


- NOTES:**
- EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY PROVIDED BY: JONES HAUGH SMITH ENGINEERS AND SURVEYORS, OWATONNA, MN.
 - CONTRACTOR SHALL FIELD VERIFY ALL BUILDING DIMENSIONS AND REMOVAL LIMITS PRIOR TO ANY CONSTRUCTION.
 - SAWCUT CURB AND GUTTER AND SIDEWALK, OR REMOVE AT NEAREST EXPANSION JOINTS.
 - SAWCUT BITUMINOUS PAVEMENT FULL DEPTH AT ALL TIE-IN LOCATIONS.
 - THE LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE. THEY HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND/ OR RECORDS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION AND ELEVATION TO ENSURE THAT ANY EXISTING UTILITIES (SHOWN OR NOT SHOWN) ARE NOT DAMAGED DURING CONSTRUCTION.
 - ALL UTILITIES AND SERVICES SHOWN OR NOT SHOWN SHALL BE REMOVED OR ABANDONED WITHIN THE PROPERTY LINES. COORDINATE WITH LOCAL GAS COMPANY, UTILITY COMPANY, OR PROPER AUTHORITIES PRIOR TO REMOVAL OR ABANDONING, UNLESS OTHERWISE NOTED.
 - GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

LEGEND

	HYDRANT
	SANITARY MANHOLE
	GATE VALVE
	POWER POLE
	LIGHT POLE
	CATCH BASIN
	SIGN
	DECIDUOUS TREE
	CONIFEROUS TREE
	SHRUB
	PEDESTAL
	GUY WIRE
	BOLLARD
	POWER BOX
	ELECTRIC METER
	MONITORING WELL
	SANITARY SEWER CLEANOUT
	WOOD FENCE
	CHAINLINK FENCE
	WIRE FENCE
	STORM SEWER LINE
	SANITARY SEWER LINE
	WATERMAIN
	OVERHEAD ELECTRIC
	UNDERGROUND TELEPHONE
	UNDERGROUND FIBER
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS LINE
	CONCRETE PAVEMENT
	BITUMINOUS PAVEMENT
	AGGREGATE SURFACING
	LANDSCAPING
	BUILDING



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DESIGN TREE
 engineering • land surveying
 40 Chief of Mounds Drive
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PRELIMINARY
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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

LWO DEVELOPMENT, LLC
EASTGATE APARTMENTS
 OWATONNA, MN

DATE: 04/27/20
 PHASE: 100% DESIGN DEVELOPMENT
 PROJECT: 02220002
 SHEET: **C101**
 REMOVALS PLAN

- NOTES:**
1. ALL DIMENSIONS SHOWN ARE TO FLOW LINE, CENTERLINE OF FENCE, OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
 2. CONTRACTOR SHALL VERIFY ALL PLAN AND DETAIL DIMENSIONS PRIOR TO CONSTRUCTION.
 3. ALL CROSSWALK STRIPING SHALL BE WHITE IN COLOR.
 4. ALL INTERIOR PARKING STALL STRIPING SHALL BE 4" AND YELLOW IN COLOR.
 5. ACCESSIBLE PARKING STALL STRIPING, ACCESS AISLE, AND SYMBOL SHALL BE PAINTED IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS.
 6. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

LEGEND

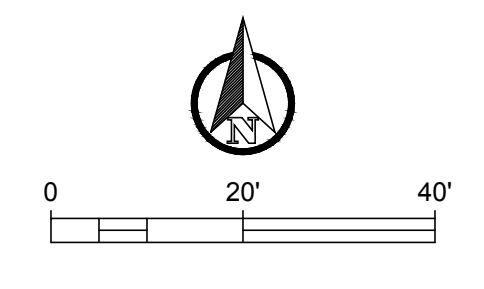
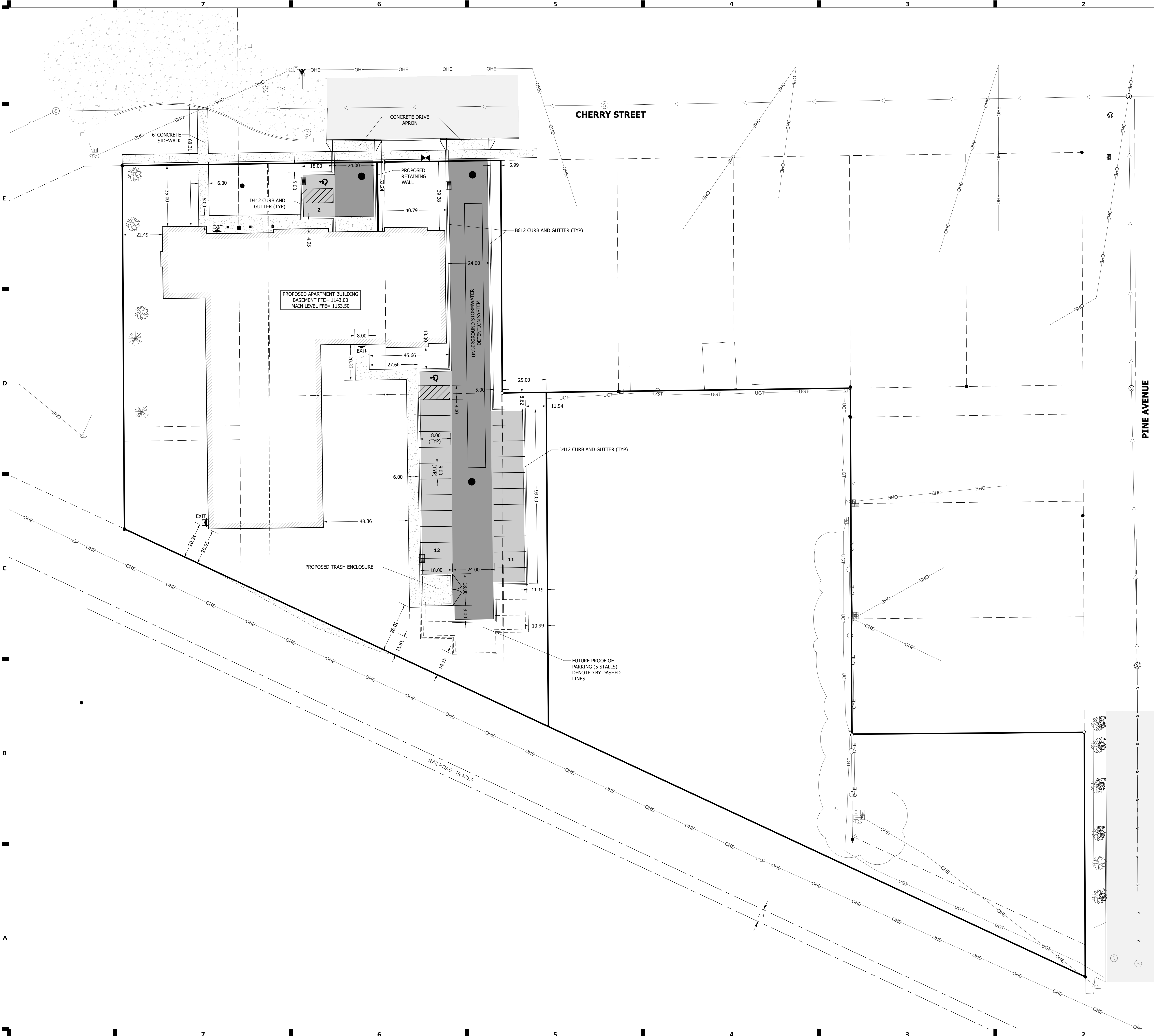
- PROPOSED LIGHT DUTY BITUMINOUS PAVEMENT
- PROPOSED HEAVY DUTY BITUMINOUS PAVEMENT
- PROPOSED NON-REINFORCED CONCRETE
- PROPOSED REINFORCED CONCRETE
- PROPOSED CURB AND GUTTER
- PROPOSED RETAINING WALL
- PROPOSED CHAINLINK FENCE
- PROPOSED WOOD/VINYL (PRIVACY) FENCE
- PROPOSED TRAFFIC CONTROL SIGNAGE
- PROPOSED PAINTED DIRECTIONAL ARROW
- PROPOSED PAINTED ACCESSIBLE PARKING SYMBOL
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED HYDRANT
- PROPOSED GATE VALVE
- PROPOSED FLARED END SECTION

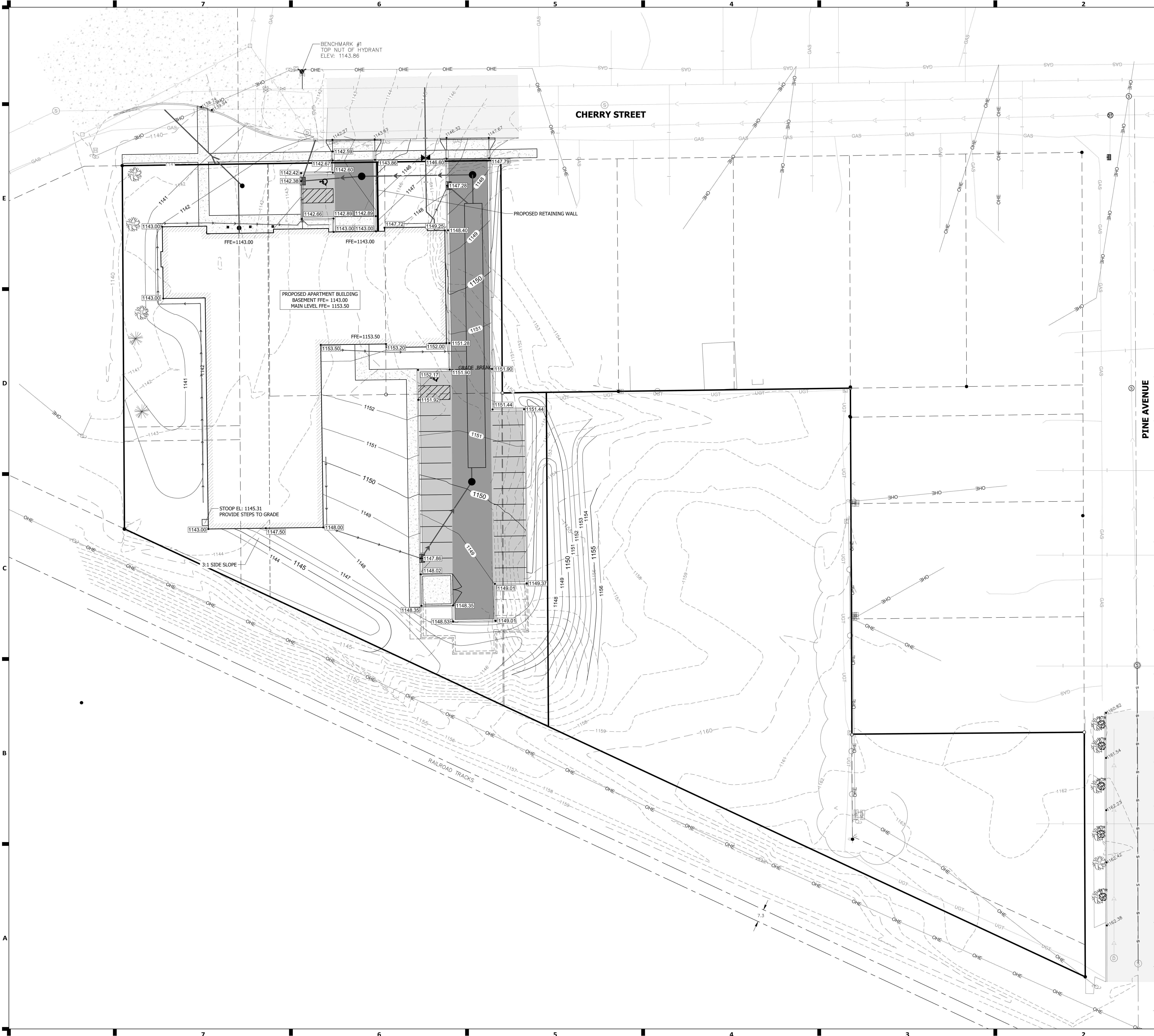
PROPERTY INFORMATION

TOTAL PROPERTY AREA	2.619 AC
DISTURBED AREA	X = AC
EXISTING IMPERVIOUS AREA	0.633 AC
PROPOSED IMPERVIOUS AREA	0.710 AC
PROOF OF PARKING IMPERVIOUS AREA	0.032 AC
NET INCREASE	0.109 AC

PARKING INFORMATION

PARKING STALLS	23 STALLS
ACCESSIBLE STALLS	2 STALLS
TOTAL STALLS	25 STALLS






- NOTES:**
1. THE LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE. THEY HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND/OR RECORDS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION AND ELEVATION TO ENSURE THAT ANY EXISTING UTILITIES (SHOWN OR NOT SHOWN) ARE NOT DAMAGED DURING CONSTRUCTION.
 2. SIDEWALKS SHALL MEET ADA REQUIREMENTS, AND SHALL NOT EXCEED 2.00% CROSS SLOPE, OR 5.00% LONGITUDINAL SLOPE.
 3. CONCRETE ENTRANCES AND APPROACHES SHALL NOT EXCEED 2.00% CROSS SLOPE IN SIDEWALK AREAS.
 4. ACCESSIBLE PARKING STALLS SHALL MEET ADA REQUIREMENTS, AND SHALL NOT EXCEED 2.00% CROSS SLOPE IN ALL DIRECTIONS.
 5. ONCE SUBGRADE ELEVATION IS REACHED, SCARIFY EXISTING SUBGRADE AND RECOMPACT TO 95% OF THE MAXIMUM DRY DENSITY, UNLESS OTHERWISE SPECIFIED.
 6. SUBGRADE AND FILL AREAS UNDER PROPOSED PAVEMENT, SIDEWALKS, AND CURBS SHALL BE COMPACTED TO 100% OF THE MAXIMUM DRY DENSITY, UNLESS OTHERWISE SPECIFIED.
 7. ALL EXCESS OR WASTE MATERIAL GENERATED AS PART OF CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
 8. IN ADDITION TO THESE PLANS, A STORMWATER MANAGEMENT STUDY HAS BEEN PROVIDED. THE STORMWATER MANAGEMENT STUDY INCLUDES IMPORTANT INFORMATION REGARDING STORMWATER PROTECTION FOR THE SITE, SUCH AS CONCRETE WASH-OUTS, HAZARDOUS MATERIALS HANDLING/SPILLS, EROSION CONTROL INSTALLATION, EROSION CONTROL MAINTENANCE, ETC. THE CONTRACTOR SHALL REVIEW THE STORMWATER BOOK AND USE THE INFORMATION TO COMPLY WITH ALL STATE AND LOCAL REQUIREMENTS.
 9. INFILTRATION AREAS SHALL NOT BE EXCAVATED TO FINAL GRADE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND STABILIZED. ONLY LOW IMPACT TRACK EQUIPMENT SHALL BE USED WITHIN INFILTRATION AREAS.
 10. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.


GRADING LEGEND

	= EXISTING MAJOR CONTOUR
	= EXISTING MINOR CONTOUR
	= EXISTING CONTOUR LABEL
	= PROPOSED MAJOR CONTOUR
	= PROPOSED CONTOUR LABEL
	= EXISTING SPOT ELEVATION*
	= PROPOSED SPOT ELEVATION*
	= PROPOSED SPOT ELEVATION AT TOP OF SIDEWALK OR BACK OF CURB

*SPOT ELEVATIONS ALONG CURB & GUTTER AND OTHER REVEALS ARE TO FLOWLINE, UNLESS OTHERWISE NOTED.



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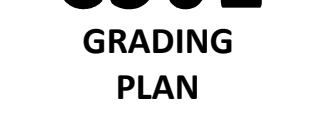
LWO DEVELOPMENT, LLC
EASTGATE APARTMENTS
 OWATONNA, MN

DATE
04/27/20

PHASE
100% DESIGN DEVELOPMENT

PROJECT
02220002

SHEET
C301
 GRADING PLAN

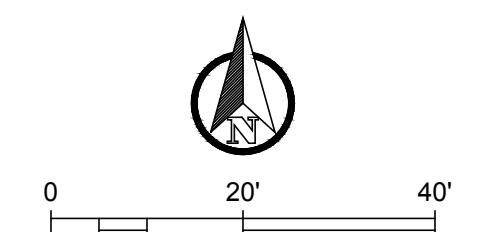
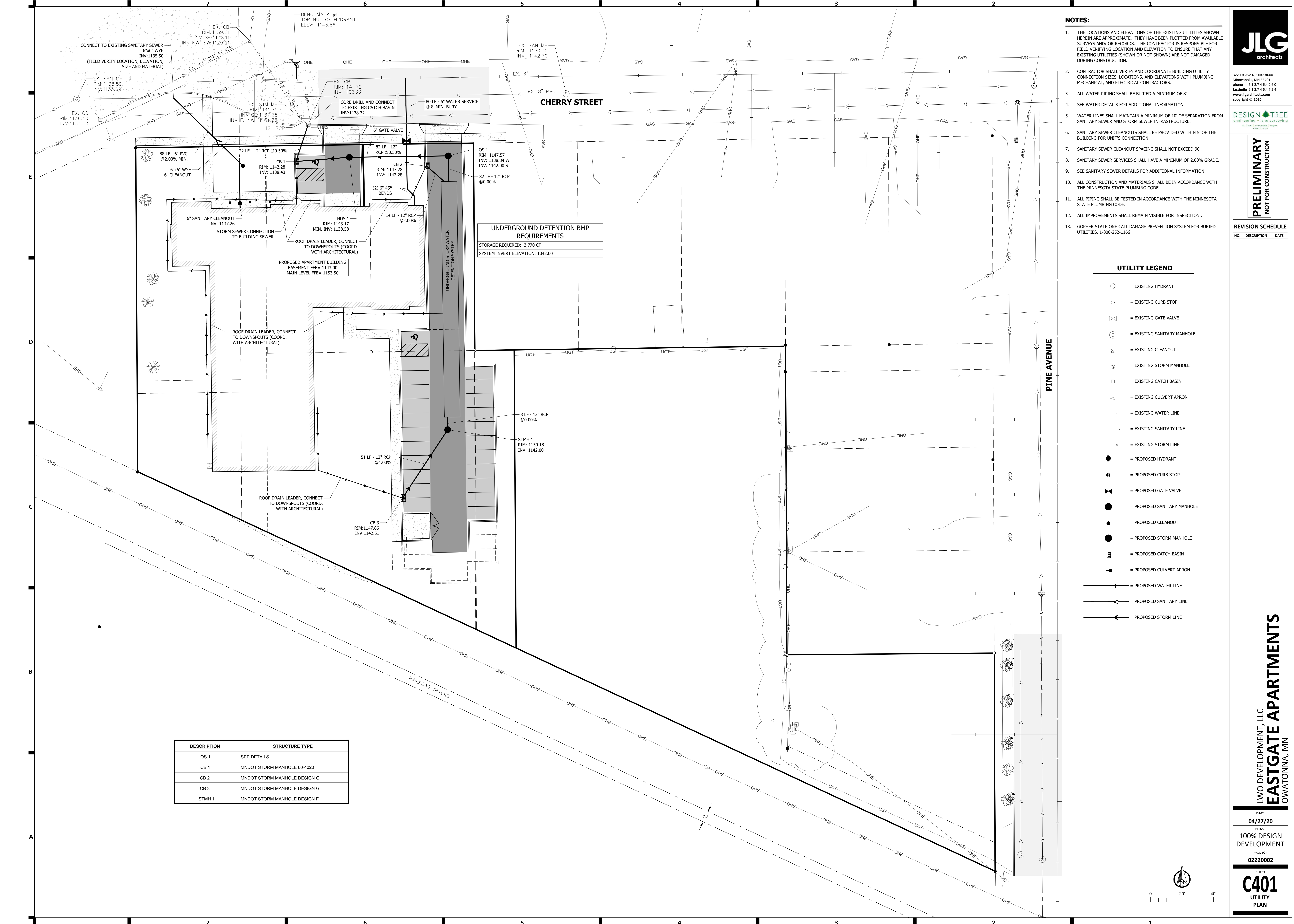
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 2. CONTRACTOR SHALL VERIFY AND COORDINATE BUILDING UTILITY CONNECTION SIZES, LOCATIONS, AND ELEVATIONS WITH PLUMBING, MECHANICAL, AND ELECTRICAL CONTRACTORS.
 3. ALL WATER PIPING SHALL BE BURIED A MINIMUM OF 8".
 4. SEE WATER DETAILS FOR ADDITIONAL INFORMATION.
 5. WATER LINES SHALL MAINTAIN A MINIMUM OF 10' OF SEPARATION FROM SANITARY SEWER AND STORM SEWER INFRASTRUCTURE.
 6. SANITARY SEWER CLEANOUTS SHALL BE PROVIDED WITHIN 5' OF THE BUILDING FOR UNIT'S CONNECTION.
 7. SANITARY SEWER CLEANOUT SPACING SHALL NOT EXCEED 90'.
 8. SANITARY SEWER SERVICES SHALL HAVE A MINIMUM OF 2.00% GRADE.
 9. SEE SANITARY SEWER DETAILS FOR ADDITIONAL INFORMATION.
 10. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MINNESOTA STATE PLUMBING CODE.
 11. ALL PIPING SHALL BE TESTED IN ACCORDANCE WITH THE MINNESOTA STATE PLUMBING CODE.
 12. ALL IMPROVEMENTS SHALL REMAIN VISIBLE FOR INSPECTION.
 13. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166

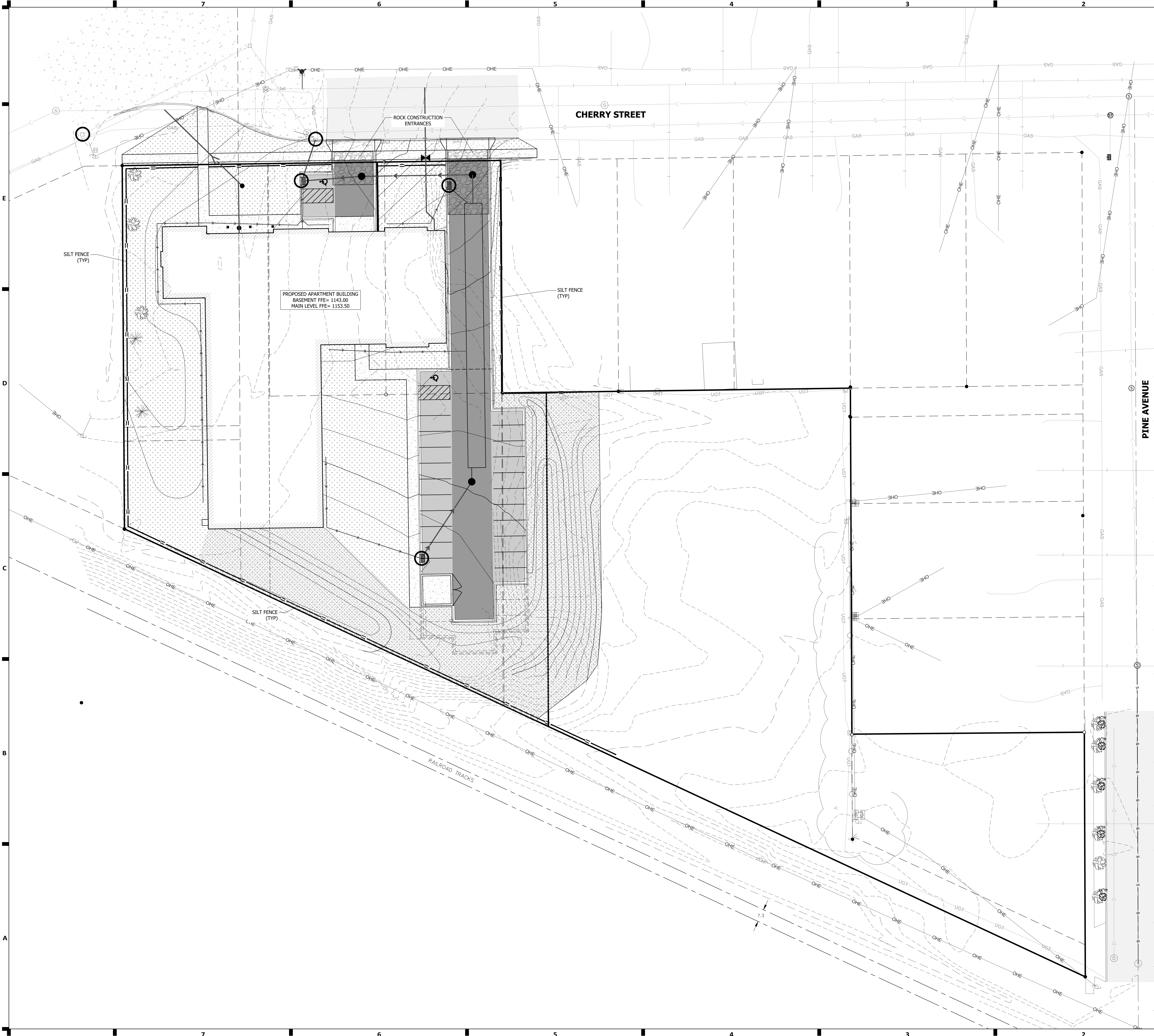
UTILITY LEGEND

- = EXISTING HYDRANT
- = EXISTING CURB STOP
- = EXISTING GATE VALVE
- = EXISTING SANITARY MANHOLE
- = EXISTING CLEANOUT
- = EXISTING STORM MANHOLE
- = EXISTING CATCH BASIN
- = EXISTING CULVERT APRON
- = EXISTING WATER LINE
- = EXISTING SANITARY LINE
- = EXISTING STORM LINE
- = PROPOSED HYDRANT
- = PROPOSED CURB STOP
- = PROPOSED GATE VALVE
- = PROPOSED SANITARY MANHOLE
- = PROPOSED CLEANOUT
- = PROPOSED STORM MANHOLE
- = PROPOSED CATCH BASIN
- = PROPOSED CULVERT APRON
- = PROPOSED WATER LINE
- = PROPOSED SANITARY LINE
- = PROPOSED STORM LINE

DESCRIPTION	STRUCTURE TYPE
OS 1	SEE DETAILS
CB 1	MINDOT STORM MANHOLE 60-4020
CB 2	MINDOT STORM MANHOLE DESIGN G
CB 3	MINDOT STORM MANHOLE DESIGN G
STMH 1	MINDOT STORM MANHOLE DESIGN F

UNDERGROUND DETENTION BMP REQUIREMENTS
STORAGE REQUIRED: 3,770 CF
SYSTEM INVERT ELEVATION: 1042.00







- NOTES:**
- ALL DISTURBED AREAS SHALL BE FINAL GRADED AND PERMANENTLY STABILIZED WITH THE SEED MIX IDENTIFIED ON PLANS.
 - INLET PROTECTION SHALL BE PROVIDED ON ALL CATCH BASINS AND INLETS DOWN GRADIENT OF CONSTRUCTION ACTIVITY.
 - PROVIDE SILT FENCE PERIMETER CONTROL DOWN GRADIENT OF ALL CONSTRUCTION ACTIVITY AND TEMPORARY STOCKPILES.
 - TEMPORARY ROCK ENTRANCES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
 - NO OFFSITE VEHICLE TRACKING IS PERMITTED. STREETS SHALL BE CLEANED AND SWEEPED WHENEVER TRACKING OF SEDIMENTS OCCURS AND BEFORE SITES ARE LEFT IDLE FOR WEEKENDS AND HOLIDAYS.
 - REFER TO THE SWPPP AND THE CITY OF OWATONNA EROSION CONTROL REQUIREMENTS FOR FURTHER EROSION CONTROL SEQUENCING.
 - IN ADDITION TO THESE PLANS, A STORMWATER MANAGEMENT STUDY HAS BEEN PROVIDED. THE STORMWATER MANAGEMENT STUDY INCLUDES IMPORTANT INFORMATION REGARDING STORMWATER PROTECTION FOR THE SITE, SUCH AS CONCRETE WASH-OUTS, HAZARDOUS MATERIALS HANDLING/SPILLS, EROSION CONTROL INSTALLATION, EROSION CONTROL MAINTENANCE, ETC. THE CONTRACTOR SHALL REVIEW THE STORMWATER BOOK AND USE THE INFORMATION TO COMPLY WITH ALL STATE AND LOCAL REQUIREMENTS.
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EROSION CONTROL QUANTITIES:

	ROCK CONSTRUCTION ENTRANCE	(XX SY)
	SILT FENCE	(XX LF)
	SEED MIX _____ (HYDROSEED)	(XX SY)
	RIPRAP	(XX SY)
	CATEGORY III EROSION CONTROL BLANKET	(XX SY)
	INLET PROTECTION	(XX EA)



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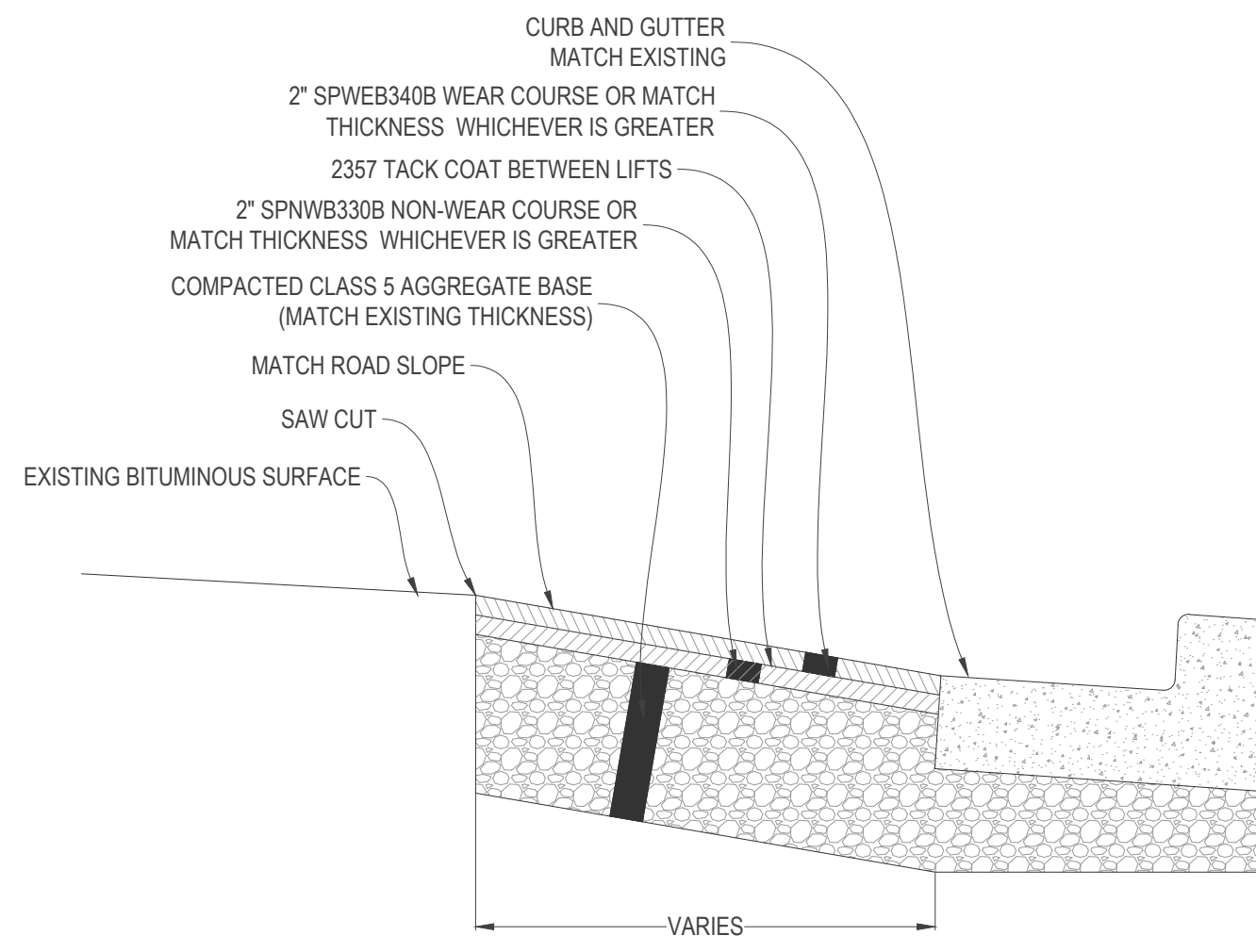
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PHASE
100% DESIGN DEVELOPMENT

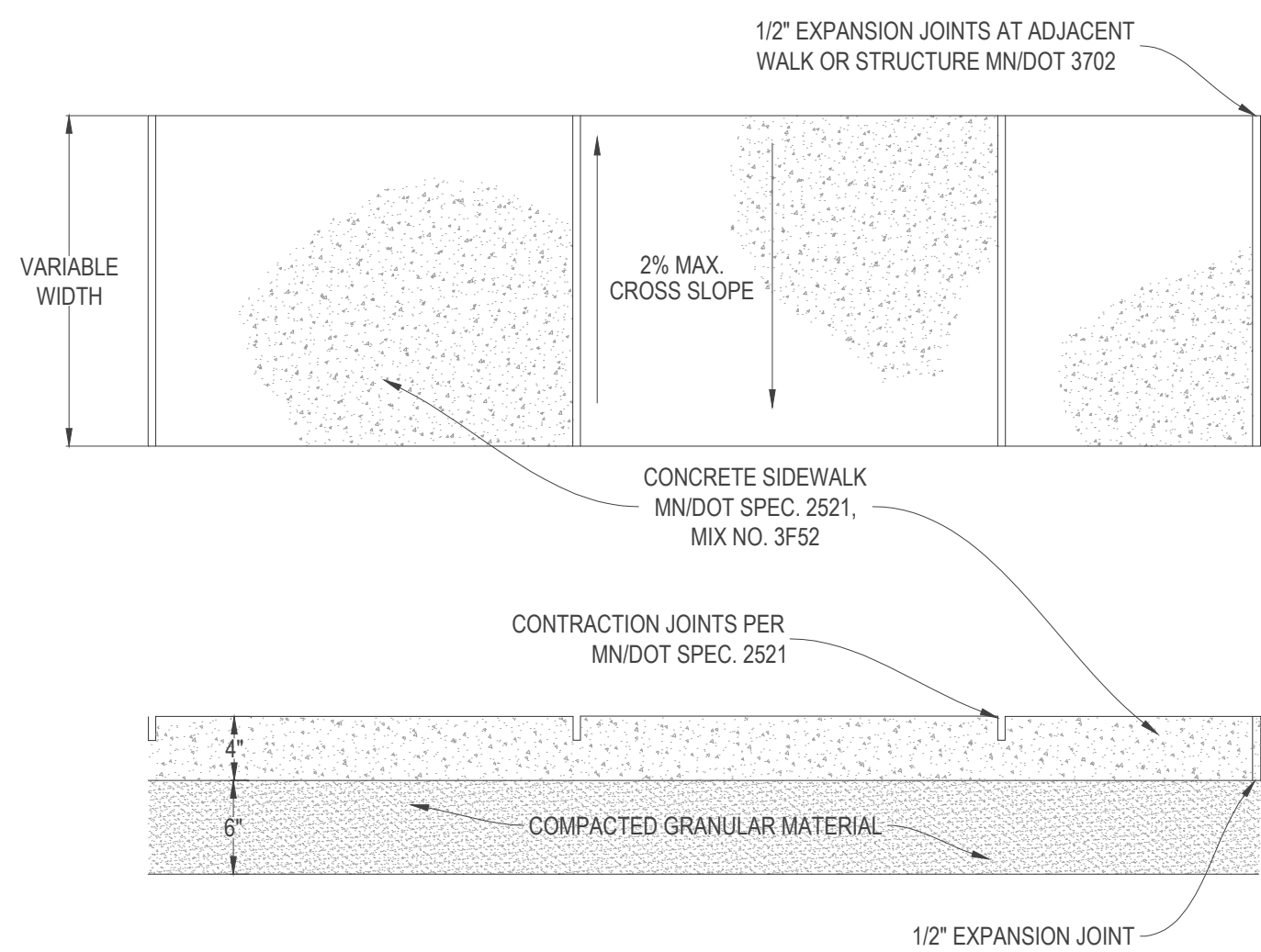
PROJECT
02220002

SHEET
C501
 EROSION CONTROL PLAN

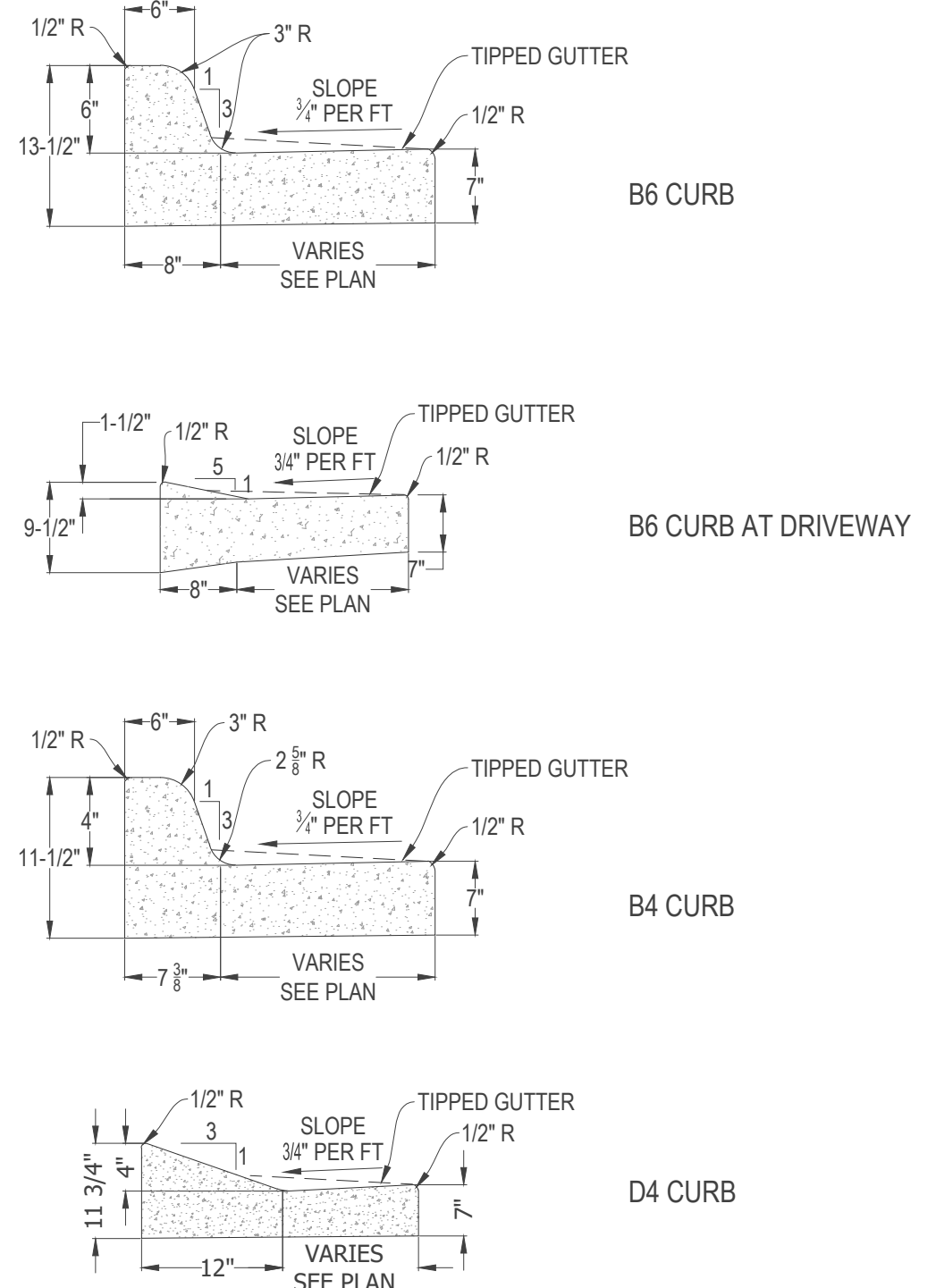





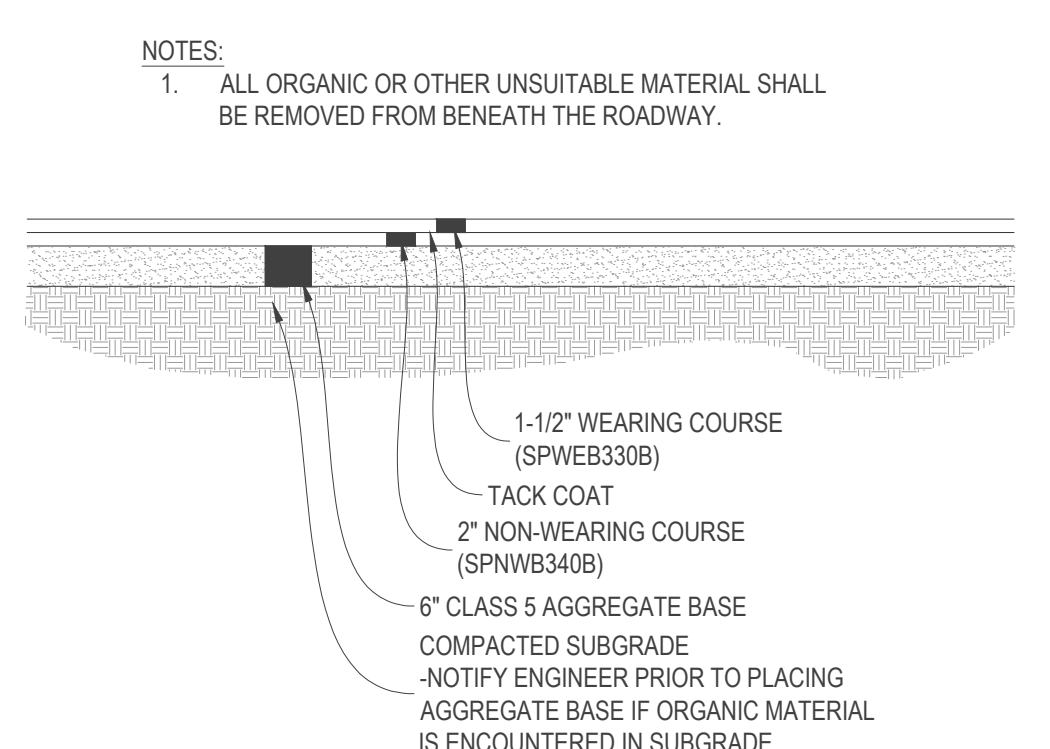
BITUMINOUS STREET REPAIR, CURB & GUTTER INSTALLATION DETAIL
SCALE: N.T.S.



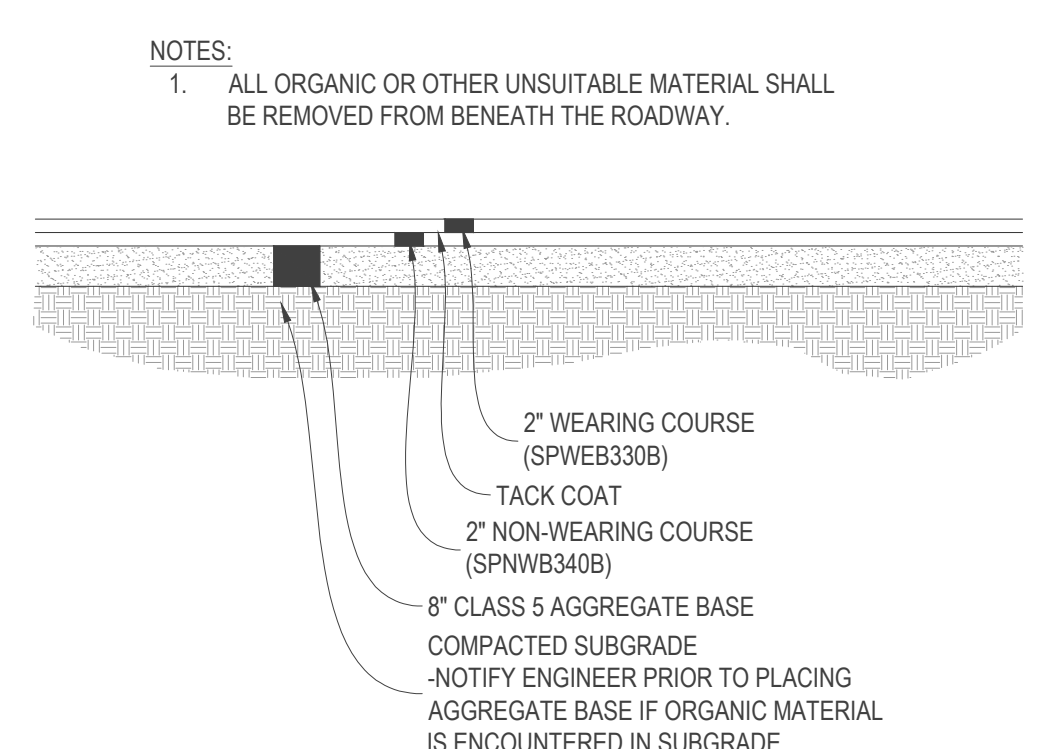
TYPICAL SIDEWALK DETAIL
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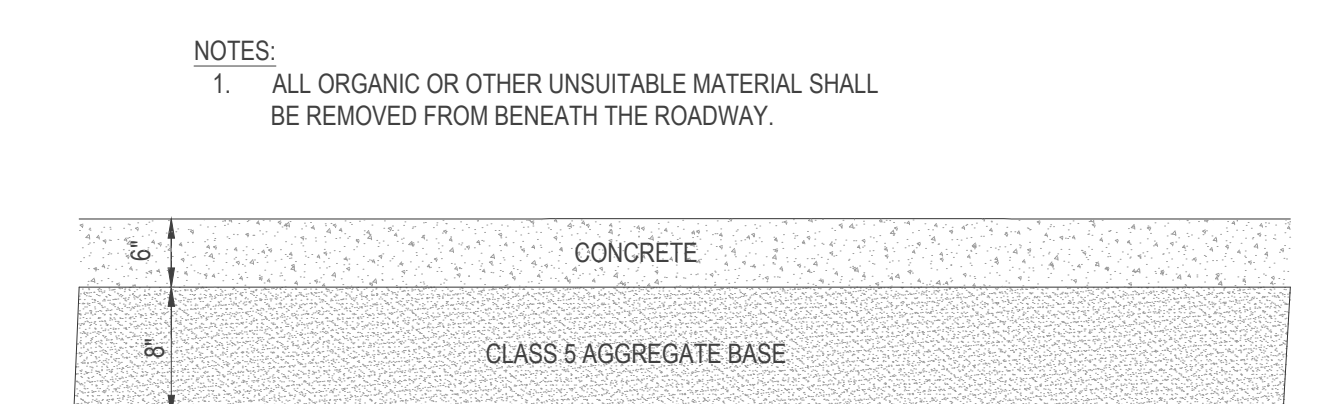
CURB & GUTTER DETAILS
SCALE: N.T.S.



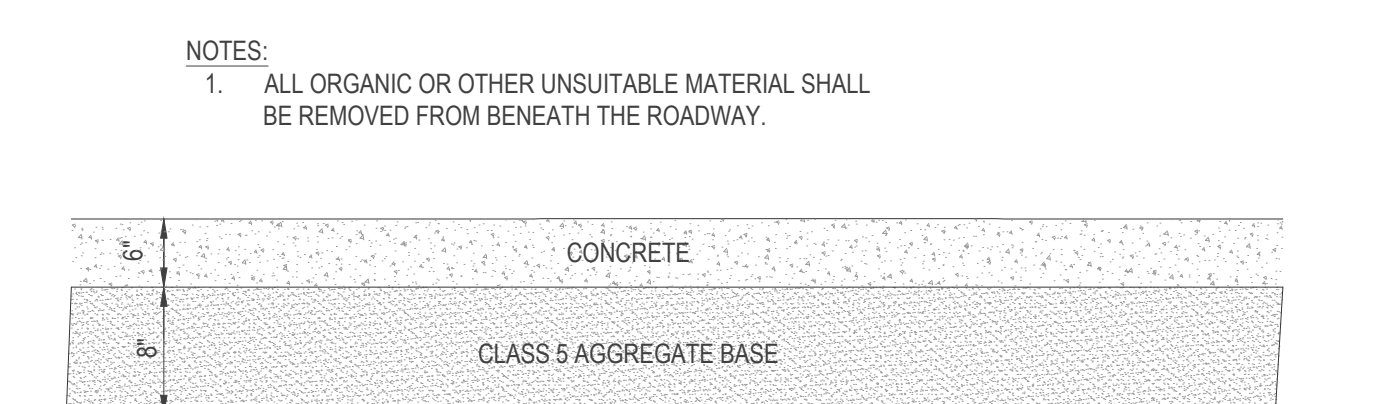
LIGHT-DUTY BITUMINOUS PAVEMENT SECTION
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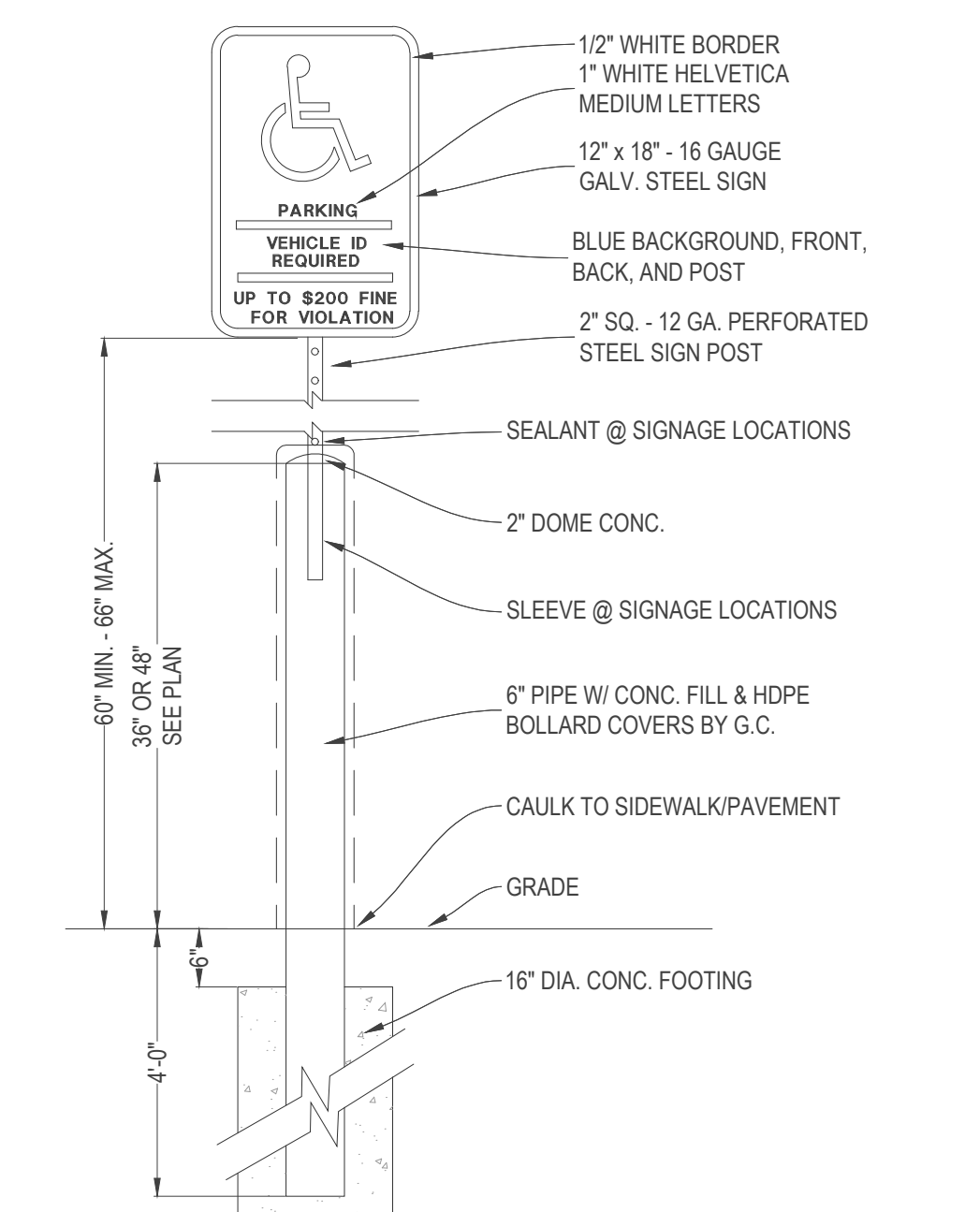
HEAVY-DUTY BITUMINOUS PAVEMENT SECTION
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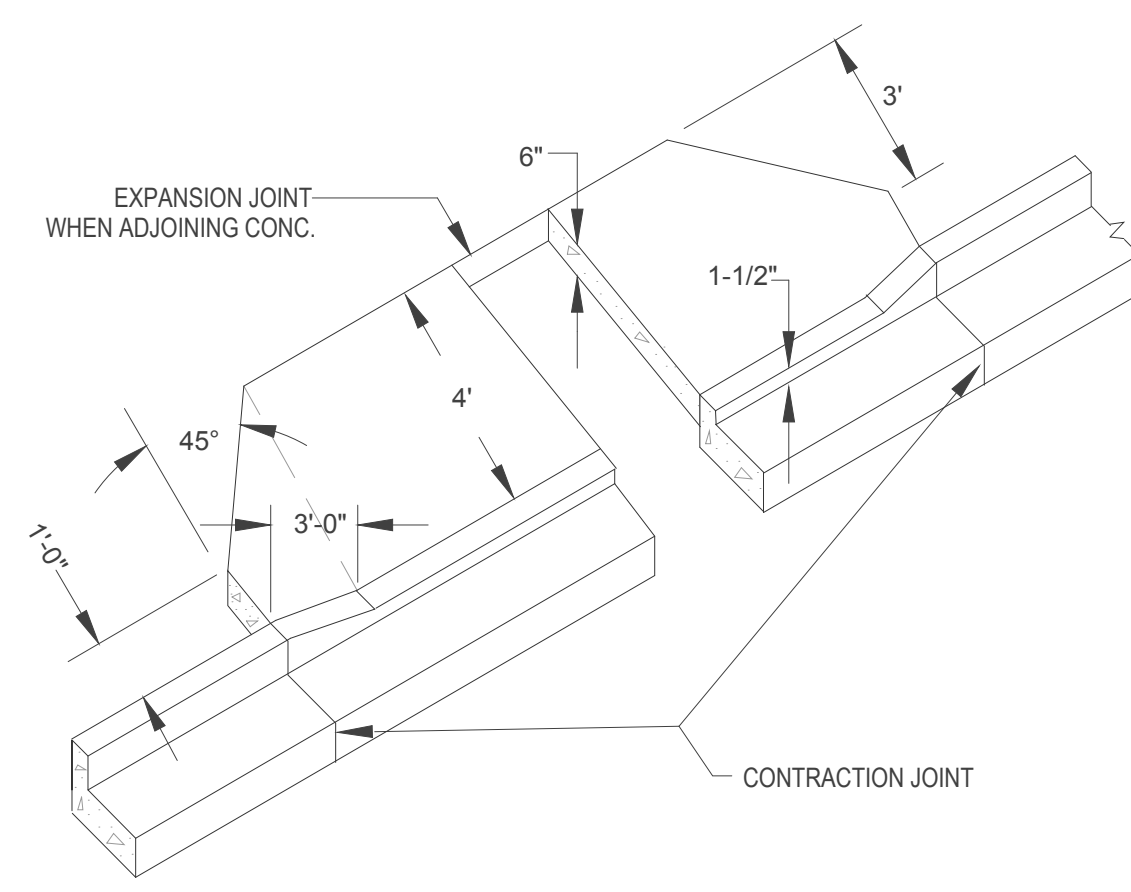
CONCRETE PAVEMENT SECTION
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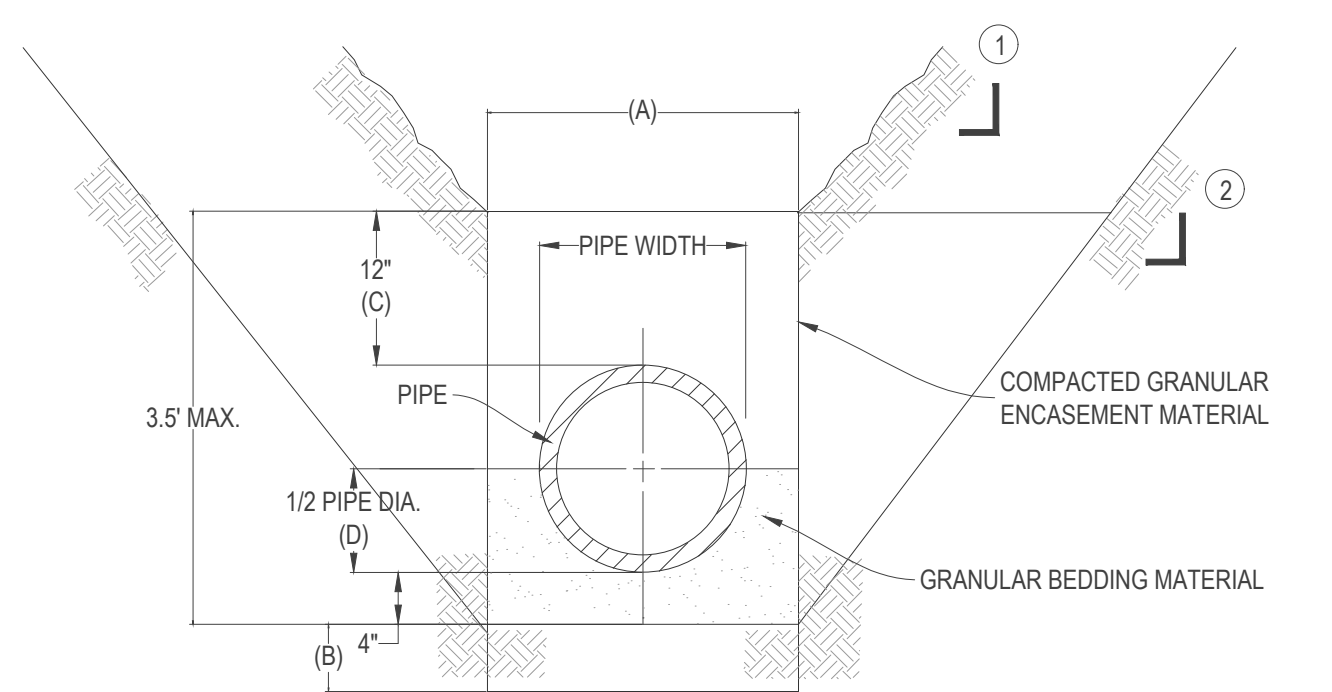
CONCRETE TRASH ENCLOSURE PAD SECTION
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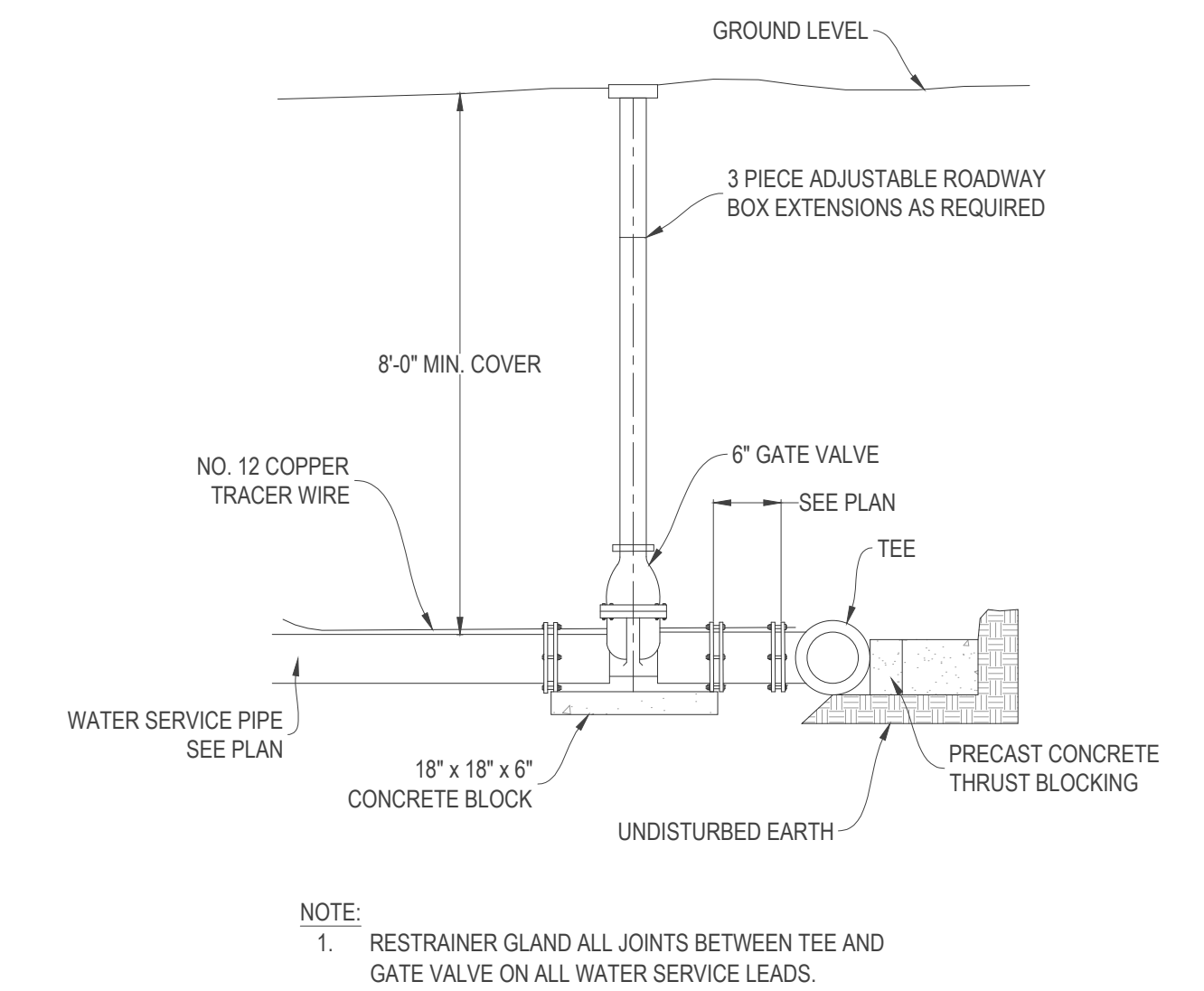
ACCESSIBLE PARKING SIGN & POST DETAIL
SCALE: N.T.S.



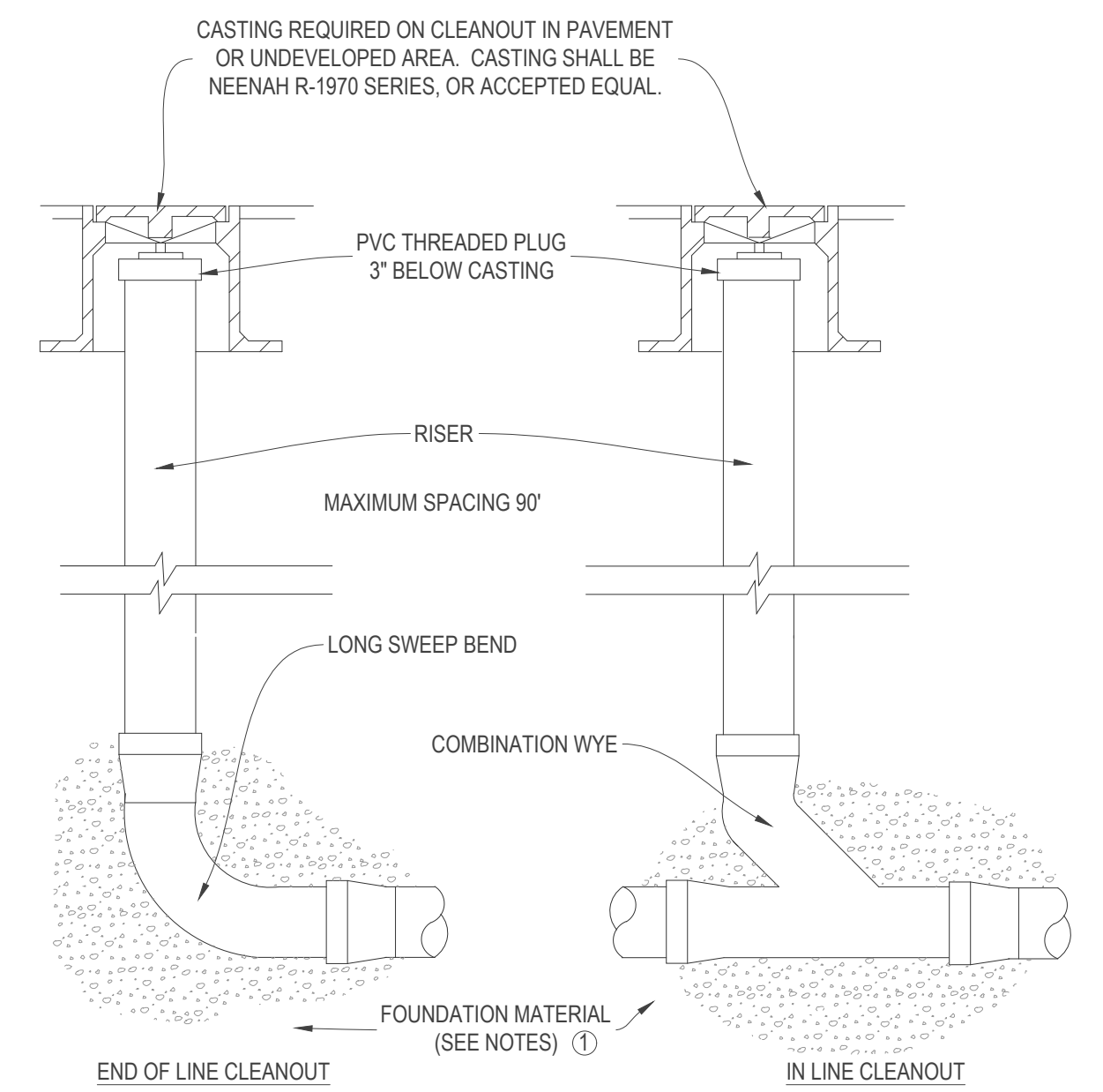
REMOVE AND REPLACE CONCRETE DRIVEWAY APRON
SCALE: N.T.S.



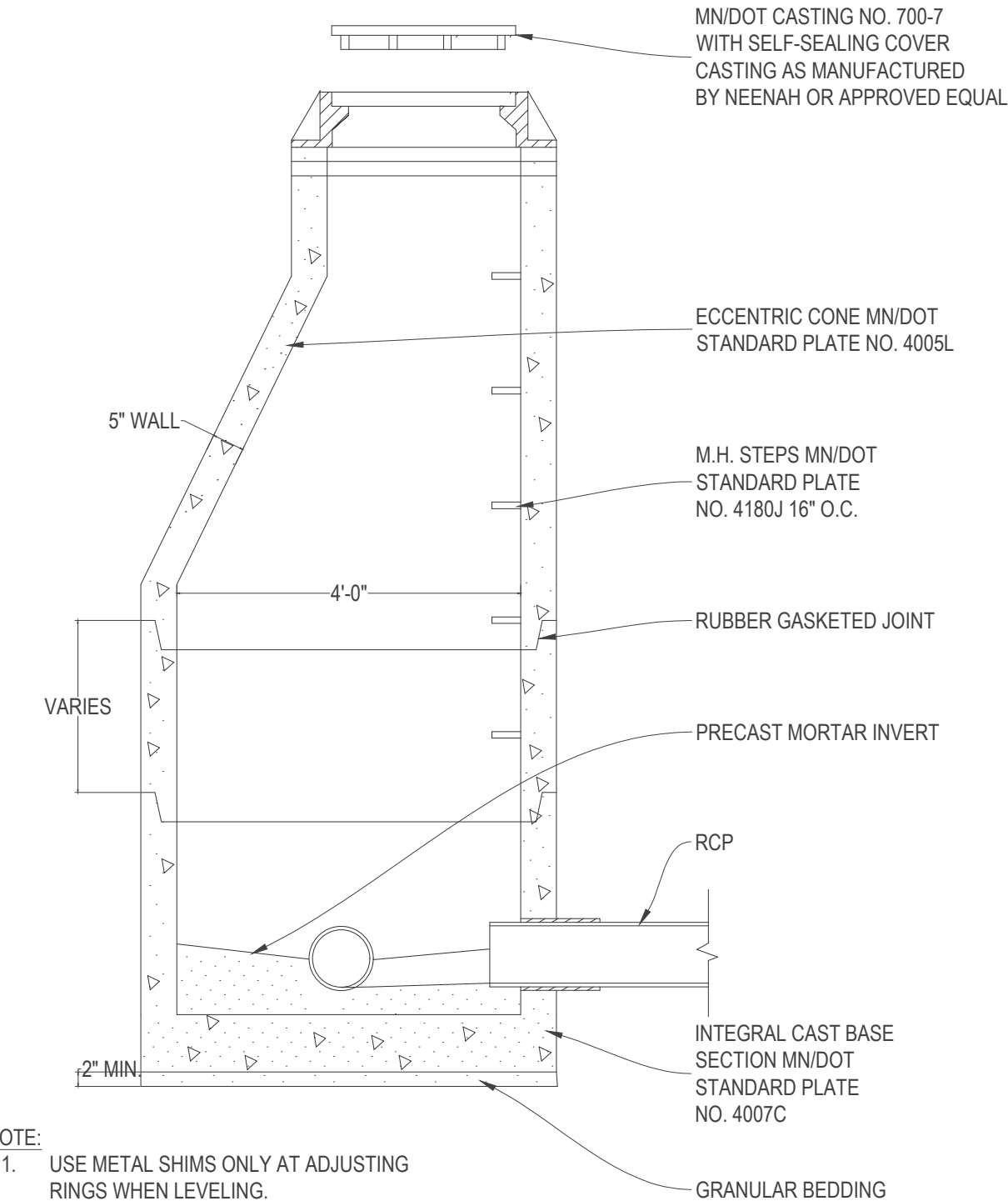
TYPICAL PIPE BEDDING DETAIL
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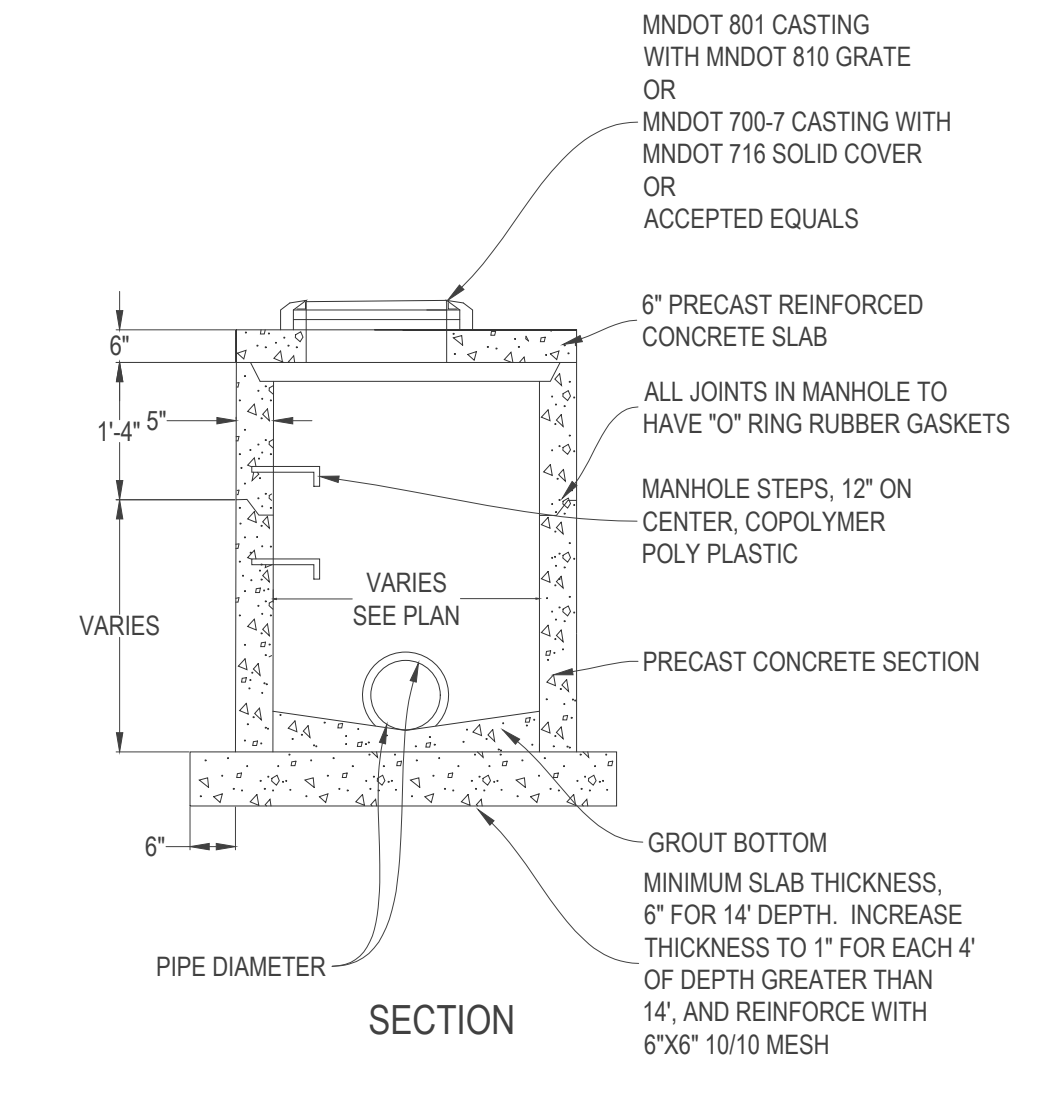
COMMERCIAL WATER SERVICE (4\"/>



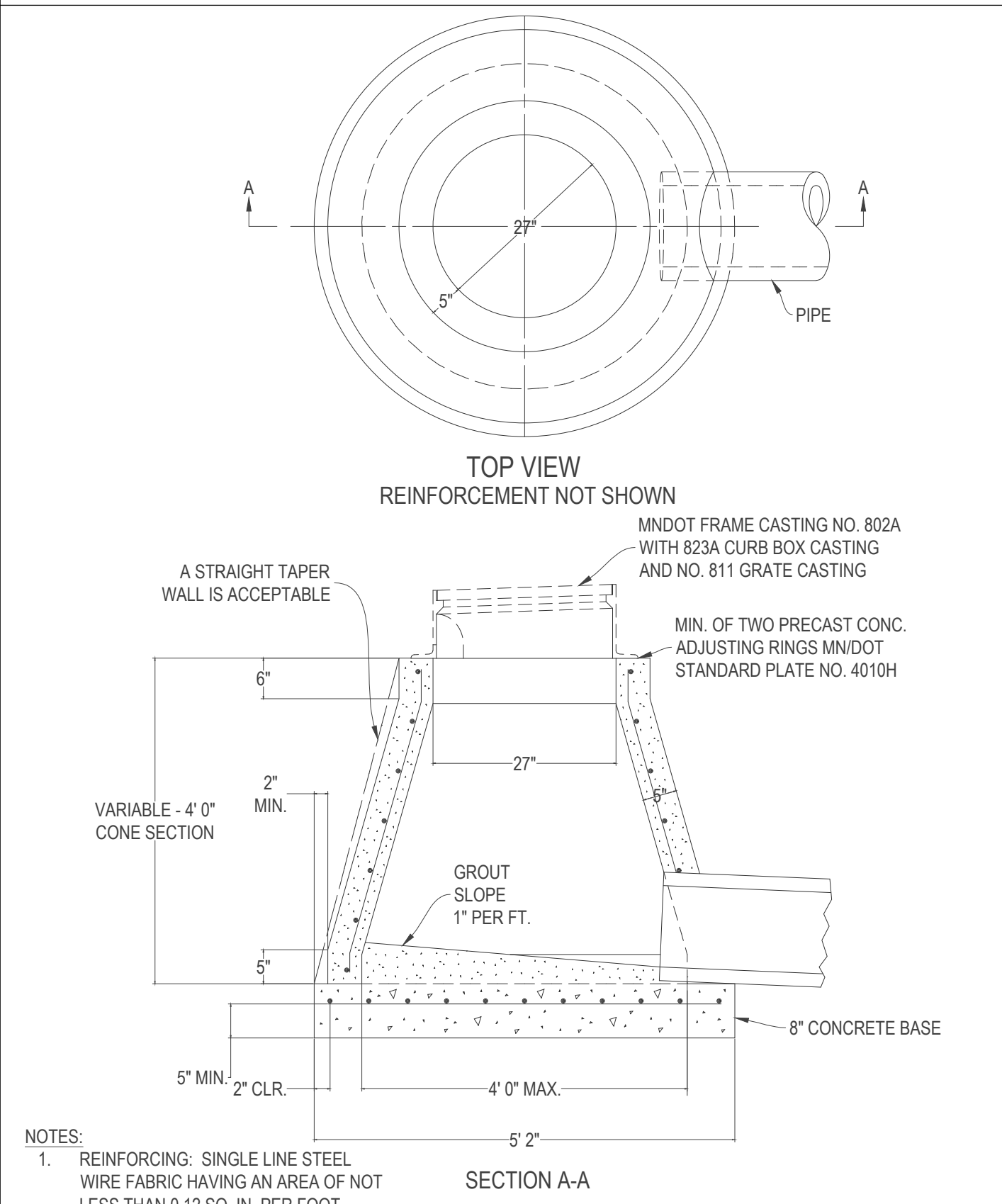
SEWER CLEANOUT CASING DETAIL
SCALE: N.T.S.



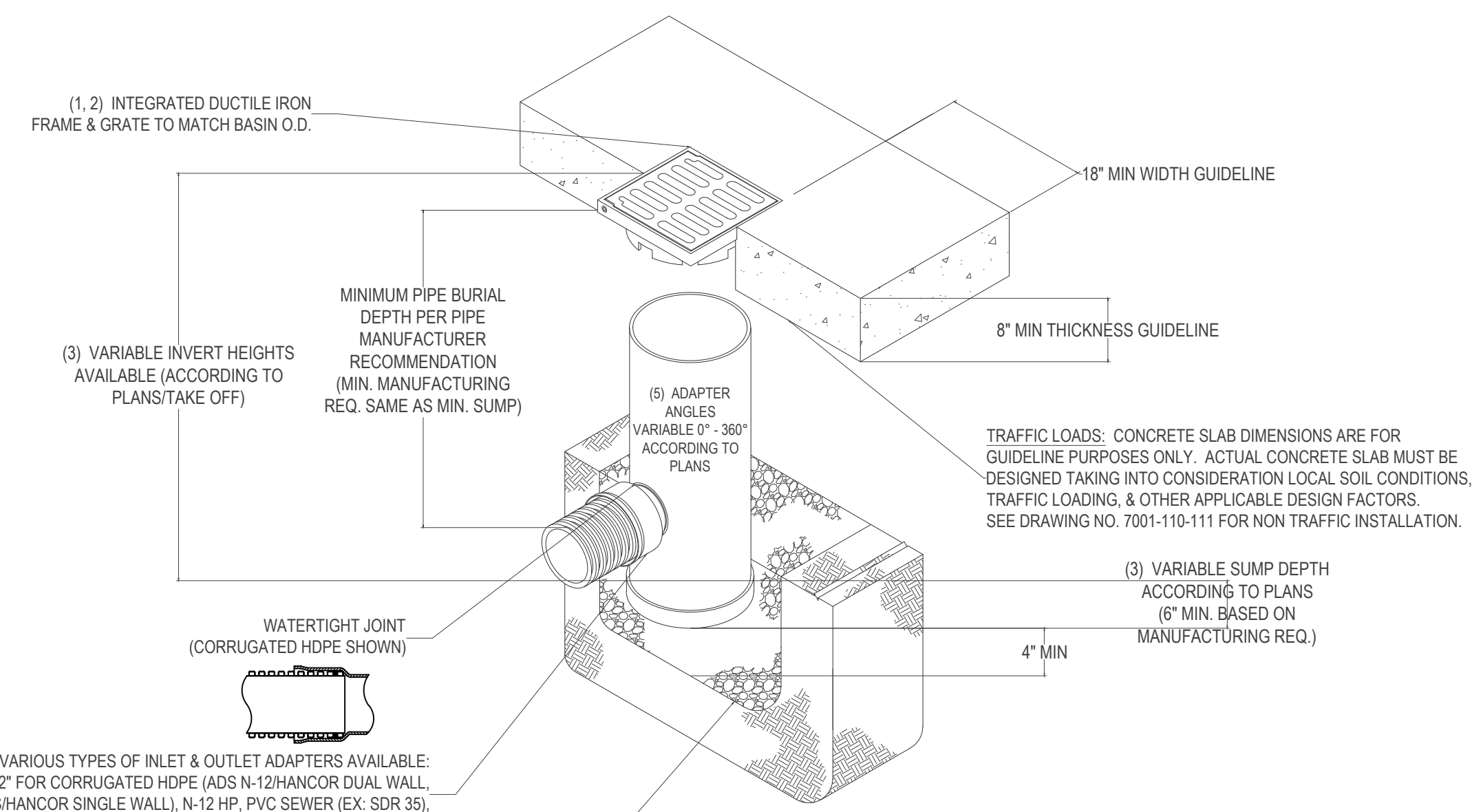
STANDARD DESIGN \"/>



STANDARD MNDOT STORM MANHOLE/CATCH BASIN 4020
SCALE: N.T.S.



STANDARD MNDOT CATCH BASIN DESIGN G
SCALE: N.T.S.



TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.

(3) VARIABLE SUMP DEPTH ACCORDING TO PLANS (6\"/>

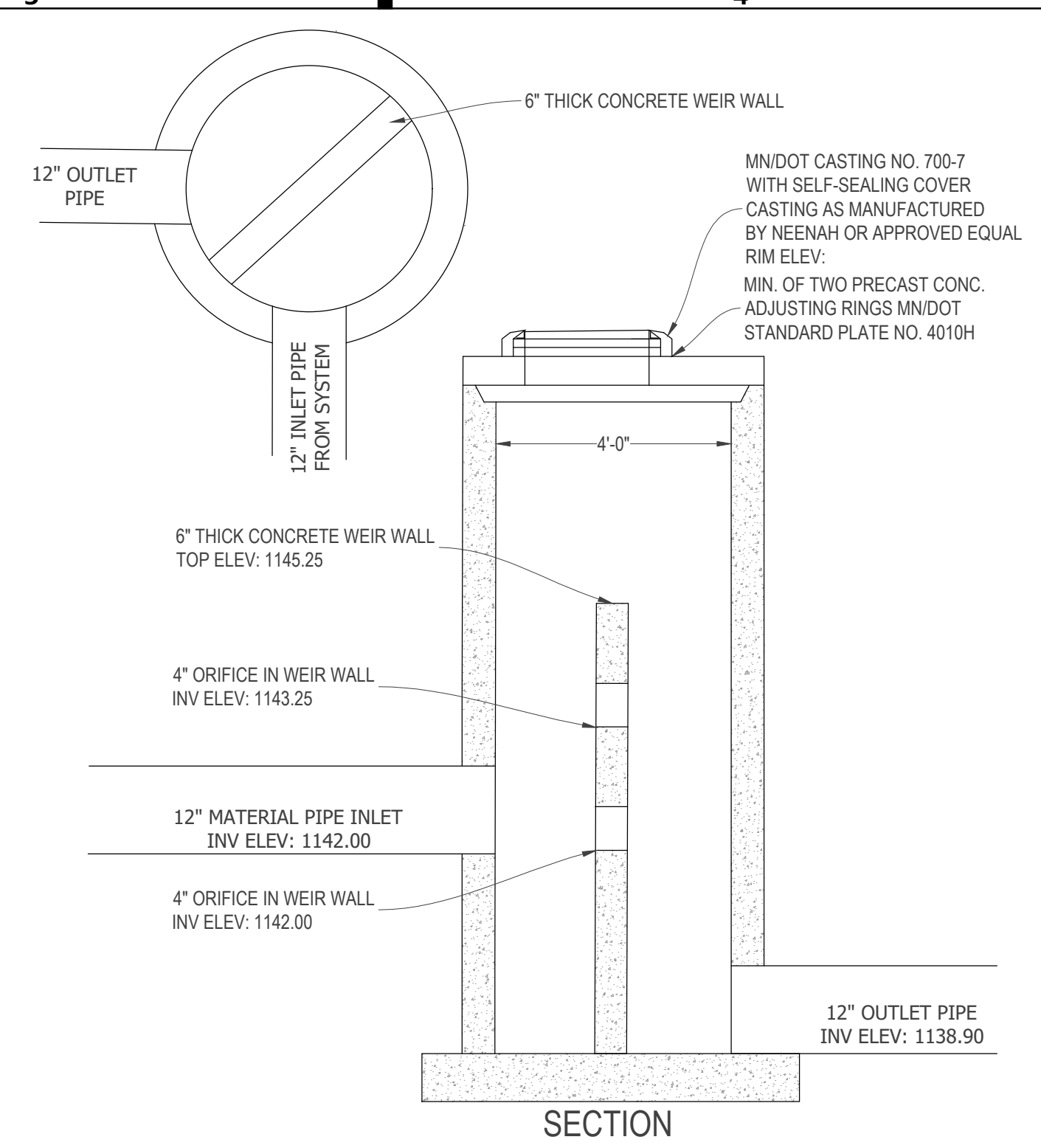
GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEEYS H-10	1299CGP	7001-110-202
STRAKOR	MEEYS H-20	1299CGS	7001-110-203
SOLID COVER	MEEYS H-20	1299CGC	7001-110-204
PEDESTRIAN BRONZE	NA	1299CPB	7001-110-205
DOME	NA	1299CSD	7001-110-206
DROP IN GRATE	LIGHT DUTY	1251DI	7001-110-001

- (4) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE:
 4" - 12" FOR CORRUGATED HDPE (ADS N-12HANCOR DUAL WALL, ADSHANCOR SINGLE WALL), N-12 HP, PVC SEWER (EX: SDR 35), PVC DWV (EX: SCH 40), PVC C900/C905, CORRUGATED & RIBBED PVC

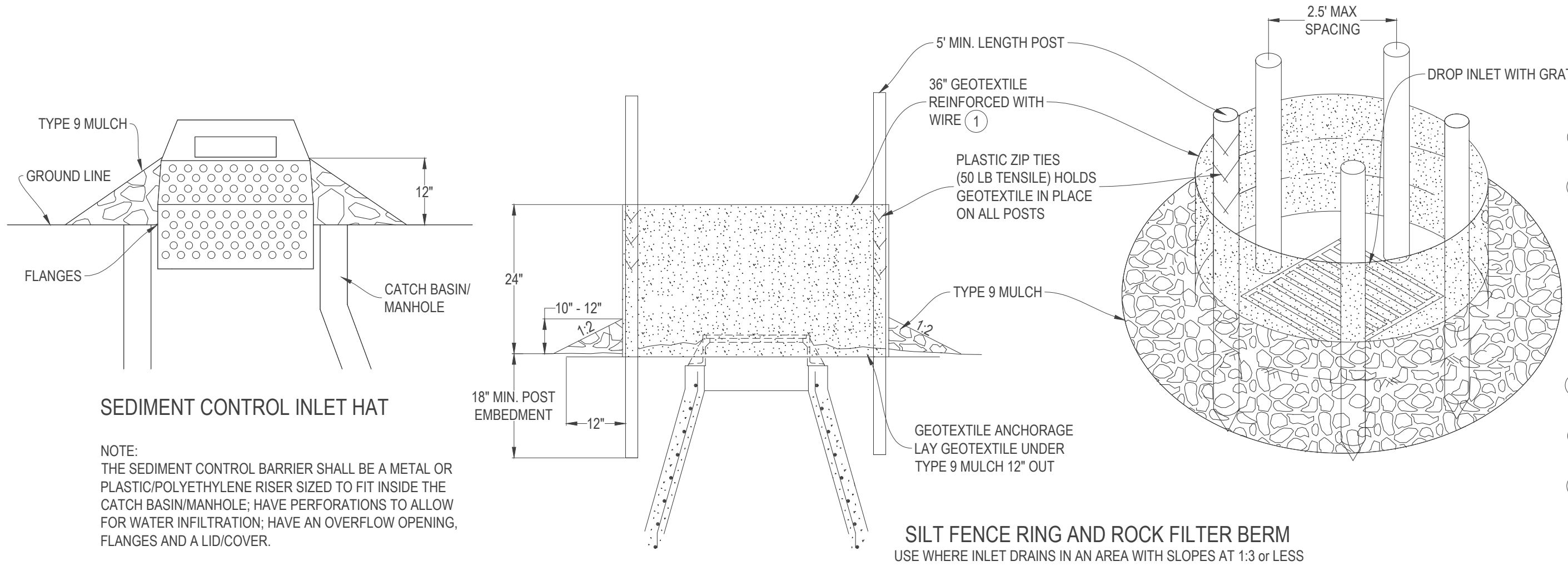
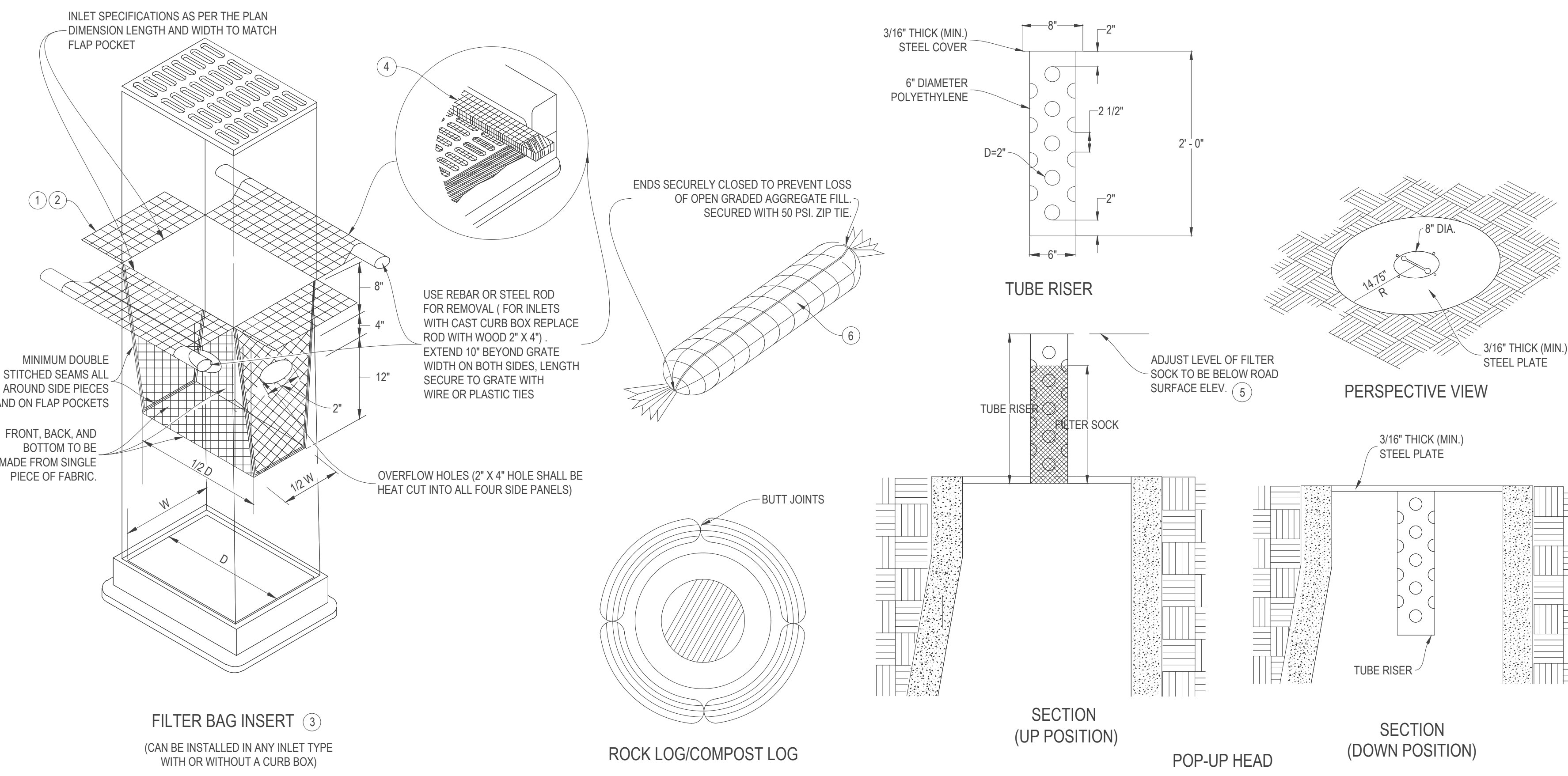
THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

- 1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
- 2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
- 3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-005.
- 4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D2321 FOR CORRUGATED HDPE (ADS N-12HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
- 5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

12" NYLOPLAST DRAIN BASIN
SCALE

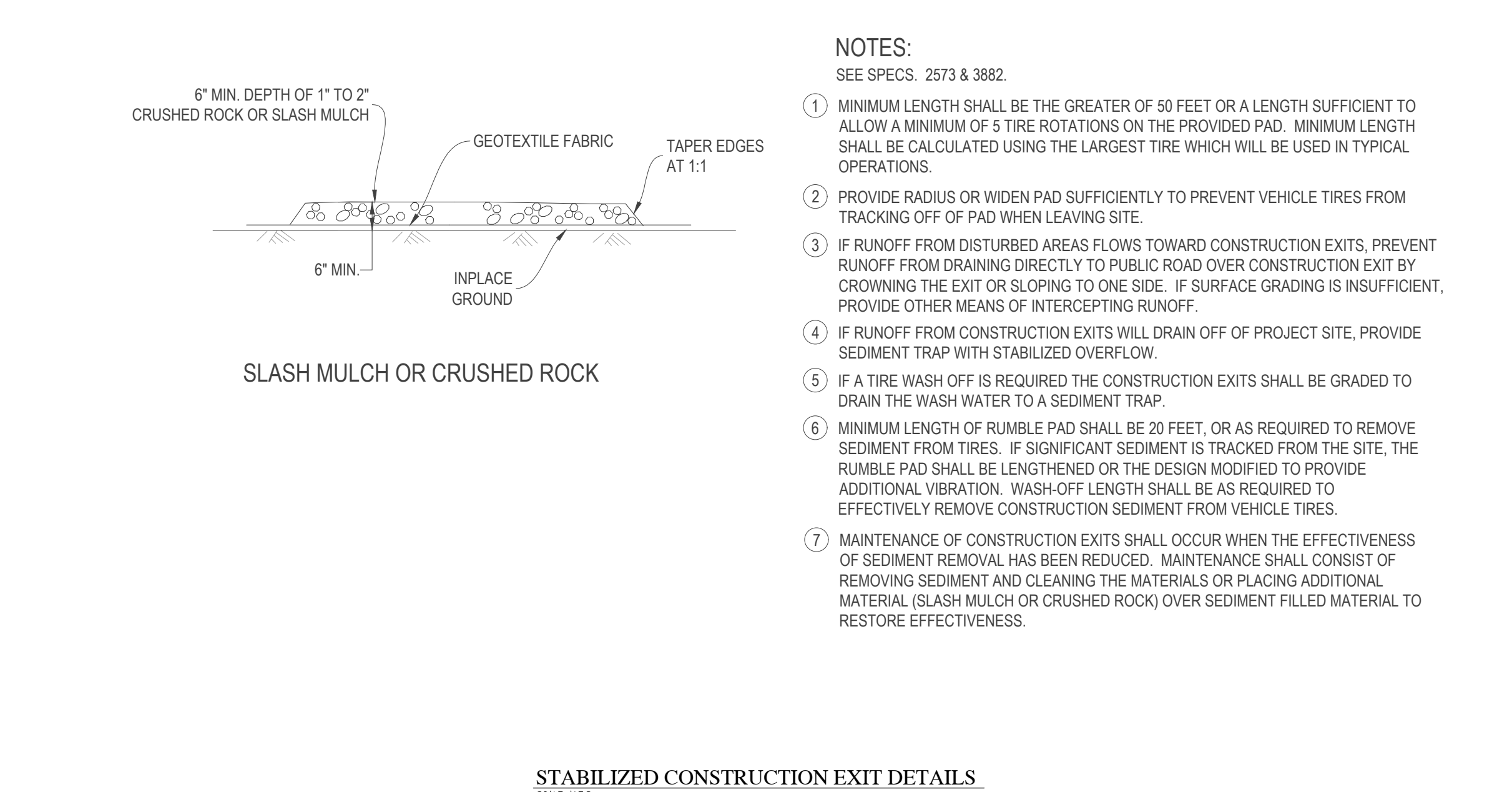
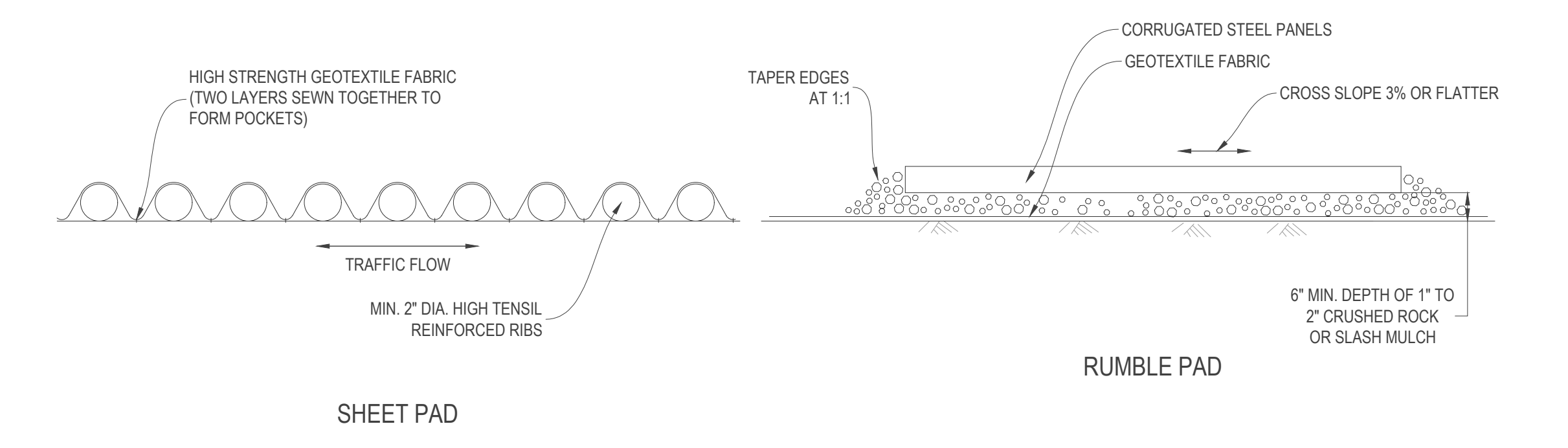
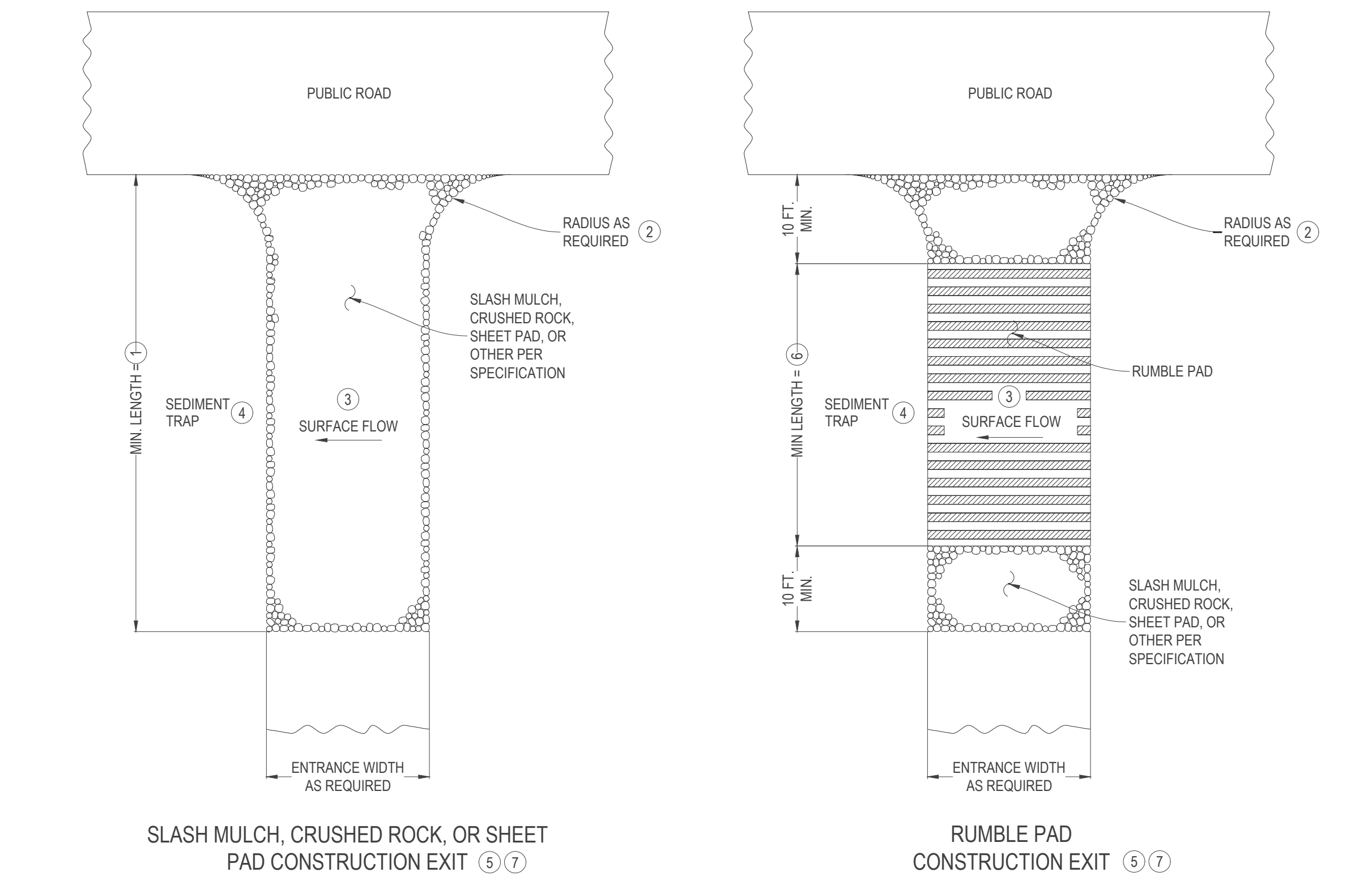


- NOTES:
1. USE METAL SHIMS ONLY AT ADJUSTING RINGS WHEN LEVELING.
 2. ALL PIPE CONNECTIONS SHALL HAVE MANHOLE SLEEVES OR WATERSTOP FOR WATERTIGHT CONNECTIONS.



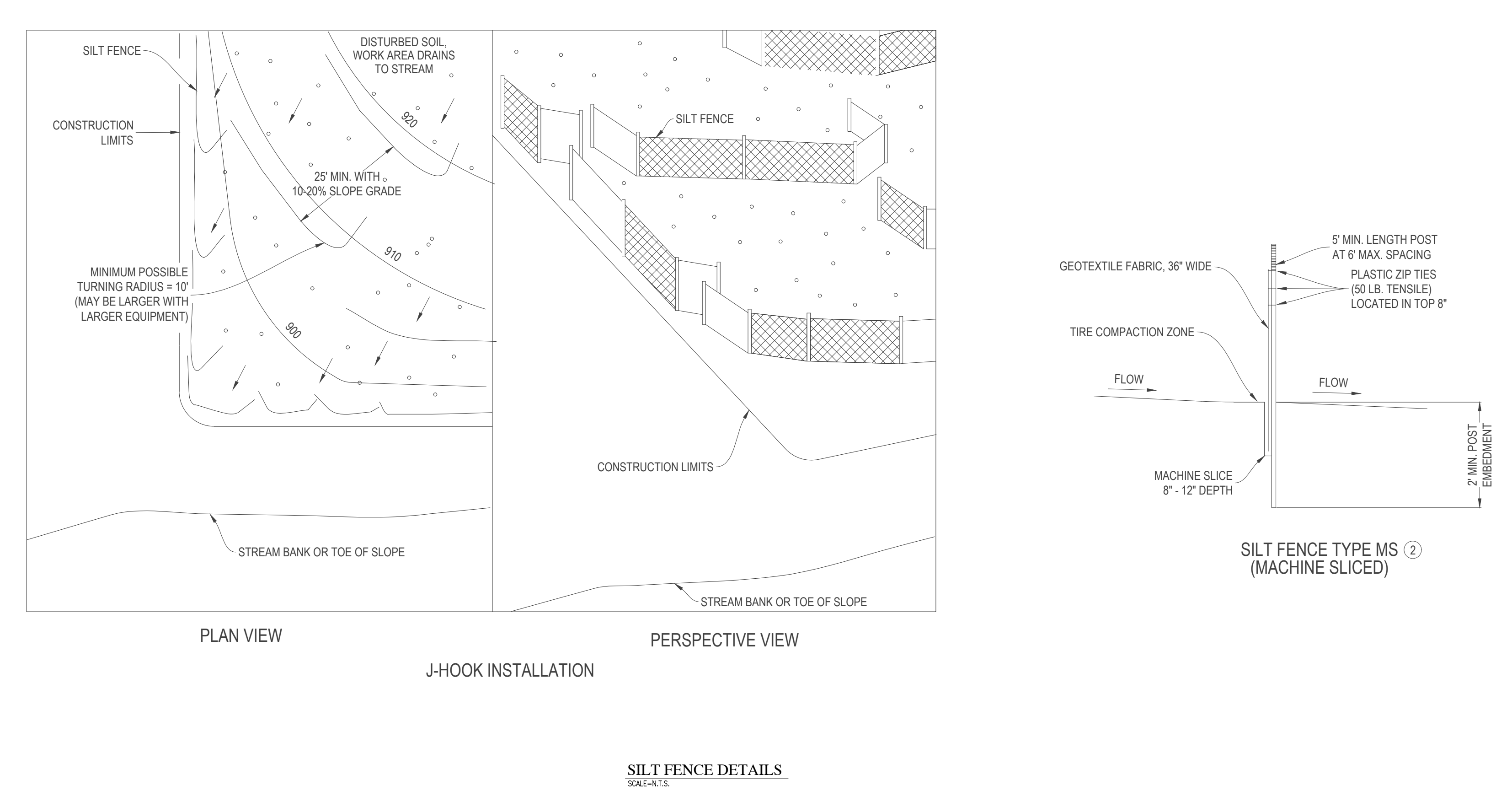
NOTES:
SEE SPECS. 2573, 3137, 3886.
DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.

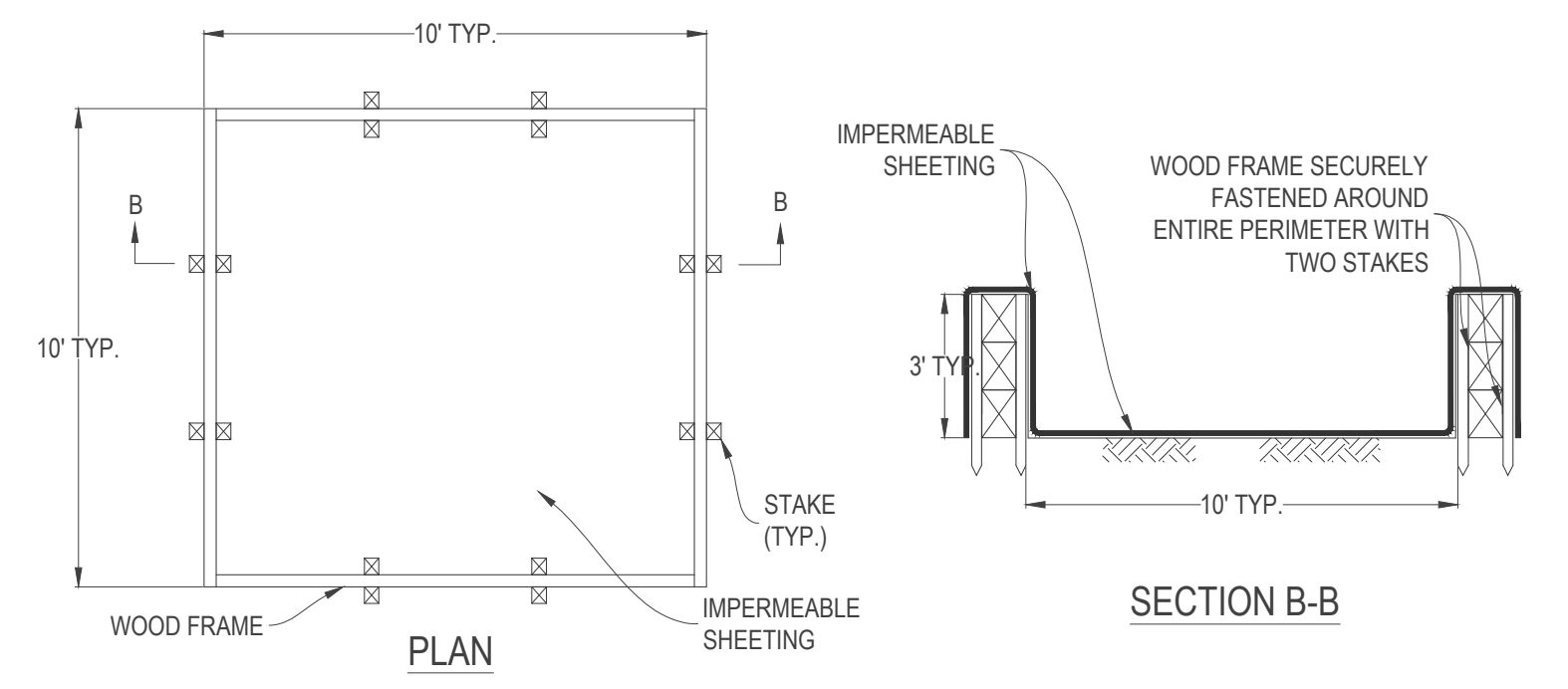
- ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- INSTALLATION NOTES:
DO NOT INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.



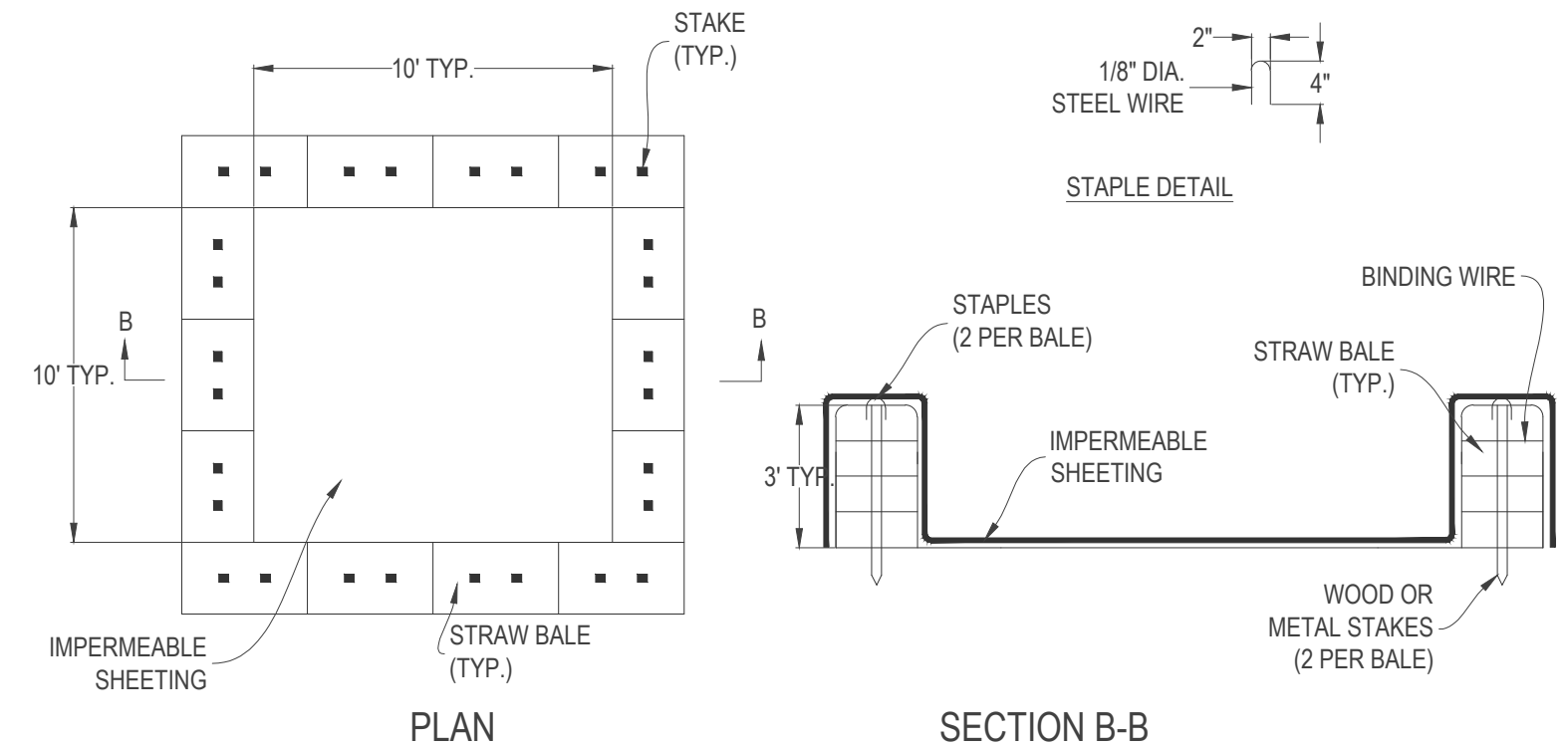
NOTES:
SEE SPECS. 2573 & 3882.

- MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
- PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
- IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
- IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
- IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
- MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
- MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

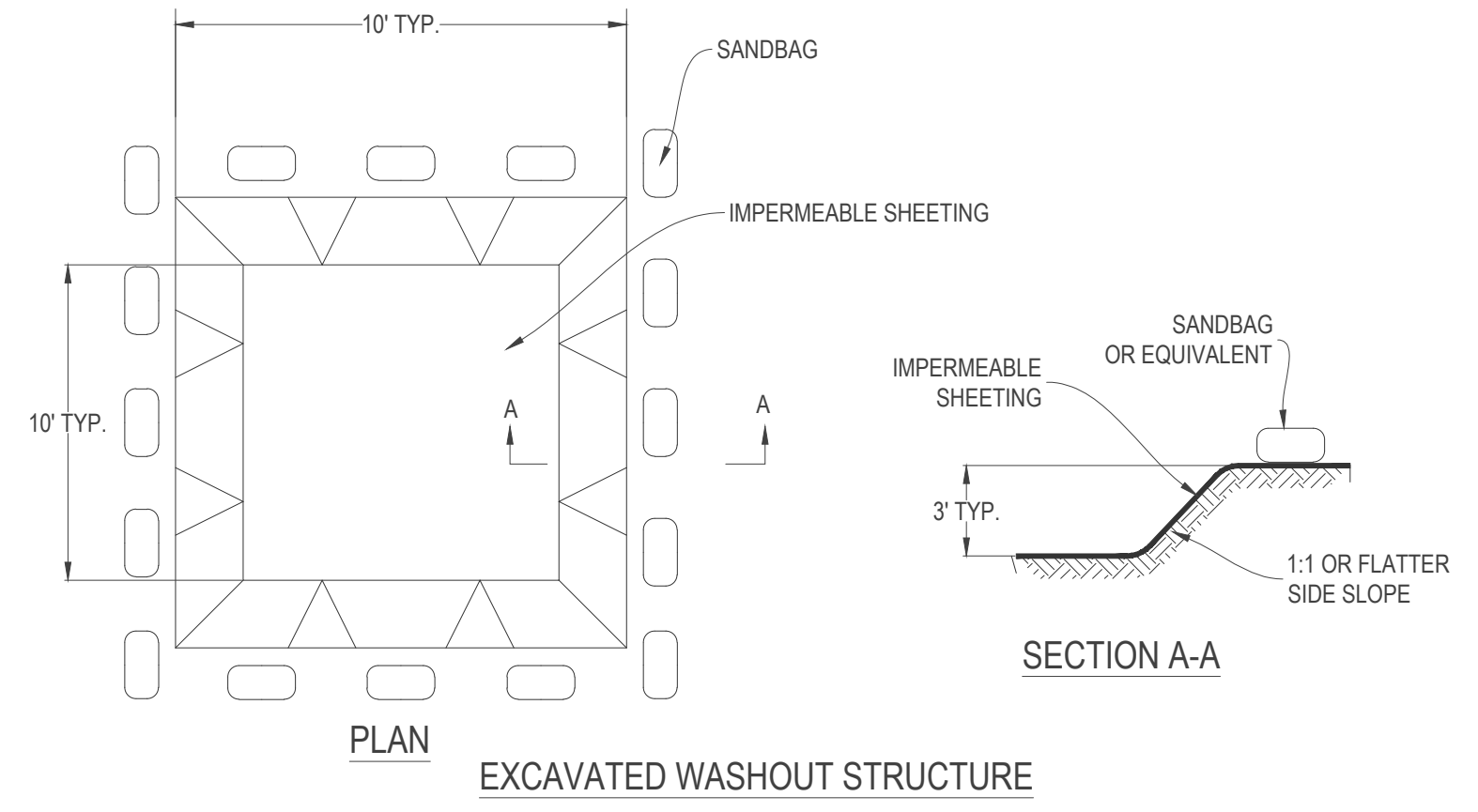




WASHOUT STRUCTURE WITH WOOD PLANKS



WASHOUT STRUCTURE WITH STRAW BALES



EXCAVATED WASHOUT STRUCTURE

CONSTRUCTION SPECIFICATIONS

- LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
- SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
- PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
- PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
- KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

CONCRETE WASHOUT DETAILS

Project Description:

The work on the project includes the demolition of existing houses/building and the construction of an apartment building along with the associated sewer and water services, and the construction of new parking areas along with the associated storm water utilities. The project is located in Owatonna, MN. The majority of underlying soils on the property are in Hydrologic Soil Group "D" and have high infiltration rates when thoroughly wet.

Receiving Waters:

All existing stormwater runoff sheet flows or is captured in catch basins and is routed to _____ . All stormwater runoff from proposed impervious surfaces (including building additions) will be captured in catch basins. The runoff from impervious surfaces is collected and treated on site by an underground infiltration system.

Responsible Parties:

The Owner and the Contractor are responsible co-permittees for the implementation of the SWPPP. The Contractor and Owner shall apply for the NPDES Construction General Permit within 24 hours of award of Contract. The complete application must be submitted prior to start of construction activity. The Contractor is responsible for installation, inspection, maintenance, and repair of all erosion prevention and sediment control BMPs before, during, and after active construction. The Contractor shall amend the SWPPP before beginning construction to include the chain of responsibility of all operators on the site, or if not known, the title or position of the responsible party. The Contractor is responsible for identifying a person knowledgeable and experienced in the application of erosion prevention and sediment control BMPs who will oversee the implementation of the SWPPP before and during construction until the construction project is complete, the entire site has undergone Final Stabilization, and an NOT has been submitted to the MPCA. The owner must identify who will be responsible for the long-term operations and maintenance of all permanent stormwater management systems. The Contractor is liable until final stabilization of all disturbed areas is achieved and the Notice of Termination (NOT) / Permit Modification form is submitted to the MPCA (as specified in the NPDES construction permit). Once the identity of Responsible Parties is known, the SWPPP must be amended to include this information in the area below.

Project Engineer

Michael J. Gerber, PE
Design Tree Engineering, Inc.
3339 W. St. Germain St
Suite 250
St. Cloud, MN 56301
(320) 217-5557, ext. 203
mgerber@dtie-4s.com

Owner

Contractor

TBD

SWPPP Amendments:

The Owner or Contractor must amend the SWPPP as necessary to include additional requirements, such as additional or modified BMPs that are designed to correct problems identified or address situations whenever:

- There is a change in design, construction, operation, maintenance, weather or seasonal conditions that has a significant effect on the discharge of pollutants to surface water or underground waters.
- Inspections or investigations by site owner or operators, USEPA or MPCA officials indicate the SWPPP is not effective in eliminating or significantly minimizing the discharge of pollutants to surface waters or underground waters or that the discharges are causing water quality standard exceedances.
- The SWPPP is not achieving the general objectives of minimizing pollutants in stormwater discharges associated with construction activity, or the SWPPP is not consistent with the terms and conditions of this permit.
- At any time after the permit coverage is effective, the MPCA deems necessary.

Construction Notes:

Construction shall be governed by MNDOT and City of Owatonna's Specifications, special provisions, amendments and the project specifications and detail plates. Permits and maps relating to this project's SWPPP can be found in the Project Manual. The Contractor shall keep the inspection and maintenance log and NPDES permit on-site at all times during active construction. Please refer to plans and specifications for additional SWPPP information.

Soil Compaction should be minimized and topsoil should be preserved whenever and wherever possible during construction.

All soil stock piling shall include sediment control devices and shall be placed in areas away from surface waters or natural buffers.

Special Water Impaired Water & TMDL Implementation Plans:

The site is located within 1 mile of an impaired water as identified by the MPCA. The site is located within 1 mile of Lake Winona, which requires additional BMPs for the Project. All disturbed areas not actively being worked must be stabilized within 7 days. The Owner is responsible for the long term maintenance of all infiltration basins and private storm sewer systems. Inlet protection, silt fences, final stabilization, and BMP's must be implemented prior to allowing any water runoff to be discharge off-site.

Calculations:

Area to be Disturbed = x AC

Pre-Construction Impervious Area = x.xx AC

Post-Construction Impervious Area = x.xx AC

Net Increase in Impervious Area = 0.xx AC

Sequence of Construction- NPDES Permit needed for this contract, requirements apply:

Contractor to verify that all applicable permits have been obtained and NPDES permit modification form has been submitted to MPCA prior to the start of construction.

- The Contractor must plan for and implement appropriate construction phasing, vegetation buffer strips, horizontal slope grading, and other construction practices that minimize erosion. The location of areas not to be disturbed are shown on Plans.
- The Contractor shall be responsible for full implementation of and maintenance required by the SWPPP Narrative until the Notice of Termination is approved by the MPCA.
- The Contractor shall construct Erosion and Sediment Control BMPs in the following construction sequence:
 - Install rock construction entrances where indicated in the Plans.
 - Install silt fence where indicated in the Plans.
 - Install silt fence around proposed infiltration and bioretention BMPs to protect soils from compaction.
 - Locate Portable toilets on flat surfaces away from drainage paths. Stake in areas susceptible to high winds.
 - Construct concrete washout area and provide signage
 - Establish Waste Control Areas
 - Construct temporary sediment basins where 5 acres or more drain to one location.
 - Construct diversions to sediment basins.
 - Rough Grade Site.
 - Leave disturbed area of site in a roughened condition to limit erosion. Temporarily stabilize areas that will be inactive for a period of 7 or more days.
 - Install storm drainage system and place inlet protection as each inlet is installed. Energy dissipation devices shall be in place and functional within 24 hours of connecting pipe outlets to surface waters.
 - Protect and repair BMPs, as necessary.
 - Perform street sweeping as needed.
 - Temporarily stabilize areas not to be actively worked.
 - Site construction (Paving, Sidewalks, Buildings, etc.)
 - Final Grading.
 - Final stabilization (seeding, planting). Stabilize soil with or sod or MNDOT Seed Mix 25-151 or 35-241
 - Remove temporary basins when permanent cover has reduced the acreage of disturbed soil to less than five (5) acres draining to a common location.
 - Construct stormwater infiltration basins & bioretention basins only when contributing drainage area has been constructed and fully stabilized.
 - Remove Erosion Control Devices upon site establishment in accordance with NPDES Notice of Termination.

Final Stabilization:

Final stabilization is not met until all of the following are completed.

- Stabilization by uniform perennial vegetative cover (70% density of it's expected final growth). Sod or MNDOT Seed Mixes 25-151 or 35-241 shall be used for final stabilization.
- Permanent stormwater management system is constructed, meets all requirements, and is operational.
- Drainage ditches fully stabilized.
- All temporary synthetic and structural BMPs are removed.
- Sediment from conveyance systems and sedimentation basins are cleaned out (returned to design capacity).
- Notice of Termination (NOT) is submitted to MPCA.

Erosion Control Maintenance and Inspection: BMP inspection and maintenance Responsible Party _____

- Inspect erosion control devices and provide routine maintenance as follows:
 - Inspect erosion control a minimum of once per week and after each rain event measuring 0.5 inches or more. Record inspections on MPCA inspection log sheet.
 - Records of each inspection and maintenance activity shall include:
 - Date and Time of Inspections
 - Name of person (s) conducting inspection
 - Findings of inspection, including recommendations for corrective actions
 - Corrective actions taken (including dates, times, and party completing maintenance activities.
 - Date and amount of all rainfall events greater than 0.5" in 24 hours
 - Documentation of changes made to the SWPPP as required by the NPDES General Stormwater Permit for Construction Activity
 - Inspections are not required where the ground is frozen.
 - Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, or by a weather station that is within one mile or by a weather reporting system.
 - any discharges that occur during the inspection (s) must be described in writing and photographed.
- Provide Maintenance for all devices as follows:
 - Silt fences and erosion control devices at storm sewer inlets shall be inspected for depth of sediment, tears, to see if fabric is securely attached to support posts or structure, and to see that posts and devices are securely in place.
 - Silt fences, erosion control devices at storm sewer inlets and other erosion control devices shall be cleaned when sediment reached 1/2 of the height of the erosion control device, within 24 hours.
 - Rock Construction Entrances shall be inspected for clogging of river rocker. River rock that has become clogged with sediment shall be removed and replaced with fresh river rock.
 - Repairs or replacement of all erosion control devices shall occur within 24 hours of discovery.
 - Temporary sediment basins shall be cleaned when sediment reached 1/2 of the outlet's height or half of the basins storage volume, the basin shall be drained and sediment removed within 72 hours.
 - Temporary diversion berms shall be inspected and any breaches promptly repaired.
 - Tracked sediment from construction vehicles onto public streets and paved areas (including paved areas on the construction site) shall be removed within 24 hours of discovery.
 - The bottom and side slopes of proposed storm water treatment basins shall be stabilized within 200 feet of property lines or point of discharges to any surface water, including: curb and gutter, pavement, storm sewer, swales, or other similar storm conveyance devices.
 - Removal of sediment and restabilization of surface waters shall be accomplished within 7 days of discovery.

Pollution Prevention Management Measures

- Storage, Handling, and Disposal of Construction Products, Materials and Wastes: The Contractor shall comply with the following to minimize the exposure to stormwater of any of the products, materials, or wastes/ Products or wastes which are either not a source of contamination to stormwater or are designed to be exposed to stormwater are not held to this requirement:
 - Building products that have the potential to leach pollutants must be under cover (e.g. plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by a similarly effective means designed to minimize contact with stormwater.
 - Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by similarly effective means designed to minimize contact with stormwater.
 - Hazardous materials, toxic waste, (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) must be properly stored in sealed containers to prevent spills, leaks or other discharge. Restricted access storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste or hazardous materials must be in compliance with Minn. R. Ch. 7045 including secondary containment as applicable.
 - Solid waste must be stored, collected and disposed of properly in compliance with Minn. R. ch. 7035.
 - Portable toilets must be positioned so far they are secure an will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. ch. 7041.
 - Fueling and Maintenance of Equipment or Vehicles/Spill Prevention and Response: The Contractor shall take reasonable steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any areas where chemicals or fuel will be loaded or unloaded including the use of drip pans or absorbents unless infeasible. The contractor must conduct fueling in a contained area unless infeasible. The Contractor must ensure adequate supplies are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials. The Contractor must report and clean up spills immediately as required by Minn. Stat. §115.061, using dry clean up measures where possible.
- Vehicle and Equipment Washing: If the Contractor washes the exterior of vehicles or equipment on the project site, washing must be limited to a defined area of the site. Runoff from the washing area must be contained in a sediment basin or other similarly effective controls an waste from the washing activity must be properly disposed of.
- The Contractor must properly use and store soaps, detergents, or solvents.
- No engine degreasing is allowed on site.
- Concrete and other washouts waste: The Contractor must provide effective containment for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds and other construction materials) related to the construction activity. The liquid and solid washout wastes must not contact the ground, and the containments must be designed so that it does not result in runoff from the washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA rules. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

Dewatering and Basin Draining:

Dewatering or basin draining that may have turbid or sediment laden discharge water must be discharged to a temporary or permanent sedimentation basin on the project site whenever possible. Discharge from the temporary or permanent sedimentation basin must be visually checked to ensure adequate treatment is obtained in the basin and nuisance conditions, impacts to wetlands, and erosion in receiving channels or on downslope properties will not result from the discharge. Adequate sedimentation control measures are required for discharge water that contains suspended solids.

If using filters with backwash water, either haul the backwash water away for disposal, return the backwash water to the beginning of the treatment process, or incorporate the backwash water into the site in a manner that does not erode into runoff.

Timing of BMP Installation:

The Erosion and Sediment Control BMPs shall be installed as necessary to minimize erosion from disturbed surfaces and capture sediment on site and shall meet the NPDES permit Part IV construction activity requirements. Perimeter controls shall be placed prior to the start of any construction. All disturbed areas not actively being worked must be stabilized within 7 days.

Storm Water Pollution Prevention Plan:

The Permittees must implement the entire SWPPP and the requirements of the NPDES permit. The BMPs identified in the SWPPP and in the permit must be selected, installed and maintained in an appropriate and functional manner that is in accordance with manufacturer specifications and accepted engineering practices.

Temporary Sediment Basins:

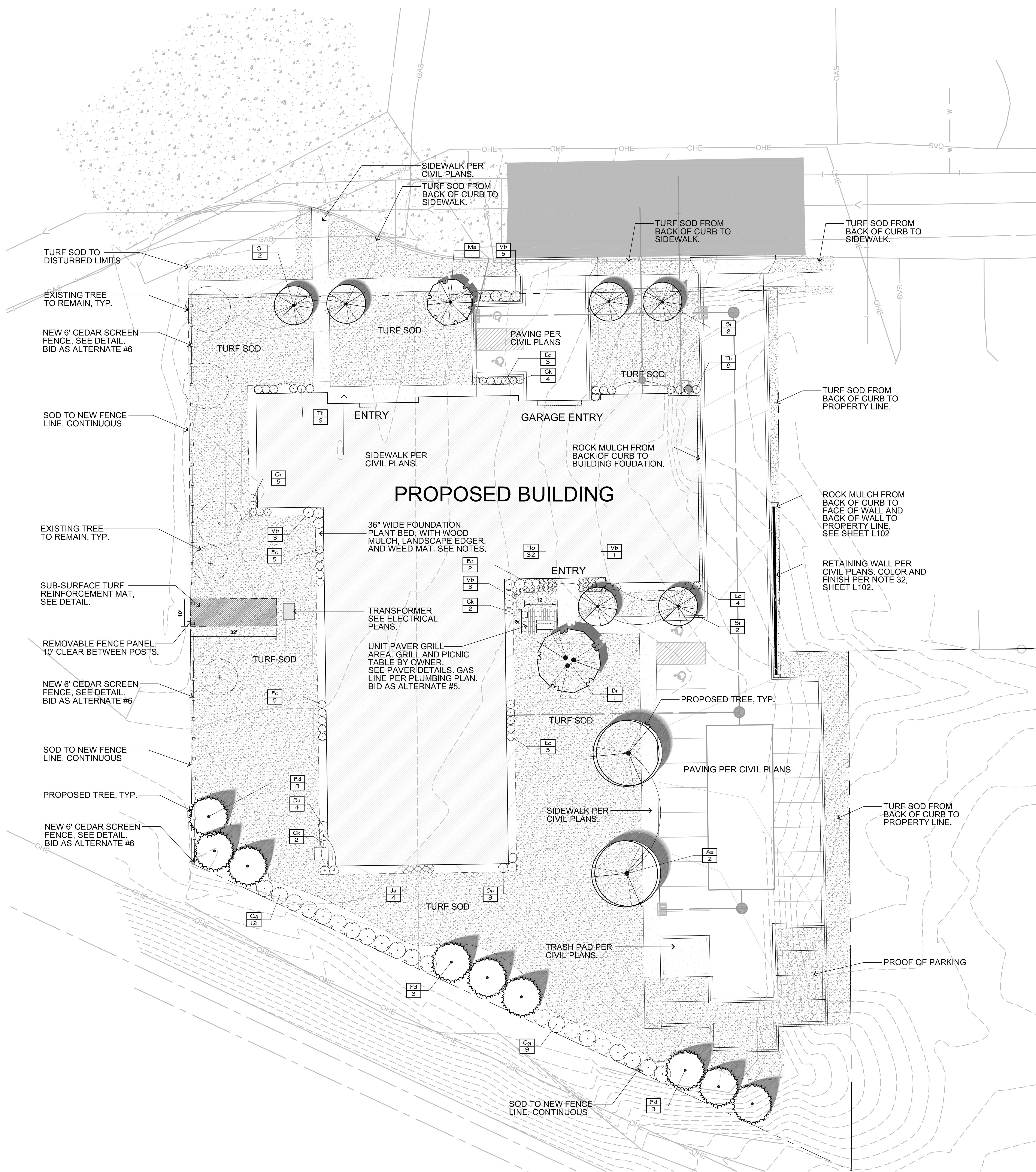
Project is not required to provide Temporary Sediment Basins for construction.

Future Operation and Maintenance (O&M):

The owner shall be responsible for performing future operations and maintenance of the permanent stormwater management systems on the property.

CONTACTS		
AGENCY	NAME	PHONE NUMBER
County	_____	xxx-xxx-xxxx
DNR Waters	Janel Hensch	(218) 739-7238 ext. 232
ACCE	St. Paul Office	(651) 292-5375
State Duty Officer	MPCA	(800)422-0798
SWPPP Designer	Mike Gerber, PE	(320) 227-0202
Erosion Control Review	Jeremy E. Anderson, PE	(320) 762-1269 ext. 104
Erosion Control Supervisor	TBD	

LOCATION OF SWPPP REQUIREMENTS		
DESCRIPTION	TITLE	SHEET # OR SPECIFICATION SECTION
RECEIVING SURFACE WATER	City of Owatonna Storm Sewer	C300
Final Stabilization	Erosion Control Plan	C400
Drainage Plans	Site Grading and Utility Plan	C200 & C300
Drainage Details	Details	C300-C303
Erosion Control Sheets	Erosion Control Plan	C400
Erosion Control Details	Details	C503
Erosion & Sediment Control Quantities	Erosion Control Plan	C400
Existing & Proposed Drainage Maps	Final Stormwater Management Study	Project Manual



Landscape Legend:

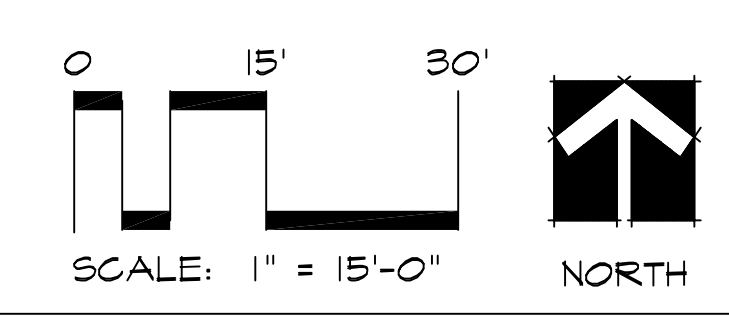
- Proposed Building
- New Turf Sod
- Existing Tree To Remain
- Landscape Edging
- Proposed Wood Privacy Fence Bio As Alternate #6

PLANT SCHEDULE: BASE-BID

DECIDUOUS TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	As	Acer x freemanii 'Sienna'	Sienna Glen Maple	2.5' Cal.	B&B	4
	Br	Betula nigra	River Birch	6' Hgt.	B&B	1
EVERGREEN TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	Pd	Picea glauca 'Densata'	Black Hills Spruce	6' Hgt.	B&B	9
FLOWERING TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	Ms	Malus x 'Spring Snow'	Spring Snow Crab Apple	2' Cal.	B&B	7
	Sl	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	2' Cal.	B&B	10
SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	DI	Diervilla lonicera	Dwarf Bush Honeysuckle	3 gal. (Min. 18" Height)	Pot	3
	Ec	Euonymus fortunei 'Canadale Gold'	Canadale Gold Euonymus	3 gal. (Min. 18" Height)	Pot	30
	Ja	Juniperus sabinna 'Arcadia'	Arcadia Juniper	3 gal.	Pot	29
	Sa	Spiraea x bumalda 'Anthony Waterer'	Anthony Waterer Spiraea	3 gal. (Min. 18" Height)	Pot	11
	Th	Taxus x media 'Huber's Tawny Gold'	Huber's Tawny Gold Spreading Yew	3 gal.	Pot	17
	Vb	Viburnum trilobum 'Bailey Compact'	Compact American Cranberry Bush	5 gal. (Min. 18" Height)	Pot	12
ANNUALS/PERENNIALS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	Ck	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	1 gal.	Pot	17
	Ho	Hemerocallis x 'Stella de Oro'	Stella de Oro Daylily	1 gal.	Pot	32
GROUND COVERS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	Pa2	Poa pratensis 'Admiral'	Kentucky Bluegrass	sod		27,910 sf

General Notes:

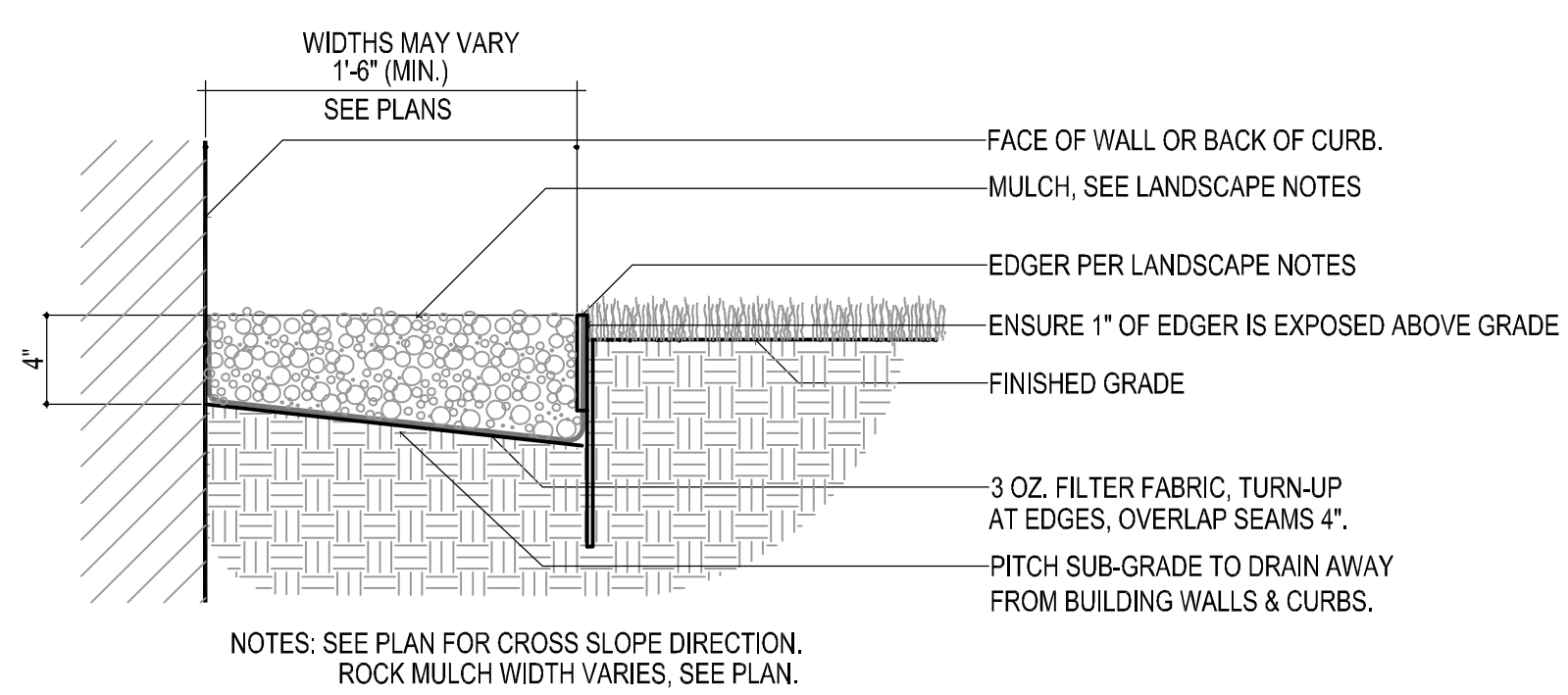
- The removal, pruning, and/or planting of trees in the public boulevard requires an approved permit from the City Forester's Office. Any work must be completed by a licensed tree contractor.
- See Civil Engineer's plans for site plan layout and dimensions.
- Contractor to coordinate any work in the city right-of-way with City of Owatonna Public Works Department.
- Expose root flare and set at-grade.
- The contractor is responsible to maintain trees in a plumb position throughout the maintenance period.
- Remove the burlap and ropes from the top 1/3 of the root ball, cut wire basket down to the second horizontal wire from the bottom, and dispose of off-site.
- Refer to Sheet L102 for Landscape Details, Notes, & Schedules.
- Refer to Sheet L103 for Landscape Alt Bid Plant Materials Layout and Plant List.



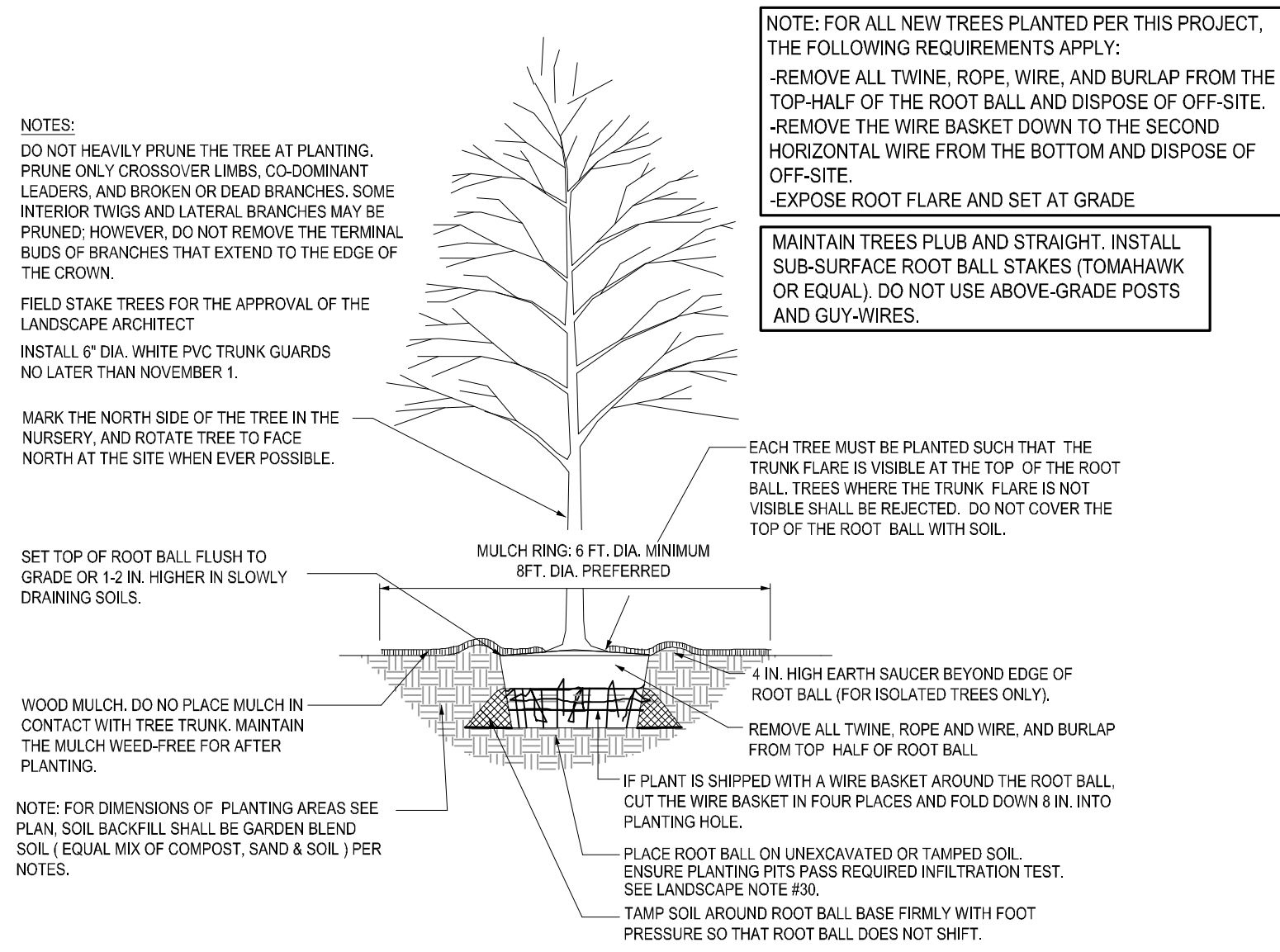
**PRELIMINARY
NOT FOR CONSTRUCTION**

REVISION SCHEDULE

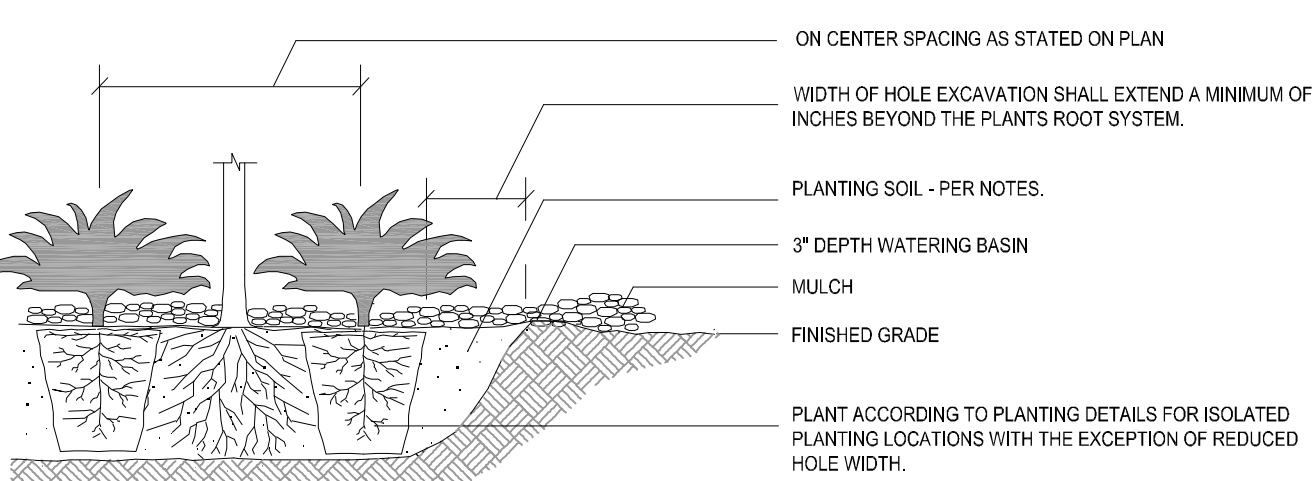
NO.	DESCRIPTION	DATE



1 PLANT BED EDGE DETAIL
NOT TO SCALE



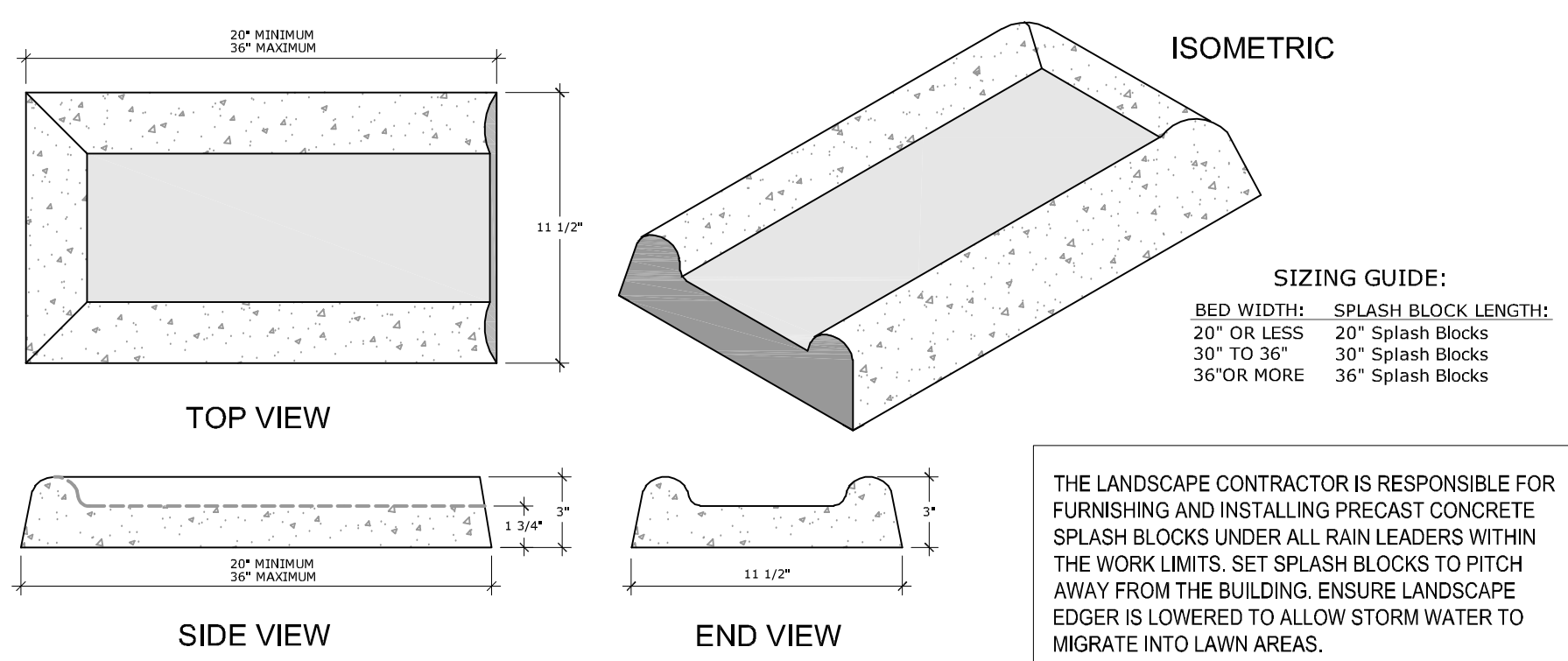
2 DECIDUOUS TREE PLANTING - SECTION
NOT TO SCALE



3 TYP. SHRUB PLANTING - SECTION
NOT TO SCALE



4 TYP. PERENNIAL PLANTING - SECTION
NOT TO SCALE



6 PRECAST CONCRETE SPLASH BLOCK DETAIL
NOT TO SCALE

Landscape Notes and Requirements:

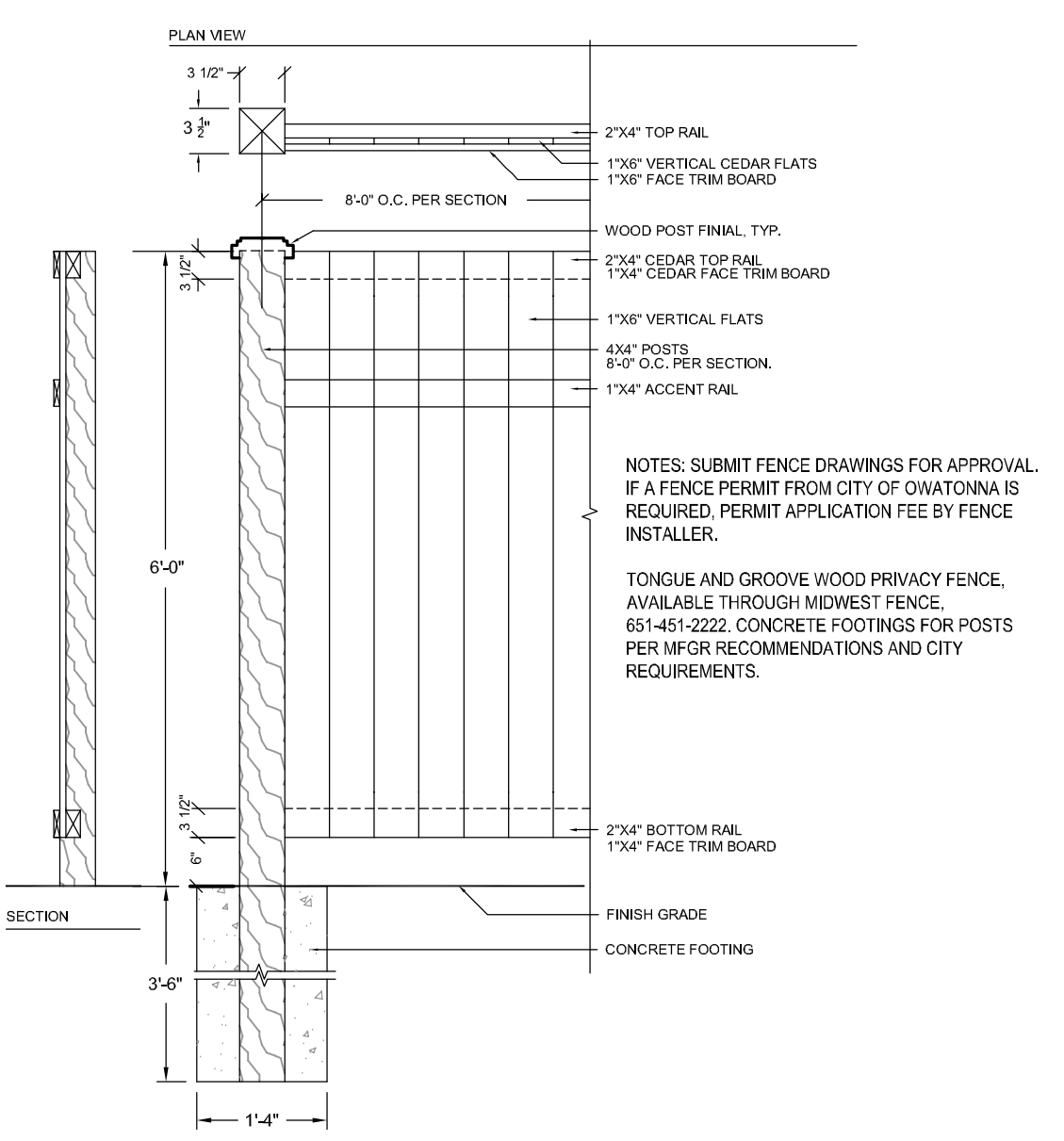
- Tree saucer for individual trees outside of a plant bed to be four inches (4") depth natural single-shred hardwood mulch for trees outside of a plant bed. Install per tree planting detail. Do not place mulch against tree trunk. Remove wire and burtap from top third of root ball before final soil back-fill and mulch.
- Refer to architectural plans for spot elevations, drainage, site dimensions, survey, tree removal, proposed utilities & erosion control.
- All plant material shall comply with the latest edition of the American Standard for Nursery Stock, American Association of Nurserymen. Unless noted otherwise, deciduous shrubs shall have at least 5 canes at the specified shrub height. Plant material shall be delivered as specified.
- Plan takes precedence over plant schedule if discrepancies in quantities exist.
- All proposed plants shall be located and staked as shown.
- Adjustment in location of proposed plant material may be needed in field. Should an adjustment be required, the client will provide field approval. Significant changes may require city review and approval.
- The project landscape contractor shall be held responsible for watering and properly handling all plant materials brought on the site both before and after installation. Schedule plant deliveries to coincide with expected installation time within 36 hours. Install plants and sod between April 15 and June 15 or between September 15 and October 30.
- The landscape contractor shall provide the owner with a watering schedule appropriate to the project site conditions and to plant material growth requirements.
- If the landscape contractor is concerned or perceives any deficiencies in the plant selections, soil conditions, drainage or any other site condition that might negatively affect plant establishment, survival or guarantee, they must bring these deficiencies to the attention of the landscape architect & client prior to bid submission. Plant bed drainage concerns during plant installation shall be brought to the attention of the Owner and General Contractor immediately.
- Contractor shall establish to his/ her satisfaction that soil and compaction conditions are adequate to allow for proper drainage at and around the building site.
- Contractor is responsible for ongoing maintenance of all newly installed material until time of owner acceptance. Any acts of vandalism or damage which may occur prior to owner acceptance shall be the responsibility of the contractor. Contractor shall provide the owner with a maintenance program including, but not limited to, pruning, fertilization and disease/pest control.
- The contractor shall guarantee newly planted material through TWO calendar years from the date of written owner acceptance. Plants that exhibit more than 50% die-back damage shall be replaced at no additional cost to the owner. The contractor shall also provide adequate tree wrap and deer/rodent protection measures for the plantings during the warranty period. Prune dead wood at 11 month and 22 month warranty review periods - use wound paint on trees.
- This layout plan constitutes our understanding of the landscape requirements listed in the ordinance. Changes and modifications may be requested by the city based on applicant information, public input, council decisions, etc.
- The landscape contractor shall be responsible for obtaining any permits and coordinating inspections as required throughout the work process.
- Plant size & species substitutions must be approved in writing prior to acceptance in the field.

- Irrigation: A new irrigation system is required. Irrigation contractor to provide a cost for a new commercial-grade irrigation system, including sleeving under pavement to parking islands. Verify water service pressure and check local codes regarding building connection for irrigation. Irrigation contractor is to submit a proposed irrigation layout plan that utilizes a new connection in the proposed building mechanical room. Install controller, rain sensor, and plumbing connections to meet current plumbing code. Ensure head-to-head coverage of all turf and planted areas. Use commercial irrigation equipment with fully adjustable stream rotor and spray heads (see spec). Submit equipment cut sheets for approval. Coordinate as-needed sleeving under paving with excavation sub-contractor. Coordinate plumbing requirements with mechanical contractor. Ensure irrigation system is installed and functioning prior to installation of landscape materials. For newly landscaped areas not irrigated, the landscape contractor is responsible for watering and maintaining new plants and turf until establishment, through use of temporary irrigation, tree watering bags, watering truck, etc.
- Unless otherwise noted, all edger shall be professional grade 1/2" thick black steel edger, Ryerson or Equal. Anchor every 18" on-center (minimum). Where noted, edger shall be professional grade 5.5" black poly edger with 1" bullnose. Anchor every 18" on-center (minimum). Submit edger sample for Owner approval.
- Landscape Contractor is responsible for coordination with the General Contractor, to protect the new improvements on and off-site during landscape work activities. Report any damage to the General Contractor immediately.

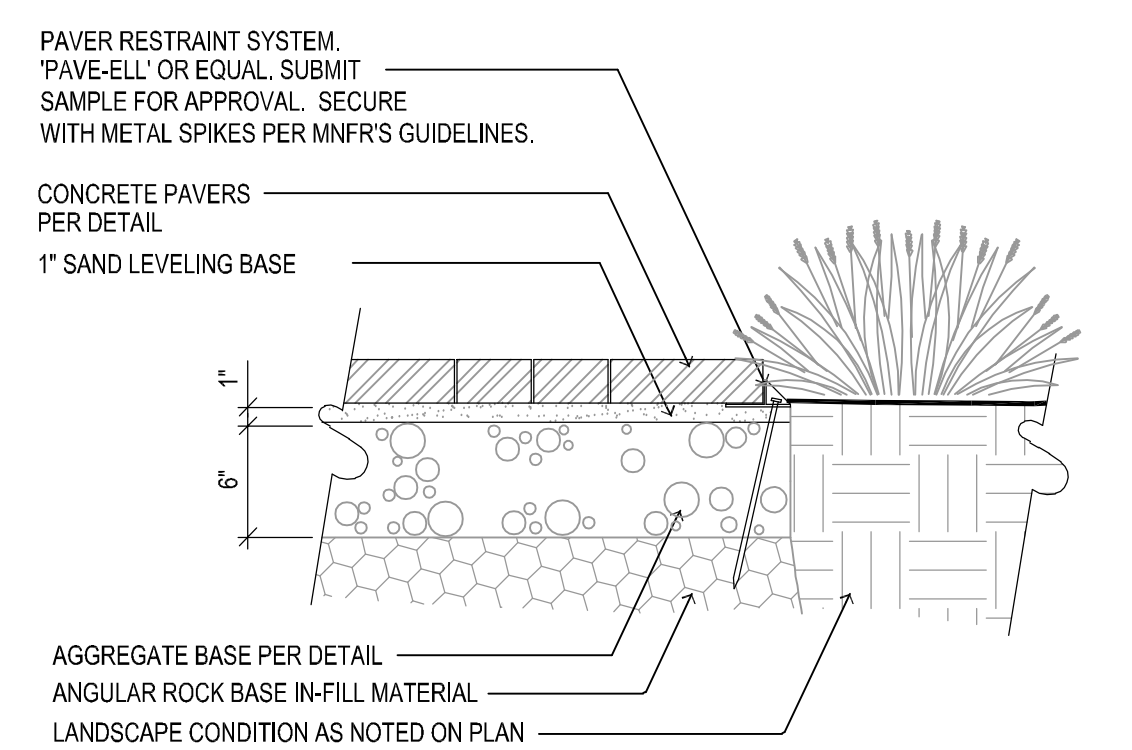
- Unless otherwise noted/indicated, plant beds shall receive rock mulch over 3oz spun fabric (free-draining) weed mat. Submit mulch sample for Owner approval.
- Mulch: unless otherwise noted/indicated, plant beds shall receive 4" depth locally available 3/4" dia. limestone rock mulch, over weed mat. Submit mulch sample for Owner approval. Bryan Rock or Equal. Install rock mulch 1" below back of curbs or walks to prevent spill-over. Do not mound rock mulch. Coordinate finished grade condition with earthwork subcontractor. Where noted, wood mulch areas shall be 4" depth of single-shred hardwood mulch over fabric weed mat. Do not install weed mat under perennials, with the exception of ornamental grasses. Submit mulch sample for Owner approval
- All planting, seeding, and sodded areas shall be prepared prior to installation activities with a harley power box rake or equal to provide a firm planting bed free of stones, sticks, construction debris, etc. Unless otherwise noted, fine grading (within 4" of set grade) shall be by the Landscape Contractor, including topsoil.
- Turf Sodding activity shall conform to all rules and regulations as established in the MnDOT Seeding Manual, 2014 edition, for seed bed preparation, installation, maintenance, acceptability, and warranty.

- The Landscape Contractor shall furnish samples of all landscape materials for approval prior to installation.
- The Landscape Contractor shall clear and grub the underbrush from within the work limits to remove dead branches, leaves, trash, weeds and foreign materials.
- The landscape contractor shall contact Gopher State One Call no less than 48 hours before digging for field utility locations.
- The landscape contractor shall be responsible for the removal of erosion control measures once vegetation has been established to the satisfaction of the municipal staff. This includes silt curtain fencing and sediment logs placed in the landscape.
- The landscape contractor shall be responsible for visiting the site to become familiar with the conditions prior to bidding and installation. Coordinate with the general contractor on matters such as fine grading, landscaped area conditions, staging areas, irrigation connection to building, etc.
- See architectural site plan for additional information regarding the project, including sub-surface drainage requirements and performance.
- Topsoil Requirements: All graded areas of the site that are designated on the plan set for turf sod shall have no less than 6" of imported top soil, areas designated for shrubs, trees, and perennials shall have no less than 12" of imported top soil, meeting MnDOT classifications for planting soil for trees, shrubs, and turf. Slope away from building.

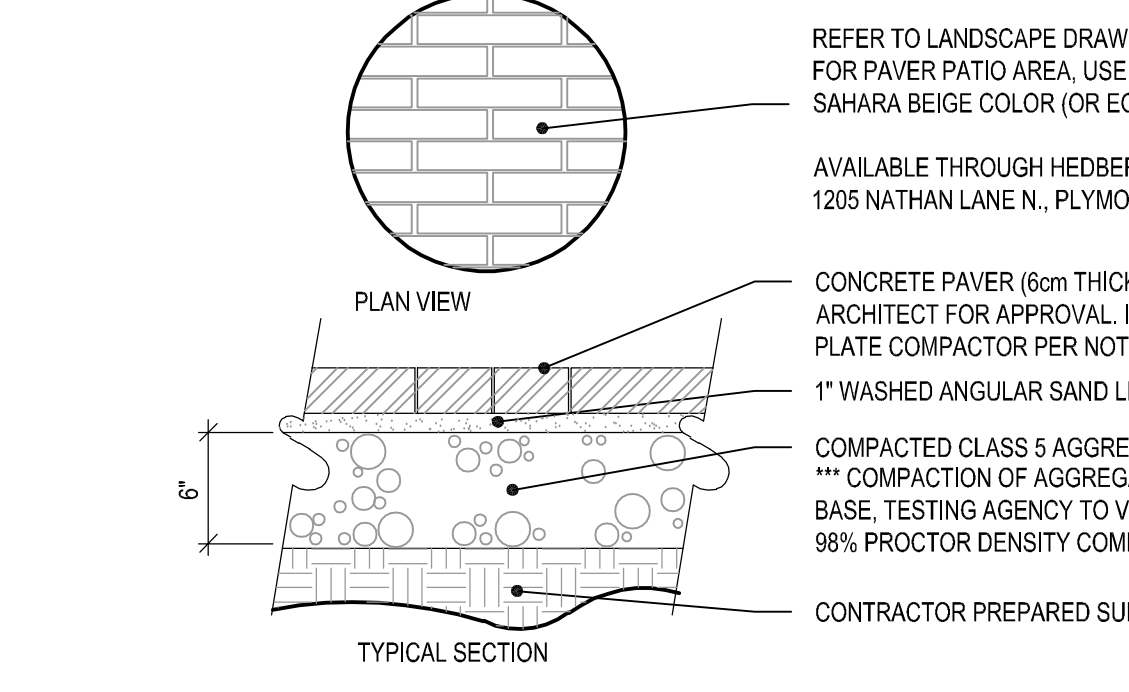
- Landscape contractor must prove the open sub-grade of all planting areas after their excavation is capable of infiltrating a minimum requirement of 1/4-inch of water per hour prior to installation of plant materials, topsoil, irrigation, weed mat, and mulch. Planting areas not capable of meeting this requirement shall have 4" diameter X 48" depth holes augured every 36" on-center and filled with MnDOT Free-Draining Coarse Filter Aggregate. Re-test sub-grade percolation for compliance to infiltration minimum requirement.
- Landscape contractor to provide nursery pool list (bill of lading) including plant species and sizes shipped to the site. Additionally, the landscape contractor shall provide nursery stock traceability, proving none of the materials provided contain or are genetic strains of the neonicotinoid family including acetamiprid, clothianidin, imidacloprid, nitenpyram, nithiazine, thiacloprid and thiamethoxam.
- Retaining wall engineering by others. Unless otherwise noted, retaining wall block to be County Materials Co., 'County Block', Split-Face in Buff. Submit engineered wall drawings to Civil Engineer for review and approval. Include cap blocks and pre-manufactured corner units of matching finish and color. Install per manufacturer's guidelines.



7 6' CEDAR PRIVACY FENCE DETAIL Bid As Alternate #6
NOT TO SCALE



8 PAVER EDGE RESTRAINT DETAIL Bid As Alternate #5
NOT TO SCALE



9 UNIT PAVER INSTALLATION DETAIL Bid As Alternate #5
NOT TO SCALE

Irrigation Performance Requirements:

- IRRIGATION SYSTEM SHOULD AVERAGE 40(+/-) PSI AT THE BASE OF ALL SPRINKLER HEADS. NOTIFY LANDSCAPE ARCHITECT IF EXISTING PRESSURE DIFFERS. BUILDING PRESSURE IS NOT KNOWN.
- IRRIGATION CONTRACTOR TO PREPARE FULL IRRIGATION LAYOUT PLANS FOR LANDSCAPE ARCHITECT'S REVIEW. LAYOUT WORK AS ACCURATELY AS POSSIBLE. THE CONTRACTOR MAY MAKE MINOR ADJUSTMENTS TO THE LOCATION AND SPACING AS NECESSARY TO ACCOMMODATE ACTUAL FIELD CONDITIONS. HEAD LOCATIONS SHALL BE FLAGGED AND REVIEWED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- COORDINATE SLEEVING AND IRRIGATION PIPE / HEAD / INTERNAL PLUMBING INSTALLATION WITH THE WORK OF OTHERS.
- ALL MATERIALS SHALL BE INSTALLED AS DETAILED ON DRAWINGS. (HOWEVER, IF THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS DO NOT THOROUGHLY DESCRIBE THE METHOD OR TECHNIQUES TO BE USED, THE CONTRACTOR SHALL FOLLOW THE INSTALLATION METHODS ISSUED BY THE MANUFACTURER. ALL SUCH LITERATURE MUST BE SUBMITTED 48 HOURS PRIOR TO INSTALLATION FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.)
- CHECK AND VERIFY ALL EXISTING AND PROPOSED SITE CONDITIONS, UTILITIES, AND SERVICES PRIOR TO TRENCHING.
- LATERAL PIPING TO BE A MINIMUM OF 12 INCHES DEEP AND MAINLINES A MINIMUM OF 18 INCHES DEEP.
- ALL MAIN LINE PIPING AND LATERAL PIPE OF 1-1/2" AND LARGER SHALL BE PVC (SDR 26 / CLASS 160), HOWEVER THE IRRIGATION FEED FROM THE BUILDING INTO THE LANDSCAPE SHALL BE COPPER. ALL OTHER LATERAL PIPE OF 1-1/4" AND SMALLER MAY BE POLYETHYLENE.
- ALL TEES AND ELBOWS SHALL BE PVC (160 PSI), INCLUDE THRUST BLOCKING AT TEE AND ELBOW POINTS.
- ALL SPRINKLERS SHALL BE AS NOTED ON DETAIL & SPECIFICATION.
- ADJUST HEADS FOR GRADE, AS NECESSARY. AFTER TURF GRASS HAS BEEN ESTABLISHED AND ALL SETTLEMENT AT HEADS HAS OCCURRED.
- ALL AUTOMATIC CONTROLLERS, RISERS, BACKFLOW PREVENTERS AND HOSE BIBS SHALL BE SET PLUMB. SPRINKLER HEAD RISERS, QUICK COUPLER VALVES AND ALL VALVES WITH STEMS SHALL BE SET PERPENDICULAR TO FINISHED GRADE.
- CONTROL VALVE WIRES, INCLUDING THE GROUND WIRE, SHALL BE #12 GAUGE U.F.U.L. APPROVED DIRECT BURIAL. UNDERGROUND CONNECTIONS SHALL BE MADE WITH 3-M WIRE CONNECTORS (DBY) OR APPROVED EQUAL.
- TRACER-WIRE IS TO BE PLACED OVER ALL MAIN AND LATERAL LINES.
- PLACE ALL VALVES IN APPROVED VALVE BOXES.
- USE TEFLON TAPE ON ALL THREADED JOINTS.
- BRAND EACH VALVE BOX WITH 2" HIGH LETTERING SHOWING ZONE NUMBER AND CONTROLLER LETTER (EXAMPLE 'A3'). THIS STAMP IS TO MATCH THE ZONE SHOWN ON THE PLAN UNLESS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT.
- CONDUCT PERFORMANCE TEST IN THE PRESENCE OF OWNER AND LANDSCAPE ARCHITECT FOLLOWING COMPLETION OF SYSTEM INSTALLATION.
- CONDUCT AND DEMONSTRATE WINTERIZATION AND SPRING START-UP PROCESS TO OWNER IN THE FALL OF COMPLETION.
- LANDSCAPE ARCHITECT SHALL BE NOTIFIED TO VERIFY TRENCH DEPTHS BEFORE BACKFILLING.
- IRRIGATION CONTRACTOR TO COORDINATE MECHANICAL ROOM WATER CONNECTION POINT WITH MECHANICAL ENGINEER AND PLUMBING CONTRACTOR.
- AFTER INSTALLATION OF DRIP IRRIGATION PIPE IS COMPLETE AND PRIOR TO SODDING OR MULCH INSTALLATION, THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT TO REVIEW THE INSTALLATION OF THE DRIP IRRIGATION SYSTEM.
- LANDSCAPE CONTRACTOR TO ADJUST HEADS IN THE FIELD TO ENSURE WATER DOES NOT SPRAY THE BUILDING FACE OR PAVED AREAS.
- COORDINATE LOCATION OF ROOFTOP-MOUNTED ATMOSPHERIC MOISTURE (RAIN) SENSOR WITH OWNER AND ARCHITECT.
- COORDINATE LOCATION OF SLEEVING UNDER PAVED AREAS WITH GENERAL CONTRACTOR, EARTHWORK, AND PAVING SUB-CONTRACTORS.
- SUBMIT LAYOUT PLAN AND PRODUCT DATA TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- IRRIGATION BID SHALL INCLUDE (1) FALL SHUT-DOWN AND (1) SPRING START-UP (SPRING OF THE YEAR FOLLOWING INSTALLATION).
- THIS PROJECT WILL USE HUNTER COMMERCIAL IRRIGATION PRODUCTS.
- PROVIDE THE OWNER WITH MANUFACTURER'S INSTRUCTION MANUAL FOR CONTROLLER. POST IRRIGATION ZONE LAYOUT MAP AT 8"x10" NEXT TO THE CONTROLLER FOR REFERENCE.
- PROVIDE THE OWNER WITH AN AS-BUILT PLAN (PAPER AND CAD .DWG) UPON COMPLETION OF INSTALLATION.

General Notes:

- The removal, pruning, and/or planting of trees in the public boulevard requires an approved permit from the City Forester's Office. Any work must be completed by a licensed tree contractor.
- See Civil Engineer's plans for site plan layout and dimensions.
- Contractor to coordinate any work in the city right-of-way with City of Owatonna Public Works Department.
- Expose root flare and set at-grade.
- The contractor is responsible to maintain trees in a plumb position throughout the maintenance period.
- Remove the burlap and ropes from the top 1/3 of the root ball, cut wire basket down to the second horizontal wire from the bottom, and dispose of off-site.
- Refer to Sheet L101 for Base Bid Landscape Layout Plan.
- Refer to Sheet L103 for Alt Bid Landscape Layout Plan.



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REVISION SCHEDULE

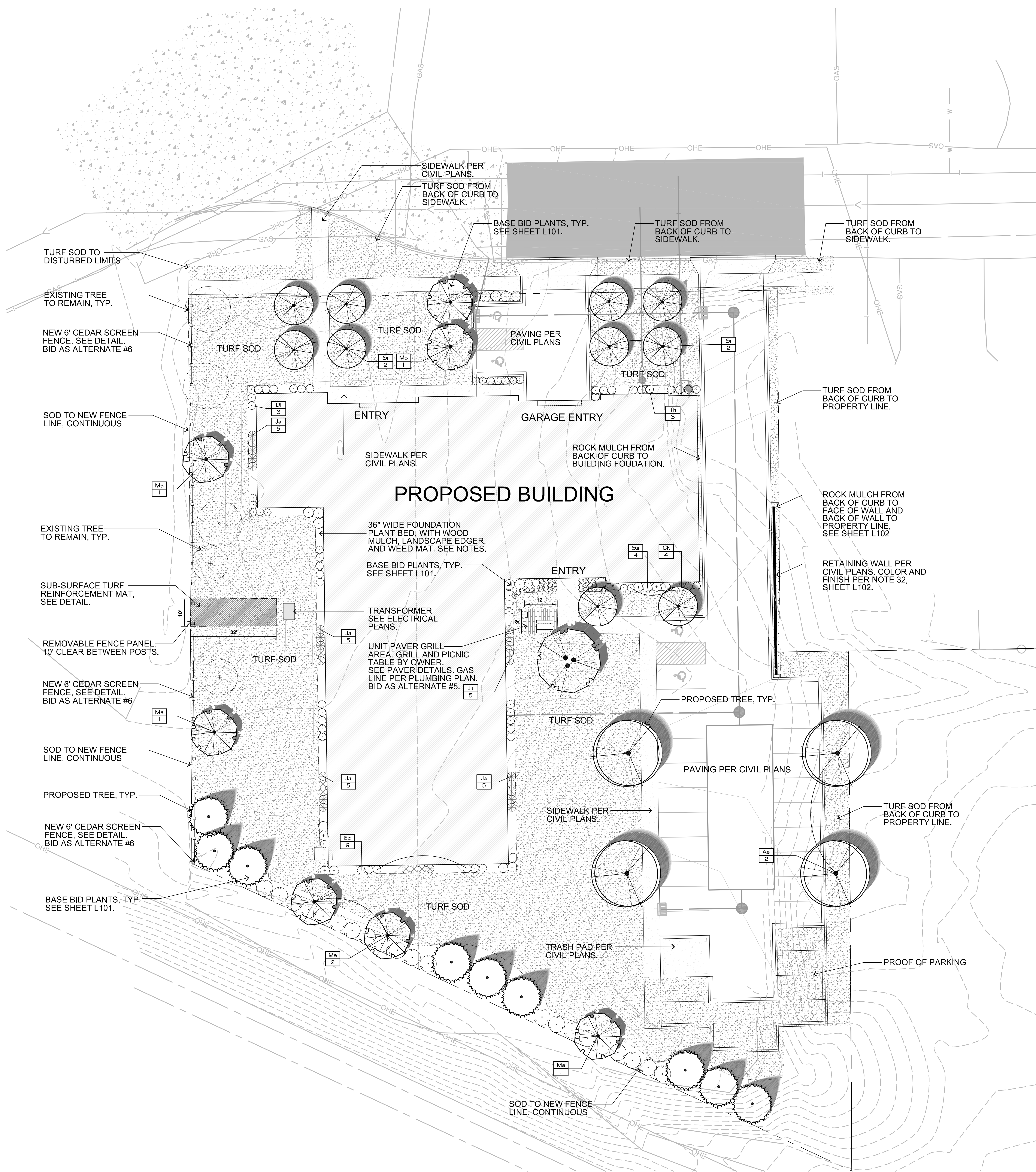
NO.	DESCRIPTION	DATE

LWO DEVELOPMENT, LLC
EASTGATE APARTMENTS
OWATONNA, MN

DATE
04/27/2020
PHASE
100% DESIGN DEVELOPMENT
PROJECT
18126
SHEET
L102
LANDSCAPE DETAILS



CONTRACTORS ARE RESPONSIBLE FOR OBTAINING UTILITY LOCATES. INCLUDE PRIVATE UTILITIES SUCH AS PHONE AND CABLE. CALL NO LESS THAN 48 HOURS IN ADVANCE.



Landscape Legend:

- Proposed Building
- New Turf Sod (Base Bid)
- Existing Tree To Remain
- Landscape Edging (Base Bid)
- Proposed Privacy Fence Bid As Alternate #6

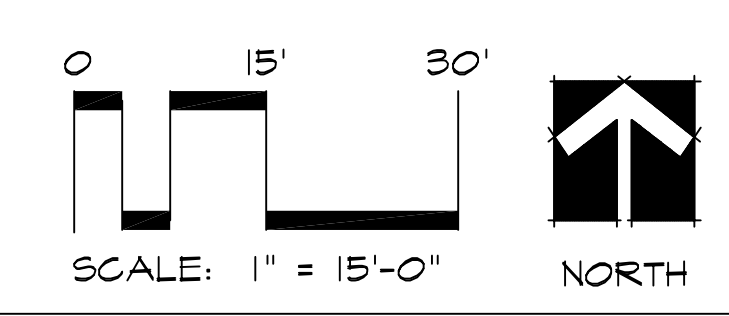
PLANT SCHEDULE: ALT-BID

DECIDUOUS TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	As	Acer x freemanii 'Sienna'	Sienna Glen Maple	2.5" Cal.	B&B	2
FLOWERING TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	Ms	Malus x 'Spring Snow'	Spring Snow Crab Apple	2" Cal.	B&B	6
	Si	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	2" Cal.	B&B	4
SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	DI	Diervilla lonicera	Dwarf Bush Honeysuckle	3 gal. (Min. 18" Height)	Pot	3
	Ec	Euonymus fortunei 'Canadale Gold'	Canadale Gold Euonymus	3 gal. (Min. 18" Height)	Pot	6
	Ja	Juniperus sabinna 'Arcadia'	Arcadia Juniper	3 gal.	Pot	25
	Sa	Spiraea x bumalda 'Anthony Waterer'	Anthony Waterer Spiraea	3 gal. (Min. 18" Height)	Pot	4
	Th	Taxus x media 'Huber's Tawny Gold'	Huber's Tawny Gold Spreading Yew	3 gal.	Pot	3
ANNUALS/PERENNIALS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	Ck	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	1 gal.	Pot	4

NOTE: BID ADDITIONAL LANDSCAPE MATERIALS AS ALTERNATE #4

General Notes:

- The removal, pruning, and/or planting of trees in the public boulevard requires an approved permit from the City Forester's Office. Any work must be completed by a licensed tree contractor.
- See Civil Engineer's plans for site plan layout and dimensions.
- Contractor to coordinate any work in the city right-of-way with City of Owatonna Public Works Department.
- Expose root flare and set at-grade.
- The contractor is responsible to maintain trees in a plumb position throughout the maintenance period.
- Remove the burlap and ropes from the top 1/3 of the root ball, cut wire basket down to the second horizontal wire from the bottom, and dispose of off-site.
- Refer to Sheet L102 for Landscape Details, Notes, & Schedules.
- Refer to Sheet L101 for Landscape Base Bid Plant Materials Layout and Plant List.



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REVISION SCHEDULE

NO.	DESCRIPTION	DATE