

**CITY OF HOMER
HOMER, ALASKA**

ORDINANCE 85-25

**AN ORDINANCE ADOPTING A CONSTRUCTION PRACTICES
INDEX AND SETTING AN EFFECTIVE DATE**

WHEREAS, the Homer City Council has adopted a design criteria manual to aide in setting forth construction standards for the City of Homer; and

WHEREAS, a construction practices index is a necessary guideline to be used in conjunction with the design criteria manual; and

WHEREAS, any amendments to this manual must be approved by the City Council.

NOW, THEREFORE, BE IT ORDAINED, the City of Homer hereby creates a construction practices index and adopts by reference as if included in the Homer City Code as follows:

STANDARD CONSTRUCTION PRACTICES

Ordinance 85-25
Adopted 8-26-85

Effective 9-1-85

Revised and Issued: 85-25 A February 12, 1986



PUBLIC WORKS DEPARTMENT

STANDARD CONSTRUCTION PRACTICES INDEX
Adopted 8/26/85

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DIVISION 05

DEFINITIONS

DIVISION 05

Definitions. Unless otherwise provided, or the context otherwise requires, the following words and phrases shall have the meaning set forth below:

a. "Air-gap separation" means a physical separation between the free-flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An "approved air-gap separation" shall be at least double the diameter of the supply pipe measured vertically above the top rim of the vessel - in no case less than one inch.

b. "Apartment" means a room, or suite of rooms, occupied by one family doing its cooking therein.

c. "Approved" herein used in reference to a water supply, means a water supply that has been approved by the Public Works Department; herein used in reference to air-gap separation, a double check valve assembly or a reduced pressure principle backflow prevention device or other backflow prevention device or method, means an approval by the Public Works Department.

d. "Asbuilt" means a set of drawings describing a project exactly as it was actually constructed, which includes references to visible permanent features for exact location.

e. "Backflow" means the flow of water or other liquids, mixtures, gases or other substances into the distributing pipes of a potable supply of water from any source or sources.

f. "Backwater prevention device - approved" means a device that has been investigated and approved by the Public Works Department. The approval of backwater prevention devices by the Public Works Department should be on the basis of a favorable report by an "approved testing laboratory" recommending such an approval.

g. "Check valve - approved" means a check valve that is drip-tight in the normal direction of flow when the inlet pressure is one (1) p.s.i. and the outlet pressure is zero (0). The check valve shall permit no leakage in a direction reverse to the normal flow. The closure element (e.g., clapper) shall be internally weighted or otherwise internally loaded to promote rapid and positive closure.

h. "City inspector" is an individual employed by the City of Homer, who shall monitor construction progress and quality to the satisfaction of the City of Homer, who shall record whether the project is proceeding according to the plans and specifications and who shall receive change requests and documentation related to the project, including "as-built"

drawings, inspection field books and copies of the surveyor's field notes.

i. "City standard specifications" means a set of construction specifications approved by the City of Homer for general application and repetitive use.

j. "Consumer" means the owner or operator of a private water system having a service from a public potable water system.

k. "Contamination" means an impairment of the quality of the water by sewage or industrial fluids or waste to a degree which creates an actual hazard to the public health through poisoning or through the spread of disease.

l. "Contractor" means the individual, firm, corporation, or any combination thereof, licensed by the City of Homer to work in the right-of-way.

m. "Corner lot" means a parcel of land which has road frontage along two or more adjacent sides.

n. "Cross-connection" means any actual or potential connection or structural arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluid, gas or substance other than the intended potable water with which the system is supplied. By-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which or because of which "backflow" can or may occur are considered to be cross-connections.

o. "Developer" means a property owner who is developing his property.

p. "Double check valve assembly" means an assembly composed of two single, independently acting, approved check valves, including tightly closing shut-off valves located at each end of the assembly and suitable connections for testing the watertightness of each check valve.

q. "Driveway" or "Approach" means that section of the roadway or alley right-of-way between the roadway edge or edge of shoulder and the property line which is designed and used for the movement of traffic between the roadway and the adjacent property.

r. "Hazard - health" means an actual or potential threat of contamination or pollution of a physical or toxic nature to the public potable water system or the consumer's potable water system to such a degree or intensity that there would be a danger

to health.

s. "Hazard - pollution" means an actual or potential threat to the physical properties of the water system or the potability of the public or the consumer's potable water system but which would not constitute a health or system hazard, as defined. The maximum degree or intensity of pollution to which the potable water system could be degraded under this definition would cause a nuisance or be aesthetically objectionable or could cause minor damage to the system or its appurtenances.

t. "Hazard - system" means an actual or potential threat of severe damage to the physical properties of the public or the consumer's potable water system or of a pollution or contamination which would have a negative effect on the quality of the potable water in the system.

u. "Hospital" means any institution, place, building, or agency which maintains and operates organized facilities for one or more persons for the diagnosis, care, and treatment of human illness, including convalescence and including care during and after pregnancy, or which maintains and operates organized facilities for any such purpose, and to which persons may be admitted for overnight stay or longer. "Hospital" includes sanitarium, nursing home and maternity home.

v. "Inspector" is an individual employed by the Developer, who shall monitor construction progress and quality on a daily basis, and who shall prepare daily inspection reports for submittal to the City.

w. "Intersection" means the area where two or more street rights-of-way intersect.

x. "Main line" is a general term referring to water and sewer lines normally six (6) and eight (8) inches in diameter or larger which primarily serve a distribution area.

y. "Multiple dwelling" means a building occupied by three (3) or more families, each living independently as a separate housekeeping unit, including apartment houses, apartment hotels and flats.

z. "One family dwelling" means a detached building containing only one (1) kitchen and occupied by one (1) family exclusively.

aa. "Pollution" means an impairment of the quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such waters for domestic use.

bb. "Premises" means a lot, parcel of land, building or establishment.

cc. "Pressure vacuum breaker" means a device containing within a single body a single loaded check valve to prevent the backflow of nonpotable water and a loaded air opening valve which shall open to admit air whenever the pressure within the body of the device is reduced so that there is a tendency toward back-siphonage. The body of the device is to be equipped with two (2) tight closing shut off valves - one immediately upstream from the body and one immediately downstream of the body.

dd. "Reduced pressure principle backflow prevention device" means a device containing within its structure a minimum of two (2) independently acting, approved check valves, together with an automatically operating pressure differential relief valve located between the two check valves. The first check valve reduces the supply pressure a predetermined amount so that during normal flow and at cessation of normal flow the pressure between the checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to atmosphere, shall operate to maintain the pressure between the checks less than the supply pressure. The unit shall include tightly closing shut-off valves located at each end of the device and each device shall be fitted with properly located test cocks.

ee. "Right-of-way" means land, property or interest therein, usually in a strip, acquired for or dedicated to the public for a street, road or utility.

ff. "Road frontage" means the portion of a parcel of land which abuts the street or road right-of-way.

gg. "Safety hazard" means any condition which is likely to cause injury or death.

hh. "Service connection" means the terminal end of a service connection from the public potable water system, i.e., where the water supplier loses jurisdiction and sanitary control over the water at its point of delivery to the consumer's water system. If a meter is installed at the end of the service connection, then the "service connection" shall mean the downstream end of the meter. There should be no unprotected takeoffs from the service line ahead of any meter or backwater prevention device located at the point of delivery to the consumer's water system.

ii. "Sewage" means a combination of liquid or water-carried human waste conducted away from residences, business buildings and institutions, which is known as domestic sewage, together with the liquid or water carried waste resulting from a manufact-

uring process employed in industrial establishments, including the washing, cleaning or drain water from such process or establishment, which is known as industrial waste.

jj. "Sewer connection" means that part of the sewer distribution system connecting the sewer main with the lot line of abutting property.

kk. "Sewer main" means that part of the sewer system intended to serve more than one sewer connection.

ll. "Sewer service" means the conduit, all of its fittings and attached parts which function to provide a means of transferring sewage from the customer to the main.

mm. "Sidewalk" means that portion of the roadway primarily constructed for the use of pedestrians.

nn. "Stabilized material" means any aggregate such as gravel, stone, slag or a mixture of such as to provide a smooth, stable, all-weather surface, not subject to raveling.

oo. "Storm drain" means any portion of an organized drainage system for collection and discharge of rain water or runoff water.

pp. "Street" or "road" means any dedicated public right-of-way twenty-one (21) or more feet in width, which may or may not be in use as a traveled way (Prior code S14-400.8).

qq. "Two family dwelling" means a building occupied by two (2) families exclusively, living independently of each other (Prior code S14-300.1).

rr. "Water connection" means the connection of an individual private water service line from the abutting property to the water main line.

ss. "Water extension" means that part of the water distribution system extending from the water connection into the premises service.

tt. "Water main" means that part of the water distribution system intended to serve more than one (1) water connection (Prior code S14-200.2).

uu. "Water - potable" means water from any source which has been investigated by the Alaska Department of Environmental Conservation and which has been approved for human consumption.

vv. "Water service" means the conduit, all its fittings and attached parts which function to provide a means of transferring water from a main to a consumer.

DIVISION 10

GENERAL

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DIVISION 10 PART I

Section 10.1.0 Standard Construction Practices for Utilities,
Driveways and Roadside Drainage

- Article 10.1.1 Scope
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DIVISION 10 PART 1

Section 10.1.0 Standard construction practices for utilities, driveways and roadside drainage.

Article 10.1.1 Scope. This standard specification covers the requirements, materials and standard practices to be followed in the construction of utilities, driveway and roadside drainage projects within the public rights-of-way (R.O.W.).

Article 10.1.2 General.

a. The City may require that the project design, plans and specifications be engineered and be subject to the approval of the Public Works Director. This provision is primarily applicable to, but not limited to, main lines, storm drains, streets, roads, sidewalks and commercial projects.

b. The Public Works Engineer may require that a traffic control plan be submitted for review and approval. Upon approval, the plan must be adhered to during construction.

c. The City has the right to inspect all projects to determine compliance with City standards, specifications and ordinances. The City has the right to reject materials or workmanship not in compliance with City standard specifications or ordinances and to stop work until corrections are made. If corrections are not made in a timely manner, the City shall take necessary corrective action. All expenses incurred by the City shall be chargeable to the Contractor.

d. The contractor shall be responsible for any damage which occurs to the public rights-of-way or his installation due to his work for a period of one (1) year after the specific project has been completed and approved by the City.

e. Damages to the right-of-way not repaired by the contractor after written notification by the City, within a time period set by the City, will be repaired by the City of Homer at the contractor's expense. Failure to pay such cost incurred may result in suspension of permits and refusal to issue any permits until the cost of repair has been made.

f. The contractor shall be responsible for any damages caused to City utilities by his installation or work.

g. No work will be accepted without copies of the required asbuilt plans, records and test data.

h. After the one (1) year warranty, the City of Homer will be responsible for the maintenance of all service lines within the public rights-of-way. The cost of maintenance shall be borne by the City unless the reason for the repair is the

fault of the consumer. If such maintenance is caused by the consumer due to negligence or abuse, the consumer will be responsible for the cost of such repairs as are necessary.

i. Any exception to this specification or conflict between this specification and any approved project design, plans or specification shall be governed by the Public Works Director or his designee.

j. All work in State rights-of-way shall require a State permit. Permit shall be applied for through the City of Homer. The City shall inspect the work involved the same as in the City rights-of-way. In addition to following City ordinances and standard specifications, all State requirements must be met. In the event of a conflict between City ordinances, standards and State requirements, the City Inspector shall be the final authority.

Article 10.1.3 Requirements.

a. A copy of applicable permit(s) must be on the construction site. If not, the City reserves the right to close the work down until such time as the permit is present.

b. In accordance with the permit process for construction within rights-of-way the contractor shall be bonded and insured for liability. A one-thousand dollar (\$1,000.00) bond or cash deposit with proof of liability insurance shall be posted with the City of Homer Finance Department. The contractor will also be required to prequalify on the basis that he has or can demonstrate the ability, capacity and skill to perform the work as specified by reputation and experience; and prior permit performance.

To obtain the above information, the City may require a contractor to complete a confidential qualifying questionnaire or provide a list of references.

c. The contractor shall give the Public Works Inspector twenty-four (24) hours' notice of a requirement for inspection.

d. The public right-of-way must be restored to its original condition before any work can be accepted.

e. Damage to the City utilities must be repaired immediately. Failure of the contractor to make immediate repairs will result in the City of Homer making such repairs chargeable to the contractor. Failure to pay such cost incurred may result in suspension of the permits and refusal to issue any permits until the cost of repair has been made.

f. The contractor will supply the Public Works

Inspector with all data required to facilitate asbuilt records.

g. Workmanship and all other materials and processes not specified herein shall be in accordance with the current State approved Uniform Plumbing, Uniform Building and Uniform Safety Codes and all other City, State and Federal standards, specifications and laws.

DIVISION 20EARTHWORKINDEXDIVISION 20 PART ISection 20.1.0 Standard Construction Practices for Utilities,
driveways and Roadside Drainage

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DIVISION 20 PART ISection 20.1.0 Standard construction practices for utilities, driveways and roadside drainage.

Article 20.1.1 Scope. This section pertains to earthwork within the public rights-of-way particularly related to utilities, driveways and roadside drainage.

Article 20.1.2 Materials.

a. All materials must be new.

b. Geotextile fabric. Mirafi 500 or 600X as directed by the engineer (manufactured by Celanese) or equal:

Fabric Description and Properties:

Mirafi 500X fabric is woven from monofilaments of polypropylene. The fabric is non-biodegradable and resistant to most soil chemicals and acid and alkalis within a pH range of 3 to 12. As with most synthetic fabrics, prolonged exposure to direct sunlight will cause deterioration.

Grab Tensile Strength	200 lb.
Mullen Burst Strength	375 psi.
Trapezoid Tear Strength	100 lb.
Modulus (load @ 10% elongation)	110 lb.
Equivalent Opening Size	70-100 sieve
Water Permeability	
Coefficient (k)	0.005 cm/sec.
Roll Weight	175 lb.
Roll Length	432' and 309'
Roll Width	12'6" and 17'6"

Fabric Description and Properties:

Mirafi 600X is a heavy-duty railroad track-bed fabric woven from monofilaments of stabilized polypropylene. Fabric edges are mechanically sealed to increase edge strength and eliminate ravelling. Mirafi 600X is resistant to a wide range of chemicals and to ultraviolet degradation. The fabric is non-biodegradable.

Grab Tensile Strength	300 lb.
Mullen Burst Strength	600 psi.
Trapezoid Tear Strength	120 lb.
Abrasion Resistance	130 lb.
Puncture Resistance	135 lb.
Modulus (load @ 10% elongation)	150 lb.
Water Permeability	
Coefficient (k)	0.01 cm/sec.
Pore Size (E.O.S.)	50-8- sieve
Roll Weight	210 lb.
Roll Length	360 ft.

Roll Width

12'6"

c. Insulation, frost protection. Rigid board styro-foam insulation material Dow H.I. 40 or equal.

1. Generally, one (1) inch insulation thickness equals one (1) foot earth cover.

2. Styrofoam physical properties:

Density	2 pcf. minimum
Compressive Strength (ASTM D1621-59T)	35 psi minimum @ 5% Deflection or yield
Water Absorption (ASTM C272-53)	0.125% by vol. max.
Thermal Conductivity (ASTM C177-63)	Max.0.23 BTU/hr.Ft.2 Degree F/In. Thick- ness

Patent royalties of \$0.005 per board foot must be paid to Dow Chemical Company for any insulation used for this purpose if not manufactured by Dow. "Royalties" are required because of a Dow Chemical Company patent on the specific product "Styrofoam" physical properties as originated and marketed for use specifically as a frost protection barrier. The burden of proof and payment rest with the contractor or supplier that chooses to do otherwise. The City is concerned only that proper insulation materials are used, "Dow Styrofoam" specifically or an "equal" in performance. In some cases "Dow Styrofoam" may be specifically called out in the project specifications. If so, we would not allow an equal.

d. Culvert.

1. Use only corrugated pipe; corrugations may be either annular or helical. The following types, sizes, and materials are approved:

a. Driveway Culverts: Minimum eighteen (18) inches in diameter type (CMP) corrugated metal pipe galvanized steel conforming to ASSHTO M-36 or M-218 and ASTM-A-444 or heavy gauge aluminum corrugated pipe conforming to AASHTO M-196 and M-197, or type (PE) corrugated polyethylene plastic pipe conforming to ASHTO M-294-831 and ASTM F-667-84.

b. Cross Culverts: Minimum twenty-four (24) inches in diameter type (CMP) corrugated metal pipe galvanized steel conforming to AASHTO M-36 or M-218 and ASTM-A-444.

2. Culvert end sections will be required for all new road construction projects and in some cases may be required for existing road construction projects where drainage systems have been improved or upgraded as determined by the Public Works

Inspector.

e. Bedding: Use only granular classified bedding material as follows: two (2) inch minus, uniform gradation, clean gravel, three (3) to ten (10) percent passing No. 200 size sieve.

f. Backfill: Use only granular classified backfill materials as follows:

1. Subgrades and up to within two (2) feet use: two (2) inch minus, uniform gradation, clean gravel, three (3) to ten (10) percent passing No. 200 size sieve.

2. Base course (generally the top two (2) feet) use or replace as follows:

(a) Salvage without contamination and replace the original materials or

(b) Replace with equal or better base course and cap materials as determined by the Public Works Inspector.

(c) Generally base course material should be: two (2) inch minus, uniform gradation, clean gravel, zero (0) to six (6) percent passing No. 200 size sieve.

Article 20.1.3 Clearing and Grubbing

a. General. This item consists of performing removal of all vegetation, brush, trees, tree stumps, roots, and root mat to an approved disposal site and the preservation from injury or defacement of all objects designated to remain. Limits of clearing and grubbing shall be in conformance with right-of-way easements, and stipulations.

b. Roadways and Utilities. The contractor shall do all clearing and grubbing necessary in the construction of roadways and utilities; trees, brush and root mat removed in the clearing operations shall be hauled to a disposal site.

c. Inspection. All work must be inspected by the Public Works Inspector before acceptance.

Article 20.1.4 Clearing

a. General. This item shall consist of clearing the areas of all trees, brush, and other vegetation and disposing of the cleared spoils.

b. Construction. Within the areas staked, all trees, brush, and logs shall be removed and hauled away. All stumps shall be cut off a minimum of four (4) inches above the ground. Chipping will be an acceptable alternate to clearing and hauling away of spoils.

c. Inspection. All work must be inspected by the Public Works Inspector before acceptance.

Article 20.1.5 Restoration

a. **Restoration.** In certain cases, topsoil and/or seeding may be required as determined by the Public Works Inspector.

b. **Inspection.** All work must be inspected by the Public Works Inspector before acceptance.

Article 20.1.6 Bedding Utilities/service connection. This section is limited to utility construction work in the public rights-of-way, particularly installations made in the road section (prism).

a. **Water service lines, sewer service lines and components, cross culverts and certain other utilities as determined by the Public Works Inspector shall be bedded and compacted minimum ninety (90) percent of maximum material density. (In some cases, suitable bedding material may be encountered in the excavation and imported bedding materials may not be required, as determined by the Public Works Inspector).**

b. **Bedding shall be placed in lifts of eight (8) inches to twelve (12) inches and shall cover the utility component from six (6) inches to twelve (12) inches.**

c. **All work must be inspected by the Public Works Inspector before acceptance.**

Article 20.1.7 Backfill Utilities/service connections. This section is limited to utility construction work in the public rights-of-way, particularly installations made in the road section (prism).

a. **Utility installations, cross culverts and certain other installations as determined by the Public Works Inspector shall be backfilled and compacted to minimum ninety-five (95) percent of maximum material density in the top two (2) feet and minimum ninety (90) percent of maximum material density below two (2) feet.**

b. **Backfill shall be placed in approximately horizontal layers in lifts of eight (8) inches to twelve (12) inches. Each layer to be thoroughly compacted.**

c. **Placement shall be done in such a manner and at such condition to avoid mixing of the classified materials.**

d. **Road shoulders shall be restored and generally matched at a two-to-one (2:1) slope.**

e. **All work must be inspected by the Public Works**

Inspector before acceptance.

Article 20.1.8 Driveway Construction This section is limited to the construction of driveways with or without culverts within the public rights-of-way.

a. Driveway construction will not begin until an initial inspection of the site is completed by the Public Works Inspector and the permit applicant or contractor.

b. A copy of the permit must be on the construction site.

c. The Public Works Inspector will determine the required culvert diameter and if a culvert is required at the time of initial inspection. (In some cases, where a culvert is not initially required, the applicant may be required to install a culvert later if conditions warrant, as determined by the Public Works Inspector.

d. Driveway culverts shall be:

1. Eighteen (18) inches minimum diameter and
2. Twenty (20) feet long minimum and maximum thirty-five (35) feet long. (Special conditions requiring longer culvert lengths will be subject to the approval of the Public Works Director).

e. Culvert end sections shall be required as determined by the Public Works Inspector. All new development projects within the City will require end sections.

f. Driveway width (traveled way); minimum ten (10) feet, maximum twenty (20) feet.

g. The radius of a driveway may not exceed the distance from the property line to the road surface.

h. The street approach may not be less than twelve (12) feet wide as measured at the street sideline (shoulder).

i. The driveway shoulders and backfill slopes must not exceed beyond the culvert length. Generally the driveway side slopes shall be constructed at a two-to-one (2:1) ratio.

j. The driveway shall be constructed on a minus three (3) percent grade from the road shoulder to the property wherever possible or as determined by the Public Works Inspector.

k. Driveway ditches shall be constructed in such a manner that no scour will occur to the road ditch.

l. A driveway must not be constructed within forty-

five (45) feet of any road crossing or intersection unless prohibited due to the lot's size; in which case it shall be placed as far as possible from the intersection or road crossing as approved by the Public Works Inspector.

m. Culvert bedding material must not exceed two (2) inches in diameter.

n. Material in the top two (2) feet of the driveway from the road to the property line shall match the existing road surface but in no case shall exceed two (2) inches in diameter.

o. All backfill material must be compacted in lifts of eight (8) to twelve (12) inches. Minimum compaction ninety (90) percent of maximum material density.

p. Driveways constructed on to paved roads must be surfaced with pavement (asphalt concrete) from paved road surface to property line. However, where a sidewalk or curb exists, it shall be replaced in a manner satisfactory to the inspector.

q. A minimum clearance between the proposed finished driveway grade and the lowest aerial utility conductor must be eighteen (18) feet in accordance with the requirements of the National Electrical Safety Code (Section 23).

r. The public rights-of-way, sidewalk, curb and gutter, and drainage must be restored to its original condition before any work can be accepted.

s. All driveways must be maintained by the owner in accordance with these standards.

t. The Public Works Inspector must be notified twenty-four (24) hours in advance of any inspection requirements.

u. After the driveway is completed, the Public Works Inspector will contact the applicant or the contractor and specify necessary corrections or improvements.

v. Corrections not made in a timely fashion, as determined by the Public Works Director, will be cause for the driveway to be removed by the City at the expense of the contractor.

Article 20.1.9 Construction in paved road This section pertains to utility construction work in the public rights-of-way, particularly work to be done in the road section (prism).

a. Utility crossings under paved roads must be bored and cased or driven and cased.

b. Open cut excavations are limited to water and/or

sewer service hookup and to work outside the paved portions as may be required within the R.O.W. alongside the road (i.e., back slopes and ditch line).

c. Open cut excavations across paved roads may be considered only if:

1. Boring and driving methods were attempted and proven unsuccessful because of existing road conditions or because of existing utility locations, and

2. That the preventing conditions would impair the proper installation of the required casing if bored or driven, and

3. Contractor obtains approval from the Public Works Director.

d. Some electrical or communication utility cable crossings may be allowed without casings if:

1. Proposed method has proven to be satisfactory by the Public Works Department, and

2. Contractor obtains approval from the Public Works Inspector.

e. All materials and workmanship must comply with City ordinances and standard specifications.

f. Existing fabric which has been cut or removed must be replaced with material as defined in this section. All joinings must be overlapped by at least two (2) feet.

g. All pavement must be replaced in a manner acceptable to the Public Works Inspector and in compliance with Division 4.0 of these specifications.

Article 20.1.10 Construction in Gravel Roads

a. Open cut excavations, bored and cased, or driven and cased utility road crossing methods are approved.

b. Open cut excavations for utility service hookup installations in the gravel road and R.O.W. are approved.

c. Other utility work outside the roadway and shoulder as may be required within the R.O.W. alongside the road (i.e., within back slopes and ditch line) may also be approved depending upon permit application, review and approval by the Public Works Inspector.

d. Some electrical or communication utility cable

crossings may be allowed without casings if:

1. Proposed method has proven to be satisfactory by the Public Works Department, and

2. Contractor obtains approval from the Public Works Inspector.

e. All materials and workmanship must comply to City ordinances and standard specifications.

f. Existing fabric which has been cut or removed must be replaced with fabric as defined in this section. All joinings must be overlapped by at least two (2) feet.

g. The Public Works Inspector may require installation of geotextile fabric even in cases where no fabric previously existed in the roadway prism. Installation shall conform to manufacturer's recommendations and the fabric shall be placed according to the direction of the Public Works Inspector.

DIVISION 30

PORTLAND CEMENT CONCRETE

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DIVISION 30 PART I

Section 30.1.0 Standard Construction Practices for Utilities,
Driveways and Roadside Drainage.

Article 30.1.1 General Construction

DIVISION 30 PART ISection 30.1.0 Standard Construction practices for utilities, driveways and roadside drainage.

Article 30.1.1 General Construction This section is limited to concrete construction work in general.

a. The cement shall be a recognized standard brand of Portland Cement conforming to ASTM standards.

b. Plans and specifications shall be reviewed and approved by the Public Works Inspector. Specifications shall include: cement specifications and type, reinforcing steel and/or welded steel wire fabric, aggregate, mix and other related design criteria.

c. When no type cement is specified, the requirements of ASTM Standard Specification C-15-, Type 1 shall govern.

d. Reinforcing materials shall conform to ASTM A-615 and ASTM A-185 Standard Specifications and shall be weldable per standard specification AWS D12.1 (American Welding Standards).

e. Water used for the mixing of concrete shall be clean and free of oil or acid, and shall not contain salt, alkali or vegetable matter.

f. Aggregates for Portland Cement concrete shall be graded and clean conforming to AASHTO Standard Specifications M-80, M-6, and C-330.

g. Ready-Mix concrete shall conform to standard specifications AASHTO M-157, ASTM C-90 and ASTM C-94 as applicable per plans and specifications.

h. Temperatures: cast no concrete when ambient temperature is below forty (40) degrees fahrenheit, or can be expected to fall below forty (40) degrees fahrenheit in the next twenty-four (24) hours, unless approved special provisions have been made for maintaining heat around pour.

i. Do not place concrete during rain, sleet, or snow unless protection is provided.

j. When all concrete work has been completed and cured, the Contractor shall remove the forms, stakes, blocking, and concrete spoil from the site. The area adjoining the concrete that was excavated to permit the construction and placement of forms shall be filled with select material, and the slopes and parking areas, if any, shall be filled, shaped, and smoothed to the level and original conditions.

k. The public rights-of-way must be restored to their original condition before work is accepted.

l. No work will be accepted without copies of the required asbuilt plans, specifications, records and test data.

m. All work shall be inspected by the Public Works Inspector before acceptance.

DIVISION 40
ASPHALT/PAVING
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DIVISION 40 PART I

Section 40.1.0 Standard Construction Practices for Utilities,
Driveways and Roadside Drainage

Article 40.1.1 Construction in Roadway

DIVISION 40 PART ISection 40.1.0 Standard construction practices for utilities, driveways and roadside drainage.

Article 40.1.1 Construction in Roadway This section is limited to construction work performed on or adjoining an existing paved road.

a. The pavement, asphalt concrete, shall be matched, replaced, or patched to as good or better quality and conditions. The following concerns must be considered:

1. Proposed composition/mixture shall be reviewed and approved by the Public Works Inspector.

2. Contractor shall use controlled spreading and compaction equipment.

3. Pavement restoration must be done by a contractor with proven paving experience and proper equipment if in the opinion of the Public Works Inspector the situation warrants.

4. Weather limitations must be considered (Ref: Department of Transportation Standard Specification Section 401-3-.01).

(a) Apply on dry surface only.

(b) Air temperature must be above forty (40) degrees fahrenheit as measured in the shade. Open graded asphalt mixtures shall not be placed unless the air temperature is over sixty (60) degrees fahrenheit.

b. The public rights-of-way must be restored to their original condition before work is accepted.

c. No work will be accepted without copies of the required asbuilt plans, specifications, records and test data.

DIVISION 50
SANITARY SEWERS
INDEX

DIVISION 50 PART I

Section 50.1.0 Standard Construction Practices for Utilities,
Driveways and Roadside Drainage

- Article 50.1.1 Scope
- Article 50.1.2 Materials
- Article 50.1.3 Construction, Sewer Service Installation
Gravity Flow
- Article 50.1.4 Construction, Sewer Service Installation
Pressured Flow

DIVISION 50 PART ISection 50.1.0 Standard construction practices for utilities, driveways and roadside drainage.

Article 50.1.1 Scope This section is limited to sewer service installations within the public rights-of-way.

Article 50.1.2 Materials (Sewer Services)

a. Sewer service line, gravity. This section is limited to utility sewer service connections and does not apply to sewer mains.

1. Ductile iron sewer pipe (DIP) class 50 conforming to ASTM A-746, AWWA STD. C-151 and AWWA STD. C-104, or

2. Cast iron soil pipe and fittings conforming to ASTM A-746, or

3. No-hub cast iron soil pipe and fittings conforming to ASA group 022.

4. U.S. Tyton joints systems (TYSEAL) U.S. Pipe Co. or equal are approved.

5. All Tyton joints seals must be made with tools specifically designed for that purpose.

6. No-hub sewer service couplings. Size four (4) inch approved only.

7. Cast iron flanges and saddles, male or female with either single stainless steel band or double band clamp approved.

b. Sewer line, pressurized. This section is limited to utility sewer service connections requiring pressurized flow or lift and does not apply to sewer mains.

1. No galvanized pipe shall be used.

2. Standard size two (2) inch HDPE socket fused polyethylene plastic pipe and fittings are approved. Qualified as type III, category 5, class C, grade P34 in ASTM D-1248 with a design pressure rating of one hundred (100) psi minimum. Pipe shall be SCLAIRCOR series 100 or equal.

Article 50.1.3 Construction Sewer Service Installation, Gravity Flow This section is limited to gravity sewer service installations.

a. Five (5) foot minimum bury unless specifically

allowed by the Public Works Inspector, except in roadway, the minimum bury is seven (7) feet. In cases allowed, rigid board insulation of two (2) inch thick minimum by twenty-four (24) inches wide shall be placed six (6) to twelve (12) inches above the component on top of the bedding/backfill and centered in line with the component.

b. The service line stubouts shall be placed on the property line or utility easement line as applicable. No service shall be placed closer than five (5) feet to any property line not parallel to the main line.

c. The sewer service line must have a minimum horizontal separation of ten (10) feet from any water service line, fire hydrant, or main line valve.

d. The contractor shall install the service at ninety (90) degrees to the street main line whenever possible.

e. The service line may not cross property lines, except where the line comes from the main line in the public rights-of-way to the property being served, except with the written permission of the Public Works Director.

f. Service lines may not be installed to property which does not have a main directly adjacent to it except when no other main line will be constructed to service the property and then only with the permission of the Public Works Director.

g. The sewer service line shall be a minimum of four (4) inch diameter. Larger sewer service lines shall be required as the Public Works Inspector determines necessary.

h. All taps into the main line must be made with tools designed specifically for that purpose and must be sized correctly for the specific sewer service connection. Only hole cutter type tools such as manufactured by Pilot may be used to tap the main. Cutoff saws will not be allowed.

i. The City of Homer will not rent or loan any tools for sewer service installation except in the case of emergency as determined by the Public Works Director or his appointed agent.

j. The tap into the main shall be at approximately forty-five (45) degrees above horizontal.

k. A sweep of twenty-two and one-half (22-1/2) degrees to forty-five (45) degrees shall be installed above the main to attain the proper elevation and grade.

l. The pipe shall continue at a continuous grade of one (1) percent to three (3) percent until under the foundation

of the structure served. In some cases, twenty-two and one-half (22-1/2) degree drops may be approved as determined by the Public Works Inspector.

m. No floor drains, drain tile systems nor other devices may be connected to the sewer system by a service or directly which would allow the entry of rain water or runoff water into the system.

n. Grease traps and sand traps shall be installed by the most recent State-accepted ICBO plumbing codes.

o. Cleanouts shall be installed at bends greater than forty-five (45) degrees. No service line may continue over one hundred (100) feet without a cleanout being installed as measured from the main line.

p. Backwater prevention devices shall be installed where the potential for back flow exists as the result of flooding or blockage of the sewer system.

q. Cleanouts shall be covered with an appropriate cap.

r. The work must be free of leaks and flaws.

s. The bottom of the excavation and/or bedding must be uniformly graded , and free of dips, bumps and large rocks.

t. The trench shall be kept free of water at all times by pumping if required.

u. In the event that ductile iron pipe is used for the service pipe, it shall be carried into position and not dragged. It shall be lowered into the excavation by means of a sling in such a manner that it is not dropped nor the pipe or fitting coating injured. The full length of the pipe shall rest on the bottom of the excavation with a recess allowed for the joint. While work is in progress, the open ends of the pipe shall be kept plugged so no trench water, dirt, or foreign matter enters the pipe. Where the pipe coating or lining are damaged, they shall be repaired by the contractor in a satisfactory manner. All pipe joints shall be lubricated with Johns-Manville pipe joint lubricant or an inspector-approved equal.

v. The backfilling shall be done in such a manner as to assure that neither large rocks nor frozen lumps fall on the pipe. All sewer lines and components shall be bedded, backfilled and compacted ninety-five (95) percent of maximum material density. Only classified material shall be used for bedding and backfill as determined by the Public Works Inspector. In some cases, suitable bedding and/or backfill material may be encoun-

tered in the excavation and imported material may not be required as determined by the Public Works Inspector.

w. No extension of a sewer service line may be made even on private property without the approval of the Public Works Inspector so that appropriate sizing, inspection and asbuilt records can be made.

x. The public rights-of-way must be restored to their original condition before a service is accepted.

y. No service will be accepted without copies of the required asbuilt plans, records and test data.

Article 50.1.4 Construction, Sewer Service Installation, Pressurized Flow This section is limited to utility sewer service connections with pressurized flow from a private service requiring a lift station.

a. The plans and specifications for the lift station must be reviewed and approved by the Public Works Inspector and the requirement for any specific lift station installation must be approved by the Public Works Director.

b. Seven (7) foot minimum bury unless specifically allowed by the Public Works Inspector. In cases allowed, rigid board insulation with two (2) inch thick minimum by twenty-four (24) inches wide shall be placed six (6) to twelve (12) inches above the component on top of the bedding/backfill and centered in line with the component.

c. The service line shall be placed on the property line or utility easement line as appropriate. No service shall be placed closer than five (5) feet to any property line not parallel to the main line.

d. The sewer service line must have a minimum horizontal separation of ten (10) feet from any water service line, fire hydrant or main line valve.

e. The contractor shall install the service at ninety (90) degrees to the street main line whenever possible.

f. The service line may not cross property lines, except where the line comes from the main line in the public rights-of-way to the property being served.

g. Service to property that does not have a main directly adjacent to it will require a design review, a special permit and an installation agreement approved by the Public Works Director. Generally this applies to property where no other main line will be considered to serve the property.

h. The sewer service line shall be minimum of two (2) inch diameter polyethylene pipe. Larger sewer service lines shall be required as the Public Works Inspector determines necessary.

i. All taps into the main line must be made with tools designed specifically for that purpose and must be sized correctly for the specific sewer service connection. Only hole cutter type tools such as manufactured by Pilot may be used to tap the main. Cutoff saws will not be allowed.

j. The City of Homer will not rent or loan any tools for sewer service installation except in the case of emergency as determined by the Public Works Director or his appointed agent.

k. The tap into the main shall be at approximately forty-five (45) degrees above horizontal.

l. Saddles shall be cast iron male or female with either single stainless steel band or double clamp.

m. Use flanged couplings for terminating polyethylene service line at the sewer main service saddle arrangement.

n. Grease traps and sand traps shall be installed by the most recent ICBO plumbing codes.

o. The work must be free of leaks and flaws.

p. The bottom of the excavation and/or bedding must be uniformly graded, and free of dips, bumps and large rocks.

q. The trench shall be kept free of water at all times by pumping if required.

r. The backfilling shall be done in such a manner as to assure that neither large rocks nor frozen lumps fall on the pipe. All sewer service lines and componenets shall be bedded, backfilled and compacted ninety-five (95) percent of maximum material density. Only classified material shall be used for bedding and backfill as determined by the Public Works Inspector).

s. No extension of a sewer service line may be made even on private property without the approval of the Public Works Inspector so that appropriate sixing, inspectin and asbuilt records can be made.

t. The public rights-of-way must be restored to their oriological condition before a service is accepted.

u. No service will be accepted without copies of the required asbuilt plans, records and test data.

DIVISION 60WATER SYSTEMSINDEXDIVISION 60 PART ISection 60.1.0 Standard Construction Practices for Utilities,
Driveways and Roadside Drainage.

- Article 60.1.1 Scope
- Article 60.1.2 Materials
- Article 60.1.3 Construction, Water Service Installation
- Article 60.1.4 Operation of Water Valves, Fire Hydrants and Curb
Stops
- Article 60.1.5 Water Meter Installation
- Article 60.1.6 Backflow and Cross-Connection Prevention

DIVISION 60 PART ISection 60.1.0 Standard construction practices for utilities, driveways and roadside drainage.

Article 60.1.1 Scope This section is limited to:

- a. Water service installations
- b. Water service meter installations, and
- c. Backflow and cross-connection prevention.

Article 60.1.2 Materials

a. Water line. This section is limited to utility water service connections and does not apply to water mains.

1. No galvanized pipe shall be used.
2. Three-fourths (3/4) to two (2) inch service lines shall be Schedule K. flexible soft copper, conforming to ASTM B-88; and
3. Four (4) inch and larger service lines shall be ductile iron water pipe (DIWP), class 52, conforming to AWWA STD. C-151 and AWWA STD. C-104.

b. Water service valves

1. No galvanized parts shall be used.
2. Corporation stops shall be flare-type brass only. Mueller Co. approved only.
3. Curb stops shall be flare-type brass only. Mueller Co. approved only.
4. Curb boxes. Mueller Co. approved only (must be furnished with stationary operating rods).
5. Valves four (4) inch and larger shall be mechanical joint, two hundred fifty (250) pound test pressure rated. Mueller Co. approved only.

c. Fittings

1. No galvanized fittings shall be used. Use brass, stainless steel, cast iron or ductile iron only. Two hundred fifty (250) pound test pressure rated.
2. Three (3) part unions must be flare-type brass. Mueller Co. approved only.

d. Thaw wire. Solid or braided, rubber or plastic covered No. 2 copper cable.

Article 60.1.3 Construction, Water Service Installation.
This section is limited to water service installations.

a. Seven (7) foot minimum bury unless specifically allowed by the Public Works Inspector. In cases allowed, rigid board insulation with two (2) inch thick minimum by twenty-four (24) inches wide shall be placed six (6) to twelve (12) inches above the component on top of the bedding/backfill and centered in line with the component.

b. The service line may not be placed within five (5) feet of any property line not parallel to main line.

c. The water service line must have a minimum horizontal separation of ten (10) feet from any sewer service line.

d. The contractor shall install the service at ninety (90) degrees to the street main line whenever possible.

e. The service line may not cross property lines, except where the line comes from the main line in the public rights-of-way to the property being served.

f. Service lines may not be installed to property which does not have a main directly adjacent to it except under where no other main line will be constructed to service the property and then only with the permission of the Public Works Director.

g. The water service line shall be a minimum of three-fourths (3/4) inch diameter. Larger water service lines shall be required as the Public Works Inspector determines necessary.

h. No three (3) part union will be allowed closer than sixty (60) foot intervals either side of the curb box.

i. A curb box shall be installed at the property line adjoining the public rights-of-way or on the utility easement line as appropriate.

j. Curb box shall extend zero (0) to three (3) inches above the finish grade.

k. All taps into the main line must be made with tools designed specifically for that purpose and must be sized correctly for the specific water service connection.

l. The City of Homer will not rent or loan any tools for water service installation except in the case of emergency as determined by the Public Works Director or his appointed agent.

m. The bottom of the excavation and/or bedding must be uniformly graded, and free of dips, bumps and large rocks.

n. The trench shall be kept free of water at all times by pumping if required.

o. The service line must be laid in the ditch with slack for expansion if required.

p. A thaw wire shall be attached to the corporation stop if such stop is designed for this attachment. If the corporation stop is not designed for direct attachment, a brass or copper grounding clamp shall be installed on the copper tubing as close as possible to the corporation stop and the thaw wire attached to the ground clamp.

q. The thaw wire shall be laid in the ditch with slack for expansion or ground movement and surface at the curb box with enough excess to permit easy location and attachment of an electric thawing device.

r. There shall be no breaks or splices in the thaw wire.

s. The work must be free of leaks and flaws.

t. The water service connections, corporation stops, curb stops and all joints will be pressure tested at static main line pressure for ten (10) minutes and inspected by the Public Works Inspector before backfilling is allowed.

u. All water service lines and components shall be bedded, backfilled and compacted ninety-five (95) percent of maximum material density. Only classified material shall be used for bedding and backfill as determined by the Public Works Inspector. In some cases, suitable bedding or backfill material may be found in the excavation and imported material may not be required as determined by the Public Works Inspector.

v. Backfilling shall be done in such a manner as to assure that no large rocks or frozen lumps fall on the pipe or components.

w. No extension of a water service line may be made even on private property without the approval of the Public Works Inspector so that appropriate sizing, inspection and asbuilt records can be made.

x. In the event that ductile iron pipe is used for the service, pipe shall be carried into position and not dragged. It shall be lowered into the excavation by means of slings in such a manner that it is not dropped, nor are the pipe or fitting coating injured. The full length of the pipe shall rest firmly along the bottom of the excavation with a recess allowed for the joint. While work is in progress, the open ends of the pipe shall be kept plugged so no trench water, dirt or other foreign substance enters the pipe. Where pipe coating or lining are disturbed, they shall be repaired in a satisfactory manner. A valve shall be located at the property line or utility easement line as applicable to shut off the service in place of a curb box. No thaw wire shall be required. The valve shall be securely tied back to the main, using two (2) runs of three-fourths (3/4) inch allthread, coated with a galvanized spray or bituminous material. The main shall be joined using a cast iron tee and, if necessary, a cast coupling. The tee shall be properly thrust blocked against the undisturbed ditch using only properly sized concrete thrust blocks. Wooden blocks shall not be permitted. If a poured-in-place block is used, all fittings should be wrapped in sheet plastic and care taken to see that all bolts are accessible. The valve box top shall be flush with the finish grade. All pipe and fittings shall be sanitized during installation. After installation, the line is to be flushed in the presence of the inspector to his satisfaction. All joints shall be lubricated with Johns-Manville pipe joint lubricant or inspector-approved equal.

y. The public rights-of-way must be restored to their original condition before a service is accepted.

z. No service will be accepted without copies of the required asbuilt plans, records and test data.

Article 60.1.4 Operation of Water Valves, Fire Hydrants and Curb Stops Only authorized City personnel shall operate water valves, fire hydrants or curb stops.

Article 60.1.5 Water Meter Installation

a. The meter shall be the size and model indicated by the Public Works Inspector.

b. Fittings on the meter shall be screw-type bronze or brass for brass meters and screw-type plastic for plastic meters.

c. The meter shall be installed in a horizontal position.

d. The meter shall be in a warm dry place above ground water, easily accessible, preferably inside the building structure.

e. The shut-off valve shall be installed immediately before the meter on the incoming service line for customer use.

f. An appropriate backflow prevention device shall be installed immediately after the meter on the outgoing service line.

g. Water meters shall be installed prior to providing any service to a water utility customer.

h. The City of Homer shall have the right to install a meter remote on the building in any location the City deems most appropriate.

i. Water meters remain the property of the City of Homer. The initial fee for the meter is a one (1) time rental fee. The customer is responsible for normal protection of the meter and/or generator from external damage and freezing. Internal wear and failure of the meter and/or generator due to normal use will be the responsibility of the City. Customers shall provide reasonable access for City personnel and to make necessary repairs.

j. All water sold must be metered.

k. All plumbing parts, processes, and installation and workmanship shall be in accordance with current State-approved Uniform Plumbing Codes (UPC).

Article 60.1.6 Backflow and Cross-Connection Prevention.

a. All connections to the public potable water system shall have an approved backflow prevention device.

b. All devices recommended in this section are minimum standards and thus the requirements for backflow prevention may be made more stringent should the Public Works Director deem it necessary or appropriate.

c. The location of the backflow prevention devices shall be approved by the Public Works Inspector.

d. Minimum requirement for backflow prevention:

Structure of System

Recommended Device

1. Residences (single-family and duplex)

Double check valve.

2. Hotels, apartments, public and private buildings

Air-gap separation or reduced pressure device or double check valve, depending on

3. Canneries, packing houses and reduction plants the situation.
Air-gap separation or reduced pressure device.
4. Chemical plants (Same as above)
5. Chemically contaminated water systems (Same as above)
6. Civil works Air-gap separation or reduced pressure device or double check valve, depending on the situation.
7. Dairies and cold storage plants (Same as above)
8. Film laboratories Air-gap separation or reduced pressure device.
9. Fire systems Air-gap separation or reduced pressure device or double check valve depending on the situation.
10. Hospitals, medical buildings, sanitariums, morgues, mortuaries, autopsy facilities, nursing and convalescent homes and clinics (Same as above)
11. Waterfront facilities and industries (Same as above)
12. Oil and gas production storage or transmission properties Air-gap separation or reduced pressure device.
13. Plating plants (Same as above)
14. Power plants (Same as above)
15. Radioactive materials or substances - plants or facilities handling (Same as above)
16. Restricted, classified or other closed facilities (Same as above)
17. Schools and colleges (Same as above)

18. Sewage and storm drain
facilities

(Same as above)

e. All devices must be approved by the Public Works Department.

f. All installations shall be done to conform to all applicable municipal and State building codes.

DIVISION 70
MISCELLANEOUS
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DIVISION 70 PART I

Section 70.1.0 Standard Construction Practices for Utilities,
Driveways and Roadside Drainage

Article 70.1.1 Scope
Article 70.1.2 Electrical
Article 70.1.3 Seeding

DIVISION 70 PART I

Section 70.1.0 Standard construction practices for utilities, driveways and roadside drainage.

Article 70.1.1 Scope This section covers certain requirements, materials, processes, procedures, and practices not covered in other specific sections of this standard.

Article 70.1.2 Electrical

a. All electrical work and materials or components used must be in accordance with State-approved Uniform Building, Uniform Fire/Safety Codes, and National Electrical Safety Codes.

b. All electrical work performed within the public rights-of-way must be performed by a State licensed electrical contractor.

c. Plans and specifications shall be reviewed and approved by the Public Works Inspector. Plans shall include: extent of construction, exact location using map, plat, or asbuilt, and other related design criteria.

d. The public rights-of-way must be restored to their original condition.

e. No work will be accepted without copies of the required asbuilt plans, specifications, records, and test data.

f. All work must be inspected by the Public Works Inspector before acceptance.

Article 70.1.3 Seeding

a. Description. This work shall consist of preparing the ground, followed by application of seed, fertilizer, lime, if required, and mulch material all in reasonably close conformity with specifications and at locations shown on the plans or established by the Engineer or by the Public Works Inspector. It is the intent of this specification that a living vegetative cover will be provided which will blend well with the surrounding vegetation. All seeded areas shall be maintained until continued growth is assured. The seeding will be covered under the one (1) year warranty.

b. Material. A hardy grass seed mix comparable with the local area as approved by the local authority of the United States Department of Agriculture shall be used.

c. Application.

1. Both hydraulic and dry methods may be used.

2. Hard broadcasting may be substituted, provided that the rate of application for both seed and nutrient is twice that of dry mechanical methods, and that the end result required is attained.

d. Maintenance of seeded areas.

1. The contractor shall protect seeded areas against traffic by warning signs or barricades, as approved by the Public Works Inspector. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading, reseeding, and mulching, as directed. The contractor shall otherwise maintain seeded areas appropriately until the end of the warranty period.

2. The seeded areas shall be watered by the contractor as required for proper germination and growth. Equipment used in watering shall be capable of reaching all seeded areas from the traveled way.

3. No extra compensation will be paid to the contractor for work incurred under maintenance of seeded areas by the City.

e. Inspection.

1. Final inspection to determine final acceptance of the grass shall be made one (1) year after the seeding.

2. Conditions governing final acceptance by the Inspector are that a healthy and uniform stand of grass be achieved, blending well with the surrounding vegetation and showing no signs of a chlorotic condition.

DIVISION 80
STANDARD DETAILS

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Division 80
Standard Details

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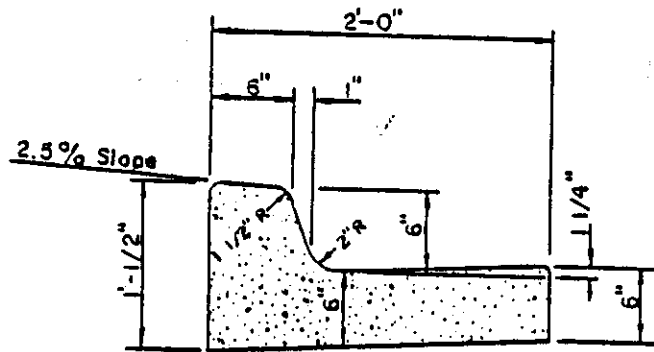
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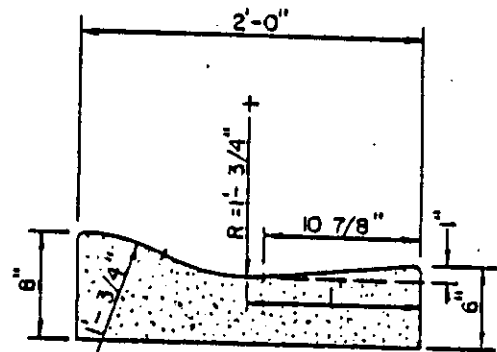
CITY OF HOMER
PUBLIC WORKS DEPARTMENT
STANDARD SPECIFICATION

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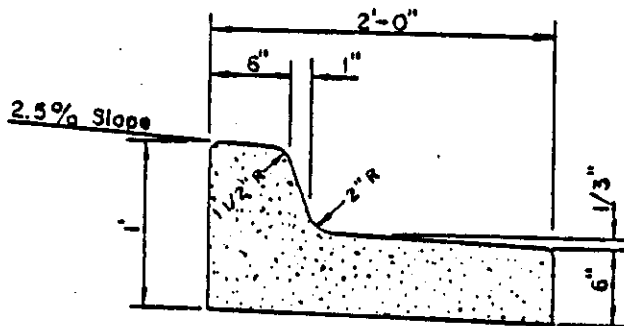
CURB & GUTTER CROSS SECTIONS



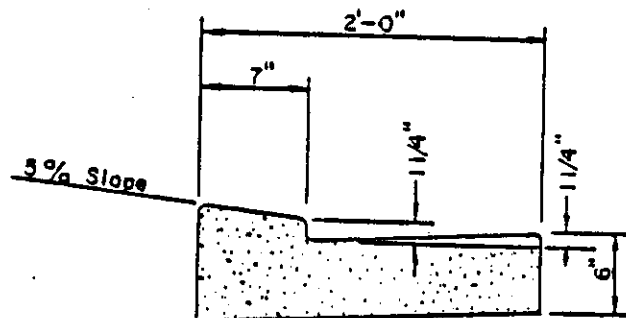
CURB & GUTTER
TYPE 1



ROLLED CURB & GUTTER
TYPE 2



CURB & GUTTER
TYPE 3



DEPRESSED CURB & GUTTER
 (USED AT CURB CUTS)
TYPE 4

NOTE:
 BOTH FRONT AND BACK EDGES OF THE CURB & GUTTER SHALL BE TROWELED TO A RADIUS OF ONE-HALF (1/2) INCH.

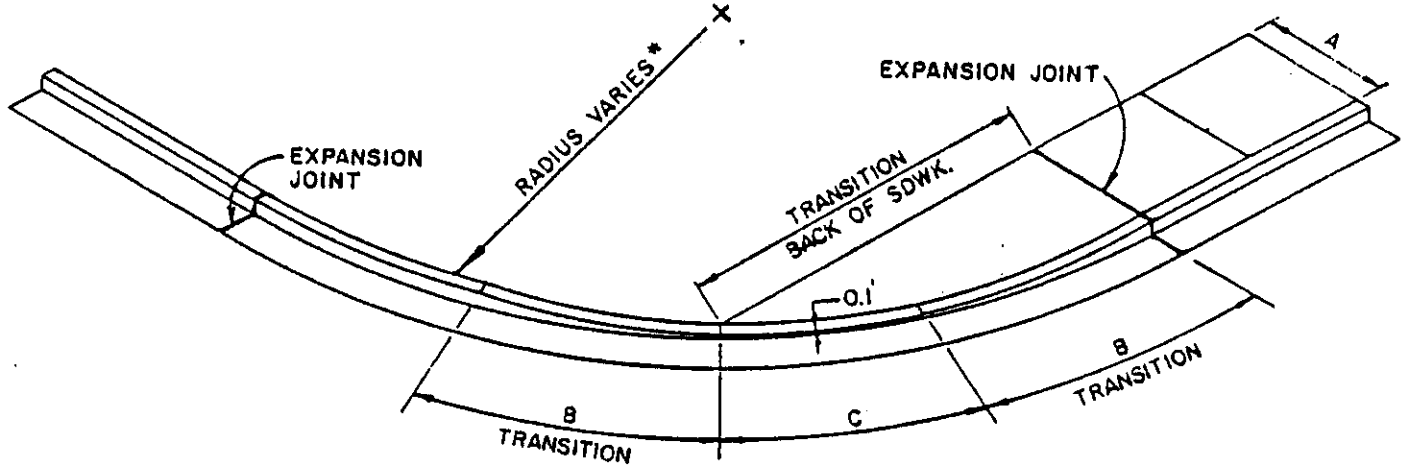
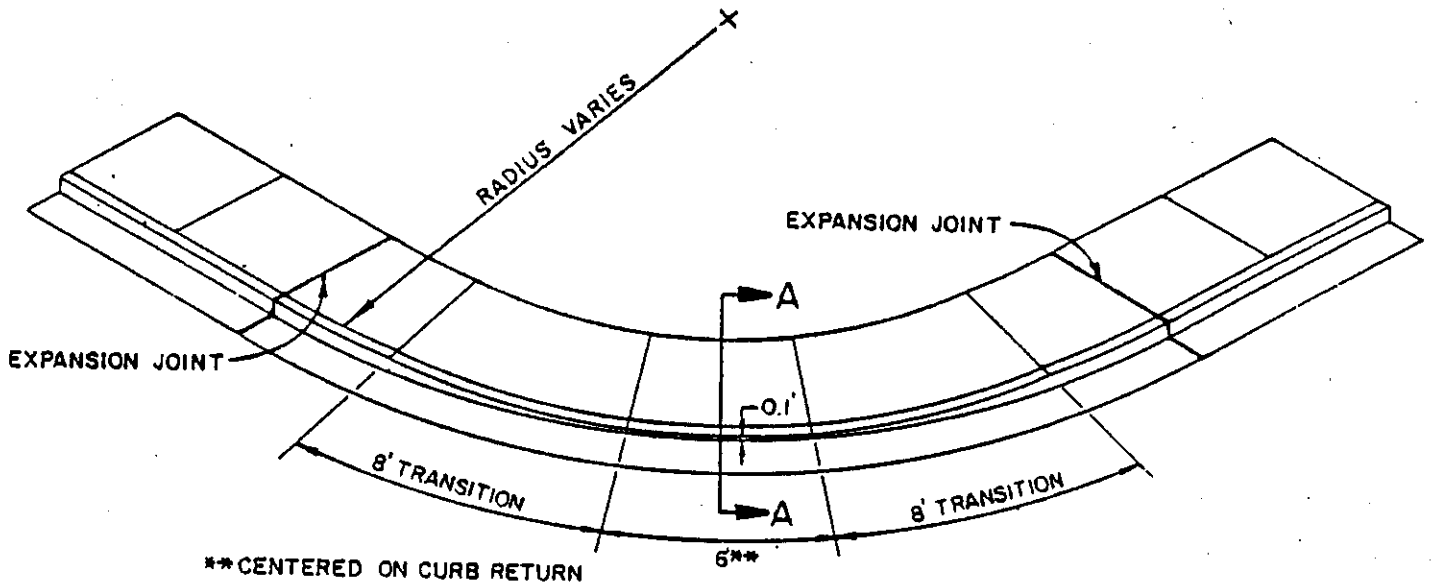
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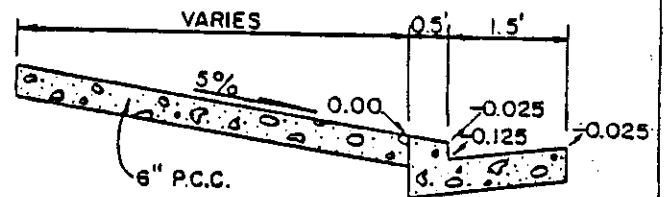
CITY OF HOMER
PUBLIC WORKS DEPARTMENT
STANDARD SPECIFICATION

No. FIG. 104
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STANDARD CURB RETURN

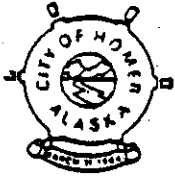


RADIUS *	A	B	C
15'	4'	5.5'	5.7'
20'	4'	6.4'	6.5'
20'	5'	9.0'	5.5'
25'	4'	7.1'	7.2'
25'	5'	10.1'	6.0'
30'	4'	7.8'	7.9'
30'	5'	11.0'	6.6'



SECTION A-A

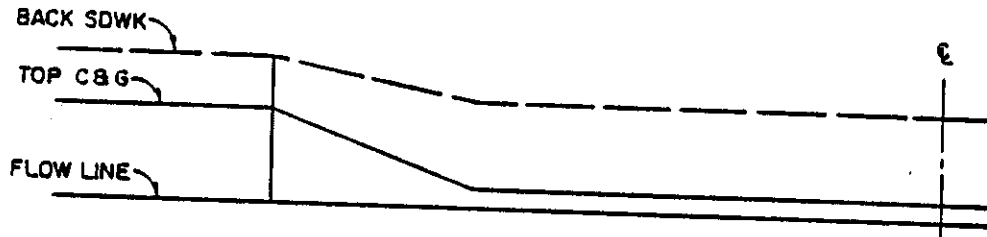
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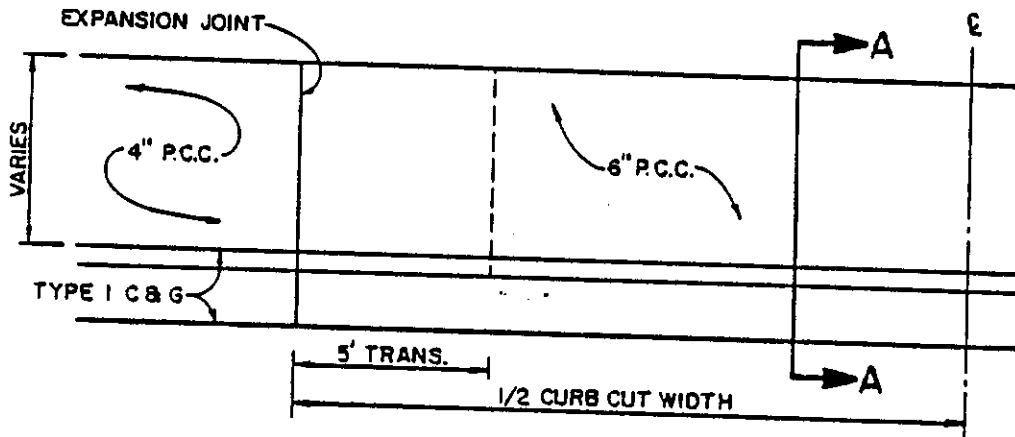
CITY OF HOMER
PUBLIC WORKS DEPARTMENT
STANDARD SPECIFICATION

No. FIG. 105
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 By SJF Appr JLM

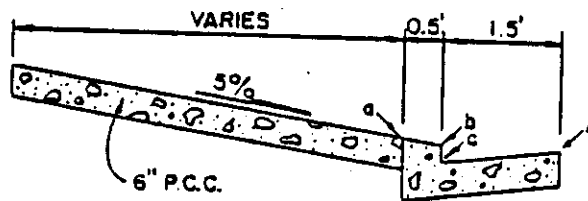
STANDARD CURB-CUT & ALLEY ENTRY



PROFILE VIEW



PLAN VIEW



SECTION A-A

a	b	c	d
0.00	-0.025	-0.125	-0.025

No.	Date	Revisions	By	Appr.



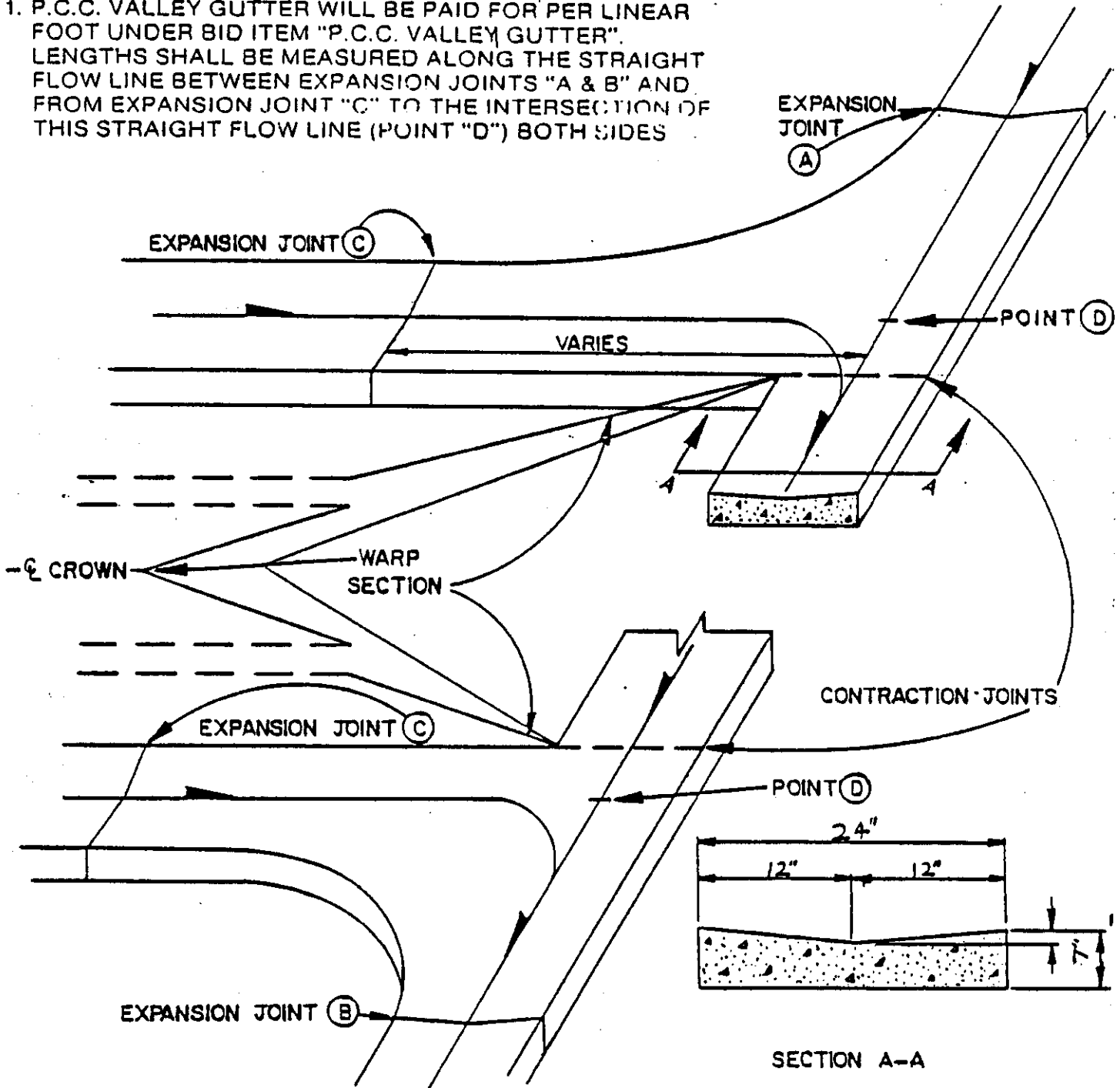
CITY OF HOMER
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No. FIG. 110
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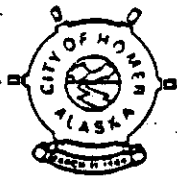
P.C.C. VALLEY GUTTER

NOTE

1. P.C.C. VALLEY GUTTER WILL BE PAID FOR PER LINEAR FOOT UNDER BID ITEM "P.C.C. VALLEY GUTTER". LENGTHS SHALL BE MEASURED ALONG THE STRAIGHT FLOW LINE BETWEEN EXPANSION JOINTS "A & B" AND FROM EXPANSION JOINT "C" TO THE INTERSECTION OF THIS STRAIGHT FLOW LINE (POINT "D") BOTH SIDES



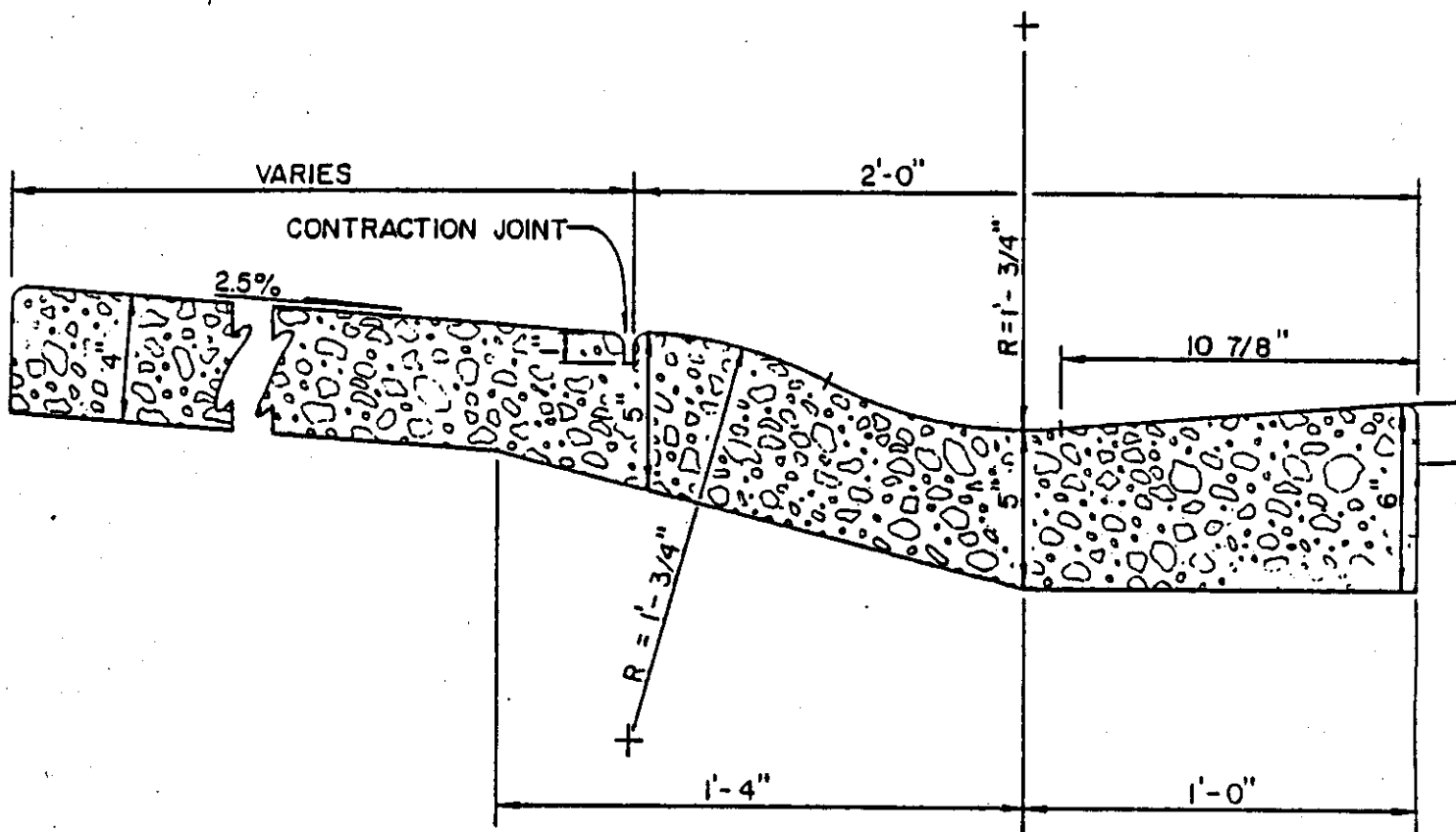
No.	Date	Revisions	By	Appr.



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No. FIG. 118
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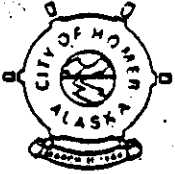
MONOLITHIC SIDEWALK CURB & GUTTER SECTION



NOTES:

1. MONOLITHIC SIDEWALK AND CURB & GUTTER MAY BE SUBSTITUTED AS AN ALTERNATE TO THE ROLLED CURB & GUTTER AND SIDEWALK
2. BOTH FRONT AND BACK EDGES OF THE CURB & GUTTER AND SIDEWALK SHALL BE TROWELED TO A RADIUS OF ONE-HALF (1/2) INCH

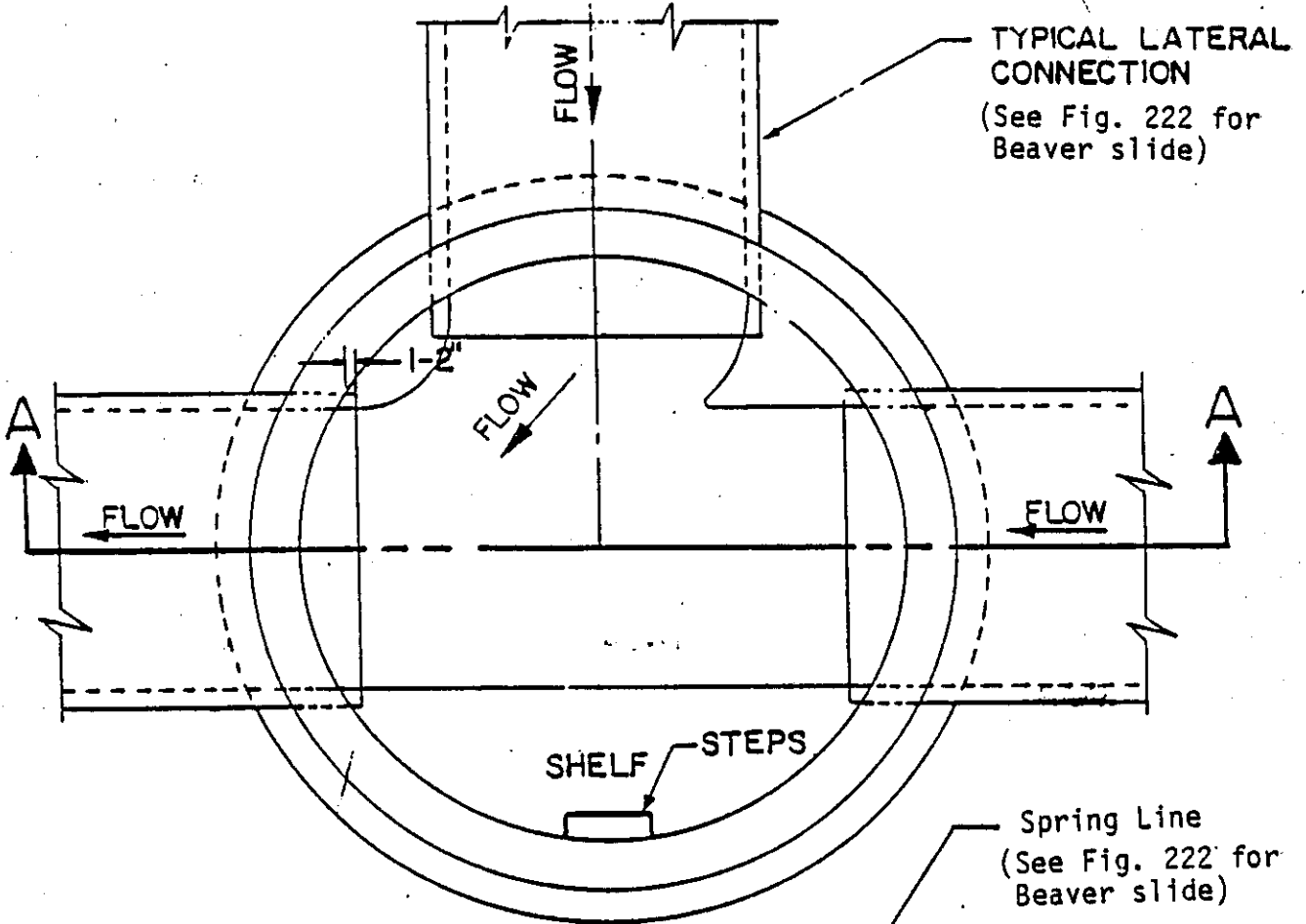
No.	Date	Revisions	By	Appr.



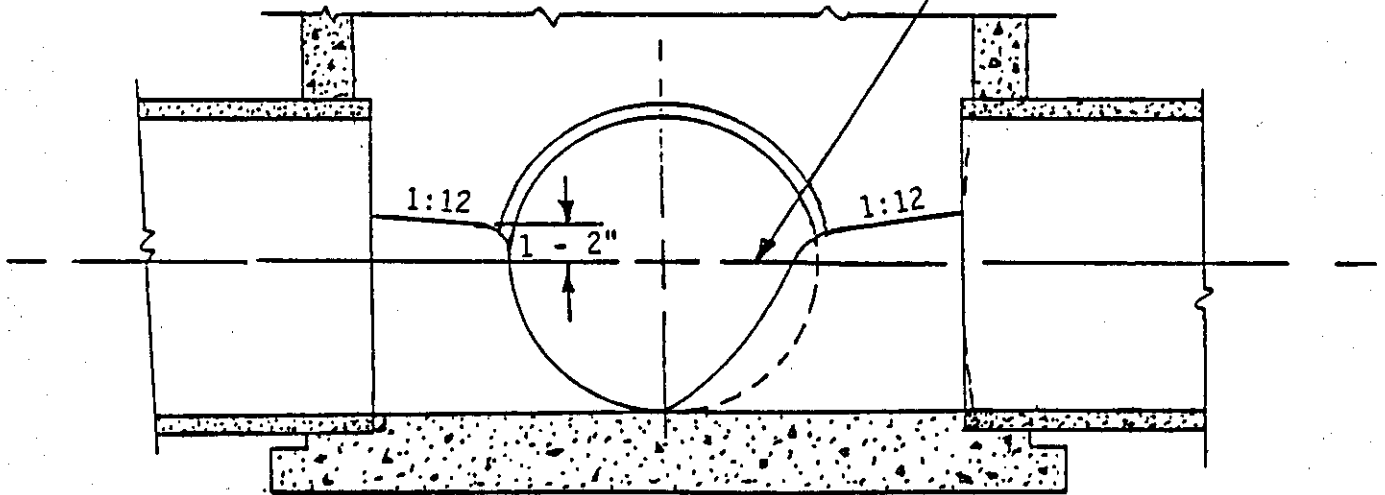
CITY OF HOMER
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No. FIG. 203
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TYPE A & B MANHOLE BASE PLAN

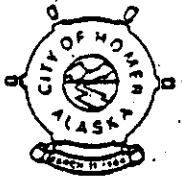


BASE PLAN



SECTION A-A

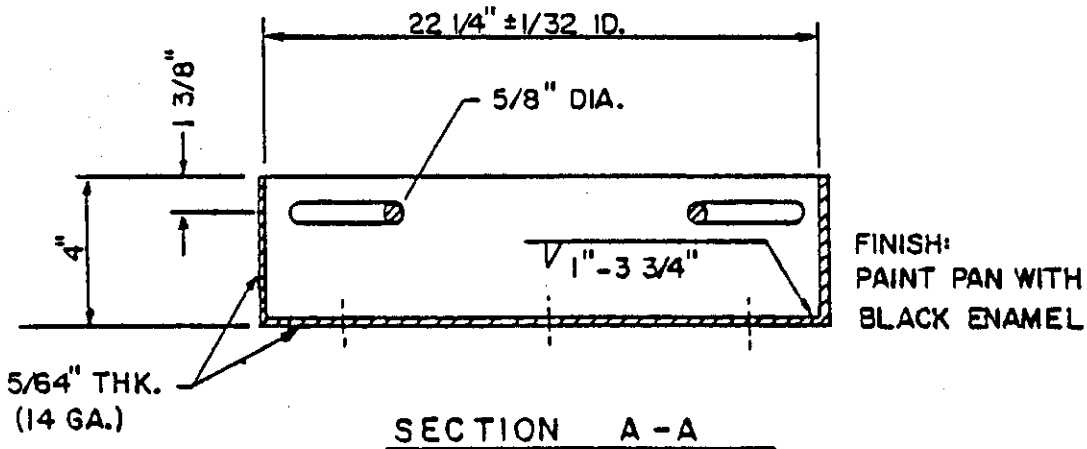
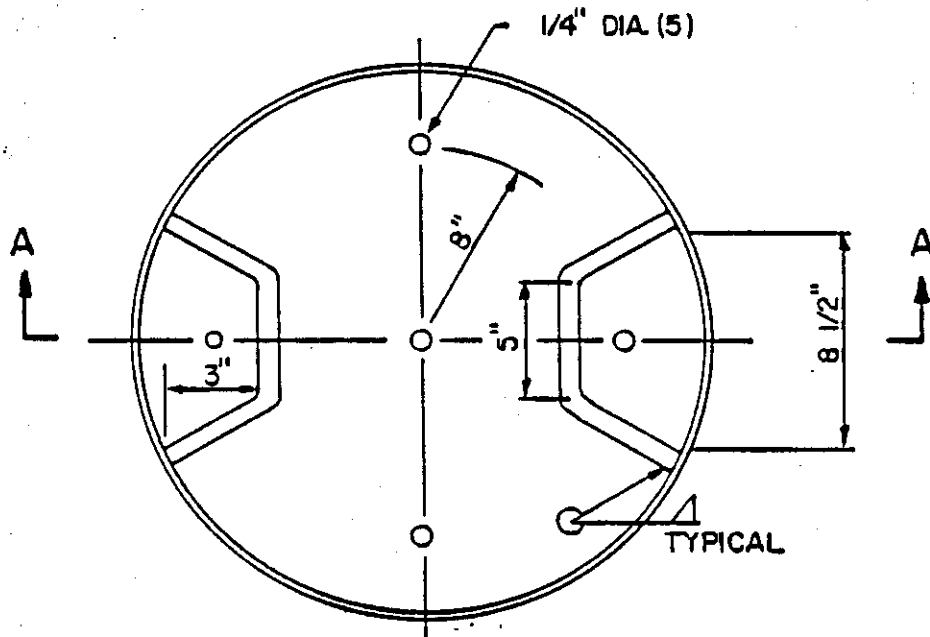
No.	Date	Revisions	By	Appr.



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No. FIG. 213
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DUST PAN



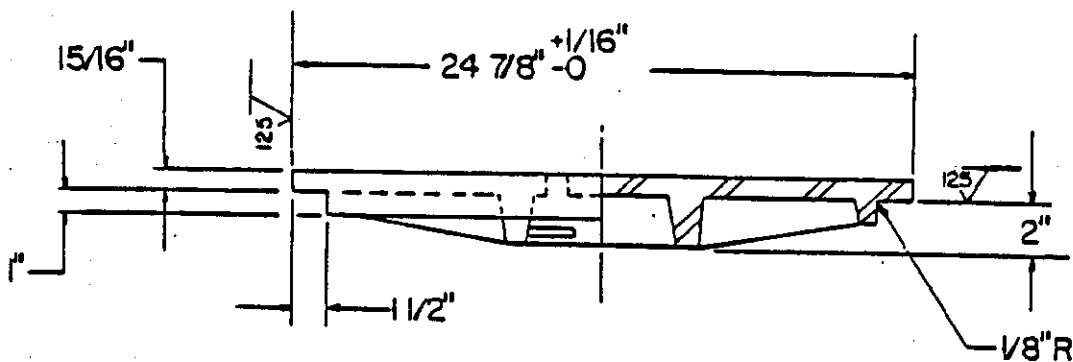
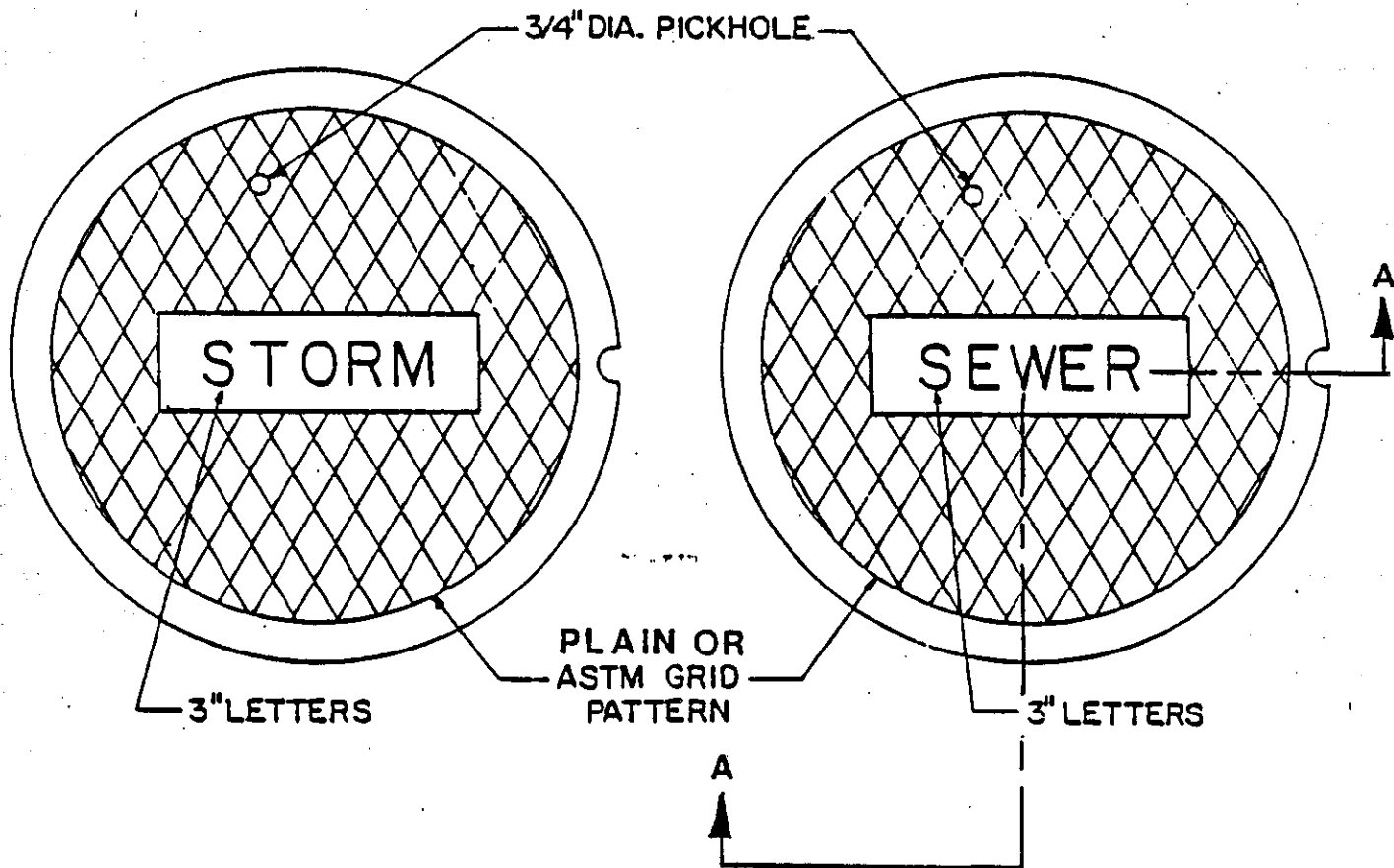
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No. FIG. 214
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 By SJF Appr JLM

MANHOLE COVER



SECTION A A

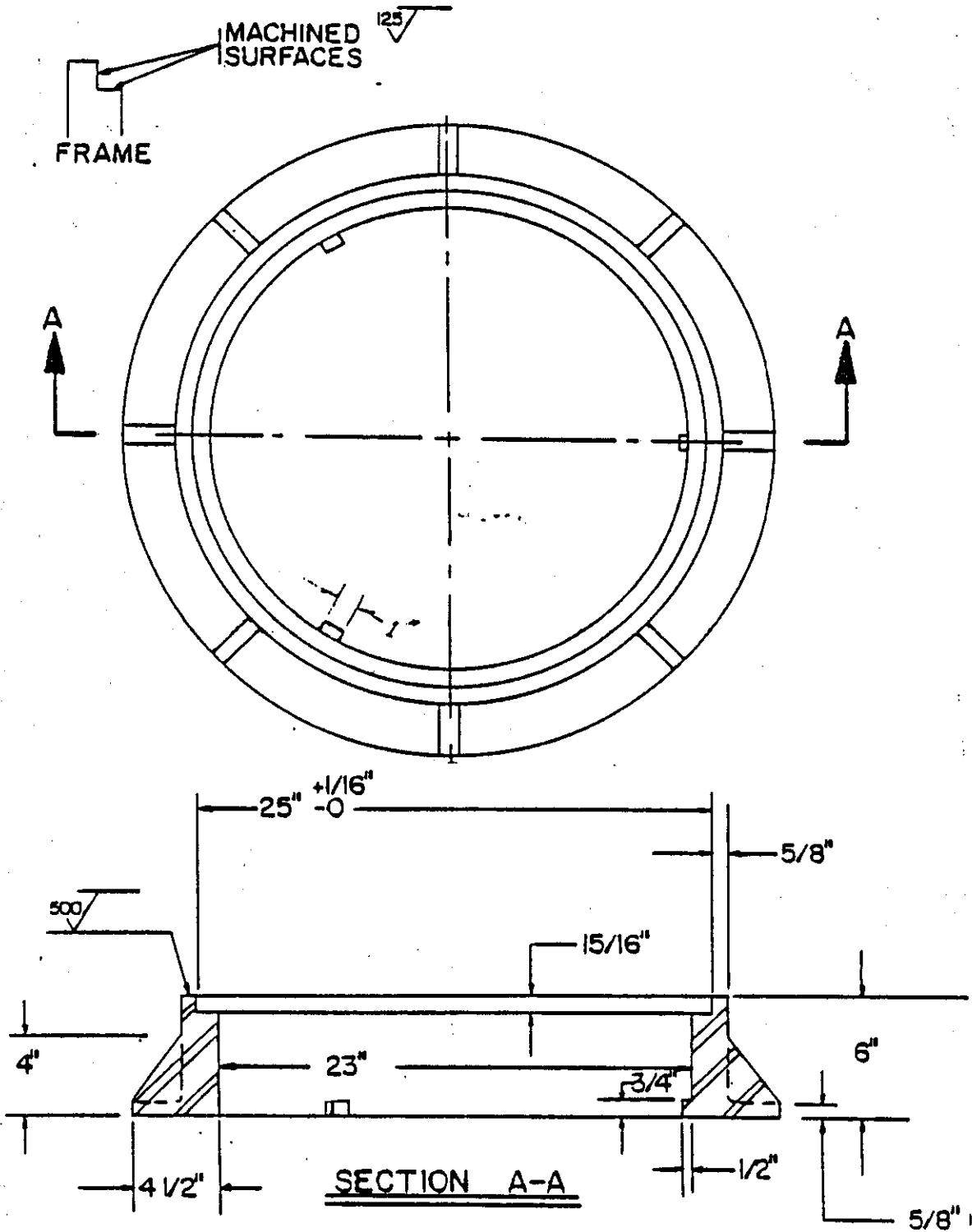
No.	Date	Revisions	By	Appr.



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No. FIG. 215
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MANHOLE FRAME



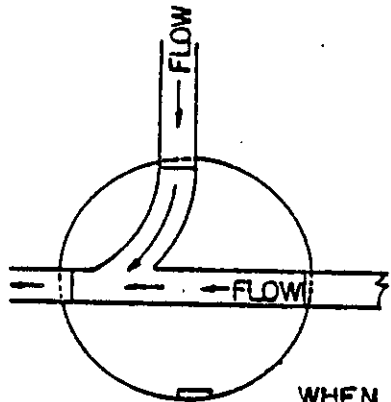
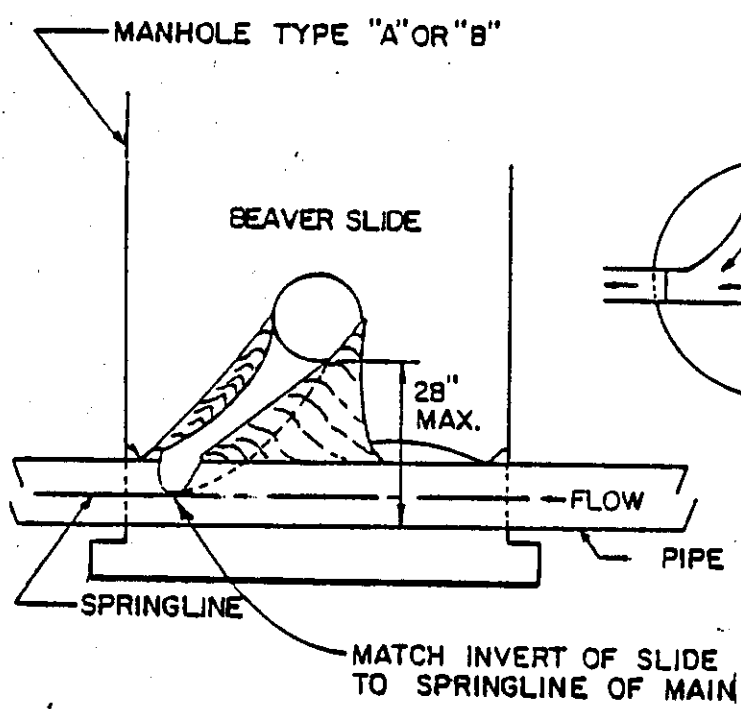
No.	Date	Revisions	By	Appr.



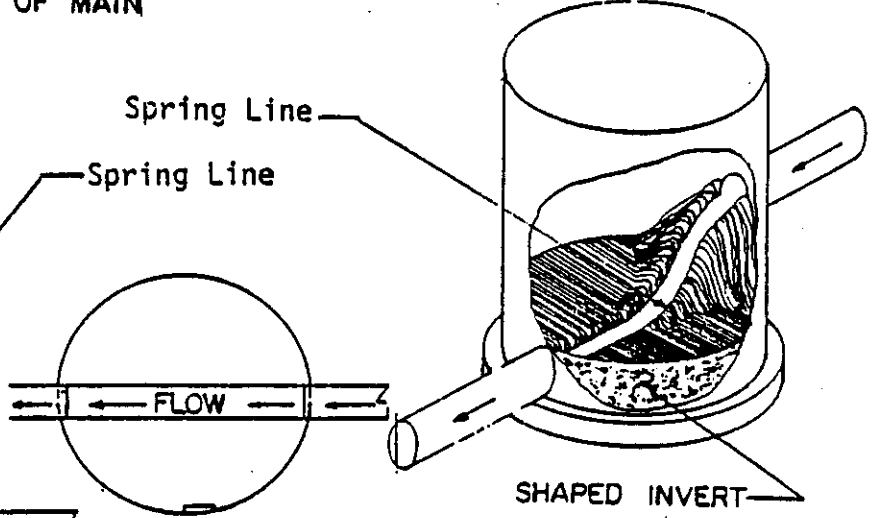
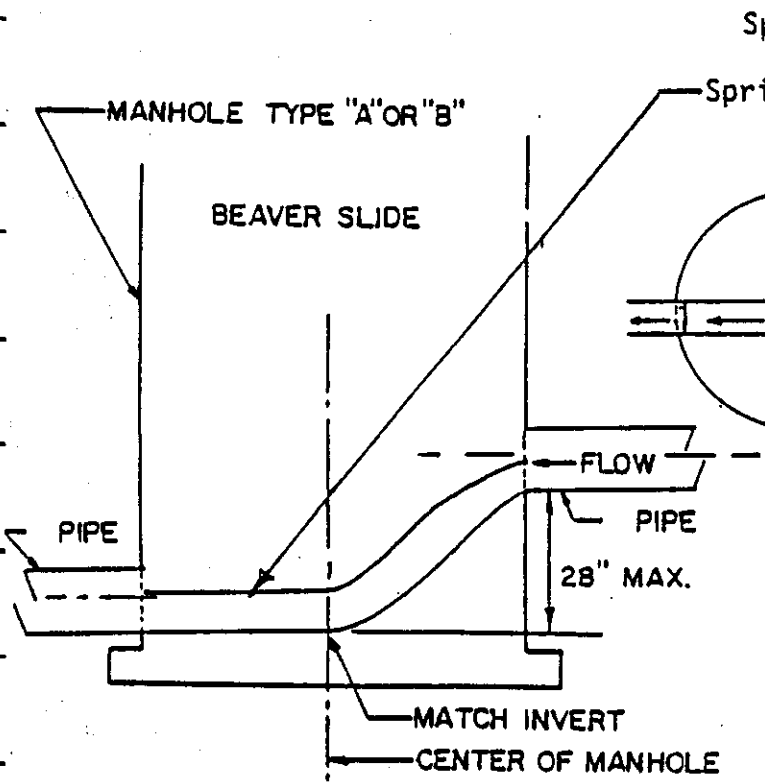
CITY OF HOMER
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No. FIG. 222
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TYPICAL BEAVER SLIDE TYPE A & B M.H.



WHEN INSTALLING A BEAVER SLIDE THAT INTERCEPTS AN EXISTING SEWER AT A RIGHT ANGLE, THE CONNECTING INVERT OF THE BEAVER SLIDE IS TO INTERCEPT THE EXISTING SEWER SLIGHTLY ABOVE THE SPRINGLINE AS SHOWN. DISTANCE MEASURED FROM INVERT TO INVERT.



WHEN INSTALLING A BEAVER SLIDE WHERE THE FLOW IS STRAIGHT THROUGH THE MANHOLE THE BEAVER SLIDE IS TO MATCH THE INVERT OF THE EXISTING LINE AND NOT EXTEND MORE THAN HALFWAY THROUGH THE MANHOLE. DISTANCE MEASURED FROM INVERT TO INVERT.

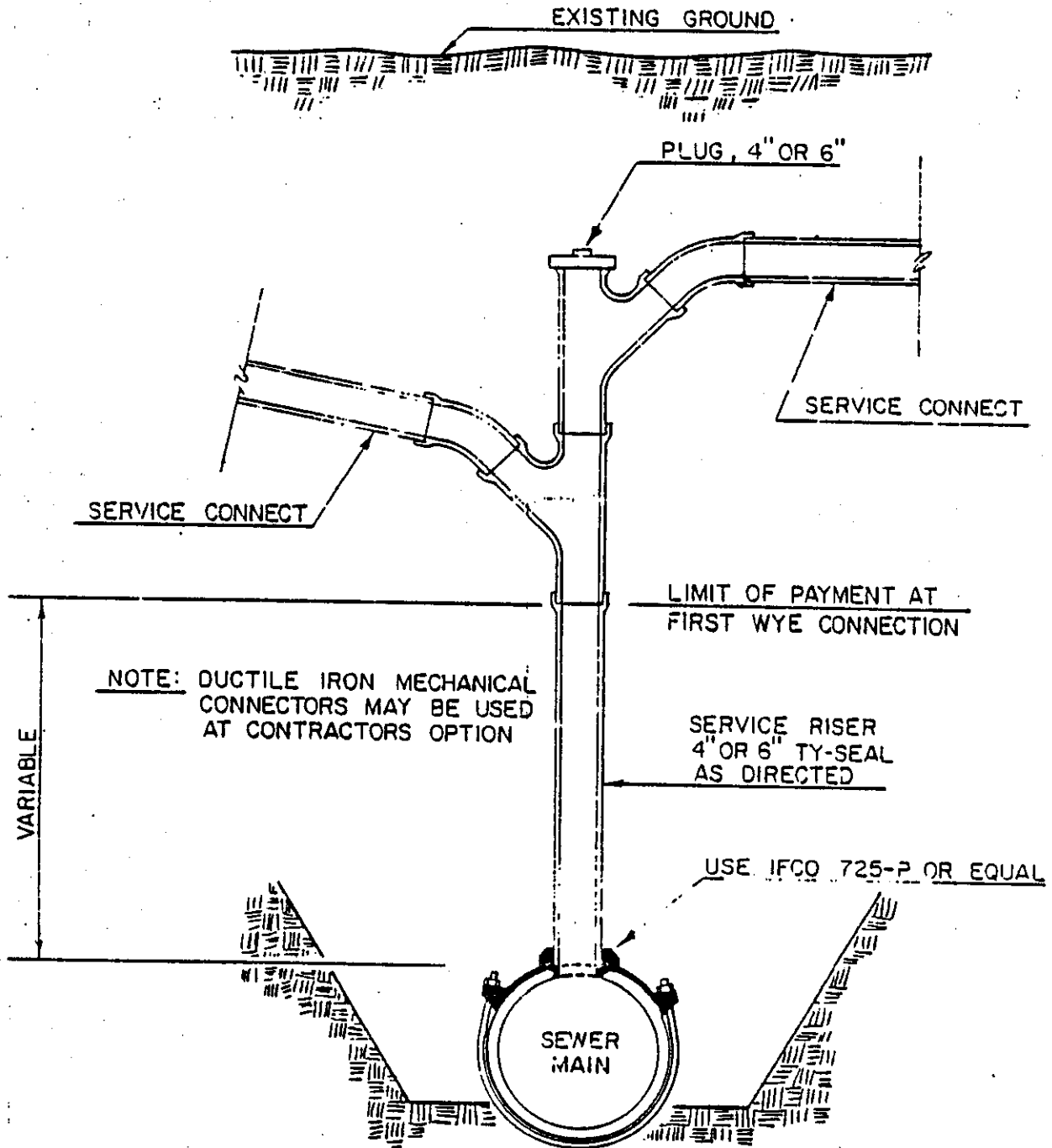
No.	Date	Revisions	By	Appr.



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No. FIG. 226
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SERVICE RISER FOR DEEP SEWER



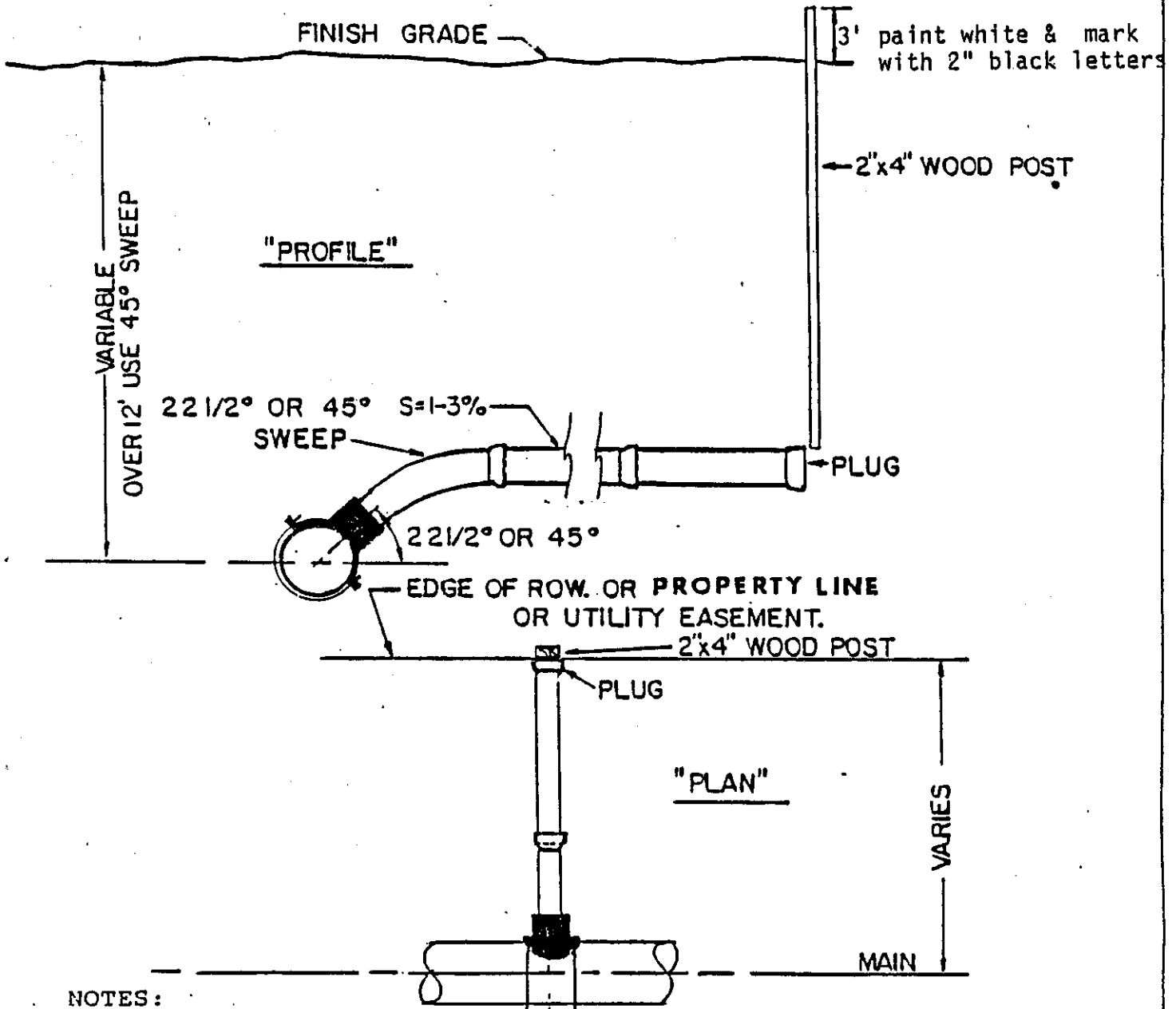
No.	Date	Revisions	By	Appr.



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No. FIG. 227
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 By SJF Appr JLM

SEWER SERVICE CONNECTION



NOTES:

- Notes:**
- 1) Service Connect 4" Diameter
 - 2) Use double or single strap cast iron saddles
 - 3) Use "Tyton" or "Ty-seal" or if no hub, use "Romac Repair Clamp" Style "LSS1" x 6 inches long or equal.
 - 4) Bring 2" x 4" wood post to surface marked "Sewer"

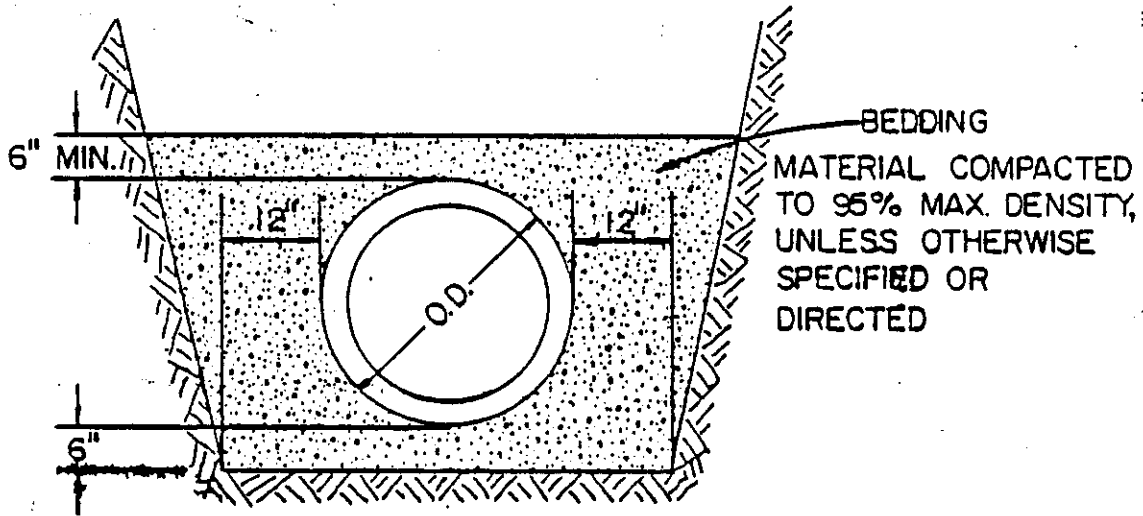
No.	Date	Revisions	By	Appr.



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No. **FIG. 228**
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BEDDING CLASS B & C



TRENCH WALL SLOPES WILL VARY WITH
 SOIL STRENGTH AND CHARACTERISTICS

O.D. = OUTSIDE PIPE DIAMETER

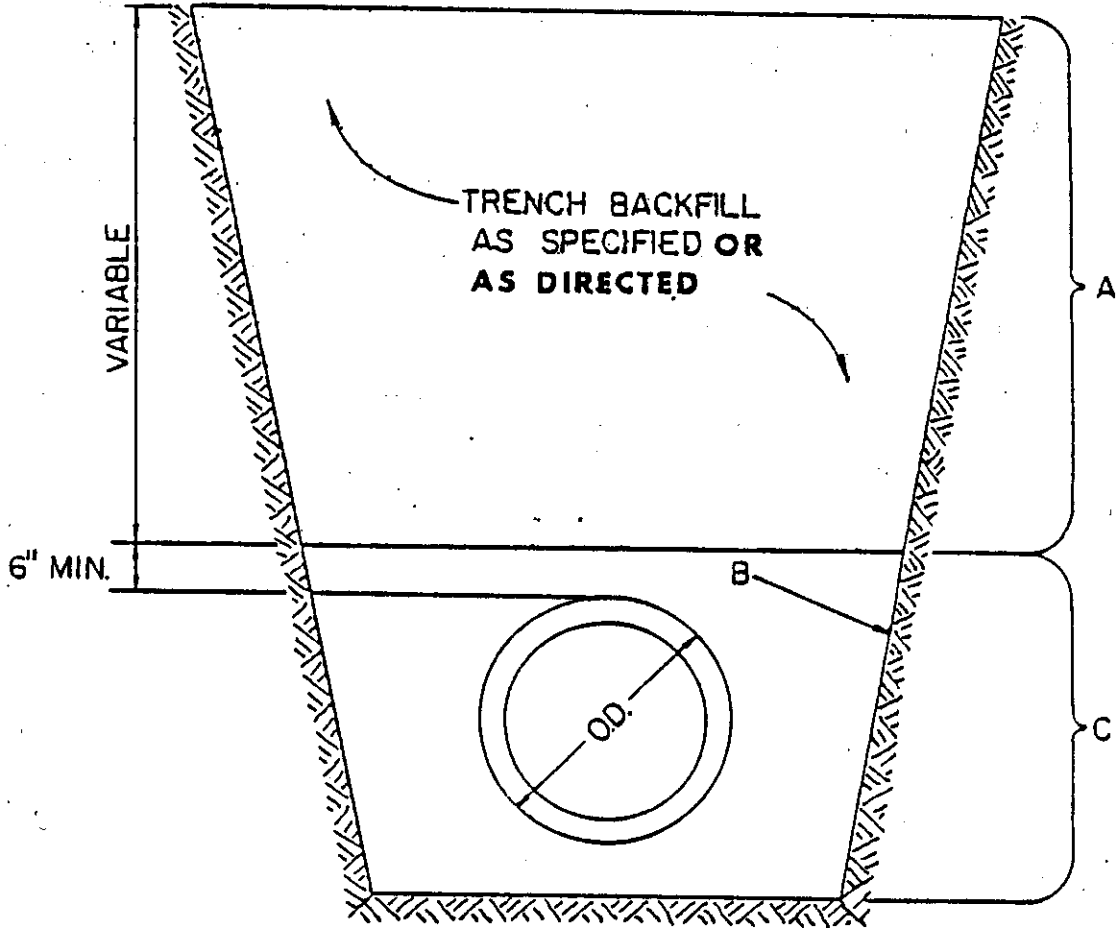
No.	Date	Revisions	By	Appr.



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No. FIG. 229
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 By SJF Appr. JLM

TRENCH BACKFILL



- A TRENCH BACKFILL MATERIAL PLACED AND COMPACTED TO DEPTHS AS DETERMINED BY THE ENGINEER
- B TRENCH WALL SLOPES WILL VARY WITH SOIL STRENGTH AND CHARACTERISTICS, AND SLOPES TO CONFORM TO SAFETY STANDARDS
- C CLASS "B" OR "C" BEDDING

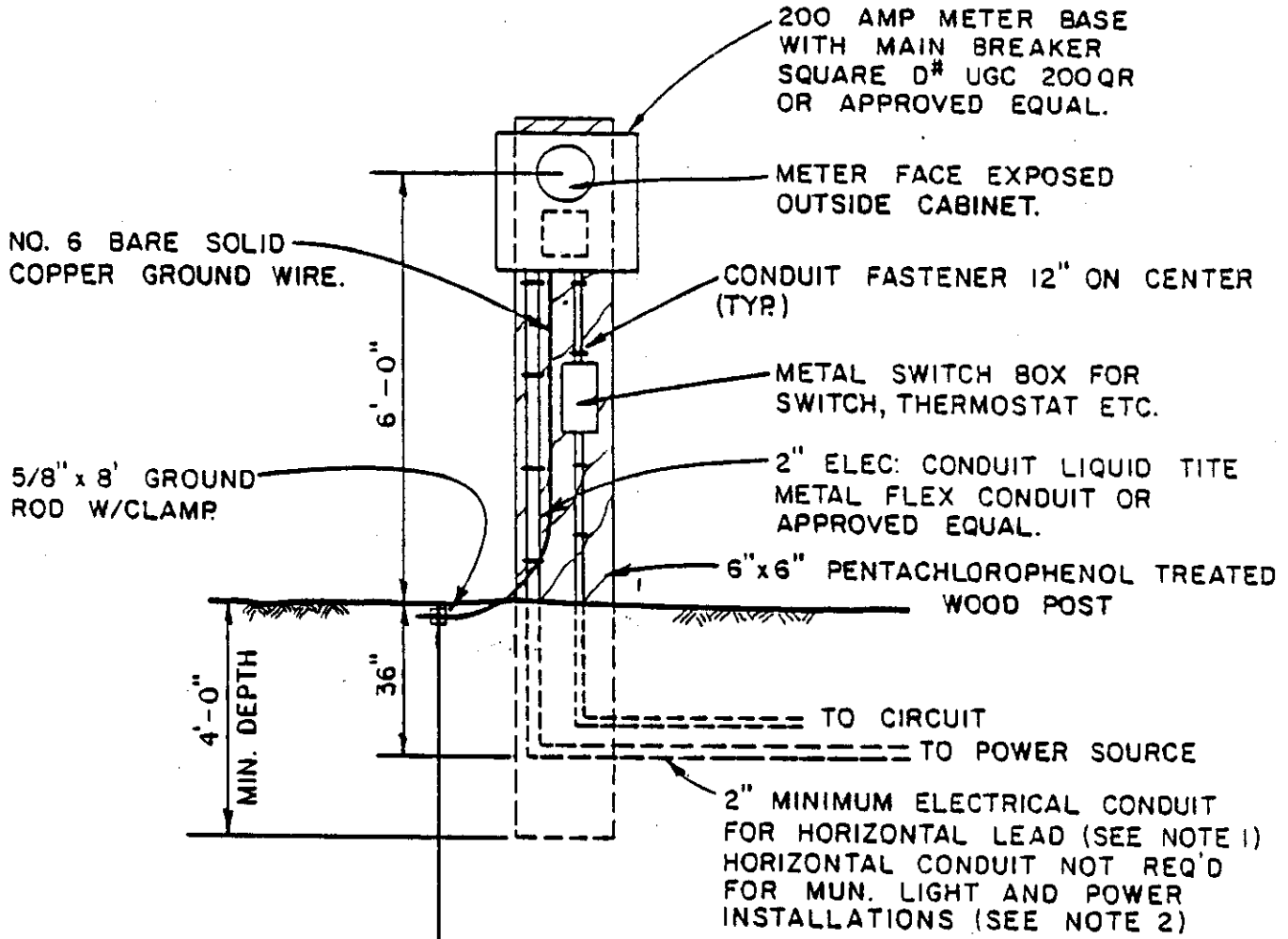
No.	Date	Revisions	By	Appr.



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No. FIG. 241
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 By SJF Appr JLM

METER BASE



NOTES:

1. UNDERGROUND CONDUIT TO BE RUN FROM METER BASE TO A POINT TWO FEET FROM THE POWER SOURCE AT THE DEPTH SHOWN. THE CONDUIT SHALL BE CAPPED AND A PULLROPE INSTALLED. THE END LOCATION SHALL BE STAKED WITH A 2" x 4".
2. **USER WILL INSTALL** HORIZONTAL UNDERGROUND CONDUIT TO THEIR POWER SOURCE. SPECIFIC INSTALLATION REQUIREMENTS SHALL BE COORDINATED THROUGH THEM.
3. THE CONTRACTOR SHALL LOCATE THE METER BASE AS SHOWN ON THE PLANS.

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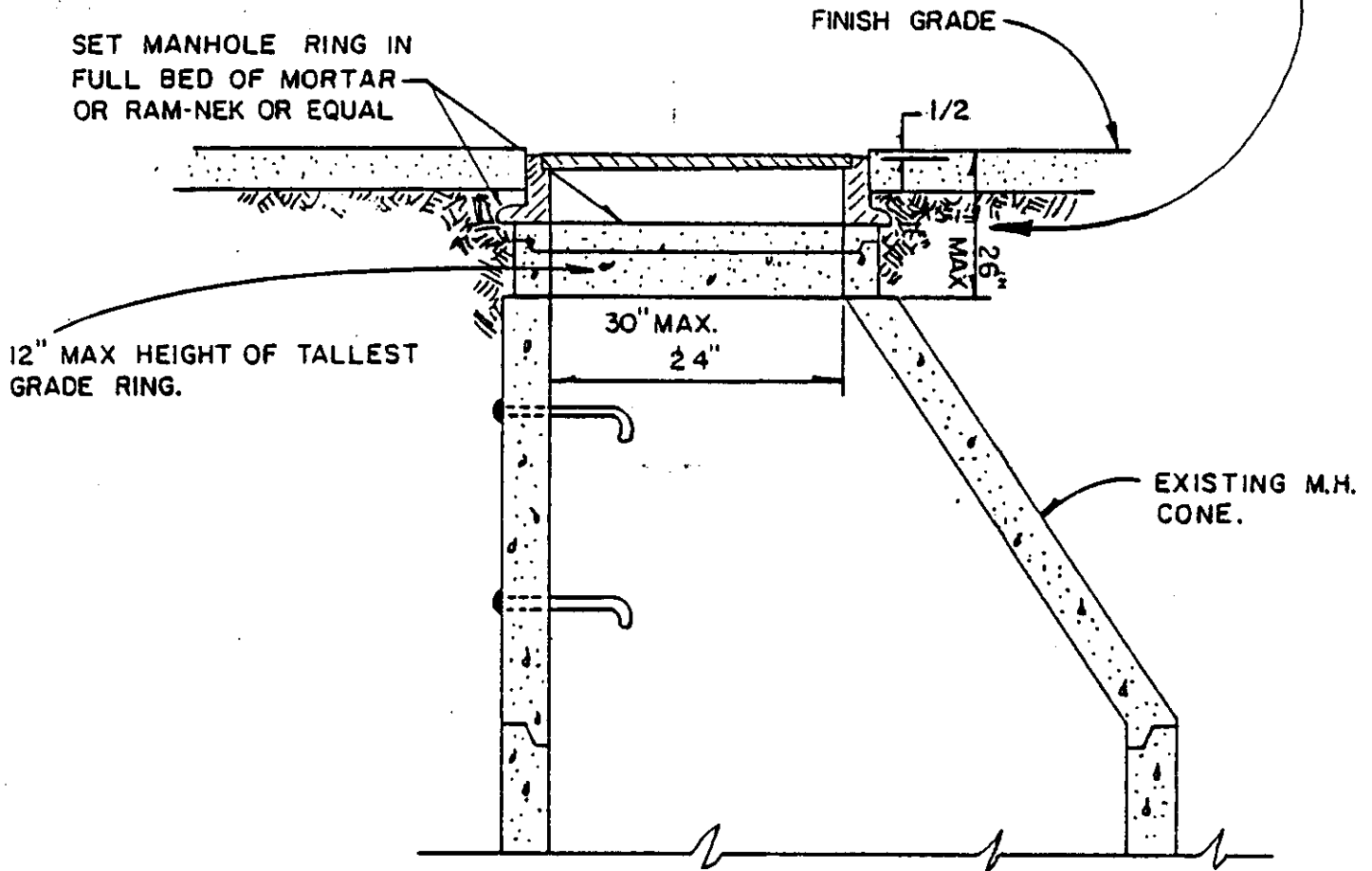


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No. FIG. 301
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 By SJF Appr JLM

MANHOLE RING ADJUSTMENT

REMOVE M.H. RING & ADD OR REMOVE
 PRECAST RINGS AS
 REQUIRED TO MEET FINISH GRADE.



NOTES

1. ALL PERTINENT SECTIONS OF THE STANDARD SPEC. WILL APPLY.
2. REFER TO ASTM DESIGNATION C-478-69 FOR DESIGN AND STRENGTH REQUIREMENTS.
3. WHEN AN ADJUSTMENT OF GREATER THAN 18" IN GRADE RINGS IS REQ'D, A CONE ADJUSTMENT SHALL BE MADE

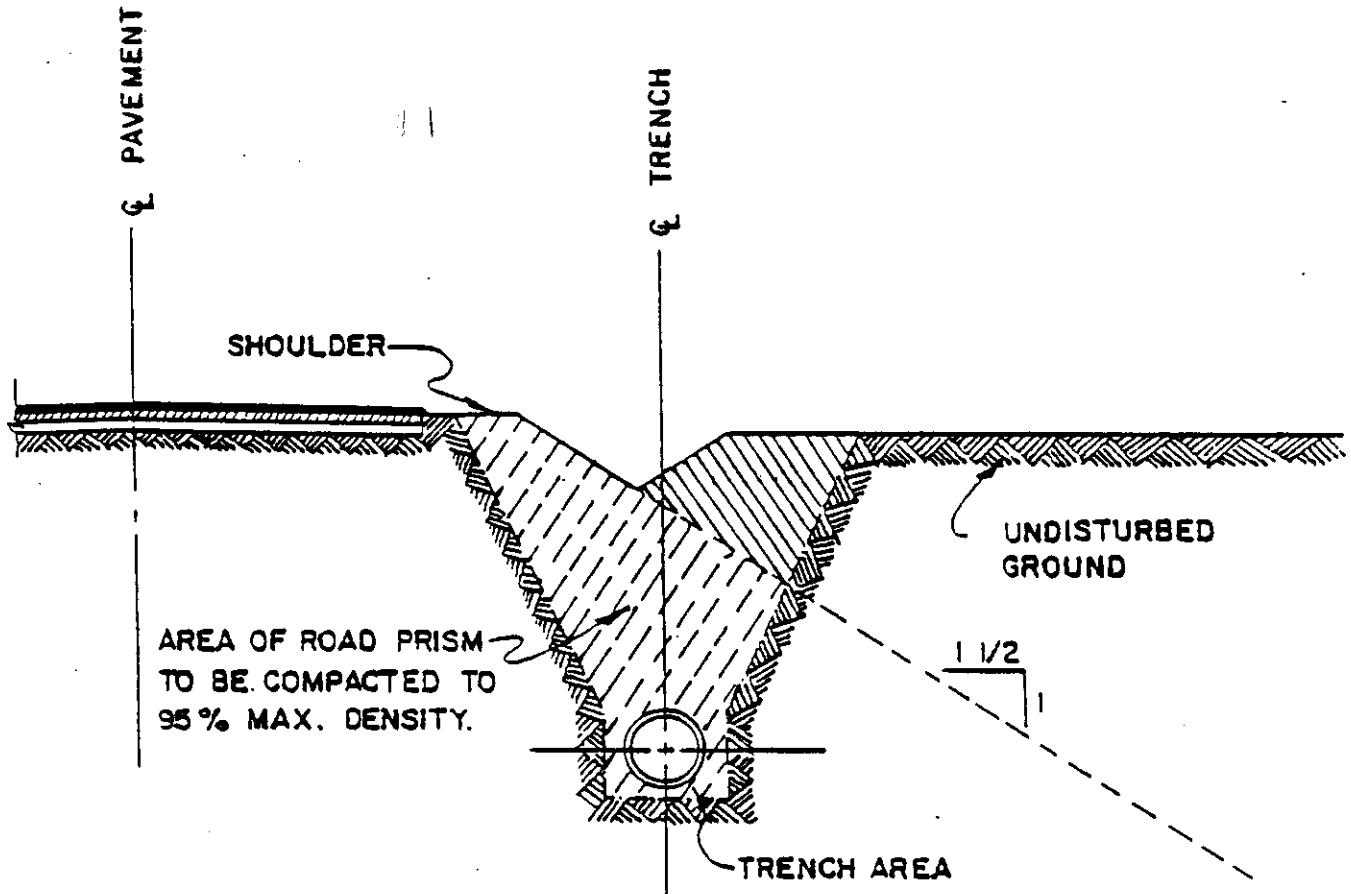
No.	Date	Revisions	By	Appr.



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No. FIG. 307
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 By SJF Appr JLM

COMPACTION OF BACKFILL WITHIN R.O.W.



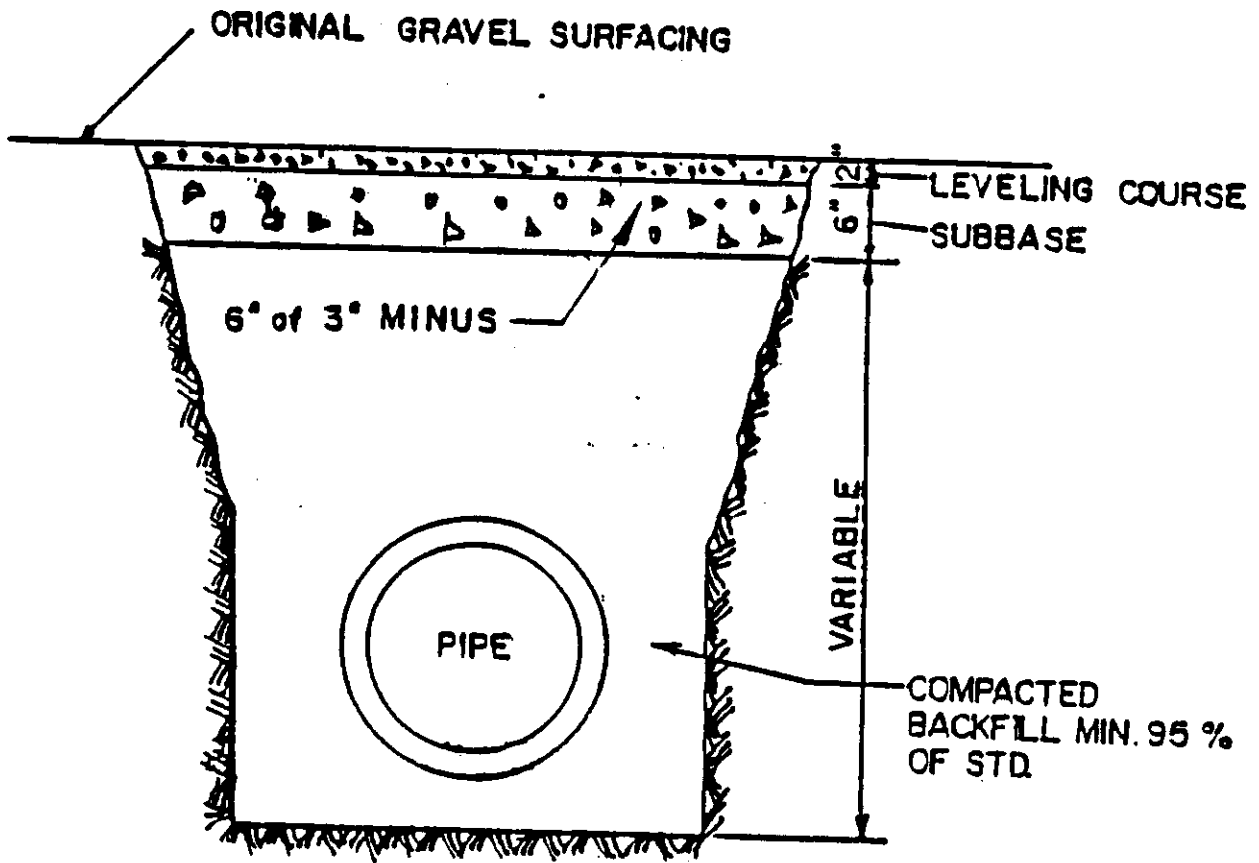
1. ALL MATERIAL THAT IS TO BE BACKFILLED WITHIN THE ABOVE-DESCRIBED AREA WILL BE REPLACED IN ONE FOOT LIFTS & COMPACTED TO A MINIMUM OF NINETY-FIVE PERCENT.
2. THIS BACKFILL WILL BE FREE OF ANY EXTENSIVE CLAYS & ORGANIC MATERIALS.
3. THE COMPACTION OF THIS BACKFILL WILL BE ACCOMPLISHED BY MECHANICAL MEANS WITHOUT THE AID OF WATER.
4. THE DITCH LINE WILL BE RESHAPED IN SUCH A MANNER AS TO ALLOW PROPER DRAINAGE & THE SHOULDER OF THE ROAD WILL BE REPLACED AT A UNIFORM SLOPE NOT TO EXCEED 1 1/2 TO 1.

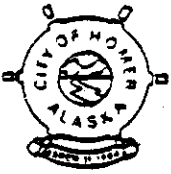


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Resurfacing Detail Typical of Gravel Section

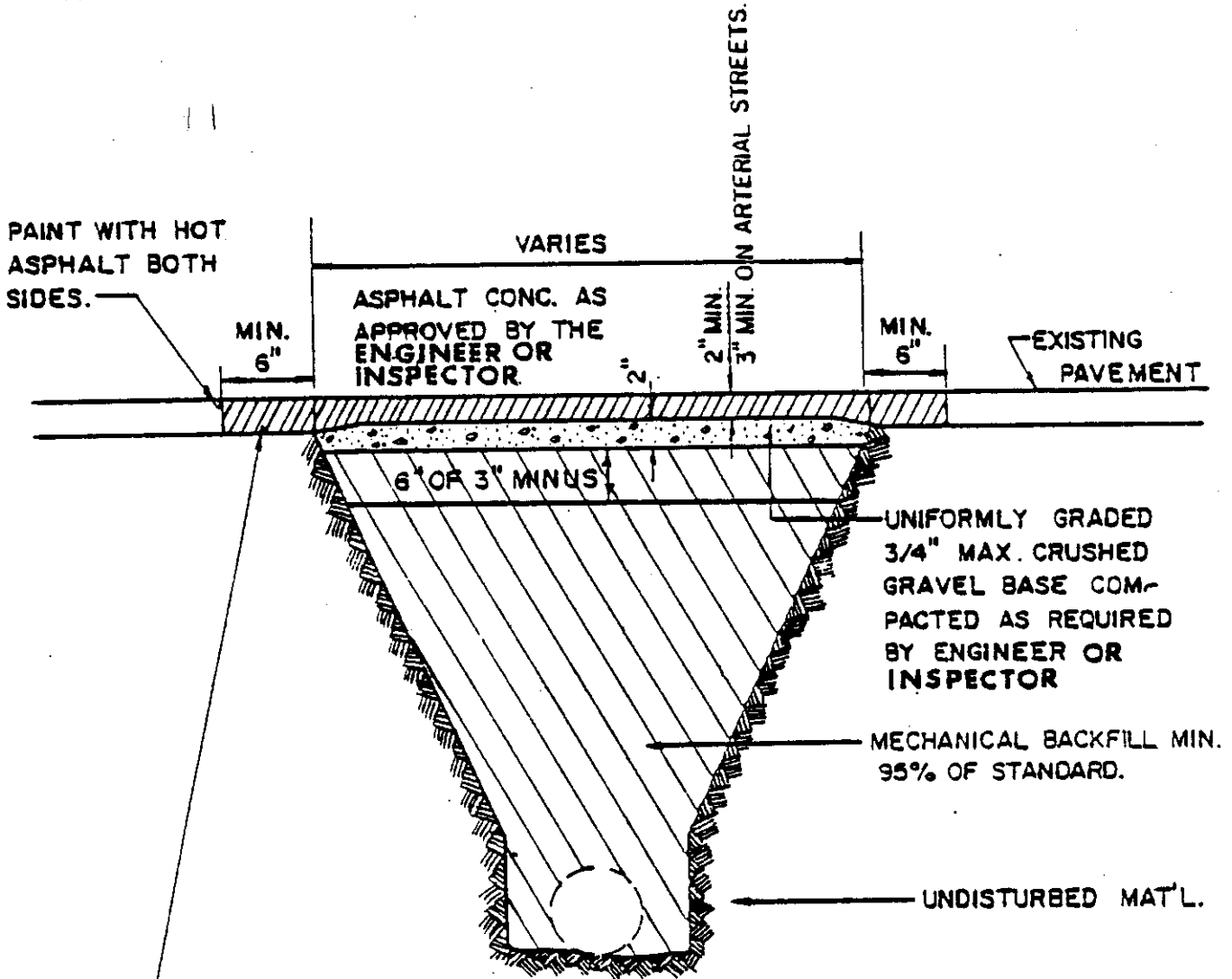




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No. FIG. 310
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PAVEMENT CUT REPLACEMENT



AFTER DITCH BACKFILL HAS BEEN COMPACTED AN ADDITIONAL 6" WILL BE REMOVED FROM EACH EDGE OF THE ORIGINAL CUT. THE ENGINEER OR INSPECTOR MAY REQUIRE MORE THAN A 6" ADDITIONAL CUT IF THE EXISTING PAVEMENT HAS BEEN LIFTED IN THE REMOVAL PROCESS OR IF THE JOINT DOES NOT OCCUR ON UNDISTURBED MATERIAL. CUTS MAY BE MADE WITH A SAW OR AIR CHISEL.

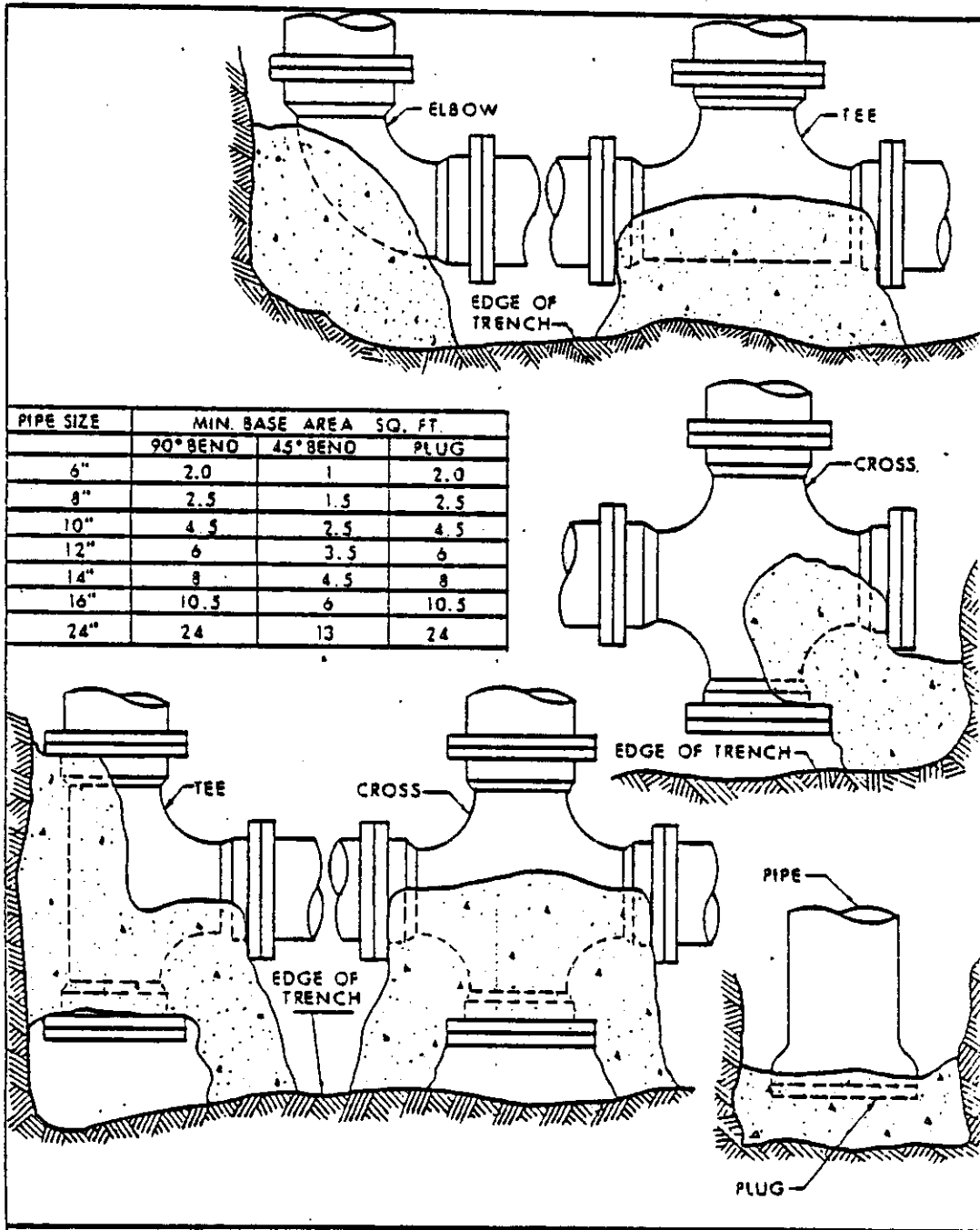
No.	Date	Revisions	By	Appr.



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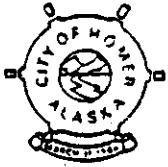
No. FIG. 400
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 By SJF Appr JLM

THRUST BLOCK



PIPE SIZE	MIN. BASE AREA SQ. FT.		
	90° BEND	45° BEND	PLUG
6"	2.0	1	2.0
8"	2.5	1.5	2.5
10"	4.5	2.5	4.5
12"	6	3.5	6
14"	8	4.5	8
16"	10.5	6	10.5
24"	24	13	24

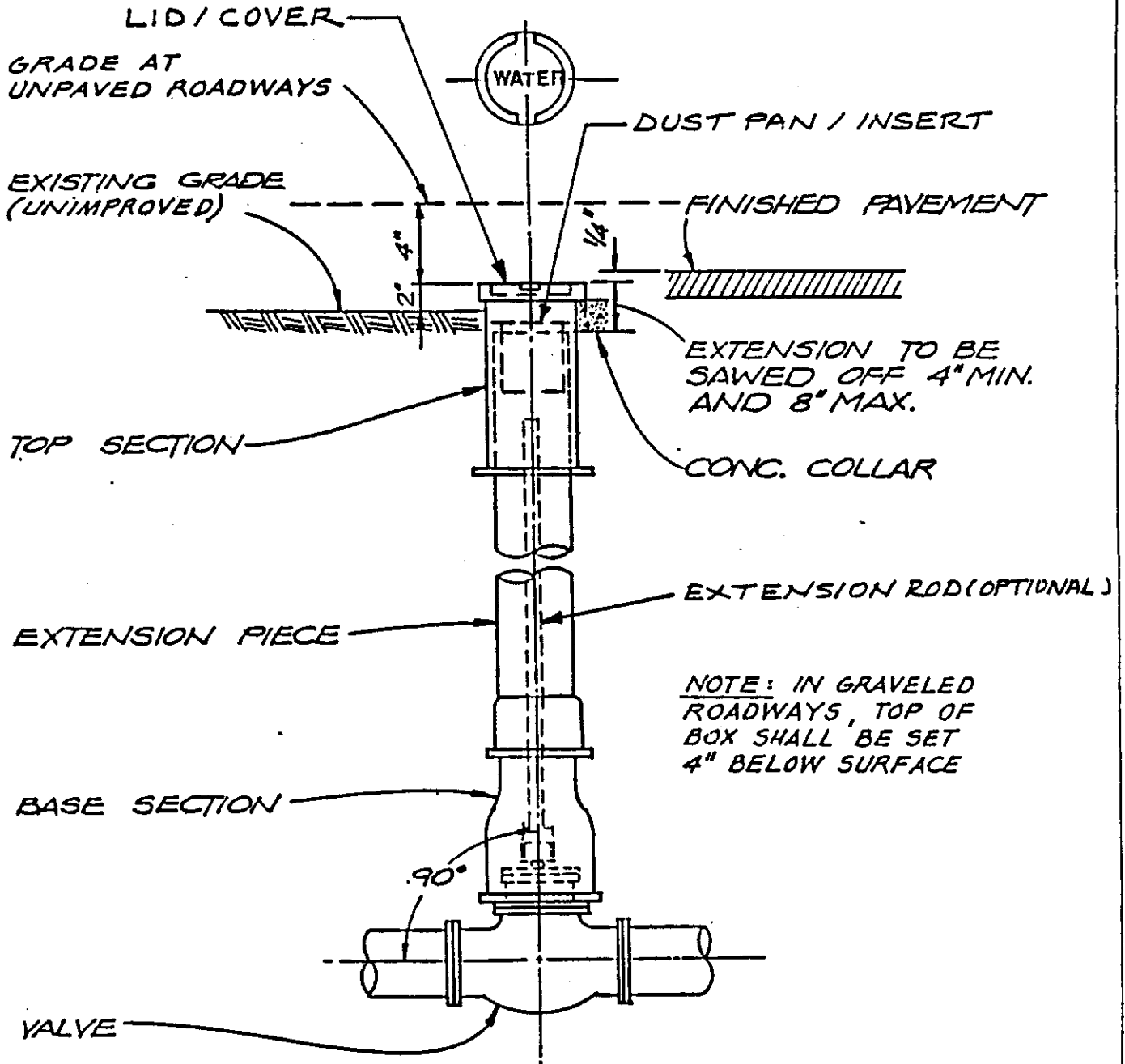
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No. FIG. 401
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TYPICAL VALVE BOX



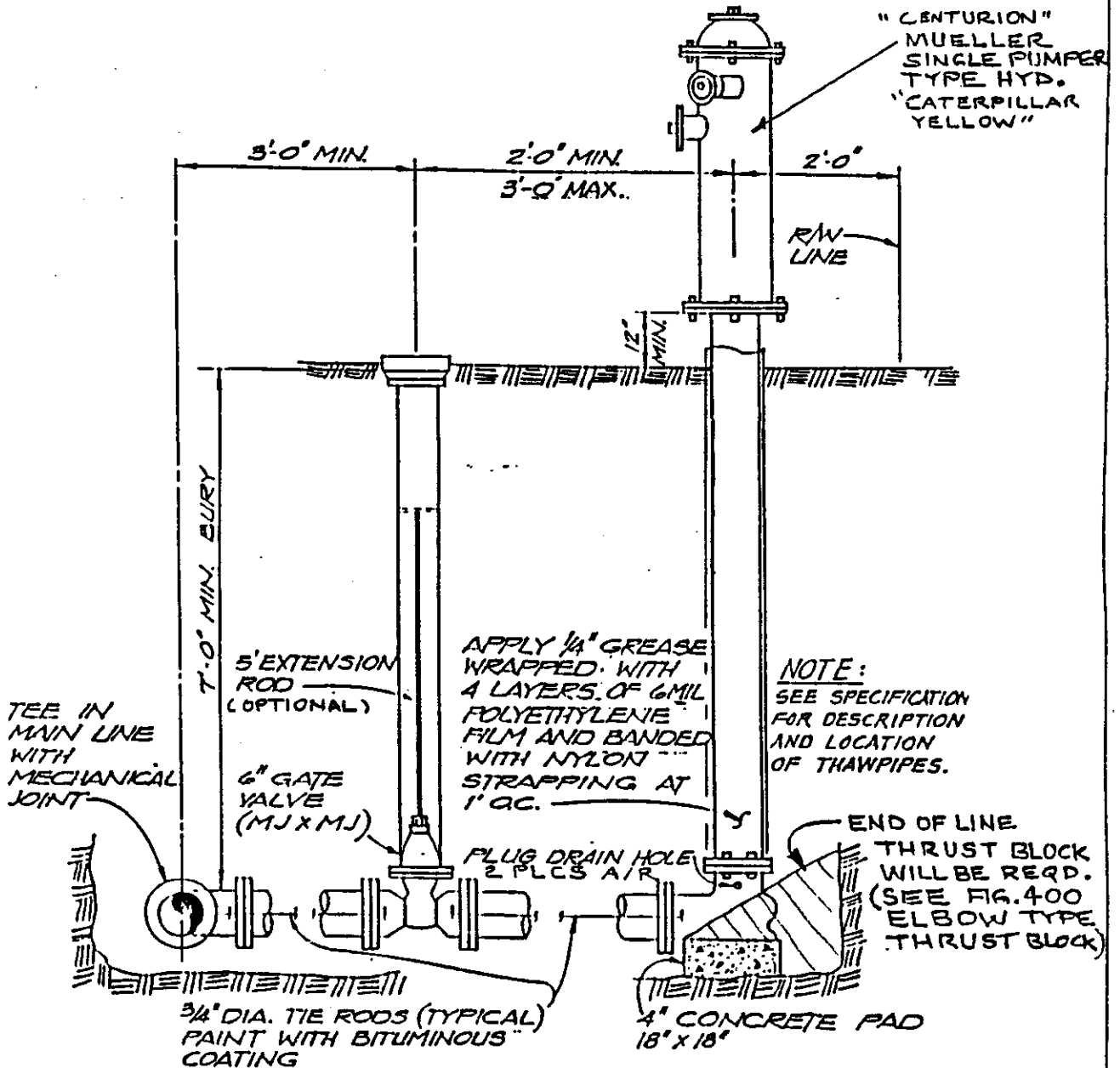
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No. FIG. 402
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SINGLE PUMPER "L" BASE HYD.



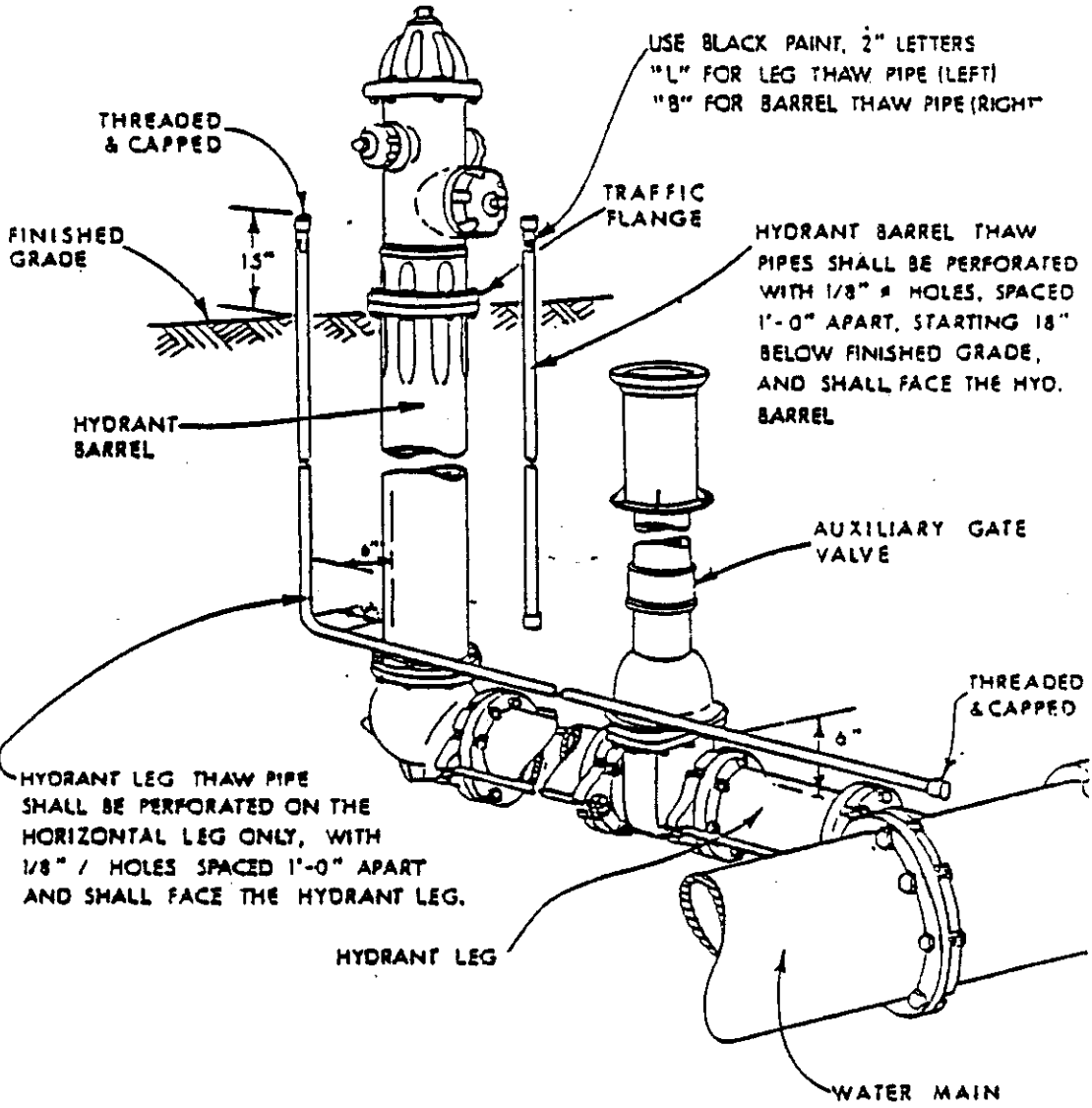
No.	Date	Revisions	By	Appr.



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No. FIG. 404
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THAW PIPE FOR "L" BASE HYD.



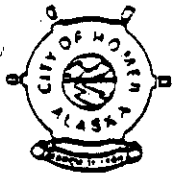
USE BLACK PAINT, 2" LETTERS
 "L" FOR LEG THAW PIPE (LEFT)
 "B" FOR BARREL THAW PIPE (RIGHT)

HYDRANT BARREL THAW
 PIPES SHALL BE PERFORATED
 WITH 1/8" # HOLES, SPACED
 1'-0" APART, STARTING 18"
 BELOW FINISHED GRADE,
 AND SHALL FACE THE HYD.
 BARREL

HYDRANT LEG THAW PIPE
 SHALL BE PERFORATED ON THE
 HORIZONTAL LEG ONLY, WITH
 1/8" / HOLES SPACED 1'-0" APART
 AND SHALL FACE THE HYDRANT LEG.

NOTE: THAW PIPES SHALL BE OF 3/4" GALVANIZED
 PIPE, THREADED AND CAPPED AT BOTH ENDS
 WITH MALLEABLE FITTINGS, THAW PIPES TO
 BE INSTALLED 6" ABOVE, 6" TO THE SIDE AND 3"
 TO THE REAR OF THE HYDRANT TRAFFIC FLANGE.

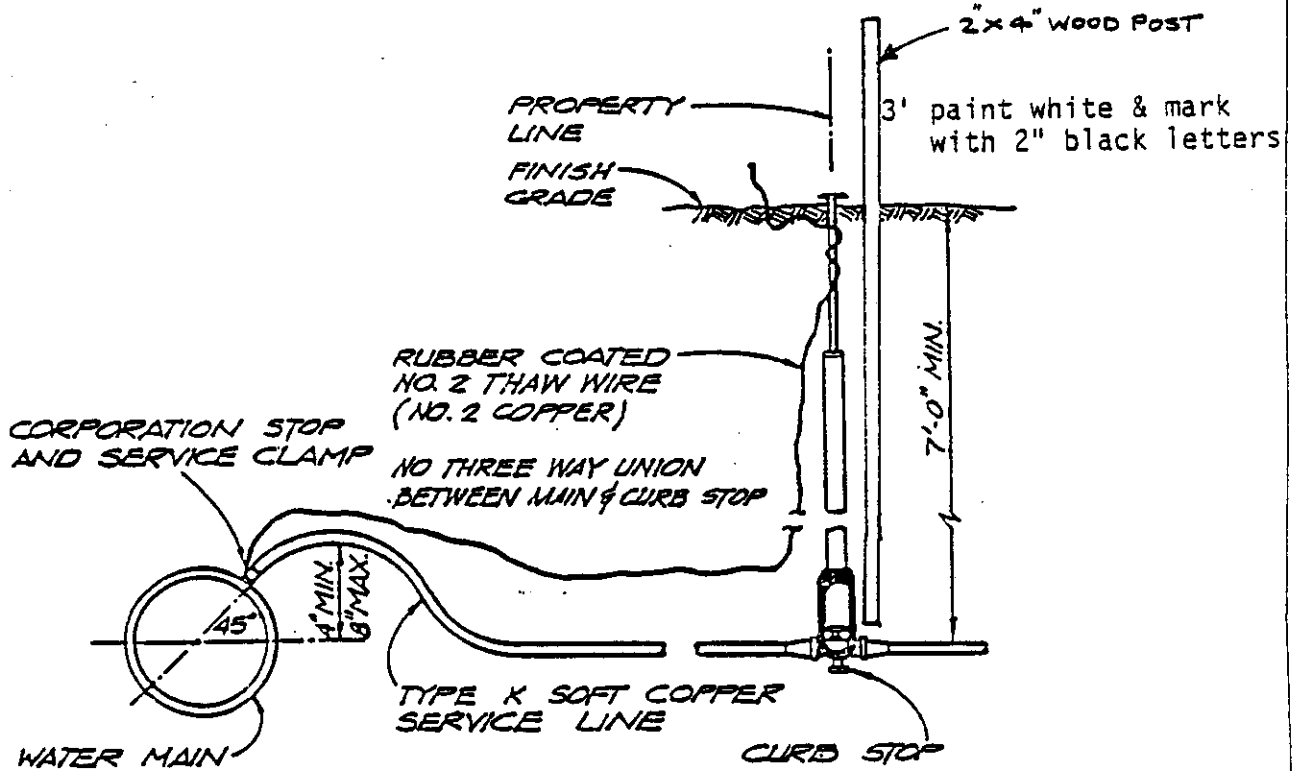
No.	Date	Revisions	By	Appr.



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No. FIG. 405A
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 By SJF Appr. JLM

WATER SERVICE CONNECTION 3/4" AND 1"



NOTE:

1. CONNECT THAW WIRE TO SERVICE LINE AT MAIN WITH SMALL ELECTRICAL GROUND CLAMP. BRIDGEPORT FITTINGS MALLEABLE DARE WIRE CLAMP, CATALOG N° 1309, 1/2" TO 1" OR APPROVED EQUAL
2. USE MUELLER CORPORATION STOP NO. 15000 OR EQUAL FOR 3/4" AND 1"
3. USE MUELLER CURB STOP NO. H15214 FOR 3/4" AND 1" OR EQUAL, COPPER TO COPPER CONNECTIONS.
4. MUELLER SERVICE CLAMP TO BE USED ON PLASTIC PIPE, DOUBLE STRAP OR EQUAL.
5. KEY BOX ROD TO BE ATTACHED TO CURB STOP WITH NO. 6 GAUGE COPPER WIRE- NO SUBSTITUTIONS.

No.	Date	Revisions	By	Appr.



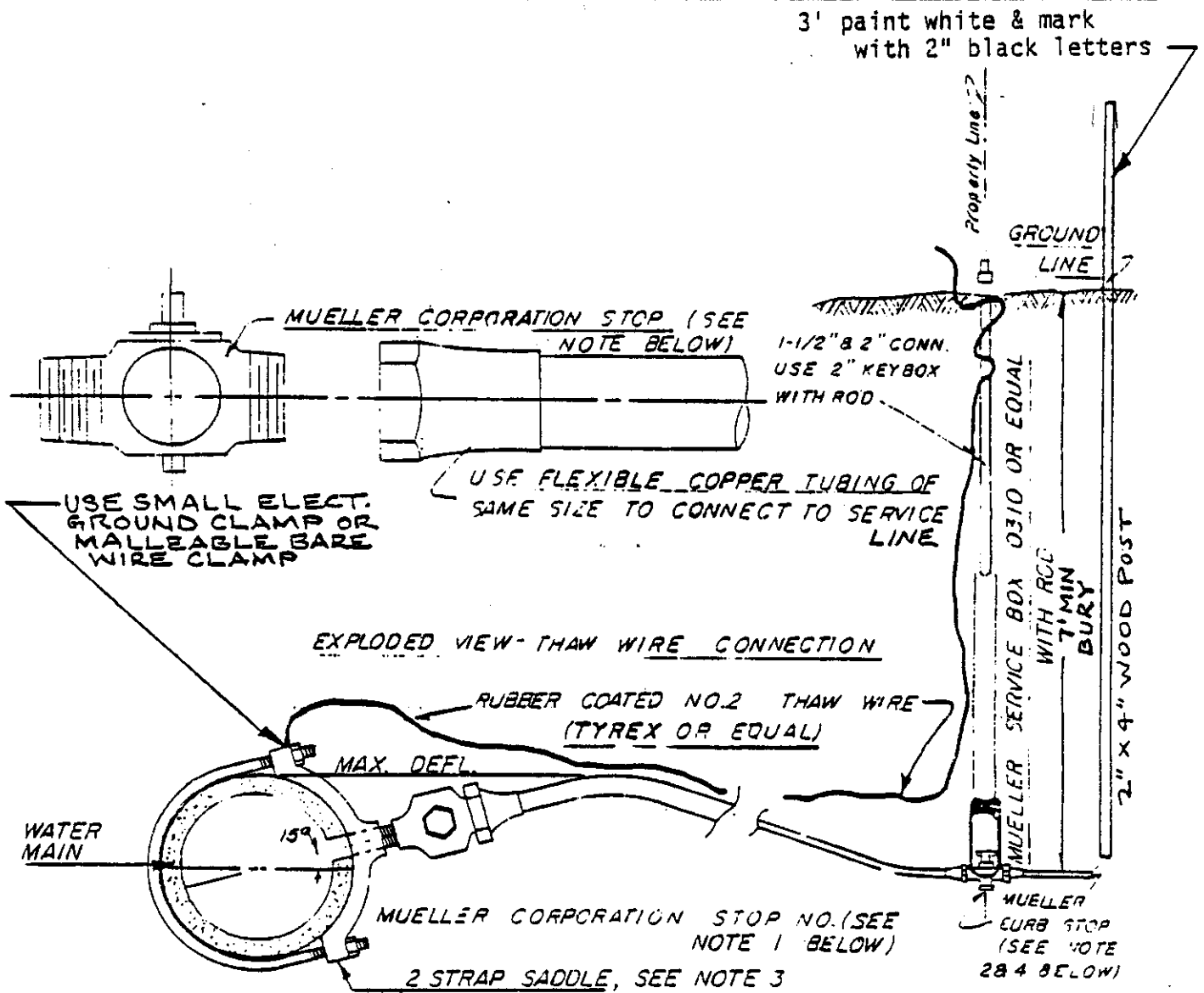
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No. FIG. 405B

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By SJF Appr JLM

WATER SERVICE CONNECTION 1 1/2" AND 2"



NOTES:

1. USE MUELLER CORPORATION STOP NO. 15025 OR EQUAL FOR 1" or 2"
2. USE MUELLER CURB STOP NO. H15214 ORI-SEAL OR EQUAL FOR 1 1/2" AND 2"
3. MUELLER SERVICE CLAMP WITH (2) TWO STRAPS OR EQUAL SHALL BE USED ON ALL PIPE
4. ROD TO BE ATTACHED TO CURB STOP WITH NO. 6 GAUGE COPPER WIRE - NO SUBSTITUTIONS.

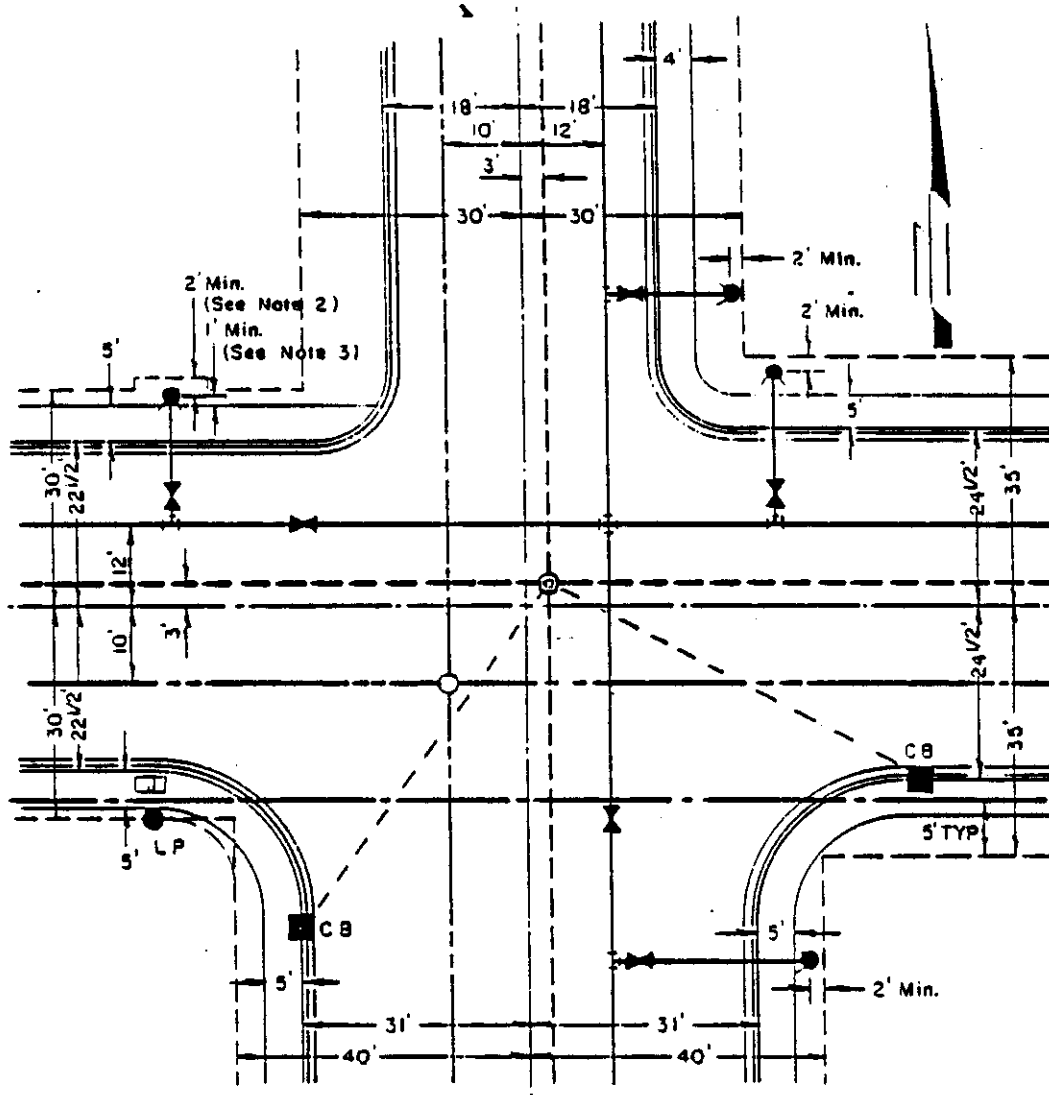
No.	Date	Revisions	By	Appr.



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No. FIG. 407
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STANDARD LOCATION FOR NEW UTILITIES



 WATER
 STORM DRAIN
 SANITARY SEWER
 GAS

NOTES:

1. OFFSETS ARE TO CENTER OF UTILITY.
2. ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED TO MEET MINIMUM SET-BACKS FOR HYDRANTS
3. HYDRANT MUST BE SET-BACK A MINIMUM OF 5' FROM BACK OF CURB OR 1' FROM EDGE OF SIDEWALK.
4. CURB TO CURB DIMENSIONS SHOWN ARE TYPICAL EXAMPLES ONLY.

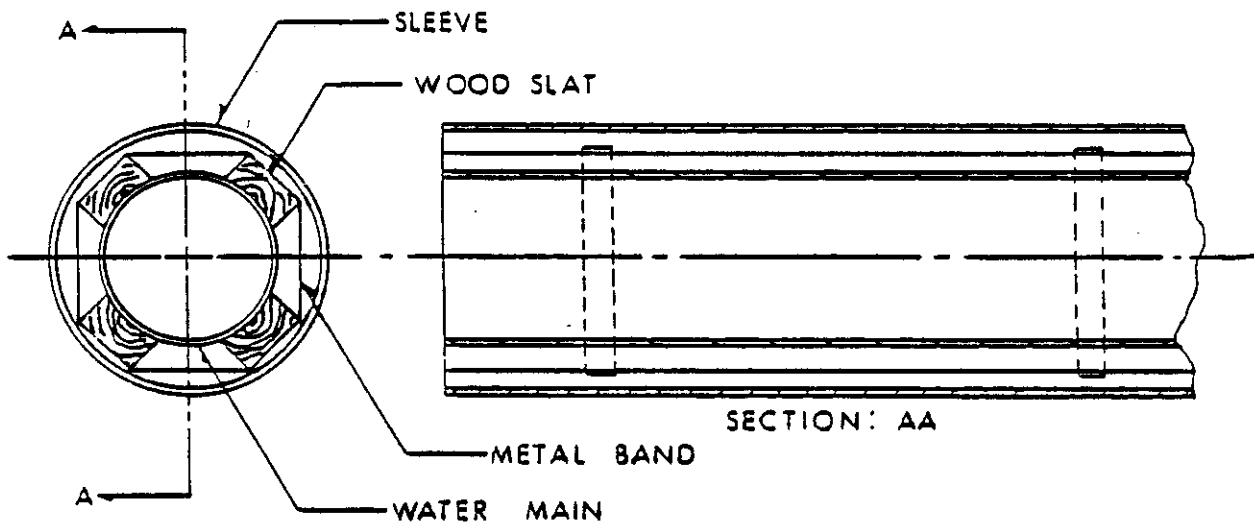
No.	Date	Revisions	By	Appr.



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No. FIG. 408
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 By SJF Appr JLM

BORED ENCASEMENT



NOTE:

1. SLEEVE PIPE SHALL BE EITHER WELDED OR CORRUGATED METAL, AND THE GAGE SHALL BE AS SHOWN ON THE PLANS.
2. IN NO CASE SHALL THE NUMBER OF SLATS AROUND THE PIPE BE LESS THAN THREE AND THE THICKNESS OF THE SLATS SHALL BE AS APPROVED BY THE ENGINEER.
3. SLATS SHALL BE PLACED BETWEEN EACH PIPE JOINT, AND NEVER OVER THE JOINT, OR AS DIRECTED BY THE ENGINEER. THICKNESS OF THE SLATS SHALL BE GREAT ENOUGH SO THAT THE PIPE RESTS ON THE WOOD AND NOT ON THE JOINTS (i.e. BELL FLANGES, ETC.).
4. METAL BANDS SHALL BE AS APPROVED BY THE ENGINEER.
5. THE SLAT MATERIAL SHALL BE EITHER REDWOOD OR WESTERN CEDAR OR SPRUCE.

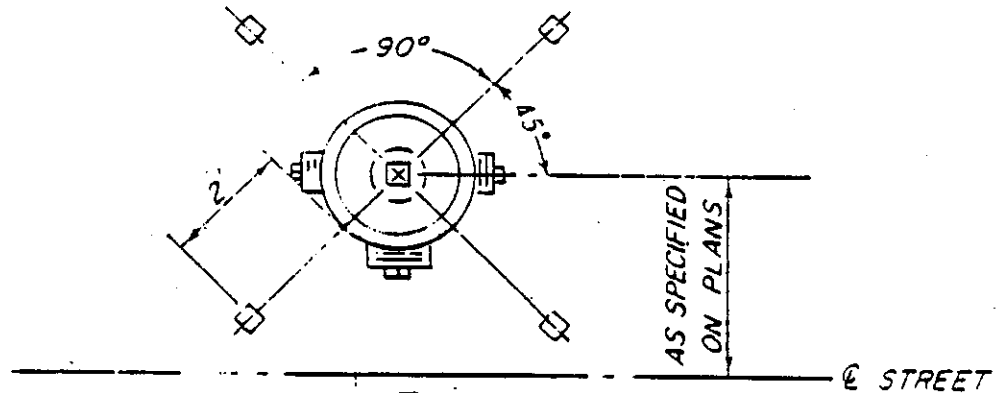
No.	Date	Revisions	By	Appr.



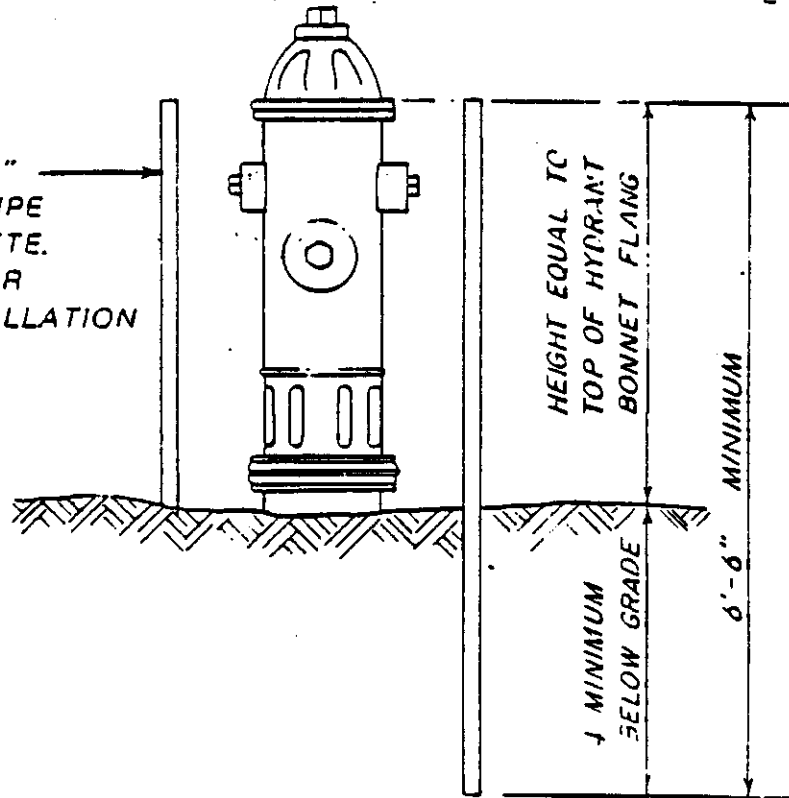
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No. FIG 409
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 By SJF Appr JLM

HYDRANT GUARD POST



90# GUARD. RAIL OR 4"
 HEAVY WALL STEEL PIPE
 FILLED WITH CONCRETE.
 PAINTED CATERPILLAR
 YELLOW AFTER INSTALLATION



NOTES :

1. GUARD POSTS WILL BE FURNISHED & INSTALLED BY THE CONTRACTOR.
2. POSTS SHALL BE LOCATED TO ALLOW UNRESTRICTED ACCESS TO PUMPER AND HOSE CONNECTIONS.

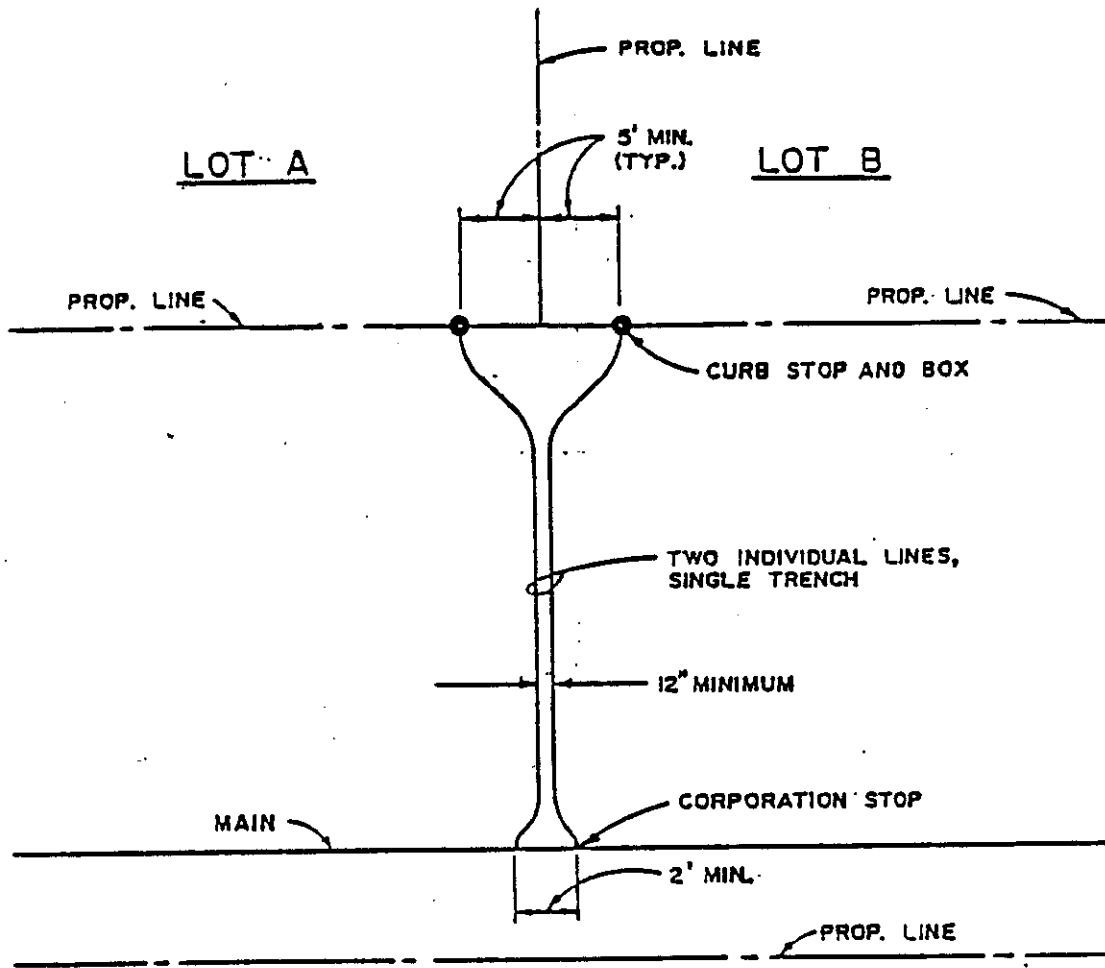
No.	Date	Revisions	By	Appr.



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No. FIG. 410
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 By SJF Appr JLM

DOUBLE WATER SERVICE



PLAN

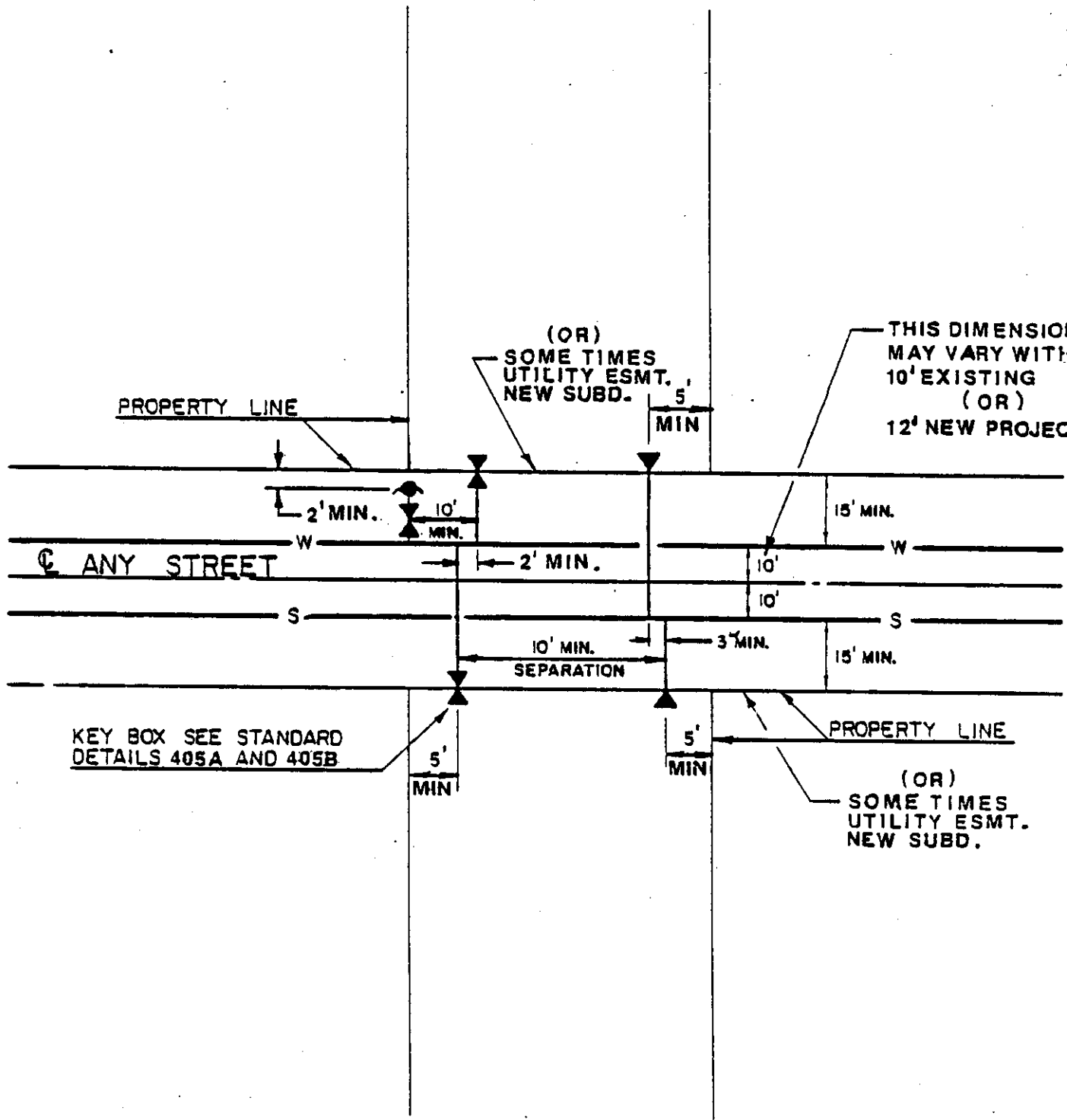
No.	Date	Revisions	By	Appr.



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No. FIG. 410A
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 By SVP Appr JLM

TYPICAL WATER AND SEWER CONNECTIONS

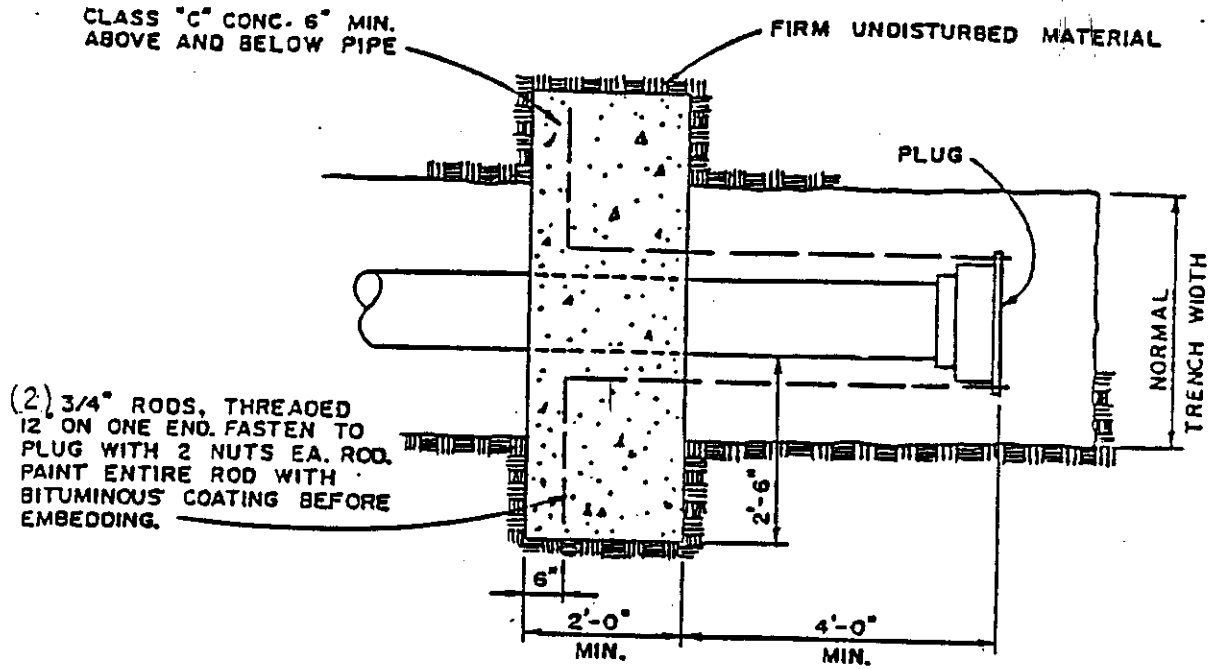




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By SJF Appr JLM

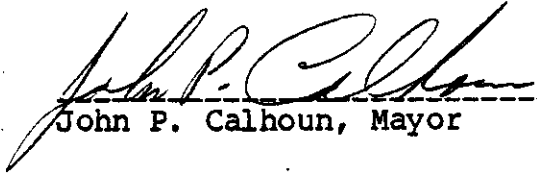
END OF LINE PLUG AND THRUST



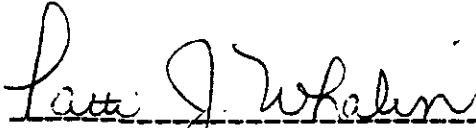
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N.T.S.**

No.	Date	Revisions	By	Appr.

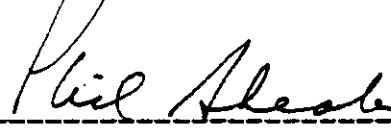

CITY OF HOMER


John P. Calhoun, Mayor

ATTEST:


Patti J. Whalin, City Clerk

Reviewed and approved as to form and content:

 
Phil C. Shealy, City Manager A. Robert Hahn, City Attorney

DATE: 8/26/85

DATE: 8/26/85

First Reading: 07/22/85

Public Hearing: 08/12/85

Second Reading: 08/26/85

Adoption: 08/26/85

Effective Date: 02/12/86