K factor of 1.6 for hydraulic gradeline calculations
  - Sump depths shown are typical. Additional depth can be added as required.
  - Drops greater than 4" allowed with custom trough attachment.
  - Inlet invert elevations should be the same or higher than the outlet invert elevation.
  - Solid Cover shown. HydroGuard can be designed with an inlet grate if required.
  - Oil capacities given are spill capacities.
  - Sediment depths are maximum holding capacities and not recommended capacities for regular maintenance.
  - Capacities are rounded down to nearest 5 gal or f3 (LL or 0.1 m3 for metric units)
  - Base Extensions are not provided on standard units larger than the HG 6. Extensions can be provided if required due to groundwater/buoyancy concerns at the request of the engineer of record.
  - HG4 model requires one cover. HG5 and HG6 models require two covers. HG7 to HG12 models require three covers.

Hydroguard Dimensions / Capacities							
Model	Diameter (ft) (m)	Sump Depth (ft) (m)	Inner Chamber (ft) (m)	Max Pipe (ft) (m)	Oil Spill Volume (gal) (L)	Sediment Volume (ft) (m)	Total Volume gal (L)
HG 4	4 (1.2)	5 (1.5)	32 (0.8)	21 (5.35)	85 (246)	35 (0.9)	465 (1779)
HG 5	5 (1.5)	5.5 (1.7)	40 (1.0)	24 (6.10)	130 (492)	55 (1.5)	805 (3057)
HG 6	6 (1.8)	6 (1.8)	48 (1.2)	30 (7.60)	200 (757)	85 (2.4)	1265 (4803)
HG 7	7 (2.1)	6.5 (2.0)	56 (1.4)	36 (9.15)	310 (1173)	115 (3.2)	1870 (7082)
HG 8	8 (2.4)	7 (2.1)	64 (1.6)	42 (10.65)	455 (1722)	145 (4.1)	2630 (9962)
HG 10	10 (3.0)	9 (2.7)	80 (2.0)	54 (13.70)	855 (3236)	320 (9.0)	5285 (20014)
HG 12	12 (3.6)	10.5 (3.2)	96 (2.4)	60 (15.24)	1500 (5678)	480 (13.5)	8880 (33624)

**Hydroworks Hydroguard**

PROJECT:  
LOCATION:  
REVISION DATE: 08/05/2020



**DEFINITIVE PLAN**

NO.	DATE	REVISIONS	BY
7	6/7/2023	LAYOUT REVISIONS	CMA
6	5/4/2023	LAYOUT REVISIONS	CMA
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4	12/15/22	CITY DEPARTMENT COMMENT	CMA
3	9/27/22	BUILDING/LAYOUT REVISIONS	CMA

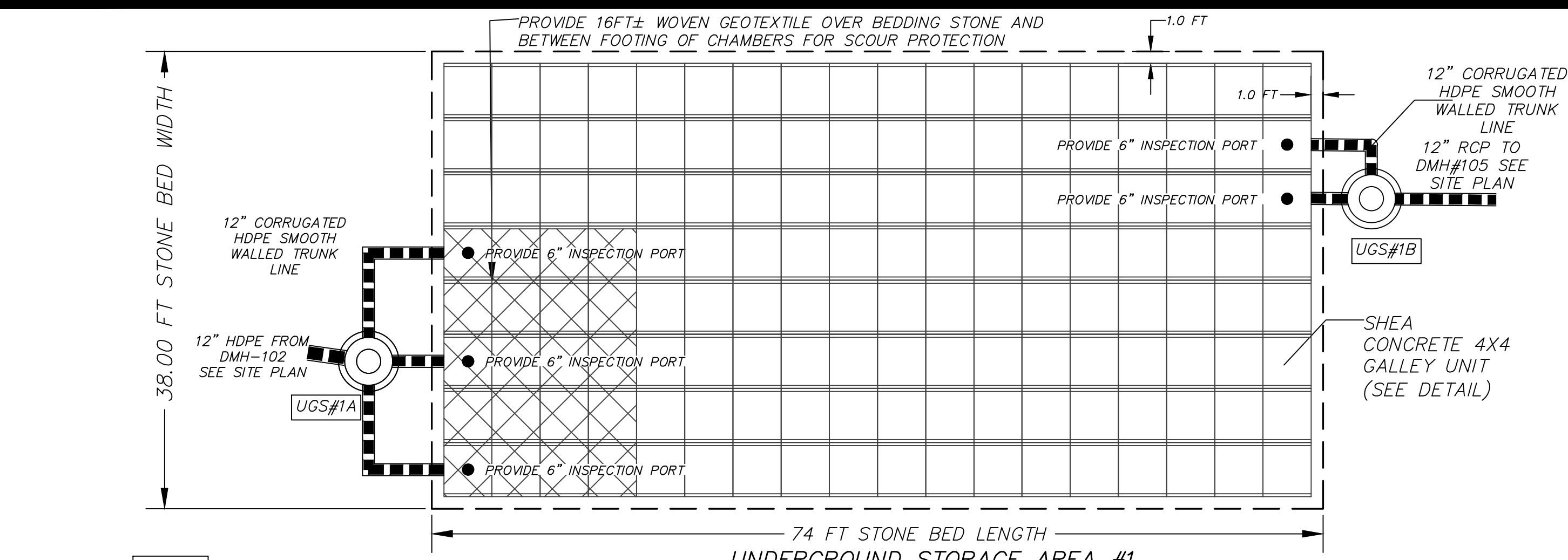
**HANNIGAN ENGINEERING, INC.**  
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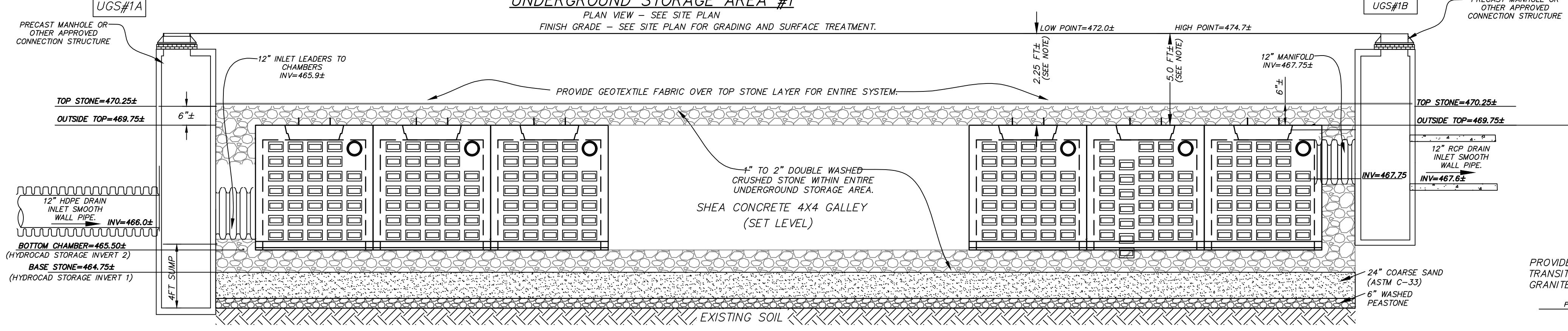
**CONSTRUCTION DETAILS  
IN  
WORCESTER, MASSACHUSETTS**

PREPARED FOR:  
GOVENTURE CAPITAL GROUP, LLC  
BRENDAN GOVE  
10 E. WORCESTER STREET, SUITE 3A  
WORCESTER, MASSACHUSETTS 01605

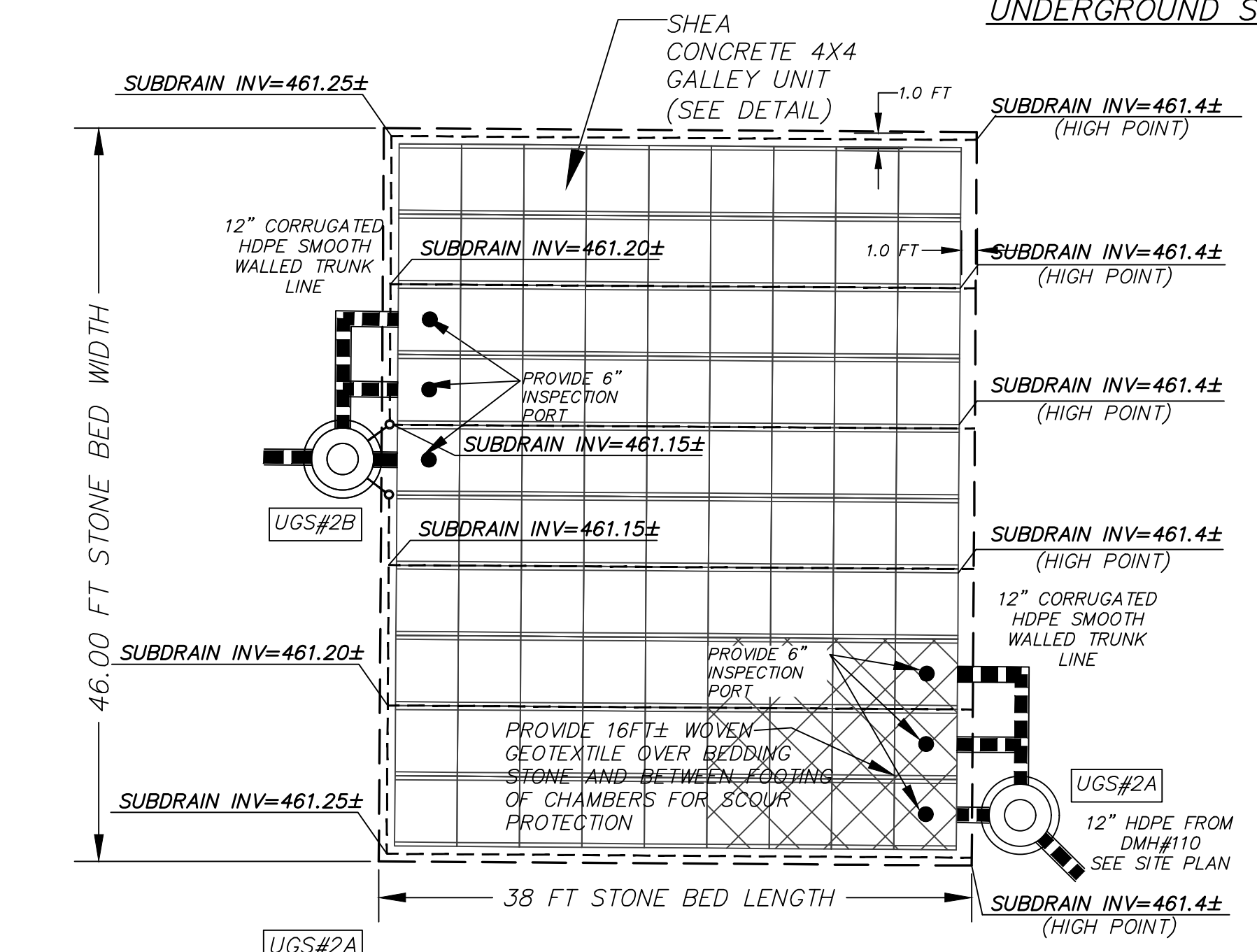
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CHKD:	WDH	APPD:	WDH	DATE:	NOV 12, 2021
SRV:	NA	FB:	NA	JOB NO:	3030
TAB:	(8-13) DET	SHEET	10 OF 13	PLAN NO:	C-18-9



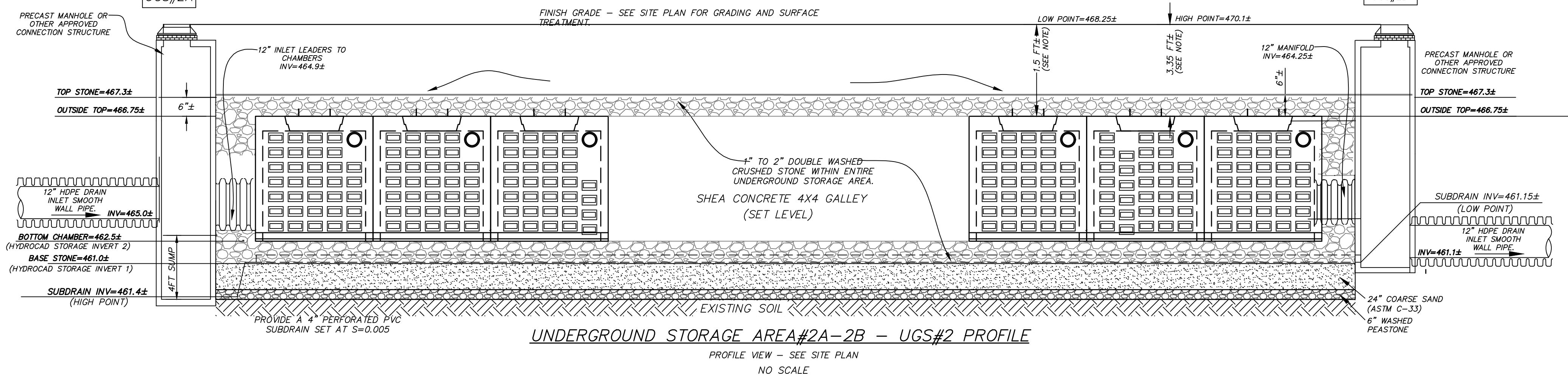
**UNDERGROUND STORAGE AREA #1**  
PLAN VIEW - SEE SITE PLAN  
FINISH GRADE - SEE SITE PLAN FOR GRADING AND SURFACE TREATMENT.



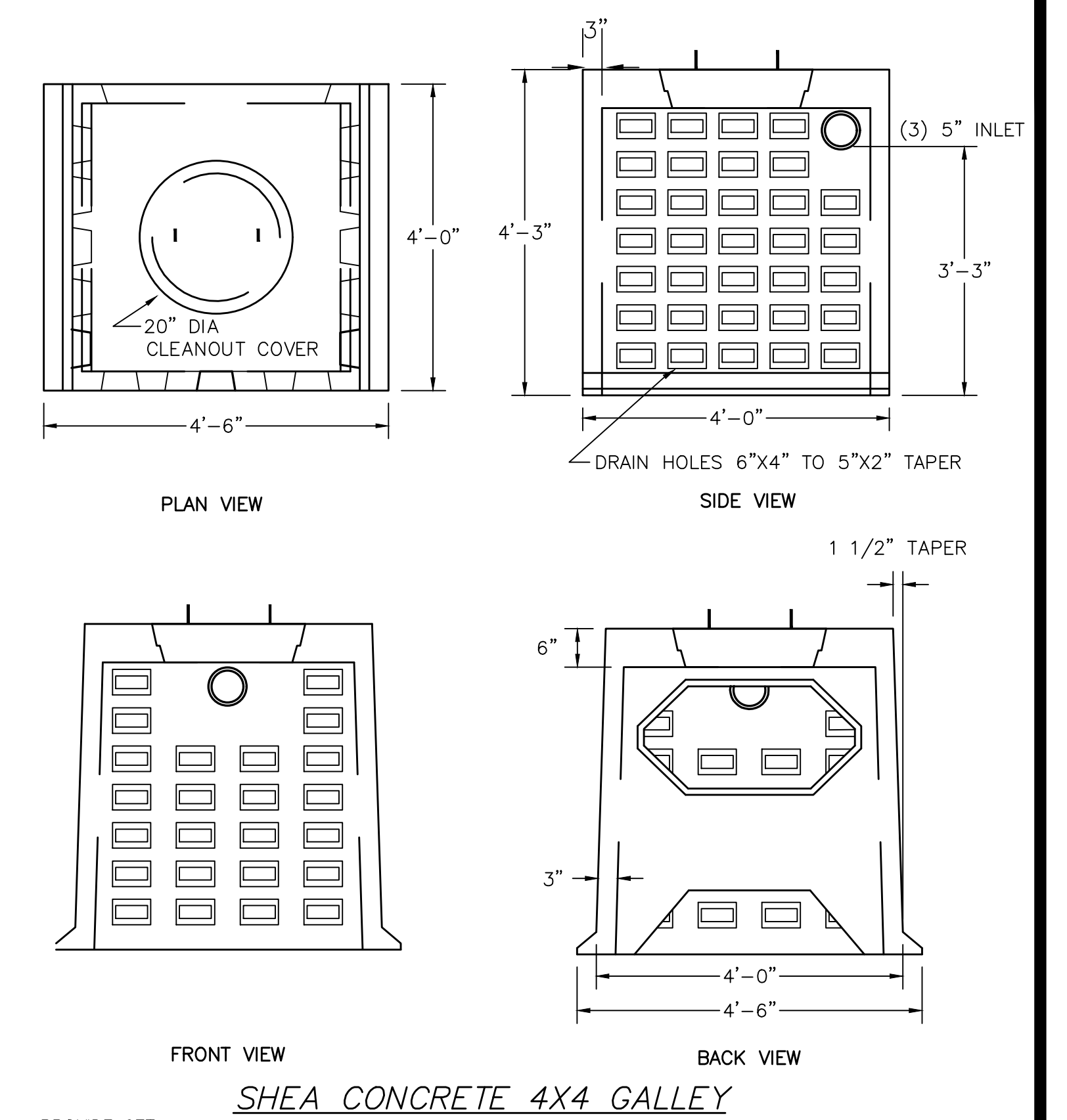
**UNDERGROUND STORAGE AREA #1A-1B - UGS#1 PROFILE**  
PROFILE VIEW - SEE SITE PLAN  
NO SCALE



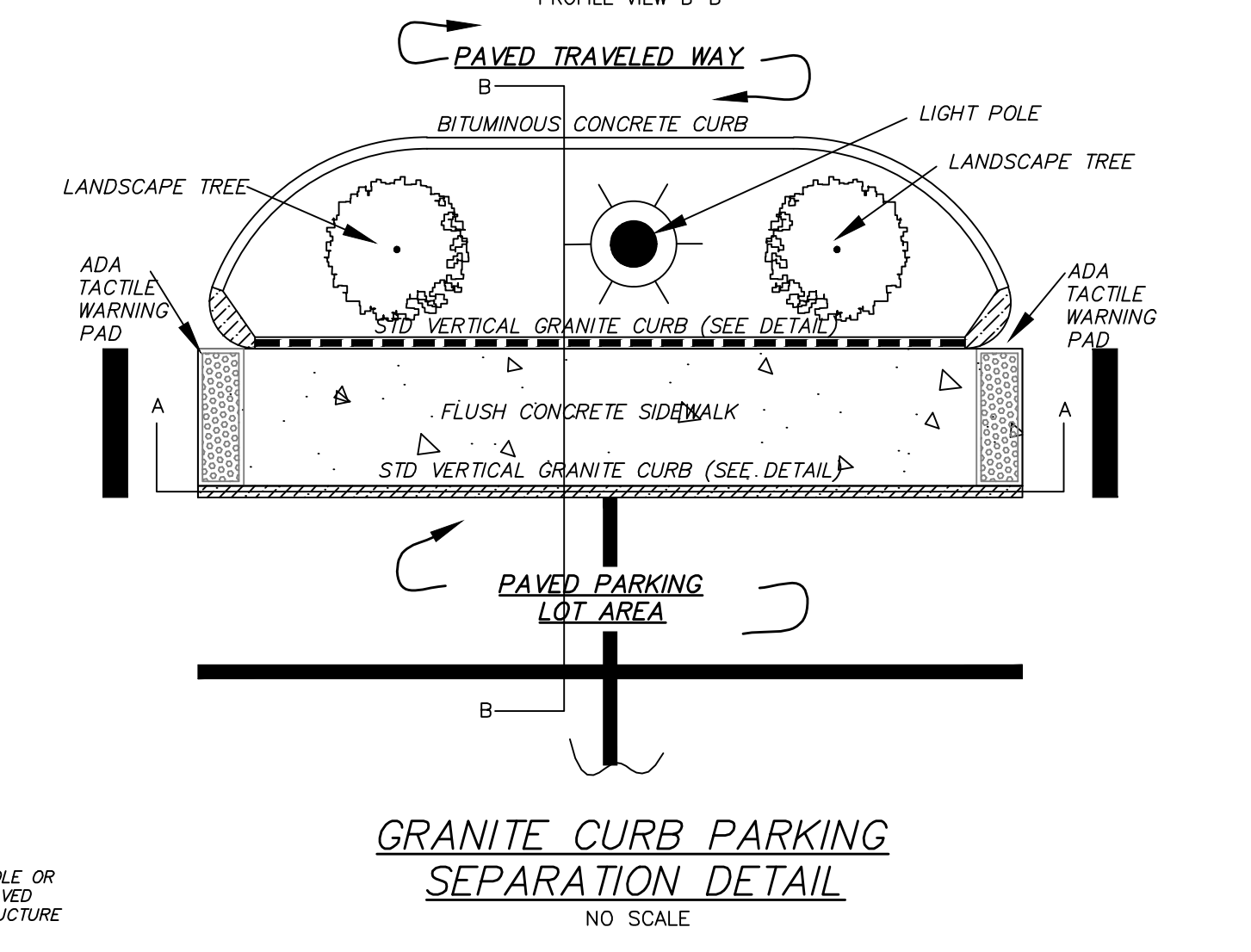
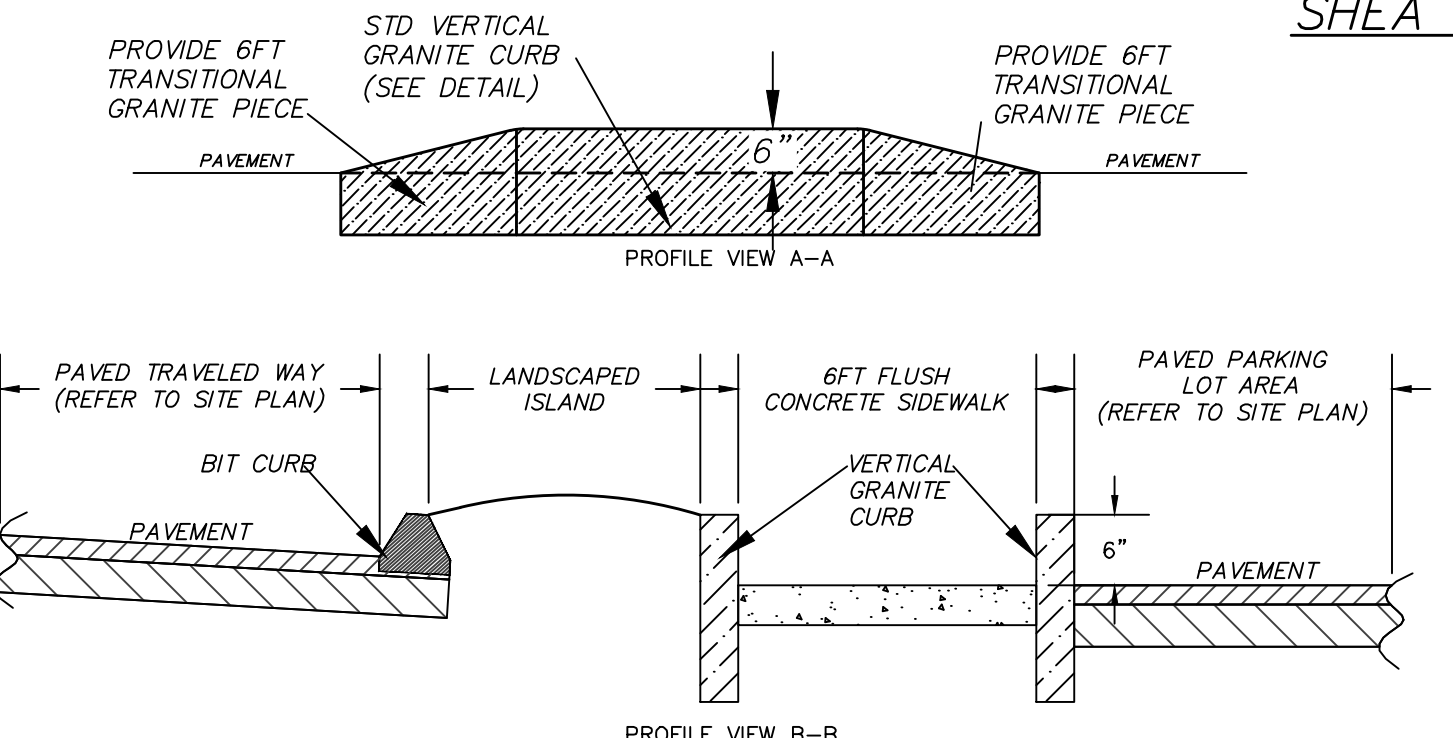
**UNDERGROUND STORAGE AREA #2A-2B - UGS#2 PROFILE**  
PROFILE VIEW - SEE SITE PLAN  
NO SCALE



**UNDERGROUND STORAGE AREA #2A-2B - UGS#2 PROFILE**  
PROFILE VIEW - SEE SITE PLAN  
NO SCALE



**SHEA CONCRETE 4X4 GALLEY**  
PER MANUFACTURER  
NO SCALE



**GRANITE CURB PARKING SEPARATION DETAIL**  
NO SCALE

**DEFINITIVE PLAN**

NO.	DATE	REVISIONS	BY
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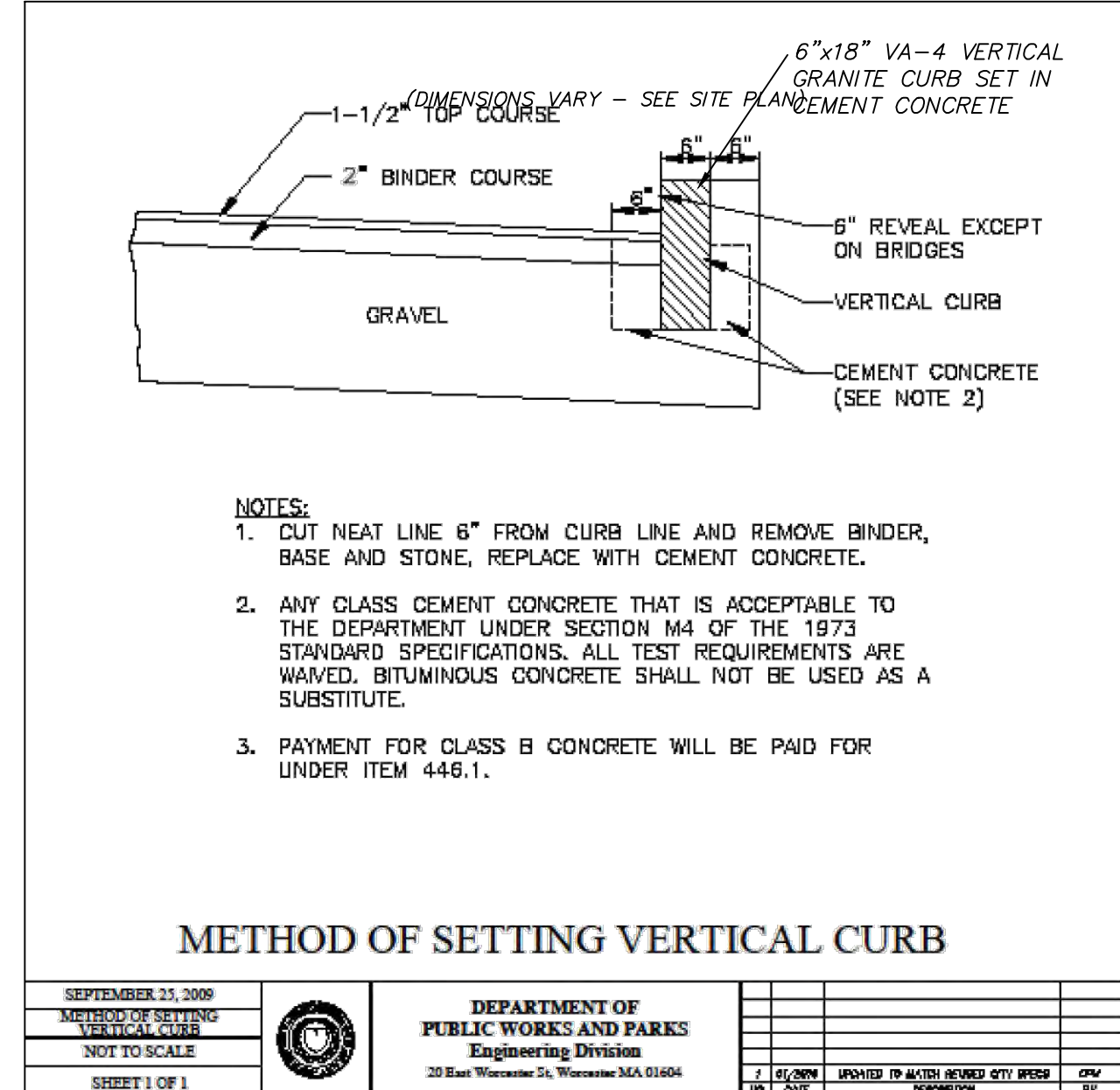
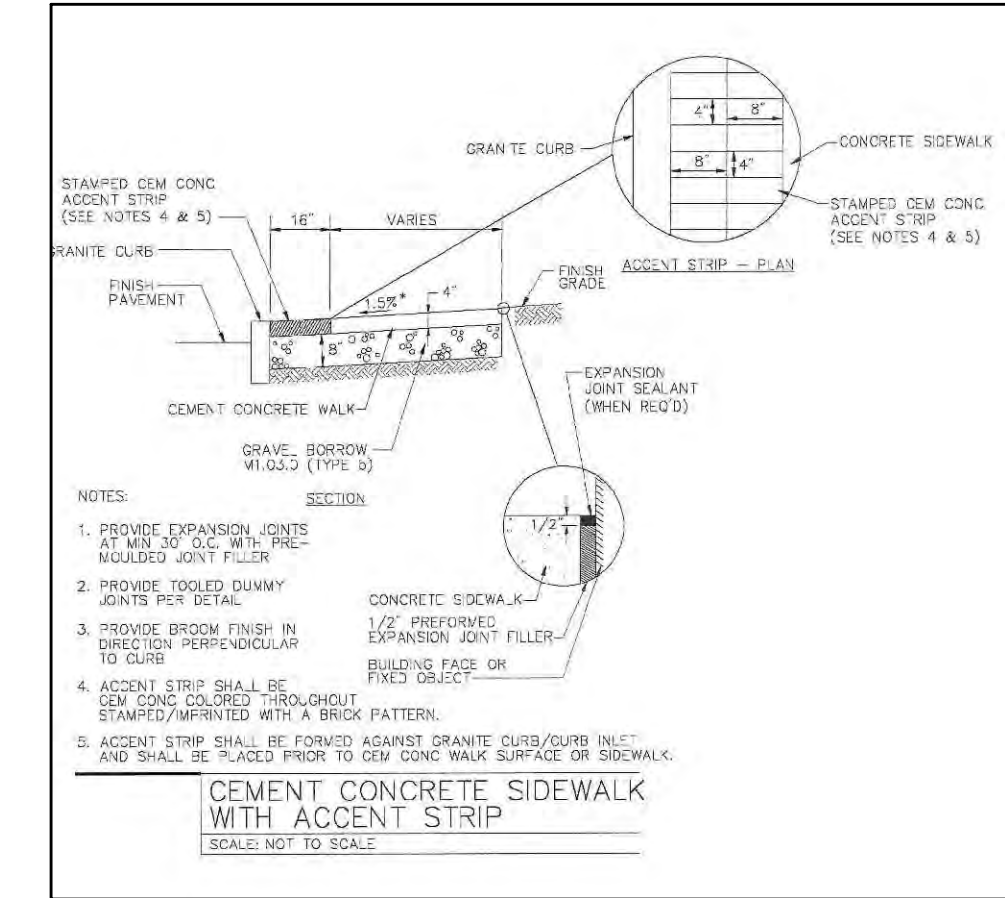
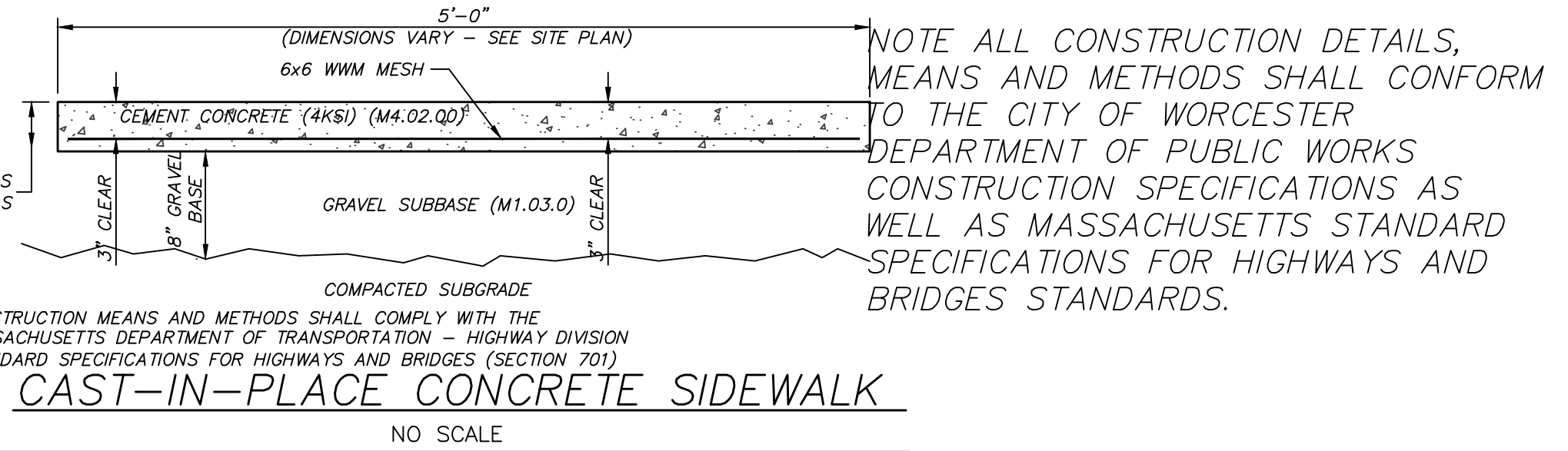
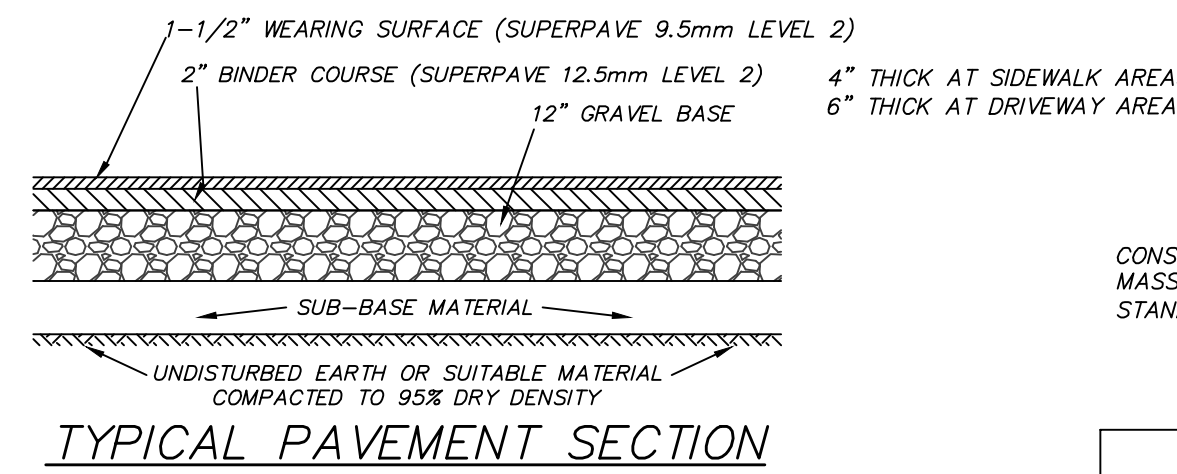
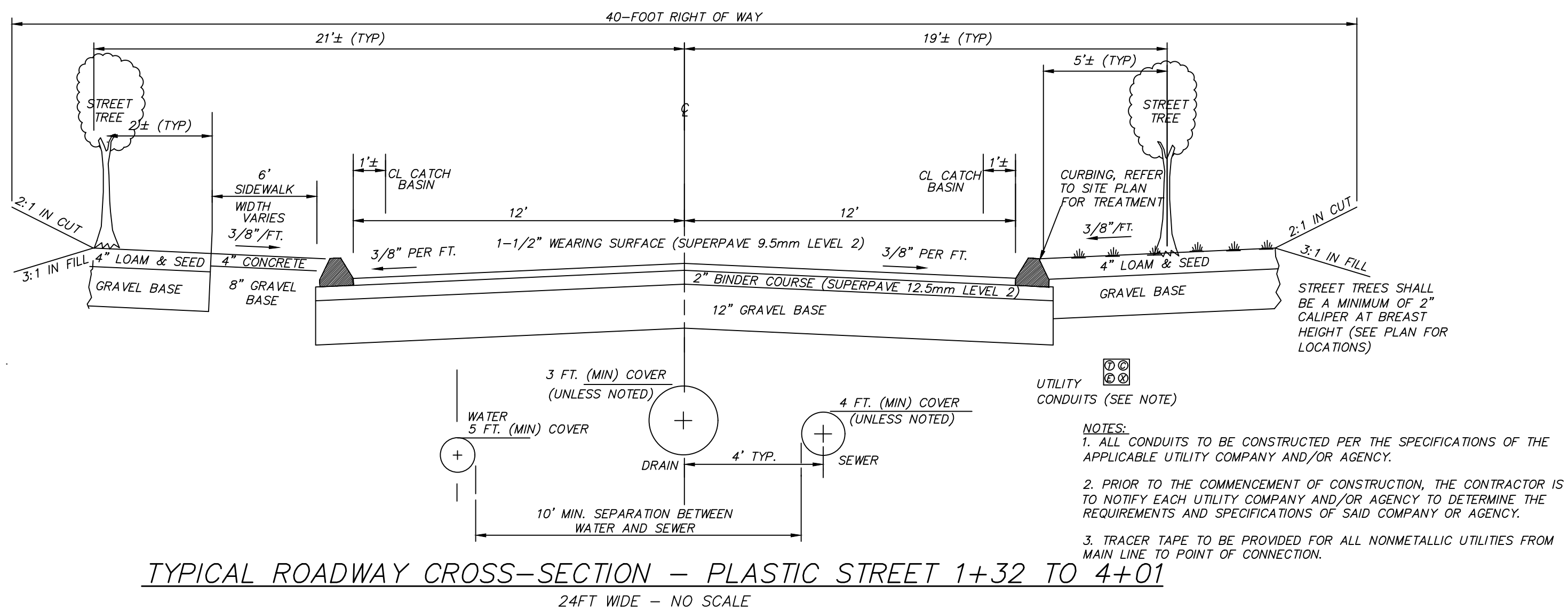
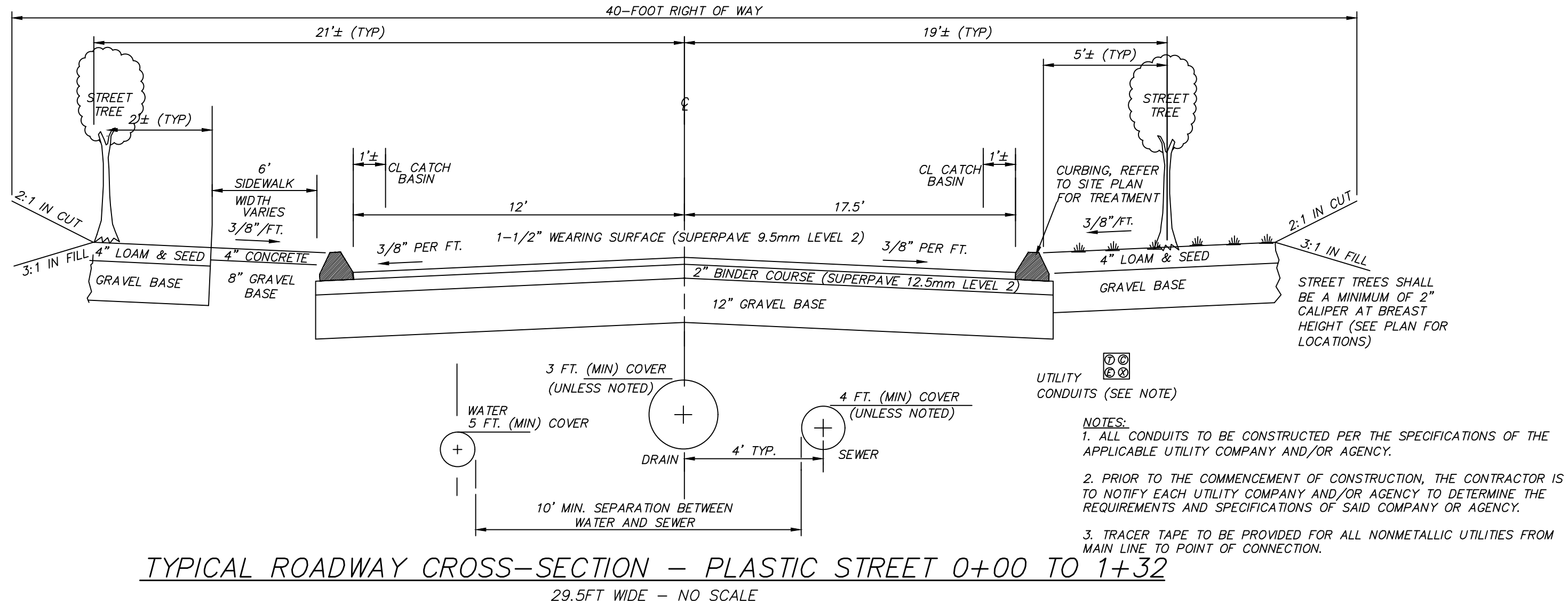
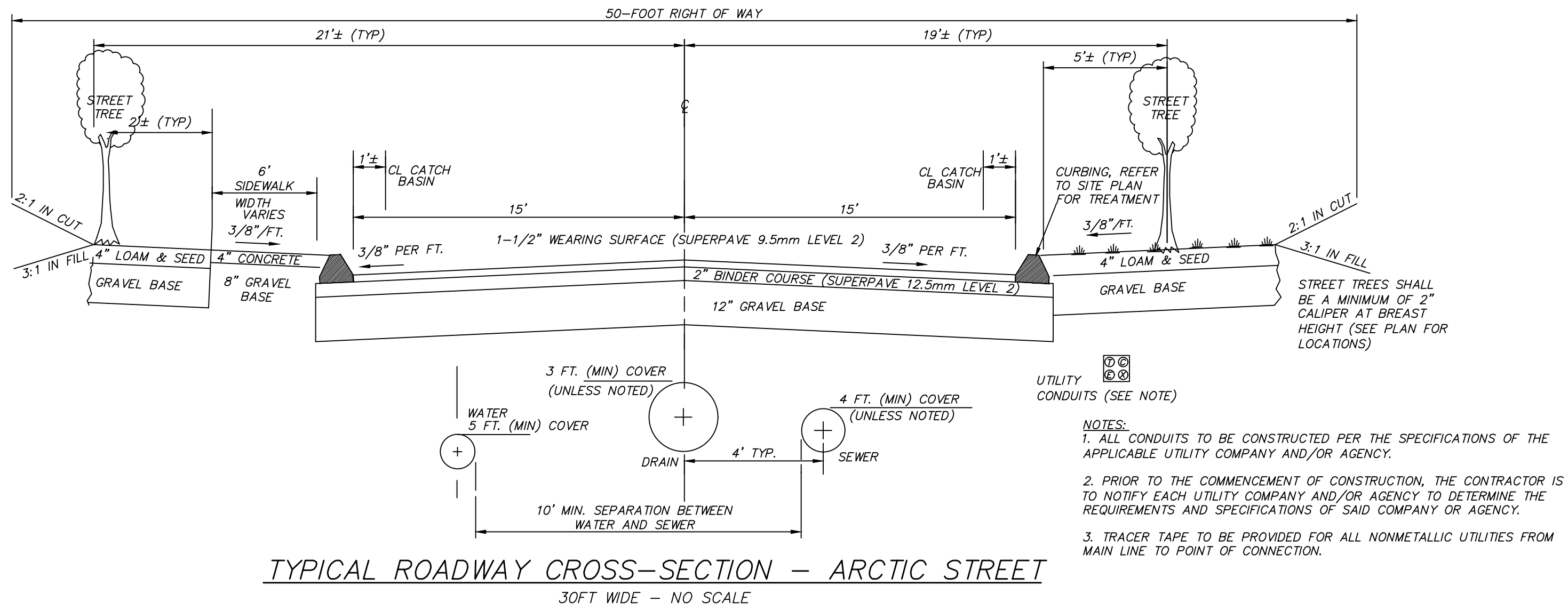
**CONSTRUCTION DETAILS**  
IN  
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PREPARED FOR:  
GOVENTURE CAPITAL GROUP, LLC  
BRENDAN GOVE  
10. E. WORCESTER STREET, SUITE 3A  
WORCESTER, MASSACHUSETTS 01605  
TEL:

CALC:	CMA/WDH	DRWN:	CMA/WDH	SCALE:	NA
CHKD:	WDH	APPD:	WDH	DATE:	NOV 12, 2021
SRV:	NA	FB:	NA	JOB NO:	3030
TAB:	(8-13) DET	SHEET:	11 OF 13	PLAN NO:	C-18-9

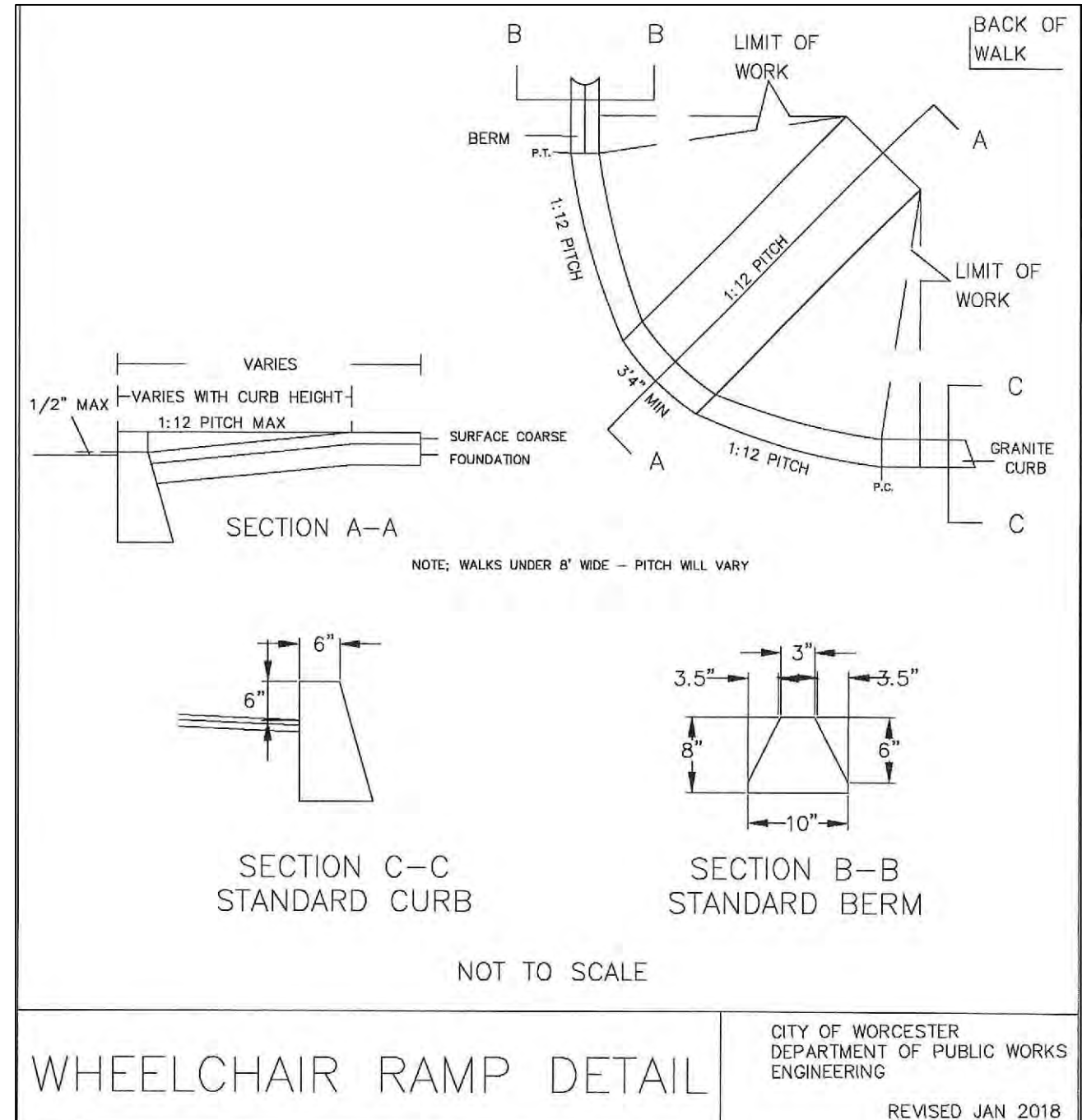
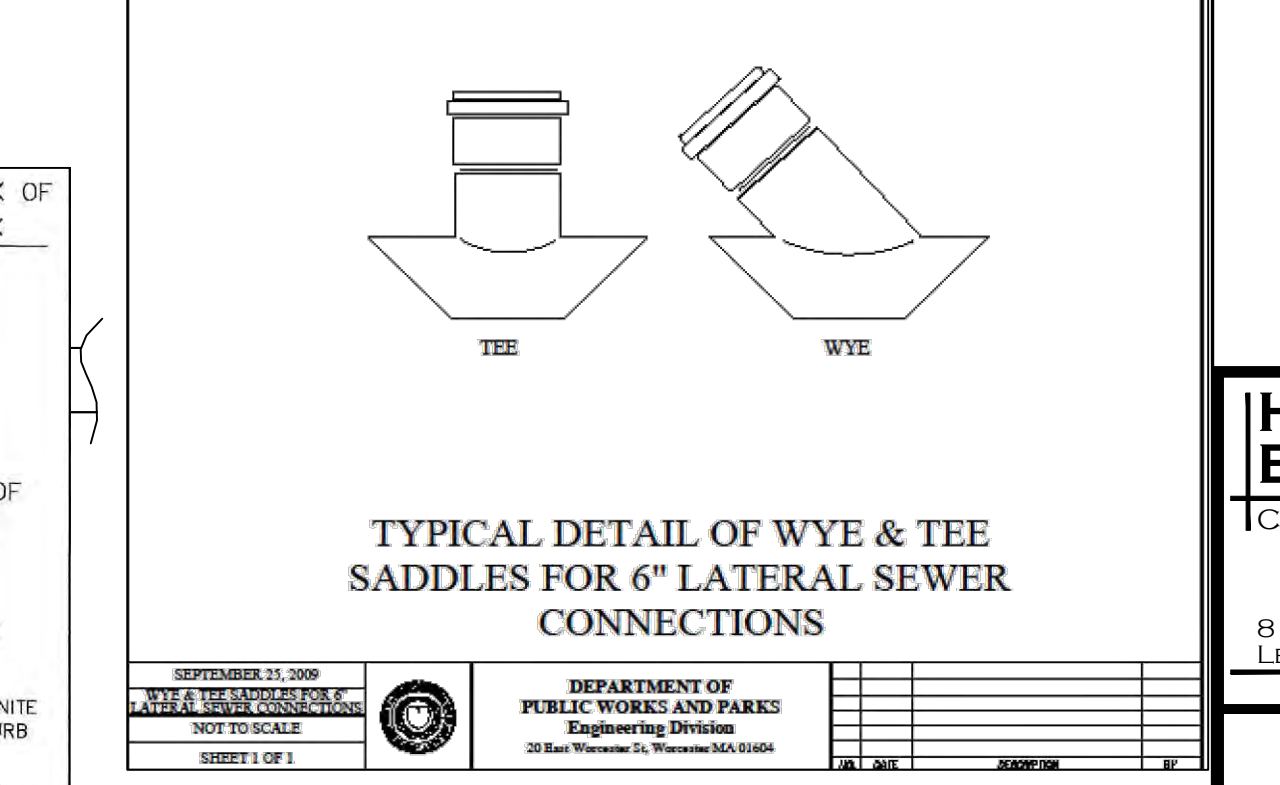
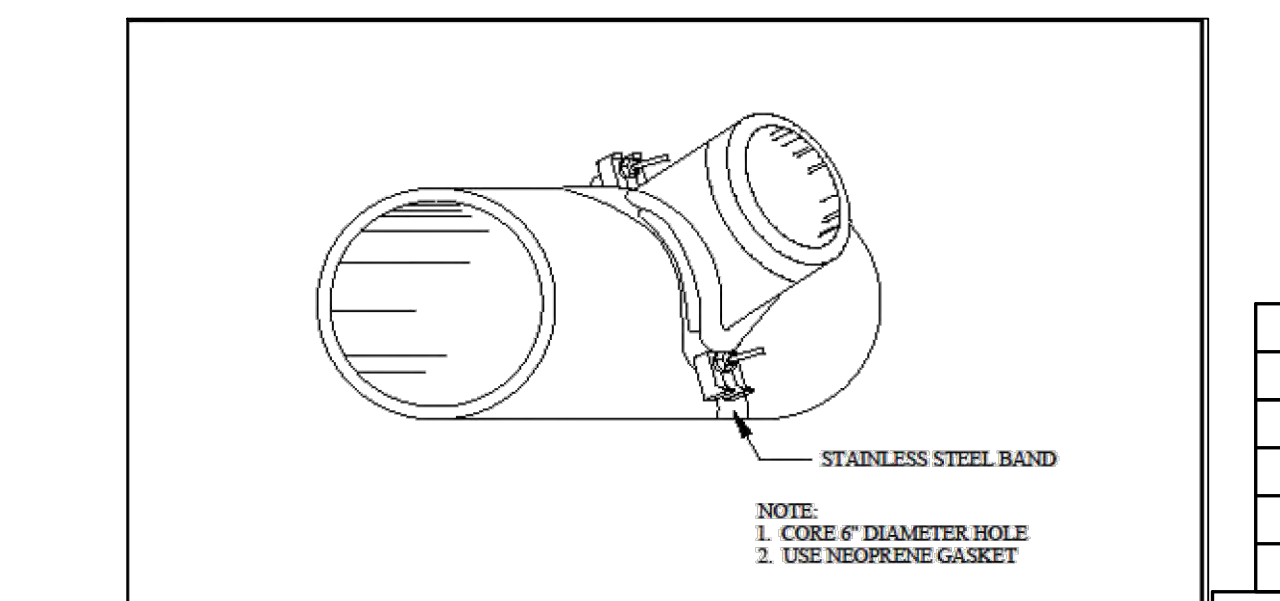
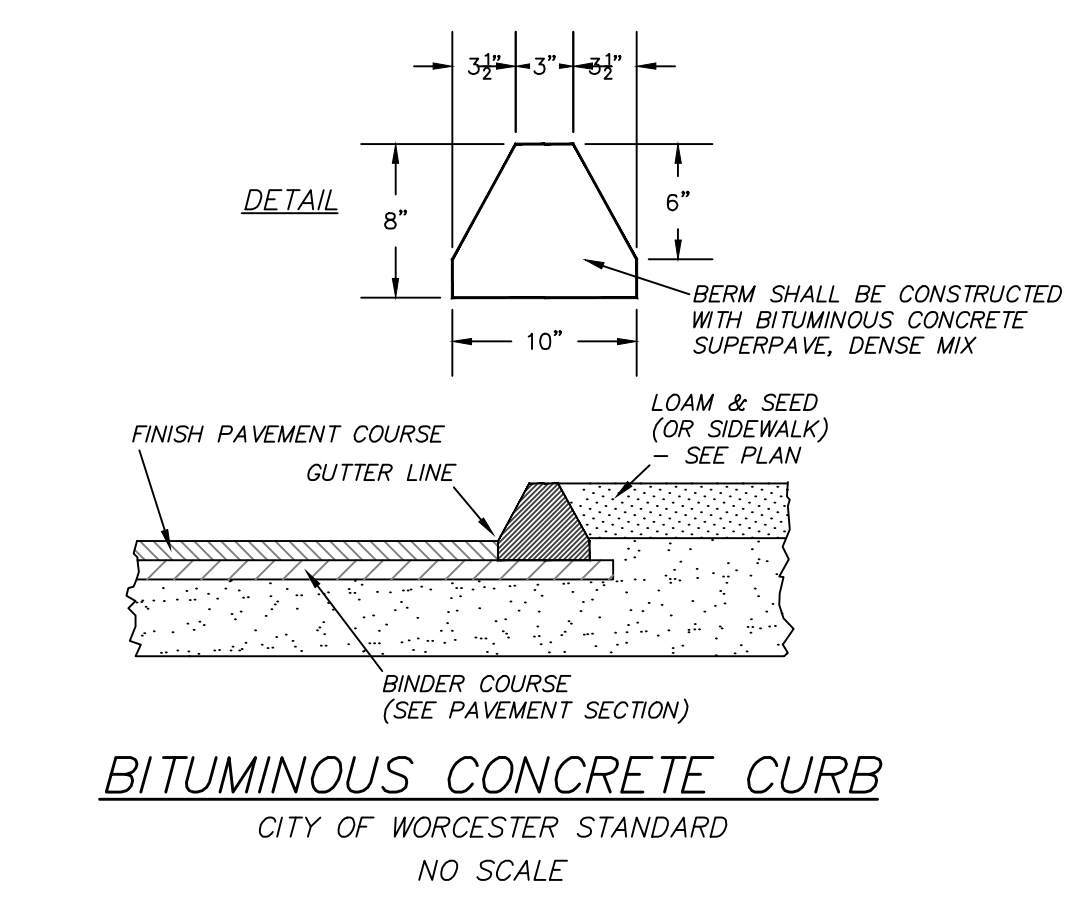
APPLICANT:  
GOVENTURE CAPITAL GROUP, LLC  
10 E. WORCESTER STREET, SUITE 3A  
WORCESTER, MASSACHUSETTS 01605

# CONSTRUCTION DETAILS FOR USE WITHIN RIGHT OF WAYS



CITY OF WORCESTER TYPICAL STAMPED CONCRETE SIDEWALK WITH ACCENT STRIP  
NO SCALE

CITY OF WORCESTER VERTICAL GRANITE CURB DETAIL  
NO SCALE



CITY OF WORCESTER WHEEL CHAIR RAMP DETAIL  
NO SCALE

**DEFINITIVE PLAN**

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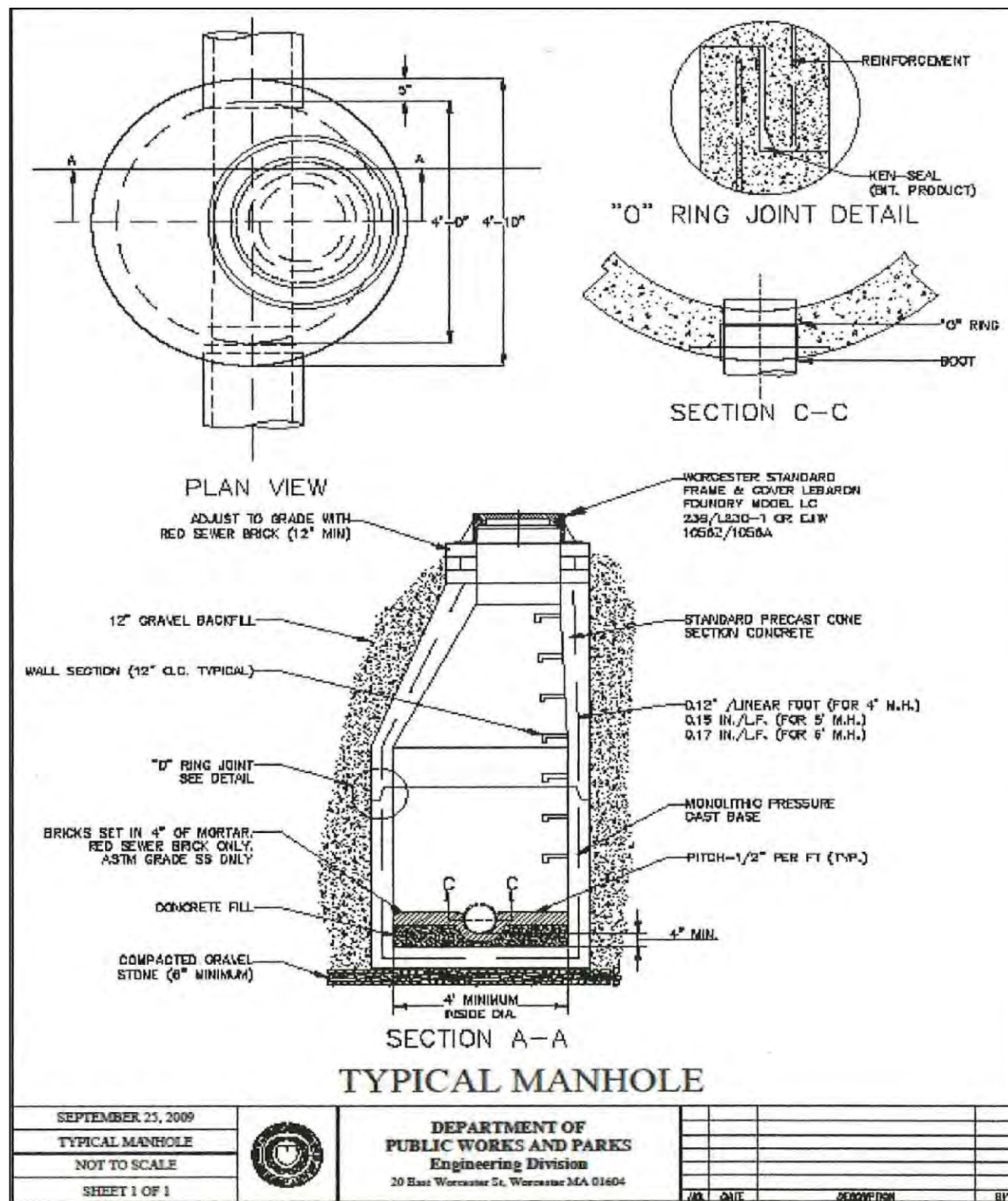
**CONSTRUCTION DETAILS**  
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TEL:

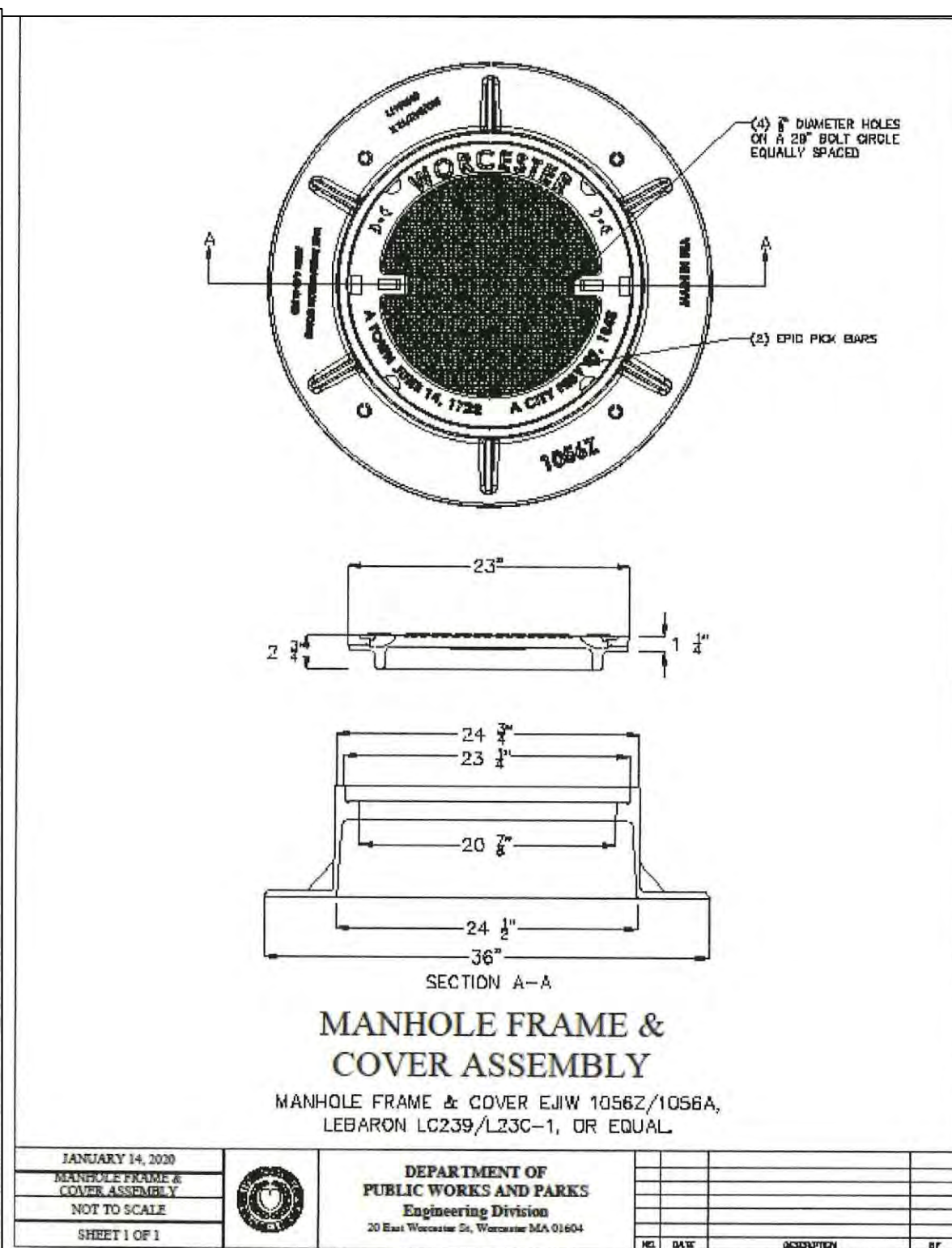
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CHKD:	WDH	APPD:	WDH	DATE:	NOV 12, 2021
SRV:	NA	FB:	NA	JOB NO:	3030
TAB:	(8-13) DET	SHEET	12 OF 13	PLAN NO:	08-18-9

APPLICANT:  
GOVENTURE CAPITAL GROUP, LLC  
10 E. WORCESTER STREET, SUITE 3A  
WORCESTER, MASSACHUSETTS 01605

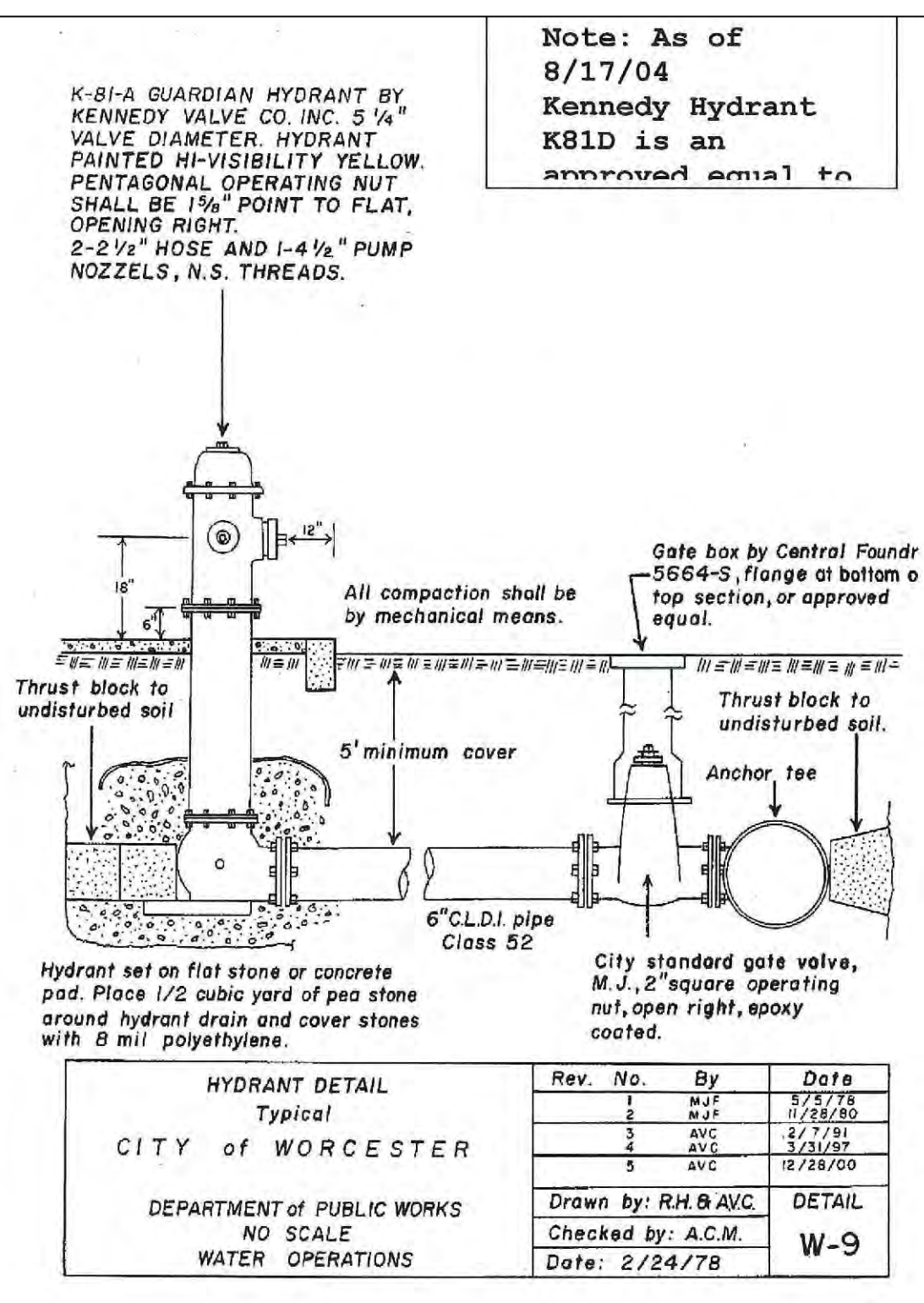
CONSTRUCTION DETAILS FOR USE WITHIN RIGHT OF WAYS



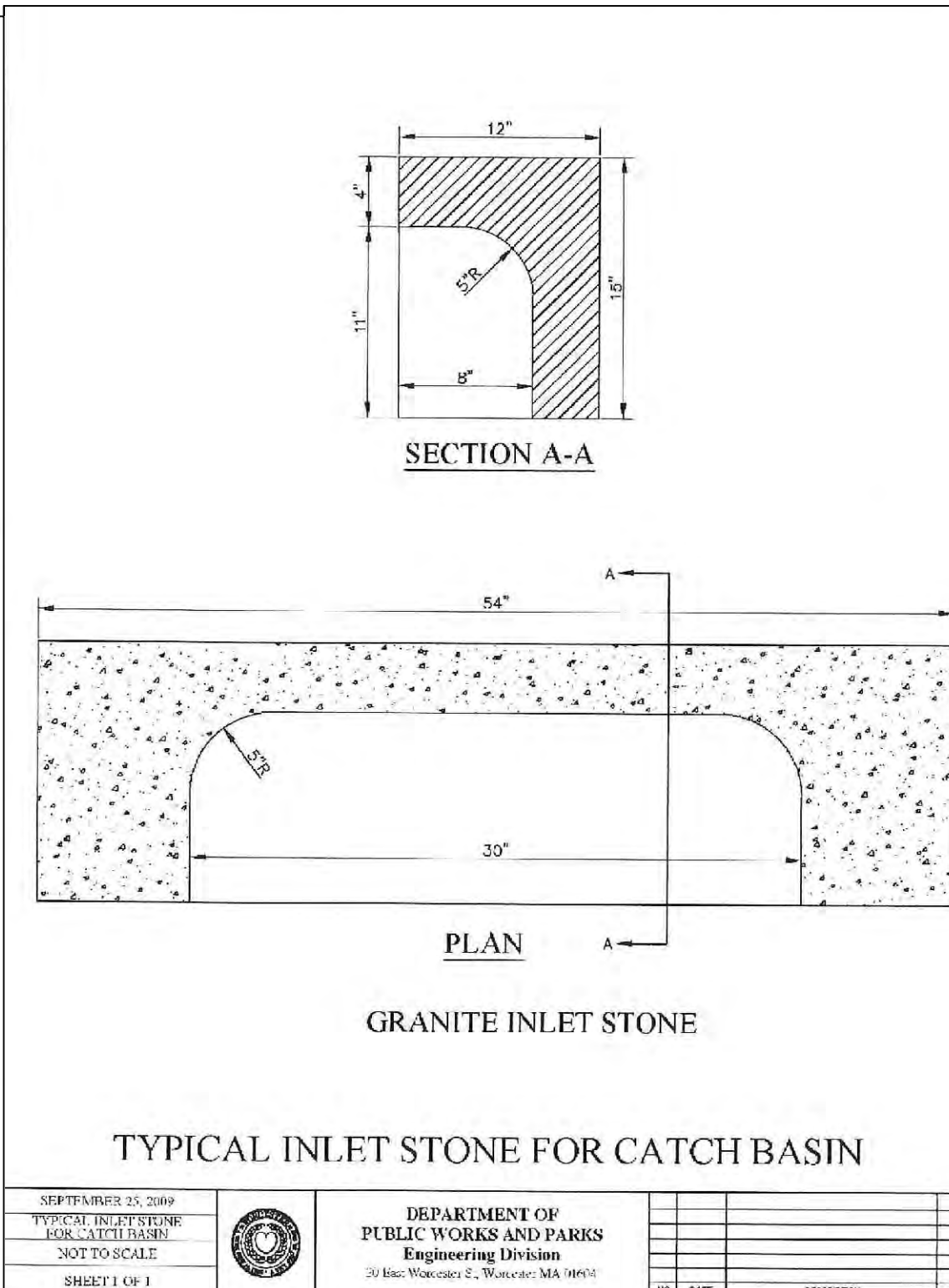
CITY OF WORCESTER TYPICAL MANHOLE DETAIL  
NO SCALE



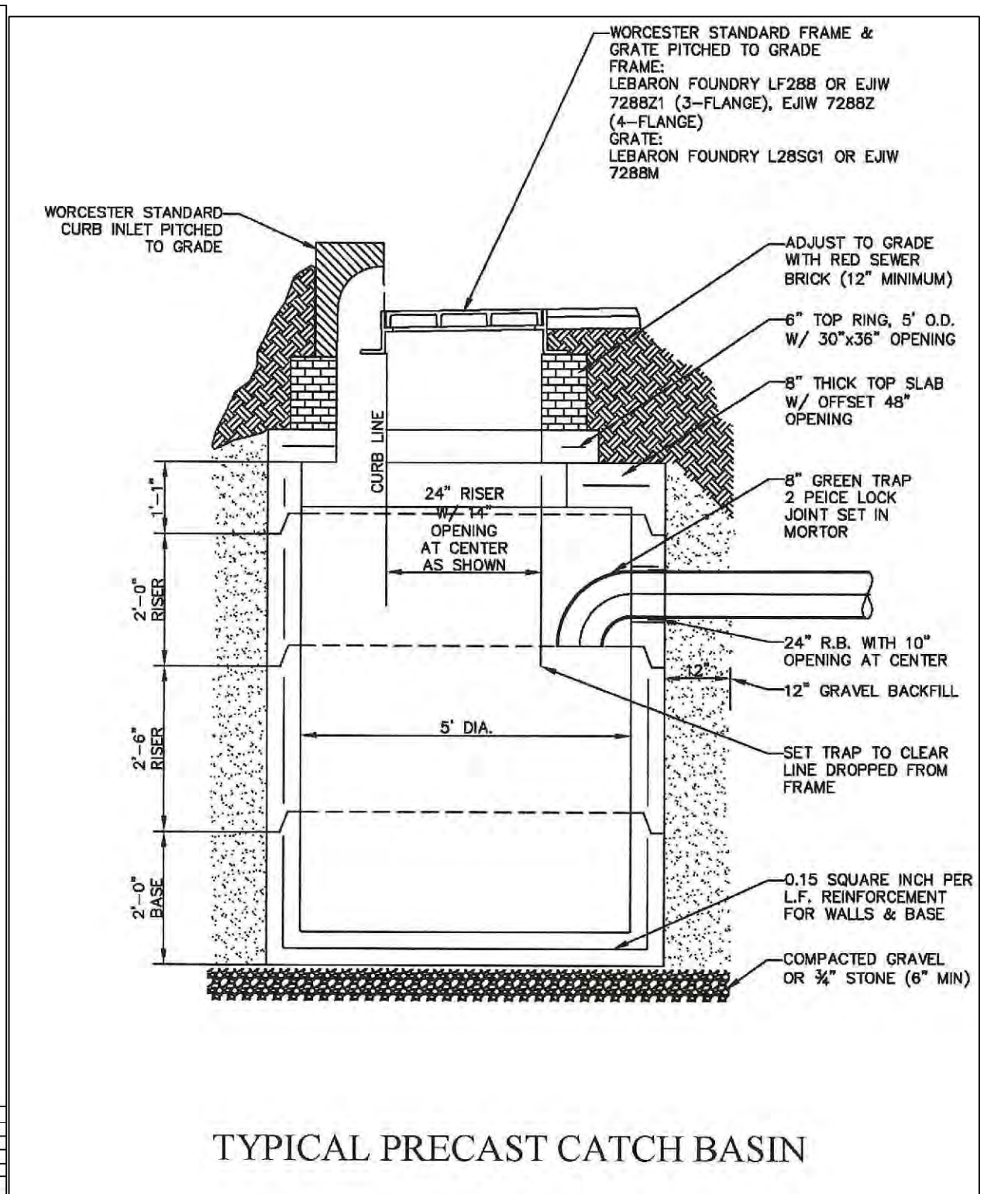
CITY OF WORCESTER TYPICAL MANHOLE FRAME AND COVER DETAIL  
NO SCALE



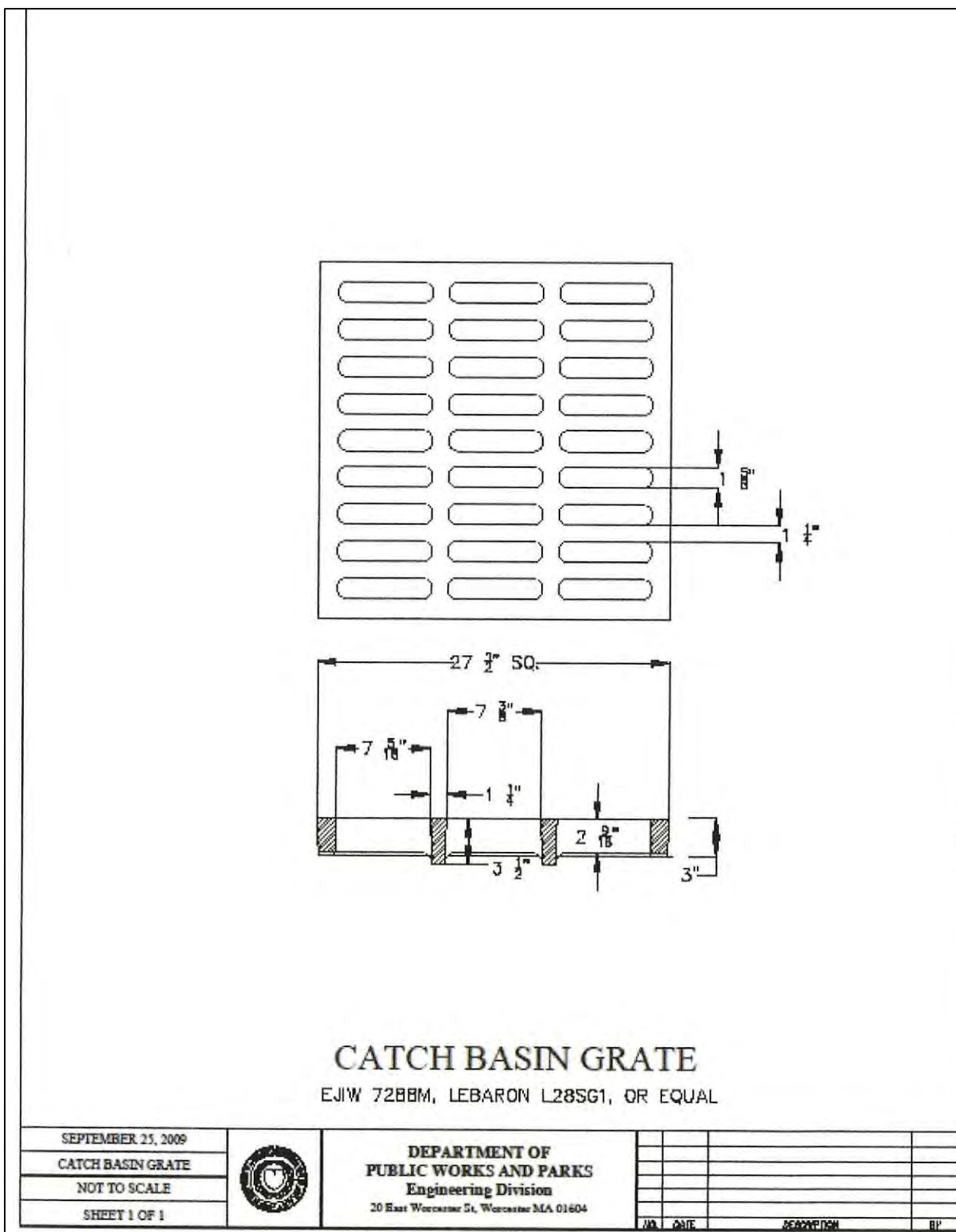
CITY OF WORCESTER TYPICAL HYDRANT DETAIL  
NO SCALE



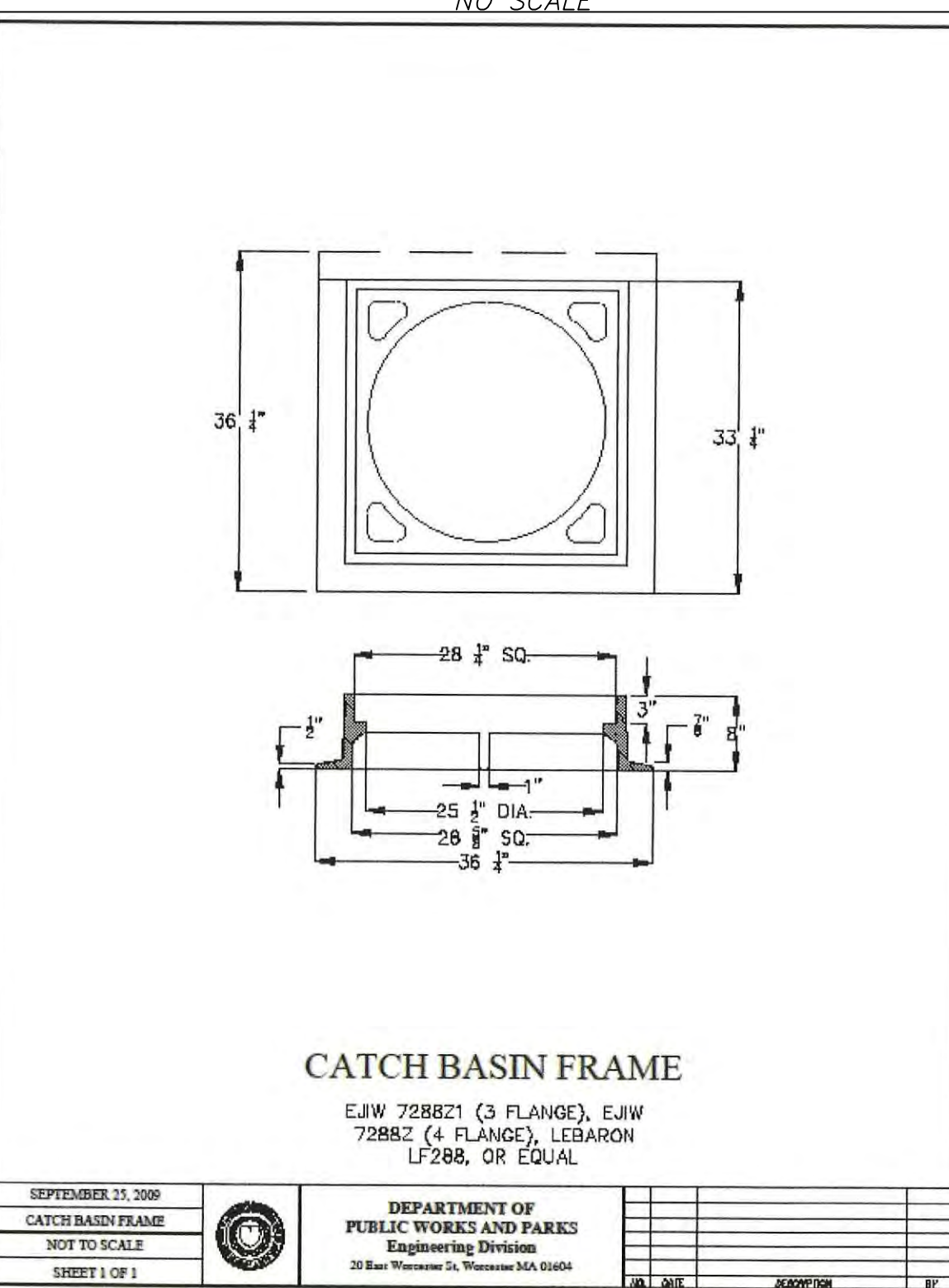
CITY OF WORCESTER TYPICAL CATCH BASIN INLET DETAIL  
NO SCALE



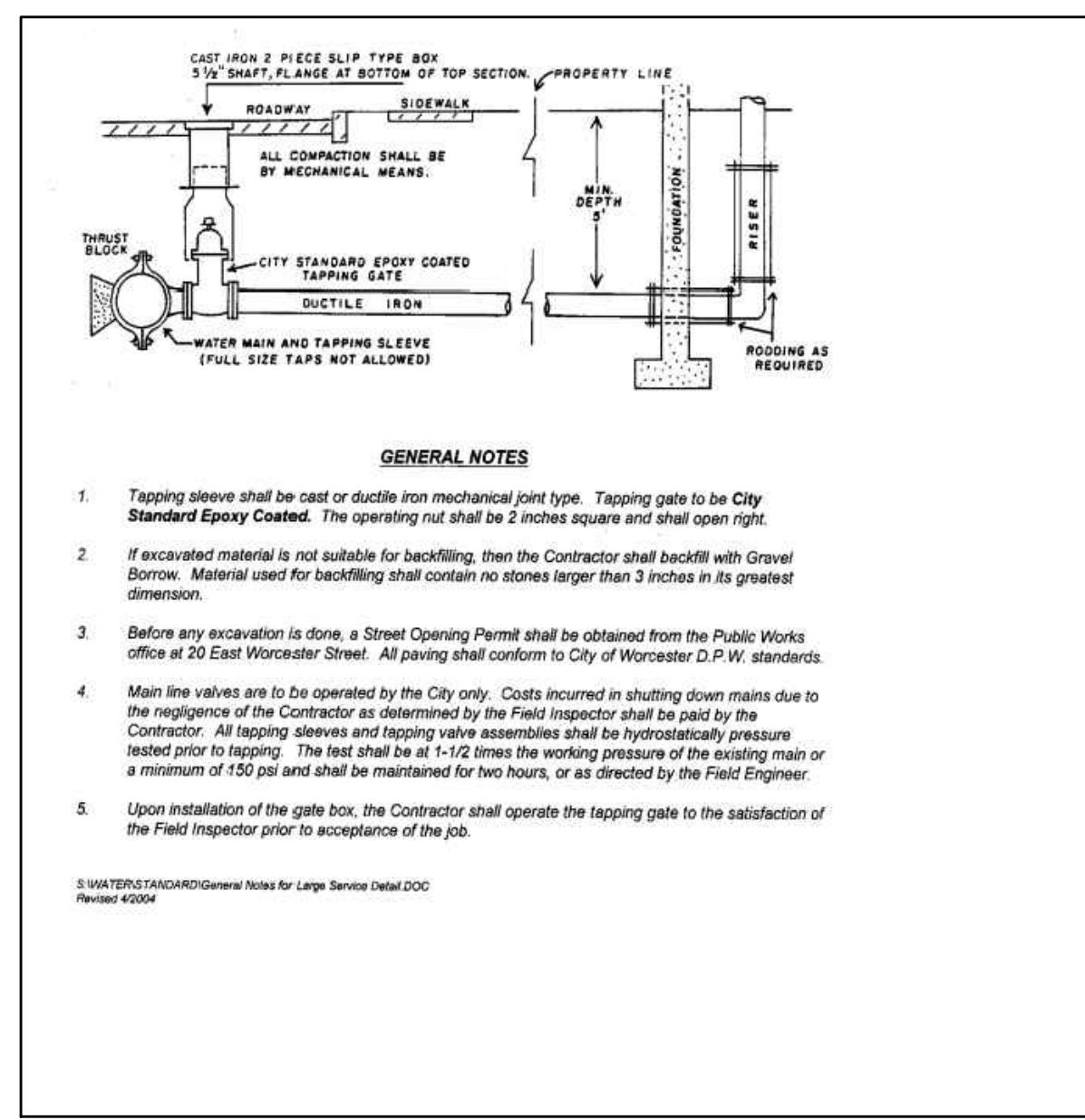
CITY OF WORCESTER TYPICAL PRECAST CATCHBASIN DETAIL  
NO SCALE



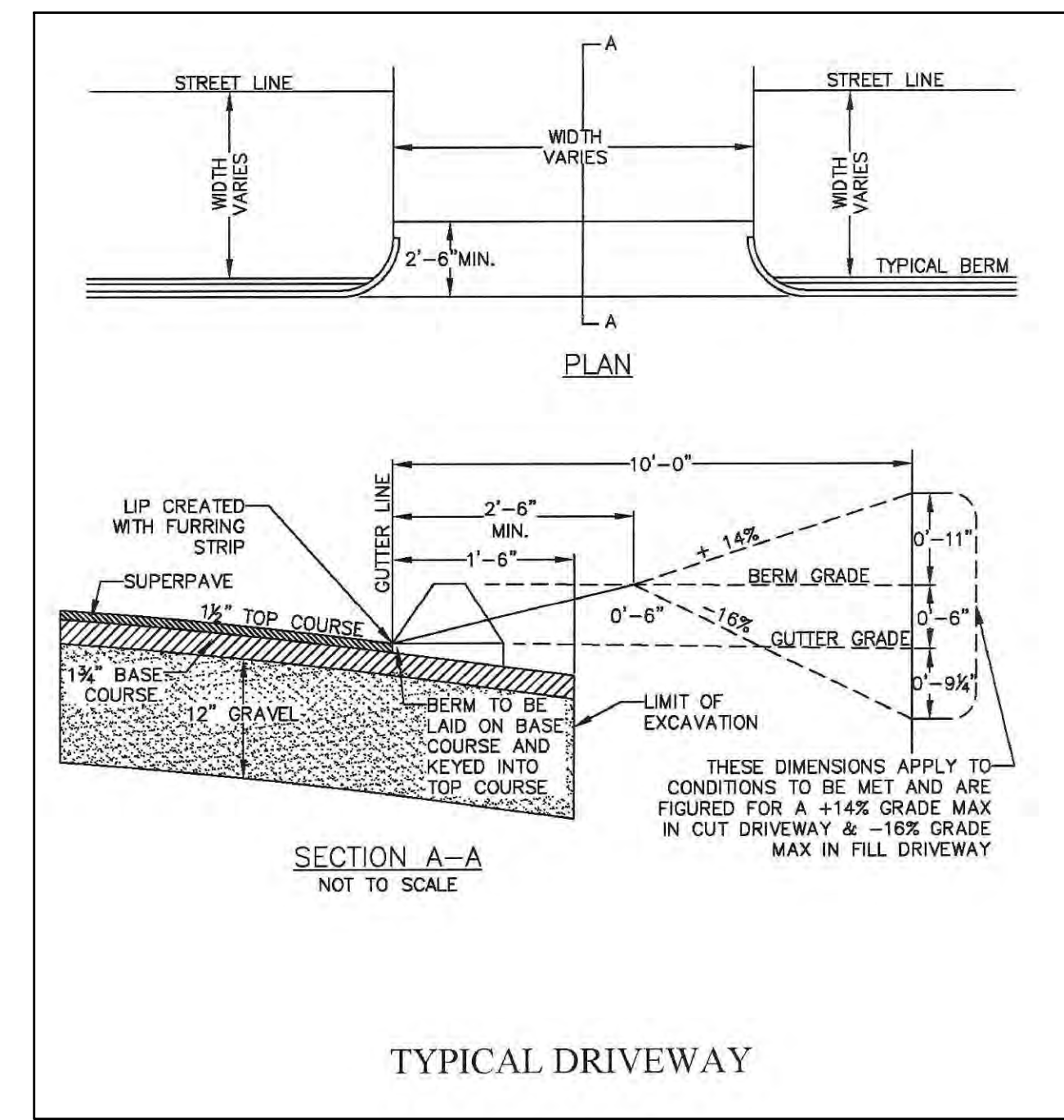
CITY OF WORCESTER TYPICAL CATCHBASIN GRATE DETAIL  
NO SCALE



CITY OF WORCESTER TYPICAL CATCHBASIN FRAME DETAIL  
NO SCALE



CITY OF WORCESTER TYPICAL WATER SERVICE DETAIL



CITY OF WORCESTER TYPICAL DRIVEWAY DETAIL

DEFINITIVE PLAN

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CONSTRUCTION DETAILS  
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CHKD: WDH	APPD: WDH	DATE: NOV 12, 2021
SRV: NA	FB: NA	JOB NO: 3030
TAB: (8-13) DET	SHEET 13 OF 13	PLAN NO: C-18-9

NOTE ALL CONSTRUCTION DETAILS, MEANS AND METHODS SHALL CONFORM TO THE CITY OF WORCESTER DEPARTMENT OF PUBLIC WORKS CONSTRUCTION SPECIFICATIONS AS WELL AS MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES STANDARDS.

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