

**Walnut Street
Affordable Housing**

FOXBOROUGH, MA 02035 PROJECT

The Walnut Street Joint
Venture Group

536 GRANITE ST
BRAINTREE, MA 02184
P 000 000 0000 F 000 000 0000

OWNER

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ARCHITECTURE + URBAN DESIGN

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utileesign.com ARCHITECT

Weston & Sampson

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BLW ENGINEERS

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P.O. BOX #1551
LITTLETON, MA 01460
P 978 964 5477 M/E/P/F/P

KALIN ASSOCIATES

1121 WASHINGTON STREET
NEWTON, MA 02465
P 617 964 5477 SPECIFICATIONS

RSE ASSOCIATES

63 PLEASANT STREET
WATERTOWN, MA 02472
P 617 926 9300 STRUCTURAL

DATE	REVISION

REVISIONS ON SHEET

SCALE UTILITE PROJECT NUMBER
2212

**GRADING AND DRAINAGE
PLAN (BUILDINGS TWO
AND THREE)**

C107

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STRUCTURAL

STAMP

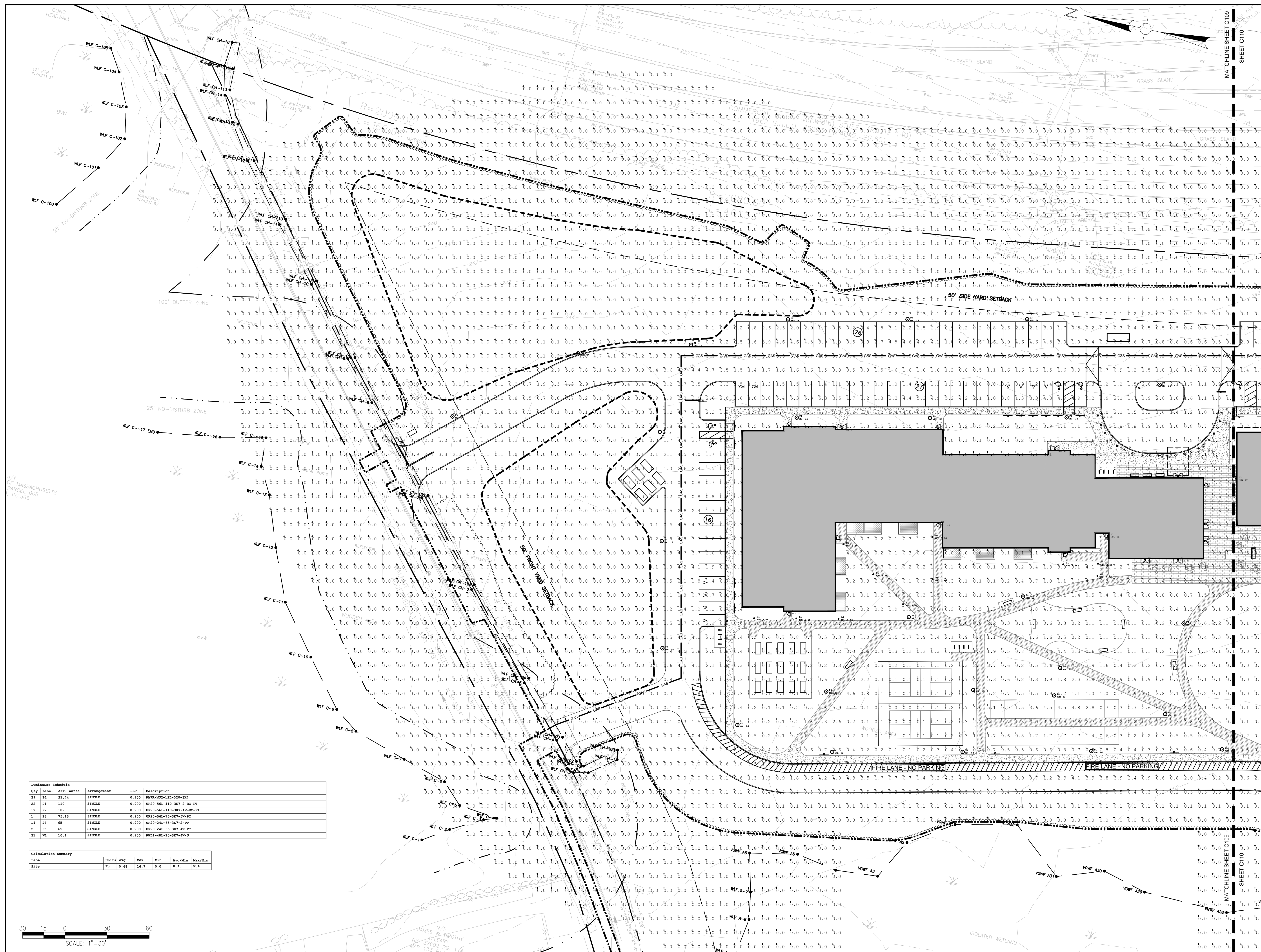
DATE REVISION

REVISIONS ON SHEET

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Z212

LIGHTING PLAN
(BUILDING ONE)

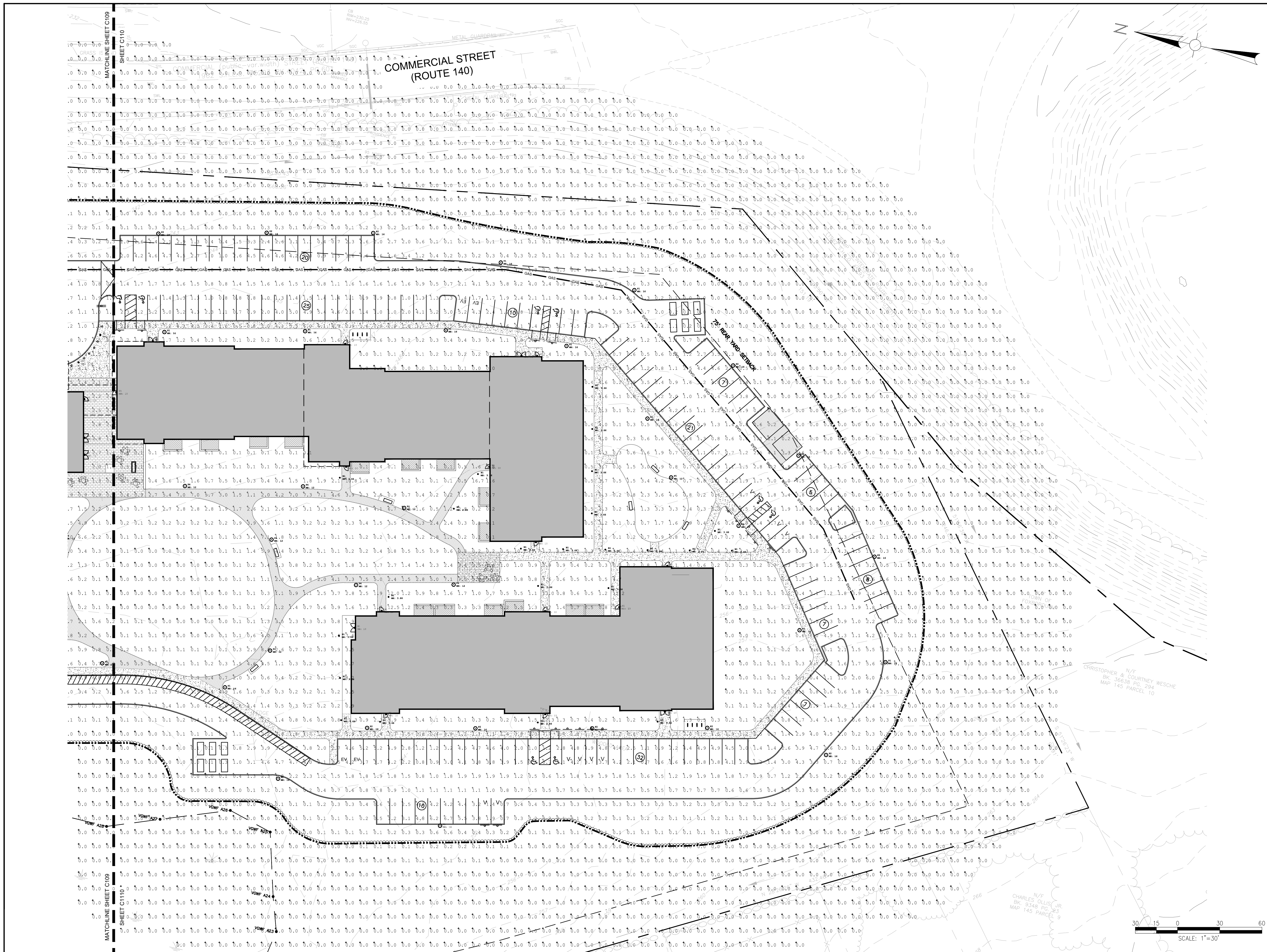
C109



Qty	Label	Arr.	Watts	Arrangement	ILP	Description
39	B1	21.74		SINGLE	0.900	PA78-002-121-020-3K7
22	P1	110		SINGLE	0.900	UR20-565-110-3K7-2-ABC-PP
19	P2	109		SINGLE	0.900	UR20-565-110-3K7-4M-BC-PP
1	P3	75.13		SINGLE	0.900	UR20-565-75-3K7-SM-PP
14	P4	65		SINGLE	0.900	UR20-245-65-3K7-2-PP
2	P5	65		SINGLE	0.900	UR20-245-65-3K7-4R-PP
31	W1	10.1		SINGLE	0.900	WRL1-480-10-3K7-4R-0

Label	Dist	Avg	Max	Min	Avg/Min	Max/Min
	ft	0.68	16.7	0.0	N.A.	N.A.

30 15 0 30 60
SCALE: 1"=30'



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SCALE UTILE PROJECT NUMBER 2212

LIGHTING PLAN
(BUILDINGS TWO
AND THREE)

C110

KIMLIGHTING®

UR20-Arm Mount

ARCHITECTURAL AREA/SITE

FEATURES

- 20" size in post top, pole and wall mount
- High performance optics up to 17,000 delivered lumens
- Elegant form factor
- Diffusion lens option
- UL/cUL listed for wet locations, IP66 and 4G/1.5G vibration rated



CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Low copper aluminum alloy die-casting is designed as one-piece with internal cooling fins.
- Solid cast aluminum wall creates a thermal barrier between the optical and electrical compartments.
- Molded silicone gasket throughout insures the sealing between the two compartments and provides ingress protection.
- Housing is designed with integral LED heat sink utilized for thermal transfer and for securing the location of each LED module.
- All external fasteners are stainless steel.
- One-piece low copper aluminum alloy die-cast lens frame is secured to housing with 6 screws.

OPTICS

- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.
- Optional Backlight Control on each LED module to completely control unwanted backlight.

LENS

- Standard lens (CLR) K08
- Clear Polycarbonate Lens (CP) IK10

INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

*Clear Polycarbonate Lens (CP) IK10, Standard Lens (CLR) K08. Consult factory for details.

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MLur20arm_spec_R03

DATE	LOCATION
TYPE	PROJECT
CATALOG #	



RELATED PRODUCTS

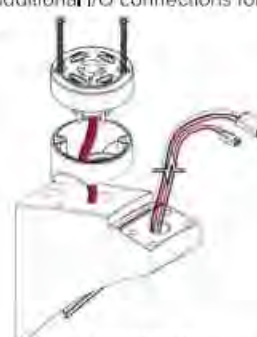
- Ouro Small Post Top
- Ouro Large Post Top
- Ouro Large Arm Mount

ELECTRICAL

- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480, Driver has a 0-10V dimming interface for multi-level illumination outputs. Driver is Underwriters Laboratories listed.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components.
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments.
- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Surge protection: 10,000kV in parallel, 200,000kV in series.
- Wiring: No. 18AWG rated 105°C, wet rating.

CONTROLS

- Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment, 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance, ANSI twist-lock control module by others.
- Standard customer operation modes:
 - Traditional on/off photoelectric control
 - Span wireless photoelectric control for address dimming feature.
 - 7-pin wireless photoelectric control for dimming and additional I/O connections for customer use.



7-PIN OPTION (Specifications continued on page 3)

KEY DATA	
Lumen Range	2888 – 17060
Wattage Range	25 – 150
Efficacy Range (LPW)	100 – 136
Reported Life (Hours)	L70>60,000
Weight	32 lbs – 14.5 kg
EPA	0.372

KIMLIGHTING®

PA7R

ROLLARD

FEATURES

- ICA Dark Sky Compliant, No Up-light configuration
- Elegant form factor blended with Performance Optics
- Integral NEMA 3R Enclosure
- Dual receptacle power panel
- PA System capability
- Bluetooth® enabled RGBW accent



CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Castings are low copper aluminum alloy die-cast
- Gaskets are molded silicone to prevent harmful ingests to the lamp and driver compartments
- IP65 rated

SHAFT:

- Aluminum shaft(s) is 125" thick extruded aluminum 6061 alloy
- Concrete shaft(s) conforms to current specifications for "Portland Cement," ASTM C150, Type I or II. Aggregates shall meet current requirements of "Specifications for Concrete Aggregates," ASTM C33. Water shall be clean and free from deleterious amounts of salt, oil, acids, alkalis or organic materials. Wire for reinforcement shall conform to ASTM A185. Steel for lugs and plates shall conform to ASTM A36, or A283 grade D.

- Concrete shaft(s) is medium sand-blasted with anti-graffiti sealer and material color shall be integral to the concrete mix.
- Concrete shaft(s) is cured to allow for completion of the hydration process, and result in a 28 day compressive strength of not less than 4,500 psi.
- Concrete shaft(s) is cast from fiberglass molds used to insure uniform parts. Mold parting lines may be slightly visible in finished parts.

- Concrete shaft configurations are palletized with adequate hold-downs to prevent load movement in transit.
- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

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DATE	LOCATION
TYPE	PROJECT
CATALOG #	



RELATED PRODUCTS

- Pavilion Square
- Pavilion Round Impact Rated

OPTICS

- LEDs mount to a metal printed circuit board assembly (MCPCB)
- Optical lenses are clear injection molded PMMA acrylic.
- UO configurations have an optically clear flat tempered glass lens, all other configurations have either an optically clear or high transmission diffused acrylic lens

INSTALLATION

- Aluminum shaft configurations will have four 3/8" x 10" x 2" zinc plated L-hook anchor bolts shall be installed with an included template. Nuts and washers are provided to level and secure the mounting plate to the anchor bolts.
- Aluminum shaft configurations will have a mounting plate and be able to be rotated 20° in either direction during installation for aiming adjustment.
- Concrete shaft configurations will have four-steel mounting tabs for installation on four 12" x 10" x 2" zinc electroplated L-hook anchor bolts. Each anchor bolt is supplied with two nuts, two washers, and a rigid pressed board template.
- Concrete shaft configurations are palletized with adequate hold-downs to prevent load movement in transit.
- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

ELECTRICAL

- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 208-277, 347/480, Driver is Underwriters Laboratories listed.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components.
- Drivers are greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments.
- Luminaire is capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.

KEY DATA	
Lumen Range	39-2350
Wattage Range	15-22
Efficacy Range (LPW)	23-108
Reported Life (Hours)	L70:60,000

(Specifications continued on page 3)

BEACON

RATIO Wall

RWL1/RWL2 LED WALLPACK

FEATURES

- Low profile LED wall luminaire with a variety of IES distributions for lighting applications such as retail, commercial and industrial building mount.
- Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues.
- Visual comfort standard
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, Wiscap and 7-pin with recessed control.
- Battery Backup options available for emergency code compliance.
- Quickmount adapter allows easy installation/maintenance.
- 347V and 480V versions for industrial applications and Canada.



CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface.
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish.
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating.

OPTICS

- Entry optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance.
- 48 or 160 midpower LEDs
- 3000K, 4000K or 5000K (70 CR/80 CCT) CCT
- Zero uplight distributions
- LED optics provide IES type II, III and IV distributions. Type II only available in RWL2 configurations.

INSTALLATION

- Quickmount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box).
- Designed for direct box mount.
- Integral back box contains 1/2" conduit hubs.
- Integral back box standard with Dual Driver, Dual Power Feed, NX, Wiscap and battery versions (battery versions for RWL1 only).

ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V and 480V dimmable driver option for all wattages above 35W
- Ambient operating temperature -40°C to 40°C
- Driver RoHS and IP66

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RatioWallSpecSheet

DATE	LOCATION
TYPE	PROJECT
CATALOG #	



CONSTRUCTION (CONTINUED)

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface.
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish.
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating.

OPTICS (CONTINUED)

- Drivers have greater than 0.9 power factor and less than 20% Total Harmonic Distortion
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options can not be included in one same fixture.
- Full replaceable surge protector device provides 20kA protection meeting ANSI IEEE C62.41.2 Category C High and Surge Location Category C3. Automatically takes future of-line for protection when device is compromised.
- Dimming drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than 6" standard.

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control.
- Button photocontrol is suitable for 120-277V operation.
- 7-pin ANSI C136.4-2013 photocontrol receptacle option available for twist lock photocontrol or wireless control modules (control accessories sold separately).
- NX Distributed Intelligence™ available with in future wireless control module, features dimming and occupancy sensor.
- WISCAP™ available with in future wireless control module, features dimming and occupancy sensor.
- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress.

CONTROLS (CONTINUED)

- Battery Backup suitable for operating temperatures +25°C to 40°C. RWL1 battery is 12.5W RWL2 battery is 18W
- Dual Driver and Dual Power Feed options creates product configuration with 2 internal drivers for code compliance.
- Please consult brand or sales representative when controlling control and electrical options as some combinations may not operate as anticipated depending on your application.

CERTIFICATIONS

- Listed to UL 5085 and CSA C22.2 72750 (2-74 for wet locations)
- IP65 rated housing.
- This product qualifies as a "designated county construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2000. See Buy American Solutions.
- DLC® (DesignLights Consortium) Qualified, with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org

WARRANTY

- 5 year limited warranty.

KEY DATA	
Lumen Range	1300-8,800
Wattage Range	10-155
Efficacy Range (LPW)	115-148
Weights lbs. (kg)	6.5/6.5 (2.9/2.9)

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STRUCTURAL

DATE REVISION

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STAMP

REVISIONS ON SHEET

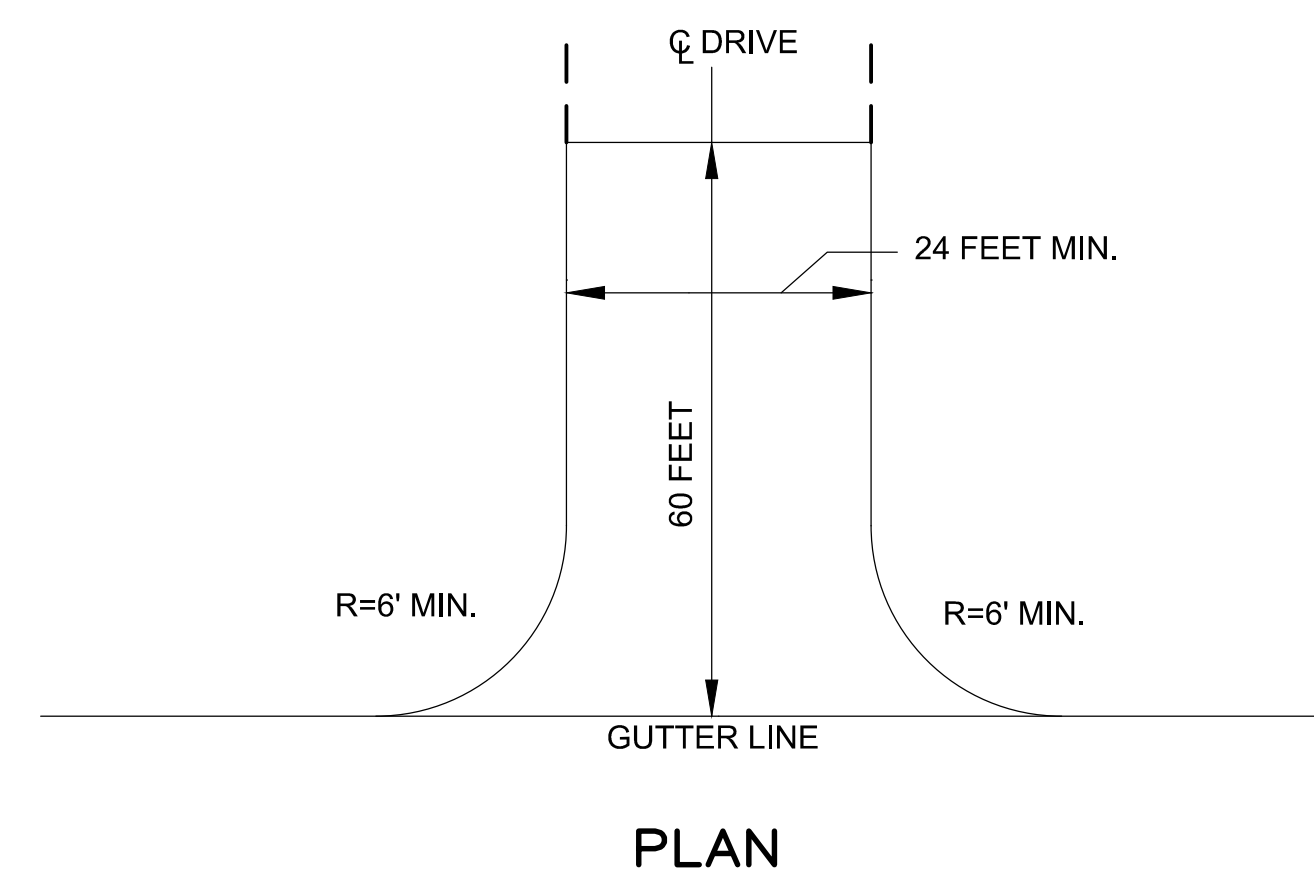
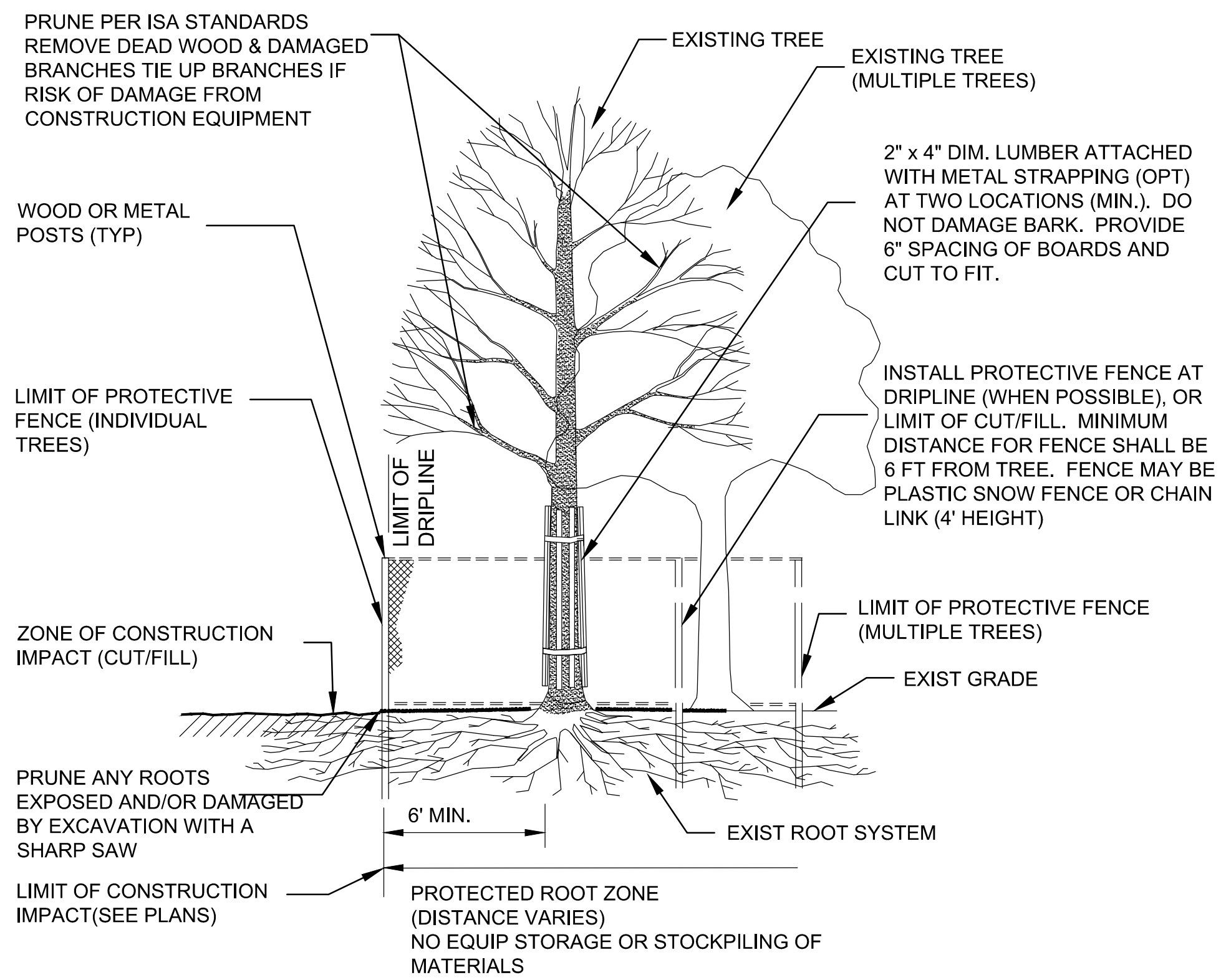
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SCALE

UTILE PROJECT NUMBER
2212

LIGHTING DETAILS

C111

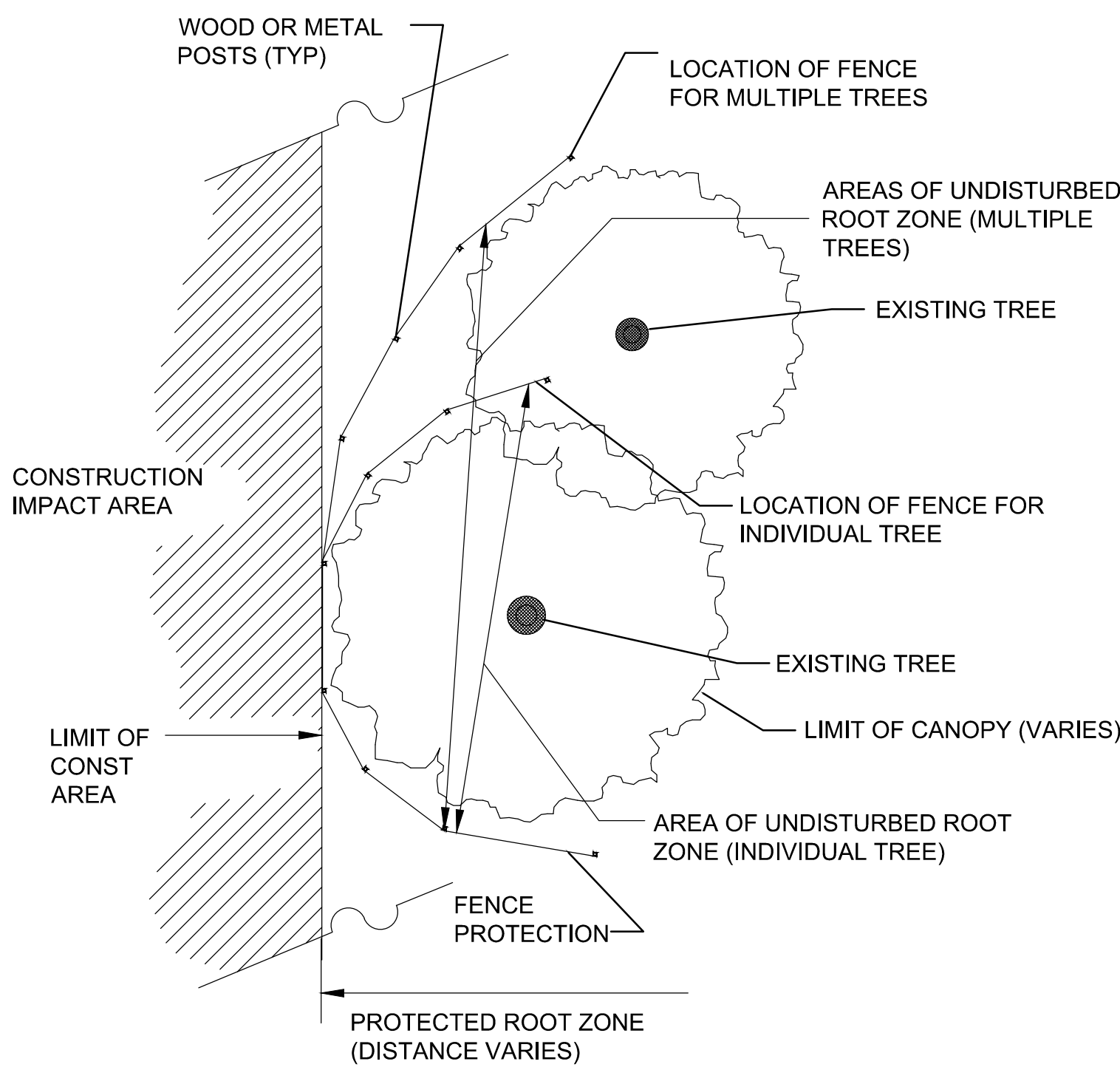


NOTES:

1. AT LEAST ONE CONSTRUCTION ENTRANCE SHALL BE PLACED AT EACH ENTRANCE OF THE SITE, THROUGHOUT CONSTRUCTION.
2. THE LOCATION OF THE CONSTRUCTION ENTRANCE(S) SHALL BE APPROVED BY THE OWNER PRIOR TO PLACEMENT.
3. CONSTRUCTION ENTRANCE(S) SHALL CONSIST OF 2" CRUSHED STONE PLACED AT A DEPTH OF A MINIMUM 8 INCHES PLACED OVER GEOTEXTILE FABRIC.
4. CONTRACTOR IS RESPONSIBLE FOR CLEARING OF ALL VEGETATION, ROOTS AND ALL OBSTRUCTIONS IN PREPARATION FOR GRADING AND COMPACTING PRIOR TO PLACEMENT OF GEOTEXTILE FABRIC AND CRUSHED STONE.
5. CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION AND ALL NECESSARY MAINTENANCE OF ALL ENTRANCES.
6. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF SEDIMENTS OR ANY OTHER MATERIALS TRACKED ONTO THE STREET, AS WELL MAINTENANCE OF EROSION CONTROL MEASURES.

2 STABILIZED TEMPORARY CONSTRUCTION ENTRANCE

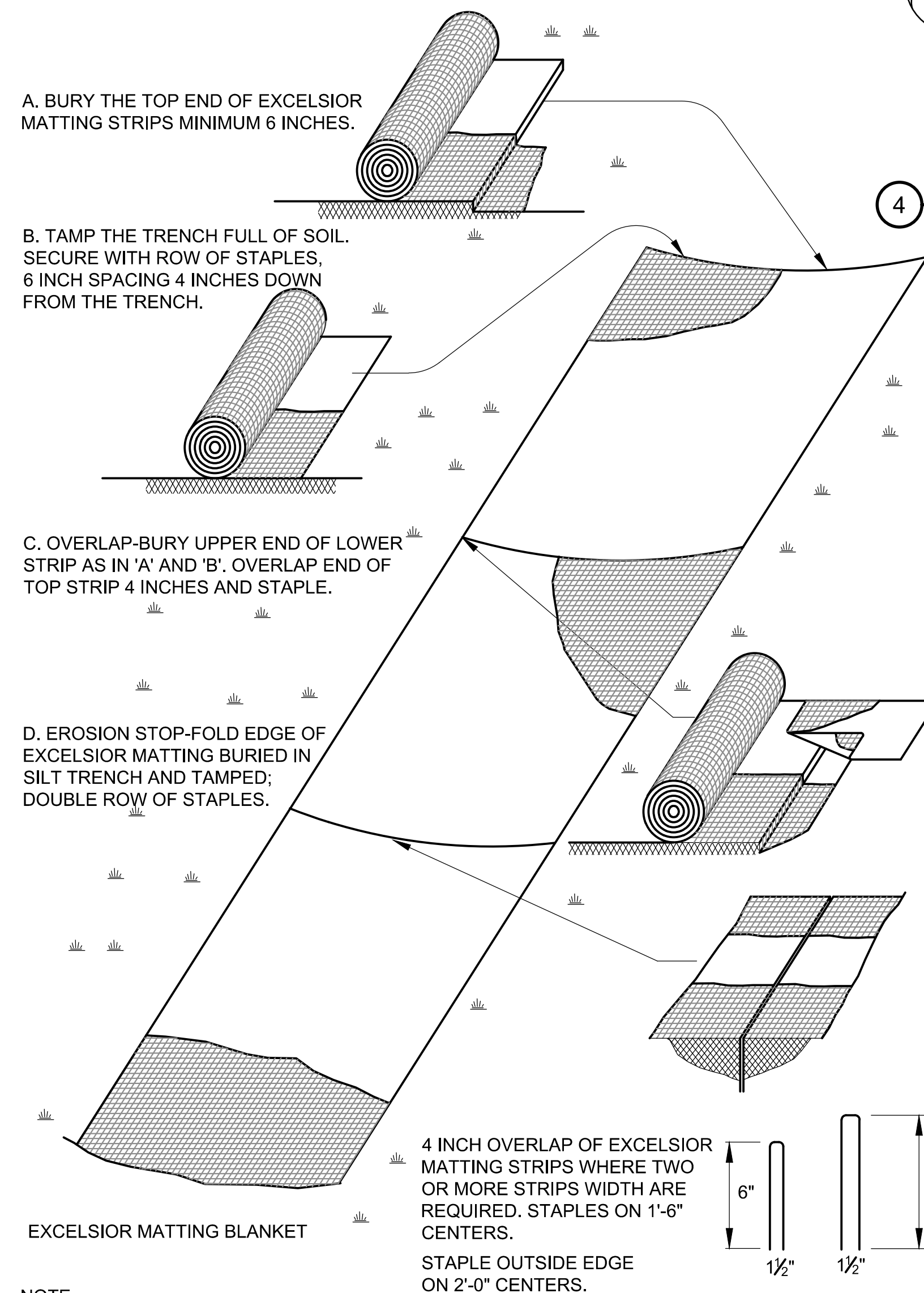
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1. EROSION CONTROL MEASURES SHALL BE INCORPORATED IN THE SEQUENCE OF CONSTRUCTION TO PREVENT SEDIMENT LADEN WATER FROM LEAVING THE SITE.
2. AREAS SUBJECT TO EROSION SHALL BE MINIMIZED IN TERMS OF TIME AND AREA.
3. IN GENERAL, WORK REQUIRING EROSION CONTROL INCLUDES EXCAVATIONS, FILLS, DRAINAGE, SWALES AND DITCHES, ROUGH AND FINISH GRADING, AND STOCKPILING OF EARTH.
4. DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMIT OF SILT FENCE ACTIVITIES.
5. TEMPORARY SILT CONTROLS SHALL BE PLACED AS SHOWN ON THE PLAN, PERMANENTLY STABILIZE EACH COMPLETED SEGMENT OF CONSTRUCTION.
6. THE CONTRACTOR SHALL REMOVE TEMPORARY SILT CONTROLS AND ALL ACCUMULATED SILT AND DEBRIS AFTER COMPLETION OF CONSTRUCTION OPERATIONS.
7. SILT CONTROLS SHALL BE IN PLACE AT ALL TIMES DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL SILT AND DEBRIS FROM EACH DRAINAGE STRUCTURE UPON COMPLETION OF THE PROJECT.
9. OBJECTS AND/OR AREAS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
10. ALL DISTURBED AREAS SHALL BE RESTORED TO EXISTING GRADE. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE AS NEEDED.
11. SILT CONTROLS SHALL BE REMOVED UPON THE SATISFACTORY COMPLETION OF ALL WORK SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
12. SITE PERIMETER SHALL HAVE STRAW WATTLES INSTALLED AT THE LIMIT OF WORK.

5 EROSION CONTROL BLANKET

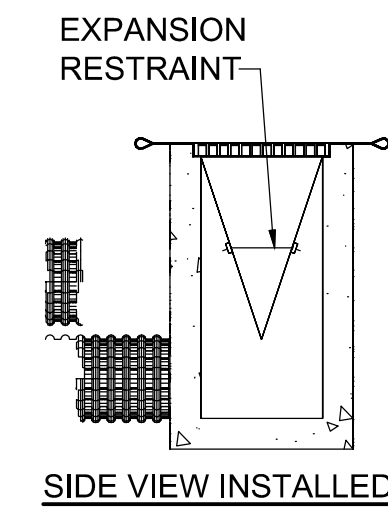
SCALE: N.T.S.



NOTE: JUTE NETTING TO BE USED ON ALL SLOPES GREATER THAN 4H:1V AS INDICATED ON GRADING PLANS

4 STOCKPILE AREA

SCALE: N.T.S.

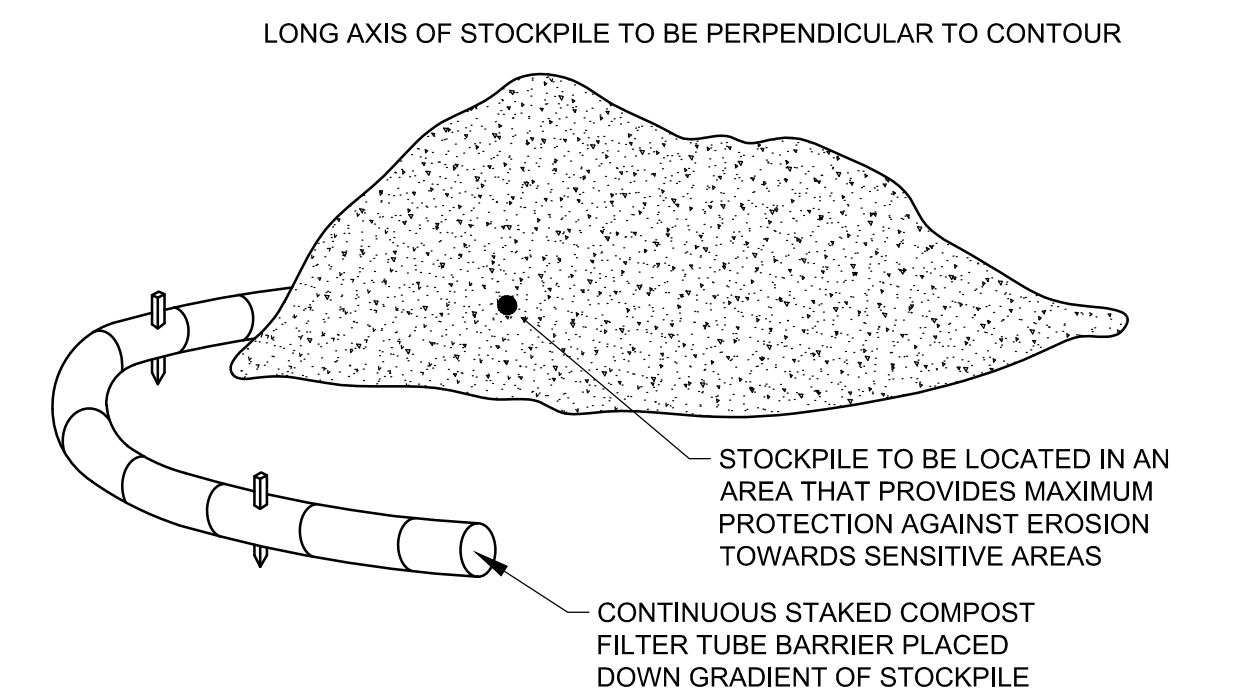


NOTE:

ALL EXISTING CATCH BASINS WITHIN THE LIMIT OF WORK SHALL HAVE INLET CONTROL PRIOR TO THE START OF CONSTRUCTION.

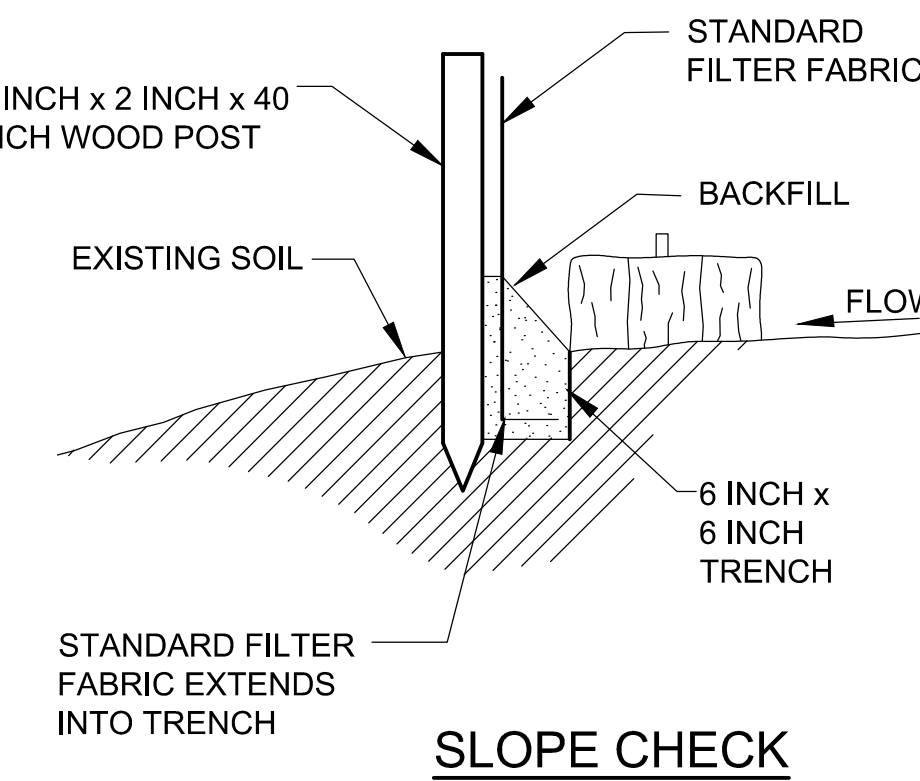
3 INLET SEDIMENT CONTROL

SCALE: N.T.S.



WHEN JOINING TWO OR MORE SILTATION FENCES TIE THE TWO END POSTS TOGETHER WITH NYLON CORD.

DITCH CHECK



SLOPE CHECK

6 SILT FENCE- EROSION CONTROL

SCALE: N.T.S.

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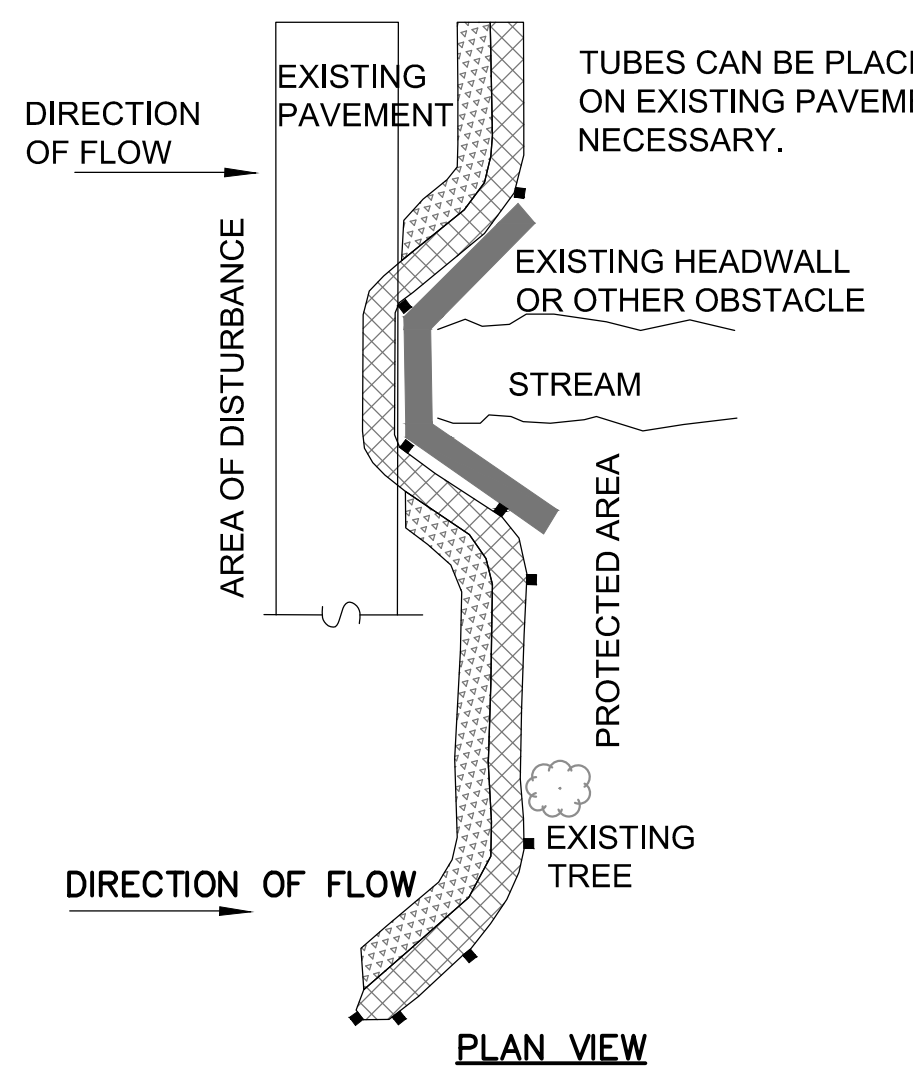
DATE REVISION

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SCALE UTIL PROJECT NUMBER 2212

DETAILS

C500



GENERAL NOTES:

1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.
5. MULCH MATERIAL FOR THE FILTER TUBES SHALL BE WEED-FREE STRAW, WOOD EXCELSIOR, COMPOST, OR WOOD CHIPS, OR COIR. STRAW SHALL BE WEED FREE AND DERIVED FROM THRESHING OF GRAIN CROP.

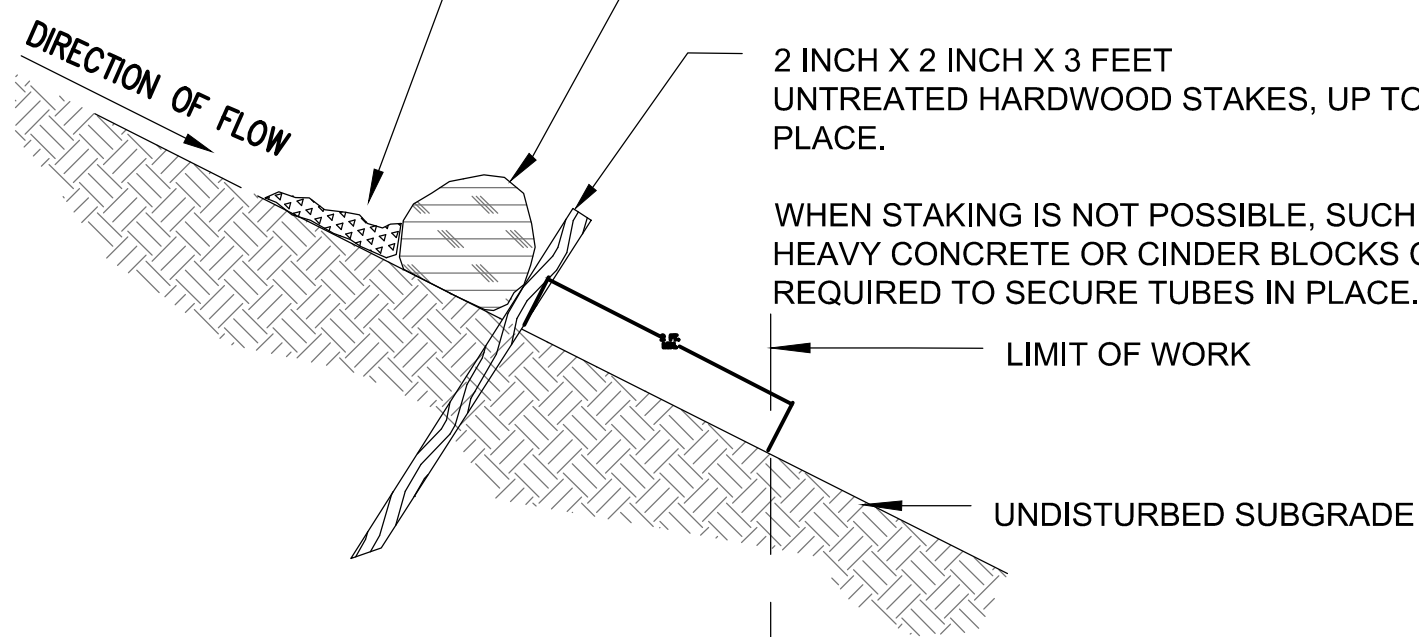
PLACING TUBES AGAINST THE UPHILL SIDE OF WELL-ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES CAN PROVIDE ADDITIONAL BRACING.

CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN-OFF.

2 IN. DEEP x 12 IN. WIDE LAYER OF LOOSE COMPOST MATERIAL PLACED ON UPHILL/FLOW SIDE OF TUBES TO FILL SPACE BETWEEN SOIL SURFACE AND TUBES.

COMPOST FILTER TUBE MINIMUM 12 INCHES IN DIAMETER WITH AN EFFECTIVE HEIGHT OF 9.5 INCHES. TUBES FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.

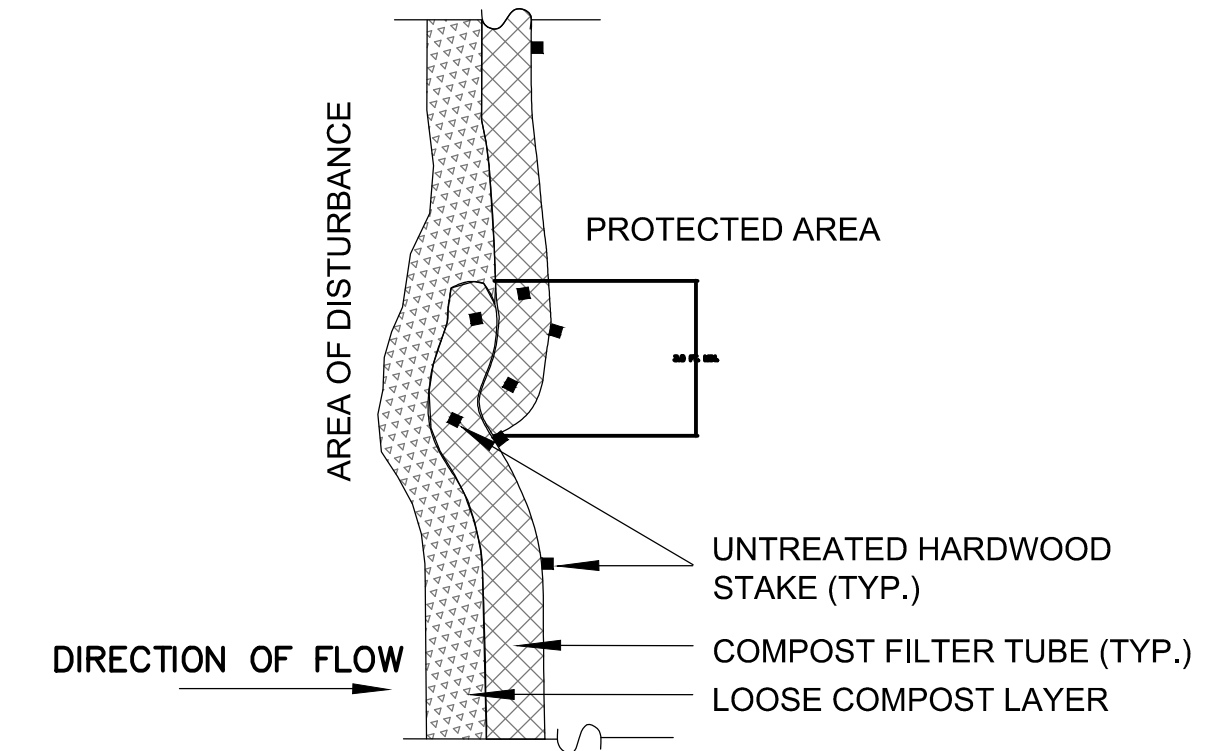
TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES INTO EXISTING GRADE.



WHEN STAKING IS NOT POSSIBLE, SUCH AS WHEN TUBES MUST BE PLACED ON PAVEMENT, HEAVY CONCRETE OR CINDER BLOCKS CAN BE USED BEHIND TUBES UP TO 5 FT. APART OR AS REQUIRED TO SECURE TUBES IN PLACE.

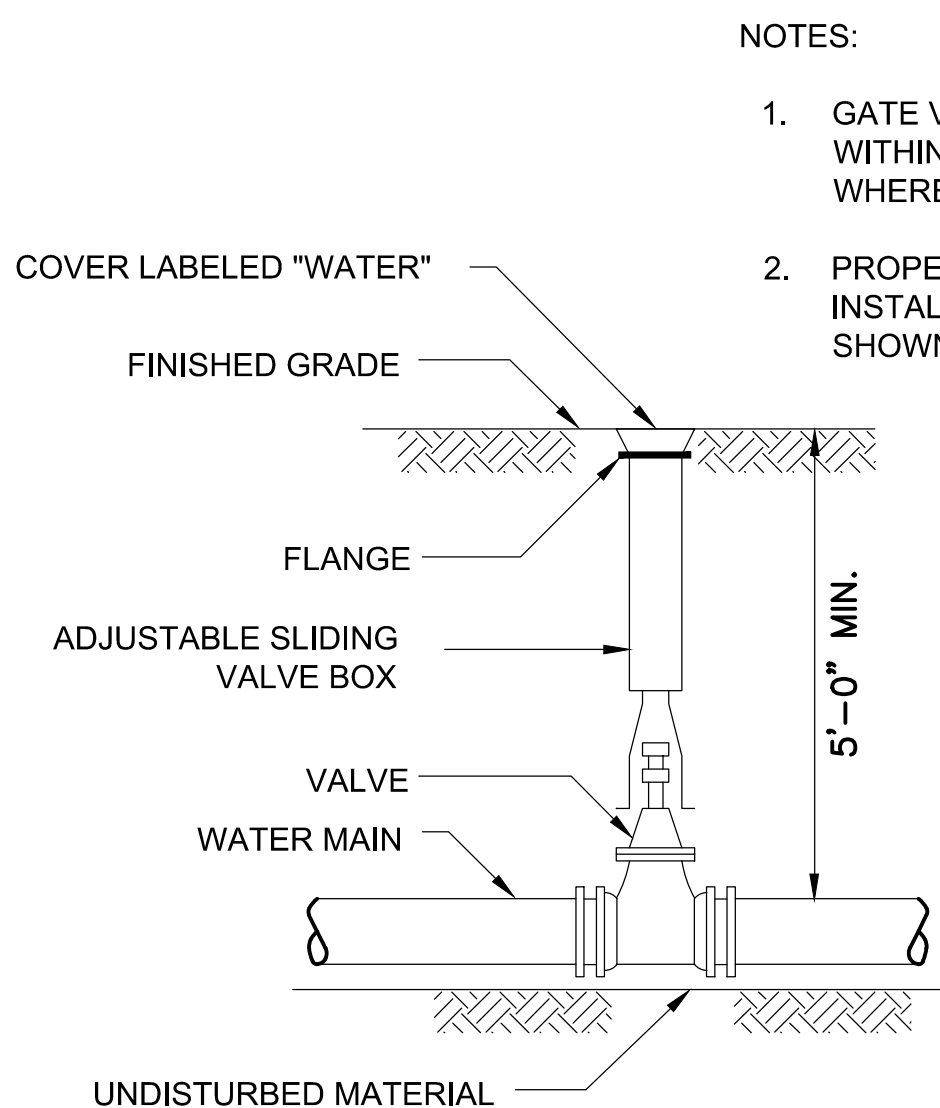
PROVIDE A 3 FT. MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW. STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.

SECURE ENDS OF TUBES WITH STAKES SPACED 18 IN. APART THROUGH TOPS OF TUBES.



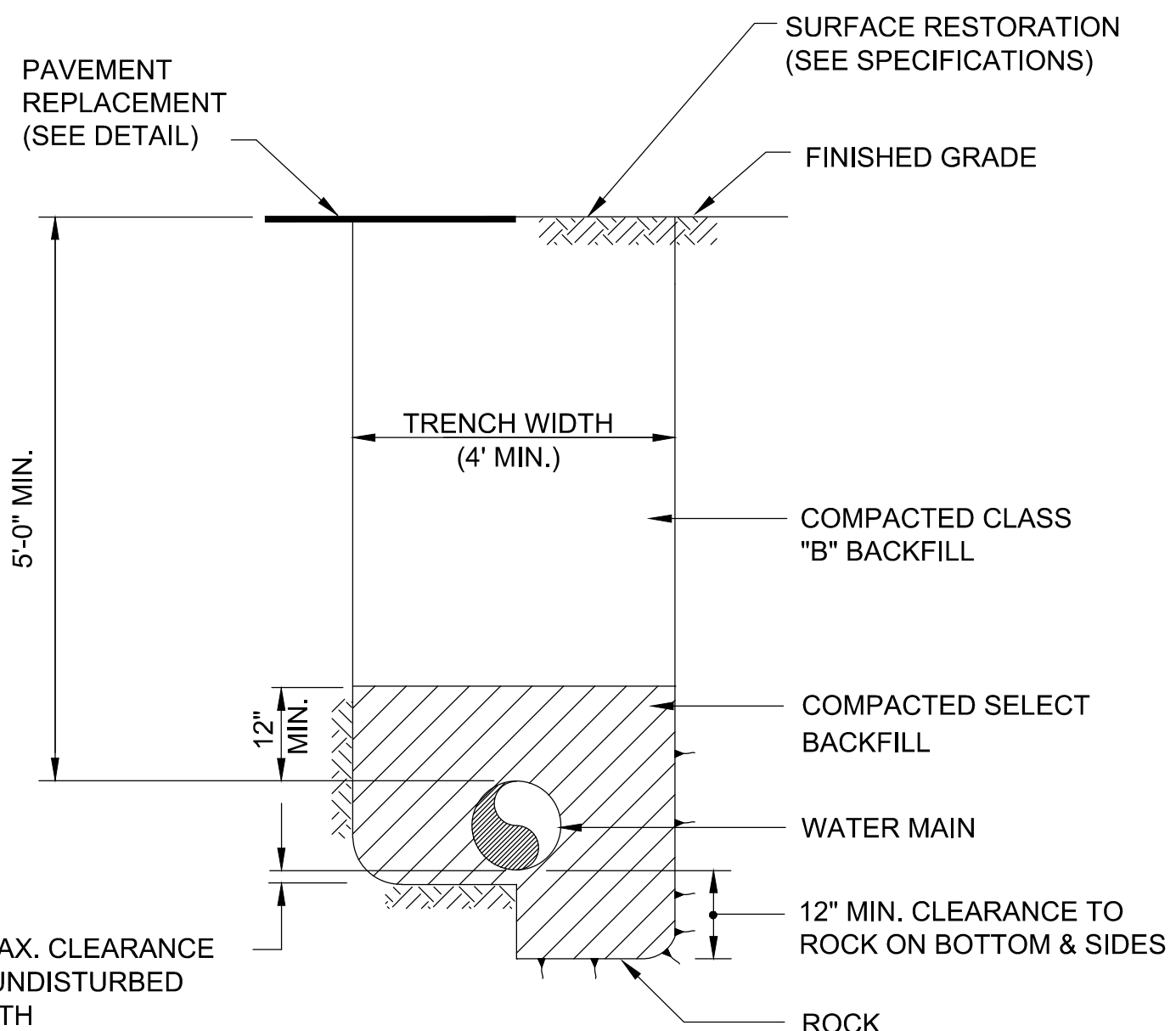
1 EROSION CONTROL MEASURE: SINGLE COMPOST FILTER TUBE DETAIL

SCALE: N.T.S.



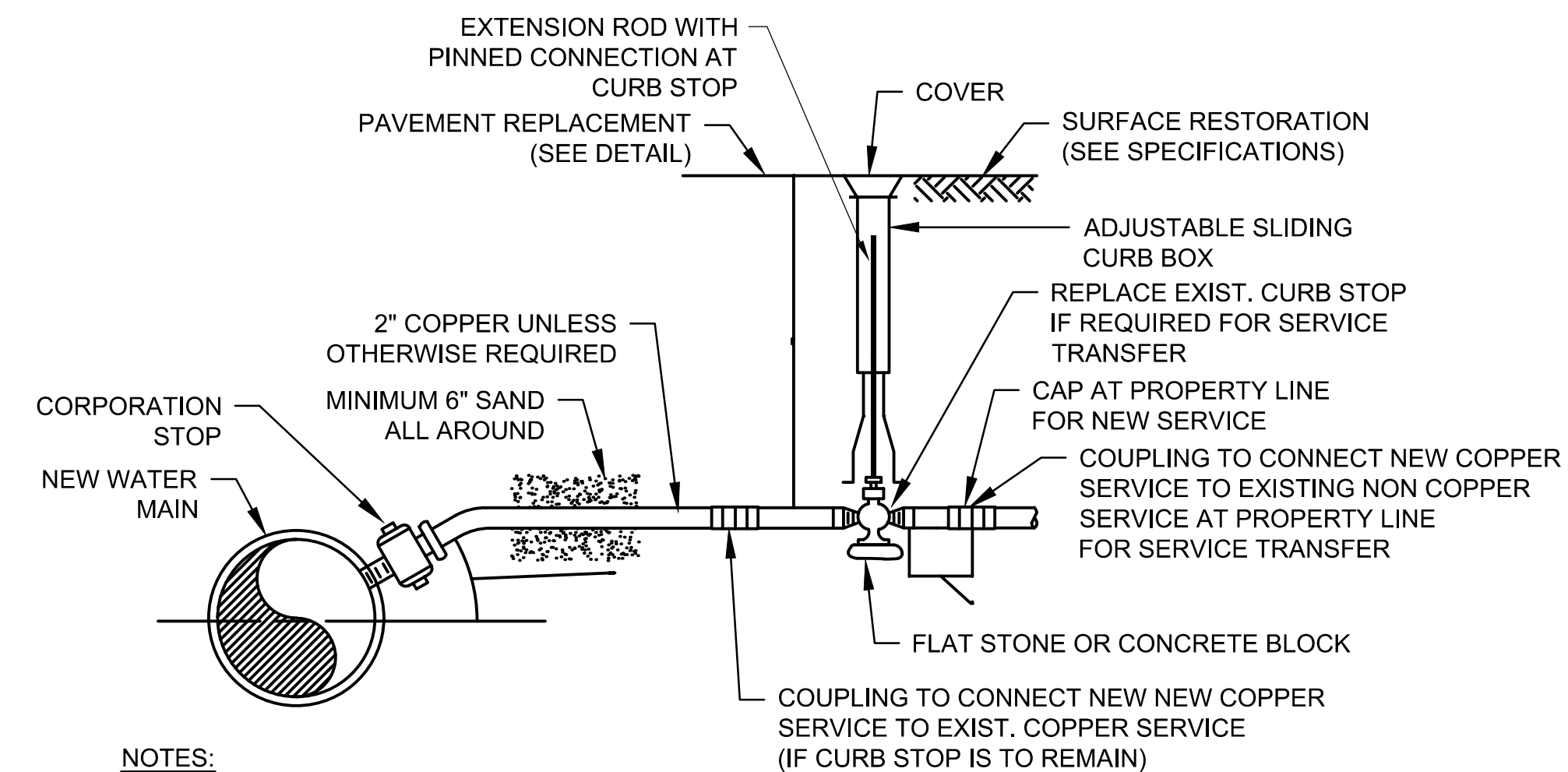
NOTES:

1. GATE VALVE TO BE LOCATED WITHIN ROADWAY PAVEMENT WHERE POSSIBLE
2. PROPER SIZE VALVE BOX SHALL BE INSTALLED WHERE GATE VALVES ARE SHOWN ON PLANS



3 WATER MAIN TRENCH DETAIL

SCALE: N.T.S.



NOTES:

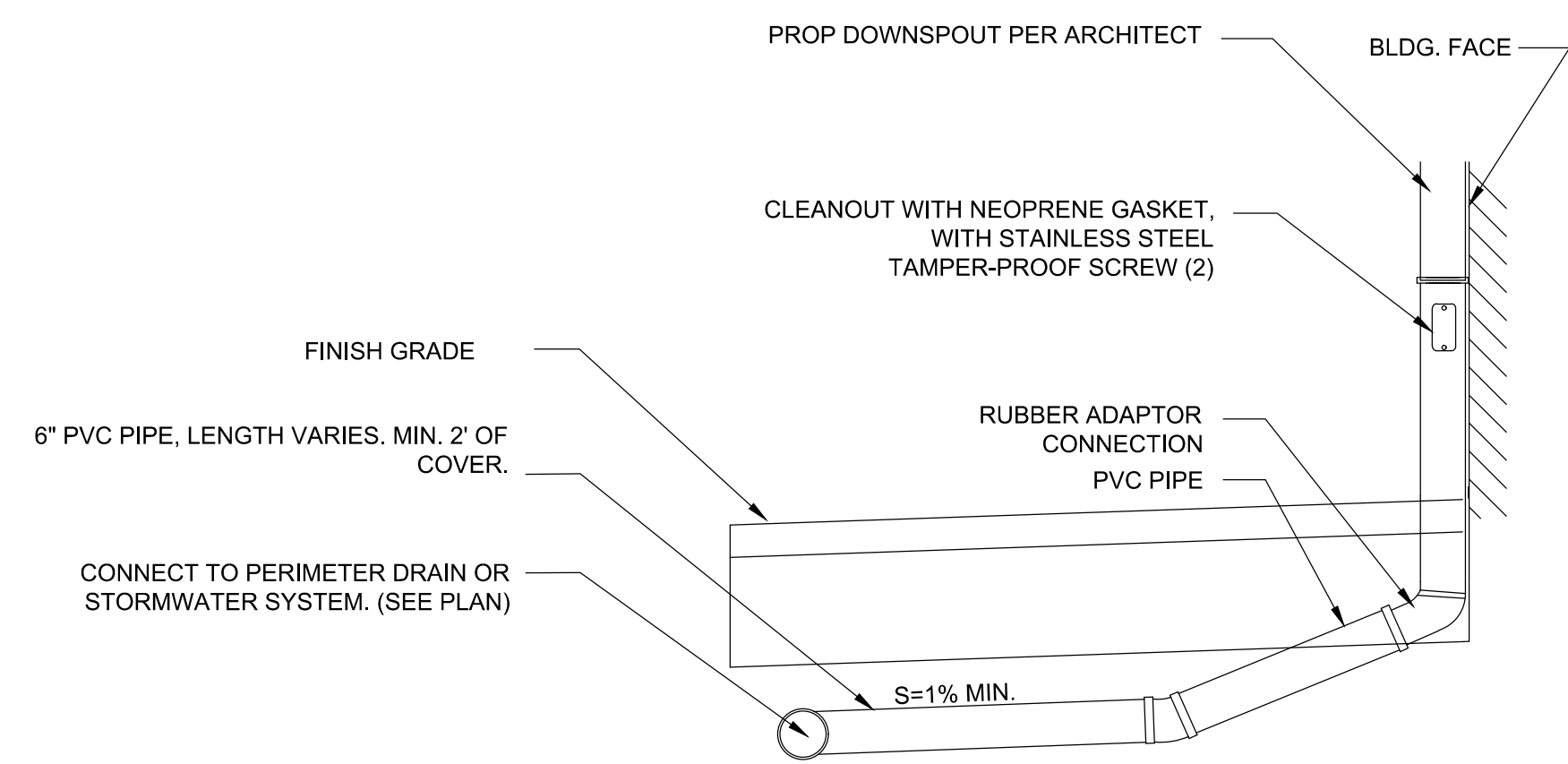
1. PROVIDE SADDLE FOR ALL AC AND PVC MAINS AND ALL 2" OR LARGER STOPS.
2. TRACER WIRE SHALL BE #12 AWG SOLID COPPER WITH 30 MIL BLUE HDPE INSULATION.
3. IF CURB IS IN LAWN AREA, EXTEND TRACER WIRE UP THE OUTSIDE OF BOX, WRAP END THREE TIMES AROUND BOX AND LEAVE APPROXIMATELY ONE INCH BELOW THE OUTSIDE TOP OF BOX. IF CURB BOX IS IN PAVEMENT AREA, EXTEND TRACER WIRE UP THE INSIDE OF BOX LEAVING THREE FEET COILED UP INSIDE TOP OF BOX.
4. TRACER WIRE SHALL BE CONNECTED TO CORPORATION STOP WITH BRASS THAW WIRE NUT COMPRESSION ASSEMBLY WITH SET SCREW.

4 WATER SERVICE DETAIL

SCALE: N.T.S.

2 VALVE AND BOX DETAIL

SCALE: N.T.S.

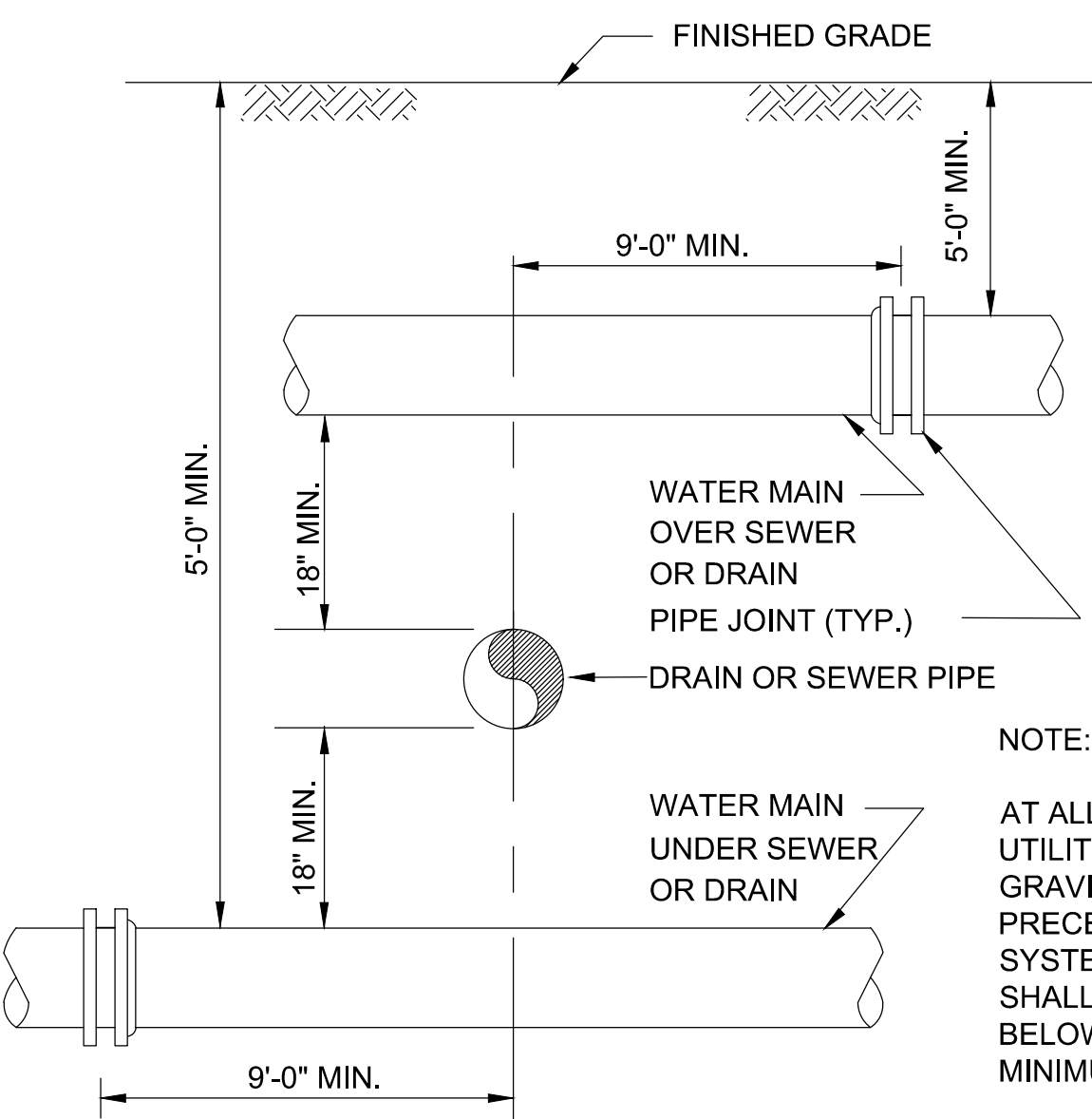


NOTE:

1. DOWNSPOUT DETAIL IS TYPICAL FOR ALL BUILDING GUTTER DOWNSPOUTS.
2. REFER TO ARCHITECTURAL PLANS FOR EXACT QUANTITY & LOCATION.
3. COORDINATE WITH CIVIL SITE PLANS FOR CONNECTIONS TO STORM SYSTEM.
4. DOWNSPOUT ADAPTER SHALL BE MANUFACTURED BY J.R. HOE AND SONS, NEENAH FOUNDRY, PIEDMONT MANUFACTURING OR APPROVED EQUAL.

5 GUTTER DOWNSPOUT CONNECTION DETAIL (EXTERNAL)

SCALE: N.T.S.

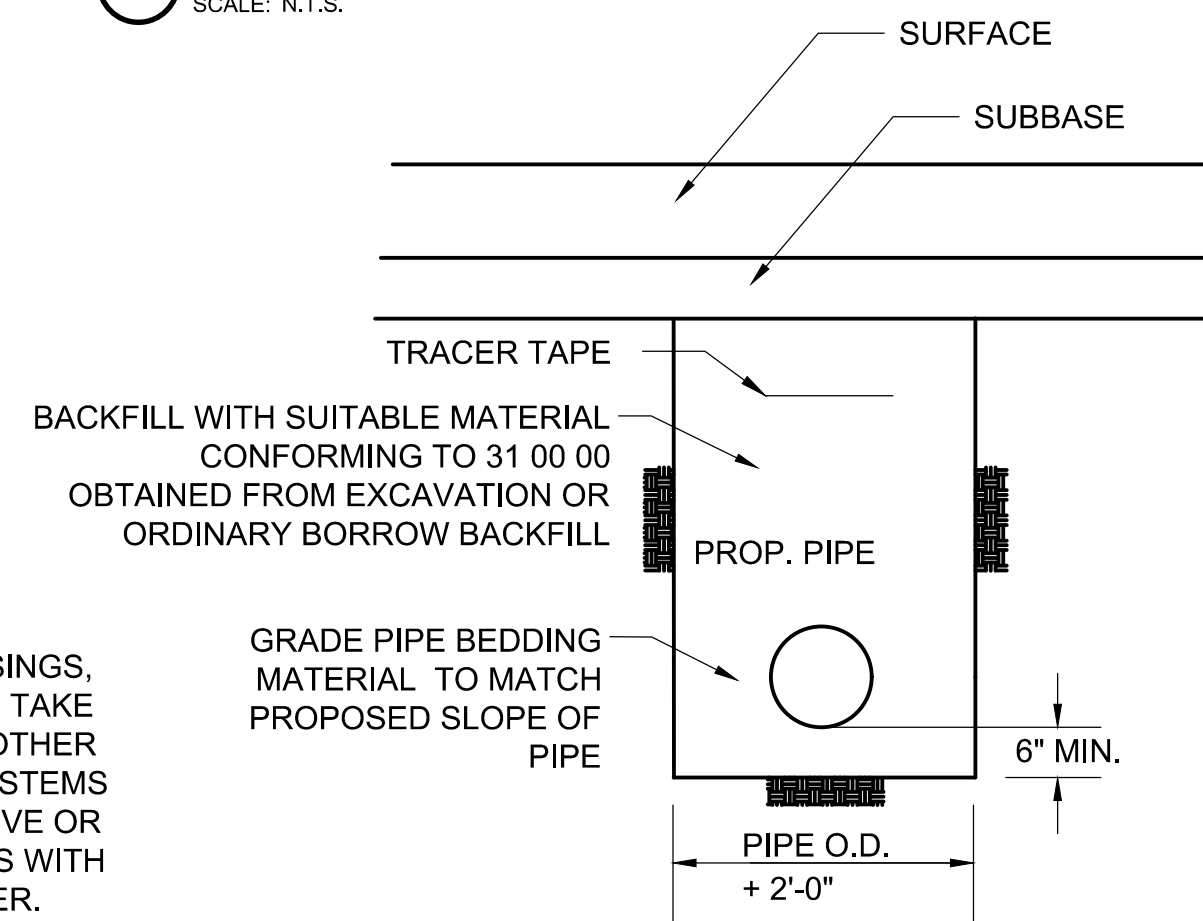


NOTE:

AT ALL SUBSURFACE UTILITY/DRAINAGE CROSSINGS, GRAVITY SYSTEMS SHALL TAKE PRECEDENCE OVER ALL OTHER SYSTEMS. ALL OTHER SYSTEMS SHALL BE INSTALLED ABOVE OR BELOW GRAVITY SYSTEMS WITH MINIMUM REQUIRED COVER.

6 SEWER OR DRAIN CROSSING DETAIL

SCALE: N.T.S.



7 DRAINAGE TRENCH DETAIL

SCALE: N.T.S.

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STRUCTURAL

DATE REVISION

REVISIONS ON SHEET

SCALE UTILE PROJECT NUMBER 2212

DETAILS

C501

NOTES

- 5'-0" DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET OR WHEN REQUESTED BY THE ENGINEER.
- 6" MIN. WALL THICKNESS AND 7 INCH MIN. BASE THICKNESS WITH 5'-0" DIAMETER MANHOLES.
- 6 INCH LIP OPTIONAL UNLESS OTHERWISE NOTED.
- CONCRETE INVERT AND SHELF MAY BE SUBSTITUTED IN STORM DRAIN MANHOLES AS DIRECTED BY THE ENGINEER.

ADJUST TO REQUIRED GRADE WITH A MIN. OF ONE COURSE OF BRICK MASONRY OR REINFORCED CONC. GRADING RINGS, ALL BRICKS TO BE LAID AS HEADERS

2'-0" UNLESS OTHERWISE INDICATED

PRECAST CONCRETE MANHOLE CONE

BUTYL RUBBER JOINT SEALANT (TYP)

REINFORCING STEEL (TYP)

PRECAST CONCRETE MANHOLE RISER

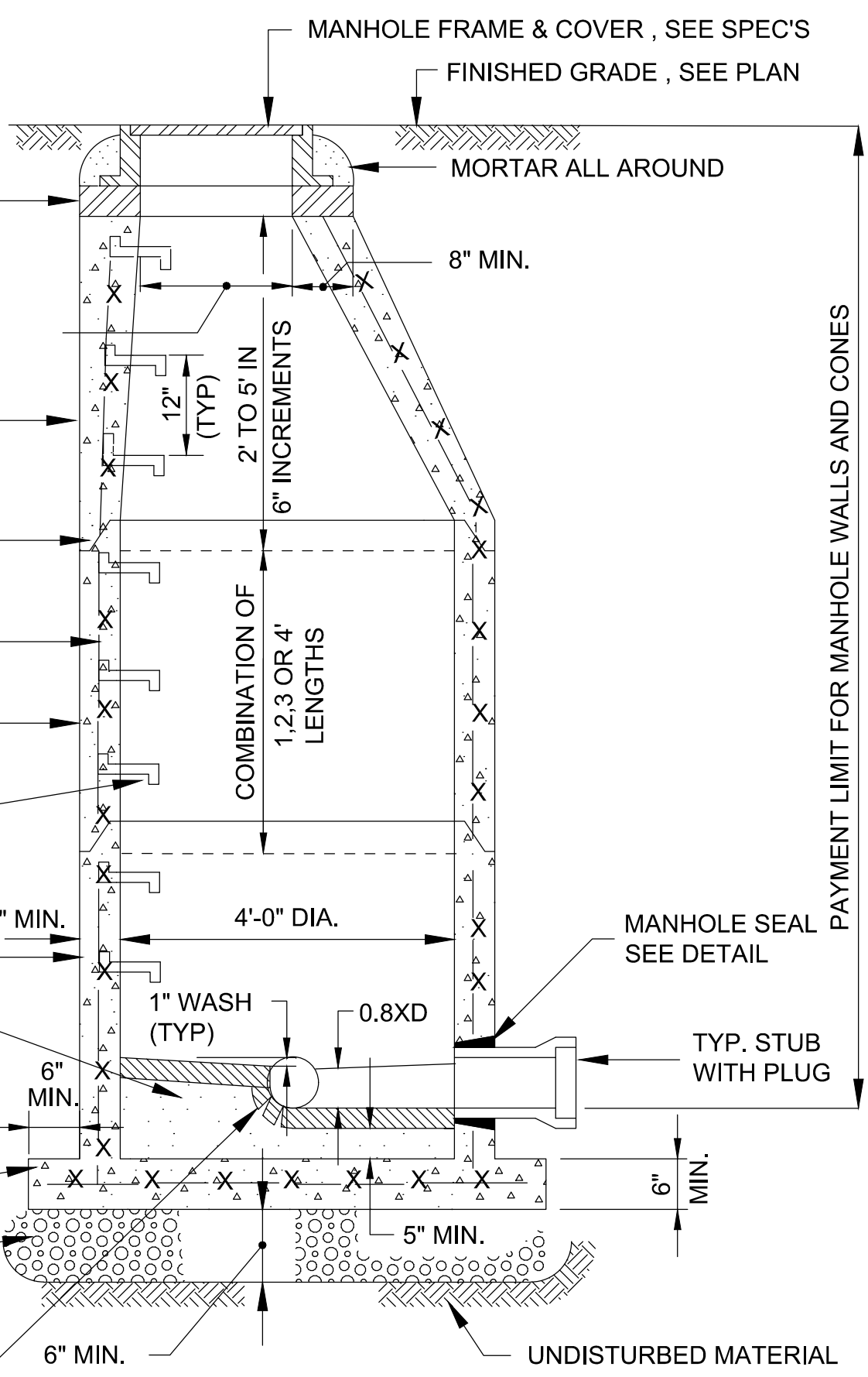
PRECAST CONCRETE MANHOLE BASE

CONCRETE FILL

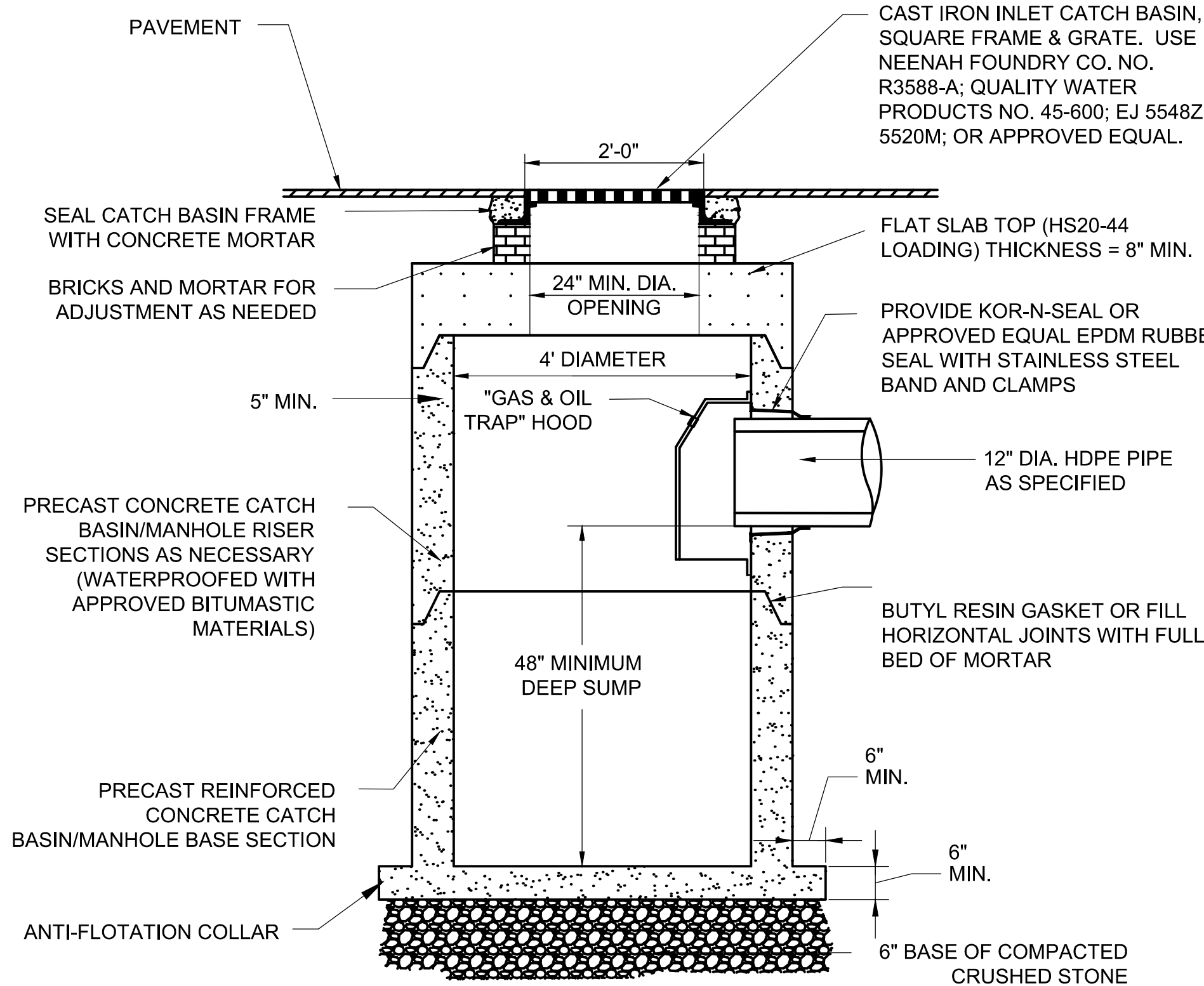
ANTI-FLOTATION COLLAR

COMPACTED CRUSHED STONE

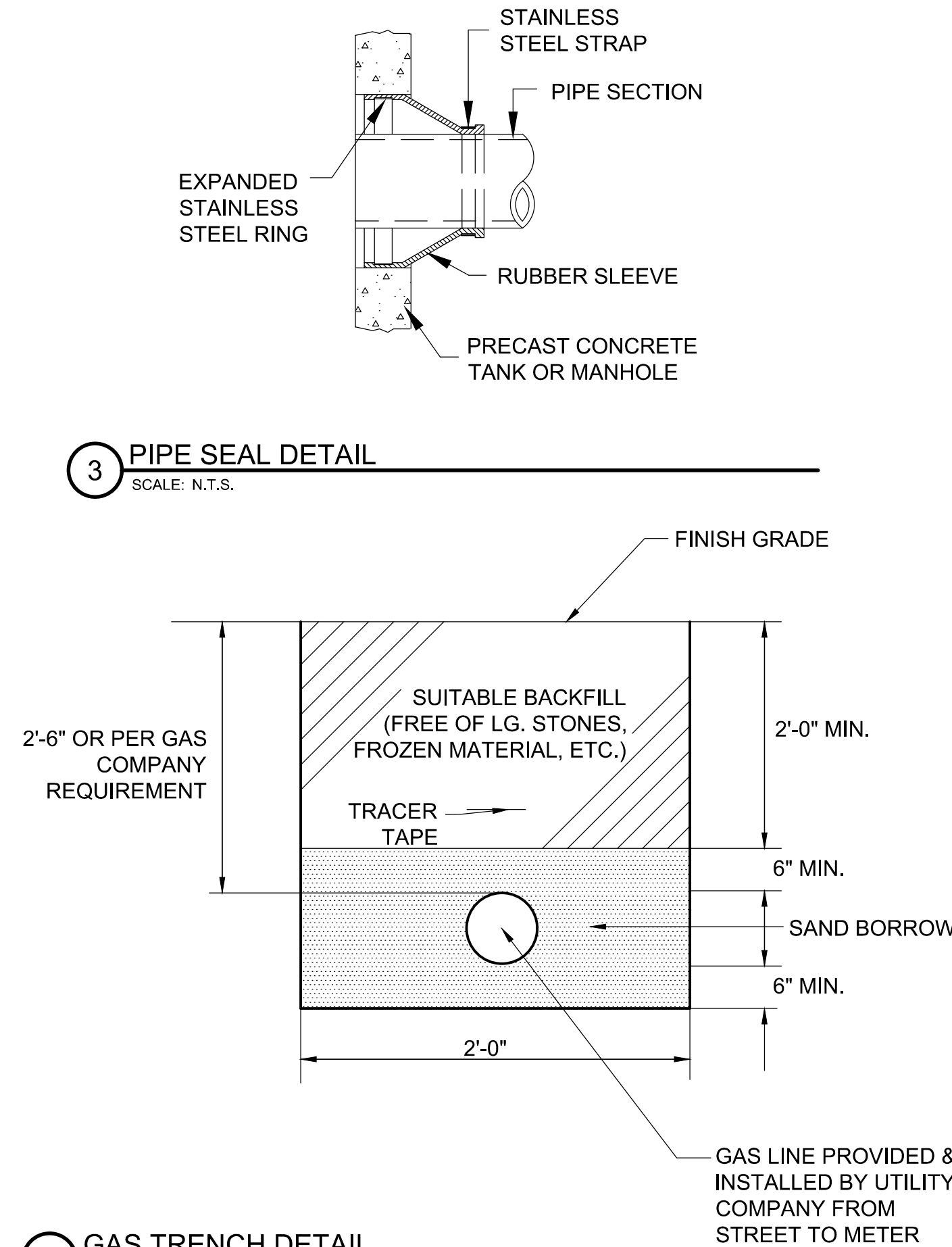
BRICK MASONRY INVERT



1 PRECAST CONCRETE MANHOLE
SCALE: N.T.S.

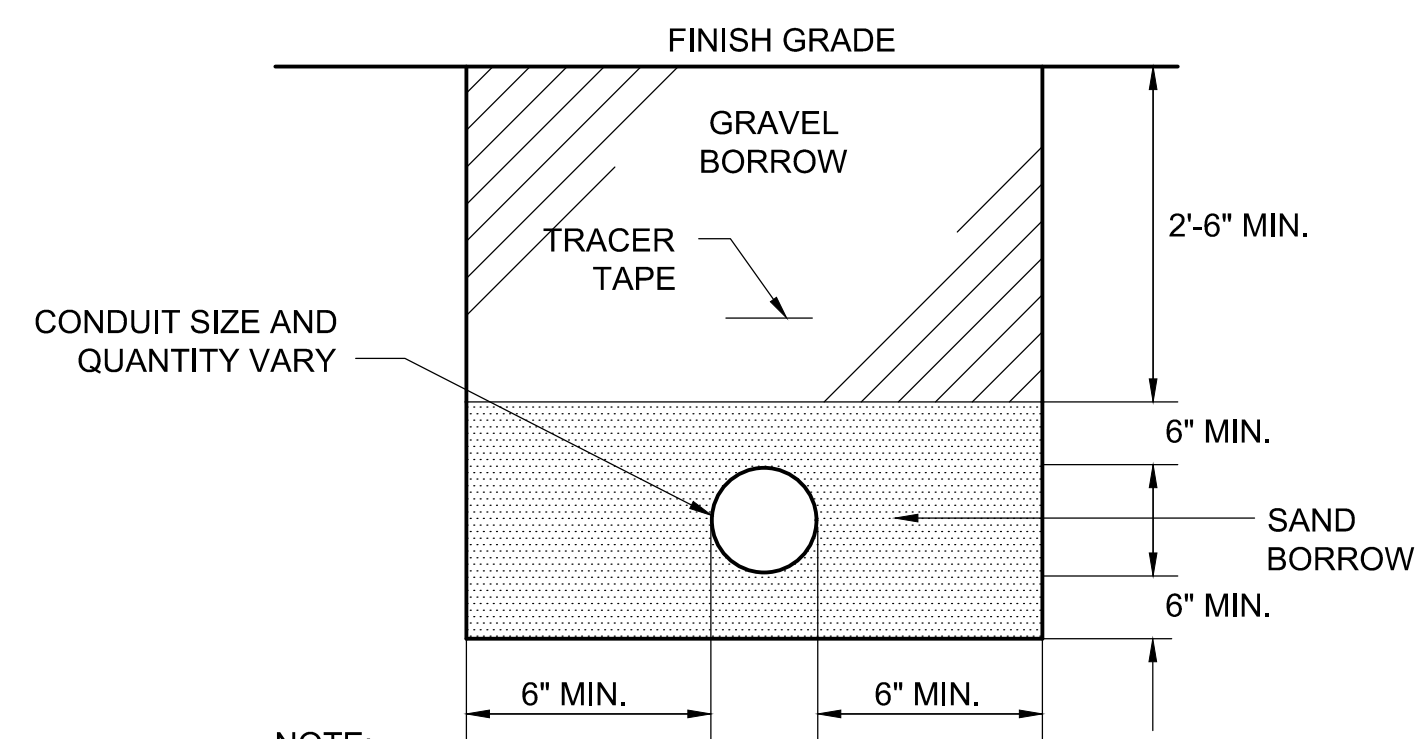


2 STANDARD CATCH BASIN
SCALE: N.T.S.



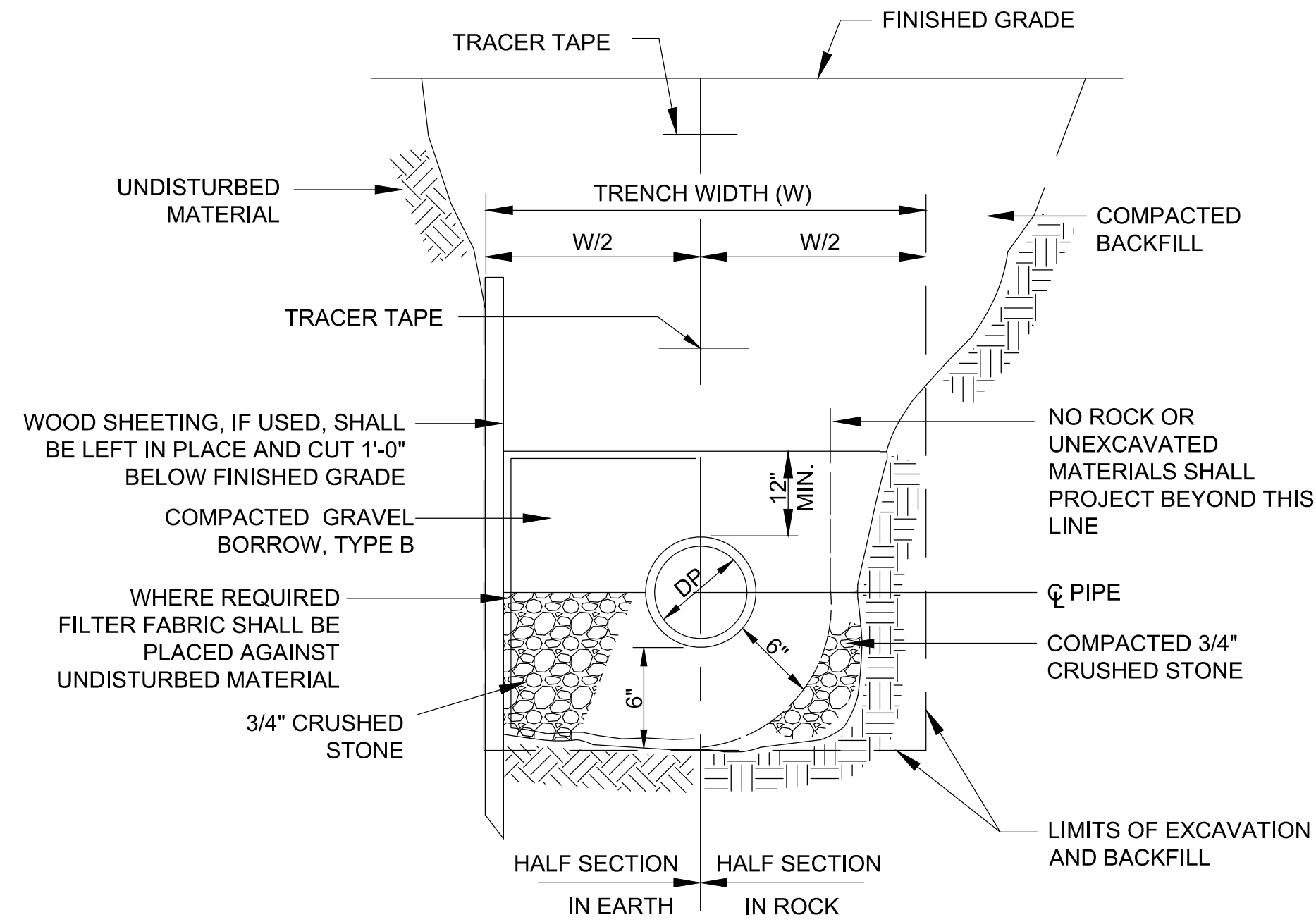
3 PIPE SEAL DETAIL
SCALE: N.T.S.

4 GAS TRENCH DETAIL
SCALE: N.T.S.



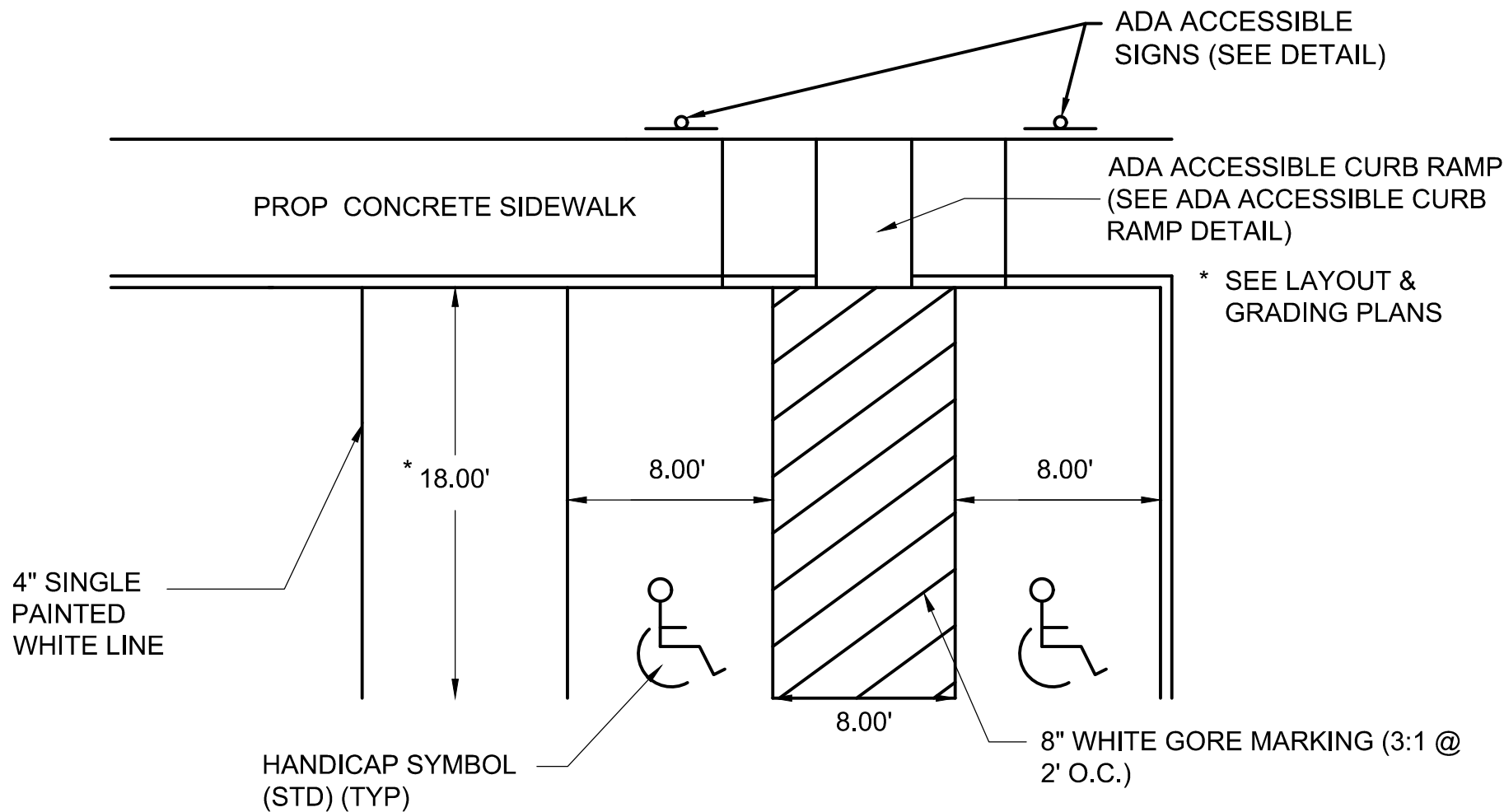
- NOTE:**
- GENERAL CONTRACTOR IS RESPONSIBLE FOR EXCAVATION & BACKFILL FOR ELECTRIC/COMMUNICATION CONDUIT. ELECTRICAL CONTRACTOR SHALL PROVIDE & INSTALL CONDUITS & SPACERS.
 - REFER TO ELECTRICAL PLANS FOR CONDUIT QUANTITIES & LOCATIONS.

5 ELECTRIC/COMMUNICATION CONDUIT TRENCH DETAIL
SCALE: N.T.S.

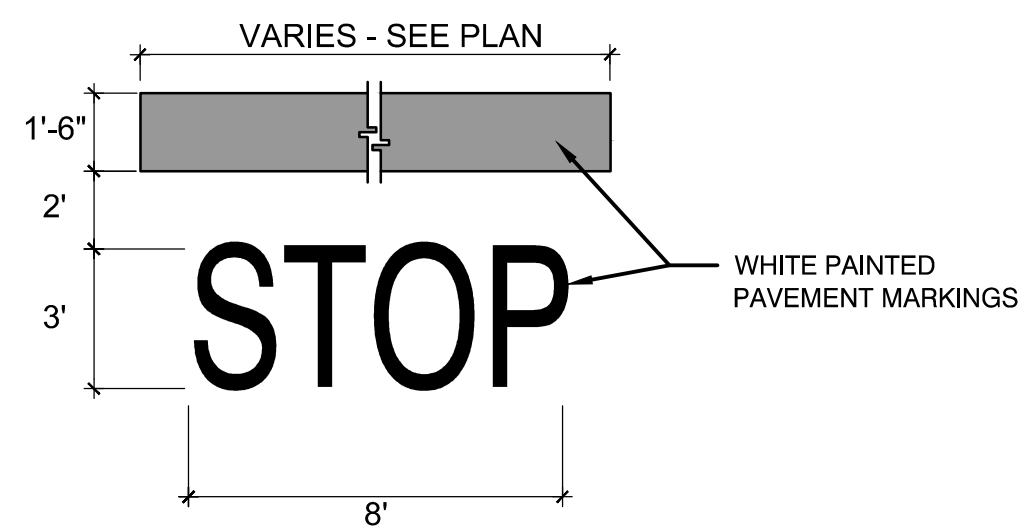


DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAX. TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)
0-12'	TO 4"	5'-0"

6 SEWER TRENCH DETAIL
SCALE: N.T.S.



7 PARKING STALLS AND SYMBOLS
SCALE: N.T.S.



8 STOP BAR DETAIL
SCALE: N.T.S.

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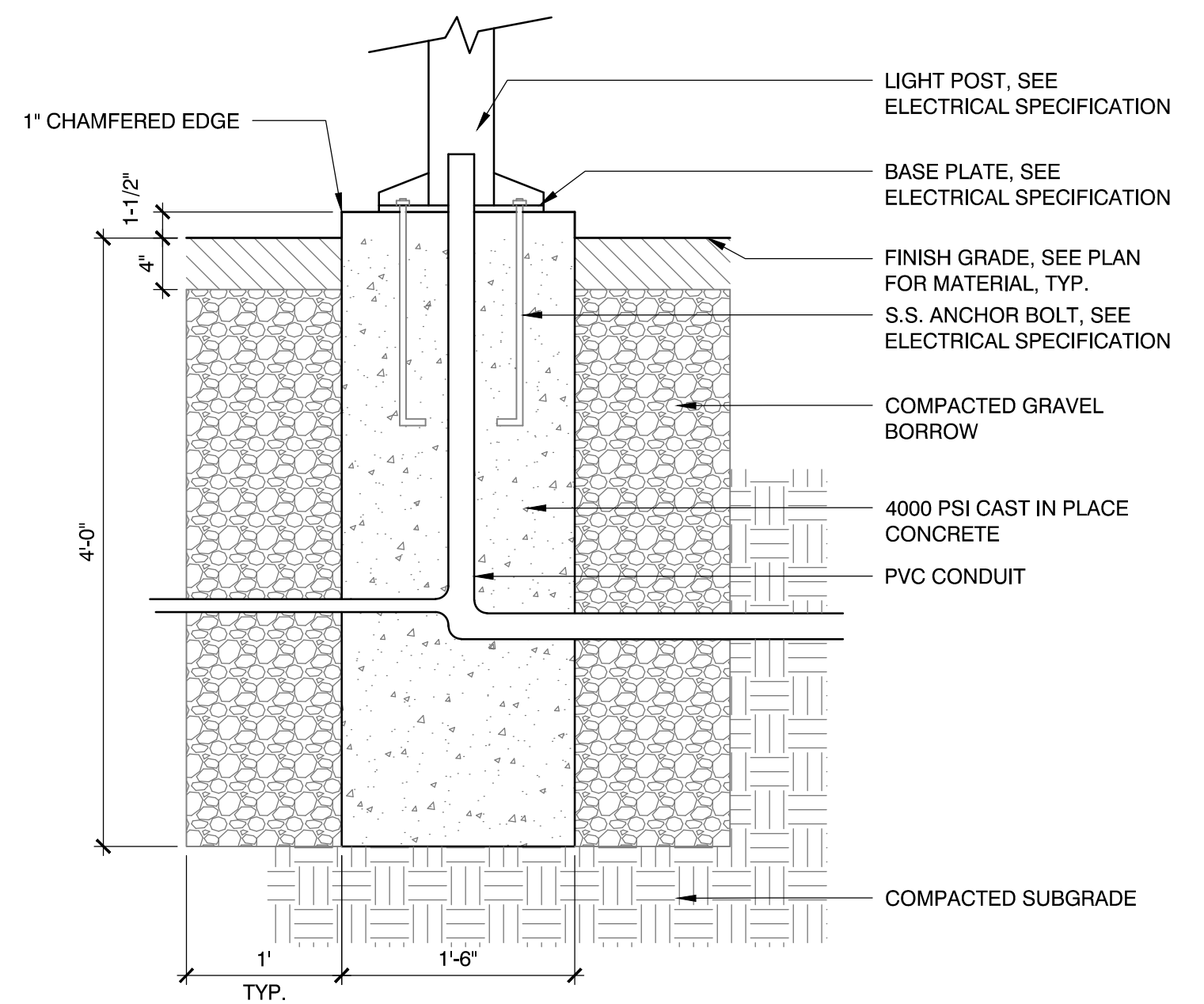
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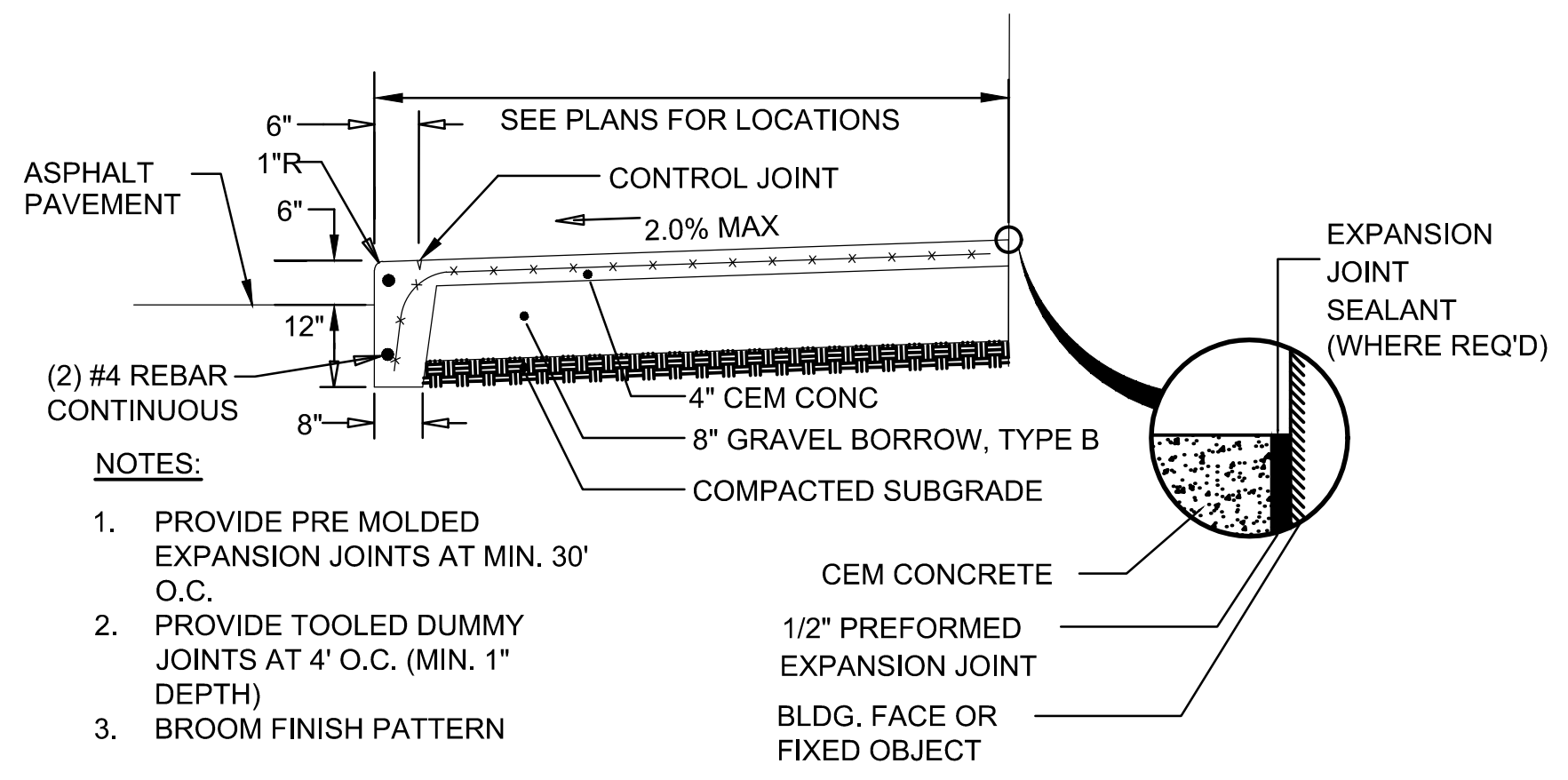
DETAILS

C502

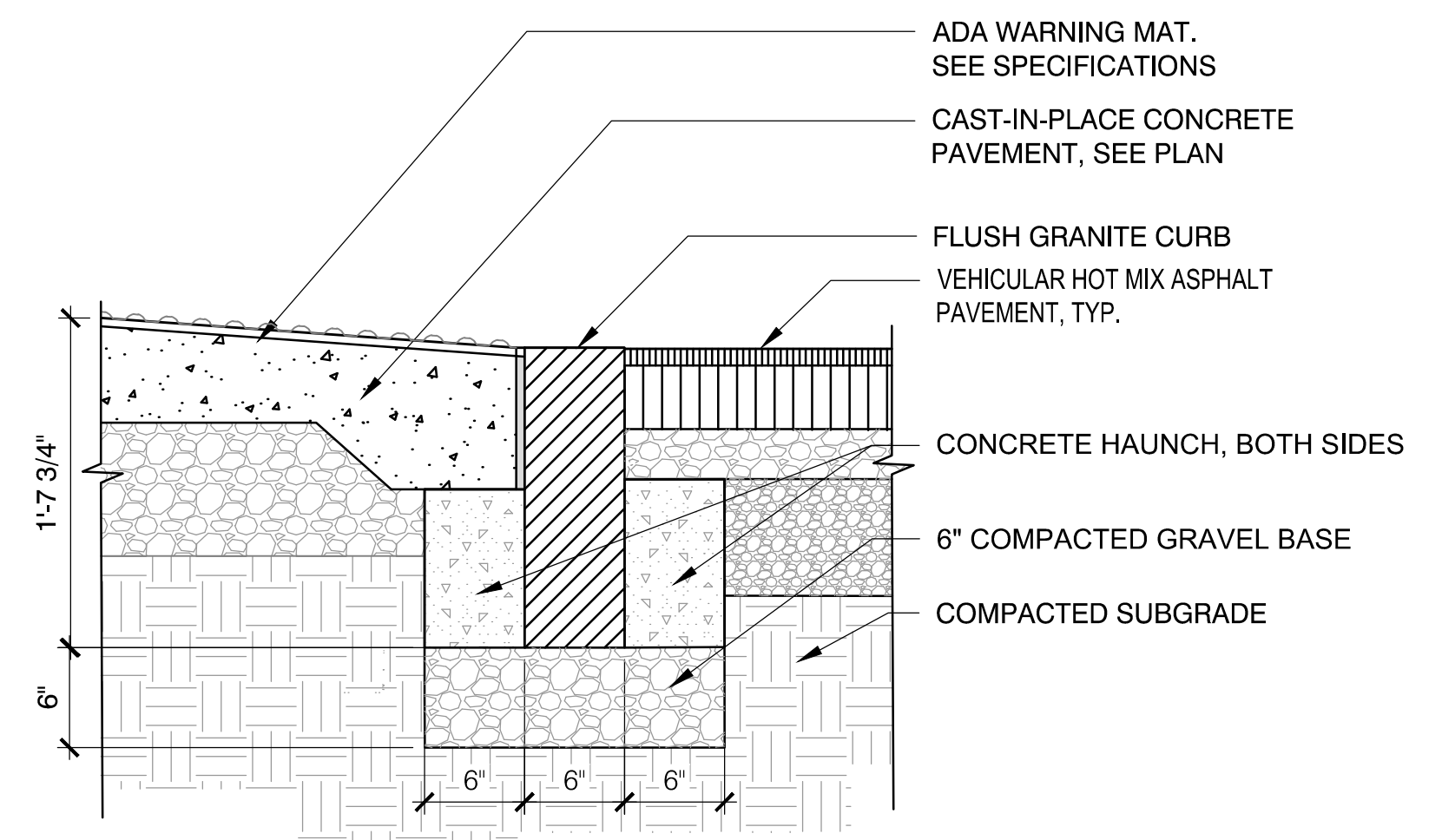


NOTE:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A FOUNDATION DESIGN PREPARED BY A QUALIFIED STRUCTURAL ENGINEER CONSIDERING LIGHTING MANUFACTURER REQUIREMENTS, LOCAL WIND LOADS, AND SITE SPECIFIC SOIL PARAMETERS.

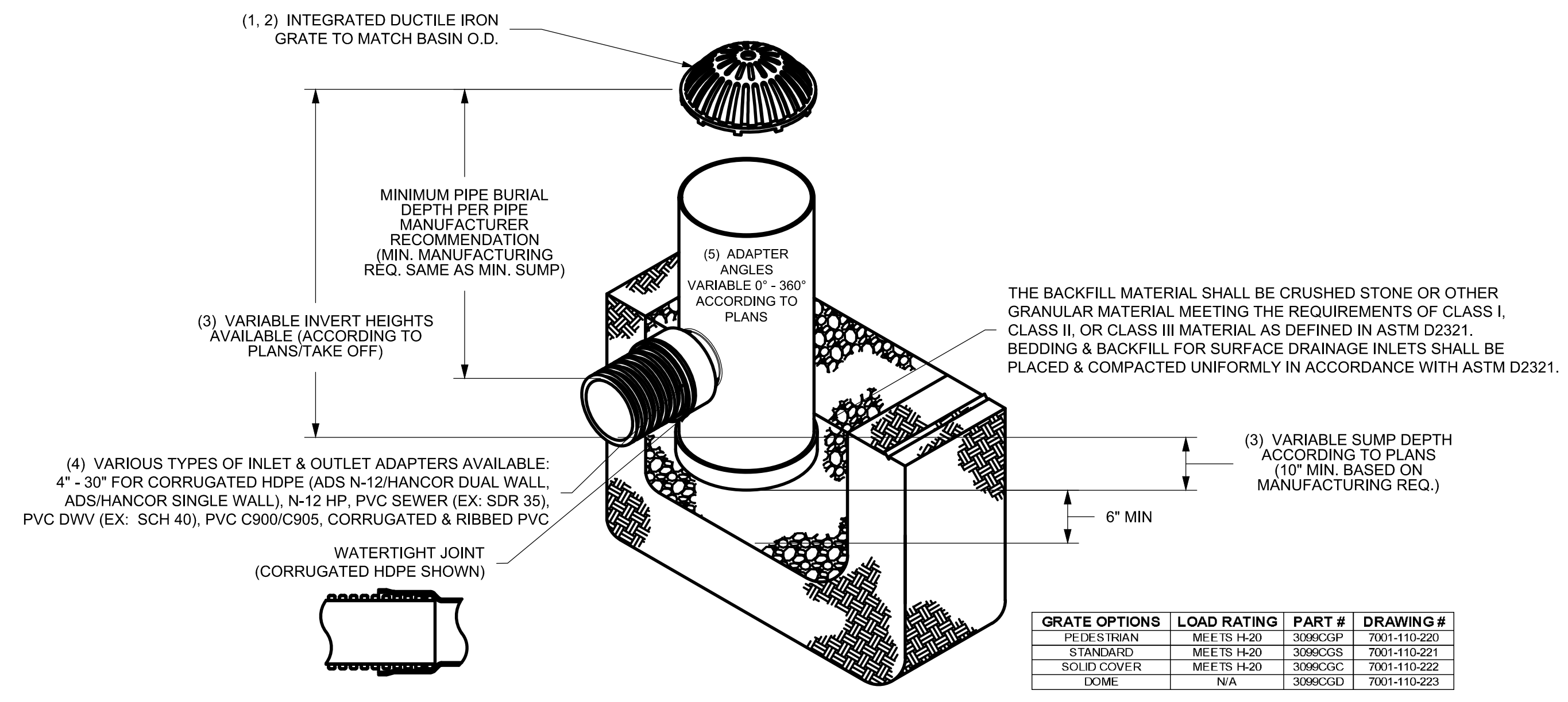
1 PEDESTRIAN LIGHT POST FOOTING
SCALE: N.T.S.



4 MONOLITHIC CEMENT CONCRETE SIDEWALK/CURB
SCALE: N.T.S.



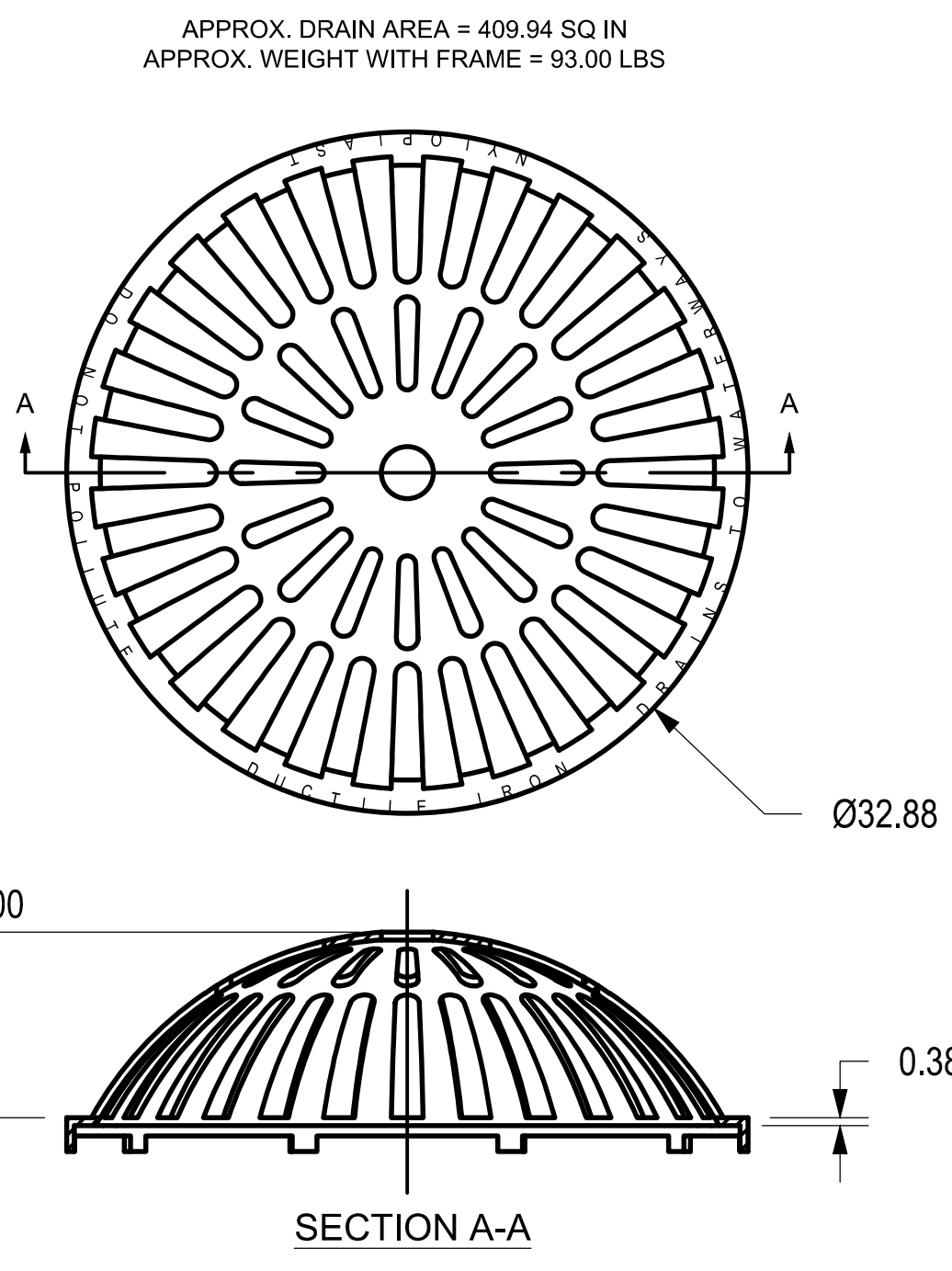
6 FLUSH GRANITE CURB
SCALE: N.T.S.



- GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
- FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
- DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
- DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
- ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

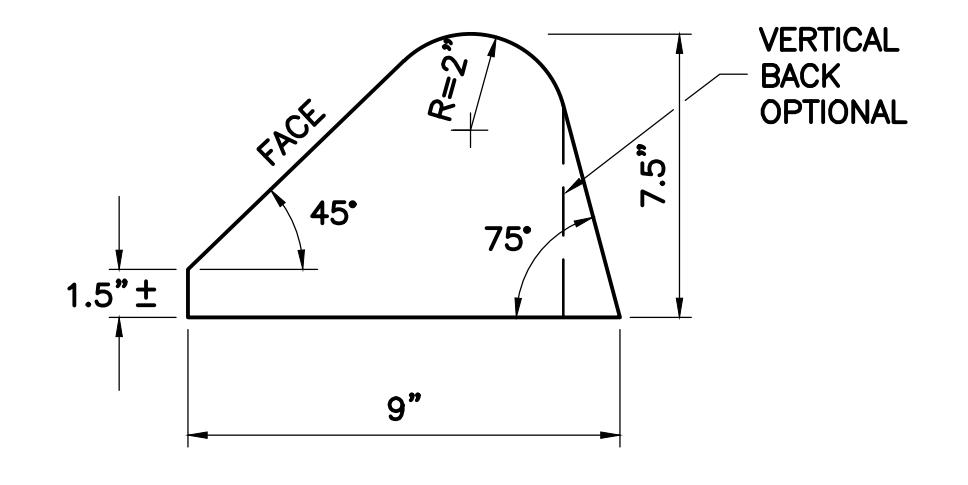
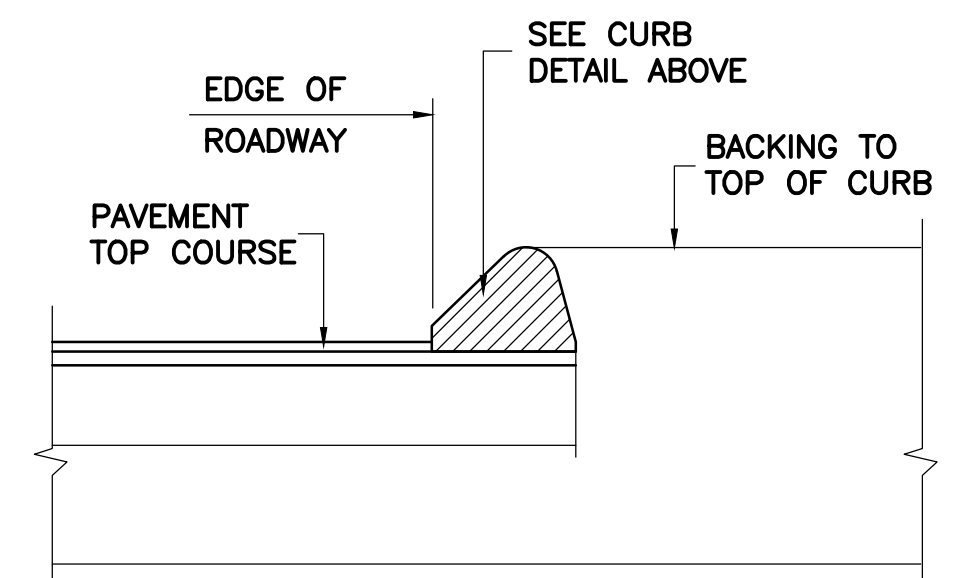
NOTE: AREA DRAINS 1-4 SHALL BE 30" DIAMETER WITH DOME GRATE INLETS. AREA DRAIN 5 SHALL BE 12" DIAMETER WITH A DUCTILE IRON PEDESTRIAN GRATE INLET.

2 AREA DRAIN
SCALE: N.T.S.



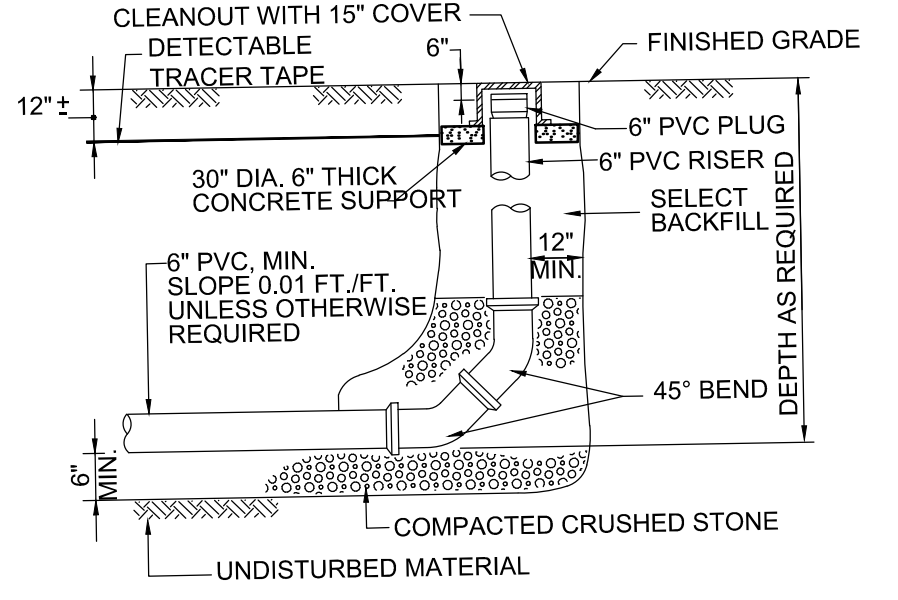
DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST

7 30 INCH DOME GRATE INLET
SCALE: N.T.S.



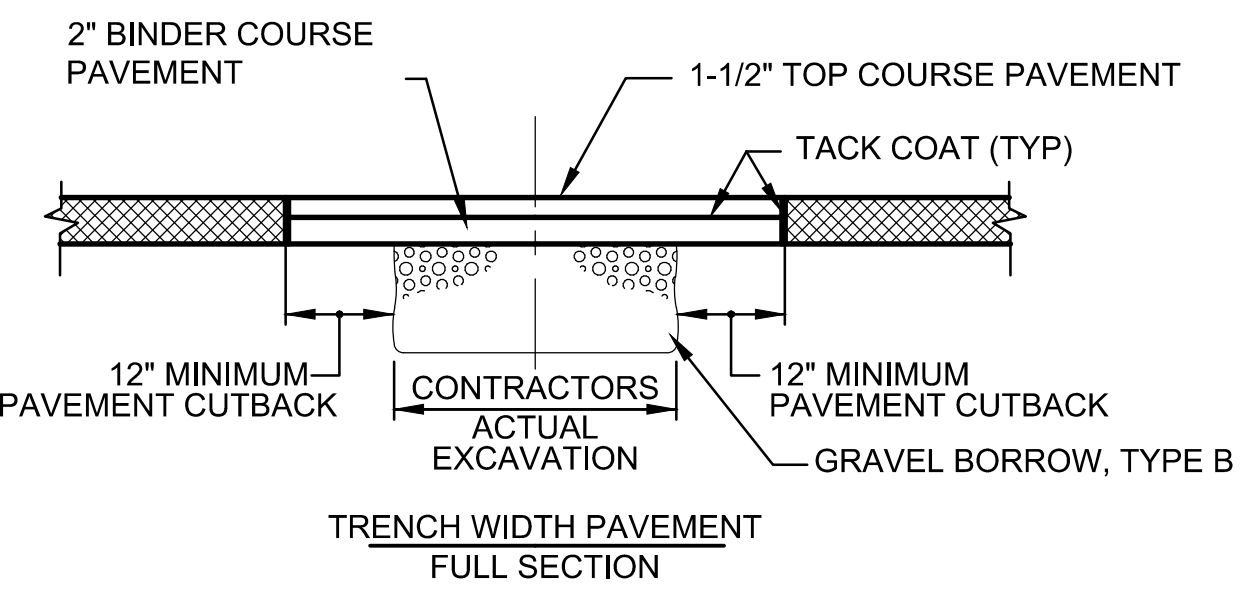
CURB DETAIL
CURB IS TYPE-2 PER MASS. DPW CONSTRUCTION STANDARDS

3 HOT MIX ASPHALT CURB (TYPE 2)
SCALE: N.T.S.



5 CLEANOUT
SCALE: N.T.S.

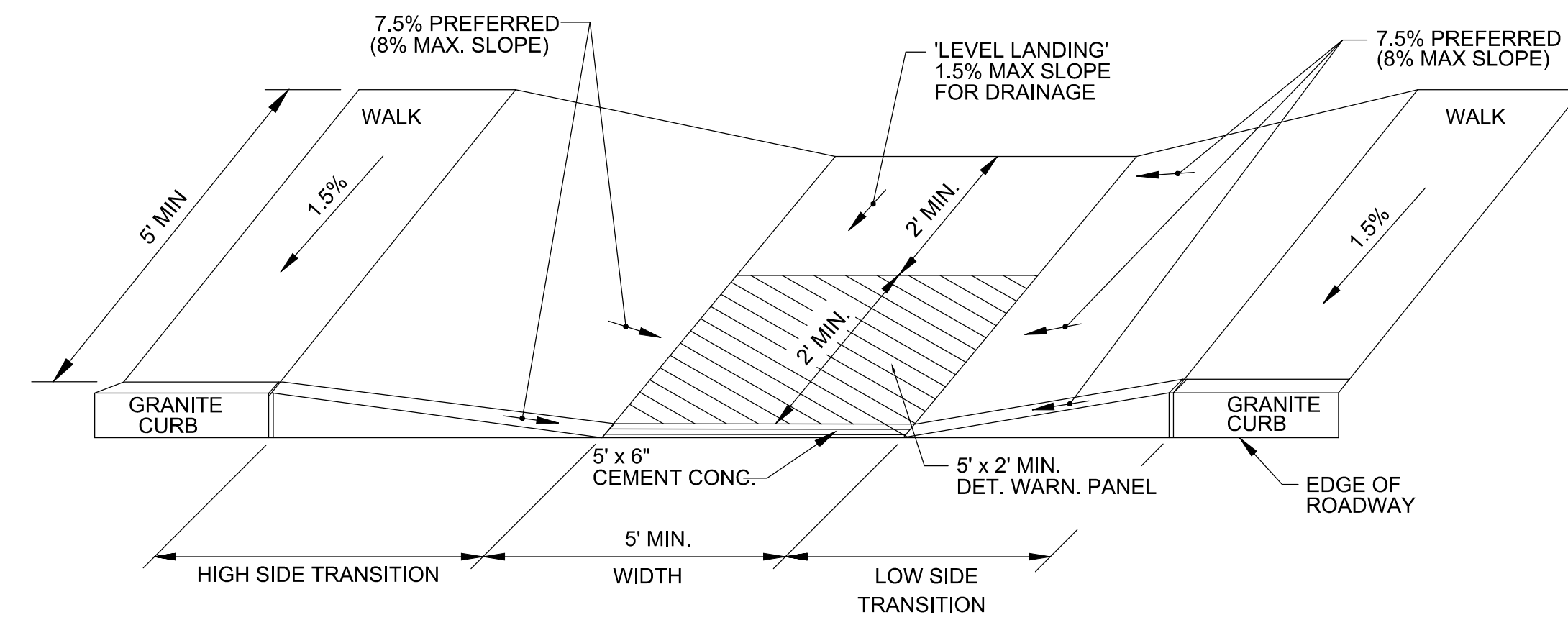
PAVEMENT NOTES
PROPOSED FULL DEPTH PAVEMENT:
SURFACE: 3-1/2" HOT MIX ASPHALT PAVEMENT (1-1/2" TOP COURSE MATERIAL OVER 2" BINDER COURSE MATERIAL)
SUBBASE: 4" DENSE GRADED CRUSHED STONE OVER 8" GRAVEL BORROW, TYPE B
PROPOSED CEMENT CONCRETE WALK:
SURFACE: 4" CEMENT CONCRETE OVER
SUBBASE: 8" GRAVEL BORROW, TYPE B



NOTE:
CONTRACTOR SHALL REPLACE PAVEMENT ASSOCIATED WITH WORK ON ALLEN STREET. WORK SHALL INCLUDE BINDER AND TOP COURSE PAVEMENT.

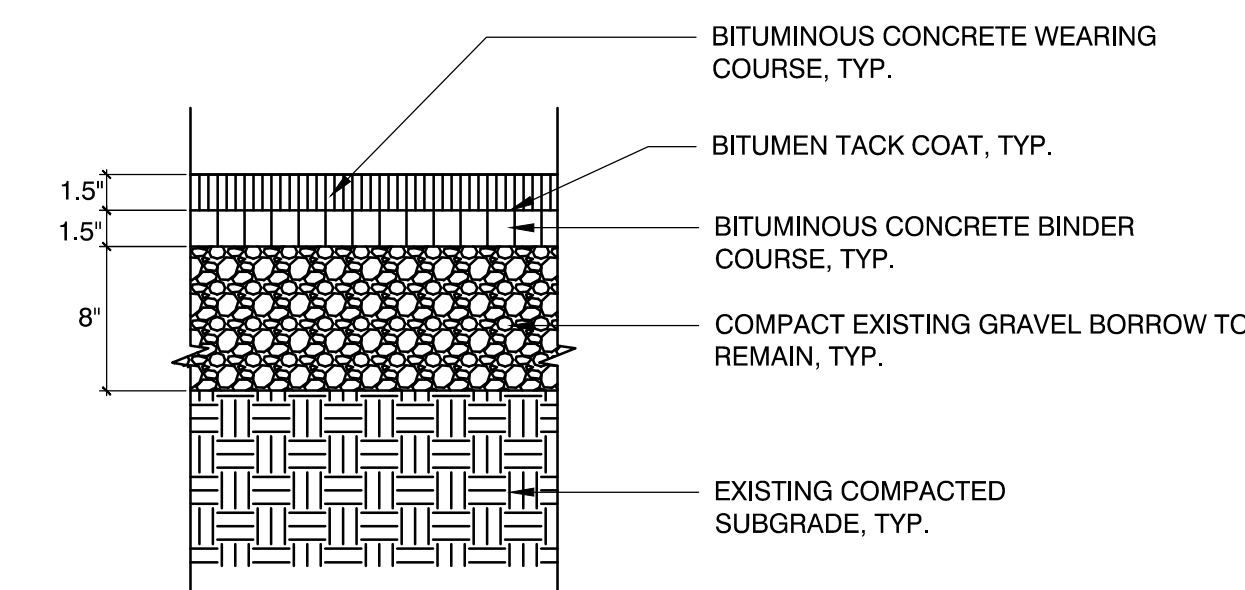
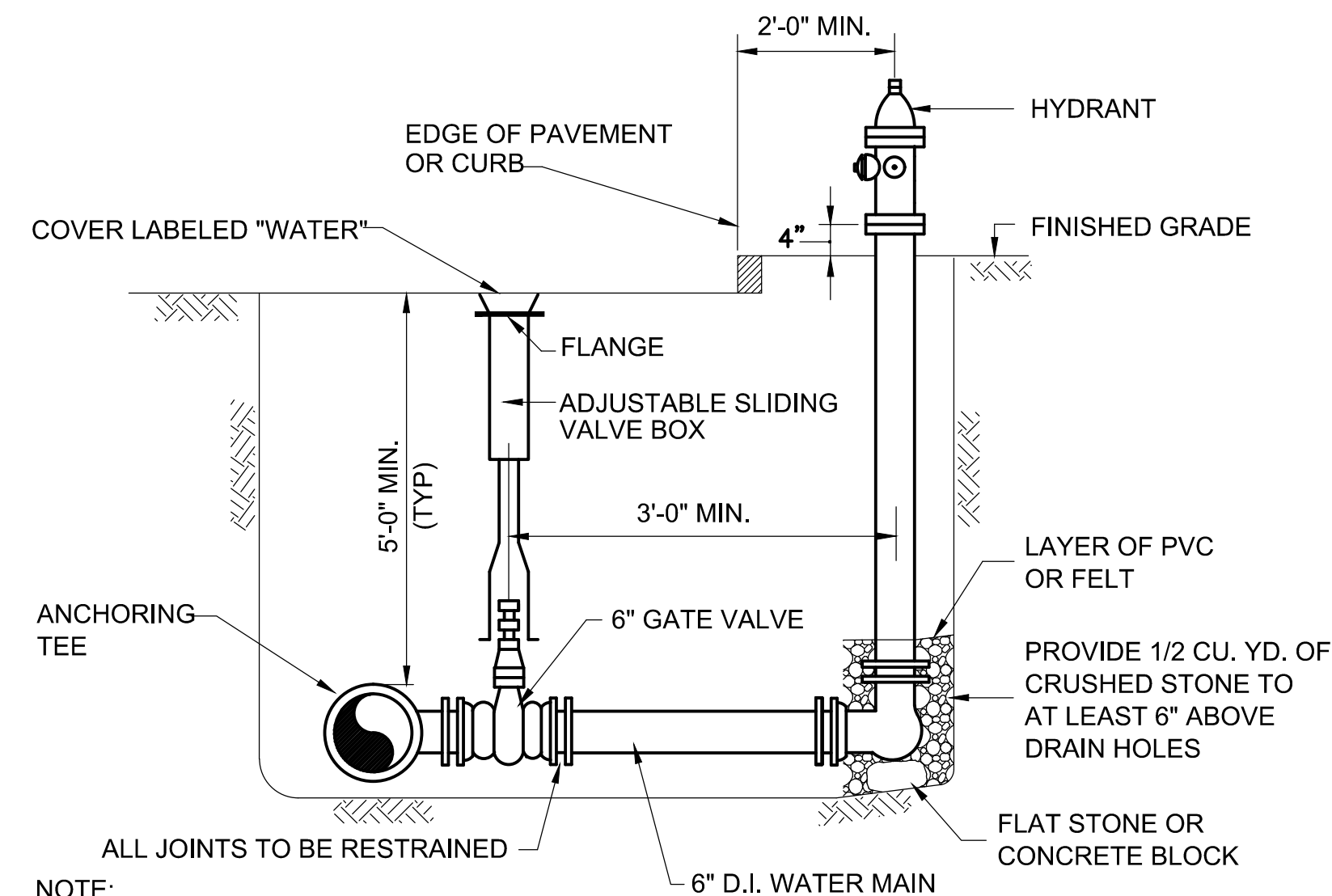
8 PAVEMENT REPLACEMENT DETAIL
SCALE: N.T.S.

IDENTIFICATION NUMBER	TEXT	PANEL SIZE			NUMERALS & LETTERS				COLOR COMB.	NUMBER OF SIGNS REQUIRED	TOTAL AREA SQ. FT.	POST SIZE AND NUMBER REQUIRED
		WIDTH	HEIGHT	CORNER RADII	BORDER WIDTH	MARGIN WIDTH	NUM. IN.	UPPER CASE				
R1-1		30"	30"									
R6-1		54"	18"	SEE MUTCD, INCLUDING STANDARD HIGHWAY SIGNS, LATEST EDITION								
R5-1		36"	36"									

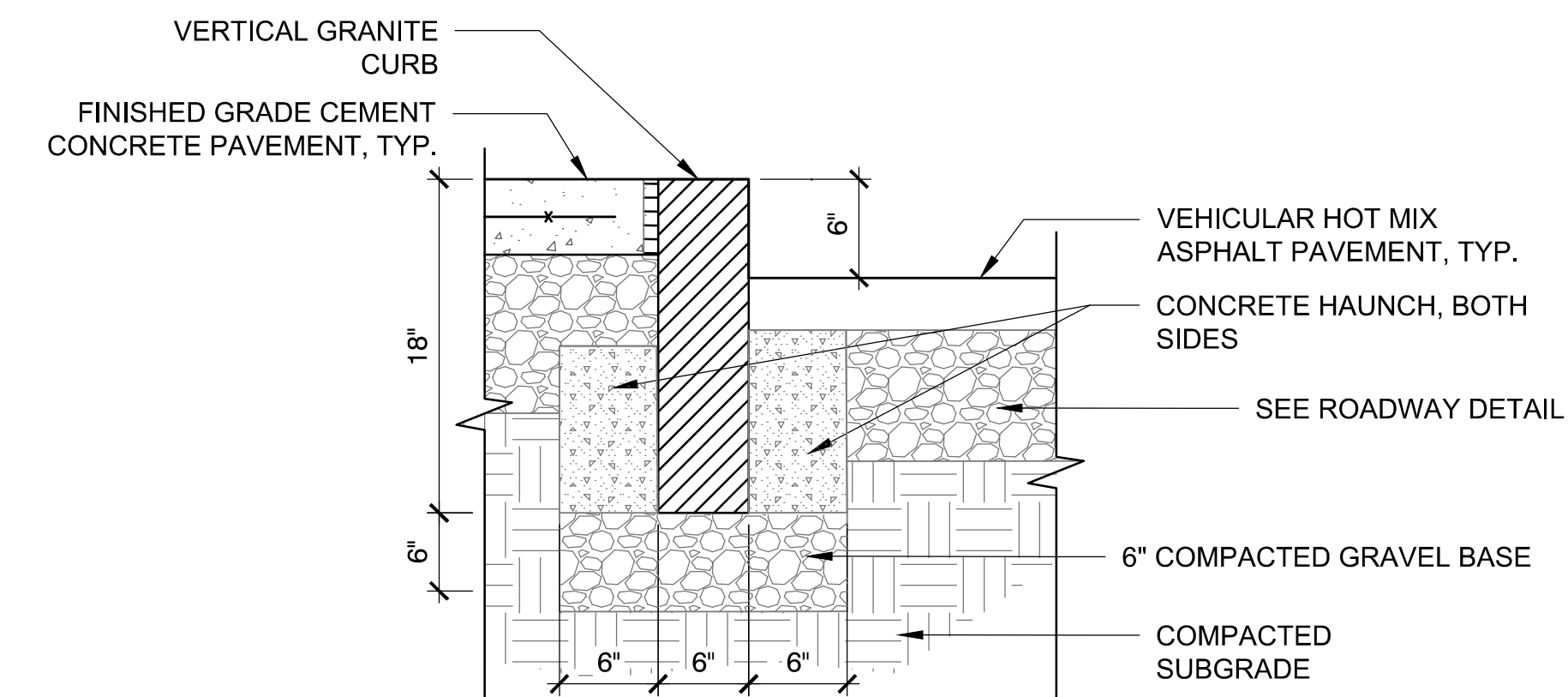


1 PERMANENT TRAFFIC SIGN SUMMARY
SCALE: N.T.S.

2 ADA ACCESSIBLE CURB RAMP
SCALE: N.T.S.

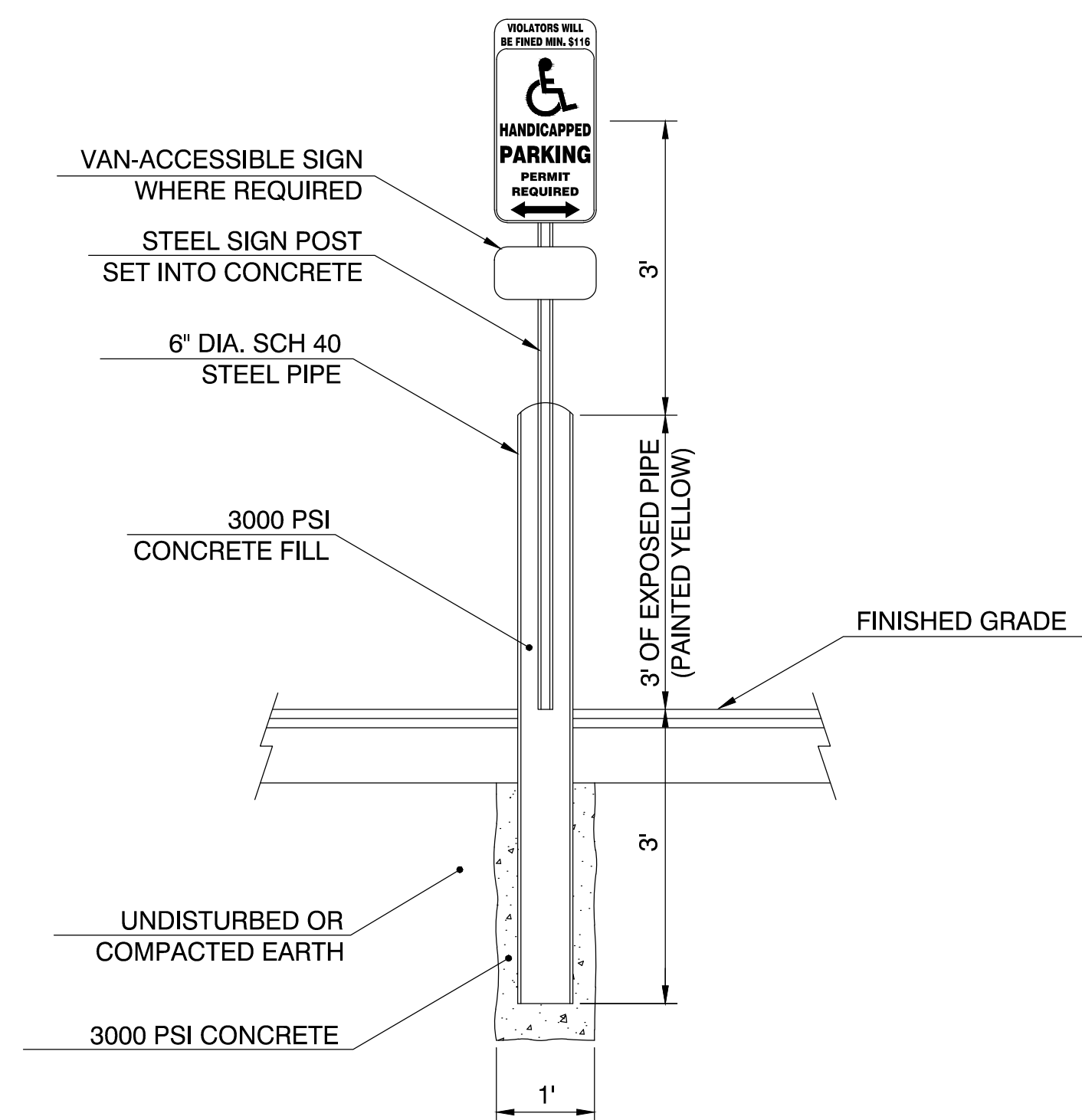


4 BITUMINOUS CONCRETE SIDEWALK DETAIL
SCALE: N.T.S.



5 VERTICAL GRANITE CURB
SCALE: N.T.S.

3 HYDRANT AND VALVE DETAIL
SCALE: N.T.S.



NOTE:
1. LOCATE CENTER OF 6" STEEL PIPE 0.75' FROM EDGE OF PARKING.
2. ALL SIGNS TO BE CENTERED ON PARKING SPACE.

6 ACCESSIBLE SIGN AND POST DETAIL
SCALE: N.T.S.

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