



**SITE DATA**

OWNER: NC STATE PORTS AUTHORITY  
 2202 BURNETT BLVD.  
 WILMINGTON, NC 28402  
 LEGAL DESCRIPTION : (258.11AC) BLK 49 SUMMER HILL/PT  
 CENTRAL BLV & PT POLK ST  
 PROPERTY ADDRESS : 1 SHIPYARD BOULEVARD  
 PROPERTY AREA = 258.11 ACRES  
 PWCS PROJECT (LEASED) AREA = 6.72 ACRES  
 PROPERTY ADDRESS : 1 SHIPYARD BLVD. (INDUSTRIAL RD IN PORT OF WILMINGTON)  
 PIN # R05908-003-002-000  
 DEED BOOK 5005 PAGE 2626  
 ZONING = IND (HEAVY INDUSTRIAL DISTRICT)  
 CAMA LAND USE CODE = URBAN  
 PROJECT PRINCIPAL USAGE = SINGLE STORY WAREHOUSE  
 PROJECT PROPOSED BUILDING AREA = 101,537 SF  
 BUILDING CONSTRUCTION TYPE = II-B

**DIMENSIONAL REQUIREMENTS**

MIN. LOT AREA ..... NONE  
 MIN. LOT WIDTH ..... NONE  
 MAX. LOT COVERAGE ..... N/A  
 MIN. FRONT SETBACK ..... 50' ..... 879' PROPOSED  
 MIN. REAR SETBACK ..... 0'  
 MIN. SIDE SETBACK ..... 0'  
 MIN. INTERIOR LOT SETBACK ... 0'  
 MIN. CORNER LOT SETBACK ... 50' ..... 895' PROPOSED  
 BUILDING HEIGHT ... 35' - MAX. 150' ..... 59'6" PROPOSED

**OFF STREET LOADING REQUIREMENTS**

MIN. 4 LOADING SPACES PER 100,000 SF  
 + 1 LOADING SPACE PER ADDITIONAL 100,000 SF  
 TOTAL LOADING SPACES REQUIRED = 4  
 LOADING SPACES PROVIDED = 11

**OFF STREET PARKING REQUIREMENTS**

MIN. SPACE SIZE = 8.5' WIDE x 18' LONG  
 NUMBER OF SPACES REQUIRED = N/A  
 SPACES PROVIDED = 60 - 9x18' SPACES  
 + 3 - HANDICAPPED SPACES  
 63 - TOTAL SPACES

EXIST PROJECT IMPERVIOUS AREA ..... 282,941 SF = 96.6%  
 EXIST PROJECT PERVIOUS AREA ..... 9,888 SF

PROPOSED EXIST IMPERVIOUS DEMO ..... 146,802 SF

PROPOSED IMPERVIOUS  
 BUILDING AREA ..... 101,791 SF = 34.7%  
 CONC. .... 27,061 SF  
 ASPHALT ..... 17,950 SF  
 TOTAL PROPOSED ..... 146,802 SF  
 EXIST IMPERVIOUS TO REMAIN ..... 136,139 SF  
 TOTAL IMPERVIOUS ..... 282,941 SF = 96.6%

- NO WETLANDS HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA
- NO HISTORIC OR ARCHAEOLOGICAL SITES HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA
- NO TREES EXIST WITHIN PROJECT AREA
- PROJECT SITE'S USGS SOIL TYPES = (Ur) URBAN LAND
- FEMA 100 YEAR FLOOD ELEVATION = 9.0
- FIRM MAP #3720311600K PANEL 3116 DATED JUNE 2, 2006
- WATER SYSTEM OWNER: NC STATE PORTS AUTHORITY  
 EXISTING WATER USE = 0  
 PROPOSED WATER USE = 20 GPM
- SANITARY SEWER SYSTEM OWNER: NC STATE PORTS AUTHORITY  
 EXISTING SEWER USE = 0  
 PROPOSED SEWER USE = 20 GPM

**GENERAL NOTES**

- THE PORT HAS MADE ALL POSSIBLE ATTEMPTS TO LOCATE EXISTING UTILITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD-VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION BY OBSERVATION, ELECTRONIC DEVICES, HAND DIGGING AND PERSONAL CONTACT WITH THE UTILITY COMPANIES AND THE PORT'S UTILITY DEPARTMENT. NOTIFY THE PORT OF ANY CONFLICTS OR ANY DAMAGE TO UTILITIES INCURRED DURING CONSTRUCTION. DAMAGE IS THE RESPONSIBILITY OF THE CONTRACTOR AND WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR IS RESPONSIBLE FOR FINES OR LOST SERVICE REVENUE. CONTACT "CAROLINA ONE CALL" (1-800-632-4949) AND AFFECTED UTILITY OWNERS.
- THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIARIZED WITH EXISTING CONDITIONS BOTH ON AND IMMEDIATELY ADJACENT TO THE SITE.
- ALL MATERIALS AND CONSTRUCTION PRACTICES ARE TO IN ACCORDANCE WITH THE CURRENT CITY OF WILMINGTON AND NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. (2012)
- MUCKING: CONTRACTOR SHALL COORDINATE WITH OWNER AND CONTRACTOR'S GEOTECHNICAL REPRESENTATIVE TO COORDINATE REMOVAL OF ANY SOFT AREAS.
- DISPOSAL: CLEARED, GRUBBED, STRIPPED OR OTHER WASTE MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A PROPERLY PERMITTED FACILITY.
- MAINTAIN EROSION AND SEDIMENT CONTROL PROCEDURES DURING THE ENTIRE CONSTRUCTION PERIOD. CONTROL DEBRIS AND LOOSE SOIL ON ADJACENT STREETS THROUGH DAILY CLEANING.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE CONNECTION/RECONNECTION AND/OR THE RELOCATION OF ALL EXISTING UTILITIES WITH UTILITY OWNER.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AT THE SITE. FURTHERMORE THE CONTRACTOR SHALL REPORT ALL DISCREPANCIES OR QUESTIONS TO THE OWNER PRIOR TO INSTALLATION.
- ALL PAVEMENT BASE AND SUBGRADE SHALL CONFORM TO NCDOT STANDARDS INCLUDING WORKMANSHIP, MATERIALS AND EQUIPMENT AND IN ACCORDANCE WITH THE SPECIFICATIONS. SITE DETAILS SHALL CONFORM TO THE LATEST EDITION OF THE NCDOT TECHNICAL STANDARDS AND SPECIFICATION MANUAL. APPROPRIATE BARRICADES, SIGNS, LIGHTS OR OTHER TRAFFIC CONTROL DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH NCDOT, ILM, PORT AND MUTCD STANDARDS.
- TOPSOIL SHALL BE STOCKPILED SEPARATE FROM EXCAVATED MATERIAL, ONSITE AND READY FOR REUSE.
- EXISTING TOPOGRAPHY, STRUCTURES, UTILITIES AND SITE FEATURES ARE GENERALLY SHOWN SCREENED AND/OR LIGHT LINES. NEW FINISH GRADE, STRUCTURES, UTILITIES AND SITE FEATURES ARE GENERALLY SHOWN AS HEAVY LINES.
- ALL RADII ARE TO EDGE OF PAVEMENT.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT OF WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
- STABLE, PERMANENT VEGETATIVE COVER MUST BE EVIDENT IN ORDER TO PASS THE FINAL INSPECTION FOR C/O.
- THE CONTRACTOR SHALL LIMIT HIS OPERATIONS WITHIN THE LEASED PARCEL. NO STAGING, LAYDOWN, AND CONTRACTOR ACTIVITIES ARE PERMITTED OUTSIDE THE PARCEL.
- THE CONTRACTOR SHALL TAKE ALL ADEQUATE PROTECTIVE MEASURES TO ENSURE EXIST PAVEMENT TO REMAIN IS NOT DAMAGED. CONTRACTOR SHALL REPAIR ALL SURFACES DAMAGED DURING CONSTRUCTION.
- REFER TO SHEETS C-103 THRU C-106 FOR DETAILS.
- CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- ANY GRADING, BUILDING CONSTRUCTION OR DEVELOPMENT WITHIN THE FLOODPLAIN MUST BE DONE IN ACCORDANCE WITH EXECUTIVE ORDER NC 123, "UNIFORM FLOODPLAIN MANAGEMENT POLICY".

**UTILITY NOTES**

- A NORTH CAROLINA LICENSED UTILITY CONTRACTOR SHALL PERFORM ALL UTILITY WORK INVOLVED WITH THIS PROJECT.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO THE INSTALLATION OF ANY NEW LINES. WHERE UTILITY CROSSING OR CONFLICTS ARE INDICATED, POT-HOLING OF THE UTILITIES MAY BE REQUIRED.
- COORDINATE UTILITY TIE LOCATIONS OUTSIDE OF PARCEL LIMITS WITH THE PORT. ALL CONNECTIONS AND TEMPORARY LOSS OF UTILITIES SERVICES SHALL BE COORDINATED WITH THE PORT AT LEAST 7 DAYS PRIOR TO CONNECTION.
- EXISTING UTILITIES SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR SHALL HAND EXCAVATE WHEN ADJACENT TO EXISTING UTILITIES.
- THE UTILITY DRAWINGS DO NOT SHOW ALL OFFSETS, TRANSITIONS, AND FITTING THAT MAY BE REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINATION OF ALL REQUIRED COMPONENTS AND THRUST BLOCK CONSTRUCTION AS NECESSARY.
- MINIMUM WATER LINE SEPARATION  
 a. SANITARY SEWER - 10' HORIZONTALLY, 18" VERTICALLY, WATER OVER SEWER)  
 b. STORM SEWER - 18" VERTICAL
- WHERE WATER CROSS OVER A SEWER AND THE VERTICAL SEPARATION IS LESS THAN 18" OR IT PASSES UNDER THE SEWER, THE WATER SHALL BE DUCTILE IRON PIPE FOR A DISTANCE 10' EACH WAY FROM THE CROSSING.
- ALL WATER AND SEWER LINES SHALL HAVE A MINIMUM OF 18" OF VERTICAL SEPARATION FROM ALL OTHER UTILITIES.
- ALL WATER AND SEWER LINES SHALL HAVE A MINIMUM OF 36" OF COVER.
- ALL STORM SEWER PIPING SHALL BE REINFORCED CONCRETE PIPE, CLASS V.
- UNDERGROUND FIRE LINES MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPT DIVISION OF FIRE AND LIFE SAFETY AT 910-341-0696
- ALL UNDERGROUND LINES SHALL HAVE A WARNING TAPE INSTALLED IN THE BACKFILL BETWEEN 6" TO 24" BELOW FINISHED GRADE DIRECTLY OVER PIPE.  
 a.) METALLIC LINES SHALL BE IDENTIFIED WITH DURABLE PRINTED PLASTIC WARNING TAPES, MINIMUM 3 INCHES WIDE WITH LETTERING TO IDENTIFY BURIED LINE BELOW.  
 b.) NON-METALLIC PIPES, OTHER THAN GAS LINES, SHALL BE IDENTIFIED BY DETECTABLE WARNING TAPE, MINIMUM 2 INCHES WIDE WITH LETTERING TO IDENTIFY BURIED LINE BELOW.

**GEOTECHNICAL NOTES**

- GEOTECHNICAL SUBSURFACE CONDITIONS OF THIS PROJECT CAN BE FOUND IN THE GEOTECHNICAL REPORT PREPARED BY CATLIN ENGINEERS AND SCIENTISTS DATED NOVEMBER 5, 2013.
- INFORMATION CONTAINED IN THE GEOTECHNICAL REPORT IS LIMITED, BASED ON DATA OBTAINED FROM BORING LOGS AND LABORATORY TESTING THAT SHOW SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATION AND TIME INVESTIGATED AND ONLY TO THE DEPTH PENETRATED. SUBSURFACE CONDITIONS AND GROUNDWATER LEVELS AT OTHER LOCATIONS OR DEPTHS MAY DIFFER FROM CONDITIONS OCCURRING AT INVESTIGATED LOCATIONS. THE PASSAGE OF TIME MAY ALSO RESULT IN CHANGED CONDITIONS AT THESE LOCATIONS. IF, DURING CONSTRUCTION, SUBSURFACE CONDITIONS ARE FOUND TO VARY FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT, GEOTECHNICAL RECOMMENDATIONS SHOULD BE RE-EVALUATED.
- THE GEOTECHNICAL REPORT INCLUDES BOTH FACTUAL AND INTERPRETED INFORMATION. FACTUAL INFORMATION IS DEFINED AS OBJECTIVE DATA BASED ON DIRECT OBSERVATIONS, SUCH AS BORING LOGS AND LABORATORY TESTING RESULTS. INTERPRETED INFORMATION OR GEOTECHNICAL ENGINEERING INTERPRETATION IS BASED ON THE ENGINEERING JUDGMENT, CORRELATION OR EXTRAPOLATION FROM FACTUAL INFORMATION. NO WARRANTIES, EXPLICIT OR IMPLIED, ARE PROVIDED FOR INTERPRETED INFORMATION.

**DESIGNER'S CERTIFICATION**

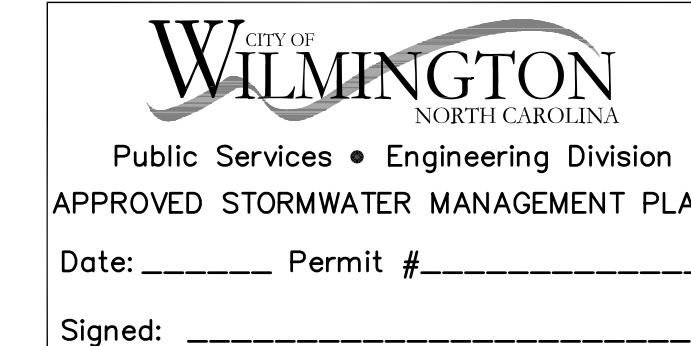
"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST WILMINGTON STANDARDS AND SPECIFICATIONS FOR STORM WATER MANAGEMENT AND CHAPTER 20 OF THE CODE OF ORDINANCES OF THE CITY OF WILMINGTON."

SIGNATURE:  
 GALEN M. JAMISON, PE / PROJECT ENGINEER  
 DATE: 04/03/2015 REGISTRATION NUMBER: 037531

**OWNER'S/DEVELOPER'S CERTIFICATION**

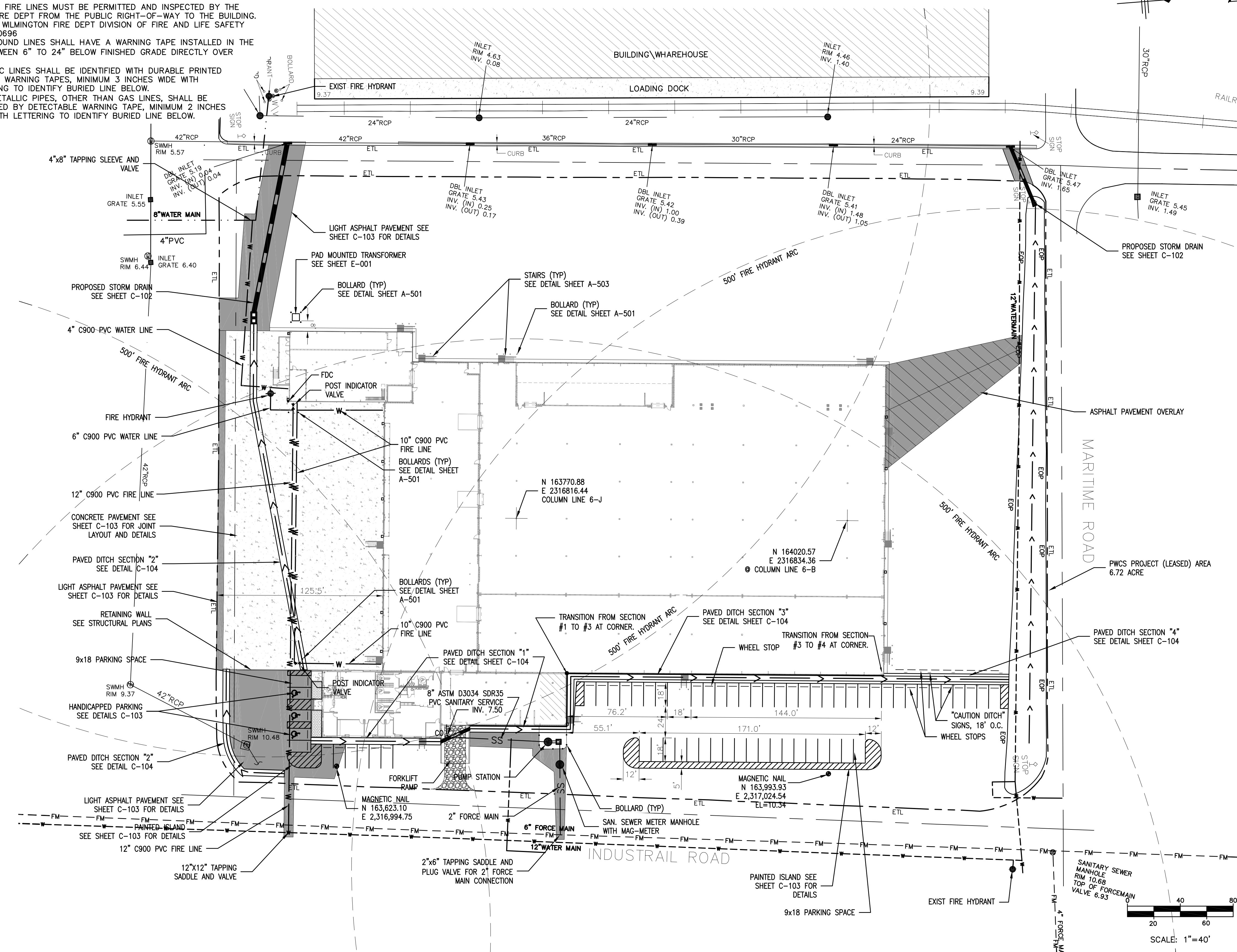
"I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT, OR ALL OF THE THESE, WILL BE DONE PURSUANT TO THE PLAN AND THAT THE APPLICABLE STORMWATER MANAGEMENT CONDITIONS AND REQUIREMENTS OF THE CITY OF WILMINGTON, THE STATE OF NORTH CAROLINA AND THE FEDERAL GOVERNMENT AND ITS AGENCIES ARE HEREBY MADE PART OF THIS PLAN."

SIGNATURE:  
 PRINTED NAME AND TITLE: \_\_\_\_\_  
 DATE: \_\_\_\_\_



Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	



PWCS  
 WILMINGTON, NORTH CAROLINA

Print Record

No.	Date	Description

Revision Record

No.	Date	Description
1	5/29/15	STATE PERMIT SUBMISSION #2

ISSUE DATE  
 01 JULY 2014  
 CATLIN JOB #: 213053  
**JOB A285**  
 SITE LAYOUT  
 UTILITY PLAN  
**C-101**

**EROSION CONTROL NOTES**

- PERFORM CONSTRUCTION ACTIVITIES IN COMPLIANCE WITH THE SEDIMENTATION POLLUTION CONTROL ACT OF 1973.
- PLAN AND CONDUCT LAND DISTURBING ACTIVITIES TO LIMIT EXPOSURE OF BARE EARTH FOR THE SHORTEST POSSIBLE TIME.
- CONTRACTOR SHALL COORDINATE WITH OWNER AND CONTRACTORS GEOTECHNICAL REPRESENTATIVE TO COORDINATE REMOVAL OF ANY UNSUITABLE SOILS.
- CLEARED, GRUBBED, STRIPPED OR OTHER WASTE MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A PROPERLY PERMITTED FACILITY.
- THE CONTRACTOR SHALL FURNISH ANY REQUIRED BORROW MATERIALS FROM A PROPERLY PERMITTED OFF-SITE FACILITY.
- STABILIZE DISTURBED AREAS BY THE PLANTING AND ESTABLISHMENT OF PERMANENT AND UNIFORM GROUND COVER.
- PROVIDE SEDIMENT AND EROSION CONTROL MEASURES AT TEMPORARY CONSTRUCTION STAGING AREAS TO PREVENT OFF SITE SEDIMENTATION. TEMPORARY CONSTRUCTION STAGING AREAS TO BRING THE SITE BACK TO ITS NATURAL STATE UPON COMPLETION OF THE PROJECT.
- INSPECT SEDIMENT AND EROSION CONTROL MEASURES AFTER EACH 1/2" RAINFALL AND WEEKLY TO INSURE THEY ARE FUNCTIONAL AND IN GOOD WORKING CONDITION. REMOVE SEDIMENT DEPOSITION ACCUMULATION PERIODICALLY TO MAINTAIN UNIT EFFECTIVENESS. COMPLETE AND MAINTAIN THE SELF INSPECTION AND MONITORING REPORTS ON SITE AT ALL TIMES.
- OVER THE DURATION OF THE PROJECT, DENR SHALL MAKE PERIODIC AND UNSCHEDULED INSPECTIONS TO EVALUATE THE EFFECTIVENESS OF ALL EROSION CONTROL MEASURES. IF EROSION OCCURS, DENR AND THE OWNER SHALL NOTIFY THE CONTRACTOR TO TAKE ADEQUATE STEPS TO REMEDY THE SITUATION.
- REPLACE OR REPAIR CULVERTS, DITCH-LINES, OR RIP-RAP DISTURBED BY THIS CONSTRUCTION TO AN EQUAL OR BETTER CONDITION TO THAT PRIOR TO DISTURBANCE.
- ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF THE STATE ENGINEERING DEPARTMENT, INSPECTOR, OWNER, OR ENGINEER.
- SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
- ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
- IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 CALENDAR DAYS, ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED UNLESS WRITTEN APPROVAL IS GRANTED BY THE EROSION CONTROL OFFICER.
- STABILIZATION

SOIL STABILIZATION SHALL BE ACHIEVED ON ANY AREA OF A SITE WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED ACCORDING TO THE FOLLOWING SCHEDULE:

ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.

ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.

CONDITIONS - IN MEETING THE STABILIZATION REQUIREMENTS ABOVE, THE FOLLOWING CONDITIONS OR EXEMPTIONS SHALL APPLY:

EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE.

ALL SLOPES 50' IN LENGTH OR GREATER SHALL APPLY THE GROUND COVER WITHIN 7 DAYS EXCEPT WHEN THE SLOPE ARE STEEPER THAN 3:1, THE 7 DAY REQUIREMENT APPLIES.

ANY SLOPED AREA FLATTER THAN 4:1 SHALL BE EXEMPT FROM THE 7 DAY GROUND COVER REQUIREMENT.

SLOPES 10' OR LESS IN LENGTH SHALL BE EXEMPT FROM THE 7 DAY GROUND COVER REQUIREMENT.

ALTHOUGH STABILIZATION IS USUALLY SPECIFIED AS GROUND COVER, OTHER METHODS, SUCH AS CHEMICAL STABILIZATION, MAY BE ALLOWED ON A CASE BY CASE BASIS.

- SOIL TYPES FOR THIS SITE ARE:  
Ur: URBAN LAND

- THIS PROJECT IS WITHIN THE CAPE FEAR RIVER BASIN, THE RECEIVING WATERS IS THE CAPE FEAR RIVER, CLASSIFICATION IS SC.
- THE TOTAL LIMITS OF DISTURBANCE AREA IS 5 ACRES.
- PROVIDE GROUND COVER IN ACCORDANCE WITH NPDES CONSTRUCTION STORMWATER GENERAL PERMIT NCG010000 AND PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

**CONSTRUCTION SEQUENCE**

- OBTAIN ALL NECESSARY PERMIT APPROVALS PRIOR TO ANY LAND DISTURBING ACTIVITY.
- HOLD A PRE-CONSTRUCTION MEETING WITH NCDENR EROSION CONTROL INSPECTOR.
- INSTALL GRAVEL CONSTRUCTION ENTRANCE, INLET PROTECTION AND SILT FENCE, COMMENCE DEMOLITION, CLEARING AND ROUGH GRADING.
- ROUGH GRADE SITE AND DRAINAGE SWALE, INSTALL CHECK DAMS IN SWALE.
- BEGIN CONSTRUCTION OF UNDERGROUND UTILITIES AND SWALE ALONG EASTERN PORTION OF THE SITE.
- CONSTRUCT BUILDING FOUNDATION, WALLS, AND ROOF PRIOR TO FILLING OPERATIONS FOR BUILDING FINISHED FLOOR ELEVATION. BUILDING SHALL BE WEATHERPROOF PRIOR TO IMPORTING BACKFILL MATERIAL.
- ALL WEEP HOLES ALONG PERIMETER STEM WALLS SHALL BE PROTECTED WITH 1 CF OF #57 STONE.
- IMPORT BACKFILL MATERIAL TO REQUIRED SUBGRADE ELEVATIONS.
- ALL DEWATERING ACTIVITIES SHALL PASS THROUGH A FILTER BAG BEFORE DISCHARGING IN SWALE B'S CHECK DAM.
- INSTALL REMAINING UTILITIES.
- CONSTRUCT REMAINING PORTIONS OF PAVED SURFACES.
- PROVIDE TEMPORARY PROTECTION MEASURES AND DEVICES AS REQUIRED UNTIL UNDERGROUND UTILITIES AND PAVEMENT ARE COMPLETE AND FINAL GRADES ARE STABILIZED WITH PAVEMENT OR TEMPORARY VEGETATIVE COVER.
- STABILIZE (FERTILIZE, SEED, AND MULCH) ALL UNPAVED DISTURBED AREAS AS SOON AS FINAL GRADES ARE ESTABLISHED.
- ONCE CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS ARE STABILIZED, OBTAIN NCDENR'S APPROVAL TO REMOVE TEMPORARY EROSION CONTROL MEASURES.

**GRADING NOTES**

- ALL EXCAVATION, GRADING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH COMMON PRACTICES, GEOTECHNICAL REPORT AND THE GOVERNING ENTITY'S TECHNICAL STANDARDS.
- INITIATE EROSION CONTROL SEQUENCE BEFORE BEGINNING ANY CLEARING, GRUBBING AND GRADING OPERATIONS.
- CLEAR AREAS TO BE GRADED OF ALL VEGETATION. PROTECT VEGETATION BEYOND GRADING LIMITS.
- STRIP TOPSOIL TO FULL DEPTH IN AREAS TO BE GRADED AND STOCKPILE.
- COMPACT ALL FILL AREAS TO 95% OF ASTM D1557 MAXIMUM DENSITY. THE MINIMUM COMPACTION OF ABC STONE SHALL BE 100% OF ASTM D1557.
- ALL BANKS AND SWALE SIDE SLOPES SHALL BE GRADED WITH NO GREATER THAN 3:1 SLOPES UNLESS OTHERWISE NOTED.
- ALL AREAS ARE TO BE GRADED SO THAT NO AREAS OF STANDING WATER OCCUR.
- PROPOSED SPOT ELEVATIONS ARE SHOWN AT FINISHED GRADE.
- OPERATOR SHALL FIELD VERIFY EXISTING TOPOGRAPHY IN RELATION TO THE PROPOSED GRADES TO ENSURE DRAINAGE IN THE DIRECTIONS INDICATED ON THE PLAN.
- IMPORT FILL FOR BUILDING GRADES AND ADJACENT TO ANY STRUCTURE SHALL BE CLASSIFIED AS SOIL GROUP SP, SM, SC OR SW OR A COMBINATION OF THE FOUR. LIFTS SHALL NOT EXCEED 8" AND SHALL BE COMPACTED TO 95% OF ASTM D 1557. COMPACTION TESTING SHALL BE PERFORMED FOR EVERY 2500 SQUARE FEET OF FILL AREA.
- AREAS FOR NEW PAVING SHALL BE PROOFROLLED WITH A HEAVY SMOOTH DRUM ROLLER OR A LOADED TANDEM AXLE DUMP TRUCK TO IDENTIFY REGIONS OF YIELDING SOIL. NOTIFY ENGINEER OF ANY AND ALL UNSUITABLE SOIL AND FOR DIRECTION ON REPAIR TO THE UNSUITABLE SOIL AREA.

**SEED SCHEDULE**

- FOLLOW RECOMMENDATIONS OF SOIL TEST OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LBS/ACRE 10-10-10 FERTILIZER.
- APPLY 4,000 LBS/ACRE STRAW ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING OR A MULCH ANCHORING TOOL.
- A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.
- RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.
- RESEED AND MULCH AREAS WHERE SEEDLING EMERGENCE IS POOR, OR WHEN EROSION OCCURS, AS SOON AS POSSIBLE. DO NOT MOW. PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE.

**TEMPORARY SEEDING**

GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL
RYE GRAIN	1-2 LBS.	AUG 15 - DEC 31	25 LBS. 10-10-10
GERMAN MILLET	1-2 LBS.	MAY 1 - AUG 14	25 LBS. 10-10-10
RYE GRAIN AND ANNUAL LESPEDEZA	2-3 LBS. 1-1.5 LBS	JAN 1 - APR 30	25 LBS. 10-10-10

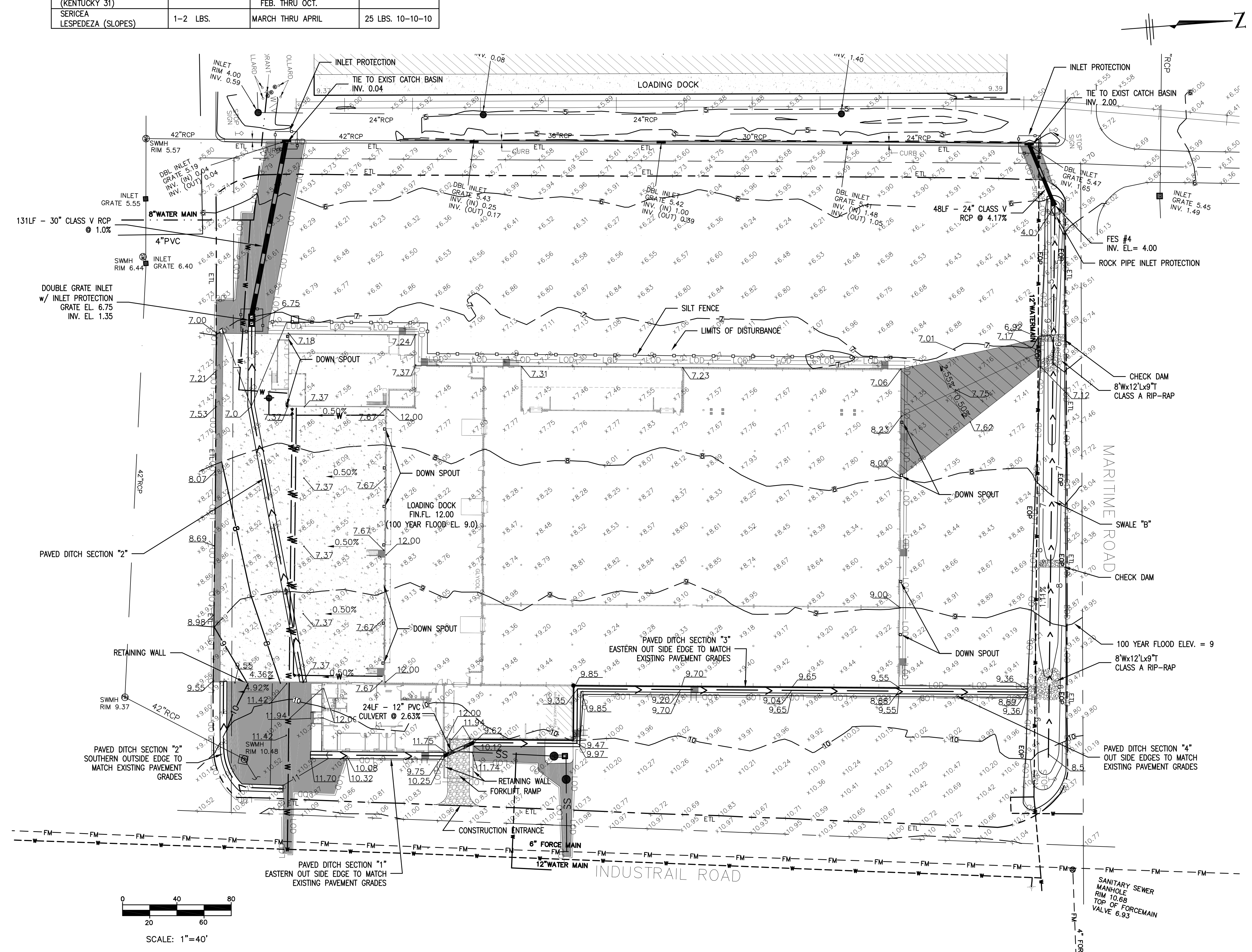
**PERMANENT SEEDING**

GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL
BERMUDA, COMMON	1-2 LBS.	APRIL THRU JUNE	25 LBS. 10-10-10
FESCUE, TALL (KENTUCKY 31)	5-7 LBS.	JUNE THRU AUG. FEB. THRU OCT.	25 LBS. 10-10-10
SERICA (LESPEDAZA (SLOPES))	1-2 LBS.	MARCH THRU APRIL	25 LBS. 10-10-10

STABILIZATION TIMEFRAMES (Effective Aug. 3, 2011)		
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
Perimeter dikes, swales, ditches, slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

Approved Construction Plan  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_



**CATLIN**  
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220 Old Dairy Road  
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Corporate License No. for  
Engineering Services C-0585  
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380 Interstate North Pkwy  
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F: 770.541.1699  
www.arcoadb.com

**PROFESSIONAL ENGINEER**  
WILMINGTON, NORTH CAROLINA  
JULY 19, 2015

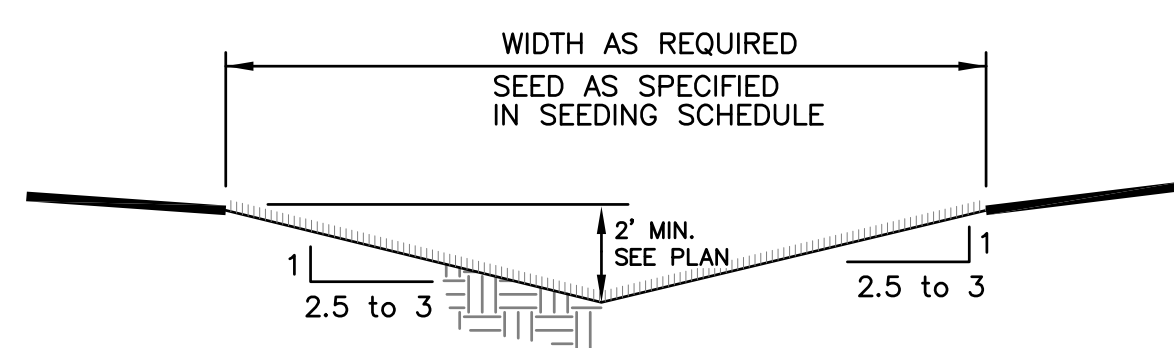
**PWCS**  
WILMINGTON, NORTH CAROLINA

Print Record


Revision Record

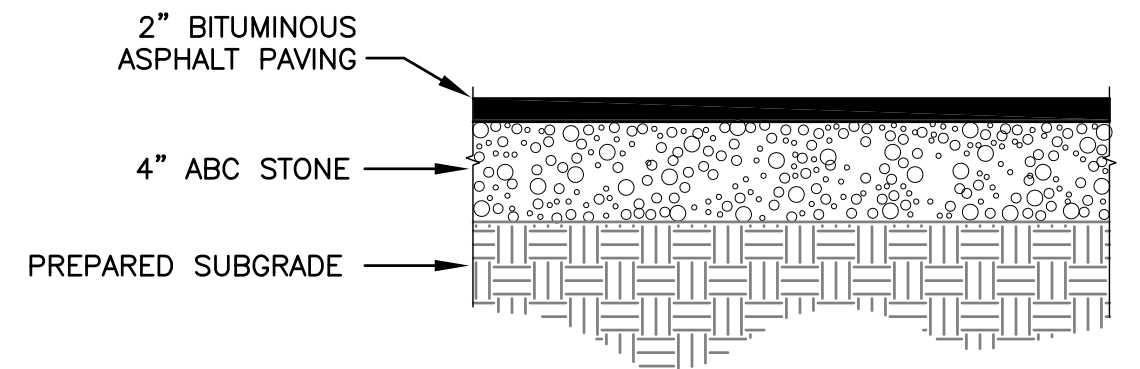
1	5/29/15	STATE PERMIT SUBMISSION #2

ISSUE DATE  
01 JULY 2014  
CATLIN JOB #: 213053  
**JOB A285**  
GRADING, DRAINAGE & EC PLAN  
**C-102**



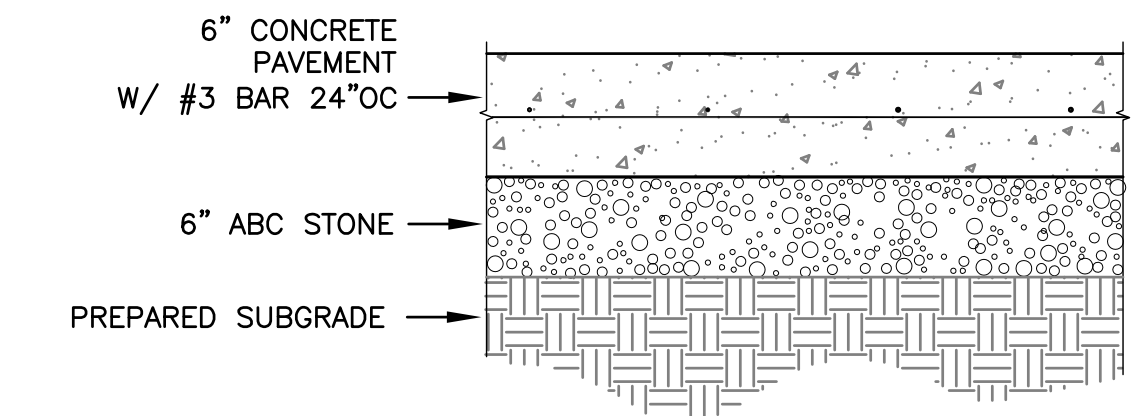
NOTE: NOT TO SCALE  
SWALE IS TO BE CONSTRUCTED PER ELEVATIONS SHOWN ON THE GRADING PLAN C-102

**SWALE 'B' SECTION**  
NOT TO SCALE



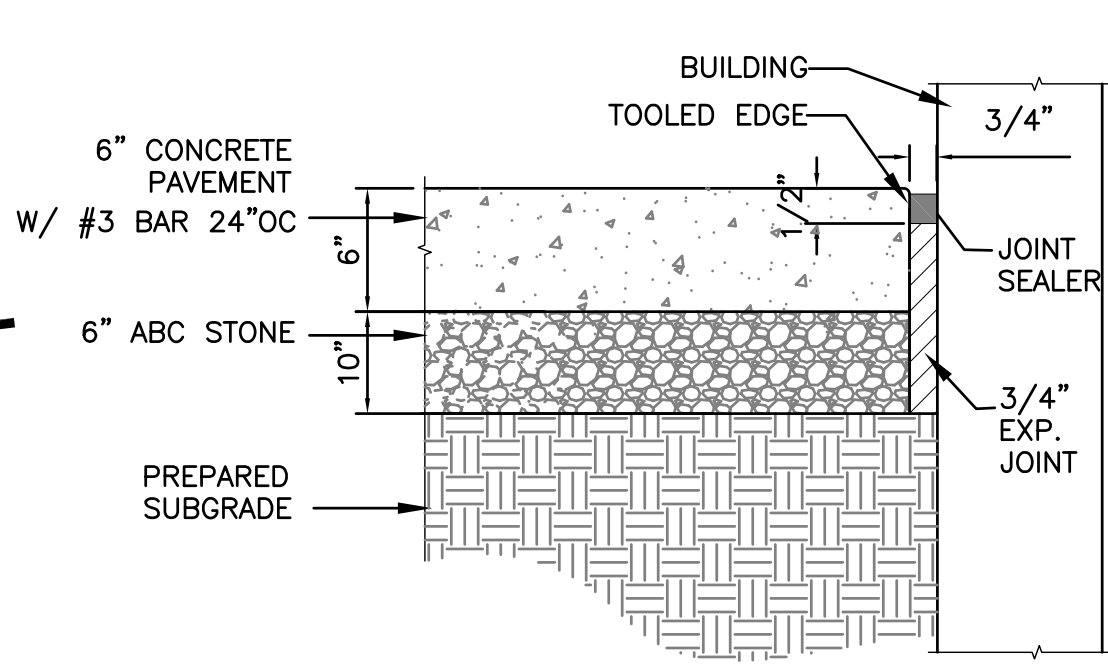
NOTE:  
1. SEE GRADING NOTES ON SHEET C-102 FOR ADDITIONAL REQUIREMENTS.

**LIGHT ASPHALT PAVEMENT SECTION**  
NOT TO SCALE

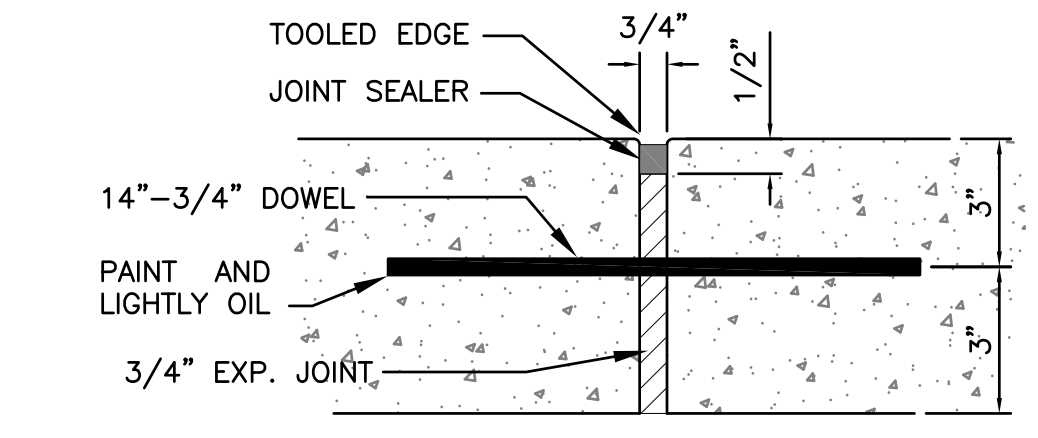


NOTE:  
1. ALL NCDOT PAVEMENT (650 PSI FLEXURAL) CLASS CONCRETE  
2. SEE GRADING NOTES ON SHEET C-102 FOR ADDITIONAL REQUIREMENTS.

**CONCRETE PAVEMENT SECTION**  
NOT TO SCALE

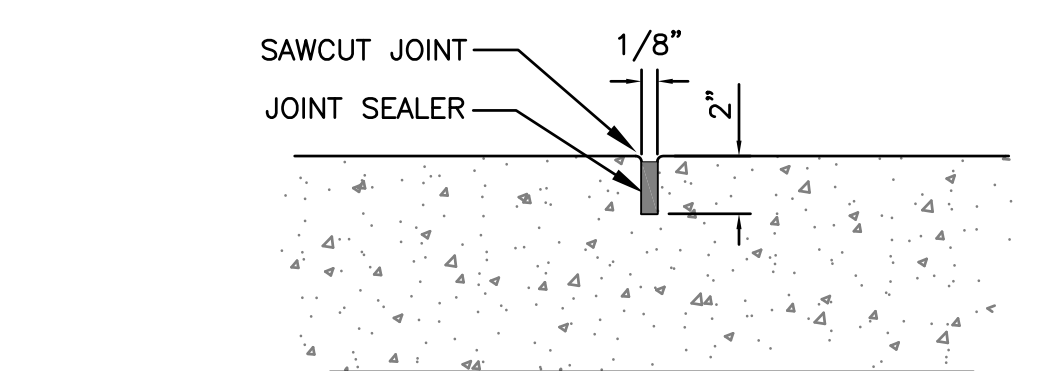


**EXPANSION JOINT**  
NOT TO SCALE

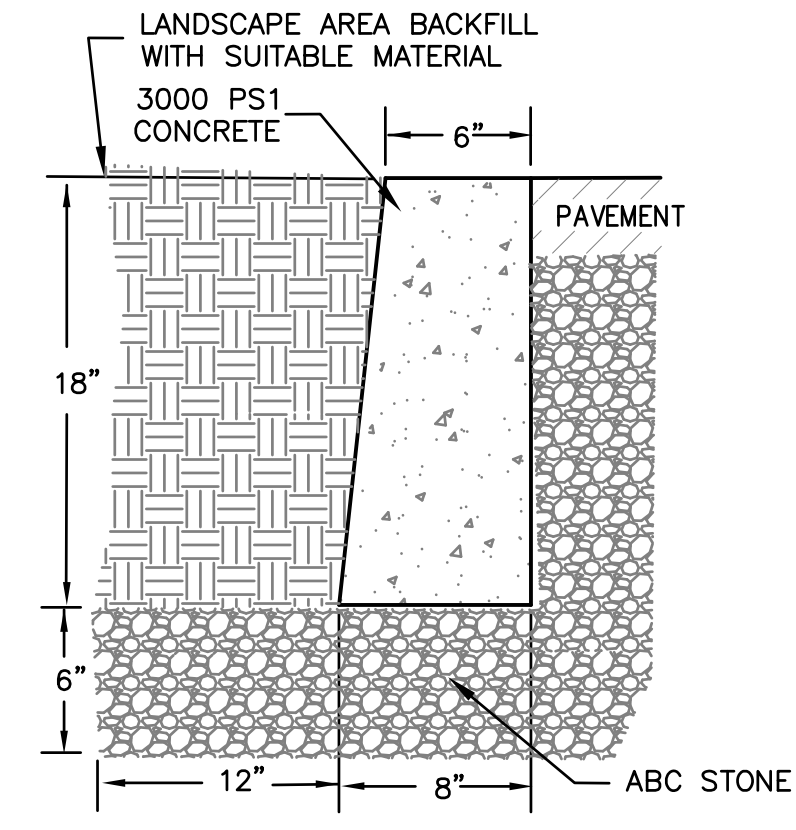


NOTE:  
1. CONSTRUCTION JOINT DOWELS ARE TO BE INSTALLED EVERY 12" ALONG JOINT.

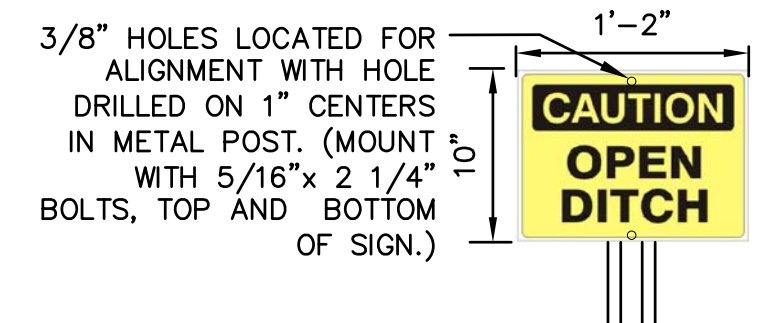
**CONSTRUCTION JOINT**  
NOT TO SCALE



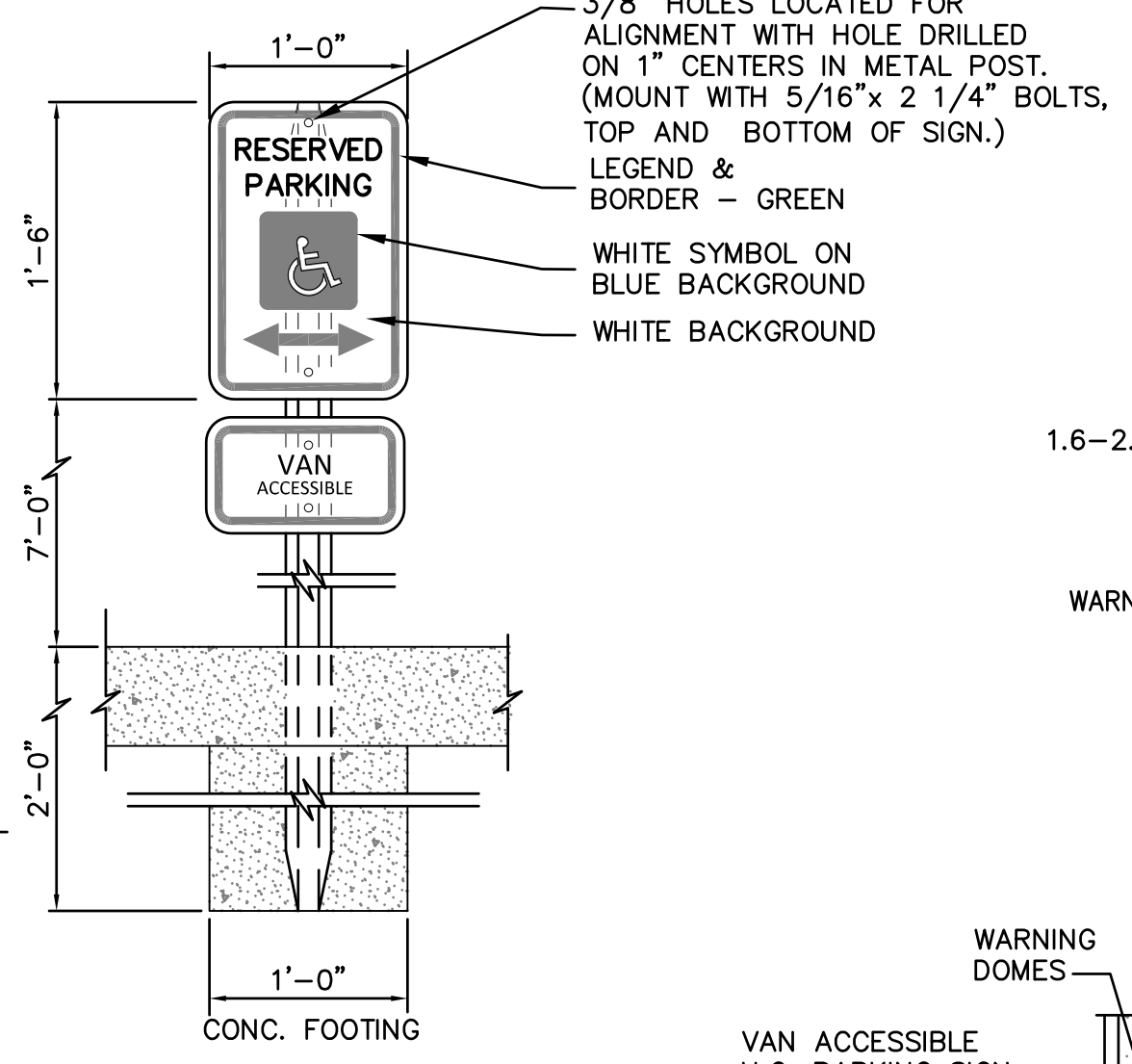
**CONTROL JOINT**  
NOT TO SCALE



**VERTICAL CURB DETAIL**  
NOT TO SCALE

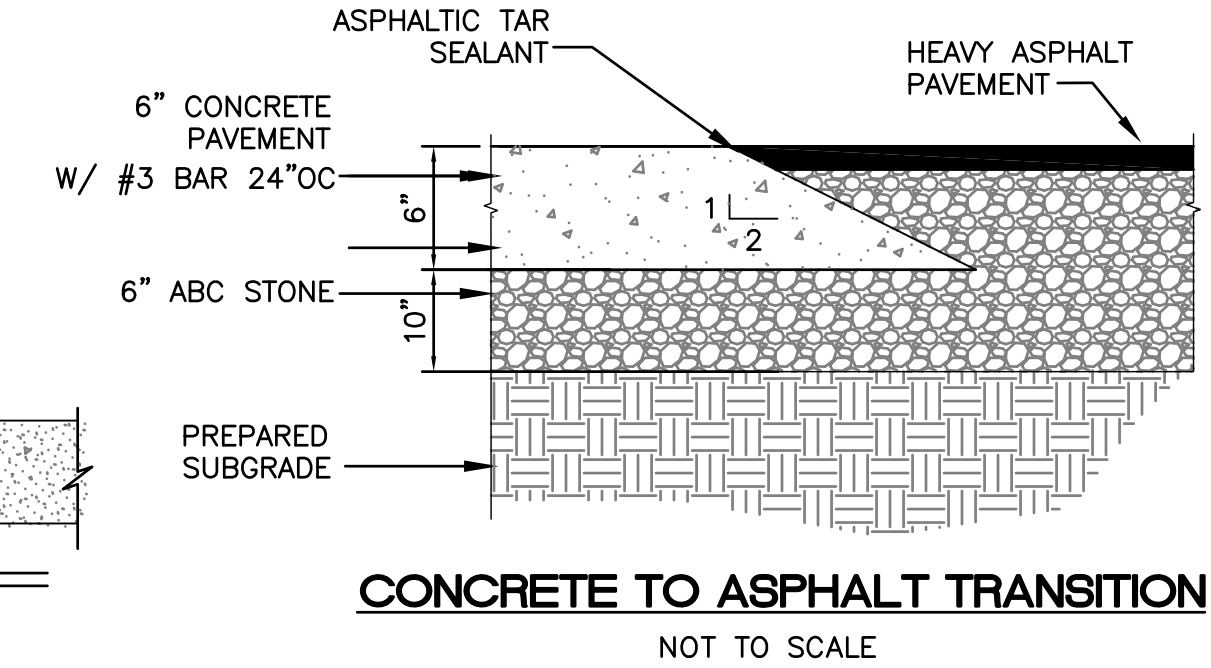


**CAUTION OPEN DITCH SIGN DETAIL**  
NOT TO SCALE

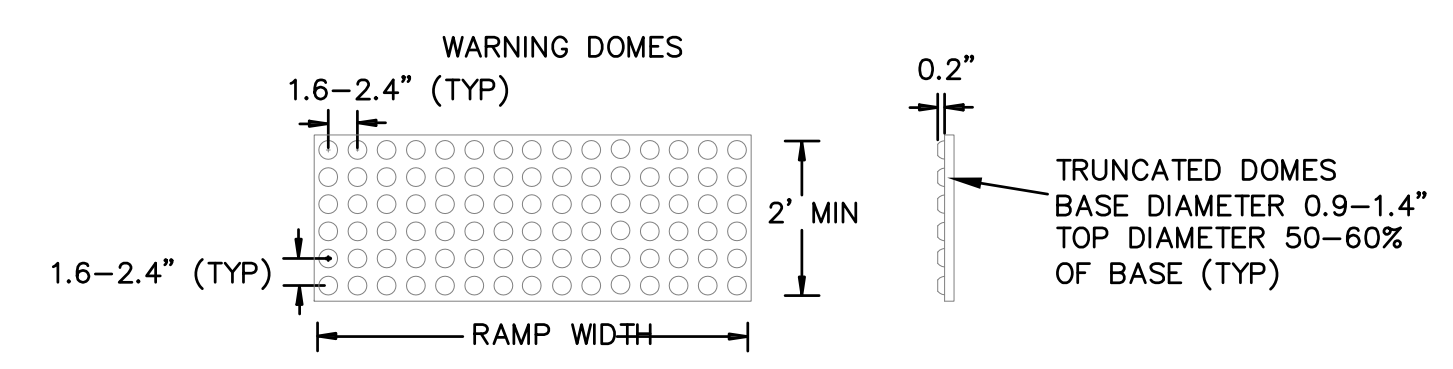


- METAL POSTS TO BE GALVANIZED. ALL BOLTS, NUTS, WASHERS AND SCREWS MUST BE RUSTPROOF.
- CONCRETE FOR FOOTING SHALL BE OF PORTLAND CEMENT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I.
- SIGNS WILL BE FABRICATED BY USING A REFLECTING COATING IN THE SYMBOL, MESSAGE AND BORDERS APPLIED TO A SHEET ALUMINUM BACKING (0.80" IN THICKNESS).
- MESSAGE LETTERING SHALL BE UPPER CASE (SERIES B) 2" HIGH IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- THE SYMBOL IS COMPOSED OF TWO ELEMENTS, A WHITE WHEELCHAIR FIGURE (WHICH SHOULD ALWAYS FACE RIGHT) ON A SQUARE BACKGROUND, INTERNATIONAL BLUE IN COLOR (FED. STD. 595a, COLOR #15180).
- SIGN POST SHALL BE MIN. 2'-0" CLEAR FROM BACK OF CURB.

**TYPE R7-8 SIGN FOR THE PHYSICALLY HANDICAPPED**  
NOT TO SCALE

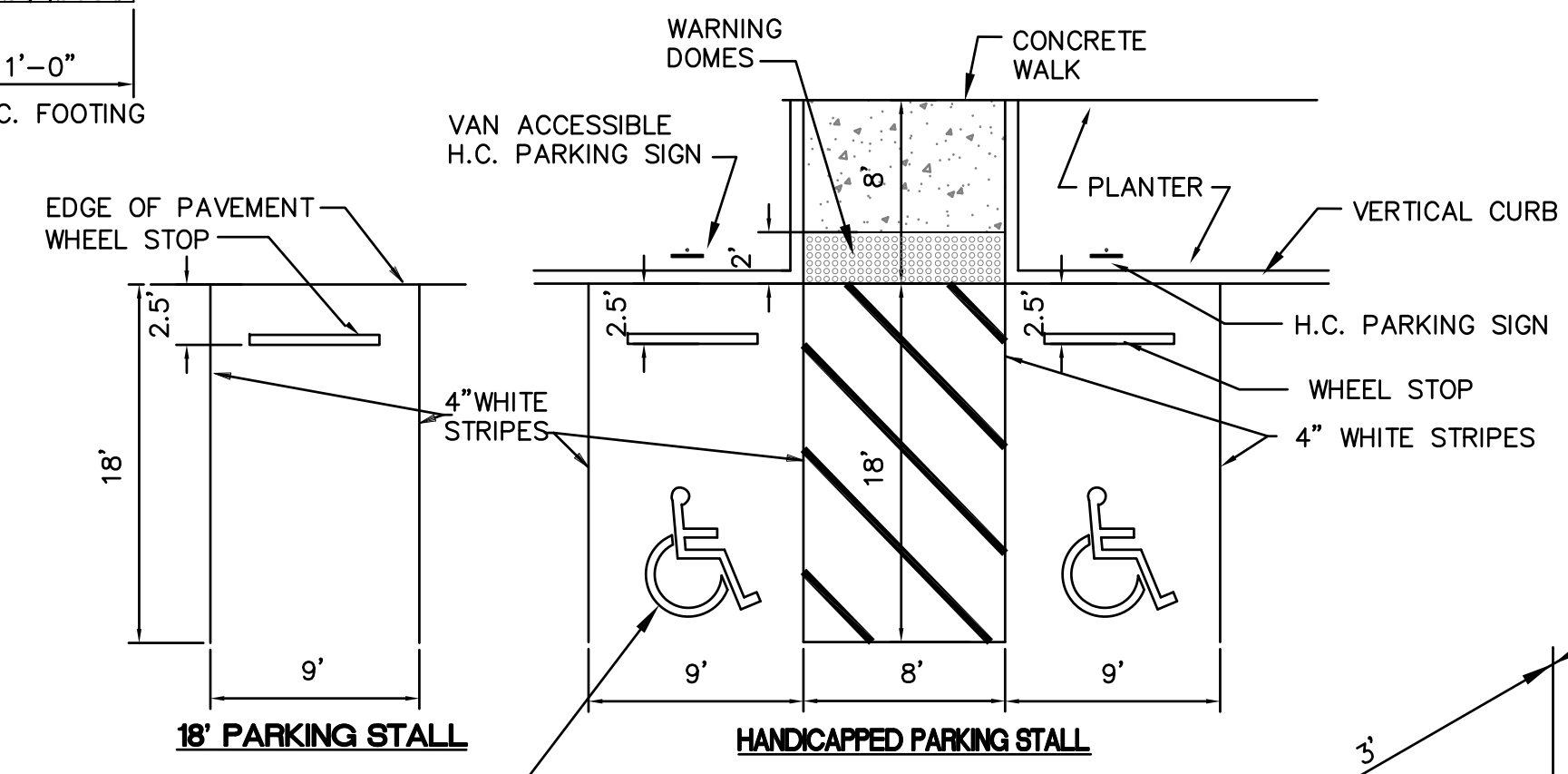


**CONCRETE TO ASPHALT TRANSITION**  
NOT TO SCALE

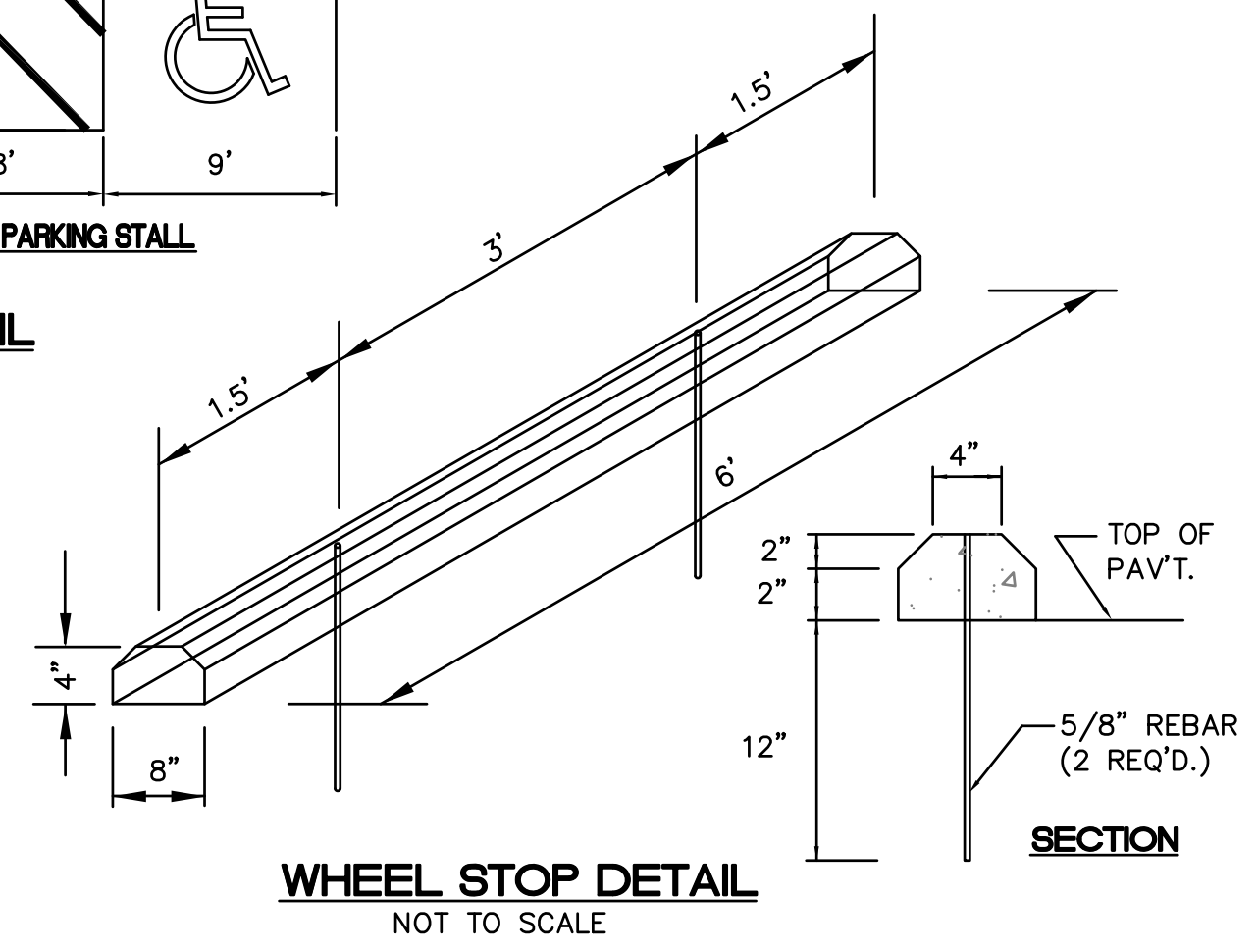


- WARNING DOME NOTES:
- USE CONTRASTING COLORS, RED OR BLACK ON WHITE PAVEMENT.
  - USE CAST IN PLACE PAVERS FOR NEW CONSTRUCTION.
  - RUBBER MATS ARE PERMITTED FOR RETROFITS.
  - LANDING AND RAMP WIDTH MAY BE REDUCED TO 3' WHERE SPACE IS LIMITED AND DESIGN IS APPROVED BY THE CITY ENGINEER.

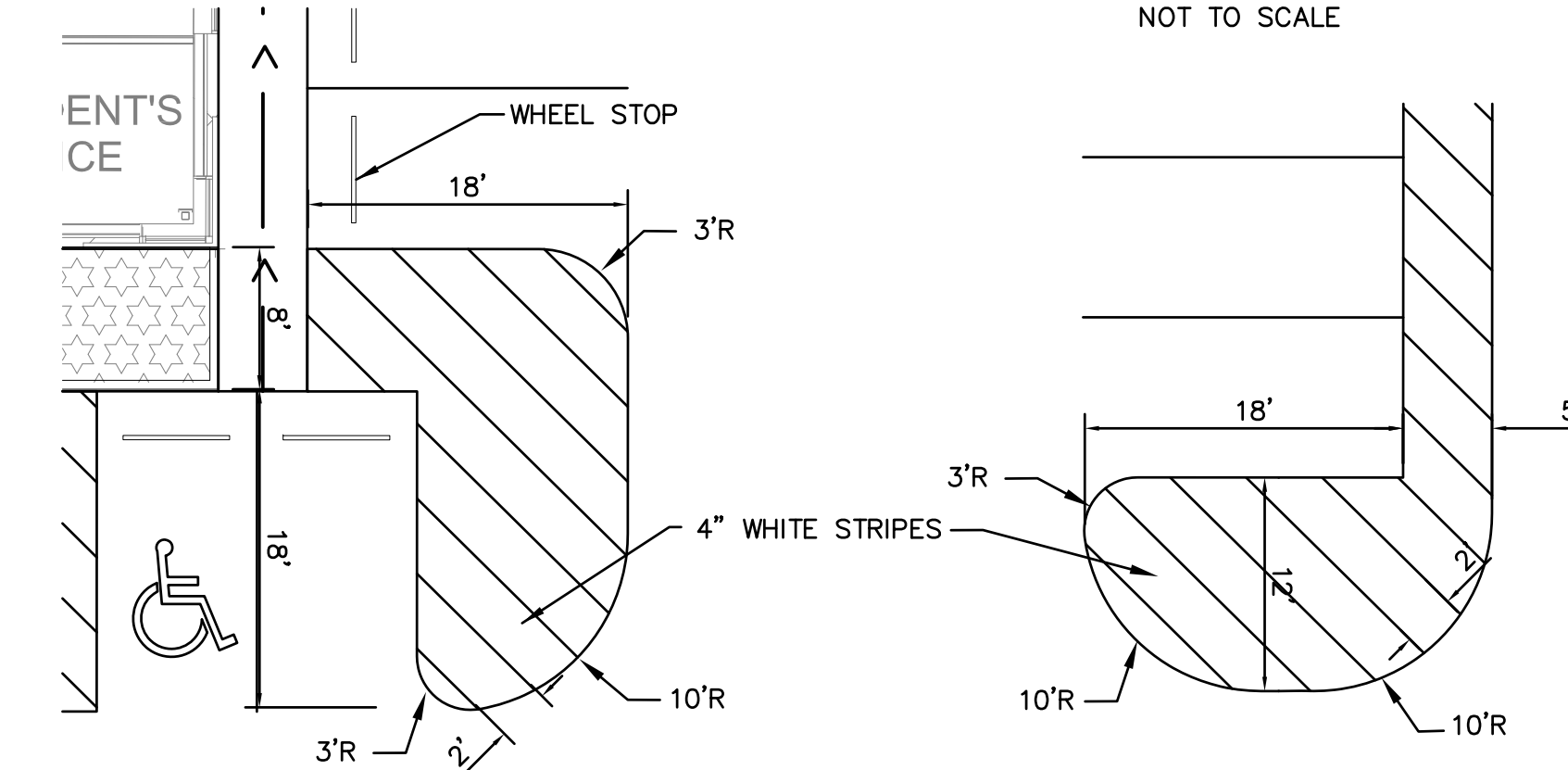
**TRUNCATED WARNING DOMES DETAIL**  
NOT TO SCALE



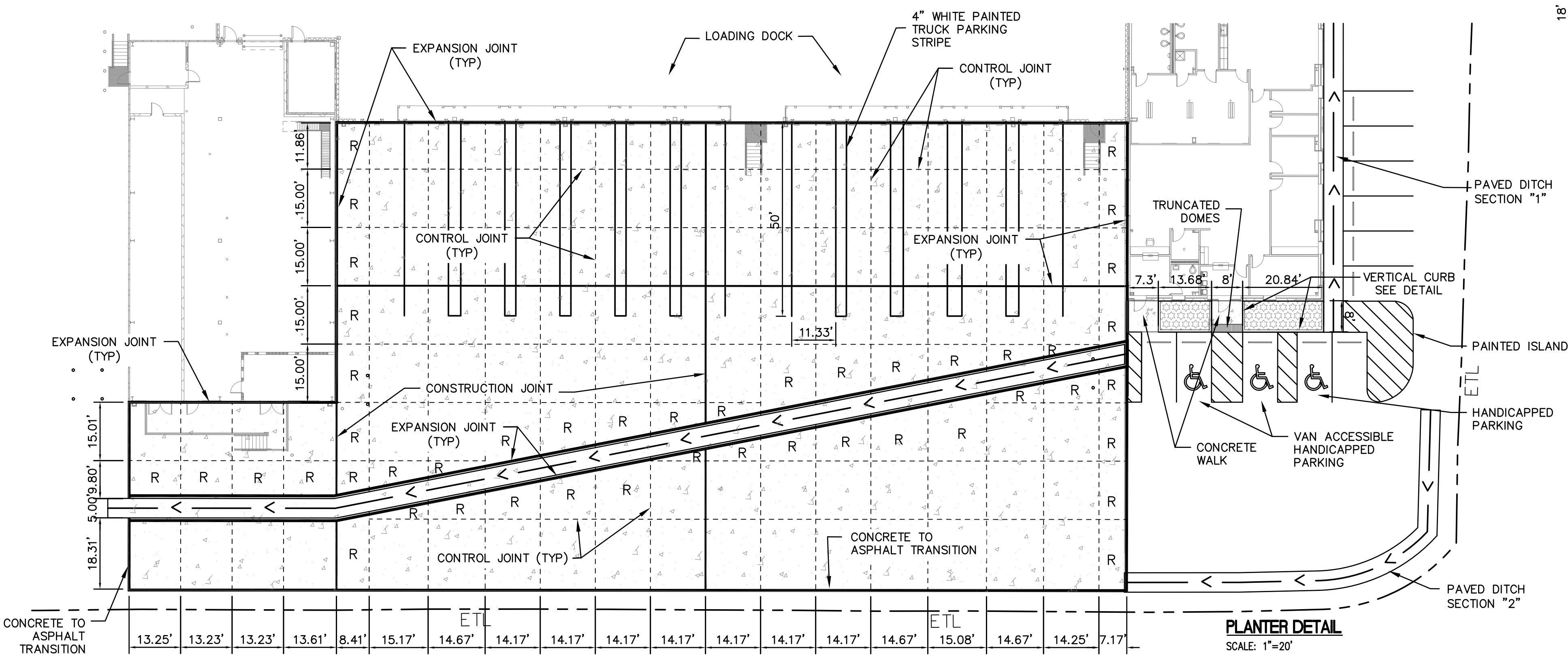
**PARKING DETAIL**  
NOT TO SCALE



**WHEEL STOP DETAIL**  
NOT TO SCALE



**PAINTED ISLAND DETAILS**  
SCALE: 1"=10'



**CONCRETE PAVEMENT JOINT LOCATION PLAN**  
SCALE: 1"=20'

NOTE:  
1. SEE SHEET C-102 FOR GRADING OF LOADING DOCK CONCRETE PAVEMENT AND AREA AROUND PLANTERS.  
2. ALL ODD SHAPED PANELS DESIGNATED WITH AN "R" SHALL BE REINFORCED WITH 6"x6" W1.4xW1.4 FABRIC.  
3. SEE GRADING NOTES ON SHEET C-102 FOR ADDITIONAL REQUIREMENTS

Approved Construction Plan  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

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Engineers and Scientists  
220 Old Dairy Road  
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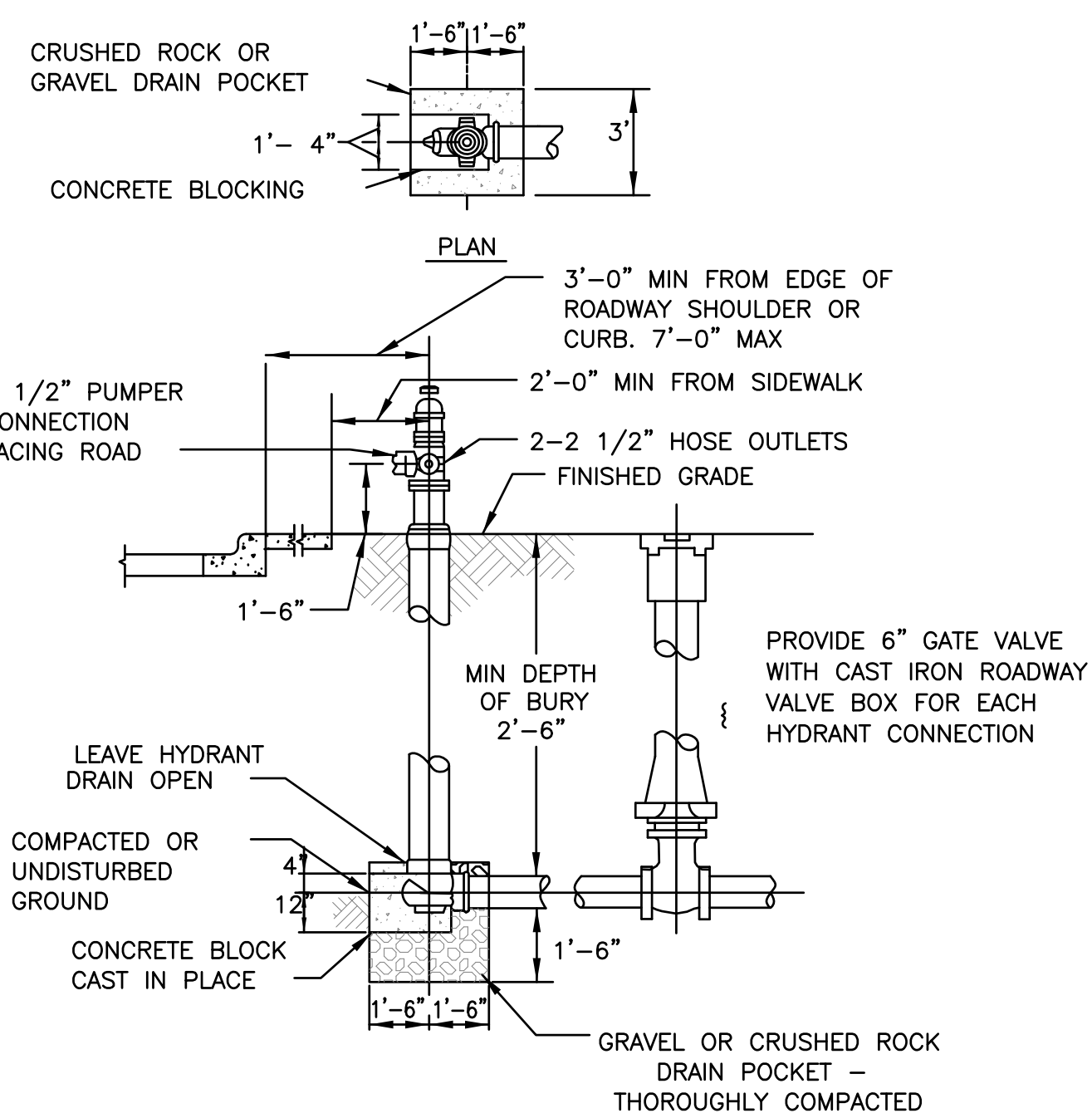
ISSUE DATE  
01 JULY 2014

CATLIN JOB #: 213053

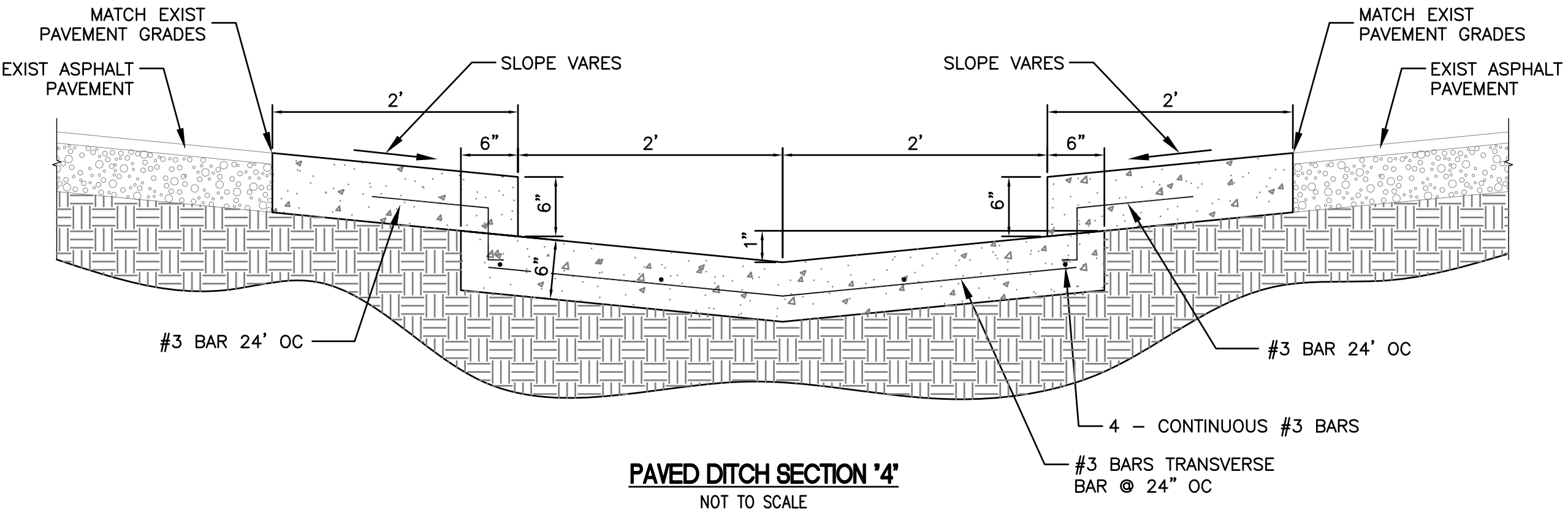
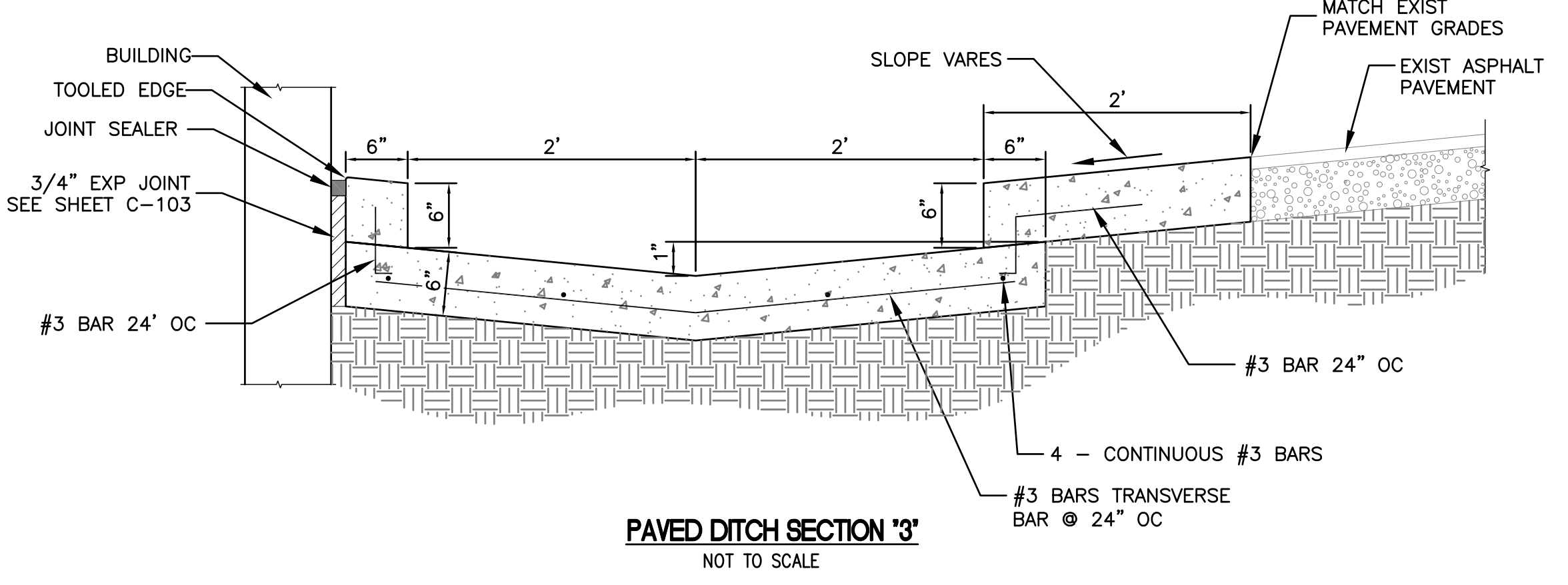
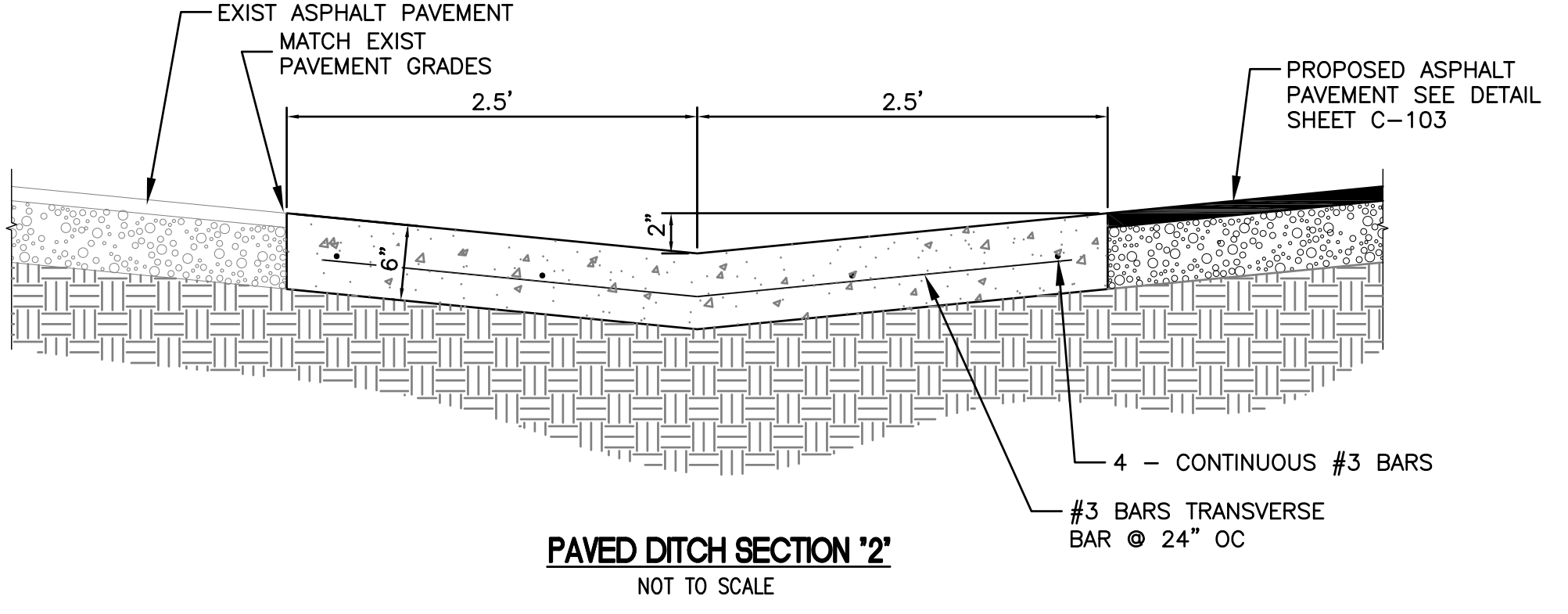
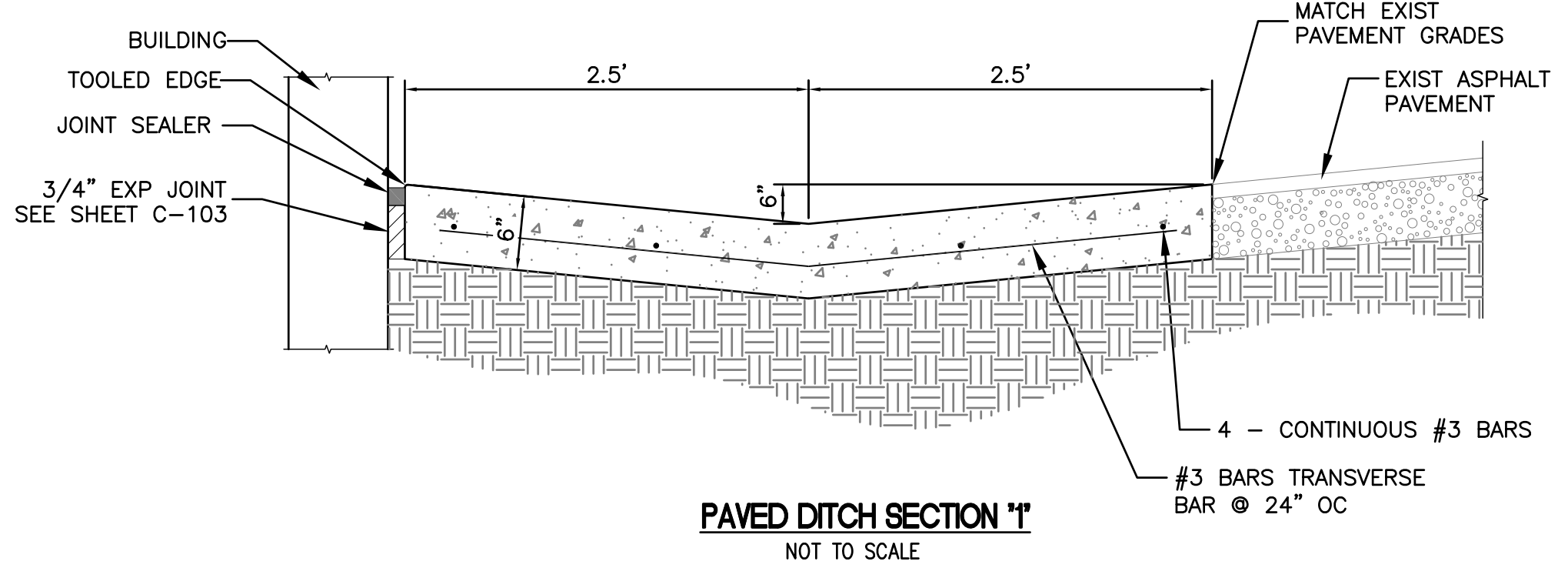
**JOB A285**

SITE DETAILS

**C-103**



**FIRE HYDRANT ASSEMBLY**  
NOT TO SCALE



Approved Construction Plan  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

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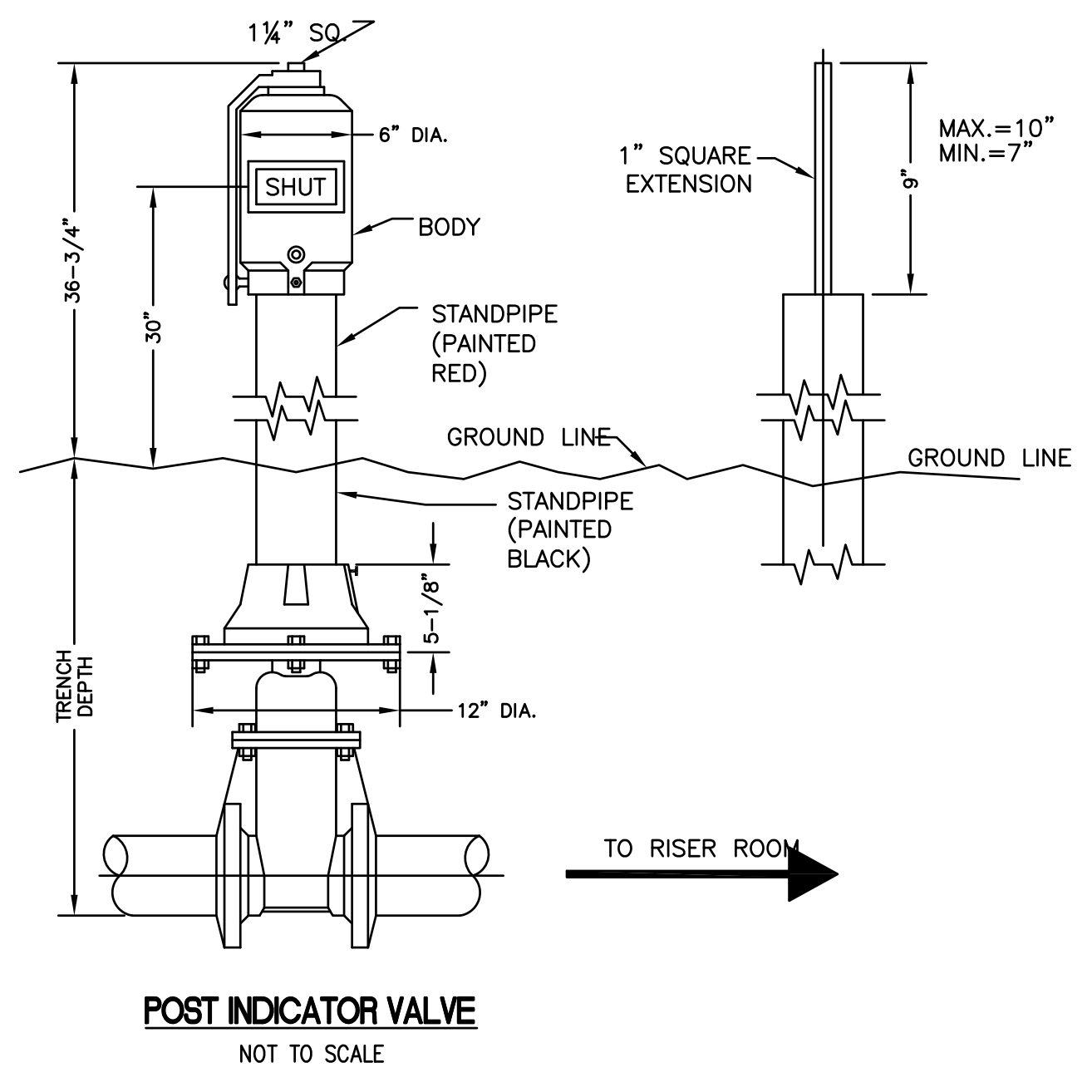
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**FIELD ADJUSTMENT INSTRUCTIONS**

1. REMOVE THE BODY FROM THE TOP OF THE INDICATOR POST ASSEMBLY.
2. CUT THE REQUIRED LENGTH OFF THE BOTTOM OF THE STANDPIPE FOR THE GROUND LINE TO MATCH UP WITH STANDPIPE GROUND LINE MARK.
3. CUT THE 1" SQ. EXTENSION AT A DISTANCE OF 9" ABOVE THE TOP OF THE STANDPIPE.
4. SET THE "OPEN" AND "SHUT" TARGETS FOR THE APPROPRIATE VALVE SIZE.
5. RE-ATTACH THE BODY TO THE TOP OF THE INDICATOR POST ASSEMBLY.

**NOTE:**  
POST INDICATOR VALVE SHALL BE LOCATED AT A MINIMUM 5-ft FROM BUILDING.



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01 JULY 2014

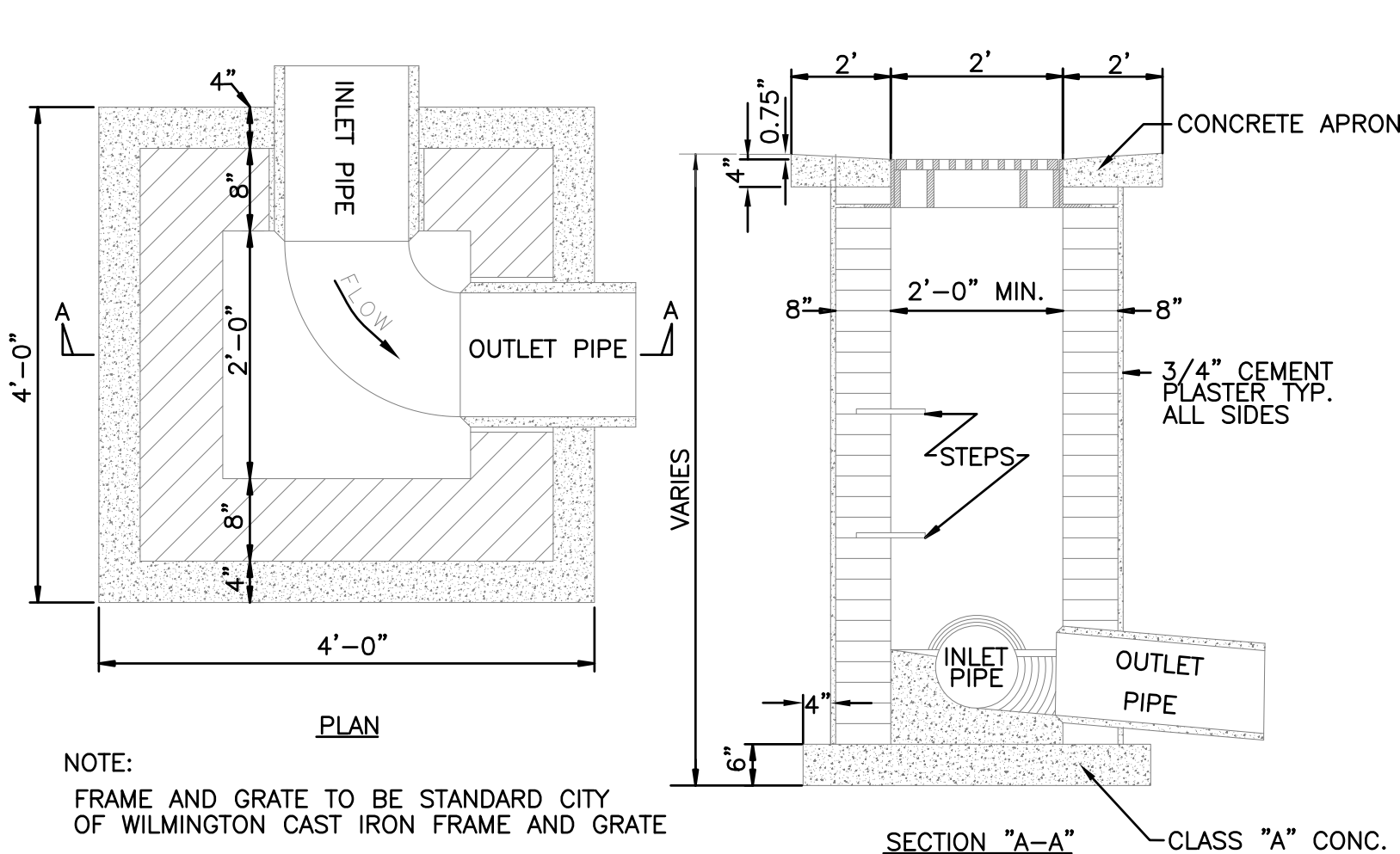
CATLIN JOB #: 213053

**JOB A285**

SITE DETAILS

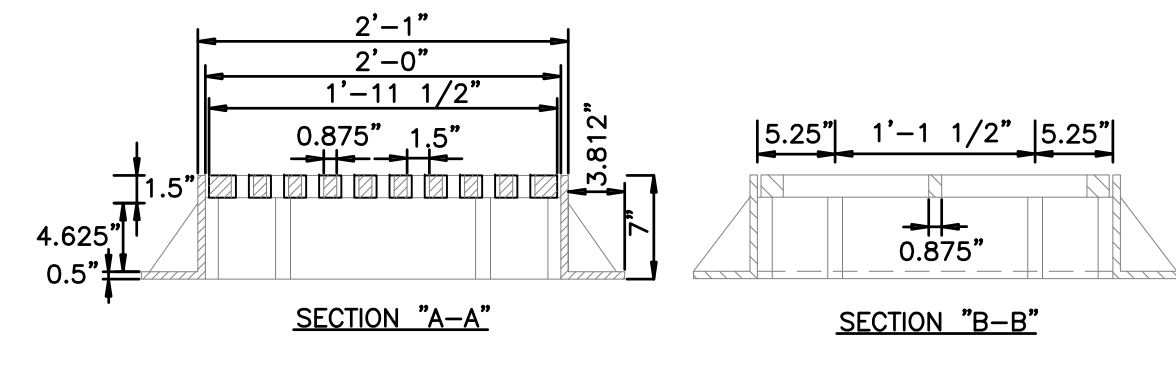
**C-104**



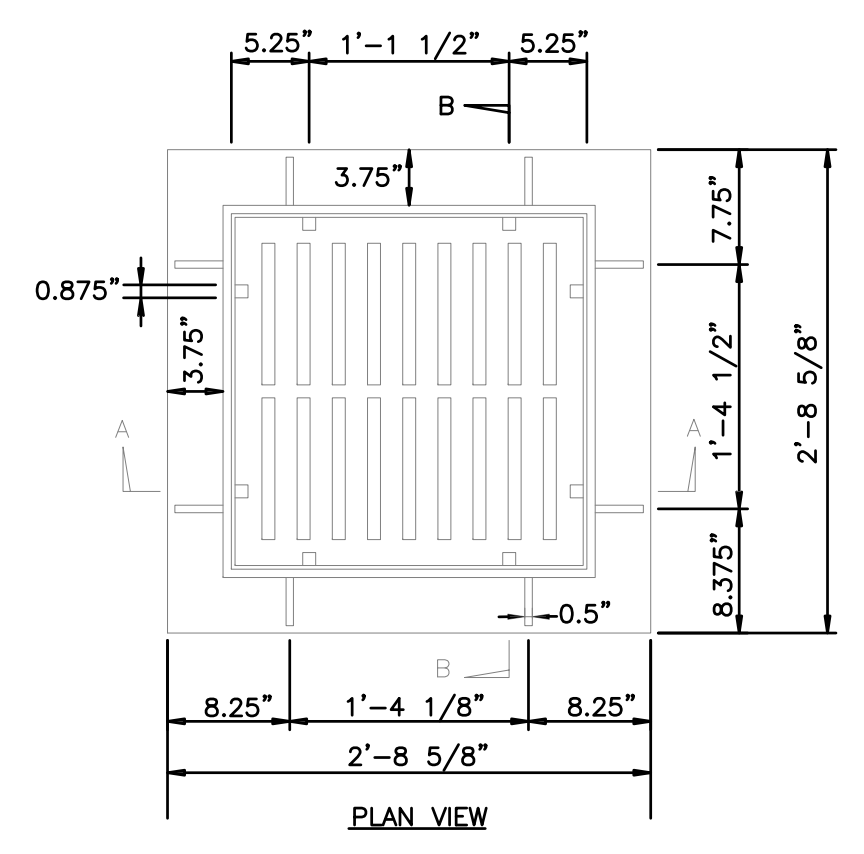


NOTE:  
FRAME AND GRATE TO BE STANDARD CITY OF WILMINGTON CAST IRON FRAME AND GRATE

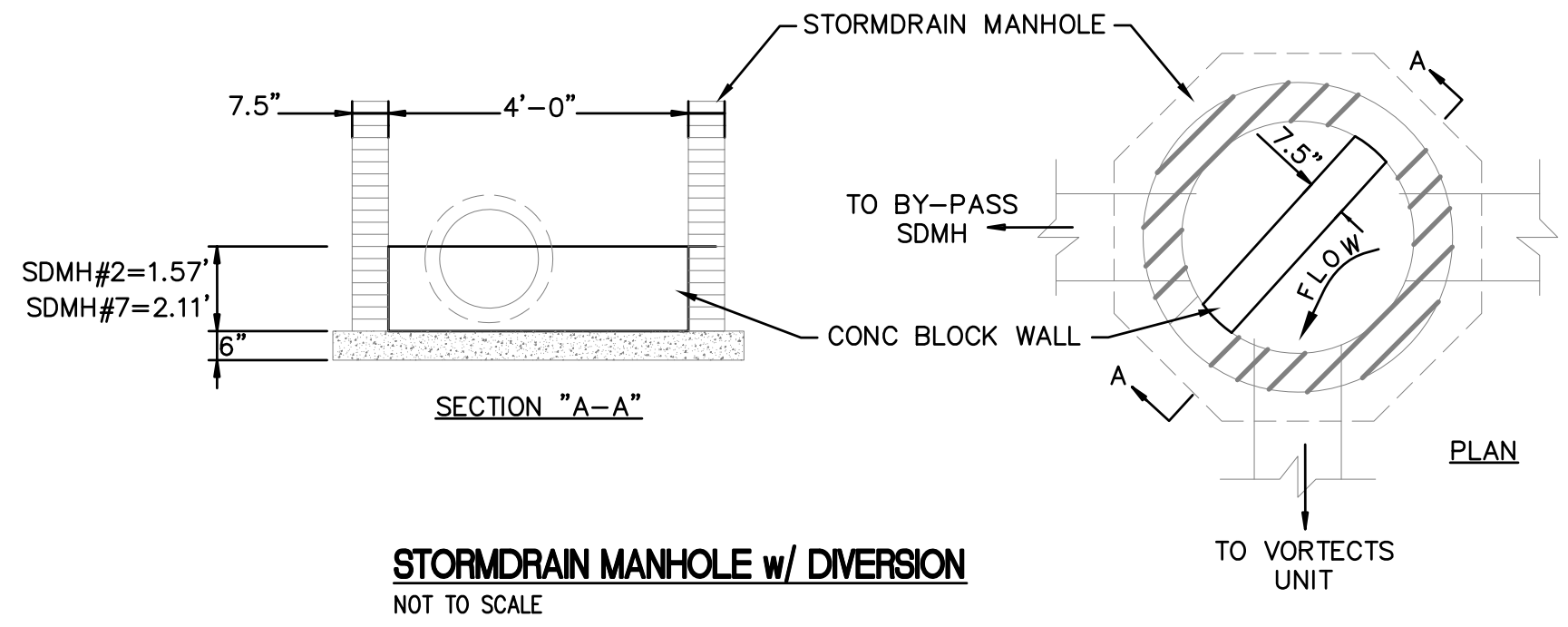
**DROP INLET**  
CITY OF WILMINGTON - SD2-02  
NOT TO SCALE



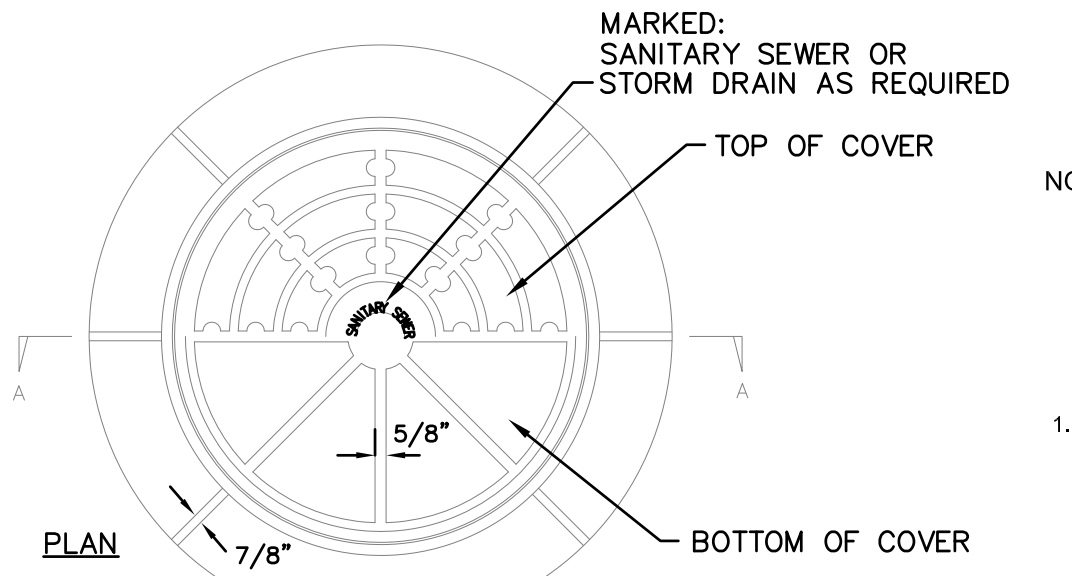
MINIMUM AVERAGE WEIGHT  
FRAME 195 LBS.  
GRATE 145 LBS.



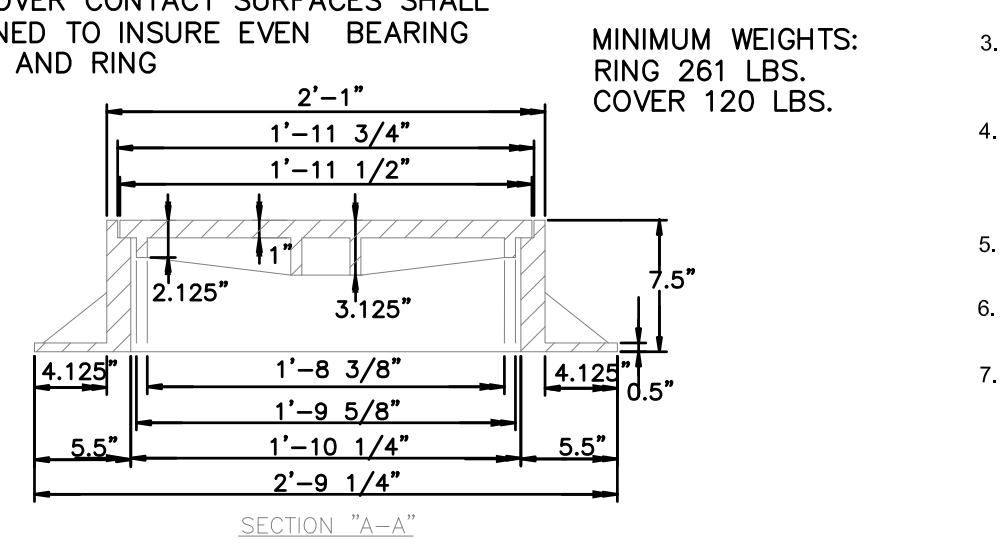
**DROP INLET FRAME AND GRATE**  
NOT TO SCALE



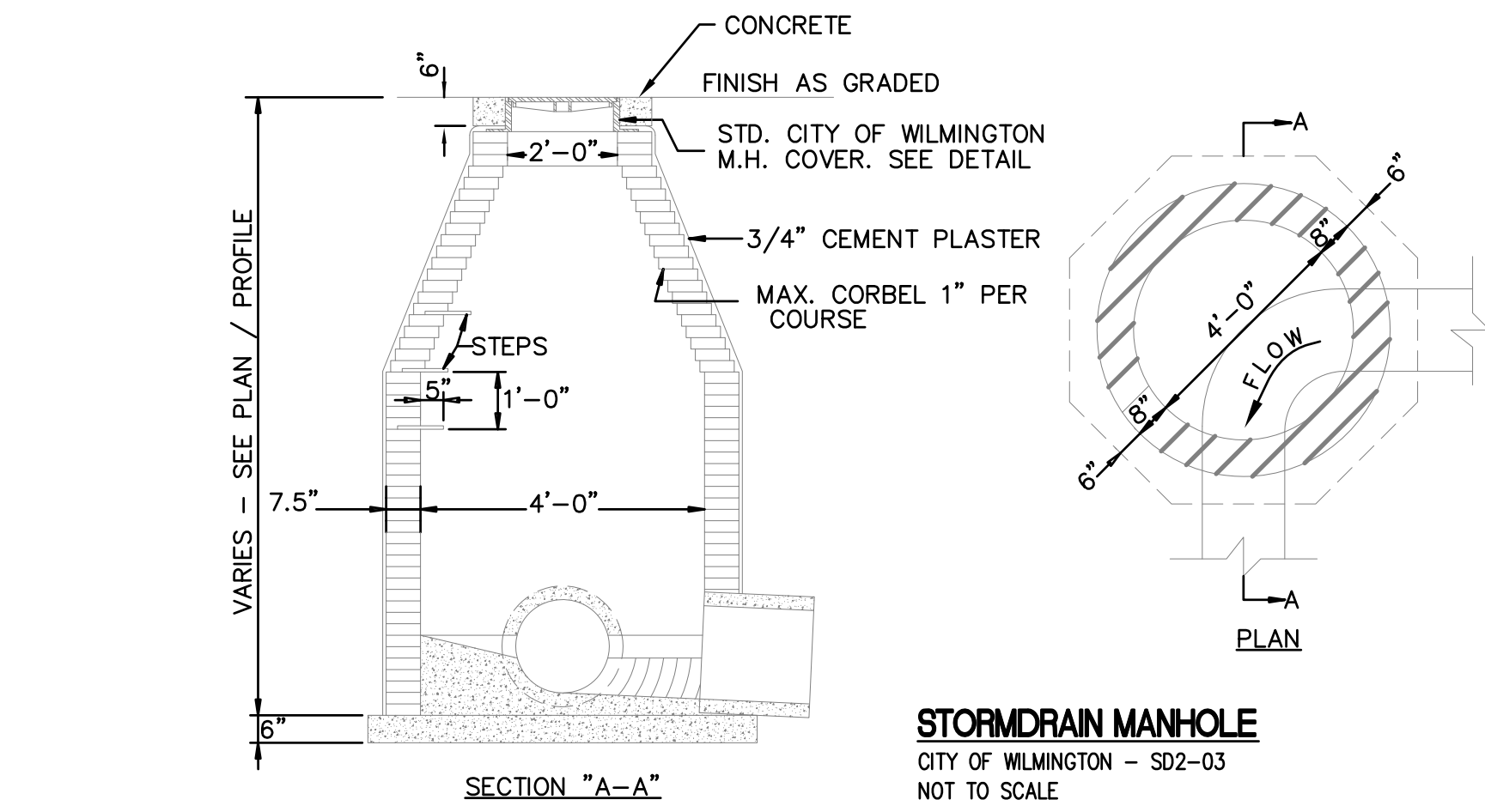
**STORM DRAIN MANHOLE w/ DIVERSION**  
NOT TO SCALE



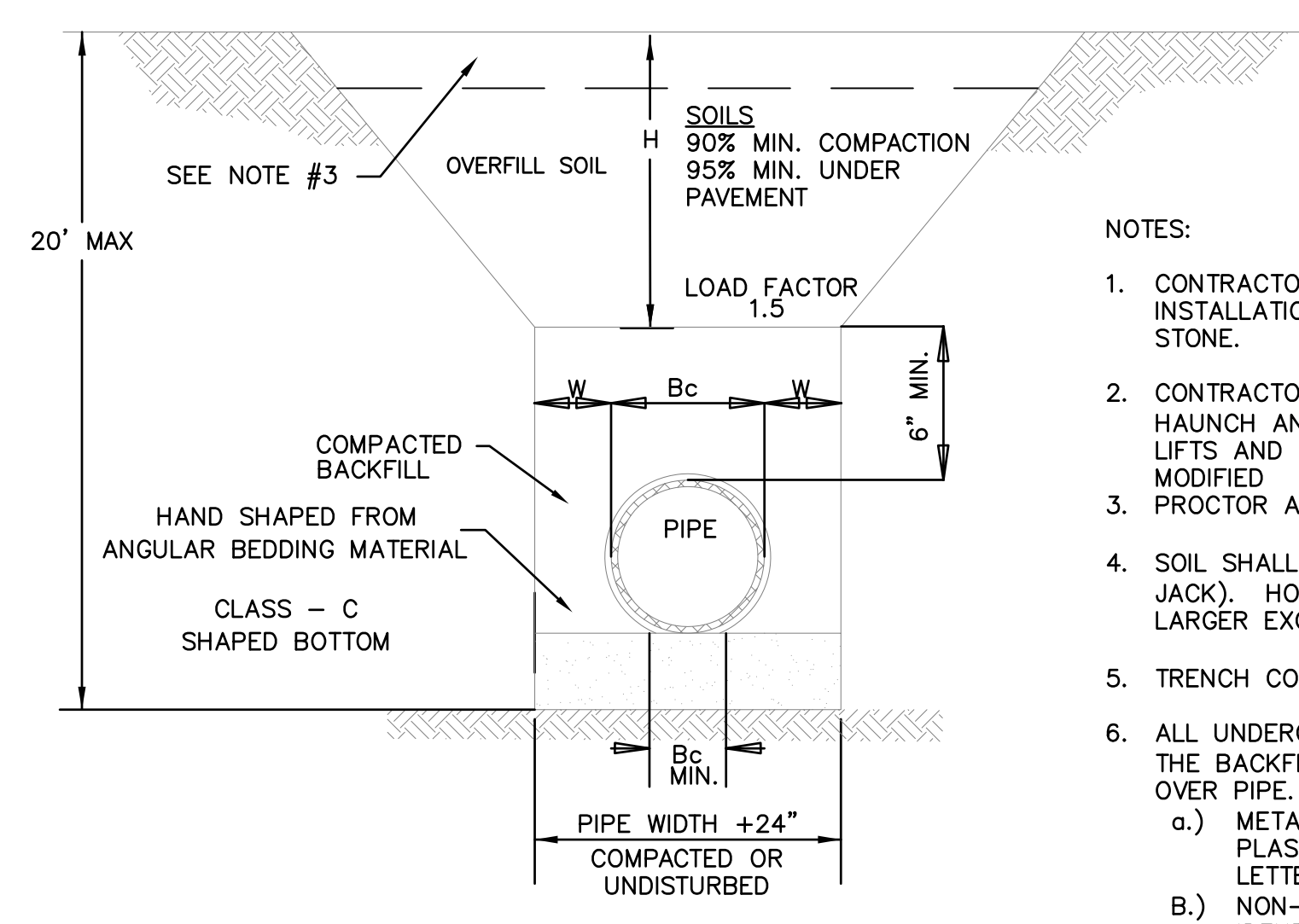
NOTE:  
RING & COVER CONTACT SURFACES SHALL BE MACHINED TO INSURE EVEN BEARING OF COVER AND RING.



**STORM DRAIN MANHOLE RING AND COVER**  
NOT TO SCALE



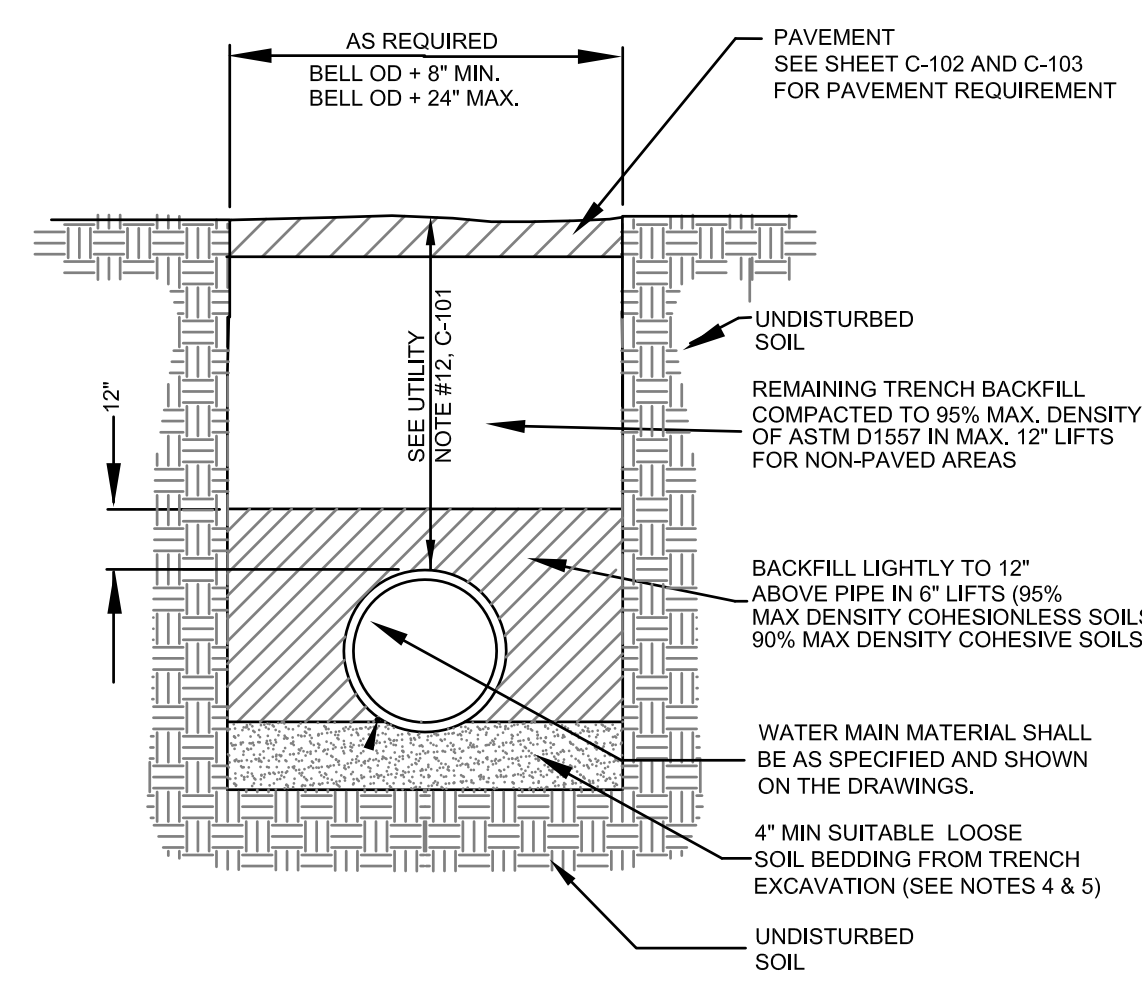
**STORM DRAIN MANHOLE**  
CITY OF WILMINGTON - SD2-03  
NOT TO SCALE



**STORM PIPE TRENCHING AND BEDDING DETAIL**  
NOT TO SCALE

NOTES:

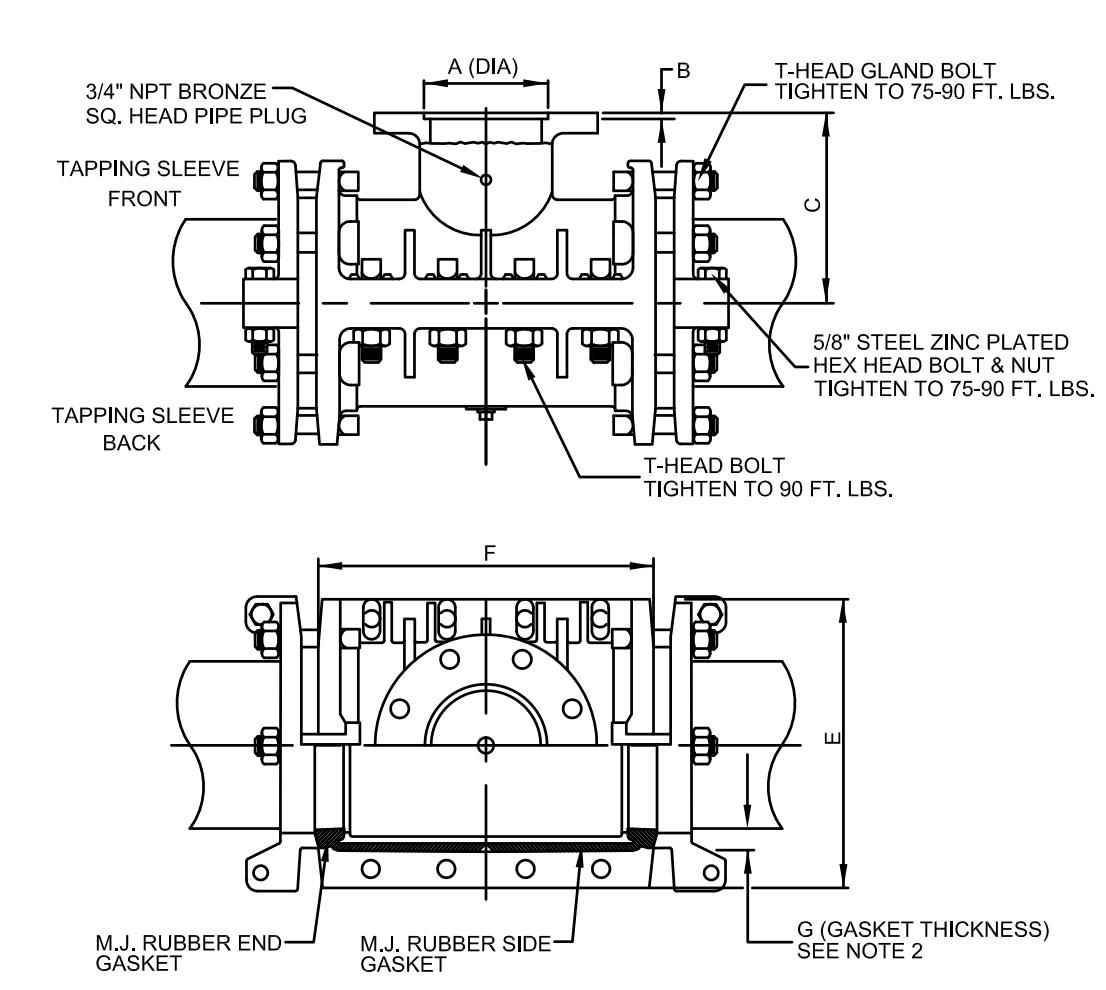
1. ALL EXCAVATIONS SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE CONSTRUCTION STANDARDS FOR EXCAVATIONS IN OSHA "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION" CHAPTER XVII OF TITLE 29, CFR, PART 1926. THE CONTRACTOR SHALL HAVE A COMPETENT PERSON ON SITE AT ALL TIMES DURING EXCAVATION AND BACKFILLING.
2. CONTRACTOR SHALL USE TRENCH BOX SHORING IN ALL OPEN CUTS IN PAVED AREAS. TRENCH WIDTH SHALL BE MAINTAINED AT THE MINIMUM PRACTICAL WIDTH.
3. TYPE 3 TRENCH CONDITIONS AND A MINIMUM OF 36" OF COVER MUST BE MAINTAINED UNLESS SHOWN OTHERWISE ON THE PLAN PROFILE.
4. LOOSE SOIL OR SELECT MATERIAL IS DEFINED AS "NATIVE" SOIL EXCAVATED FROM THE TRENCH, FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.
5. BEDDING MATERIAL SHALL EXTEND TO UNDISTURBED TRENCH WALLS AND TRENCH BOTTOM.
6. BEDDING MATERIAL SHALL BE PROPERLY ROLLED AND COMPACTED AROUND THE PIPE HAUNCHES.
7. TRENCH COMPACTION TESTING SHALL BE PERFORMED EVERY 50'.



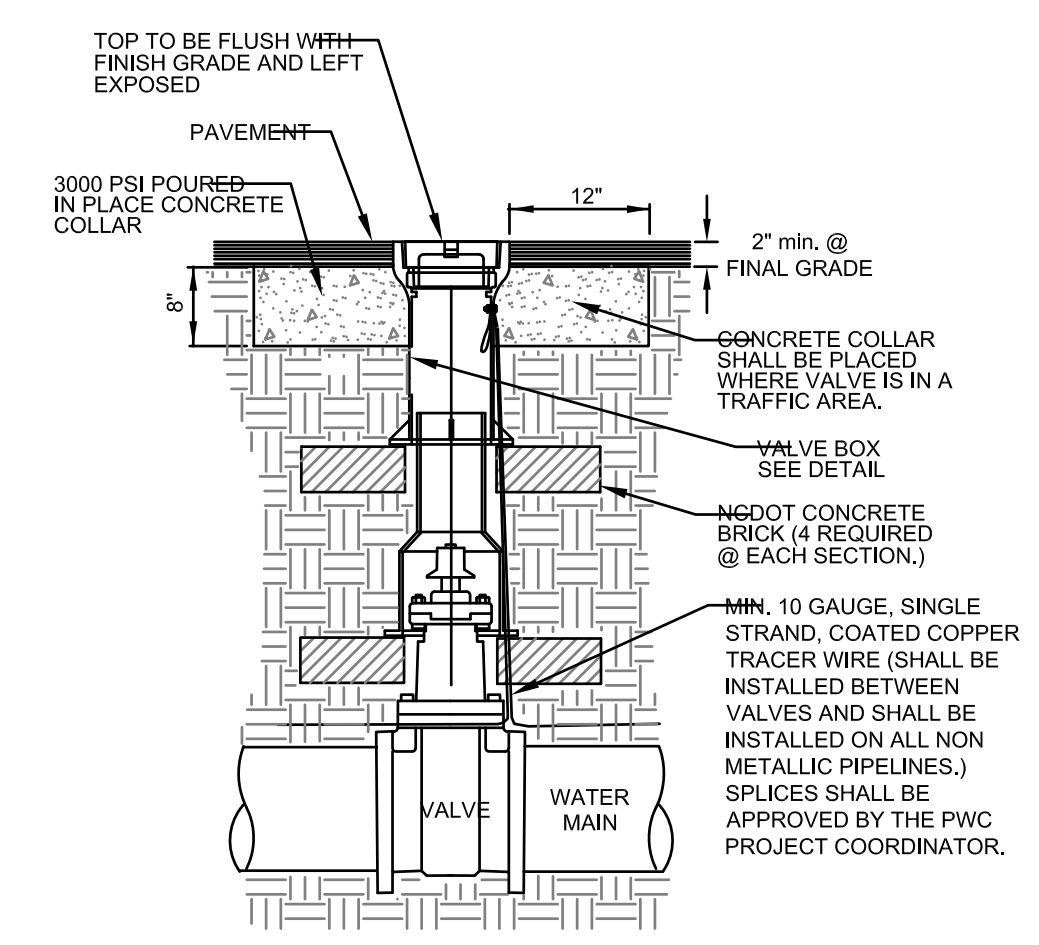
**WATER TRENCHING AND BEDDING DETAIL**  
NOT TO SCALE

NOTES:

1. SLEEVE BODY SHALL BE DUCTILE IRON ASTM A536.
2. MECHANICAL JOINT TAPPING SLEEVES SHALL BE AS MANUFACTURED BY CLOW, M & H, MUELLER, OR AMERICAN AND SHALL BE FURNISHED WITH SPLIT GLANDS, SPLIT END GASKET, BOLTS, ETC. THE OUTLET FLANGE SHALL BE CL 125 PER ANSI B16.1 COMPATIBLE WITH APPROVED TAPPING VALVES.
3. DIMENSIONS SHOWN ARE FOR REFERENCE AND MAY VARY BASED UPON MANUFACTURER. SLEEVES SHALL BE SIMILAR IN NATURE TO THAT SHOWN AND SHALL NOT DEVIATE IN ESSENTIAL DETAILS.
4. PIPE SURFACES SHALL BE CLEANED THOROUGHLY TO PERMIT FOR A GOOD SEAL PRIOR TO INSTALLATION.
5. EXTERIOR OF TAPPING SLEEVE SHALL BE COATED W/2 COATS ASPHALTIC VARNISH ML-C450.
6. ALL TAPPING SLEEVES SHALL BE HYDROSTATICALLY PRESSURE TESTED PRIOR TO THE TAP BEING ACCOMPLISHED. TEST SHALL BE APPROVED BY OWNERS PROJECT COORDINATOR PRIOR TO BEGINNING TAPPING PROCESS.
7. SEE TAPPING VALVE FOR ADDITIONAL INFORMATION.



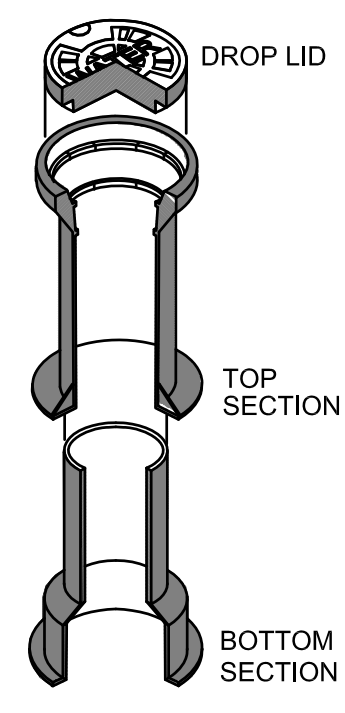
**TAPPING SLEEVE**  
NOT TO SCALE



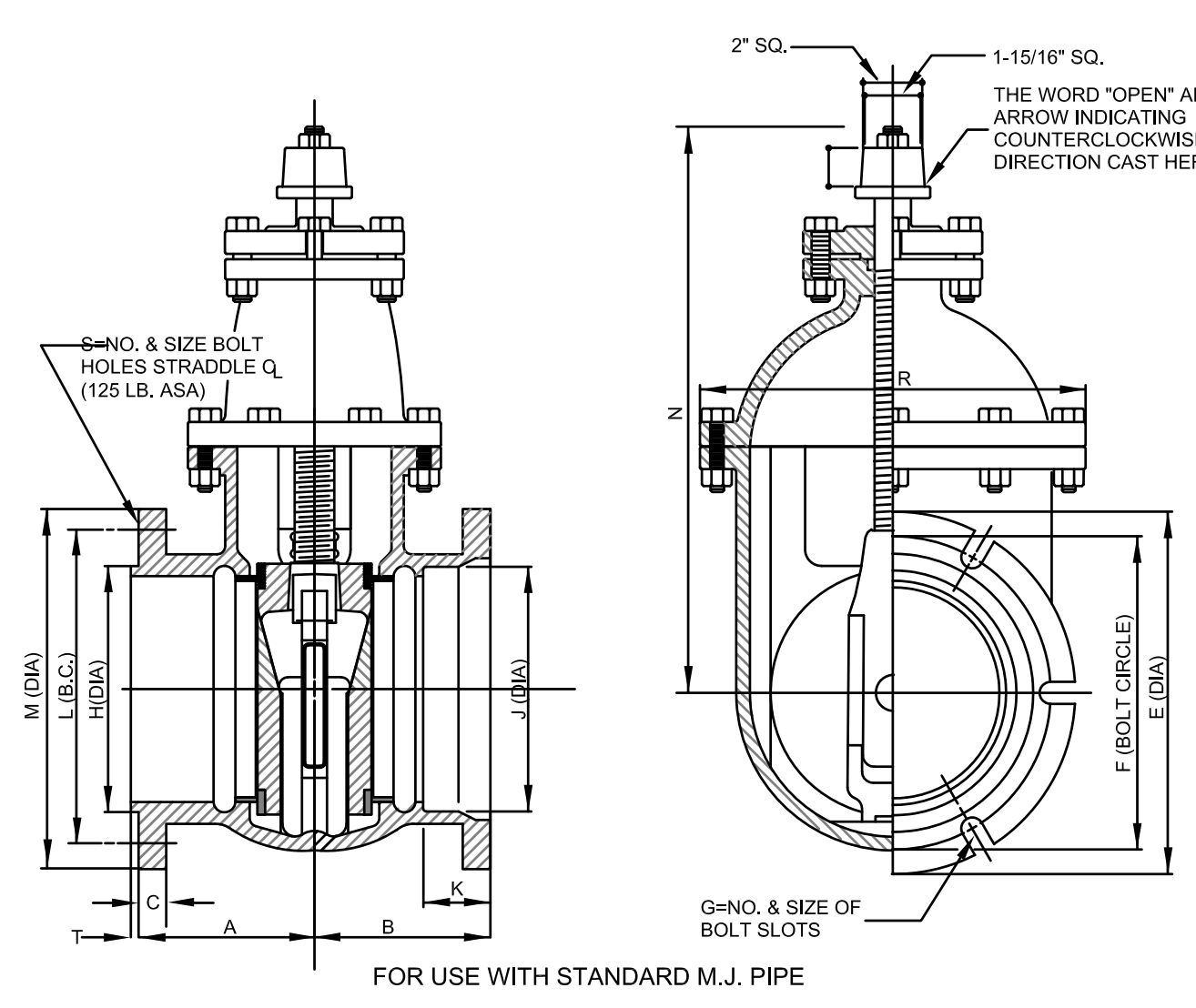
**VALVE DETAIL**  
NOT TO SCALE

NOTES:

1. VALVE BOX SHALL BE 3 PART SLIP-TYPE MANUFACTURED BY ALABAMA PIPE CO., CHAPMAN VALVE CO., COLOMBIAN IRON WORKS, F.D. WOOD CO. OR APPROVED EQUAL.
2. VALVE BOX SHALL BE 3-PIECE CLOSE GRAINED CAST IRON SLIP-TYPE VALVE BOX WITH A MINIMUM THICKNESS OF 3/16".
3. VALVE BOX SHALL HAVE RAISED LETTERS "WATER" CAST INTO COVER.
4. VALVE BOX SHALL HAVE 3/8" HOLE DRILLED IN TOP SECTION THRU WHICH A 1/4"x1-1/2" GALVANIZED BOLT SHALL BE USED TO SECURE A MINIMUM 12 GAUGE, SINGLE STRAND, COATED COPPER TRACER WIRE FOR NON-FERROUS PIPE. A 1/2" WASHER SHALL BE USED BETWEEN NUT AND INSIDE OF BOX. TIGHTEN HAND TIGHT.
5. SCREW TYPE VALVE BOXES ARE NOT ACCEPTABLE.
6. DIMENSIONS SHOWN ARE FOR INFORMATION ONLY AND VARY BASED UPON THE MANUFACTURER.
7. VALVE BOX SECTIONS ARE REQUIRED. THE USE OF PIPE IN LIEU OF VALVE BOX SECTIONS SHALL NOT BE PERMITTED.
8. TRACING WIRE SHALL BE INSTALLED OUTSIDE OF BOX.



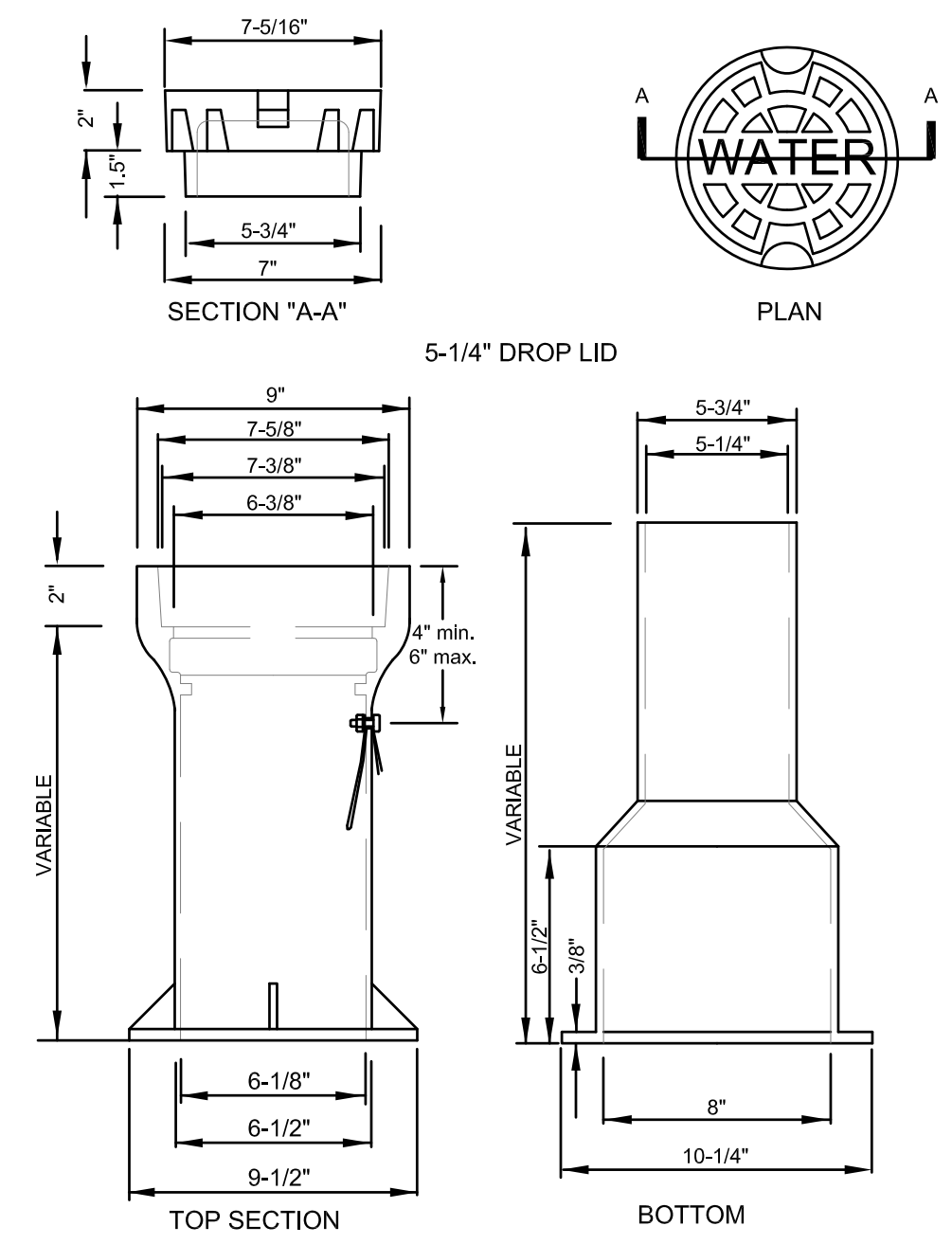
**VALVE BOX DETAIL**  
NOT TO SCALE



**TAPPING SADDLE**  
NOT TO SCALE

VALVE SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	URNS TO OPEN	WEIGHT WACC.
4	4-3/8	5-7/8	15/16	1-1/2	9	7-1/2	4-7/8	4-63/64	4-29/32	2-1/2	7-1/2	9	14-1/8	9	8-3/4	1/4	14	118
6	6-7/8	6-1/4	1-5/8	1-5/8	11	9-1/2	6-7/8	6-63/64	6-29/32	2-1/2	9-1/2	11	17-5/8	11-3/4	8-7/8	1/4	21	175
8	8-1/2	7-1/4	1-1/8	1-3/4	13-1/4	11-3/4	6-7/8	6-63/64	6-29/32	2-1/2	11-3/4	13-1/2	21	14-1/4	8-7/8	1/4	28	274
12	7	8-1/4	1-3/4	1-3/4	17-7/8	18-1/4	6-7/8	12-63/64	13-5/16	2-1/2	17	19	28-1/4	18-1/8	12-1	1/4	39	570
16	8-1/2	8-1/8	1-7/16	2-1/16	23	21	12-7/8	16-16/16	17-35/64	3-1/2	21-1/4	23-1/2	38-3/8	26-1/8	16-1	1/8	55	1140
24	10-1/2	14-1/4	1-7/8	2-1/2	31-3/4	30	16-7/8	24-16/16	25-16/16	3-1/2	28-1/2	32	54-5/8	37-5/8	20-1	3/8	516	3225

SLEEVE SIZE	6X6	8X6	8X8	12X6	12X8	12X12	16X6	16X8	16X12	24X6	24X8	24X12	24X16	24X24	30X6	30X8	30X12	30X16	30X24
A (DIA)	7.016	7.016	9.016	7.016	9.016	13.016	7.016	9.016	13.016	11.00	13.5	19.0	23.5	32.0	11.00	13.5	19.0	23.5	32.0
B	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31
C	7.7/8	9-1/16	9	11-5/8	11-7/8	12-7/8	14-1/8	14-1/8	14-7/8	19.5	19.5	20.5	20.5	23.25	23.25	23.25	23.25	23.25	23.25
E	11-3/4	13-7/8	13-7/8	18-1/2	18-1/2	18-1/2	23-1/2	23-1/2	23-1/2	35.5	35.5	35.5	35.5	43.37	43.37	43.37	43.37	43.37	43.37
F	13-1/2	15	15	19-1/2	19-1/2	19-1/2	22-1/2	22-1/2	22-1/2	18.0	18.0	24.0	30.0	36.0	24.0	24.0	24.0	36.0	36.0



**VALVE BOX DETAIL**  
NOT TO SCALE

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Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
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PROFESSIONAL ENGINEER  
MICHAEL M. JANISIN  
2015

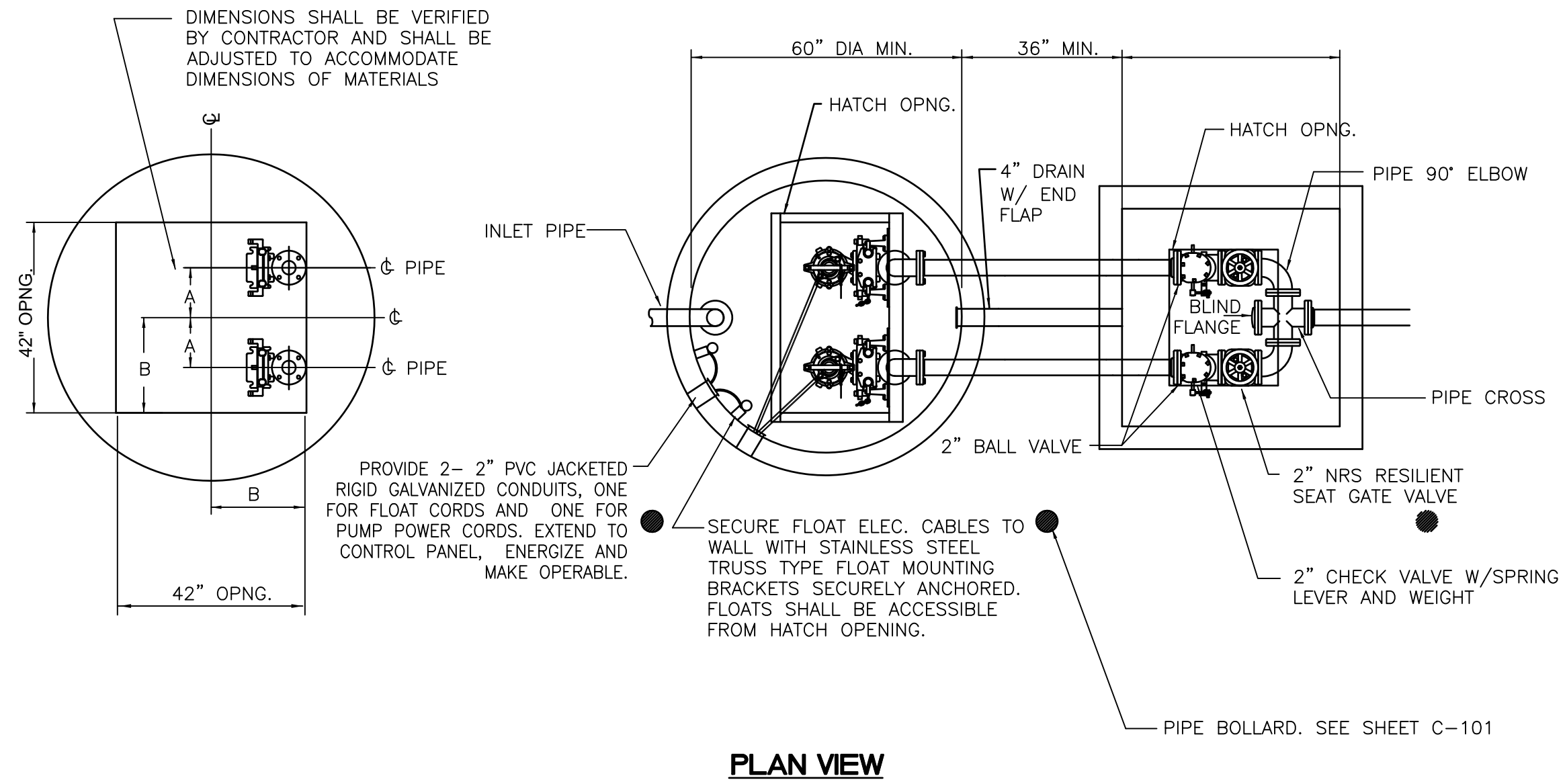
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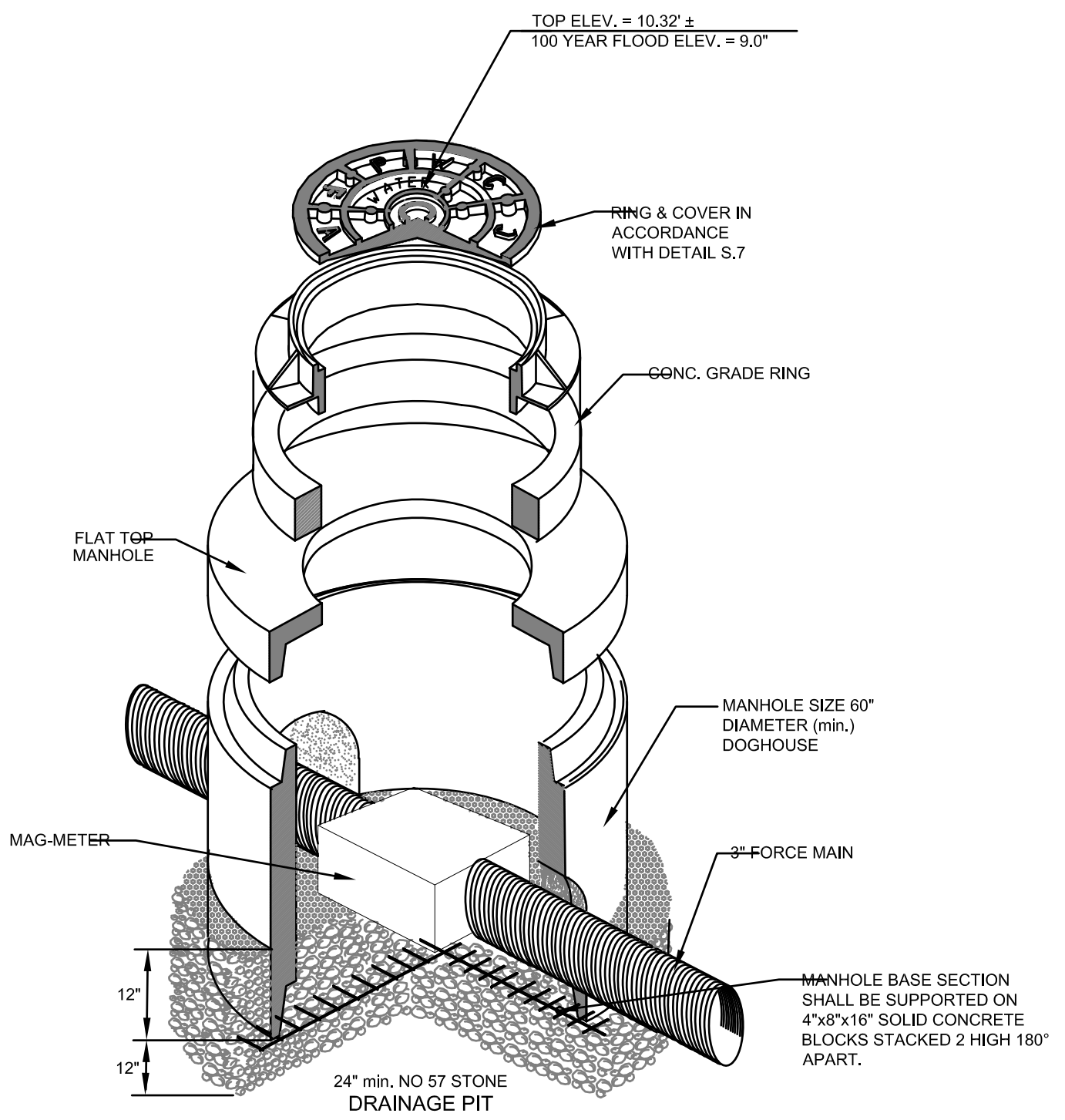
1	5/29/15	STATE PERMIT SUBMISSION #2

ISSUE DATE  
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CATLIN JOB #: 213053  
**JOB A285**  
SITE DETAILS



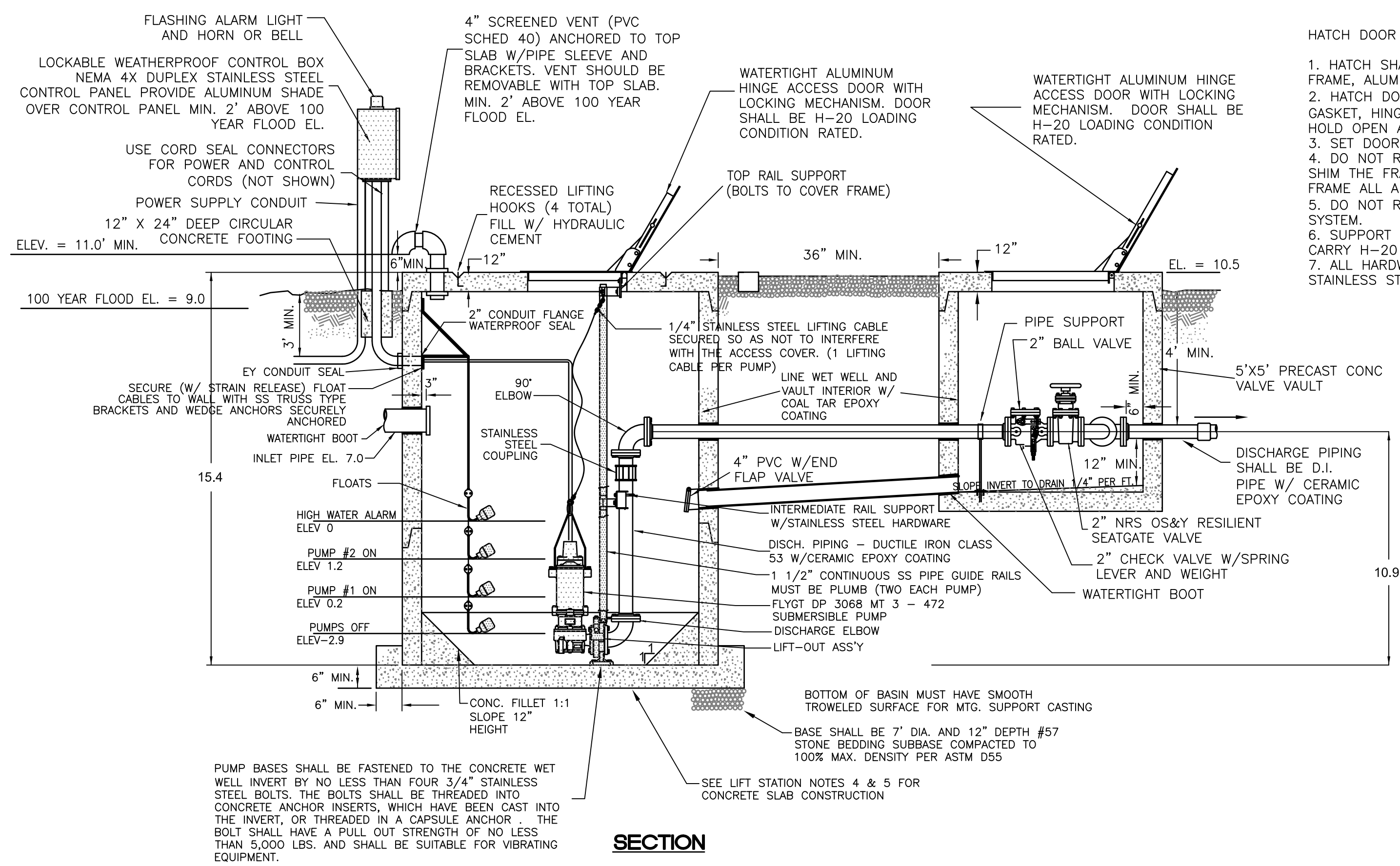
**NOTES**

1. CONCRETE SHALL BE 4,000 PSI COMPRESSION STRENGTH.
2. WET WELL & VALVE VAULT SHALL MEET REQUIREMENTS OF ASTM C-478.
3. ALL ELECTRICAL MATERIAL & INSTALLATION SHALL BE BY A LICENSED ELECTRICIAN AND IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, AND RULES AND REGULATIONS OF LOCAL AUTHORITIES HAVING JURISDICTION. MATERIALS SHALL BE LISTED OR LABELED BY THE UNDERWRITERS LABORATORIES STANDARDS.
4. LIFT STATION WET WELL & VALVE VAULT CONCRETE SLAB AND HATCH SHALL BE MANUFACTURED TO WITHSTAND H-20 LOADING CONDITIONS.
5. MANUFACTURER SHALL BE REQUIRED TO SUBMIT DESIGN CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER WITH SHOP DRAWINGS AND REVIEW SUBMITTAL TO THE ENGINEER.
6. SHOP DRAWINGS AND WIRING DIAGRAMS SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT.
7. ENGINEER TO APPROVE FOUNDATION BED BEFORE SETTING WET WELL AND VALVE VAULT. FOUNDATION SHALL BE 5' DIA. WITH A MINIMUM 12" DEPTH OF #57 STONE BEDDING.
8. CONTRACTOR IS TO PROVIDE DEWATERING EQUIPMENT AS REQUIRED FOR CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
9. HATCH DOORS AND CONTROL PANEL BOX SHALL BE LOCKABLE, UTILIZING HASPS. CONTRACTOR SHALL WILL PROVIDE LOCKS.
10. CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT, MATERIALS, AND INCIDENTALS REQUIRED TO MAKE THE LIFT STATION FULLY OPERATIONAL AND IN ACCORDANCE WITH CFPWA STANDARDS.
11. RECESSED LIFTING HOOKS SHALL BE PLACED IN CONCRETE WET WELL COVER. CONTROL PANEL BOX SHALL BE ANCHORED IN 12' X 24" DEEP CONCRETE FOOTING.
12. CONTRACTOR SHALL PROVIDE ALL NECESSARY LUBRICANTS FOR STARTUP AND SHALL ASSIST THE EQUIPMENT MANUFACTURER WITH INITIAL STARTUP (MIN. 2 DAYS).
13. PIPEWORK SHALL BE ASSEMBLED, INSTALLED, AND FULLY SUPPORTED SO AS NOT TO PUT A STRAIN ON THE PUMPING EQUIPMENT, PIPE FITTINGS AND ELBOWS.
14. ALL THRU-THE-WALL SLEEVES AND CARRIER PIPES INTO THE WET WELL SHALL BE INSTALLED ABSOLUTELY WATERTIGHT WITH NO SIGNS OF SEEPAGE OR INFILTRATION.
15. ALL HANGERS, CLAMPS, FLANGE BOLTS, AND CONNECTIONS SHALL BE STAINLESS STEEL UNLESS OTHERWISE SPECIFIED. THESE ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
16. ALL DIMENSIONS SHALL BE VERIFIED BY CONTRACTOR AND SHALL BE ADJUSTED TO ACCOMMODATE DIMENSIONS OF MATERIALS SUPPLIED BY CONTRACTOR.
17. FLANGE FACES SHALL BE SERRATED.
18. CONSTRUCTION SHALL BE IN ACCORDANCE W/ CFPWA TECHNICAL SPECS, ALL APPLICABLE CODES, AND THE N.E.C.
19. WET WELL & VALVE VAULT INTERIOR SHALL BE COATED WITH A COAL TAR EPOXY.



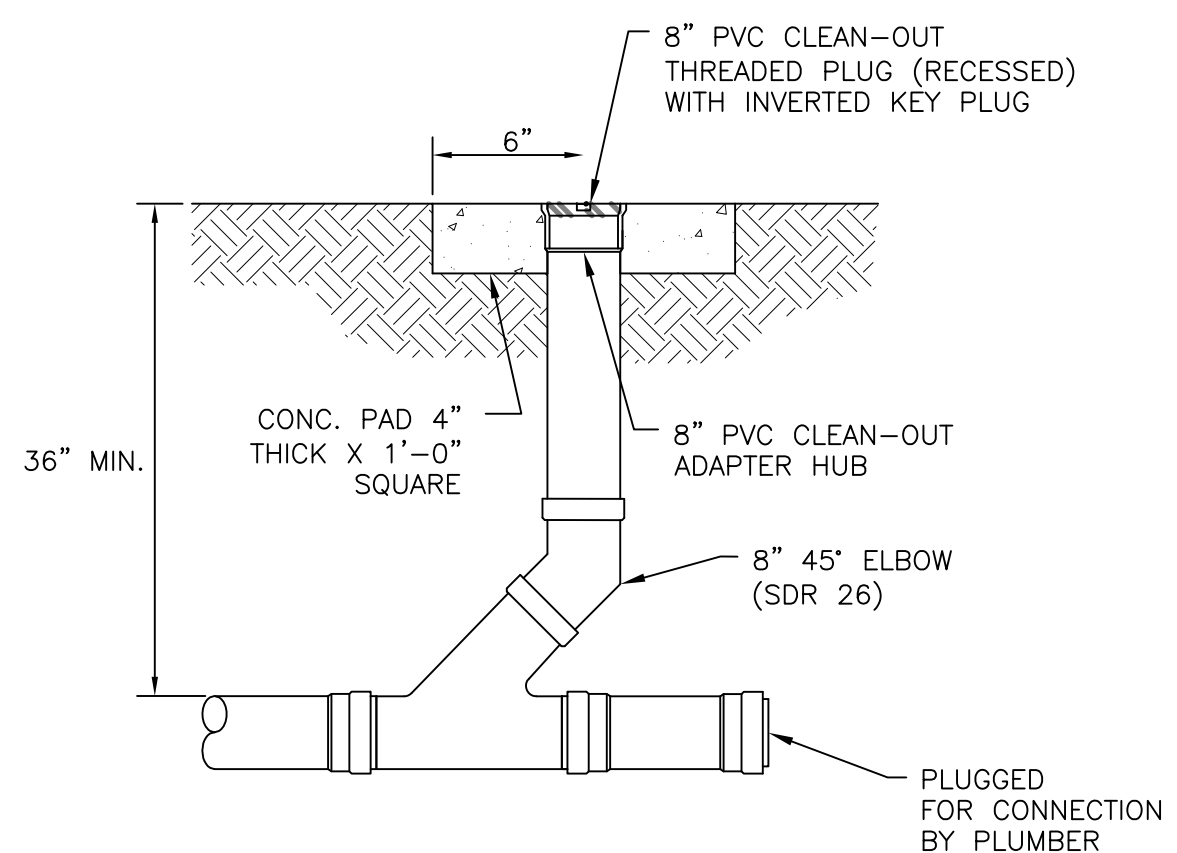
**HATCH DOOR NOTES:**

1. HATCH SHALL BE SINGLE LEAF, RATED H-20 LOADED, CHANNEL FRAME, ALUMINUM DIAMOND PATTERN PLATE DOOR.
2. HATCH DOORS SHALL BE WATERTIGHT EQUIPPED W/ NEOPRENE GASKET, HINGED WITH LOCKING MECHANISM (HASP), AND AUTOMATIC HOLD OPEN ARM.
3. SET DOOR UNIT WITH SLIGHT PITCH TOWARD RAIN.
4. DO NOT RACK OR TWIST FRAME WHEN SETTING UNIT. BLOCK UP AND SHIM THE FRAME IF NECESSARY TO BE SURE COVERS REST EVENLY ON FRAME ALL AROUND.
5. DO NOT REDUCE 1-1/2\"(38mm) PIPE TO DRY WELL OR DISPOSAL SYSTEM.
6. SUPPORT SHELF MUST BE SUPPORTED BY CONCRETE OR STEEL TO CARRY H-20 LOADING.
7. ALL HARDWARE SHALL BE ZINC PLATED STEEL-CHROMATE SEALED OR STAINLESS STEEL.

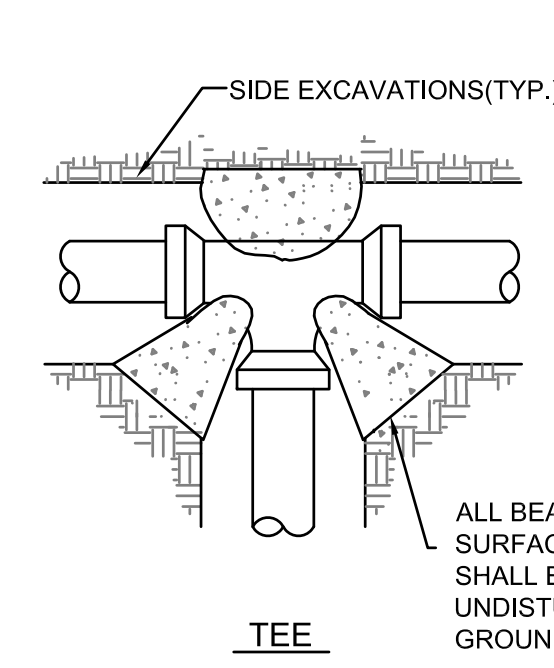
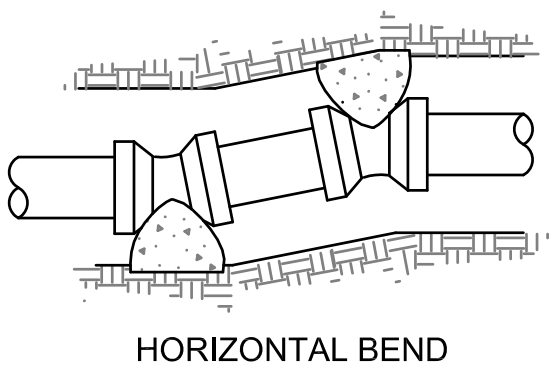
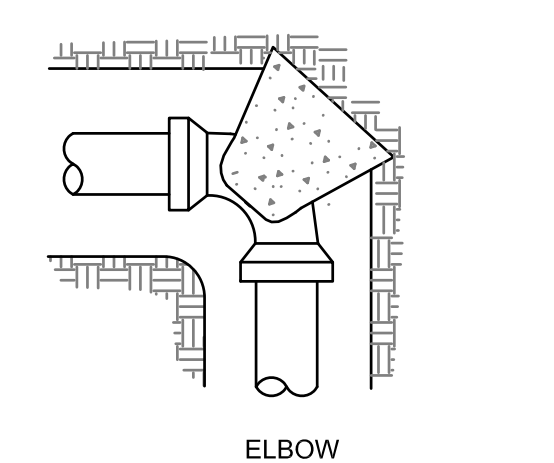


**BASIS OF DESIGN**
  
 MANUFACTURE = FLYGT
   
 MODEL = DP 3068 MT 3 - 472
   
 2.4 HORSE POWER
   
 3 PHASE 400 VOLTS
   
 40 GPM @ 30' TDH
   
 5 1/2" IMPELLER DIA. PER MANUFACTURE RECOMMENDATIONS

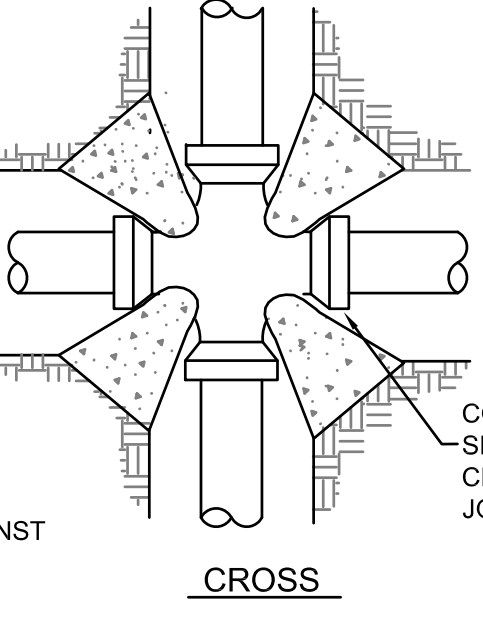
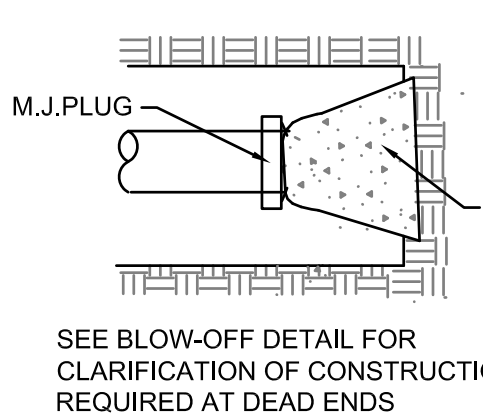
**PUMP STATION NOT TO SCALE**



**SANITARY SEWER CLEANOUT NOT TO SCALE**



PIPE SIZE	MIN. BEARING AREA EACH DIRECTION OF THRUST IN SQUARE FEET (based on soil supporting value of 2000 psf @ 200 psig test pressure)			
	TEES & DEADENDS	90° ELBOWS	45° ELBOW & CROSSES	22-1/2° ELBOWS
6"	4	6	3	2
8"	7	10	5	3
12"	15	21	11	6



**CONC. THRUST BLOCK DETAIL NOT TO SCALE**

**NOTES:**

- 1.) THRUST BLOCKS SHALL BE INSTALLED ON PVC WATER DISTRIBUTION LINES 6" THRU 12" DIA. IN THE MANNER SHOWN, SEE PWC STANDARD ALT. RESTRAINING DETAIL W.18 FOR ACCEPTABLE ALTERNATE RESTRAINING SYSTEMS.
- 2.) PIPE GREATER THAN 12 INCH DIAMETER SHALL REQUIRE RESTRAINT JOINT PIPE FOR THE PROPER LENGTH.
- 3.) COMPACT FITTINGS ARE NOT ACCEPTABLE. STANDARD FITTINGS SHALL BE USED WITH CONCRETE THRUST BLOCKING.
- 4.) THRUST BLOCKS SHALL BE INSTALLED ON SEWER FORCE MAIN IN THE MANNER SHOWN.
- 5.) IF SAC-CRETE IS USED, MIXING MUST BE ON SITE UTILIZING A MECHANICAL MIXER.
- 6.) NO CONCRETE SHALL BE PLACED ON BOLTS. WRAP JOINT FITTINGS WITH PLASTIC.
- 7.) CONCRETE SHALL BE A MINIMUM 3,000 PSI.
- 8.) ALL BEARING SURFACES SHALL BE AGAINST UNDISTURBED SOIL AND SHALL BE APPROVED BY OWNERS PROJ. COORDINATOR PRIOR TO PLACEMENT OF CONCRETE.
- 9.) USE OF RESTRAINED JOINT DUCTILE IRON WILL BE REQUIRED IF SOIL CONDITIONS DO NOT ALLOW THE USE OF THRUST BLOCKS.
- 10.) ALL VERTICAL BENDS SHALL BE RESTRAINED USING RESTRAINED JOINT DUCTILE IRON PIPE.

Print Record


Revision Record

NO.	DATE	DESCRIPTION
1	5/29/15	STATE PERMIT SUBMISSION #2